Data Base

OMNI SI®

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GENERAL   1.0 The Fujitsu GTE Business Systems' OMNI SI is controlled by system software composed of the generic and customer data base programs. The initial and update programming of the data base is performed by the system.

Generic Program   **1.1** The generic program contains the software instructions for all of the features in the system. It is ordered by SVR (System Version Release) along with the system hardware, and its contents are the same at all sites using the same SVR.

Customer Data Base Program   1.2 The customer data base program contains all of the, equipment, feature, and service parameters for the site. It is programmed for each site before the site is placed in service. Changes to an existing site configuration are made via data base updates, Recent Change, and Manual Recent Change.

There are two ways of configuring the customer data base, custom engineering or pre-engineering.

Custom Engineered Data Base   **1.2.1** Information to be programmed into the custom data base can be sent to FGBS Manufacturing Engineering six weeks before system installation. It is checked, converted into loading format, put onto a floppy disk, and returned to the job site. Once the data is put on the disk, any changes must be entered on site after loading.

Manufacturing Engineering uses CPG (Customer Programming Generator) computer programming to process customer data, i.e., data specific to a job site. The data is entered on data sheets and then processed by the CPG. This document describes the format for all of the software programming data sheets and gives instructions for completing them. Data sheets are divided into related groups of data by record codes. Record codes exist for lines, trunks, Attendant Console(s), features, and the PD-200'" Data Option, as well as other categories.

The CPG produces an error message for all data that is incomplete. It checks for improper data format, invalid data ranges, and data inconsistencies between fields. An engineer from Manufacturing Engineering reviews the CPG program print-outs after each program run. An error message guide describes each error print-out in detail, and the engineer decides on the corrective action to take. If clarification is needed, Marketing Engineering or the site is contacted. The engineer then inputs any changes to the stored data sheet record code information and returns it through the CPG program to recheck for errors. This procedure is repeated until no errors are found. The data is then converted into system memory format, placed onto a floppy disk, and returned to the job site for loading into the system.

Additional Documentation

In addition to the floppy disk, the customer is provided with several documentation listings for the site.

● Error Summary Listing. This listing summarizes the errors found in the input data base.

● Customer Programming Records Listing. This listing documents all of the data base programming values contained in the CPG program input. It has approximately the same format as the software data sheets.

● Statistical Summary Listing. This listing summarizes the results of the CPG processing for the site.

● Alternate Sorts Listing. The line, trunk, and common port data record codes from the CPG listing are printed in several different orders.

● Cable Pairs Listing. Wire pair color code and cable designations are associated with physical locations for all lines and trunks in the system.

● Customer Memory Tables Listing. This listing shows a formatted print-out of all of the site dependent memory tables and their hexadecimal values.

Pre-Engineered Data Base

1.2.2 An alternative to a custom engineered data base is a standard (pre-engineered) data base. The standard data base comes in several sizes with pre-programed values. Loading the standard data base into the system is done at installation. Modifications to the data base can be made on site via Recent Change.

The same type of CPG produced documentation is sent with a pre-engineered data base as is sent with a custom engineered data base. Any data base changes made on site must be added to the CPG.

DATASHEET PREPARATION

2.0 This section contains instructions for providing data base information. Software programming data sheets are required. Data sheets are ordered under part number Fm-41395. A single sheet for each record code is provided, with a maximum of 64 entries per sheet. Because some record codes, such as those for line or trunk circuits, require more entries than can be provided for by one data sheet, copies of the data sheet must be made.

Data Sheet Design

2.1 The data sheets are designed as keypunch input forms, with each line relating to an 80-column tab card image. If a record code data sheet is not used for a given site, it must be marked "N/A" and sent in as part of the total package of forms.

Coding Conventions

2.2 This paragraph provides information for filling in the data sheets. The completed data sheets used for the OMNI SI are referred to as record codes.

Alphabetic, Numeric, And Characters Rules

2.2.1 The following rules apply when filling out the data sheets:

- 1 denotes the numeral "one"

- i denotes the letter "eye"

- 2 denotes the numeral "two"

- Z denotes the letter "zee"

- D denotes the letter "dee" (it should not be rounded to look like the numeral 0)

- U denotes the letter "you"

- Zeros must be slashed (Ø) to prevent keypunch errors due to confusing zeros with the letter 0.

- A dash (-) is used within the text to indicate a not applicable condition.

  - A blank entry is interpreted by the keypunch operator as an overlooked field, and you will be contacted for an entry. This will delay completion of the data base.
  - A dash indicates that the field was not overlooked, but requires no entry.
  - When a dash is entered and the field has a default value, that value is assigned by the CPG.

Record Code Entries

2.2.2 The following entries are found on the record code sheets:

- Job Drawing Serial Number. This preprinted entry refers to a prefix ID and the base number for an installation identity number assigned by Manufacturing Engineering.

- Sequence Number. This preprinted entry, located in columns 7, 8, and 9, is used by the CPG to incorporate data sheet information to generate the site data disk.

- Record Code. This preprinted entry, located in columns 10 and 11, refers to the type of features referenced on each data sheet.

Directory Number

2.2.3 When a four-digit number is used, enter (0000 - 9999). A three-digit directory number is entered as (000 - 999). These entries are to be right justified in the four columns provided. An example of a right justified three- and four-digit numbering plan is shown in Table 2.1. Defining a three-digit number requires a blank before the first digit. This is the only application in which a blank is used in completing the record 'codes.

Table 2.1 Directory Numbers

Three-Digit Directory Numbers	Four-Digit Directory Numbers
000 (a blank comes before the number)	0000
999 (a blank comes before the number)	9999

Card Slot

2.2.4 The UCS (Universal Card Slot) to PCS (Physical Card Slot) numbering convention and comparison are given in Table 2.2.

Table 2.2   Universal Card Slots

Universal Card Slot	00	01	02	03	04	05	06	07	08	09	10	11
Expansion File												
Group C (File C)		19 CI	17 c2	15 c3	13 c4	11 C5	9 C6	20 C7	21 C8	22 C9	23 C10	24 C11
Group D (File D)	25 DO	26 DI	27 D2	28 D3	29 D4	30 D5	31 D6	32 D7	33 D8	34 D9	35 D10	36 D11
Get Started File												
Group A (File A)	18 A0		19 A2		20 A4		21 A6	22 A7	23 A8	24 A9	25 A10	26 AII
Group B (File B)	28 B0		29 B2	30 B3		31 B5	32 B6	33 B7	34 B8	35 B9		36 B11

NOTE: Special physical location rules:

● T1 uses group C card slots C01-C06.

- Minimally implemented:
  12 circuits CO1 , C02, CO3
  16 circuits C01, C02, C03, CO4
  20 circuits C01, C02, C03, C04, CO5
- Fully implemented:
  24 circuits C01, C02, C03, C04, C05, CO6

● Off-premises line cards must be engineered as 1.2-inch cards.

● Group A card slot 00 can only be used by a DTMF card, a conference card, or cards used to terminate an LPB (Local Packet Bus).

Suggested Preparation Order

2.2.5 The arrangement of the record codes for this SVR allows them to be filled out in their existing order.

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FRAME IMAGE 3.0 This section describes Record Code FR. Record Code FR lists the cards that are located in the universal cards slots of a given system.

Record Code FR:
Frame Image
Card

3.1   Record Code FR, Figure 3.1, lists the types of cards and the FB (Functional Board) numbers of every occupied universal card slot in the system. Certain data parameters are specified in this record code, depending on the **type** of card. From one to three data parameters can be required per card. The parameters are coded in three different identifier fields; however, some cards do not require an entry in any of the three fields.

This record code provides a listing of all voice and data cards used in the system. If the PD-200 Data Option is used in the system, cards supporting that feature must be included on this record code. The order in which the cards are listed on the record code does not matter. All cards of a certain FB number can be put together, or the cards can be listed as they appear in the system. When the information from this record code is processed and returned as part of the CPG, all cards will be listed as they appear within the system.

Since the maximum number of card slots in the OMNI SI is 41, the maximum number of entries on this record code is 41. The T tables used for storing the physical location of a card depend on the card type. The various T tables affected for a given card type are listed with the card type descriptions. The physical location is used as an index into Table T6566. Table 3.6 provides information on the maximum number of PD-200 Data Option cards allowed in the system.

Figure 3.1   Record Code FR: Frame Image Card Data Sheet

Table 3.1 Entry Fields for Record Code FR

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	PEC	**0** = PEC number	Enter PEC 0.
13	Group	**A-D** = group number	Which group (A, B, C, or D) within PEC 0 is this card?
14-15	Card Slot	**00-11** = slot number	Which card slot within the group is this card?
16-19	Card Type	Enter the selected card type from the extended Note list, beginning after this table.	This field determines the function for which a card is used. -See Notes that follow this record code for the mnemonics used for this field. -The same card may be listed more than once. -A card may have more than one mnemonic, depending on its use.
20-23	Primary Identifier	**0000-9999** = number **----** = N/A	This field determines the primary identifier for a card type. -The field varies from card type to card type, and not all card types require an entry. -Refer to the extended card list that follows this table to determine whether or not a primary identifier is required, and to determine what the allowable entries are.
24-27	Secondary Identifier	**0000-9999** = number **----** = N/A	This field determines the secondary identifier for a card type. -The field varies from card type to card type, and not all card types require an entry. -Refer to the extended card list that follows this table to determine whether or not a secondary identifier is required, and to determine what the allowable entries are.
28-31	Tertiary Identifier	**0000-9999** = number **----** = N/A	This field determines the tertiary identifier for a card type. -The field varies from card type to card type, and not all card types require an entry. -Refer to the extended card list that follows this table to determine whether or not a tertiary identifier is required, and to determine what the allowable entries are.

Table 3.1   Entry Fields for Record Code FR (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
32-39	Card FB-Number	This field entry is the FB number of the card. See comments following Table 3.1. Any ASCII characters are allowed.	This field determines the FB number of the card type listed in columns 16-l 9: **Voice cards:** AGNT = FB-17209 AIOD = FB-17276 ART = FB-17208 ATTN = FB-17208 CIP = FB-17225 CONF = FB-51279 COT = FB-17202 DTMF = FB-17203 DTM1 = FB-17203 DTRK = FB-15278, FB-15280, FB-17277 or FB-15277, FB-20718 or FB-17192 DVC = FB-17236 EMT = FB-17201 EMT4 = FB-51267 ERLT = FB-17251 FP = FB-17254 FPOP = FB-17250 ILT = FB-51280 KEDU = FB-17209 OFFP = FB-17250 OPI = TR-100119 PDIC = FB-17210 POTS = FB-17254 RLT = FB-17251 SM = FB-51279 TDET = FB-17280 VCIP = FB-17235 **Data cards:** ADMP(-A) = FB-17229 and ADMP(-C) = FB-17230 BT = FB-17227 DCP = FB-17231 DCPB = FB-17231 NIC = FB-17242 PBE = FB-17227 PR = FB-17228 VP20 = FB-17246 VP21 = FB-17246 VPLO = FB-17226 VPL1 = FB-17226 **NOTE:** FB numbers are repeated for different card types, because the same card can be used for different applications. The card types identify the various uses of the cards.

Table 3.1   Entry Fields for Record Code FR (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
40-41	Status	IS = in service OS = out of service -- = N/A	This field determines whether or not a card is in service or out of service. This field is only used for AIOD, ART, or CONF cards. all other card types are dashed. In service or out of service conditions for other card types are located on various other record codes.

NOTES:

1. The tables in which the physical location information is stored depend on the card type. For tables initialized, see Note 2. The physical location is used as an index into Table T6566.

2. The maximum number of records is 41.

3. PD-200 cards are in bold print (see Table 3.6 for system maximum).

4. The specification of T1 spans on Record Code FR requires some explanation. The actual printed circuit boards that make up a Tl span in the OMNI SI consist of FB-17192 (T1B2), FB-20718 (T1S), FB-17277 (SIL), FB-15280 (LCM), and FB-15278 (FDC). These double-width cards are placed in physical card slots C6/X10, C5/X12, C4/X14, C3/X16, C2/X18 of the Expansion File. None of these card slots corresponds to a universal card slot. An X denotes slots with no connection to the backplane.

   The DTRK (Digital Trunk) card types specified on Record Code FR reserve the universal card slots that correspond to the hardware addresses used by the T1 span. Each universal card slot represents four T1 channels. A total of six universal card slots represent the entire T1 span (C01-C06 for the OMNI SI). The last 3 universal card slots representing a T1 span may be used for cards types other than DTRK card types if the full 24 T1 channel capability is not required.

5. Several card types in the following list of cards are referred to by relative controlling card number and relative line card number. The following information explains how these numbers are derived.

   - Relative controlling card number is derived from tables T7053-X (where X = PEC number). Each table contains 16 bytes which are numbered 0 to 15. When assigning a relative controlling card number, select an unused entry from one of these tables.

   - Relative line card number is derived from T2541, 12551, T2561, T2571, T25A1, T25B1, T25C1, or T25D1, depending on the PEC number. Each table contains 32 bytes which are numbered O-31. When assigning a relative line card number, select an unused entry from one of these tables.

Valid card types are as follows:

ADMP Denotes the data system administrative processor cards (one set maximum). The primary identifier is the ADMP number - 0000. The secondary identifier is the ADMP card number - 0000 (ADMP-A) to 0001 (ADMP-C). The tertiary identifier is the controlling UCBIDCP number 0000-0009. Entries are made in T6563, T705A, and T6566.

AGNT Denotes the agent Programmable Attendant Console Electronic Telephone (PACET) data link card (32 maximum). No identifiers are required.

AIOD Denotes the AIOD card (1 maximum). Entries are made in T6111, T6131, and T2701. No identifiers are required.

ART Denotes asynchronous receiver/transmitter cards (3 maximum). The primary identifier is ART card type - 0009, 0010, or 0011. No other identifier is required. Entries are made in T6111, T6134, T6394, and T639B. Unless the FB-17208-BO card is used, the card may overhang into the next slot.

ATTN Denotes attendant BLDU card (3 maximum). No identifiers are required. Unless the FB-17208-BO card is used, the card may overhang into the next slot.

BT Denotes bus terminator card (for local packet buses associated with packet routers and packet bus extender cards). The primary identifier is packet router number - 0000 to 0001. The secondary identifier is local packet bus/ bus segment combination - 0000 to 0003 is local packet bus 0, bus segments 0 to 3; 0004 to 0007 is local packet bus 1, bus segments 0 to 3. Entries are made in T6562 and T6567. See Table 3.6 for maximum cards allowed.

CIP Denotes Featurephone data link card (16 maximum of all Featurephone/Digital Phone data link cards). The primary identifier is relative controlling card number - 0000 to 0015 (see Note 5). No other identifier is required. Entries are made in T7053-0 and T7057-0.

CONF Denotes conference card (2 maximum). The primary identifier is conference circuit number - 0000 to 0001. No other identifier is required. Entries are made in T6111, T6131, T2741, and T2742.

COT Denotes CO trunk card (16 maximum of all trunk cards). No other identifier is required.

DCP Denotes data device controlling data UCB card (4 maximum with this SVR). The primary identifier is DCP number - 0000. No other identifier is required. Entries are made in T6565.

DCPB   Denotes data device controlling data UCB card with a bus terminator (4 maximum). The primary identifier is DCP number ∙ 0000 to 0003. The secondary identifier is packet router number ∙ 0000 to 0004. The tertiary identifier is the LPB (Local Packet Bus) bus segment. Entries are made in T6562 and T6567.

DTMF   Denotes DTMF receiver card with four circuits (8 maximum). No identifiers are required.

DTRK   Denotes digital trunk card (T1 spans). The engineering of digital trunks requires that physical locations corresponding to the hardware addresses used for T1 spans be specified (6 maximum). No identifiers are required.

DVC   Denotes data voice control interface processor card (16 maximum of all Featurephone/Digital Phone data link cards, 32 maximum of all line cards). The primary identifier is relative line card number ∙ 0000 to 0031; the secondary identifier is relative controlling card number ∙ 0000 to 0015 (see Note 5). No other identifier is required. Entries are made in T2541, T6561, T7053-0, and T7057-0.

EMT   Denotes 2-wire E&M trunk card (23 maximum of all trunk cards). No identifiers are required.

EMT4   Denotes 4-wire E&M trunk card (23 maximum of all trunk cards). No identifiers are required. (Cable pairs listing must show second cable.)

ERLT   Denotes E&M trunk card used as release link trunk card (4 maximum). No identifiers are required.

FP   Denotes Featurephone line card (32 maximum of all line cards). The primary identifier is relative line card number ∙ 0000 to 0031 (see Note 5). No other identifier is required. Entries are made in T2541 and T6561.

FPOP   Denotes Featurephone off-premises line card (16 maximum of all line cards). The primary identifier is relative line card number ∙ 0000 to 0031 (see Note 5). No other identifier is required. Entries are made in T2541 and T6561.

ILT   Denotes incoming loop trunk card (23 maximum of all trunk cards). No identifiers are required.

KEDU   Denotes KEDU/printer card (2 maximum). No identifiers are required.

NIC   Denotes network interface card (16 maximum). The primary identifier is controlling DCP number (0000 this SVR). No other identifier is required. Entries are made in T6566.

OFFP   Denotes off-premises line card (32 maximum of all line cards). The primary identifier is relative line card number - 0000 to 0031 (see Note 5). No other identifier is required. Entries are made in T2541 and T6561.

OPI   Denotes the OMNI PMS interface card (1 maximum). No identifiers are required.

PBE   Denotes packet bus extender card (2 maximum). The primary identifier is packet router number - 0000 to 0001. No other identifier is required. Entries are made in T6562 and T6567.

PDIC   Denotes paging and dictation trunk card (23 maximum of all trunk cards). No identifiers are required.

POTS   Denotes regular line card (32 maximum of all line cards). The primary identifier is relative line card number - 0000 to 0031 (see Note 5). No other identifier is required. Entries are made in T2541 and T6561.

PR   Denotes packet router card (2 maximum with this SVR). The primary identifier is packet router number - 0000 to 0001. No other identifier is required. Entries are made in T6562 and T7058-0.

RLT   Denotes release link trunk card (4 maximum). No identifiers are required.

SM   Denotes silent monitor card (8 maximum). The primary identifier is silent monitor card number - 0000 to 0007. No other identifier is required. Entries are made in T5344.

TDET   Denotes SCC tone detector card (8 maximum). No identifiers are required.

VCIP   Denotes voice control interface processor card (16 maximum of all Featurephone/Digital Phone data link cards (16 maximum of all line cards). The primary identifier is relative line card number - 0000 to 0031 (see Note 5). The secondary identifier is relative controlling card number - 0000 to 0015 (see Note 5). No other identifier is required. Entries are made in T2541, T7053-0, and T7057-0.

VP20   Denotes Voice Packet Line Cards VPLC Mark 2 or VPLC2, type 0, eight circuit (32 maximum of all line cards). The primary identifier is relative line card number - 0000 to 0031 (see Note 5). The secondary identifier depends on card usage as follows:

      ● Voice only - relative controller card number 0000 to 0015 (see Note 5)

      ● Voice and data - relative controller card number 0000 to 0015 (see Note 5)

● Data only ● always ----

The tertiary identifier depends on card usage as follows:

● Voice only ● always 0000

● Voice and data ● always 0001

● Data only ● always ----

Entries are made in T2541, T6561, T7053-0, and T7057.

VP21 Denotes VPLC2, type 1, two circuit (32 maximum of all line cards). The primary identifier is relative line card number ● 0000 to 0031 (see Note 5). No other identifier is required. Entries are made in T2541 and T6561.

VPLO Denotes VPLC, type 0, eight circuit (32 maximum of all line cards). The primary identifier is relative line card number ● 0000 to 0031 (see Note 5). No other identifier is required. Entries are made in T2541 and T6561.

VPL1 Denotes VPLC, type 1, two circuit (32 maximum of all line cards). The primary identifier is relative line card number ● 0000 to 0031 (see Note 5). No other identifier is required. Entries are made in T2541 and T6561.

Table 3.2 FR. Rules

I=R-01 CARD TYPE ● PRIMARY, SECONDARY, AND TERTIARY IDENTIFIERS

Consult Table 3.3, Card Types Versus Identifiers and Status, to determine approximate values to specify for each particular card type. This table specifies the valid ranges of the three identifiers and the status given a particular card type.

FR-02 CARD TYPE ● PHYSICAL LOCATION

If the card type is DTRK, then the group field must be C since TI spans can only be installed in this group. Specific card placement restrictions are in effect for the following card types:

. BT   . PBE
. DCPB   . PR

These cards can only be placed in the following group/slots:

. AOO, A10, BOO, B09   ● COO, C09, DOO, DO1 , D10

FR-50 CARD TYPE ● PEC ● PRIMARY, SECONDARY, TERTIARY IDENTIFIERS

Consult Table 3.4, Card Types Versus Identifiers Checks, to determine the appropriate values to specify for each particular card type. The table shows the meaning of the primary, secondary, and tertiary identifiers on the FR record and checks that are applicable for each set of card types. Also shown is Table 3.5, Card Types Versus Card Slot Restriction.

Table 3.2   FR Rules (Continued)

FR-51 PHYSICAL LOCATION

● The PEC, group, and slot specified for this card must be unique. PEC always = 0.

● The DTRK cards must always be assigned from the lowest to the highest slot number without any other type of card residing between the DTRK cards.

● No other type of card can reside in one of the slots required to implement the T1 span which is implied by the input of a DTRK card.

● The-PEC, group, and slot specified must be valid for the PEC type. PEC always = 0.

● A previous FR-record cannot define a wide card which overhangs into a specified slot.

● The card type specified must not be assigned a physical location to which it is not allowed.

FR-52 PHYSICAL LOCATION

The PEC, group, and slot specified for a card must be unique. PEC always = 0.

FR-53 CARD TYPE

The data system card types (ADMP, BT, DCP, DCPB, NIC, PR, PBE, VPLO, VPL1, VP20 and VP21) are only allowed in systems with the PD-200 Data Option.

FR-56 LOCAL PACKET BUS

The minimum local packet bus configuration is a packet router (card type PR) and a bus terminator (card types BT and DCPB) in the primary file (bus 0). A second local packet bus may be added by using a packet bus extender (card type PBE). If the second file is used (bus 1), it must contain a bus extender card and terminator card.

FR-57 LOCAL PACKET BUS

All data cards must be placed on a local packet bus segment. The ends of a local packet bus segment are defined by the placement of PR, PBE, and bus terminator cards. All data cards must be placed between a PR or PBE and a bus terminator.

FR-59 DATA SYSTEM CARD TYPES

If the data option is specified on Record Code OE, then at least one each of the following cards must be defined:
● A D M P
● PR
● BT (DCPB)

FR-60 CARD TYPE — PRIMARY IDENTIFIER

The primary index for SM (Silent Monitor) cards must be continuous (i.e., the SM card numbers must be assigned from 0 to 7 corresponding to the number of SM cards 1 to 8).

Table 3.2   FR Rules (Continued)

FR-61 PHYSICAL LOCATION

If a controlling DCP (UCB) number is used as the primary identifier for a NIC card, the same number must be used as the primary identifier on a DCP or DCPB card.

FR-62 EXPANSION FILE STATUS

If group C or D is listed in the physical location, Expansion File status on record code OE must be marked equipped.

Table 3.3   Card Types Versus Identifiers and Status

VALUE OF CARD TYPE	ALLOWABLE PRIMARY IDENTIFIER RANGE	ALLOWABLE SECONDARY IDENTIFIER RANGE	ALLOWABLE TERTIARY IDEN- TIFIER RANGE	STATUS FIELD
ADMP	0000	0000-0001		
AGNT	----	----	----	
AIOD	----			IS, OS
ART	0009, 0010, 0011		----	IS, OS
ATTN	----			--
BT	0000-0001	0000 or 0004		--
CIP	0000-0015	we--	----	--
CONF	0000-0001			IS, OS
COT	----		----	--
DCP	0000-0003			--
DCPB	0000-0003	0000-0001	0000 or 0004	--
DTMF	----	----		--
DTRK	----			
DVC	0000-0031	0000-0015		
EMT	----			
EMT4	----	----		
EMT	----		----	--
FP	0000-0031		----	
FPOP	0000-0031	----	----	
ILT	----	----		

Table 3.3   Card Types Versus Identifiers and Status (Continued)

VALUE OF CARD TYPE	ALLOWABLE PRIMARY IDENTIFIER RANGE	ALLOWABLE SECONDARY IDENTIFIER RANGE	ALLOWABLE TERTIARY IDEN- TIFIER RANGE	STATUS FIELD
KEDU	----	----	----	--
NIC	0000-0003	----	----	--
OFFP	0000-0031	----	----	--
OPI	----	----	----	--
PBE	0000-0001	----	----	--
PDIC	----	----	----	--
POTS	0000-0031	----	----	--
PR	0000-0001	----	----	--
RLT	----	----	----	--
SM	0000-0007	----	----	--
TDET	----	----	----	--
VCIP	0000-0031	0000-0015	----	--
VP20	0000-0031	0000-0015 or ----	0000-0001 or ——	--
VP21	0000-0031	----	----	--
VPL0	0000-0031	----	----	--
VPL1	0000-0031	----	----	--

Table 3.4   Card Types Versus Identifiers Checks (Cont

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CARD TYPE	PRIMARY IDENTIFIER	SECONDARY IDENTIFIER	TE IDE
ADMP	ADMP number	ADMP card number	
AIOD	N/A	N/A	
ART	ART card number	N/A	
BT	Packet router number	Local packet bus/ bus segment	
CIP	Relative controller card number	N/A	
CONF	Conference circuit number	N/A	
DCP	DCP number	N/A	
DCPB	DCP number	Packet router number	Loca bus/ segn
DVC	Relative line card number	Relative controller card number	
FP	Relative line card number	N/A	
FPOP	Relative line card number	N/A	
OFFP	Relative line card number	N/A	
OPI	N/A	N/A	
NIC	Controlling DCP number	N/A	
PBE	Packet router number	N/A	
POTS	Relative line card number	N/A	
PR	Packet router number	N/A	
SM	Silent monitor card number	N/A	
VCIP	Relative line card number	Relative controller card number	
VP20	Relative line card number	Relative controller card number	
VP21	Relative line card number	N/A	
VPL0	Relative line card number	N/A	
VPL1	Relative line card number	N/A	

NOTES:

Check 1. For card type ADMP. The
card number combination

Check 2. For card type ART. The Λ
duplicated.

Check 3. For card types containing
packet bus/ bus segment i
DCPB), the packet router r
bus/bus segment identifier
across any of the card type

Check 4. For card types containing r
information (CIP, DVC, VCI
relative controller card nurr
duplicated across any of th

Check 5. For card type CONF, the cc
be duplicated.

Check 6. For card types containing D
and DCPB), the DCP numbe
either of the card types.

Check 7. For card types containing re
information (DVC, FP, FPOP
VP21, VPLO, and VPL1), the
number cannot be duplicate

Check 8. For card type PBE, the pack
duplicated.

Check 9. For card type PR, the packet
duplicated.

Check 10. For card type SM, the silent r
duplicated.

Check 11. For card types AIOD and OPI
system is allowed. For card
must appear as the DCP num
DCPB.

Table 3.6   PD-200 Data

Card Type
BT
DCP
DCPB
PBE
PR
ADMP-A
ADMP-C
VPLC (total for all VPLC type card
NIC

SYSTEM PARAMETERS AND MISCELLANEOUS FEATURES

4.0 This section describes the record codes required to define the various system parameters and miscellaneous features. The following record codes are required:

- Record Code DT defines the location of the system's DTMF cards.

- Record Code OC defines the location of the conference, AIOD, and Music-On-Hold circuit cards.

- Record Code OE defines miscellaneous system data.

- Record Code OF defines additional miscellaneous system data.

- Record Code OT defines timeout intervals.

- Record Code OV defines additional timeout intervals.

- Record Code OD defines non-line circuit directory numbers.

- Record Code PN defines predetermined night answer pilot numbers.

- Record Code PZ defines paging zones.

- Record Code SL defines voice and data passwords.

- Record Code TF defines traffic study parameters.

- Record Code CD defines code calling parameters.

- Record Code CB defines seven- and ten-digit numbers screened by MERS.

- Record Code AU defines remote access authorization codes.

- Record Code FA defines FRL (Facility Restriction Level) authorization codes.

Record Code DT: 4.1 Record Code DT, Figure 4.1, defines the location **and**
DTMF Receiver   status of the system's DTMF (FB-17203) receiver card(s).
The system can support a maximum of two DTMF receiver
cards with four circuits per card.

Figure 4.1   Record Code DT: DTMF Receiver Data Sheet

Table 4.1   Entry Fields for Record Code DT

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	DTMF Receiver Number	00-07 = number	There can be a maximum of two DTMF receiver cards per ONMI Sl. -If one DTMF receiver card is used, receiver numbers 00-03 can be used. -If a second DTMF receiver card is needed, that card can use receiver numbers 04-07. -Each number must be unique.
14	PEC	0 = PEC number	Enter PEC 0. -A DTMF receiver circuit must appear on an FB-17203-A or FB-17203-1A card. -This card must be defined on Record Code FR. -The physical location for each circuit must be unique.
15	Group	A-D = group number	Which group (A, B, C, or D) within PEC 0 is this card?
16-17	Card Slot	00-11 = slot number	Which card slot within the group is this card?
18	Circuit Number	O-3 = assigned circuit number	Which circuit on the card is being used?
19-20	Equipped Status	IS = in service OS = out of service	Is the card in service or out of service? -A slot can be reserved for a card by listing the location and marking it out of service.

Record Code OC:
Office Features Circuits

4.2 **Record Code** OC, Figure 4.2, defines the location and status of the Music-On-Hold circuit cards.

Figure 4.2 Record Code OC: Office Features Circuits Data Sheet

Table 4.2   Entry Fields for Record Code OC

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	PEC (Music-On-Hold)	0 = PEC number	The S1 has two files called PEC 0.
13	Group	**A-D** = group number	Which group (A, B, C, or D) within PEC 0 is this card?
14-15	Card Slot	**00-11** = slot number	Which card slot within the group is this card?
16-17	Circuit Number	**00-07** = circuit number	Which circuit on the card is being used? -This line card must be defined on Record Code FR.
18-19	Equipped Status	**IS** = in service **OS** = out of service	Is the card in service or out of service? -The card used can be the PLCC FB-17524-A or the POPS FB-17250-A. -It is recommended to mark this field OS whether or not the feature is used.

Record Code OE: 4.3 Record Code OE, Figure 4.3, defines miscellaneous office
Office Equipment and equipment data.

Figure 4.3 Record Code OE: Office Equipment Data Sheet

Table 4.3   Entry Fields for Record Code OE

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-14	Office Code Number	**200-999 =** **number**	This field determines the local exchange assigned to this system. -This number is used for identification purposes only. -If two or more office codes are used by a site, enter only one.
15-17	System Configuration	**CSB** = CAS Branch **COM** = Commercial and CAS Main	This field determines whether or not this system is used as a CAS Branch.
18-19	Transmission Plan	**VN** = variable **FL** = fixed loss plan	This field determines whether the pad value is fixed or changeable. If this is a T1 span or network application, put FL; otherwise, put VN.
20	Three-Way Conference or One-Way Consultation	**3** = three-way conference **1** = one-way consultation	This field determines whether the system has three-way conference or one-way consultation. -The recommended value for this field is 3. -If 1 is entered, a three-way conference cannot be held by any line in the system.
21	Transfer Divert Back Method on Busy or No Answer	**P =** divert to transferring party **A =** divert to attendant	If a call is transferred to a busy or no answer station, this field determines whether the call will go back to the attendant or go to the station that forwarded the call. -For normal applications, it is recommended to enter P in this field. This prevents the attendant operator from being overloaded with calls.
22	Ringing Rate	**D** = distinctive **R** = regular	This field determines whether the system has distinctive or regular ringing. -If distinctive ringing is used, the station user can tell the difference between station (inside calls) and trunk (outside calls). -A station call rings 1 second on, 3 seconds off, while a trunk call rings 1 second on, 1 second off.
23	Tick Tone Provided	Y = provided N = not provided	This field determines whether or not a tick tone is provided. -The tick tone is an audible indication that the system has recognized the access code dialed and is waiting for more digits to be dialed. -This is an older feature not normally used.

Table 4.3   Entry Fields for Record Code OE (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
24	DDD Burst Tone	Y = provided N = not provided	This field only applies to calls routed through MERS. -This field determines whether or not a burst of tone is heard by the station user if the call is to go out over a route marked for burst tone. -Normally the burst tone is put on the last and most expensive trunk group in a route. -This feature lets the station user decide whether to hang up and try later on a cheaper route, or complete the call. -If wanted, this tone can be provided to more that one trunk group within a route.
25	Short Cable	Y = provided N = not provided	This field determines whether or not the site requires a short cable application. -If the site is located less than 6000 feet from the CO, this field can be used. -The CO can provide information on whether or not this is required.
26	PD-200 Option	Y = provided N = not provided	If the PD-200 Data Option is used, enter Y.
27-28	Equipped Status for PEC 0	S1 = only allowed entry	Since the OMNI SI has only one PEC, S1 is the only allowed entry.
29-42	Equipped Status for Peripheral Equipment Complex	-- = only allowed entry	This field is not used for the OMNI SI and should contain dashes only.
43-44	Equipped Status for Common Equipment Complex	-- = only allowed entry	This field is not used for the OMNI SI and should contain dashes only.
45-46	Equipped Status for Message Detail Recorder	MD = in service -- = out of service	If the MDR option is used, enter MD.
47-49	Electronic Services Processor	-- = only allowed entry	This field is not used for the OMNI SI and should contain dashes only.

Table 4.3   Entry Fields for Record Code OE (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
5 0	Network Control Center Port Usage	• = not equipped Y = equipped	Enter Y If a CEC port is used for the NCC (Network Control Center). -The network control center provides network administration control and maintenance functions. -MDR output for a network can be sent to an NCC via an MDR port.
51-54	Systems System Version Release	5210 = SVR for this release	The SVR for the system being installed is entered here.
55-56	Expansion File Equipped Status	**EX** = equipped - = not equipped	Enter EX in this field. -SVR 5210 is to be configured only as an Expansion File system.

Record Code OF: 4.4 Record Code OF, Figure 4.4, provides information about
Office Features miscellaneous system features.

Figure 4.4 Record Code OF: Office Features Data Sheet

Table 4.4 Entry Fields for Record Code OF

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-19	Default Facility Restriction Level on MERS Queue Timeout	0-7 = FRL number - = feature not used NOTE: Each FRL can be assigned its own default timeout value.	This field is used only if the FRL/TCM (Traveling Class Mark) feature is operational. -The field determines the FRL default value assigned to a station user who has waited in queue on a MERS call for the duration of the queue time. -If no available route is found by the end of the queue time, the FRL assigned here will temporarily be assigned to the station. -This value should be set up to allow the call to be routed over a more expensive route as a reward to the station user for having stayed in queue. -This is a system-wide value and will apply to all users allowed MERS access.
20	Facility Restriction Level Authorization Code Number of Digits	4-7 = FRL number - = feature not used	This field determines the number of digits in the authorization codes used to access the TCM feature. -This number must be consistent throughout the network. -If one switch in the network has 4-digit authorization codes, then all other switches in the network must have 4-digit authorization codes. -The more digits used in the authorization code, the better the security that is provided. -A total of 10,000 authorization codes can be used. If all 10,000 are used the number of digits must be over 4; if not, any number dialed will work as an access code.
21	Traveling Class Mark Provided	Y = used - = feature not used	This field determines whether or not the TCM feature is used. -A TCM is only used for on-network MERS calls. -A TCM is assigned to a station user when a valid authorization code is dialed. -The TCM allows the call to be completed over the network.

Table 4.4   Entry Fields for Record Code OF (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
22	Camp-on/Call Waiting Tone-1	**Y** = used - = feature not used	This field determines whether or not a tone is heard when the camp-on or call waiting feature is activated. -For these features to work, the tone must be provided or the party has no way of knowing that a call is waiting or camped on. -If this field is dashed, then columns 23-26 must also be dashed.
23-24	Maximum Camp-on/Call Waiting	**01-20** = amount allowed ■ = feature not used	This field determines the maximum number of camp-on/call waiting calls that can be in effect at the same time per station. -A station that has calls camped on must complete the call-back sequence before calls can be placed. Therefore this number must be kept low, or making calls could be a problem. However, if this field is too low or is set at 1, the attendant could be flooded with calls; 2 or 3 is recommended for this field. -If an entry is made in this field, column 22 must be marked Y. **MOTE:** If stations cannot process calls because of this feature, then the site is a good application for the message center feature.
25-26	Camp-on Tone Type	**DD** = distinctive dial tone 40 = 440 Hz tone **DT** = dial tone 80 = 480 Hz tone -- = feature not used	This field determines the type of tone heard when the camp-on/call waiting feature is used. -If an entry is made in this field, column 22 must be marked Y. -The recommended value for this field is DD. -If DT is used, the tone heard is the same as the tone heard when the attendant breaks into a conversation.
27	Most Economical Route Selection 1 + Dialing	Y = 1 + dialing is in effect ■ = 1 + dialing is not in effect	This field determines whether or not 1 + dialing is in effect. -If an NPA (Numbering Plan Area) has conflicting codes, then 1 + dialing is required.

Table 4.4   Entry Fields for Record Code OF (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
28-30	Trunk Call Queuing Number of Busy Attempts	**001-255 =** number of attempts --- = N/A (3 = default)	This field determines the number of times the system will try calling a busy station before dropping it from the on-hook queue. -Trunk call queuing, defined in columns 28-36, and MERS list queuing, defined on Record Code OV, columns 12-17, are mutually exclusive features. -When the station is called back by the system and it does not answer, it is dropped from queue.
31-33	Trunk Call Queuing Number of Answer Attempts	**001-255 =** number of attempts --- = N/A (3 = default)	This field determines the number of times the system will continue to ring a non-answering station before dropping it from the on-hook queue.
34-36	Trunk Call Queuing Maximum Number of Calls Waiting	**000-100 =** number --- = N/A (default = 15)	This field determines the maximum number of call waiting calls that can be in operation at the same time for the entire system.
37-38	Remote Access Directory Number Displayable Class of Service	**00-l5 = COS** number -- = feature not used	This field determines the displayable class of service assigned to the remote access feature. -This remote access feature does not require an access code. -There is only one remote access number; it is given to all system users who are allowed to access the remote access feature. ▪ When assigning the COS for a station allowed remote access (Record Code LD, column 51), do not assign a COS for remote access that allows more privileges than the COS of the station. If this occurs, the station user can use the remote access feature to bypass restrictions placed on the station. -Remote access is assigned on Record Code LD, column 51. -If an entry is made in this field, then columns 39-40 must also have an entry. -The remote access directory number must be defined on Record Code OD, columns 12-15.

Table 4.4   Entry Fields for Record Code OF (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
39-40	Remote Access Directory Number N-Displayable Class of Service	**00-15** = COS number **--** = feature not used	This field determines the n-displayable class of service assigned to the remote access feature. -If columns 37-38 are dashed, this field must also be dashed.
41-42	Reserved	**--** = only allowed entry	This field can only contain dashes.
43	Special Message Number to Display on Agent Position L1 Display When PABX Line Accesses the Agent Group	**0-7** = message number	There are 8 possible messages that can be displayed on the Agent Instrument. -This field determines the message number that is displayed on the agent telephone. -These messages are defined on Record Code SM, columns 14-29.
44	Time Display	**C** = civilian (used for CAS/ACD) **M** = military	This field determines whether civilian or military time is displayed at the Agent Instrument and on FADS (Force Administration Data System) reports.
45	Number of Active Attendant Loops	1-4 = number 2 = default	This field determines the number of attendant loops on which incoming calls can appear. -If all loops are activated, the attendant may have difficultly accessing an outside line. -When all loops are not activated, the attendant has the call waiting light to assist in determining the number of calls. -If the enhanced Attendant Console is used, activating loop 4 is not recommended.
46-47	Authorization Prefix Digits	00-99 = prefix digits -- = feature not used	This field determines the authorization prefix digits used to access MERS off-network dialing after making a MERS on-network call. -If the trunks are busy when making a MERS on-network call, the user may decide to continue the call over off-network facilities. **NOTE:** The authorization code used to access this feature is assigned on Record Code AU, columns 12-13.

Table 4.4   Entry Fields for Record Code OF (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
48	Five-Digit Network Dialing Plan	**Y** = feature is used - = feature not used	This field determines wether or not a 5-digit numbering plan for stations (opposed to a 3- or 4-digit numbering plan) is used at the site. -This feature can be used to provide a uniform numbering plan to a private network. -Record Code NT determines the network numbering plan. **NOTE: To implement this feature refer to TL-130200-1001.**
49	Remove Home Numbering Plan Area From Ten-Digit Call Within Home Numbering Plan Area	**Y** = feature is used - = feature not used	This field determines whether or not the HNPA is removed from a 10-digit call. -If the site is using SCC, contact the SCC to determine if the HNPA needs to be deleted or if it must be left on. -If the routing is over ATT, the field must contain a Y.
50	MERS Second Dial Tone	**Y** = dial tone is required - = dial tone is not required	When the MERS access code is dialed, this field determines whether or not a second dial tone is heard. -The customer determines whether or not this field should be activated or not.
51	Reserved	- = only allowed entry	This field can only be dashed.
52	Recent Change Save Data Base Security Level	I-6 = number	This field determines the minimum security level required to save the data base, entered via recent change, to disk. -Record Code SL, columns 13-14, defines security levels. -This feature allows the customer to write to disk.

Table 4.4   Entry Fields for Record Code OF **(Continued)**

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
53	Disable Facility Restriction Level Authorization Code Report	Y = disable is requested - = allow is requested	This field can only be used if the TCM feature is in effect. -The field determines whether or not an incoming network trunk is required to have an FRL value assigned to it. -This feature can only be used if column 21 is marked Y. **NOTE:** If a remote switch cannot assign an FRL value to an outgoing trunk, the OMNI SI can assign one. This is done on Record Code T1, column 69. -If an incoming default FRL is not assigned by this switch and this field is dashed, the **call** will still come through. -If the column is marked Y, the incoming trunk is routed to an intercept route.
54	Facility Restriction Level Equipped	Y = FRLs are equipped - = FRLs are not equipped	This field determines whether or not the FRL feature option is equipped in the system. -If the TCM feature is used (see column 21), this column must be marked Y.
55-56	Seven and Ten-Digit Check for Code Blocking	Y = screening is performed - = screening is not performed	Column 55 determines whether or not 7-digit screening is to be preformed by MERS call processing. -Column 56 determines whether or not 10-digit screening is to be preformed by MERS call processing.
57	Mutual Hold Enable	Y = mutual hold is allowed - = mutual hold is not allowed	This field determines whether or not the system allows the mutual hold feature. -If this feature is activated when two stations are connected, both parties can place each other on hold. -If this feature is not in effect, only the station that originated the call can put the other station on hold.

Record Code OT: 4.5 Record Code OT, Figure 4.5, defines the timeout intervals
Off ice Timeout Values required for the various call conditions.

Figure 4.5 Record Code OT: Office Timeout Values Data Sheet

Table 4.5 Entry Fields for Record Code OT

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-14	Recorded Announcement	**000-255** = time in seconds or **020** = suggested value, depending on message length 60 = default	When a call is routed to a recorder announcer, this field determines the number of seconds before the call is automatically disconnected after message completion. -The timing value must exceed the length of the message for the complete message to be heard. -It is recommended that this field be made 3 seconds longer than the message.
15-17	Camp-on Still Busy	000-255 = time in seconds or **045** = suggested value 30 = default	When the attendant camps on to a busy station and the station remains busy, this field determines the number of seconds that pass before the call is returned to the console.
18-20	First Digit Timeout	**000-255** = time in seconds or **015** = suggested value	This field determines the number of seconds a station user has to dial the first digit of a number. -If a digit is not dialed in this amount of time, the station user is disconnected. -If a station user takes too long to dial, system traffic could be affected and resulting in delays getting system dial tone. -This field is used in conjunction with columns 21-23 (interdigital time) which gives the timeout factor for all remaining digits. -This does not apply to the consoles.
21-23	Interdigital Timeout	000-255 = time in seconds or **005** = suggested value	This field determines the maximum number of seconds a station user can take between dialing station or telephone number digits before system disconnect. -In a MERS application, it is recommended that this value be kept at 005, or the system will take too long to outpulse a call. -This does not apply to the consoles.
24-26	Divert No Answer Time	000-255 = time in seconds or **020** = suggested value 30 = default	This field determines the number of seconds a call to a POTS telephone will ring before being forwarded to a no-answer divert destination. -This field should always be less than attendant no- answer time (columns 45-47). -This value is programmable on an individual basis for Integrated Featurephones.

Table 4.5   Entry Fields for Record Code OT (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
27-29	Recall on Hold	**000-255** = time in seconds or **120** = suggested value **30** = default	This field applies to the console only. Indicate the number of seconds it takes for a call put on hold and not retrieved to recall to the attendant. -Depending on how busy the attendant is, the recommended value may prove too long for some sites. A shorter value of 045 may work better at sites where there are complaints of being placed on hold too long.
30-32	Attendant Call Waiting Queue	**000-255** = time in seconds or **060** = suggested value	This field determines the number of seconds it takes for a call placed in the console's call waiting queue to divert to UNA (Universal Night Answer) service. -If the attendant is busy when an incoming trunk call comes in, the call is automatically routed to UNA when this timing parameter is met. -The calling party hears ringing until connected to the UNA destination. -The UNA feature is assigned on Record Code CA, columns 27-30 and 43.
33-35	Outpulse Interdigital Time Factor	**003-015** = time in tenths of a second or **007** = suggested value	This field determines the amount of time, in tenths of a second, between successive dial pulse digits being sent from the sender.
36-38	Call Park	000-255 = time in seconds or **45** = suggested value	This field determines the amount of seconds before a call that is parked or not retrieved will recall or ring back to the station that parked the call, to the attendant, or to another destination if calls are forwarded.
39-41	Hunt Group Camp-on Rescan Rate	005 = only allowed entry	The suggested value is 005.
42-44	Call Hold	000-255 = time in seconds or **45** = suggested value	This field determines the number of seconds before a call that was put on hold by a station automatically rings back to that station. -If the station is busy or does not answer, the call goes to the console.

Table 4.5   Entry Fields for Record Code OT (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
45-47	Attendant No-Answer Time	000-255 = time in seconds or **030 =** suggested value	This field determines the number of seconds it takes for a trunk-originated call to return to the console if the attendant extended the call to a station that did not answer.
48-50	Information Tone Delay	000-255 = time in milliseconds or **002 =** suggested value	For a CAS Branch application, indicate the amount of time between the detection of an RLT (Release Link Trunk) being answered (by an ACD agent or CAS) and the start of information tone sending.
51-53	Release Link Trunk Busy Guard	000-255 = time in milliseconds or **010 =** suggested value	In a CAS Branch application, this field determines the amount of time for the busy guard feature on RLTs to go into effect. -The busy guard interval prevents a reseizure of an RLT by the CAS Branch system for a new call after a disconnect (attendant release) is recognized.
54-56	Release Link Trunk Recall on No Answer	000-255 = time in seconds or **045 =** suggested value	In a CAS Branch application, this field determines the number of seconds allowed for a call extended by an RLT to ring. -If the call is not answered before this timer is up, the call is routed back to a CAS/ACD agent.
57-59	Release Link Trunk Recall Camp-on	000-255 = time in seconds or **045 =** suggested value	In a CAS Branch application, this field determines the number of seconds a call extended by an RLT can be camped on to a busy station. -If the call is not answered before this timer is up, the call is routed back to a CAS/ACD agent.
60-62	Release Link Trunk Recall Silent Hold	000-255 = time in seconds or 030 = suggested value 127 = default	In a CAS Branch application, this field determines the number of seconds a call can wait in the silent hold queue. -When this timer is up, the call is routed to a CAS/ACD agent.

Table 4.5   Entry Fields for Record Code OT (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
63-65	Call Waiting Tone Duration (Camp-on)	000-255 = time in milliseconds or **009** = suggested value	This field determines the number of milliseconds that the camp-on/call waiting tone is heard. -The camp-on tone alerts a called party that a call is camped on. .-This time is in tenths of a second and the camp-on tone is heard by the called party as well as the person/persons to whom the called party is talking.
66-68	Trunk Call Queuing Time Before Retry	000-255 = time in minutes or **002** = suggested value 000 = default	If on-hook trunk call queuing or MERS list queuing is used, this field determines the number of seconds before the call goes back unanswered. -After this time, the call is again placed in queue.
69-71	Repertory Dial Pause Time	**010** = suggested entry	Indicate the timing value for the ACD repertory dial key pauses.
72-75	Maximum Hookswitch Flash	0160-2000 = time in milliseconds or **600** = suggested value 2000 = default	This field determines the maximum time allowed for a hookswitch flash. -The maximum hookswitch timing value must be greater than the minimum hookswitch timing value. -The timing value is in multiples of 20-millisecond increments.
76-79	Minimum Hookswitch Flash	**0160-2000** = time in milliseconds or **0160** = suggested value	This field determines the minimum time allowed for a hookswitch flash. - Always make the minimum hookswitch flash timing less than the maximum hookswitch flash timing. -The timing value is in multiples of 20-millisecond increments.

Record Code OV:
Office Timing Values

4.6 Record Code OV, Figure 4.6, defines the timing intervals required for the call conditions. This data sheet is basically an extension of the office timing values data sheet, Record Code OT (Figure 4.5).

Figure 4.6 Record Code OV: Office Timing Values Data Sheet

Table 4.6   Entry Fields for Record Code OV

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-14	MERS List Queue Off-Hook Timeout	**010-255** = time in seconds or **015** = suggested value	When a station in an off-hook condition is queued to MERS, this field determines the amount of time the call must be queued to the present route before it can be routed to the next route. -If the station is called back by the system and does not answer, it is dropped from queue.
15-17	MERS List Queue On-Hook Timeout	**000-255** = time in minutes or **005** = suggested value	When a station in an on-hook condition is queued to MERS, this field determines the amount of time the call must be queued to the present route before it can be routed to the next route.
18-20	Speed Calling Short Delay	**000-255** = time in milliseconds or **010** = suggested value	This field is used in support of the group/individual speed calling feature. -If a speed calling short delay is given on Record Code GS, columns 17-31, this field determines the length of the delay. -This feature provides a short delay between the dialing of the number and the CO sending dial tone (this is often required for older COs).
21-23	Speed Calling Long Delay	000-255 = time in seconds or **020** = suggested value 100 = default	This field is used in support of the group/individual speed calling feature. -If a speed calling long delay is given on Record Code GS, columns 17-31, this field determines the length of the delay. -The feature provides a long delay between the dialing of the number and the CO sending dial tone (this is often required for older or busy COs if the site SCC dialer outpulses digits faster than the CO can accept them). -If speed calling is used over MERS routing, it is not recommended to use a long delay **NOTE:** The long timing value must exceed the short timing value.
24-25	Speed Calling Outpulsing Delay	**01-10** = time in seconds or 03 = suggested value	When processing a call using the speed calling feature, this field determines the number of seconds the system waits before outpulsing the first digit of a number to the trunk.

Table 4.6   Entry Fields for Record Code OV (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
26-27	Network Control Center Output Scan Time Interval	**5-15 =** seconds -- = N/A	If the system scans the NCC (Network Control Center) for any output, this field determines the time between the scans. -This field only applies to a system that is used as an NCC.
28-29	Integrating Voice Messaging System Message Waiting Tone Duration	00-20 = time in milliseconds or **02** = suggested value	When the OMNI IVMS™ message waiting feature is accessed, this field determines how long the tone will be heard. -This tone indicates that the system is ready to accept the message.
30-32	Limited ACD Recorder Announcer Playback Timing Value	000-255 = time in seconds or **016** = suggested value, depending on the length of the message.	This field determines the length of time provided for the recorder announcer message. -This timing value should be set at a greater value than the message (3 seconds longer is sufficient).
33-35	Agent Call Park Timeout	000-255 = time in seconds or **120 = N/A** 120 seconds = default	If an ACD agent parks an incoming trunk call on a busy agent or an agent group, this field determines the amount of seconds that the call can be parked before it times out and recalls.
36-38	Agent Call Hold Timeout	000-255 = time in seconds or 120 = suggested value	If an ACD agent puts a call on hold, this field determines how long the call can be held before it recalls to the agent.
39-40	Sender Timeout Value	03-30 = time in seconds or **06** = suggested value	This field determines the amount of seconds a trunk has to recognize a wink from a remote system or CO to seize a trunk. -This field applies to all trunks in the system.

Record Code OD: 4.7 Record Code OD, Figure 4.7, defines certain types of
Other Directory Numbers directory numbers that are not associated with a line circuit.

Figure 4.7 Record Code OD: Other Directory Numbers Data Sheet

Table 4.7   Entry Fields for Record Code OD

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-15	Directory Number	0000-9999 or 000-999 for three-digit numbers	This field determines the directory number to be used to access the feature defined in columns 16-l 8.
16-18	Type	**MDU =** message deskunattended **RMA =** remote access directory number **SPD** = call forward to individual speed call list entry TGO = satellite access-trunk group outplusing **TGS** = satellite access-trunk group select **VMS** = IVMS (Integrated Voice Messaging System) directory number	This field determines the type of directory number. -MDU/VMS are both used for IVMS. -RMA assigns the directory number as a remote access number. -SPD is used to define a directory number that is used to access the remote call forwarding feature. The directory number defined here is used to access an individual speed call list. The individual speed calling list stores directory numbers for the remote call forwarding feature. Up to 8 directory numbers can be created to access all 8 of the individual speed calling numbers. **NOTE:** If the line is a DID line and is allowed remote call forwarding, billing to the calling party begins as soon as the call rings at the on-site station whether or not the call is answered at the remote forwarded location. For this reason; it is not recommended to assign the remote call forwarding features to DID lines.
19-22	Code Type Identifier	0000-0063 = trunk group number (MDU, TGS, and VMS) 0000 = remote access directory number (RMA) **0001-0008 =** entry number (SPD) **XXYY** = (TGO) number of digits to outpulse (XX = 00-15); trunk group number (W = 00-63)	This field determines the code type identifier for the directory number. -If the directory number type, columns 16-18, is marked SPD, the numbers 0001-0008 are pointers to the 8 individual speed calling entries. There are only 8 possible system-wide directory numbers for the remote call forwarding feature. However, each user allowed this feature can have up to 8 remote call forwarding numbers stored in an individual speed calling list. Since the external call forward feature works in conjunction with the individual speed calling feature, the number of users who can access the feature is limited by the number of individual speed calling lists. The system will support a maximum of 31 individual speed calling lists. If the external call forward feature is used, code type number **110** on Record Code AC must be defined.

**Predetermined
Night Answer
Pilot Numbers**
hunt group or **a** station number required for PNA (Predetermined Night Answer) service. A maximum number of 16 hunt groups or station numbers can be assigned for PNA service.

Figure 4.8 Record Code PN: Predetermined Night Answer Pilot Numbers Data Sheet

Table 4.8   Entry Fields For Record Code PN

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Destination Number	00-15 = number	This field determines the number used to represent the pilot/station number. -The attendant can change the PDN number from the console by entering a number defined here.
14-17	Pilot/Station Number	0000-9999 or 000-999 for three-digit numbers right justify three-digit numbers	This field determines the pilot number used. -Any valid directory number (pilot, station, or remote acess number, etc.) can be entered. -This number must also be defined on Record Code TC, columns 37-40 and/or 41-44. -This number must also be defined on Record Code CA, columns 12-15 and/or 16-19.

Record Code PZ: 4.9 Record Code PZ, Figure 4.9, defines the paging zones for
Paging Zones   the system. The attendant and certain system stations can be
allowed to access the paging equipment. A station user can
access the paging system by dialing an access code and zone
number. The attendant can access the paging system by the
above method or by depressing.the console PAGE button. The
card used to support this feature is the FB-17210 card and
paging is assigned to circuit 2.

Figure 4.8   Record Code PZ: Paging Zones Data Sheet

Table 4.9   Entry Fields for Record Code PZ

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-15	Zone 0 Paging Areas: 3-0	3-0 = allowed - = not allowed	This field determines the paging areas this paging zone is allowed to access.
16-19	Zone 1	3-0 = allowed - = not allowed	This field determines the paging areas this paging zone is allowed to access.
20-23	Zone 2	3-0 = allowed - = not allowed	This field determines the paging areas this paging zone is allowed to access.
24-27	Zone 3	3-0 = allowed - = not allowed	This field determines the paging areas this paging zone is allowed to access.
28-31	Zone 4	3-0 = allowed - = not allowed	This field determines the paging areas this paging zone is allowed to access.
32-35	Zone 5	3-0 = allowed - = not allowed	This field determines the paging areas this paging zone is allowed to access.
36-39	Zone 6	3-0 = allowed - = not allowed	This field determines the paging areas this paging zone is allowed to access.
40-43	Zone 7	3-0 = allowed - = not allowed	This field determines the paging areas this paging zone is allowed to access.
44-47	Zone 8	3-0 = allowed - = not allowed	This field determines the paging areas this paging zone is allowed to access.
48-51	Zone 9	3-0 = allowed - = not allowed	This field determines the paging areas this paging zone is allowed to access.
52-55	Attendant Paging Areas	3-0 = allowed not allowed	This field determines the paging areas the attendant is allowed to access. -The attendant paging area is normally an all call for all zones. -If this feature is allowed, Record Code CA, column 36, must be marked Y.
56	Zone Digit	Y = required N = not required	This field determines whether or not the 0 zone digit must be dialed to access the zone.. -If the site only has one zone, a zone digit is not needed. -If the site has more than one zone, a digit must be dialed to identify what zone is to be paged.

**Record Code SL:
User Security
Level Password**

4.10 Record Code SL, Figure 4.10, defines passwords to access both the voice and data software of the system. If the system is equipped with the PD-200 Data Option, this record code must be completed for the data security level. To date, eight security levels for voice and six security levels for data have been defined. The user can perform the functions associated with the level accessed, including the functions associated with all lower levels. Use one row per password for the system. Assign to each password the appropriate voice and/or data security level.

Figure 4.10   Record Code SL: User Security Level Password Data Sheet

Table 4.10   Entry Fields for Record Code SL

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
1 2	Voice Security Level Number	**1-8** where: **Level 1** = traffic studies, system status, and recent change display **Level** 2 = recent change of line functions **Level** 3 = feature changes of minor impact **Level** 4 = all recent change of all features of major impact **Level 5 =** maintenance request **Level** 6 = generic program changes and manual data base changes **Levels 7 & 8** = reserved	This field determines the voice security level number (I-6) associated with the password defined in columns 15-l 8. -The value level given here defines what functions the user's password accesses. -Column 12 is preprinted **on** the record code forms.
13-14	Data System Security Level	00-05 where: **Level** 00 = read-only access **Level 01 =** reserved **Level 02 =** reserved **Level 03 =** reserved **Level 04 =** ability to change the majority of fields **Level** 05 = ability to change most fields, but files cannot be deleted	This field determines the data security level number (I-6) associated with the password defined in columns 15-18. -Each of these levels can be assigned as often as needed to the various voice values (e.g. data level 00 could be assigned to voice levels I-6). **NOTE:** Enter -- for N/A if the PD-200 Data Option is not equipped.
15-18	User Security Password Characters: I-4	O-9 or **A-Z** = four characters ▪ = N/A	This field determines the password used to access the system. -Numbers and letters cannot be mixed in this field.

Record Code TF: 4.11 Record Code TF, Figure 4.11, defines the system
Traffic Data Facilities parameter requirements for a traffic data study.

FORM	SEQ NO	REC CODE	LENGTH OF STUDY	T INTERVAL	TIME BETWEEN	USAGE SCAN	POLL COMD SITE ID	DATA DUMP HEADER SITE ID				AUTOMATIC OUTPUT IND	TRANS CODE
								CHAR 1	CHAR 2	CHAR 3	CHAR 4		

T 6 0 4

7	8	9	1 0	1 1	1 2	1 3	1 4	1 5	1 6	1 7	1 8	1 9	2 0	2 1	2 2	2 3	2 4	2 5	2 6	2 7	2 8	2 9	3 0	3 1	3 2	3 3	3 4	3 5	3 6	3 7	3 8	3 9	4 0	4 1	4 2	8 0
2	1	1	0	T	F																															

Figure 4.11   Record Code TF: Traffic Data Facilities Data Sheet

Table 4.11 Entry Fields for Record Code TF

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Length of Study Interval	**15** = 15 minutes **30** = 30 minutes **60** = 60 minutes (suggested value)	This field determines the timing interval between the traffic studies.
14-16	Time Between Usage Scans	**010** = 10 seconds **100** = 100 seconds (suggested value)	This field determines the time between the successive traffic study usage samples.
17	Polling Command Site Identification	**0-9** or **A-Z** = valid characters **-** = N/A	This field determines the site identification (ASCII characters) used as a polling command to retrieve a traffic study. -This is required if the data is processed by a centralized polling message system. -This command is dumped with the print-out and identifies that a study was requested.
18-21	Data Dump Header Site Identification Characters 1-4	**0-9** or **A-Z** = valid characters **-** = N/A	This field determines the data dump header identification for the system.
22	Automatic Output indicator	Y = provided N = not provided	This field determines whether or not a print-out of the traffic study is automatically given. -This is done by using the specified intervals along with the data dump header site identification.

Record Code CD: **4.12** Record Code CD, Figure 4.12, defines the parameters for
Code Call the code calling option. For this feature to work, at least one
class of service defined on Record Code DD, columns 26-27,
must allow code call access. The card used to support this
feature is the FB-17210 card.

Figure **4.12**   **Record Code CD: Code Call Data Sheet**

Table 4.12 Entry Fields for Record Code CD

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Code Call Tone	**DD** = distinctive dial tone **HZ = 440-Hz** tone	This field determines the type **of** tone to be used for the code calling feature.
14-15	Repeat Code Call	**00-l** 5 = number or -- = N/A	This field determines the number of times the code call cycle is outpulsed after the initial cycle is repeated (number of times overhead ringing is heard).
16	Number of Code Call Digits	O-3 = number of rings or ▪ = N/A	This field determines the digits outpulsed in a code call code.
17-19	Time on Tone	000-255 = interval in tenths of a second 3 = suggested value --- = N/A	This field determines the time for tone pulses which make up the code call digits.
20-22	Time Between Tones	000-255 = interval in tenths of a second 3 = suggested value --- = N/A	This field determines the time between the successive tone pulses that make up code call digits.
23-25	Time Between Digits	000-255 = interval in tenths of a second 7 = suggested **value** --- = N/A	This field determines the amount of time between each code call digit.
26-28	Time Between Cycles	000-255 = interval in tenths of a second 15 = suggested value --- = N/A	This field determines the amount of time between each code call cycle.

Record Code CB: 4.13 **Record Code** CB, Figure 4.13, defines the 7-and lo-digit
Code Blocked numbers that are screened by **MERS** call processing.
Numbers

Figure 4.13   Record Code CB: Code Blocked Numbers Data Sheet

Table 4.13   Entry Fields For Record Code CB

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	Code Blocked Number Digit 1 to 10	2-9 and F (wild card value of all digits)	This field determines digit 1
13-18	Code Blocked Number Digit 1 to 10	O-9 and **F** (wild card)	This field determines digits 2-7.
19-21	Code Blocked Number Digit 1 to 10	O-9 and **F** (wild card) or ▪ = N/A	Dashes are coded for 7-digit numbers. If a dash is placed anywhere in columns 19-21, then the rest of the columns in this field must be dashed.

Recor ,ode
Facility Restri on L
Authoriz

```
        ┌ ─ ─ ─ ─ ─ ┐
        |           |
        |           |
        |           |
        ├ ─ ─ ─ ─ ─ ┤
        | F  S  N | R  C |
        | O  E  O | E  O |
        | R  Q    | C  D |
        | M       |    E |
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        |         |   .  |
        |         |      |
        ├ ─ ┬ ─ ┬ ─┬─┬─ ┤
        |   |   | 1 | 1 |
        | 7 | 8 | 9 | 0 | 1 |
        ├-t-┼-t-┼-t-┼-t-┼-t-┤
        | 9 | 5 | 0 | F | A |
        L-L-L-L-L-L-L-L-L-L-L
```

Figure 4.15 F

Table 4.13 E

COL. NO.	COL. NAME	VAL ENTR
12-13	Authorization Code Number	01-40 = nur
14-17	Authorization Code Digits 1-4	0-9 = numbe
18-19	Displayable Class of Service	00-15 = COS -- = N/A
20-21	N-Displayable Class of Service	00-15 = cos -- = N/A
22-23	Reserved	-- = only allov entry

Table 4.15   Entry Fields for I

COL. NO.	COL. NAME	VALID ENTRIES	
12-18	Authorization Code Digits	0-9 = digits = not selected	This 1 lumbe The I Jefine Colu
19	Facility Restriction Level	If this field is filled out by the coder, valid entries are: 0-7 If this record code Is to be generated by the FAREC Utility program, use the following: FRL O=A FRL 1 = B FRL 2 = C FRL 3 = D FRL 4 = E FRL 5 = F FRL 6 = G FRL 7 = H	This 1 given with v entry -The can t FRLs NOT used, any c -The colun

**DIGIT
ANALYSIS**

5.0 This section describes the record codes required to define the various digits used by the system. The following record codes are required:

- Record Code AC defines the system dialing plan and access codes.

- Record Code HD defines the hundreds groups used as system directory numbers.

- Record Code IR defines the system intercept conditions.

- Record Code SA defines non-SCC (Specialized Common Carrier) codes.

- Record Code I1 defines international country codes for international dialing.

Record Code AC:
Access Code Translation

5.1 Record Code AC, Figure 5.1, defines the dialing plan and access codes used by the system. Any digit can be assigned as a single digit access code, the first digit of a two- or three-digit access code or the first digit of the three- or four-digit station number.

- Once a number is assigned as a single digit access code or the first digit of a station number, it cannot be assigned as the first digit of a two- or three-digit code.

- The last two digits of a three-digit access code cannot be the same as an existing two-digit access code.
  For example, if a two-digit access of 32 exists, there cannot be a three-digit access code of X32 (X = O-9, # or *).

- The last two digits of one three-digit access code cannot be the same as the last two digits of another three-digit access code.
  For example, only one three-digit access code ending in **32** can exist.

Stations equipped with DTMF keypads can use the asterisk (*) and the octothorpe (#) characters for access codes. Access codes and the system numbering plan supported by standard user guides are listed in Table 5.1 B (maximum entries, 156). Additional information can also be found in Table 5.1C.

One or more access codes can be used to precede station numbers for station-to-station calling thus allowing the use of more single digit access codes for special service functions. Refer to Record Code RN, Figure 15.6.

Figure 5.1   Record Code AC: Access Code Translation Data Sheet

Table 5.1A   Entry Fields for Record Code AC

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-14	Access Code Digits 1-3	0-9, 00-99, or 000-999 = access code	Enter selected access code digits in columns 12-14 to select the access code and station number digits used in the system. -Digits entered in this field are to be left justified.
15-17	Code Type Number	000-255 = number	Code type number columns 15-17 define a numerical value to represent a specific feature that is used. -All code type numbers, range 000-255, are defined in Table 5.1 D. -To fill in this field, find the code type numbers associated with the first digit of the station numbering plan. -Enter these digits in columns 15-17. -Enter 0 in column 15 when only two digits are being entered in columns 15-17.
18-21	Code Type Identifier Number	0000-9999 = number	Code type identifier number columns 18-21 further identify the code type in relation to termination information. -Table 5.1C defines the code type identifier numbers. **Access Code** -When defining an access code, do the following: -To fill in this field, find the code type identifier number associated with the first digit of the chosen access codes in Tables 5.1 B or 5.1 D. -Enter digits from right to left (right justified, zero filled) in columns 18-21. -Enter the same number in column 21 that was used in column 12, which represents the first digit of the access code using code type number 10 or 11. -When * or # is used as the first digit of an access code, enter 11 for * and 12 for # in columns 20 and 21. -Enter zeros in unused columns (right justified, zero filled).

Table 5.1A   Entry Fields for Record Code AC (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
18-21 (cont'd)	Code Type dentifier Number	0000-9999 = number	Station Numbering Plan When defining a station numbering plan ,do the following: -To fill in this field, find the code type identifier number associated with the first digit of the chosen station numbering plan in Table 5.1B or 5.1D. -For a three-digit station numbering plan, enter in column 21 the first missing terminal digit that normally would be dialed for DID applications. -Example: ABC x x x x Office Missing Station Code Terminal Number Digit If the missing terminal digit cannot be determined, a zero can be used in its place. -Once a terminal digit is assigned, it must be used in all applicable areas of the data sheets. -If there is no missing terminal digit (e.g., code type identifier is 12 for code type 67), the station numbers are entered as a blank and the three-digit number is entered on the input sheets. This is the only case where a blank is valid. -The CTI range of 0000-0063 is the trunk group number, and the CTI range of 0000 to 9999 is the station or pilot number as indicated in Table 5.16 or 5.1 D. -For the MERS on-network access code type (105), the first digit of the code type identifier must be a 0 (lo-digit dialing) or a 7 (7-digit dialing), and the last three digits must match an NPA or on-network access code on Record Code MR and be defined on Record Code TR (check type 9). If ON1-ON4 is defined on Record Codes MR/TR/NT/TD, then one of code types 105, 94, 96, 126, or 127 must be defined.

Table 5.1B Standard Access **Codes**

Code CT/CTI #			DESCRIPTION
0	009	0128	Attendant Access
1	067	0012	Three-digit station numbering system
2			Three-digit station numbering system
3	067 067	0012 0012	Three-digit station numbering system
4	067	0012	Three-digit station numbering system · spare
1	067	0015	Four-digit station numbering system· spare
2	067	0015	Four-digit station numbering system
3	067	0015	Four-digit station numbering system · spare
4	067	0015	Four-digit station numbering system · spare
5	010	0005	1 st digit of two-digit feature access
6	011	0006	Three-digit attendant access codes
7	010	**0007**	Two-digit trunk access
8	**010**	**0008**	Additional Trunk Groups (FX, WATS, TIE, SCC, etc.)
9	**001**	**0001**	CO Trunks/MERS (Trunk Group 1)
	010	**0011**	1st digit of two-digit access codes for station features
#	**010**	**0012**	1st digit of two-digit access codes for station features
*0	**117**	**0000**	Individual Speed Access
*1	040	0000	Call Hold
*2	079 021	0000 0000	Executive Reminder Entered
*3			Call Forward Variable (Flexible)
*4	024	0000	Group Dial Call Pickup
*5	025	0000	Extended Group Dial Call Pickup
*6	033	0000	Conference
7	057	0000	Trunk Call On Hook (Queuing)
*8	032	0000	Meet Me Conference
*9	039	0000	Call Park
**	028	0000	Station Camp-On
*#	031	0000	Night Answer
#0	118	0000	Individual Speed Change
#2	044	0000	Call Hold Answer
#3	080 020	0000 0000	Call Executive Forward Reminder Fixed Canceled
#4	026	0000	Station Dial Call Pickup
#5	**019**	**0000**	Executive Override
#6	013	0000	Call Waiting Answer
#8	058	0000	Trunk Call On-Hook (Queuing) Cancel
#9	014 043	0000 0000	Call Call Waiting Park Answer Originating
#*	029	0000	Camp-On Cancel
##	012	0000	Group Speed Calling
50	000	0004	Automatic Call Distribution Feature Access (Future)
51	121	0000	Unstaff Position †
52	125	0000	Staff Position †
53	122	0000	Call Supervisory ACD (Agent) †
54	123	0000	Emergency Assistance †
55	124	0000	Bad Line †
56	047	0000	MDR Account Code · CTI must be # of digits used (I-8)
57	088	0000	Priority Call
58	049	0000	Recorder Announcer · CTI requires REC/AN TRK # XYYY where X = PEC and YYY = PABX TRK *
59	000	0004	Spare

Table 5.1B   Standard Access Codes (Continued)

Code	CT/CTI #		DESCRIPTION
60#	106	0000	Real-Time Clock Update
61#	030	0000	Flexible Night Connection
62#	017	0000	Attendant Control of Trunk Group Off
63#	046	0000	Attendant Force Release of Trunk
64#	**055**	**0000**	RLT **Day** Mode
65#	056	0000	RLT Silent Mode
66#	082	0000	Executive Reminder Deactivate (Attendant)
67#	090	0000	MERS Time of Day Change (Cancel)
68#	000	0000	Spare
69#	075	0000	Message Waiting Deactivate (Attendant Administrator)
680	102	0000	MERS Time Zone Display
690	083	0000	Message Waiting Process ▪ CTI requires a station #
699	119	0000	Group Speed Calling Update (CTI is a remainder of SID/256; enter A STATION #)
688	000	0004	Attendant Access Two-Way Trunk ▪ Spare
71	001	0002	Trunk Group 2 Access
72	001	0003	Trunk Group 3 Access
73	001	0004	Trunk Group 4 Access
74	001	0005	Trunk Group 5 Access
75	022	0000	Code Call Originating
76	023	0000	Code Call Answer
77	034	0000	Paging Access
78	035	0000	Page Answer
79	036	0000	Dictation Access ▪ CTI requires a trunk group number
▪▪▪	084	0000	Maid Service in Progress Access Code ††
▪▪▪	085	0000	Maid Service Completed ††
▪▪▪	086	0000	Room Restriction Activation from Administrative Phone or Attendant Console ††
▪▪▪	087	0000	Room Restriction Deactivation from Administrative Phone or Attendant Console ††

t   ACD Station User End
††   Access codes are custom designed in accordance with the customer data base.
(The above access codes are examples. They can be used as is, modified, or added to if desired.)

Table **5.1C** AC Rules

AC-02 CODE TYPE

A code type must be one of the valid code types shown in Tables 3.1 and 3.3, and must be appropriate for SVR 5210.

AC-03 ACCESS CODE

When defining the access code digits., the use of dashes must be consistent. If digit 2 equals –, then digit 3 must be –.

Examples:	Rec Code	Access Code	
	AC	1 - -	Allowed
	AC	I - I	Incorrect specification

AC-04 ACCESS CODE – CODE TYPE

Code type 10 indicates the first digit of a two-digit access code. If this code type is used, then digits 2 and 3 must be –. Only digit 1 can be specified.

Examples:	Rec Code	Access Code	Code Type	
	AC	1 - -	10	Allowed
	AC	1 1 1	10	Incorrect specification
	AC	1 1 –	10	Incorrect specification

AC-05 ACCESS CODE – CODE TYPE

Code type 11 indicates the first digit of a three-digit access code. If this code type is used, then digits 2 and 3 must be –. Only digit 1 can be specified.

Examples:	Rec Code	Access Code	Code Type	
	A C	2 - -	11	Allowed
	AC	2 2 2	11	Incorrect specification
	AC	2 2 -	11	Incorrect specification

AC-51 ACCESS CODE

The access codes must be unique across the AC forms. This also applies to any two-digit combinations.

Examples:	Rec Code	Access Code	
	AC	1 0 –	
	AC	2 1 0	Access code duplication
	AC	1 0 –	Access code duplication

Table 5.1C   AC Rules (Continued)

AC-52 ACCESS CODE

The listed record code is required for the code types specified

Record Codes	Code Types
AD	113
AT	15, 16, 17, 18, 45, 46, 89, 90, 102, 106, 107
CL	
ED	76 25
GS	12,119
MK	70
PN	30
RC	53, 55, 56
WT	98, 99, 100, 115

AC-52 CODE TYPE IDENTIFIER

(a)   The attendant number(s) specified in the code type ID field for code type 9 must be defined on Record Code AT.

(b)   The pilot number specified in the code type ID field for code type 37, 38, 41, 42, 61, 62, 138, or 139 must be defined as the pilot number of the corresponding hunt group on Record Code HG.

(c)   The intercept routing code specified in the code type ID field for code type 0 must be defined on Record Code IR.

(d)   The SCC number specified in the code type ID field for code type 120 must be defined on Record Code SA.

(e)   The SA access code specified on Record Code SA must appear on an AC record code with a code type of 1, 2, 3, 4, or 8.

(f)   The on-net code specified in the code type ID field for code type 105 must be defined on Record Code TR.

(g)   The trunk group number specified in the code type ID field for code types 1, 2, 3, 4, 7, 8, 27, 36, 69, 97, and 141 must be defined on Record Code T1.

AC-52 CODE TYPE – OTHER RECORD CODES

The listed class of service mark on Record Code DC, DD, or NC is required for the specified code types.

Class of Service Mark	Code Type
CC (Record Code DC, DD)	22. 23
CF (Record Code NC)	20'
CV (Record Code NC)	21
CO (Record Code NC)	28, 29
EX (Record Code NC)	19
HD (Record Code NC)	40, 44
MC (Record Code DC, DD)	32, 33
PA (Record Code DC, DD)	34, 35
PC (Record Code DC, DD)	33. 32
PK (Record Code NC)	39; 43
RL (Record Code DC, DD)	53
SA (Record Code NC)	120
UN (Record Code NC)	31

Table 5.1C   AC   Rules   (Continued)

AC-53 ACCESS CODE · OTHER RECORD CODES
A feature was specified in the class of service record codes (DC, DD, **NC),** but an access
code for the feature was not defined.

N-Displayable Class of Service	Access Code Type
c c	22, 23
DA	36
MC	32 33
ME	48'
PA	
PC	34, 32, 35 33
RL .	53, 55, 56
CF	
CO	20 28, 29
c v	21
DD	24
EX	71, 19 72
HD	40, 44
MA	
PK;	13, 14
SA	39, 120 43
SC	119
UN	31
WU	81, 82

AC-54 ACCESS CODE – TRUNK GROUP
Access codes should be defined on a T1 form for all trunk groups having an outgoing or
two-way direction. If a trunk group does not have an access code, access to the code must
be provided on another record code such as T, TD, OD (code types TGO and TGS), or RP.

AC-55 ACCESS CODE
If two-and/or three-digit access codes are defined, then the first digit of the two-and /or
three-digit access code must be defined on an AC form.

Examples:

Rec Code	Access Code	Code Type	Type Identifier	
AC	1 – –	10	0001	First digit of a two-digit accesscode
AC	1 2 –	00	0000	Two digit access code
AC	2 – –	11	0002	First digit of a three-digit access code
AC	211	02	0010	Three-digit access code

AC-56 CODE TYPE
If the ward control was specified on Record Code AT, then code types 98 and 99 are
required, and if the time period control was specified on Record Code AT, then code type 100
is required.

Table 5.1C   AC Rules (Continued)

AC-57 CODE TYPE
Code type 007 requires the members of the specified trunk group to have a supervisory outgoing signal value of SO (Seize Out) on Record Code TC.

AC-58 ACCESS CODE ⚊ RECORD CODE
An access code used on Record Code SA was not found on Record Code AC.

AC-59 'CODE TYPE
Code type 066 is the required input on Record Code AC whenever there are RN Record Codes with a code type of 3DG or 4DG.

AC-66 CODE TYPE ⚊ MERS
An access code must be provided with either code type 094, 096, 105, 126, or 127 for the MERS on-network dialing feature to work properly on Record Code AC-53

Table 5.1 D   Code   Type/Code   Type   identifiers   Definition   and   Description

Code Type No.	Description of Code Type	Applicable CPG Record Code	Applicable SVR	DB Table - Code Type Identifier Values in Decimal (Hex Values in Parenthesis) Values	CPG Record Code Type Identifier Values
000	Intercept Routing Code	AC (Used for unused access codes). CL (Code Type = INTC). IR. LD (Line Type = NW) RN (Code Type = INTC).	All	0 -15 (0 -F) as defined in T6031	AC: 000-0015 as defined on IR record. CL, IR, RN: CT/CTI are Internally Generated.
001	CO Access Code	AC	All	00-63 (00-3F) Trunk Group No.	0000-0063
002	Foreign Exchange (FX) Access Code	AC	All	00-63 (00-3F) Trunk Group No.	0000-0063
003	CCSA Access Code	AC	All	00-63 (00-3F) Trunk Group No.	0000-0063
004	WATS Access Code	AC	All	00-63 (00-3F) Trunk Group No.	0000-0063
005	1st Digit of Directory Number Dialed	AC	2.2.x.x (obsolete since)	0-9 O-9) for 3-6 git Dialing 15 (F) for 4-Digit Dialing	**0000-0009** for 3 Digit 0015 for 4 Digit
006	Station Code - Four Digit Termination Processing	L C	2.2.x.x (obsolet since)	Remainder of Line Software ID Divided by 256	CT/CTI are Internally Generated
007	Tie Line- Ring Down. Number Digit Sending Access Code.	AC	All	00-63 (00-3F) Trunk Group No.	0000-0063
008	Tie Line Digit Outpulsing needed Access Code	AC	All	00-63 (00-3F) Trunk Group No.	0000-0063
009	Attendant Access Code	AC A T C L (Destination Type = ATTN) CN	All	Attendant Consoles: 128 (80) Console 0 064 (40) Console 1 or any Combination Of Consoles	0000-0255 Examples: (0192 = Consoles 0 &1) (0128 = Console 0)

Table 5.1D   Code Type/Code Type identifiers Definition and Description (Continued)

Code Type No.	Description of Code Type	Applicable CPG Record Code	Applicable SVR	DB Table - Code Type Identifier Values in Decimal (Hex Values in Parenthesis) Values	CPG Record Code Type Identifier Values
010	1st Digit of Two Digit-Access Code	AC	All	0-9 (0-9) Digits 0-9 11 (B) Digit* 12 (C) Digit#	**0000-0009** **0011** 0012
011	1st Digit of Three Digit Access Code	AC	All	0-9 (0-9) Digits 0-9 11 (B) Digit" 12 (C) Digit#	0000-0009 0011 **0012**
012	Group Speed Calling Access	AC	All	0 (0) Unassigned	0002 = 100 Speed Call Nos. 0003 = 1000 Speed Call Nos.
013	Call Waiting Answer Code	AC	All	0 (0) Unassigned	0000
014	Call Waiting Originating	AC	All	0 (0) Unassigned	**0000**
015	Access Code for Conference Bridge 2	AC	All	0 (0) Unassigned	**0000**
016	Attendant Control of Trunk Group - On	AC	All	0 (0) Unassigned	**0000**
017	Attendant Control of Trunk Group - Off	AC	All	0 (0) Unassigned	**0000**
018	Attendant Direct Trunk	AC	All	0 (0) Unassigned	**0000**
019	Executive Override	AC	All	0 (0) Unassigned	**0000**
020	Call Forwarding - Fixed	AC	All	0 (0) Unassigned	**0000**
021	Call Forwarding - Variable	AC	All	0 (0) Unassigned	**0000**
022	Code Calling - Origination	AC	All	0 (0) Unassigned	**0000**
023	Code Calling Answer	AC	All	0 (0) Unassigned	**0000**

Table 5.1 D   Code Type/Code Type Identifiers Definition and Description (Continued)

Code Type No.	Description of Code Type	Applicable CPG Record Code	Applicable SVR	DB Table - Code Type Identifier Values in Decimal (Hex Values in Parenthesis) Values	CPG Record Code Type Identifier Values
024	Dial Call Pick-up, First Group	AC	All	0 (0) Unassigned	0000
025	Dial Call Pickup, Extended Group	AC	All	0 (0) Unassigned	0000
026	Directed Dial Call Pickup	AC	All	0 (0) Unassigned	0000
027	CAMA Trunk Group Access Code	AC	All	00-63 (00-3F) Trunk Group No.	0000-0063
028	Camp-On Origination	AC	All	0 (0) Unassigned	0000
029	Camp-on Cancellation	AC	All	0 (0) Unassigned	0000
030	Flexible Night Connection Changes	AC	All	0 (0) Unassigned	0000
031	Universal Night Answer Pickup	AC	All	0 (0) Unassigned	0000
032	Meet Me Conference	AC	All	0 (0) Unassigned	0000
033	Progressive Conference	AC	All	0 (0) Unassigned	0000
034	Paging Access Code	AC	All	0 (0) Unassigned	0000
035	Paging Answer Code	AC	All	0 (0) Unassigned	0000
036	Dictation Access Code	AC	All	00-63 (00-3F) Trunk Group No.	0000-0063
037	Station Hunting Pilot No. - Circular	AC HG (Hunt Group Type = CIRC)	All	00-79 (00-4F) Circular Hunt Group Number	AC:0000 - 9999 Hunt Grp Pilot No. HG: CT/CTI is Internally Generated

Table 5.1D   Code Type/Code Type Identifiers Definition and Description (Continued)

Code Type No.	Description of Code Type	Applicable CPG Record Code	Applicable SVR	DB Table - Code Type Identifier Values in Decimal (Hex Values in Parenthesis) Values	CPG Record Code Type identifier Values
0 3 8	Station Hunting Pilot No. - Terminal	AC HG (Hunt Group Type = TERM)	All	Remainder of the First Line Software ID of the Terminal Hunt Group Divided by 256	AC:0000 - 9999 Hunt Grp Pilot No. HG: CT/CTI is Internally Generated
039	Call Park	AC	All	0 (0) Unassigned	0000
040	**Call** Hold	AC	All	0 (0) Unassigned	**0000**
0 4 1	Station Hunting Pilot No. - Circular with Camp-on	AC HG (Hunt Group Type = CRCP)	All	00-79 (00-4F) Circular Hunt Group Number	AC:0000 - 9999 Hunt Grp Pilot. No. HG: CT/CTI is Internally Generated
042	**Station Hunting** Pilot No. - Terminal with Camp-on	AC HG (Hunt Group Type = TMCP)	All	Remainder of the First Line Software ID of the Terminal Hunt Group Divided by 256	AC:0000 - 9999 Hunt Grp Pilot No. HG: CT/CTI is Internally Generated
043	Call Park Answer	AC	All	0 (0) Unassigned	0000
044	Call Hold Answer	AC	All	0 (0) Unassigned	**0000**
045	Attendant Busy - Idle Check and Setup for Break-in if Trunk is Busy	AC	All	0 (0) Unassigned	**0000**
046	Attendant Force Release a Trunk	AC	All	0 (0) Unassigned	**0000**
047	Access Code for Acct. Code for MDR	AC	All	I-8 (I-8) No. of Digits Used	0001-0008
048	MERS Access Code for Off Network Dialing (DDD)	AC	All	0 (0) Unassigned	0000

Table 5.1 D   Code Type/Code Type Identifiers Definition and Description (Continued)

Code Type No.	Description of Code Type	Applicable CPG Record Code	Applicable SVR	DB Table - Code Type Identifier Values in Decimal (Hex Values in Parenthesis) Values	CPG Record Code Type Identifier Values
049	Recorder -Announcer "Access Code	AC	All	00-63 (00-3F) Trunk Number	0000-0063 Recorder Announcer Trunk Number
050	Change/F&store Feature by Access Code	AC	All from 2.3.X.X	0 (0) Unassigned	0000
051	Change/Restore Feature Routing	CH	SI from 5.2.1 .0	0 (0) Unassigned	CT/CTI is Internally Generated
052	Secondary Directory Number for a Station	SD	All	Remainder of Line Software ID is Divided by 256	CT/CTI is Internally Generated
053	Release Link Trunk (RLT) Access Code	AC	All	0 (0) Unassigned	0000
054	Release Link Trunk (RLT) Directory Number	RC	All	00-15 (O-F) RLT Number	CT/CTI is Internally Generated
055	Release Link Trunk (RLT) Night Mode Access Code	AC	All	0 (0) For Day Mode I(1) For Night Mode	0000-0001
056	Release Link Trunk (RLT) Silent Hold Access Code	AC	All	0 (0) Unassigned	0000
057	On-HookTrunk Call Queuin Access Co8e	AC	All	0 (0) Unassigned	0000
058	On-HookTrunk Call Queuing Cancel Access Code	AC	All	0 (0) Unassigned	0000
059	Remote Access Feature/ Code Directory Access Code	OD (Type = RMA)	All	0 (0) Unassigned	CT/CTI is Internally Generated

Table 5.1 D   Code Type/Code Type Identifiers Definition and Description (Continued)

Code Type No.	Description of Code Type	Applicable CPG Record Code	Applicable SVR	DB Table - Code Type Identifier Values in Decimal (Hex Values in Parenthesis) Values	CPG Record Code Type Identifier Values
060	**Terminal** Hunt **Groupwith** Number Display	AC HG (Hunt Group Type = TMND)	Obsolete for SI, SII SIII	Remainder of the first line software ID of the terminal hunt group is divided by 256	AC:0000 - 9999. Hunt Grp. Pilot No. CT/CTI is Internally Generated
061	Station Hunting . . Pilot No. - Circular with Camp - on and Call Pressure Indicator	AC HG (Hunt Group Type = CRPI)	All	00-79 (00-4F) Circular Hunt Group Number	AC:0000 - 9999. Hunt Grp. Pilot No. HG: CT/CTI is Internal11y Generate d
062	Station Hunting Pilot No. - Terminal with Camp-on and Call Pressure Indicator	AC HG (Hunt Group Type = TMPI)	All	Remainder of the first line software ID of the terminal hunt group is divided by 256	AC:0000 - 9999 hunt grp pilot No. HG:CT/CTI is Internally Generated
063	Station Silent Monitor Access Code	AC	SI from 5.2.1.X	0 (0) Unassigned	0000
064	Agent Silent Monitor Access Code	AC	All	0 (0) Unassigned	0000
065	Room Termination by Access Code	AC	All	Remainder of Room Software ID Divided by 256	0000-9999 Directory Number
066	3-or 4-Digit Room Number Access Code (To use, Dial Access Code Followed by Room/ Station Number	AC	All	0 (0) Unassigned	0000
067	First Digit of 3- or 4-Digit Room/ Station Number	AC RN (Code Type = 3DG or 4DG)	All	O-9 (0-9) Missing Digit if no Missing Digit : 12(C) 3 digit Room Number 15(F) 4 diɡit Room Number	AC: 0000- 0009 or 0012 or 0015 RN:CT/CTI is Internally Generated

Table 5.1D   Code Type/Code Type Identifiers Definition and Description (Continued)

Code Type No.	Description of Code Type	Applicable CPG Record Code	Applicable SVR	DB Table - Code Type Identifier Values in Decimal (Hex Values in Parenthesis) Values	CPG Record Code Type Identifier Values
068	Line (Room/ Station) "Termination	AD CL (Destinafion Type = Line) LD	All	Remainder of Room Software ID Divided by 256	CT/CTI is Internally Generated
069	CLR Trunk Access Code	AC	All	00- 63 (00- 3F) Trunk Group No.	0000- 0063
070	Master KEDU No. Change Process Access Code	AC	All H/M	0 (0) Unassigned	0000
071	Do Not Disturb Activation Access Code	AC	All H/M	0 (0) Unassigned	0000
072	Do Not Disturb Deactivation Access Code	AC	All H/M	0 (0) Unassigned	0000
073	Do Not Disturb Override Access Code	AC	All H/M	0 (0) Unassigned	0000
074	Message Waiting Activation Access Code	AC	All	0 (0) Unassigned	0000
075	Message Waiting Deactivation Access Code	AC	All	0 (0) Unassigned	0000
076	Class of Call Controlled Routing Access Code	AC	All H/M	0 (0) Unassigned	0000
077	Do Not Disturb Activation by Occupied Room Access Code	AC	All H/M	0 (0) Unassigned	0000
078	Do Not Disturb Deactivation by Occupied Room Access Code	AC	All H/M	0 (0) Unassigned	0000

Table 5.1D   Code Type/Code Type Identifiers Definition and Description (Continued)

Code Type No.	Description of Code Type	Applicable CPG Record Code	Applicable SVR	DB Table Code Type Identifier Values in Decimal (Hex Values in Parenthesis) Values	CPG Record Code Type Identifier Values
079	Wake up Time Entered by Room Access Code	AC	All	0 (0) Unassigned	0000
080	Wake up Time Cancellation by Room Access Code	AC	All	0 (0) Unassigned	0000
081	Wake up Time Cancel Access Code	AC	All	0 (0) Unassigned	0000
082	Wake up Time Access Code	AC	All	0 (0) Unassigned	0000
083	Message Waiting Processing	AC	All	Remainder of Room Software ID Divided by 256	0000-9999 Room Number
084	Maid Service in Progress Access Code	AC	All H/M	0 (0) Unassigned	0000-0006 = No. of Maid ID Digits (used with PMS)
085	Maid Service Completed Access Code	AC	All H/M	0 (0) Unassigned	0000-0006 = NO. of Maid ID Digits (used with PMS)
086	Room Restriction Activation from Administrative Phone or Attendant Console	AC	All H/M	0 (0) Unassigned	0000
087	Room Restriction Deactivation from Adminis- trative Phone or Attendant Console	AC	All H/M	0 (0) Unassigned	0000
088	Priority Call Access Code	AC	All H/M	0 (0) Unassigned	0000

Table 5.1 D Code Type/Code Type Identifiers Definition and Description (Continued)

Code Type No.	Description of Code Type	Applicable CPG Record Code	Applicable SVR	DB Table - Code Type Identifier Values in Decimal (Hex Values in Parenthesis) Values	CPG Record Code Type Identifier Values
089	Attendant MERS Time Period Change Activation Access Code	AC	All Except 2.2.X.X	0 (0) Unassigned	**0000**
090	Attendant MERS Time. Period Change Cancellation Access Code	AC	All Except 2.2.x. X	0 (0) Unassigned	**0000**
091	Local Termination by the Last Four Digits of a 7 or 10 Digit Call	NT (Translation Type = LOC) TD (Translation Type = LOC)	All Except 2.2.X.X	0 (0) Unassigned	CT/CTI is Internally Generated
092	MERS Off Net 7 or 10 Digit Processing	NT (Translation Type = MRS) TD (Translation Type = MRS)	All Except 2.2.X.X	0 (0) Unassigned	CT/CTI is Internally Generated
093	Trunk Group Selection and Outpulsing of all Received Digits	NT, TD, OD (Translation Type = TGS)	All Except 2.2.X. X	00-63 (00-3F) Trunk Group No.	CT/CTI is Internally Generated
094	First Digit 7-or 1 O-Digit Call - NPA and/or ABC Code Translation needed before Routing	AC	All Except 2.2.X.X	0 (0) Unassigned	**0000**
095	Analyze D1/D2 or Terminal Digit before Routing	NT (Translation Type = DGT)	All Except 2.2.X.X	0 (0) Unassigned	CT/CTI is Internally Generated
096	Access Code for 7 or 10 Digit Called Number-NPA Translation needed before Routing	AC	All Except 2.2.X.X	0 (0) Unassigned	0000

Table 5.1D   Code Type/Code Type Identifiers Definition and Description (Continued)

Code Type No.	Description of Code Type	Applicable CPG Record Code	Applicable SVR	DB Table - Code Type Identifier Values in Decimal (Hex Values in Parenthesis) Values	CPG Record Code Type Identifier Values
097	Special Trunk Group Access Code - 1 or 2 Digit Access Code or Last Two Digits of a Three-Digit Access Code, plus Remaining Dialed Digits are Repeated out to Trunk	AC	All Except 2.2.x.x	00-63 (00-3F) Trunk Group No.	0000-0063
098	Access Code for Ward Do Not Disturb Activation	AC	SII from 7.1.2.0 All S I, SIII	0 (0) Unassigned	0000
099	Access Code for Ward Do Not Disturb Deactivation	AC	SII from 7.1.2.0 All S I, SIII	0 (0) Unassigned	0000
100	Access Code for Ward Do Not Disturb Time Period Time Display/ Change on Console	AC	SII from 7.1.2.0 All S I, SIII	0 (0) Unassigned	0000
101	Termination directly via MERS sending instruction/ MERS routing list	NT (Translation Type = MER)	SI from 5.2.1.0	Sending instruction/route list	CTI is Internally Generated
102	Access Code for Time Period Display on Console	AC	All Except 2.2.X.X	0 (0) Unassigned	0000
103	Analyze ABC Code before Routing	NT (Translation Type =ABC)	All Except 2.2.X.X	0 (0) Unassigned	CT/CTI is Internally Generated

Table 5.1 D   Code Type/Code Type identifiers Definition and Description (Continued)

Code Type No.	Description of Code Type	Applicable CPG Record Code	Applicable SVR	DB Table - Code Type Identifier Values in Decimal (Hex Values in Parenthesis) Values	CPG Record Code Type Identifier Values
104	Trunk Group Selection and Outpulse Last 'X' Digits	NT (Translation Type = TGO) OD (Translation Type = TGO) TD (Translation Type = TGO)	All Except 2.2.X.X	Trunk Group 00-63	CT/CTI is Internally Generated
105	MERS Access Code for On Network Dialing (Non DDD)	AC	All Except 2.2.x.x.	I-I 5 (1-F) MERS NPA/ABC Translation Table Numbers I-I 5 52.1.X.18.2.2.X.	AC: CTI in the Format XYYY Where: X = 7 if 7 Digits Dialed X = 0 if 10 Digits Dialed YYY = ON1, ON2, ON3, ON4 as Specified on Record TR
106	Access Code for Real Time Clock Update from Console	AC	All Except 2.2.X.X	0 (0) Unassigned	0000
107	Access Code for Real Time Clock Display on Console	AC	All Except 2 2.X.X	0 (0) Unassigned	0000
108	MERS On Net 7 or 10 Digit Processing	NT (Translation Type = MRN) TD (Translation Type = MRN)	All Except 2 2.X.X	1-4 MERS NPA/ABC Translation Table 1-15 5.2.1.X.18.2.2.X	0000
1 0 9	VMS Directory Number Direct Access by Station User	OD (Type = VMS)	SI from 5.2.1.o	00-63(00-3F) VMS Trunk Group Number	CT/CTI is Internally Generated

Table 5.1 D   Code Type/Code TypeIdentifiers Definition and Description (Continued)

Code Type NO.	Description of Code Type	Applicable CPG Record Code	Applicable SVR	DB Table - Code Type Identifier Values in Decimal (Hex Values in Parenthesis) Values	CPG Record Code Type Identifier Values
110	Directory Number for Call Forward to Individual Speed Call List	OD (Type = SPD)	SI from 5.2.1 .0	I-8 (I-8) Individual Speed Call List Entry Number	CT/CTI is Internally Generated
111	Access Code to Activate Room to Room Blocking	AC	All H/M	0 (0) Unassigned	0000
112	Access Code for Agent Group Access	AC AG	All CAS	O-7 (O-7) Agent Group Number	AC:0000-0007 AG: CT/CTI is Internally Generated
113	Access Code for Supervisor Talk Monitor	AC	All CAS	0 (0) Unassigned	0000
114	Access Code to Deactivate Room to Room Blocking	AC	2.2.x.x 2.3.X.X 3.2.X.X. All SI SII SIII from 7.1.2.0	0 (0) Unassigned	0000
115	IDDD variable numbering plan	AC	SI from 5.2.1 .0	0 (0) Unassigned	0000
116	1st digit of 3- or 4-.8igit No. requiring D1/D2 translation before routing	AC	2.3.X.X 3.2.X.X All SI, SIII SII from 6.1 .I .0	O-9 (0-9) Missing Digit, if no Missing Digit 12(C) for 3 Digit Room Number. 15(F) for 4 Digit Room Number	0000-0009 0012 0015
117	Access Code for Individual Speed Calling	AC	All CAS from 3.3.1 .0 All SI SII, SIII	0 (0) Unassigned	0000
118	Access Code for Individual Speed Calling Update	AC	All CAS from 3.3.1 .0 all SI, SII, SIII	0 (0) Unassigned	0000

Table 5.1D   Code Type/Code Type Identifiers Definition and Description (Continued)

Code Type No.	Description of Code Type	Applicable CPG Record Code	Applicable SVR	DB Table - Code Type Identifier Values in Decimal (Hex Values in Parenthesis) Values	CPG Record Code Type Identifier Values
119	Access Code for Group Speed Calling Update	AC	All CAS from 3.3.1.0 all SI, SII. SIII	2 (3) Unassigned	0002 = 100 Speed Call No's. 0003 = 1000 Speed Call No's.
120	Access Code for Specialized Common Carrier Processing	AC	All SI, SII, SIII	0-4(0-4) SCC ID Number	0000-0004 SCC ID Number as Defined on SA Record
121	Access Code for ACD Agent Unstaff Position	AC	CAS from 3.4.1 .O All SIII	0 (0) Unassigned	0000
122	Access Code for ACD Agent Supervisor Assist	AC	CAS from 3.4.1 .0 All SIll	0 (0) Unassigned	0000
123	Access Code for ACD Agent Emergency Request	AC	CAS from 3.4.1 .O All SIII	0 (0) Unassigned	0000
124	Access Code for ACD Agent Bad Line Report	AC	CAS from 3.4.1 .0 All SIII	0 (0) Unassigned	0000
125	Access Code for ACD Agent Staff Positron	AC	CAS from 3.4.1 .O All SIII	0 (0) Unassigned	0000
126	First Digit of a Flexible Numbering Plan	AC	CAS from 3.3.1 .1SII from 6.1 .1 .0 All SI, SIII	5-10 (5-10) Number of Digits	0005-0010
127	Access Code for Flexible Numbering Plan	AC	CAS from 3.3.1.1 SII from 6.1 .1 .0 All SI, SIII	5-10 (5-10) Number of Digits	0005-0010
128	Access Code for integrated Featurephone Station Unlock	AC	SII from 7.2.1.0 All SI SIII	0 (0) Unassigned	0000

Table 5.1 D   Code Type/Code Type Identifiers Definition and Description (Continued)

Code Type No.	Description of Code Type	Applicable CPG Record Code	Applicable SVR	DB Table - Code Type Identifier Values in Decimal (Hex Values in Parenthesis) Values	CPG Record Code Type Identifier Values
129	Access Code for IFP Message -Leaving	AC	SII from 7.2.1 .0 All SI SIII	0 (0) Unassigned	**0000**
130	Access -Code for Agent Group Night/Day Mode	AC	All SIII	O(0) for Day Mode I(1) for Night Mode	0000-0001
131	Internal Code Type for FRL Authorization Codes	N/A	SI from 52.1 .o	0 (0) Unassigned	CPG does not collect data for this code type
132	Access Code Issued by VMS to Turn Message Waiting On	AC	SI from 5.2.1 .O	0 (0) Unassigned	0000
133	Access Code Issued by VMS to Turn Message Waiting Off	AC	SI from 52.1 .o	0 (0) Unassigned	**0000**
134	Access Code Issued by VMS for Outgoing Call to Remote VMS	AC	SI from 5.2.1.0	0 (0) Unassigned	**0000**
135	Access Code' Issued by VMS for Outgoing Call to Remote VMS	AC	SI from 5.2.1 .O	0 (0) Unassigned	**0000**
136	Access Code Issued by VMS for Outgoing Call to User	AC	SI from 5.2.1 .O	0 (0) Unassigned	**0000**

Table 5.1D   Code Type/Code Type Identifiers Definition and Description (Continued)

Code Type NO.	Description of Code Type	Applicable CPG Record Code	Applicable SVR	DB Table - Code Type Identifier Values in Decimal (Hex Values in Parenthesis) Values	CPG Record Code Type Identifier Values
137	Reserved for Future Feature	AC	SI from 5.2.1 .0	0 (0) Unassigned	**0000**
138	Terminal multi--pilot hunt group	AC, HG (Hunt Group Type = TMMP)	SI from 5.2.1 .O	Remainder of the First Line Software ID of the Terminal Hunt Group Divided by 256	AC: 0000-9999 Hunt Grp Pilot Number HG:CT/CTI is Internally Generated
139	Circular multi-pilot hunt group	AC, HG (Hunt Group Type = CRMP)	SI from 5.2.1 .o	00-79 (00-4F) Circular Hunt Group Number	AC: 0000-9999 Circular Hunt Group Number HG:CT/CTI is Internally Generated
140	VMS Directory Number for Message Desk Unattended	OD (Type = MDU)	SI from 5.2.1.0	00-63 (00-3F) VMS Trunk Group Number	CT/CTI is Internally Generated
141	Access Code for VMS for Message Desk Attended	AC	SI from 5.2.1.0	00-63 (00-3F) VMS Trunk Group Number	0000-0063
142	Display FRL Assignment MAP Access Code	AC	SIII from 8.2.2.2	0 (0) Unassigned	**0000**
143	Update FRL Assignment MAP Access Code	AC	SIII from 8.2.2.2	0 (0) Unassigned	**0000**
144	Second Paging Answer Code	AC	SIII from 8.2.2.2	0 (0) Unassigned	**0000**

Record Code HD:
Hundreds   Groups

5.2 Record Code HD (Figure 5.2) defines the hundreds groups used as directory numbers by the system. The number of directory numbers in each hundreds group is also defined. The audit field is used in support of the Hotel/Motel feature that allows hotel staff telephones to be audited while guest telephones are normally not audited.

Figure 5.2   Record Code HD: Hundreds Groups Data Sheet

Table 5.2   Entry Fields for Record Code HD

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	Selected Audit Condition	**A** = audit N = not audited	This field determines whether or not this hundreds group can be audited. **NOTE:** In a motel application, auditing is provided to guest room telephones. -It is not provided to management and motel operations telephones.
13-14	Hundreds Group	00-99 = number	This field determines the D1/D2 (00-99) combination. -One entry must be made for each hundreds group in the system. **NOTE:** If three-digit numbers are used, column 13 must be dashed and column 14 must contain O-9.
15-17	**Number of** Directory **Numbers per** Hundreds Group	**005-I** 00 = number	Assign the number of directory numbers, reserved for this hundreds group. -Because Recent Change cannot be used for this field, it is recommended to always set this value at 100. Setting this value at 100 allows for future growth. -It is recommended to build spare numbers into the system. Spare numbers can be used for pilot/phantom numbers. Spare numbers should also be built into the hundreds group numbers to allow for the addition of station lines in the future. -Each hundreds group should reserve 100 directory numbers when 25 or less hundreds groups are used: If this number is not a multiple of five, the amount allocated is the next higher multiple of five.

Record Code IR: 5.3 Record Code IR, Figure 5.3, assigns, intercept conditions for
Intercept Routing the various call configurations.
Numbers

Figure 5.3   Record Code IR: Intercept Routing Numbers Data Sheet

Table 5.3   Entry Fields For Record Code IR

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Intercept Routing Number	**00-15** = number	This field determines the type of call to be intercepted. Routes 00 and **12-I 5** are available for special applications and are defined by the user. They can be routed to a station line, attendant, recorder announcer, or 120 IPM tone (e.g., Record Code CL, columns 18-21, AG, columns 25-26, 31-32). Routes 01-1 1 are predefined as listed below: 01 = The call is toll restricted. It is not recommended to send these calls to the console because the attendant may not be able to answer all of them. It is preferred to send these calls to tone. 02 = The feature dialed is not allowed for the station line or the system. 03 = The call was made to a vacant number. 04 = The call was made to an invalid number 05 = The call was a DID (Direct Inward Dialing) to a restricted station.

Table 5.3   Entry Fields for Record Code IR (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13 (cont'd)	Intercept Routing Number	00-I 5 = number	06 = The call cannot be completed due to present call configuration (e.g., the call is in DND (Do Not Disturb). 07 = The trunk group is restricted by ACOF (Attendant Control Of Facilities). 08 = Digit timeout /no dial alarm calls should be routed to the console or a security station. If routed to the console once the key is released, the station number that is causing the alarm is no longer visible on the LCD. 09 = Wake-up or appointment reminder answer routing. 10 = Recorder announcer for TMP! or CRPI type hunt groups (see Record Code HG). **11** = The number called has been changed. **NOTE:** The intercept routing number must be unique across this record code.
14-15	Destination Type	**TO** =120-IPM tone **LN** = line **AT** = attendant **RA** = recorder announcer **TI** = Tie trunk **RL** = release link trunk	This field determines whether the call will intercept to a line, trunk, attendant, tone, or recorder announcer. -If the destination type is AT, it must be defined on Record Code AT, column 12. -If the destination type is RA, the trunk must be defined on Record Code TC, columns 14-16, and marked G in column 45. -If the destination type is LN, it must be defined on Record Code LD, columns 12-15. -If the destination type is TI, the trunk must be defined on Record Code T1 , columns 12-13, and must be marked TIE in columns 14-16.

Table 5.3   Entry Fields for Record Code IR (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
16-19	**Intercept** Destination .Γ	**0000 = tone** (TO) 0000-9999 = directory number (LN) **0128 =** console 0 (AT) **0064** = console 1 (AT) **0**192 = either of the two consoles 0000 = to an RLT (RL) **(--00)-(--63)** =Tie trunk (TI) XXXX = recorder announcer (RA) XXXX = the trunk number (0000)- **(0063)**	This field determines the intercept destination of the destination type. -A destination type of TO must have an intercept destination value of 0000. -A destination type of LN must have an intercept destination value of 0000-9999 or if three-digit station numbers are used (-000) - (-999). -A destination type of AT must have an intercept destination value of 0128, 0064 or 0192. **-A** destination type of RL must have an intercept destination value of 0000: -A destination type of TI must have an intercept destination value of (--00)- **(--63).** -A destination type of RA must have an intercept destination value of (OOOO)-(0063).

**Record Code SA:
Specialized
Common Carrier**

5.4 Record Code SA, Figure 5.4, defines the access codes, directory numbers, and authorization codes for up to five SCC (Specialized Common Carrier) networks. When the MERS option is in effect, this record code is not normally used as the SCC(s) will be in the MERS routing. This record code provides SCC information when the SCC is not routed through MERS.

Figure 5.4   Record Code SA: Specialized Common Carrier Data Sheet

Table 5.4   Entry Fields for Record Code SA

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	SCC Number	0-4 = number	This field determines the designation number for the SCC network. -Each SCC identification number must be unique.
13-14	Directory Number Restriction Bypass Indicator	TG = bypass trunk group access TL = bypass toll access BT = bypass both NO = no bypass, perform both toll and trunk group restrictions	This field determines the types of bypass that will be performed by the system on calls that are placed over an SCC. -If a trunk is normally restricted from a station user, an entry of TG allows SCC calls to use the restricted trunk. • If a station is normally toll restricted, an entry of TL allows SCC calls to be made. - An entry of BT allows for both types of bypass. -If NO is entered in this field, then the SCC call is still subjected to trunk and toll restrictions.
15-17	Gateway Number/Access Code	0-9, *, # = allowable entries for column 15 O-9, *, #, or - = allowable entries for columns 16 and 17 - = N/A	This field determines the one-, two-, or three-digit access code of the SCC. -This code tells the system that the user wants to access the SCC. -Column 15 cannot be dashed.
18-29	Gateway Number/ Directory Number	O-9, *, #, L (long pause), S (short pause), or - = N/A	This field gives the directory number that accesses the SCC. -Column 18 cannot be dashed. -This number must be left justified. **NOTE:** If the SCC feature is used for applications other than SCC where no authorization code is necessary, a pound sign (#) should be entered in column 29.
30-39	Authorization Number	O-9, *, #= allowed codes - = N/A	This field gives the authorization code number. -Column 30 cannot be dashed.
40-42	Time Between Access and Authorization Number	000-254 = time in seconds or 045 = suggested value	This field determines the maximum time between the end of sending an SCC gateway directory number and the start of authorization code.

Table 5.4   Entry Fields for Record Code SA

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
43-45	Time Between Authorization Number and Digits	000-254 = time in seconds or **015** = suggested value	This field determines the selected elapsed seconds required between sending the authorization number and the digits.
46	Bypass Toil Restriction Check on Final Directory Number	Y = required N = not required	This field determines whether or not a bypass of toll restriction is allowed when the final directory number is entered.

Record Code I1: 5.5 Record Code I1, Figure 5.5, defines the valid international
International country codes for MERS (Most Economical Route Selection)
Country Code IDDD (International Direct Distant Dialing) processing.

Figure 5.5 Record Code I1: International Country Code Data Sheet

Table 5.5 Entry Fields for Record Code I1

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	Valid IDDD Country Code Digits 1-3: Digit 1	0-9 = number	This field determines the valid values for digit 1.
13-14	Valid IDDD Country Code Digits 1-3: Digits 2 and 3	**0-9** or **- =** N/A	This field determines the valid values for digits 2 and 3.

CLASS OF SERVICE
6.0 This section describes the record codes required to define the system classes of service. The following record codes are required:

- Record Code DC defines the trunk groups allowed for the various classes of service.

- Record Code DD defines the system features allowed for the various classes of service.

- Record Code NC defines additional system features allowed for the various classes of service.

Record Code DC:
Displayable
Class of Service

6.1 Record Code DC, Figure 6.1, allows system users access to the various trunk groups (00-63) within the system. Sixteen different displayable classes of service are possible.

A COS provide access to certain trunk features or allows certain types of calls to be made. The classes of service assigned in the system are defined by three different record codes: DC, DD, and NC. Record Code NC defines the n-displayable classes of service. Record Codes DC and DD together define the displayable classes of service. Since there is only one entry field for displayable COS on line, trunk, and feature record codes, Record Codes DC and DD must be used in conjunction with one another. The displayable COS value assigned on Record Code DC also applies to Record Code DD.

On a per-station basis, each station is marked with a displayable COS number and an n-displayable COS (refer to Record Code NC). The displayable and n-displayable COS numbers are displayed at the Attendant Console every time a station accesses the attendant. Table 6.3B provides a cross-reference for compatible and noncompatible station features. If remote access authorization codes are used, the COS required must be included in Record Codes DC and NC.

Figure 6.1   Record Code DC: Displayable Class-of-Service Data Sheet

Table 6.1 **Entry** Fields for Record Code DC

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Displayable Class of Service	00-1 5 = number	This field determines the number used to refer to this displayable class of service. -It is recommended to use 00 as a default for trunks. -The displayable class-of-service number must be unique across the DC forms. **NOTE:** COS 15 is normally reserved as the COS for maintenance and is allowed access to all trunk groups.
14-77	Trunk Group Access	Y = selected ▪ = not selected	This field determines what trunk groups this displayable COS is allowed to access. -If a large number of CO lines are not allowed to access one another, they can be put in one group. Since access to these lines is through a divert condition and each CO requires its own trunk, the different CO users cannot use each other's CO. -If toll access is indicated on Record Code DD, columns 14-15, then at least one trunk group in the trunk group access field must be marked Y. **NOTE:** The trunk group access must be compared to Record Code T1 to ensure that each trunk group with outgoing or two-way direction can be accessed.

Record Code DD: 6.2 Record Code DD, Figure 6.2, allows access to certain
Displayable system features. This record code is a continuation of record
Class Of Service code DC.

Figure 6.2 Record Code DD: Displayable Class-of-Service Data Sheet

Table 6.2   Entry Fields for Record Code DD

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Displayable **Class** of Service	**00-1**5 = number	This field determines the number given to each of the 16 possible displayable COSs **NOTE:** COS 15 is normally reserved for maintenance and is allowed access to all features.
14-15	Toll Access	**TA** = allowed -- = not allowed	If toll restriction is in effect for the trunk group accessed, this field determines whether or not the toll restriction can be overridden. -An entry of TA allows the toll restriction feature to be overridden. -An entry of -- disallows toll restriction to be overridden. -Speed call numbers and numbers accessing a non-MERS SCC route can override toll restrictions if programmed to do so. Speed calling is programmed on Record Code GS, columns 15-l 6. -SCC is programmed on Record Code SA, columns 13-l 4. -If this field is marked TA, Record Code NC, columns 40-41, must be dashed.
16-17	Switch Direct Line	**SL** = allowed -- = not allowed	This field determines whether or not access to a switched direct line is allowed. -SL must be indicated for a hot-line service or a CO line. -A CO line requires its own trunk group. -It is not recommended to terminate a hot line to a console. -A COS used by a hunt group that does not divert must not be marked SL. -If this field is marked SL, the divert destination (Record Code LM, columns 30-31) can be a line, console, recorder announcer, or tone. A hunt group pilot number is allowed only if it does not have the camp-on feature.
18-19	Meet-Me Conference	**MC** = allowed -- = not allowed	MC allows access to the progressive conference feature. -For this feature to work, the system must have an (FB-51279) eight-party conference card. -With this feature, the user can join a conference.

Table 6.2   Entry Fields for Record Code DD (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
20-21	Progressive Conference	**PC** = allowed -- = not allowed	PC allows access to the progressive conference feature. -For this feature to work, the system must have an (FB-51279) eight-party conference card. -With this feature, the user can originate the conference. -If this field is marked PC, then Record Code NC, columns 30-31, must be marked HS for proper operation of the feature. -If this field is marked TA, then Record Code NC, columns 40-41, must be dashed.
22-23	Dictation Access	**DA** = allowed -- = not allowed	DA allows access to a dictation circuit. -For this feature to work, the system must have an FB-17210 card. -If this field is marked TA, then Record Code NC, columns 40-41, must be dashed.
24-25	Station Access	**SA** = allowed -- = not allowed	SA allows access to other stations. -If this field is dashed, the line cannot call other stations; it can only receive calls. -A CO line does not need station access. -When defining a trunk COS, it is important to give the trunk station access. -If Record Code LM, columns 30-31, is marked LN, this field must be marked SA.
26-27	Code Call Access	CC = allowed -- = not allowed	CC allows access to the code calling (overhead ringing) feature. -For this feature to work, the system must have an FB-17210 card.
28-29	Paging Access	**PA** = allowed -- = not allowed	PA allows access to the paging feature. -For this feature to work, the system must have an FB-17240 card.
30-31	Maintenance Access	**MA** = allowed -- = not allowed	MA allows access to the maintenance feature. -The switch room telephone is always given MA.
32-33	MERS Off Network	**ME** = allowed -- = not allowed	ME allows access to MERS off-network trunks. -See Record Codes MR, TR, SI, and RP for requirements. -This field can be used to allow overflow calls on the network to overflow to the DDD (Direct Distance Dial) trunks.

Table 6.2   Entry Fields for Record Code DD (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
34-35	**Release** Link Trunks Access	**RL** = allowed -- = not allowed	RL allows access to the CAS attendant via the RLTs. -In a CAS application, this field should be given at least one line for testing purposes.
36-37	Modem Access	**MD** = allowed -- = not allowed	This field is no longer used.
38-39	MERS On Network	**MN** = allowed -- = not allowed	MN allows access to MERS private network trunks. -See MR, TR, SI, and RP for requirements.
40-41	CO Line	**CL** = allowed -- = not allowed	CL allows access to a CO line. -The CO is normally given an unpublished DN (Directory Number). -If this field is marked CL for access to a CO line, then the switched direct line (SL) must be marked in columns 16-17. -A CO line can only appear on an IFP. -A COS used by a hunt group that does not divert must not be marked CL.
42-43	MERSO+ or - Toll Restriction	**TR=O+** or - restriction **-- = no** restriction	TR permits credit card, outside operator, or international calls. This only applies if toll restriction is in effect for MERS calls and the call is routed over MERS. -This field is only used if toll restriction is in effect.
44-45	MERS Executive Bypass	**EB** = searches all routes -- = call is placed into queue before being sent out over the most expensive route	EB allows access to the MERS executive bypass feature. -With this feature, the system searches all MERS routes before queuing an outgoing call. **NOTE:** If the trunk group is busy, the call will not route to another trunk group.
46-47	International Direct Distant Dialing Access	ID = allowed -- = not allowed	ID allows access to international dialing for calls outside the USA.

**Record Code NC:
N-Displayable
Class of Service**

6.3 Record Code NC, Figure 6.3, defines the n-displayable COS used to allow or restrict station access to the system features. If remote access authorization codes are used, make sure that Record Codes DC and DD have a field that meets the requirements of that code. Since a class of service is assigned on a line basis not a station basis, the term line user is used as opposed to station user when defining class-of-service features.

Figure 6.3   Record Code NC: N-Displayable Class-of-Service Data Sheet

Table 6.3A   Entry Fields for Record Code NC

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	N-Displayable Class-of-Service Number	**00-I** 5 = number	This field determines the number assigned to the COS defined in this row. -It is recommended not to assign 00 as a station COS. COS 15 is normally reserved for maintenance and is allowed access to all features.
14-S	Executive Override	**EX** = allowed -- = not allowed	This feature allows a third party to break in to a two-party connection. -This feature cannot be enabled if the station has call waiting non-DID (Direct Inward Dial).
16-17	Originating Call Waiting	OC = allowed ·· = not allowed	This feature allows a line user to send a call waiting tone to a busy station. The tone indicates that another call is waiting to be answered. This feature causes a call waiting tone to be heard by the called party. -With this feature, the originating party must remain off-hook. **NOTE:** If this field is marked OC, then Record Code OF, column 22, must be marked Y and columns 25-26 (of Record Code OC) cannot be dashed.
18-19	Station Camp-on Call Back	CO = allowed -- = not allowed	This feature allows a line user to camp on to a busy station. -Once a user has activated this feature, the telephone can be hung up. When the calling and called stations are both idle, the calling station is rung. If the calling station answers, the called station is also rung. -If this field is marked CO, then Record Code OF, column 22, must be marked Y and columns 25-26 cannot be dashed. -It is recommended that this feature be given to the console.
20-21	Attendant Information	**Al** = allowed -- = not allowed	This feature allows access to the console by dialing the attendant access code. -If this feature is not allowed, the line cannot call the attendant. -If Record Code LM, columns 30-31, are marked AT, this field must be marked AL.
22-23	Dial Call Pickup	DC = allowed -- = not allowed	This feature allows a line user in a dial call pickup group to answer a call placed to another station within the same group.

Table 6.3A Entry Fields for Record Code NC (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
24-25	Call Forwarding Variable	**CV** = allowed -- = not allowed	Under certain conditions, this feature allows call forwarding automatically to any destination within the system. -This feature overrides system divert and can be changed from the station instrument. **NOTE:** Never assign this feature to a Featurephone; it is built into the set.
26-27	Call Forwarding Fixed	**CF** = allowed -- = not allowed	This field allows use of the call forwarding fixed feature. A line is forwarded to a predetermined location when this feature is activated. If the call forwarding variable feature is allowed, that feature provides the ability to override the forwarding condition. **NOTE:** Never assign this feature to a Featurephone.
28-29	Data Line Security	**DS** = allowed -- = not allowed	T'e attend; ˙ ˙ ;end a camp-on tone to a station with a COS marked DS. -The tone will distort the data being sent.
30-31	Hookswitch Flash	**HS** = allowed -- = not allowed	HS allows a line user to perform a hookswitch flash. -A hookswitch flash is used to access system features. For normal applications, this feature is not required for hot-line service telephones or motel guest room telephones. -When a hot-line service station goes off-hook, the party hears the ringback tone from the station or trunk at the far end being rung. -If this field is marked HS, then Record Code DD, columns 20-21, must be marked PC for proper operation of the feature.
32-33	Terminating Call Waiting Non-DID	**TC** = allowed -- = not allowed	This field allows calls to be automatically camped on when the station is busy. -This feature applies to internal calls, console extended calls, and station transferred calls
34-35	Terminating Call Waiting DID	**TD** = allowed -- = not allowed	This field allows DID calls to be camped on automatically when a station is busy. **NOTE:** Never assign this feature to a Featurephone.

Table 6.3A   Entry Fields for Record Code NC (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
36-37	Universal Night Answer	**UN = allowed** -- = not allowed	UN allows retrieval of UNA calls at this line. -The universal night answer feature is either a bell or light that indicates an incoming call.
38-39	Originating Only	OR = allowed -- = not allowed	OR allows a line user to make calls only, not receive them. -Hot line telephones are normally configured as originating only.
40-41	Terminating Only	**TM** = allowed -- = not allowed	TM allows a line user to receive calls but not make them. -This field is normally applied to an ACD group. -If a station with TM marked goes off-hook to place a call, reorder tone is heard. -Originating only and terminating only are mutually exclusive features. -If this field is marked TM, thencolumns 14-15, 18-21, and 22-23 of Record Code DD must be dashed.
42-43	Permit to Receive DID	**PD** = allowed -- = not allowed	PD allows a line user to receive DID calls. -If the site has DID and non-DID stations, assign PD to all stations that are to receive DID or DID transferred calls.
44-45	Call Hold	**HD** = allowed -- = not allowed	HD allows a line user to put a call on hold.
46-47	Call Park	**PK** = allowed -- = not allowed	PK allows a line user to put a call into a call park queue. -This feature allows a call put into the park queue to be retrieved from any station in the system. -For a station to retrieve a parked call, it must have the hookswitch flash feature. -The timeout factor is set on Record Code OT, columns 36-38.
48-49	Administrative Function Phone	**AF** = allowed -- = not allowed	This field determines whether or not the administration feature is allowed. -This feature allows a station to activate or cancel features such as reminder service/message waiting on another telephone. -This is given to a message waiting telephone and to the telephone that is used to turn on/off hotel features.

Table 6.3A   **Entry Fields for Record Code NC (Continued)**

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
50-51	Service Function Phone	**SF = allowed** -- = not allowed	This field determines whether or not the service feature is allowed. - A station marked SF will not be blocked if the motel room block feature is in effect. -Room blocking is used in a motel application. Room blocking prevents rooms from calling one another directly. Motel service telephones such as the valet, maid, or food service telephones should not be blocked when room blocking is in effect. These telephones should be marked SF.
52-53	Calling Number On Display Phone	CN = allowed -- = not allowed	This field determines whether or not the calling number (number of the station placing the call) is displayed on the LCD (Liquid Crystal Display). -Message waiting cannot be activated on calling number display telephones. -This feature is only used for a display telephone. -This feature is normally used in a motel application to indicate what room number is calling. -This telephone can be used as a message center if required. -Called number display service and calling number display phone are mutually exclusive. -If this field is marked CN, then columns 62-63 must be dashed. **NOTE:** Never assign this feature to an IFP.
54-55	Do Not Disturb Activation	**DD** = allowed -- = not allowed	DD allows the DND (Do Not Disturb) feature to be turned off/on from the telephone. -This feature is normally assigned to a POTS telephone in a motel/hospital application for use by guests/patients who want quiet. -In an ACD group, this feature can be assigned to the agent; or the supervisor can put the agent into a work state. -When a telephone is in DND, the calling party hears busy. -On an IFP, this feature can be activated by a button on the telephone or by an access code.

Table 6.3A   Entry Fields for Record Code NC (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
56-57	Wake-up/ Appointment Reminder Activate	**WU** = allowed -- = not allowed	WU allows a line user to set the feature from the user telephone. The feature works much like an alarm clock. -Dash this field for an IPF because the feature is built into the telephone.
58-59	Message Waiting Answer Center	**MA** = allowed -- = not allowed	This field determines whether or not this line appears at a message waiting answer center. -If a message waiting answer center telephone answers a call from a station that has message waiting activated, the message waiting feature is automatically canceled.
60-61	CAS Secondary Directory Number Access	**SD** = allowed -- = not allowed	SD allows a secondary directory number. -This feature is used to establish a uniform numbering plan in a CAS branch application.
62-63	Called Number Display Service	**CD** = allowed -- = not allowed	This field determines whether or not the called number (number of the station being called) is displayed on the LCD (Liquid Crystal Display). -Message waiting cannot be activated on calling number display telephones. -This field is only used for a display telephone. -This feature is normally used in a secretarial application to allow the secretaries to see what station is being called when stations are forwarded to them. -Called number display service and calling number display phone are mutually exclusive. If this field is marked CD, then columns 52-53 must be dashed. **NOTE:** Never assign this feature to a Featurephone.

Table 6.3A   Entry Fields for Record Code NC (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
64-65	Computer Access	**CA = allowed** -- = not allowed	CA allows computer access. -This feature interfaces with compatible equipment and is designed to interface with Wavetech. Wavetech is a system used in credit card checking. It determines whether or not the card holder is over the credit amount allowed. A dial tone is sent to the called station (Wavetech equipment) when the originating station disconnects. A short across the tip and ring will exist until the dial tone detector, which is built into the Wavetech equipment, detects the tone and causes the shorted circuit to open. The Wavetech equipment is then released.
66-67	SCC Access	**SA** = allowed -- = not allowed	SA allows access to non-MERS SCC. -If the MERS option is equipped, the SCC will normally be placed into the MERS routing.
68-69	Group Speed Calling Allowed	SC = allowed -- = not allowed	SC allows access to group speed calling. -The group speed calling feature must be set up on Record Codes GC and GS.
70-71	VMS Mailbox	**VM** = allowed -- = not allowed	VM allows access to a VMS (voice mail) mailbox.
72-73	Station Silent Monitor Access	SM = allowed -- = not allowed	SM allows access to the silent monitor feature. -This feature allows a station to monitor other station lines without being detected. -This feature will not work on a nonprime control line or Attendant Consloes.
74-75	Station Silent Monitor Secure	SS = allowed -- = not allowed	SS secures a line from the silent monitor feature. -If SS is entered, the silent monitor feature cannot be used on lines with this COS. -In a conference call, a line marked SS can be monitored.
76-77	Trunk Terminating Only	**TT** = allowed -- = not allowed	This field determines whether or not only incoming calls are allowed. If this field is marked TT, the line cannot make outgoing calls.
78-79	PMS Calling Number Display	PM = allowed -- = not allowed	This field determines whether or not PMS (Property Management System) calling number display is allowed. -PMS (Property Management System) is used in motel applications to provide extensive management features.

Table 6.38 N-Displayable Class of Service Conflicts and Violations

SECOND FEATURE

FIRST FEATURE

	EX	OC	CO	Ai	DC	CV	CF	DS	HS	TC	TD	UN	OR	TM	PD	HD	PK	CN	SD	SC
EX									R					V						
OC									R					V						
CO									R					V						
Ai														V						
DC														V						
CV													V							
CF													V							
DS										V										
HS																				
TC							V													
TD																				
UN																				
OR						V	V							V	V					
TM	V	V	V	V	V								V							
PD													V							
HD									R											
PK									R											
SD																				
C D																		V		
C A														R						
S C														V						

KEY:

R = The second feature is required for the first feature to operate properly. (Example: EX requires HS.)

V = Only one or the other of the two features can be specified within the same class of service. (Example: EX conflicts with TM.)

Table 6.3C Abbreviations

AF • Administrative Function Phone	MA • Message Waiting Answer Center
AI • Attendant Information Calls	OC • Originating Call Waiting
CA • Computer Access	OR • Originating Only
CD • Called Number Display	PD • Permit to Receive DID
CF • Call Forwarding • Fixed	PK • Call Park
CN • Calling Number Display Service	SA • Special Common Carrier Access
CO • Camp-on/Automatic Recall	SC • Group Speed Calling Allowed
CV • Call Forwarding • Variable	SD • Secondary Directory Number Access
DC • Dial Call Pickup	SF • Service Function Phone
DD • Do Not Disturb Activation	TC • Terminating Call Waiting Non-DID
DS • Data Line Security	TD • Terminating Call Waiting DID
EX • Executive Override	TM • Terminating Only
HD • Call Hold	UN • Universal Night Answer
HS • Hookswitch Flash	WU • Wake-up Appointment Reminder

**LINE
FEATURES**

7.0 This section describes the record codes required to define the various system line features. The following record codes are required:

• Record Code HG defines the station hunt groups.

• Record Code MH defines the station hunt group members.

• Record Code GC defines the system speed calling groups.

• Record Code GS defines the system speed calling numbers.

• Record Code ED defines the system pickup groups.

• Record Code CH defines the "change feature by access code" feature.

• Record Code DF defines the system default divert condition value.

Record Code HG: **7.1** Record **Code HG,** Figure 7.1, defines the station hunt group
Hunt Group data requirements. The station hunting feature provides for a call
to route to an idle station of a prearranged group of stations. The
group of stations is defined by a pilot number. If the PNA
(Predetermined Night Answer) and ACD (Automatic Call
Distribution) station hunt groups are selected, they must be
assigned here.

The system supports a maximum of 256 hunt groups. Of the total
hunt groups supported, no more than 80 can be circular hunt
groups. The number of hunt groups remaining for terminal hunt
groups is determined by subtracting the number of circular hunt
groups used from the allowed total- (e.g., if 80 circular hunt
groups are in use, the system can support 136 terminal hunt
groups, 256-80 = 136).

Figure 7.1   Record Code HG: Hunt Group Data Sheet

Table 7.1   Entry Field for Record Code HG

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-15	Hunt Group Pilot Number	**0000-9999** or **(000)-(999)** = number A three-digit number must have a blank before it.	This field assigns the pilot number that is used to access the hunt group. -When a pilot number is dialed, the hunt begins for stations assigned on Record Code MH. When the normally assigned directory number of a station in a hunt group is dialed, hunting occurs only for hunt group types TMMP and CRMP. -Every hunt group pilot number on this record code must have at least one member listed on Record Code MH.
16-19	Hunt Group **Type**	**TERM** **CIRC** **TMCP** **CRCP** **TMPI** **CRPI** **TMMP** or **CRMP**	This field determines the type of station hunt (terminal or circular). -If terminal hunting is used, the hunt always begins at the first station in the group and terminates at the last station in the group (if all stations are busy). -If circular hunting is used, the hunt begins at the next station following the station that answered the previous hunt call. -True ACD requires circular hunting. -Limited ACD groups can be assigned terminal hunting or terminal hunting with group camp-on. -If TMPI or CRPI is used, enter the recorder announcer on Record Code IR. TERM = terminal hunt **CIRC** = circular hunt **TMCP** = terminal hunt with group camp-on CRCP = circular hunt with group camp-on **TMPI** = terminal hunt with camp-on and pressure indicator with divert to a recorder announcer **CRPI** = circular hunt with camp-on and pressure indicator with divert to a recorder announcer TMMP = terminal hunt group with camp-on and pressure indicator with no divert to a recorder announcer CRMP = circular hunt group with camp-on and pressure indicator with no divert to a recorder announcer -The maximum number of circular hunt groups is 80.

Record Code MH: Hunt Group Members

7.2 Record Code MH, Figure 7.2, defines the station member directory numbers for the various hunt group pilot numbers. The order for call attempts to the hunt group members is also defined on this record code. This record code is used in conjunction with Record Code HG.

Figure 7.2   Record Code MH: Hunt Group Members Data Sheet

Table 7.2   Entry Fields for Record Code MH

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-15	Hunt Group Pilot Number	**0000-9999** = number or **(000)-(999)** = number A three-digit number must have a blank before it.	This field assigns the pilot number of the hunt group. -Use phantom numbers for the pilot numbers; this saves the numbering plan for station numbers, -Phantom numbers can be defined on Record Code HD. -The hunt group pilot number must have been defined on Record Code HG.
16-18	Hunt Sequence Number	000-255 = number	Start the sequence number within a hunt group with zero and continue in ascending order; no gaps are allowed.

19-22	Member Directory Number	**0000-9999** = number or **(000)-(999)** = number A three-digit number must have a blank before it.	Make the member directory number a valid line or room number.
			 -A directory number can only be in one hunt group.
			 -A hunt group member cannot be an agent position.
			 -Lines with the following class-of-service features should not be members of a hunt group:
			    from COS Record Code DD, SL (Switched Direct Line)
			    from COS Record Code NC, OR (Originating Only)
			 -Members of a hunt group should not be given a divert condition, with the possible exception of the last member of the hunt group.
			 -Divert conditions are defined on Record Codes LD and LM.

**Record Code GC:
Group Speed
Calling**

7.3 Record Code GC, Figure 7.3, defines the speed calling groups used by the system'. The directory numbers that make up this group or groups are listed on Record Code GS. This record code allows access to portions of or all of the system's group speed calling list. This release allows up to a 1000 telephone numbers in the group speed calling list. .

Figure 7.3   Record Code GC: Group Speed Calling Data Sheet

Table 7.3   Entry Fields for Record Code GC

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Group Number	01-48 = number	This field determines the group number for the list. -This number is used on Record Code LD when assigning the speed call list to users.
14-16	**Group** Speed Calling List Entries (first entry)	000-999 = number	Columns 14-l 9 determine the range of entries in the group speed calling list that a station user is allowed to access. Columns 14-16 are used to list the first entry, and columns 17-l 9 are used to list the last entry. -The range can be as small as a single entry or as large as the whole list. -If needed, several ranges can be listed for the same group. This is done by using the same group number on multiple records. -Ranges must be listed in multiples of four (e.g., 000-003 or 000-175).
17-19	**Group** Speed Calling List Entries (last entry)	000-999 = number	Columns 14-l 9 determine the range of entries in the group speed calling list that a station user is allowed to access. Columns 14-16 are used to list the first entry, and columns 17-l 9 are used to list the last entry.

**Record Code GS:
Group Speed
Calling List
Numbers**

7.4 Record Code GS, Figure 7.4, defines the speed call
numbers that make up the group speed calling list. The list can
contain a maximum of 1,000 different numbers.

Figure 7.4   Record Code GS: Group Speed Calling List Numbers Data Sheet

Table 7.4   Entry Fields for Record Code GS

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-14	Group Speed Calling Entry Number	000-999 = number	This field determines the group speed calling number. -These digits should be filled in from left to right with no imbedded dashes. -This number must be unique across this record code. -This number must be listed on Record Code GC, columns 14-16, to be a valid entry.
15-16	Restriction and Bypass Indicator Checks	**TG** = bypass trunk group access check **TL** = bypass toll accesscheck **BT** = bypass both access checks **NO** = bypass no access check	This field determines whether or not telephone numbers appearing on this list will override the toll restriction and/or trunk group restriction, should these restrictions be in effect.
17-31	Group Speed Calling Number (digits)	**0-9, or *, #, or S** (speed calling short delay) or **L** (speed calling long delay) - = N/A (columns 18-31 only)	This field determines the group speed calling number assigned with the first entry. -Record Code OV, columns 18-23, defines speed calling short and long delay.

**Record Code ED:
Extended Dial Call
Pickup Numbers**

7.5 Record Code ED, Figure 7.5, assigns pickup groups to extended dial call pickup groups. The pickup groups that make up the extended dial call pickup groups are set up on this record code. Because the pickup groups are created on this record code, they are not redefined on Record Code LD. If a user is a member of an extended dial call pickup group, Record Code LD only lists the extended dial call pickup group to which the user belongs, not the dial call pickup group. The dial call pickup numbers should be filled in from left to right.

Figure 7.5   Record Code ED: Extended Dial Call Pickup Numbers Data Sheet

Table 7.5 Entry Fields for Record Code ED

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Extended Dial Call Pickup Table Numbers	00-59 = number	Enter the number used to represent this extended dial call pickup group. -This number is also entered on Record Code LD, column 40, to indicate the extended dial call pickup group to which that line belongs. -The system maximum is 60 extended dial call pickup groups, each containing a maximum of 5 pickup groups. -There is no limitation to the number of stations that make up a pickup group. -The table number must be unique across this record code.
14-16	Primary Pickup Group Numbers	000-126 = 1st or primary pickup group --- = N/A	This field determines the pickup groups that make up the primary extended dial call pickup group. All members of this extended dial call pickup group can pick up each other's calls when they access the extended dial call pickup group feature.
17-19	2nd Pickup Group Numbers	000-126 = 2nd pickup group --- = N/A	This field determines the pickup groups that make up the 2nd extended dial call pickup group. All members of this extended dial call pickup group can pick up each other's calls when they access the extended dial call pickup group feature.
20-22	3rd Pickup Group Numbers	000-126 = 3rd pickup group --- = N/A	This field determines the pickup groups that make up the 3rd extended dial call pickup group. All members of this extended dial call pickup group can pick up each other's calls when they access the extended dial call pickup group feature.
23-25	4th Pickup Group Numbers	000-126 = 4th pickup group --- = N/A	This field determines the pickup groups that make up the 4th extended dial call pickup group. All members of this extended dial call pickup group can pick up each other's calls when they access the extended dial call pickup group feature.
26-28	5th Pickup Group Numbers	000-126 = 5th pickup group --- = N/A	This field determines the pickup groups that make up the 5th extended dial call pickup group. All members of this extended dial call pickup group can pick up each other's calls when they access the extended dial call pickup group feature.

Record Code CH: Change Feature by Access Code

7.6 Record Code **CI-I,** Figure 7.6, determines the feature or destination that will be temporarily changed by the use of an access code. The line always diverts to the alternate destination whenever that route is accessed. What the feature or destination is temporarily changed to is also defined. The access code used to indicate this feature is set up on Record Code AC under code type numbers 50 (change/restore feature by access code) and 51 (change/restore feature routing). This feature is limited to one access code or one directory number per system.

Figure 7.6   Record Code CH: Change Feature by Access Code Data Sheet

Table 7.6   Entry Fields for Record Code CH

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-14	**Old Access Code**	000-### = number	Enter the access code that is to be temporarily changed. -Columns 12-14 and 15-l 8 are mutually exclusive. If you mark this field, do not mark columns 15-1 8. -This feature can only be used for intercept, Attendant Console(s), hunt group, or agent group.
15-18	Old Station Number	0000-9999 = number ---- = not selected	This field defines the station number that is to be temporarily changed. -Right justifiy three-digit numbers. -Columns 12-l 4 and 15-1 8 are mutually exclusive. If you mark this field, do not mark columns 12-l 4. -This number can only refer to DNs for lines, Attendant Console(s), hunt groups, or agent groups.
19-22	New Station Number	0000-9999 = number --- = not selected	Enter the station number of the new (temporary) destination. -Right justify three digit numbers. -This number can only refer to DNs for lines, Attendant Console(s), hunt groups, or agent group.
23-25	New Code Type	000-225 = number -- = not selected	Enter the new code type to be temporarily used. -This number can only define an intercept route, Attendant Console(s), recorder announcer, or agent group.
26-29	New Code Type Identifier	0000-9999 = number --- = not selected	Enter the new code type identifier to be temporarily used. -Right justify three-digit numbers.

Record Code DF: 7.7 Record Code DF, Figure 7.7, defines the default line divert
CPG Default   condition for lines assigned a divert destination on Record Code
LM, **columns 45-48.**

Figure 7.7   Record Code DF: CPG Default Data Sheet

Table 7.7   Entry Fields for Record Code DF

COL. NO.	COL. NAME	VALID ENTRIES'	COMMENTS
12-13	Line Divert Condition	BY = divert if busy **NA =** divert if no answer **BN =** divert if busy or no answer	Mark this field with the system default divert condition. -This record code makes it unnecessary to program a divert condition for each line (Record Code LM, columns 28-29) if all system stations have the same divert condition. If the majority of lines have the same divert condition, then that condition can be given here. -Divert conditions that are different from the default value given here can be assigned to the various lines on Record Code LM.

LINE ASSIGNMENT

8.0 This section describes the record codes required to define the various system lines. The following record codes are required:

- Record Code LD defines the primary directory number for all lines in the system and provides additional line information.

- Record Code LM is an extension of Record Code LD.

- Record Code LA defines the various line or DSS (Direct Station Select) appearances.

- Record Code LI is not input by the customer

Record Code LD: 8.1 Record Code LD, Figure 8.1, defines the primary directory
Line Data   number for every line in the system. If an Analog/Digital
Featurephone has additional appearances of control lines such
as CO (Central Office), non-primary control, or data lines, an
entry on this record code is needed for each line type. Use this
record code to route non-working lines to a changed number
intercept. Line circuits programmed on the Attendant Console
(Record Code AT) or office features circuit (Record Code OC) do
not require an entry on Record Code LD. If the sytstem is
equipped with the PD-200 Data Option, this record code must
list the APM™/SPM™ physical location.

Figure 8.1   Record Code LB: Line Data Sheet

Table 8.1   Entry Fields for Record Code LD

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-15	Line Directory Number	**0000-9999** = line directory number or **000-999** = three-digit line directory number A three-digit number must have a blank before it.	Assign the line directory number to the equipped line circuits in the system. -Directory numbers can be chosen in three- and/or four-digit patterns. -Three-digit numbers must be right justified in the four columns provided. - All Instrument/ Line Types (columns 16-19) require an entry in this field except for APM/SPM. -Dashes must be entered in this field if the line is used for an APM or SPM that is used in support of the PD-200 Data Option. -The APMs/SPMs are not accessed by a line number, but by an X.121 address. -This record code is only used to provide the physical location of the APMs/SPMs within the system.
16-19	Instrument/Line Type	**AIFP** = Analog Integrated Featurephone **DIFP** = Digital integrated Featurephone **APM** = Asynchronous Packet Manager **SPM** = Synchronous Packet Manager **DFPA** = Digital Integrated Featurephone with Asynchronous Packet Manager **PACT** = programmable Attendant Console	-An AIFP must appear on an FP or FPOP line card. -A DIFP must appear on a VCIP, VPLO, VPL1, VP20 (voice/voice & data), or DVC line card. -An APM must appear on a VPLO, VP20 (voice & data or data only), or VP21 line card. -If necessary, an APM can be assigned to a VPL1; however, it is recommended to use the VPLO card, which is designed to support the low-speed APM. -An SPM must appear on a VPLO, VPL1, VP20 (voice & data or data only), or VP21 line card. -APM and SPM should be left justified in the four columns; e.g., APM- and SPM-. -A DFPA must appear on a VP20 (voice & data) line card. -A PACT or POTS must appear on a POTS or OFFP line card.

Table 8.1 Entry Fields for Record Code LD (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
16-19 (cont'd)	Instrument/Line Type	**POTS** = standard telephone instrument line ---- = non-working line	-A PACT requires a DTMF receiver on Record Code FR. -The maximum number of PACT consoles per system is 16. -A DIFP with line type DA must appear on a DVC card type. -A DIFP with line type DA (columns 28-29 of this record code) must also be marked DA on Record Code NC, columns 28-29 (this allows data line security).
20	PEC	**0** = PEC number	Enter PEC 0. -If columns 16-19 are marked POTS, PACT, AIFP, DFPA, DIFP, APM, or SPM, columns 20-25 must not be dashed. -If columns 16-1 9 are dashed, columns 20-25 must be dashed. -All card locations must be defined on Record Code FR.
21	Group	**A-D** = group number	Which group (A, B, C, or D) within the PEC is this card?
22-23	Card Slot	**00-11** = slot number	Which card slot within the group is this card?
24-25	Circuit Number	**00-07** = assigned circuit number	Which circuit on the card is being used? -In order to provided a sequential appearance of line numbers on the CPG (in groups of eight), list all eight circuits of a line card for each group and card slot in the following order: 4, 0, 5, 1, 6, 2, 7, 3. -The reason for this order is that this is the order in which the circuits are connected on the backplane of the system. -The circuit numbers assigned to a digital IFP used for (CD-100 data) voice transfer can only be circuits O-3. Circuits 4-7 are assigned to data connections. -This number must match the limits given to the card type at the specified physical location.
26-27	Line Status	**IS** = in service **OS** = out of service	Is the line in service or out of service?

Table 8.1   Entry Fields for Record Code LD (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
28-29	Line Type	CO = central office line, as in key system CO line (Featurephone) **DA** = data line (DIFP) **L1 =** CAS Main/ACD agent line **NP** = non-primary control line (Featurephone) **NW** = nonworking line **PC** = primary control line -- = none of the above, e.g., POTS telephone	NP is used for a logical line, which appears in software only and needs no line card. -- (a double dash) is used for all tip and ring type telephones (e.g., the FeatureComm™ and AnswerComm™ 1 and 2). When defining line 2 on a PACET (Programmable Attendant/Agent Console Electronic Telephone), mark this field --. -If this field is marked L1, Record Code NC, columns 30-31, must be marked HS (this allows hookswitch flash in COS). -If columns 16-l 9 are marked POTS, this field must be marked L1 or dashed. -If columns 16-l 9 are marked POTS, this field must be marked L1 or dashed. -If columns 16-19 are marked PACT, this field must be marked L1. -If columns 16-19 are marked AIFP or DFPA, this field must be marked CO, NP, or PC. -If columns 16-19 are marked DIFP, this field must be marked CO, DA, NP, or PC. -If columns 16-19 are marked APM or SPM, this field must be marked DA. -If columns 16-l 9 are dashed, this field must be marked NW. -The physical location fields for a line marked NP must match that of the controlling IFP. -If an entry of NP or CO is made, there must be available space in the system tables to assign a line software ID. A maximum of 256 lines of all kinds is allowed. -If this field is marked NP, station silent monitor (Record Code NC, columns 72-73) will not work. -Each IFP must have one and only one primary control line.

Table 8.1   Entry Fields for Record Code LD (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
30-31	Intercom Group	01-15 = number	Assign this feature to IFPs (Integrated Featurephones) only. -If this line is to belong to an intercom group, this field determines which group it belongs to. -Each line appearing on the same IFP can be in the same or different intercom groups. -If two lines have a DSS appearance of each other, they in essence have this feature already. -If columns 28-29 (line type) are marked CO, DA, L1, -- or NW, this field must be dashed.
32-33	Class of Service Displayable	00-15 = number	Assign the displayable class of service for the line. -Each line appearing on the same instrument can have the same or different displayable classes of service. -The number entered here must be defined on Record Codes DC and DD. -If columns 16-19 are marked POTS, PACT, AIFP, DFPA, or DIFP, these columns must not be dashed. -If columns 16-l 9 are marked APM, SPM, or dashed, these columns must be dashed.
34-35	Class of Service N-Displayable	00-l 5 = number	Assign the n-displayable class of service for the line. -Each line appearing on the same instrument can have the same or different n-displayable classes of service. -The number entered here must be defined on Record Code NC. -If columns 16-19 are marked POTS, PACT, AIFP, DFPA, or DIFP, these columns must not be dashed. -If columns 16-l 9 are marked APM, SPM, or dashed, these columns must be dashed.

Table 8.1   Entry Fields for Record Code LD (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
36	Facility Restriction Level	0-7 = FRL value - = N/A	Assign the FRL value given to this line. -This can only be assigned if the FRL feature is in effect (see Record Code OF, column 54). -A value of 0 is the most restrictive; a value of 7 is the least restrictive. -This value is compared to the FRL value of the trunk that the user is trying to access. -If the FRL value of the user is the same as or greater than the FRL value given to the trunk, the call can be made. -If the FRL value of the user is less than the FRL value given to the trunk, the call will be blocked. -Each line appearing on the same instrument can have the same or different FRL values. -If columns 16-19 are marked APM, SPM, or dashed, these columns must be dashed.
37-39	Dial Call Pickup: Pickup Group	000-126 = group number --- = N/A	If the line belongs to a pickup group, assign the pickup group number. -If the line belongs to an extended pickup group, this field is the primary group. -The pickup group to which a member of an extended pickup group belongs is defined on Record Code ED. -The Attendant Console cannot be in a pickup group. The system maximum is 127 pickup groups, with no limit to the number of members in each group. -If a station line appears on the DSS, having this feature is redundant. **NOTE:** If the line type is DA, L1, or NW (columns 28-29), this field must be dashed.
40	Dial Call Pickup: Extended Pickup Group	**E** = extended group ■ = dial call pickup group	If the line belongs to an extended pickup group, enter an E. -Record Code ED must be completed before this entry can be made. -If the line type is DA, L1, or NW (columns 28-29), this field must be dashed.
41-42	**Group Speed Calling**	01-48 = number -- = N/A	This field determines the speed calling group number assigned to this station. -Record Code GC must be completed before this entry can be made. -If columns 16-1 9 are marked APM, SPM, or dashed, these columns must be dashed. -If the line type is DA (columns 28-29), this field must be dashed.

Table 8.1 Entry Fields for Record Code LD (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
43-44	Individual Speed Calling List Number	00-30 = number -- = N/A	If the line is a member of an individual speed calling list, assign the list it belongs to. -Only one station can be assigned to each individual speed calling list. -A system maximum of 31 stations can have this feature. -If columns 16-19 are marked APM, SPM, or dashed, these columns must be dashed. -If the line type is DA (columns 28-29), this field must be dashed.
45-48	Divert Destination Identifier	0000-9999 = station number (LN) or pilot number (PN) of a hunt group (right justify three-digit numbers) 0000, 0064, 0128, or 0192 = console number (AT) 0000-0063 = trunk number ---- = N/A directory number and individual speed call list (VM, TO) 0001-0008 = speed call list entry number (SC)	Assign the divert destination (call forwarding) type. -It can be a line, pilot number, trunk group, intercept route, VMX mailbox, or external directory number. -If the entry is SC, then the speed calling list must not contain dashes because the remote call forward feature is accessed through an entry in the individual speed call list that stores the remote number. -A line cannot divert to itself. -If a station number is listed, it must be defined in columns 12-15 of this record code. -If a pilot number of a hunt group is listed, it must be defined on Record Code HG, columns 12-I 5. -If an attendant number is listed, it must be defined on Record Code AT. -If a trunk number is listed, it must be defined on Record Code TC. -The additional information needed to implement this feature is found on Record Code LM, columns 28-31. -If columns 16-19 are marked APM or SPM, these columns must be dashed. -If columns 16-I 9 are dashed, these columns must be either 0003 (vacant #) or 0011 (changed #). -If the line type is DA (columns 28-29), this field must be dashed. -If the line type is CO (columns 28-29), this field must be marked with a trunk number and Record Code LM, columns 28-29, must be marked DA.

Table 8.1   Entry Fields for Record Code LD (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
49-50	Message Detail Recorder Work Group Numbers	00-63 = group number -- = N/A default = 00	Assign the MDR work group number to the station. -The stations are divided into groups according to the information output required for each group. -MDR work groups are normally arranged in groups of like users for billing purposes (e.g., all accounting department telephones can be in the same group). -The MDR print-out gives the PDN (Prime Directory Number) of the station. -MDR group 00 is used as the default value and should not be assigned to stations. -If columns 16-19 are marked POTS, PACT, AIFP, DFPA, or DIFP, these columns must not be dashed. -If columns 16-19 are marked APM, SPM, or dashed, these columns must be dashed.
51	Remote Access and Authorization Code	R = remote access A = authorization code required with remote access ∎ = N/A	This field determines whether or not the remote access (or remote access requiring an authorization code) feature can be used from this line. -If an R is entered in this field, then the line can be used for remote access. -If this field is marked with an A, the line can be used for remote access. However, an authorization code is required. -By giving either of these features to a line, the COS normally assigned to this line can be temporarily overridden (e.g., a roving manager could make a toll call from a toll restricted line). -If columns 16-19 are dashed, this column must also be dashed. -If the line type is DA (columns 28-29), this field must be dashed.

Table 8.1   Entry Fields for Record Code LD (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
52	Controlling Data Control Processor Software	0 = number - = N/A	This field determines the controlling DCP (Data Control Processor) software number assigned to this Digital Featurephone. -The DCP is otherwise known as the UCB (Universal Control Board) -This field only applies to a Digital Featurephone used with the PD-200 Data Option. -If the PD-200 Data Option is in use, enter 0. -Because one UCB can support up to 240 data ports, only one is needed in the OMNI SI. -The UCB must be defined on Record Code FR. -This field is new to SVR 5210. **NOTE:** UCB is the card; DCP is the software on the card.

**Record Code LM:
Line Miscellaneous**

8.2 Record Code LM, Figure 8.2, is an extension of Record Code LD and provides additional data for lines. Any directory number that appears on this record code must appear on Record Code LD as well. Instrument types APM, SPM, PACET, or ---, as well as line types L1 and NW, never have an LM entry. LM is required for Analog Featurephones (instrument type AIFP). LM is used whenever the signal mode is something other than MX. It is also used if a field on LM is needed to complete the description of a line.

Figure 8.2   Record Code LM: Line Miscellaneous Data Sheet

Table 8.2   Entry Fields for Record Code LM

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-15	Directory Number	0000-9999 = four-digit line directory number 000-999 = A three-digit number must have a blank before it.	Assign the line directory number to the equipped line circuits in the system. -Three-digit numbers must be right justified.
16-17	Signal Mode	NO = common battery lines, originating, hot-line service, or answering only status DP = dial pulse signaling TC = lines requiring touch calling MX = lines requiring a mixture of touch calling and dial pulse; or MX can be used in place of DP and TC (MX is used for POTS, Featurephones, and default.)	Assign the line circuit signal mode of the station. -Hot lines use NO type signaling. -Analog and Digital Featurephones use DP type signaling. -If the instrument type (columns 16-19 of Record Code LD) is marked POTS, this field must not be marked DP. -If the instrument type (columns 16-19 of Record Code LD) is marked AIFP or DFPA, this field must be marked DP. -If this field is marked NO, the SCC (non-MERS) access allowed in COS (Record Code NC, columns 66-67) will not work. -If this field is marked NO, the following COS features defined by Record Code DD will not work: toll access, meet-me conference, progressive conference, dictation, paging, maintenance access, modem access, MERS on-net. -If this field is marked NO, the following COS features defined by Record Code NC will not work: executive override, originating call waiting, camp-on/auto recall, attendant information, dial call pickup, call forwarding variable, speed call, universal night answer.
18	Data Link Card Location: PEC	0 = PEC number	-Enter PEC 0. This is the PEC entry for the FB-17225 card that supports the IFPs. -Data link cards are defined for Agent Instruments on Record Code AD.

Table 8.2   Entry Fields for Record Code LM (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
19	Data Link Card Location: Group	A-D = group number	Which group (A, B, C, or D) within the PEC is this card?
20-21	Data Link Card Location: Card Slot	00-11 = slot number	Which card slot within the group is this card?
22-23	Data Link Card Location: Circuit Number	0-7 = assigned circuit number	Which circuit on the card is being used?
24-27	Controlling Integrated Featurephone	0000-9999 = four-digit line directory number (-000)-(-999) = three-digit line directory number	This field determines the primary line directory number for non-prime and CO lines. -If the instrument type (columns 16-19 of Record Code LD) is marked POTS, this field must be dashed. -When defining the PDN (Prime Directory Number), this number will be the same as the directory number.
28-29	Call Divert Condition	ND = no divert, including hunt group members BY = divert if busy NA = divert if no answer BN = divert if busy or no answer DA = divert always (used for CO lines and hot lines)	Columns 28-31 are used to define divert conditions. Assign the conditions under which a call will divert. Columns 30-31 define what type of destination the call diverts to. The destination itself is defined on Record Code LD, columns 45-48. -The call divert fields are used to implement the following features: fixed call forwarding, hot line switched direct line service, diversion of one hunt group to another (via last member). -Use Record Code MH to program hunt group member searches and LD to specify the divert destination identification for call diverts. -The divert always condition will allow a call to be forwarded twice only. The third attempt rings busy. -Columns 28-29 define the conditions that cause a call to forward from the called station to another location. -If this value is set at ND, the allowable value of columns 30-31 is --, TO, LN, AT, TR, or PN. -If this value is set at BT, NA, BN, or DA, the allowable value of columns 30-31 is TO, LN, AT, TR, or PN. -If Record Code NC, columns 38-39, is marked OR (for COS originating only), this field should be marked ND.

Table 8.2   Entry Fields for Record Code LM (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
30-31	Call Divert Destination	**VM** = divert to IVMS mailbox **SC** = divert to speed call list entry **TO** = divert to 120 (IPM) tone **LN** = divert to another line **AT** = divert to attendant **TR** = divert to trunk **PN** = divert to pilot number of a hunt group -- = N/A	Columns 28-31 are used to define divert conditions. This field defines the conditions under which a call will divert. Columns 30-31 define the type of destination to which the call diverts. The destination itself is defined on Record Code LD, columns 45-48. -If this value is --, the allowable value of the divert destination identifier (Record Code LD, columns 45-48) is ---- . -If this value is set at **TO**, the allowable value of the divert destination identifier (Record Code LD, columns 45-48) is 0000. -If this value is set at **LN**, the allowable value of the divert destination identifier (Record Code LD, columns 45-48) is 0000-9999 (station number). -If this value is set at **AT,** the allowable value of the divert destination identifier (Record Code LD, columns 45-48) is 0064, 0128, or 0192. -If this value is set at **TR,** the allowable value of the divert destination identifier (Record Code LD, columns 45-48) is 0000-0063. -If this value is set at PN, the allowable value of the divert destination identifier (Record Code LD, columns 45-48) is 0000-9999 (hunt group pilot number). -If this value is set at SC, the allowable value .of the divert destination identifier (Record Code LD, columns 45-48) is 0001-0008 (speed calling list entry number). -If this value is set at **VM**, the allowable value of the divert destination identifier (Record Code LD, columns 45-48) is ----. If VM is marked, the COS must allow VMS (columns 70-71, Record Code NC).

Table 8.2   Entry Fields for Record Code LM (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
32-33	Ward Number	**00-31 =** ward number -- = N/A	This hospital feature is used to provide quiet hours to patient room telephones. -The system supports a maximum of 32 ward numbers. -The field determines which ward number is assigned to a station. -Ward numbers are created on Record Code WT, columns 21-52. -If an entry is made in this field, then at least one entry on Record Code WT, columns 21-52, must be marked A.
34-35	Reserved	-- = only allowed entry	This field is reserved for future use and is only to be dashed.
36	Multiline Featurephone	Y = Multiline Featurephone - = N/A	If the instrument type is an IFP, this field determines if it is used as a multiline telephone. -It is recommended to configure all IFPs as multiline (whether or not they are) because a multiline IFP has a hold button and a single-line IFP does not.

Record Code LA:
Line Appearances

8.3 Record Code LA, Figure 8.3, defines all the directory numbers that appear as either a line or a DSS (Direct Station Select) on the multiline Integrated Featurephones.

Figure 8.3   Record Code LA: Line Appearances Data Sheet

Table 8.3   Entry Fields for Record Code LA

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-15	Line Number of the Integrated Featurephone	0000-9999 or **000-999** = number A three-digit number must have a blank before it.	This field determines the multiline IFP line directory number on which the lines or DSSs appear. Right justify three-digit numbers. -Any line appearing in this field must be marked as a multiline IFP on Record Code LM (Y in column 36). -If a line appears on Record Code LA, the CPG defaults to multiline.
16-19	Line Number of Appearance	0000-9999 or 000-999 = number	This field determines the line number of the appearance. Right justify three-digit numbers.
20-21	Appearance Type	LA = line appearance (Featurephone only) **DS =** DSS appearance	This field determines whether or not the appearance is a line or DSS. -Controlling numbers and logical lines are not to appear on this record code. -A POTS telephone can only appear as a DS (DSS) because a POTS line cannot appear on another phone. -An LA (line appearance) on this record code can only be an Analog or Digital Featurephone. -If a line is defined as a CO line on Record Code LD, it cannot appear as a DS (DSS) on this record code. -A line directory number listed as an appearance must be defined on Record Code LD, columns 12-I 5. -The system supports a maximum of eight appearances (line or DSS) of the same line. -A single-line Featurephone (see Record Code LM, column 36) cannot be a line appearance.

Record Code LI:
Line Identities

8.3 Record Code LI, is not input by the customer. It is generated by the reverse CPG to preserve the assignments of internal system identities for re-engineering or documentation purposes.

ATTENDANT CONSOLE FEATURES

9.0 This section describes the record codes required to define the system Attendant Console(s). The following record codes are required:

- Record Code AT defines the Attendant Console(s).

- Record Code BD defines the location of the BLDU cards.

- Record Code BK defines the KEDU unit number and the keys.

- Record Code CA defines common data for the Attendant Console position(s).

- Record Code CN defines common DNs (Directory Numbers).

**Record Code AT:
Attendant Console**

9.1 Record Code AT, Figure 9.1, describes the Attendant Consoles in the system. The system will support a maximum of two Attendant Consoles .

Figure 9.1 Record Code AT: Attendant Console Data Sheet

Table 9.1   Entry Fields for Record Code AT

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	Index (Attendant Console Number)	0-1 = number	This field assigns the number for the Attendant Console that is being defined. The number is used by the system for identification purposes. -If a system only uses one console it is defined as 0.
13-16	Directory Number	0000-9999 = number or 000-999 = three-digit number A three-digit number must have a blank before it.	Assign the directory number used by the console.
17	Line Card Location PEC	0 = PEC number	Enter PEC 0. This is normally the FB-17254 (POTS) line card; however, the FB-17250 (OFFP) can also be used.
18	Group	A-D = group number	Which group (A, B, C, or D) within PEC 0 is this card?
19-20	Card Slot	00-11 = slot number	Which card slot within the group is this card?
21-22	Circuit Number	0-7 = assigned circuit number	Which circuit on the card is being used?
23	Data Link Card Location PEC	0 = PEC number	Enter PEC 0. This is the FB-17208 data link card.
24	Data Link Card Group	A-D = group number	Which group (A, B, C, or D) within PEC 0 is this card?
25-26	Data Link Card Card Slot	00-11 = slot number	Which card slot within the group is this card?
27	Data Link Card Circuit Number	0-1 = assigned circuit number	Which circuit on the card is being used?
28-29	Equipped Status	IS = in service OS = out of service	Is the card in service or out of service?
30-31	Class of Service Displayable	00-15 = number	Assign the displayable class of service for the console.
32-33	Class of Service N-Displayable	00-15 = number	Assign the n-displayable class of service for the console.

Table 9.1   Entry Fields for Record Code AT (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
34	Facility Restriction Level	0-7 = FRL value - = no FRL given	If the system has the FRL option, the console must have an FRL value. -This field determines the FRL assigned to the console. -Unless the console is not allowed to access all trunks (e.g., CO line), the recommended value is 7.
35	Busy Lamp Field Display Unit Number	1-4 = BLDU number selected ■ = not selected	Assign the BLDU associated with the console. -The BLDU number is assigned on Record Code BK, column 13, and listed on Record Code BD. -Only one console can use a particular BLDU.
36	Receive Property Management System Messages	P = receive messages - = not receive messages	If the system is a motel application and the PMS (Property Management System) option is equipped, this field determines whether or not the console can receive messages from the PMS system.
37	MERS Time **Change**	**M** = allowed ■ = not allowed	This field determines whether or not the console is allowed to change the MERS time period feature. -It is recommended to give this feature to only one console.
38	System Time Change	S = allowed ■ = not allowed	This field determines whether or not the console is allowed to change the time setting for the system time clock.
39	Ward Control	C = allowed ■ = not allowed	This field determines whether or not the console is allowed to activate the ward control feature. -Access to this feature is via a button on the console.
40	Ward Time Period Control	**T** = allowed - = not allowed	This field determines whether or not the console is allowed to change the automatic ward control timer (e.g. the time is set to block calls at a ward from 8:00 to 12:OO and the user wants to change it to 9:00 to 12:OO). -With this feature, the attendant can change the timing parameter without going into Recent Change.

Table 9.1   Entry Fields for Record Code AT (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
41-44	Billing Number	0000-9999 = billing number ---- = not selected	Assign the billing number used by the console. -If the directory numbers assigned to each console (columns 13-1 6) are different and all consoles are to be billed as one, enter the same billing number for both console 0 and 1. -The MDR records will have this number printed for calls that involve the console. -If required, the system will support different billing numbers for the two consoles.

Record Code BD:
Busy Lamp Display Unit

9.2 Record Code BD, Figure 9.2, defines the physical location of the BLDU cards. The system will support a maximum of four BLDUs. Up to four BLDUs can be daisy-chained off the same circuit. The card used to support the BLDU is the FB-17208 card, which is a double-width card. The BLDU parameters cannot be altered by Recent Change.

Figure 9.2   Record Code BD: Busy Lamp Display Unit Data Sheet

Table 9.2   Entry Fields for Record Code BD

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12,17, 22 and 27	BLDU Data Link Lines PEC	0= PEC number	Enter PEC 0. This is the FB-17208 card. -If column 12 is dashed, columns 13-I 6 must be dashed. -If column 12 is marked 0, columns 13-I 6 cannot be dashed. -If column 17 is dashed, columns 18-21 must be dashed. -If column 17 is marked 0, columns 18-21 cannot be dashed. -If column 22 is dashed, columns 23-26 must be dashed. -If column 22 is marked 0, columns 23-26 cannot be dashed. -If column 27 is dashed, columns 28-31 must be dashed. -If column 27 is marked 0, columns 28-31 cannot be dashed.
13,18, 23 and 28	Group	**A-D** = group number	Which group (A, B, C, or D) within PEC 0 is this card?
14-15, 19-20, 25-26 and 29-30	Card Slot	**00-11 = slot** number	Which card slot within the group is this card?
16,21, 26 and 31	Circuit Number	0 or **1** = assigned circuit number	Which circuit on the card is being used?

Record Code BK: 9.3 Record Code BK, Figure 9.3, defines the unit number and
Busy Lamp Key key identification for each BLDU.

Figure 9.3   Record Code BK: Busy Lamp Key Data Sheet

Table 9.3   Entry Fields for Record Code BK

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	PEC	0 = PEC number	Enter PEC 0. This is the FB-17208 data link card.
13	BLDU Number	1-4 = number	This field determines the number used to identify the BLDU. This number is used by the system for identification purposes. -A BLDU number can only appear in this column once.
14-33	BLDU Key Identities	00-99 = hundreds group number associated with the key -- = no hundreds group number associated with the key	Assign the hundreds groups that will appear on each of the ten BLDU keys. -The BLDU has ten keys that correspond to ten distinct hundred groups. -The numbers entered in columns 14-33 are used to give the line numbers associated with each of the ten BLDU keys. -The hundreds group listed must be defined on Record Code HD, columns 13-14.

Record Code CA: Common Attendant

9.4 Record Code CA, Figure 9.4, defines the common data for the attendant positions. There must be at least one entry on Record Code AT before completion of this record code is required.

Figure 9.4 Record Code CA: Common Attendant Data Sheet

Table 9.4   Entry Fields for Record Code CA

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-15	Night Answer 1	**0000-9999** = predetermined night answer 1 destination digits **U--U** or any combination of Us and dashes = UNA 1 zone	Assign the predetermined night answer (position 1) pilot number or the UNA (Universal Night Answer) zones. -The UNA zones can be in any combination. If three-digit pilot numbers are used, they must be right justified. -If all UNA zone are requested, enter UUUU.
16-19	Night Answer 2	**0000-9999** = predetermined night answer 1 destination digits **U--U** or any combination of Us and dashes = UNA 2 zones	Assign the predetermined night answer (position 2) pilot number or the UNA (Universal Night Answer) zones. -The UNA zones can be in any combination. If three-digit pilot numbers are used, they must be right justified.
20	Night Answer Control	**0-1** = master **-** = one console	Assign the master console number. -This entry applies to both line-to-line and trunk-to-line calls. -The console listed here must be defined on Record Code AT, column 12. -The console number 0 or 1 marked in this column, must be defined on Record Code AT, column 12.
21-23	Attendant Call Waiting Lamp Light	**001-255** = number **---** = N/A (default = 1)	This field determines the number of calls allowed in the call waiting queue. -When the number of calls entered in this field is reached, the CALL WTG pushbutton on the console lights. -This lets the attendant know the number of calls waiting to be answered.
24-26	Attendant Call Waiting Lamp Flash	001-255 = number **---** = N/A (default = 8)	This field determines the number of calls waiting in queue before the CALL WTG pushbutton on the console flashes. -This field must be set at a greater number than the waiting lamp light field, columns 21-23. -The flashing lamp is designed as a warning to let the attendant know that there are a large number of unanswered calls.

Table 9.4   Entry **Fields for Record Code** CA (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
27-30	Call Waiting Queue Timeout Control	Y = UNA zone or zones (l-4) - = N/A	This field determines whether or no (Universal Night Answer) zone is a a call has been waiting in the atter waiting queue for a longer time tha the attendant call waiting queue on Code OT, columns 30-32. -If this field is used and the consol more calls presented to it than are answered, the calls automatically UNA zone defined here. The UNA indicator is a bell or light that alert: users to calls that need to be ans\
31	Overflow to Universal Night Answer	Y = allowed -. = not allowed	This field determines whether or n the call waiting queue are allowed to the UNA. -If an entry is made in this field, the must be made in columns 27-30 to UNA to which the calls will overflo\
32	Attendant Camp-on	Y = allowed . = not allowed	If the attendant is allowed to camp busy line, enter Y.
33	Attendant Recall on Hold	Y = allowed . = not allowed	If a call put on hold by the attendar automatically recall to the console predetermined amount of time, ent
34	Attendant Break-In	Y = allowed . = not allowed	If the attendant is allowed to break ongoing station call, enter Y.
35	Attendant Paging Queue	Y = allowed . = not allowed	If the attendant is allowed to put a page queue, enter Y.
36	Attendant Paging	Y = allowed . = not allowed	If the attendant is allowed to acces paging system equipment via the pushbutton, enter Y.
37	Attendant Assignment for Room-to-Room Blocking Function (Attendant Assignment Status)	A = console assignment required, . = all consoles can activate room-to-room blocking feature.	This field determines whether or n both consoles are allowed to activ room-to-room blocking feature. -If a first choice console is given, the first choice console can activa feature. -If the first choice console is in the mode, then the second choice co automatically assumes the functio -If A is entered, then only one cor access the feature. -If the field is dashed, then both c allowed to access the feature.

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Record Code CN: 9.5 Record Code CN, Figure 9.5, allows the system to h
Common Attendant   common DNs (Directory Numbers) for a variety of Attend
Directory Numbers   Console configurations.

Figure 9.5   Record Code CN: Common Attendant Directory Numbers Data Sh

Table 9.5   Entry Fields for Record Code CN

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-15	Attendant Directory Number	**0000-9999** = number or 000-999	If a directory number used is other tha number defined on Record Code AT, t determines the attendant directory nur -If three-digit numbers are used, they should be right justified. -This number provides for a unique or standard calling number for the Attenc Console that allows the same DN to be for different consoles. -With this number, a user can dial 200 be connected to either attendant 0 or 1 **NOTE:** Each Attendant Console numk assigned to answer calls via the comn attendant directory number must be lis Record Code AT, column 12.
16-23	Attendant Console Number	**Y** = access ▪ = no access	For each Attendant Console number li this field determines whether or not ac an attendant via the specified attendar directory number is allowed.

COL.
NO.

38-45

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TRUNK
FEATURES

10.0 This section describes the record codes required to define the various system trunks and their features. The following record codes are required:

- Record Code T1 defines the system trunk group parameters.

- Record Code T2 defines additional system trunk group parameters.

- Record Code CR defines system toll restriction.

- Record Code EC defines system expanded toll restriction.

- Record Code AS defines service codes allowed with toll restriction.

- Record Code TC defines the system trunk group members.

- Record Code NA defines permanent connection trunks.

- Record Code DA defines CO digit absorption.

Record Code T1:
Trunk Group Part - 1

10.1 Record Code T1 , Figure 10.1, provides parameters that are used to define trunk groups within the system. Record Code T2 also provides parameters for defining trunk groups. Individual trunks that make up the trunk groups are defined on Record Code TC.

Figure 10.1   Record Code TI: Trunk Group Data 1 Data Sheet

Table 10.1   Entry Fields for Record Code T1

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Trunk Group Number	00-63 = number	This field determines the trunk group number. -An RLT (Release Link Trunk) group does not need trunk group assignment. The combined line and recording trunks are allowed access to the distant toll operator if seizure (loop or E&M) capability is allowed. -The trunk group number must be unique across this record code. - Any trunk group defined here must also be defined on Record Code T2 and have at least one member on Record Code TC. -An incoming RLT from a CAS Branch is not configured as a trunk group.
14-16	Trunk Application	**COT** = DID/CO/ DOD **FXT =** FX **TIE =** Tie **WTS** = WATS **DIC** = dictation access **PAG** = paging access **NIC** = network interface **REC** = recorder announcer access **CAS** = centralized attendant service **CLR** = combined line and recording trunks (sometimes used for billing of motel guest rooms)	Assign the type of trunk usage allowed to the trunk group. -The following rules apply to trunk applications: -COS: TIE, COT, FXT, and WTS trunks can be assigned a COS (columns 17-20) if their trunk direction is marked IN or TW (columns 21-22). -DIC, PAG, REC, CAS, and CLR trunks cannot be assigned a COS. -If this field is marked DIC, NIC, PAG, or REC, columns 21-50 must be dashed. -The recommended ratio of DID trunks to DID stations is 1 trunk to 10 stations. -REC uses a 2-wire E&M trunk.

Table 10.1   Entry Fields for Record Code TI (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
17-18	Class of Service Displayable	00-15 = assigned - = N/A (defaults to 0)	Assign the displayable COS for the trunk group. The displayable COS must be defined on Record Codes DC and DD. -If columns 14-16 are marked CAS, the displayable COS (Record Code DD) assigned to the trunk group must be marked -- in columns 16-17 and 36-37, and SA in columns 24-25. The dashes disallow switched direct line and modem access, and SA allows station access. -If columns 14-16 are marked COT, FXT, or WTS and these are incoming trunks (marked IN in columns 21-22), the only allowed features for the trunk group are trunk group access, dictation equipment access, station access, and RLT access. -If columns 14-16 are marked TIE, the only features restricted from the trunk group are switched direct line and progressive conference.
19-20	Class of Service N-Displayable	00-15 = assigned - = N/A (defaults to 0)	Assign the n-displayable COS for the trunk group. -The n-displayable COS must be defined on Record Code NC. -If columns 14-16 are marked WTS, the n-displayable COS (Record Code NC) assigned to the trunk group must be marked DS in columns 28-29. DS provides the trunk group with data line security. All other n-displayable COS fields must be dashed. -If columns 14-16 are marked TIE, the only allowed features for the trunk group are attendant information, data line security, universal night answer, computer access, special common carrier, and speed calling. -If columns 14-16 are marked COT or FXT and the trunks are incoming (marked IN in columns 21-22), the only allowed features for the trunk group are attendant information, data line security, universal night answer, and computer access.

Table 10.1   Entry Fields for Record Code T1 (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
21-22	Trunk Direction	**OG** = outgoing **IN** = incoming **TW** = two way (recommended for maintenance) **--** = N/A (used for paging/dictation)	Assign the trunk direction for the trunk group. -If this field is marked OG or --, the n-displayable COS for the trunk group must not be marked for speed calling usage (Record Code NC, columns 68-69, must be dashed). -If this field is marked OG or --, columns 17-20 must be dashed. If this field is marked IN or TW, columns 17-20 can be dashed or marked with any allowable digit. -If this field is marked TW, columns 23-30 must be marked with any valid entry and not dashed. -If this field is marked OG, columns 23-26 must be marked with dashes, and columns 27-30 can be marked with any valid entry but must not be dashed. -If this field is marked IN, columns 23-26 must be marked with any valid entry and not dashed, and columns 27-30 must be dashed. -If columns 14-16 are marked CAS, this field must be marked IN.
23-24	Trunk Incoming Signal: Signaling Mode	**DP** **TC** **MX** or -- = incoming signaling mode	Assign the incoming signaling mode for the trunk group. **DP** = lines that use dial pulse signaling (used for DID and Tie lines) **TC** = lines that use touch calling signaling **MX=** lines that can use DP or TC type signaling -- = N/A (used for paging/dictation, hot-line service, recorder announcer, traffic to the attendant, or any answer-only trunk)
25	Trunk Incoming Signal: Return Dial Tone	Y = allowed (Tie only) - = N/A	This field determines whether or not the trunk group is allowed incoming return of dial tone. -This field is used by Tie trunk groups only. -When this field is allowed, the incoming trunk receives dial tone from the remote end, indicating that dial tone is coming from the switch. -Columns 25 and 26 are mutually exclusive.

Table 10.1   Entry Fields for Record Code TI (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
26	Trunk Incoming Signal: Return Distinctive Tone	**Y** = allowed **-** = N/A	This field determines whether or not the trunk group is allowed incoming return of distinctive dial tone. -This field is sometimes used for remote access. -Columns 25 and 26 are mutually exclusive. -If a Y is entered in this field, an uninterrupted ringing sound is given.
27-28	Trunk Outgoing Signal: Signaling Mode	**DP** **TC** **MX** or **--** = outgoing signaling mode	Assign the outgoing signaling mode for the trunk group. -Dial pulse type signaling must connect to dial pulse type signaling. -Touch calling signaling can connect to touch calling type signaling. **DP** = lines that use dial pulse signaling **TC** = lines that use touch calling signaling **MX** = lines that can use DP or TC type signaling **--** = N/A
29	Trunk Outgoing Signal: Dial Tone Return	**Y** = allowed **-** = N/A	Indicate the trunk group allowed access when outgoing return of dial tone return is required. -This feature only applies to speed calling. -Return dial tone is used when a ground start signal cannot be used as an indication to start outpulsing to a CO. This is normally for loop trunk applications. When the dial tone returned bit is implemented, there is a 6-second delay between the trunk seizure and the start of outpulsing on speed calls (no matter what trunk type). The dial tone returned bit does not indicate that return of dial tone is the only valid indication from the CO that dialing can begin. Because the system cannot detect dial tone, the time period is used to assure that the CO will normally be ready to accept dialing.
30	Trunk Outgoing Signal: Multi-frequency	**Y** = allowed **-** = N/A	This field is used for CAMA trunks only. -If this field is marked Y, columns 33-34 must be marked CM. If columns 14-16 are marked CAS, this field must be dashed.

Table 10.1   Entry Fields for Record Code T1 (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
3i -32	Trunk Disconnect Supervision	**CA** = incoming **CD** = outgoing **BT** = incoming and outgoing (Tie) -- = N/A	Assign the type of trunk disconnect supervision for the trunk group. -All references to the incoming or outgoing trunk calls are from the system point of view. -Disconnect is defined as an on-hook condition for 300 milliseconds after the answer condition has been received. -Loop start trunks usually do not guarantee disconnect supervision. -E&M and ground start trunks, however, will usually guarantee disconnect supervision.
33-34	Billing Mode	**AL** = AIOD **CM** = CAMA -- = N/A	This field determines whether the billing mode used is AIOD (Automatic Identification of Outward Dialing) or CAMA (Centralized Automatic Message Accounting). -AIOD is used for billing information that is provided by the CO. This feature provides the DN of stations placing outside calls. This feature can be used only if the CO supports AIOD trunks. -If this field is marked AL, column 38 must be marked 1, 2, 3, or 4. -CAMA is used only on outgoing toll trunk groups. -If this field is marked CM, columns 21-22 must be marked OG.
35-36	Alternate Trunk Group	00-63 = trunk group number -- = N/A	Assign the alternate trunk group to be used if the trunk group is busy when a user places a call. -Only one alternate trunk group is allowed per trunk group. -If no alternate trunk group is to be used, the field is dashed. -If an alternate trunk group is not used, the potential for calls to be blocked exists. -The alternate trunk group must be defined as a trunk group on Record Codes T1 and T2.
37	Trunk Transfer Allowed	Y = allowed ▪ = N/A (REC or MERS trunk group)	Y allows a call to be transferred. -Transfer should not be allowed for recorder announcer trunks. However, when trunk transfer is not allowed, the attendant can transfer a call to a station, but the station cannot transfer the call elsewhere.

Table 10.1   Entry Fields for Record Code TI (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
38	AIOD Channel	1-4 = if billing mode is AI (AIOD) - = if billing mode is not AI	This field determines the channel that is used for the AIOD (Automatic Identification of Outward Dialing) option. -The FB-17276 card has 4 circuits. Circuits 1 and 2 are loop; circuits 3 and 4 are E&M. -If the AIOD option is used and no circuit is defined, the default value is circuit 1. -If used, the AIOD card must be defined on Record Code FR. -If this field is marked 1, 2, 3, or 4, columns 33-34 must be marked AL.
39-42	Tie Trunk Calling Number	0000-9999 or 000-999 = number ---- = N/A Field applies to Tie trunks only.	This field determines the Tie trunk calling number (CAMA) sending requirements. -This field allows billing identification to the incoming Tie trunk group (arbitrary number). -If this field has an entry of 0000-9999, columns 14-16 must be marked TIE. -However, a Tie trunk may have this field dashed when required.
43	Missing DID Digits: Digit 1	0-9 = missing digit - = N/A	If fewer digits than are needed are sent from the CO, the first digit can be added here. -This applies to a three-or four-digit number. -When a three-digit station numbering plan is used, the missing terminal digit is the first missing digit and must be specified. **NOTE:** If this field is dashed, column 44 must also be dashed.
44	Missing DID Digits: Digit 2	0-9 = missing digit - = N/A	If fewer digits than are needed are sent from the CO, the second digit can be added here. -This applies to a three-or four-digit number.
45-48	Automatic Call Distribution/ Direct-In Line (ACD/DIL) Trunk Pilot Number	0000-9999 = number (right justify three-digit numbers) ---- = N/A	If ACD /DIL is used, this field determines the ACD/DIL pilot number to which all calls for the trunk group are directed. -The pilot number does not have to be a pilot number of a station hunting group. If needed a single station can receive limited ACD/DIL calls. -If a single station number is used, the number must be defined on Record Code LD. -When a pilot number is used for ACD calls, it must be defined on Record Code HG.

Table 10.1   Entry Fields for Record Code **T1 (Continued)**

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
45-48 (Cont'd)	**Automatic Call** Distribution/ Direct-In Line (ACD/DIL) Trunk Pilot Number	**0000-9999 =** number (right justify three-digit numbers) **---- = N/A**	For the limited ACD feature to work properly, it is recommended to use a pilot number from a circular hunt group. -If an entry (other than dashes) is made in this field, columns 23-26 must be dashed. -If an entry (other than dashes) is made in this field, columns 14-16 must be marked CAS, CLR, COT, FXT, TIE, or WTS. -The direction for any of those trunk groups, must be marked IN or TW (columns 21-22).
49	Route to RLT (Release Link Trunk)	Y = connect to RLT ▪ = connect to local attendant	This field determines whether or not incoming seizure is assigned to a trunk group when no incoming signaling (ringdown) is allowed to connect to the RLT (CAS) or to the local Attendant Console. **NOTE:** If the site is a CAS Branch and calls are to be routed to the CAS Main location, this field must be marked Y.
50	Answer Back Recorder Announcer	Y = allowed **- = N/A**	This field determines whether or not the trunk group is allowed an answer back signal when any trunk group is routed to a recorder announcer. -This field should be allowed if the trunk group is routed to a recorder announcer. This allows the CO to bill for the time that the calling party is connected to the recording.
51	Recorder Announcer Return Answer Back	Y = allowed **- = N/A**	This field determines the recorder announcer trunk group that is to return an answer back signal when connected to an incoming trunk. **NOTE:** If this field is marked Y, columns 14-16 must be marked REC.
52-53	Delete DID Digits	**01-10** = number -- = N/A	In a DID application, this field determines the number of digits sent from the CO that are to be deleted. This field is used when the CO is sending more digits than needed (e.g., three-digit numbering plan in effect and the CO is sending four digits).
54	Agent Group Number	O-7 = number ▪ = not assigned	Assign the agent group number for the trunk group. -This field is used only for CAS or full ACD. -If columns 14-16 are marked CAS, this field must specify an agent group O-7.

Table 10.1 **Entry** Fields for Record Code **T1** (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
55	Trunk Homing Selection	**H =** allowed **-** = not allowed	This field determines whether or not the trunk group is allowed homing. -Entering an H in this field provides trunk homing, which acts like a terminal hunt group. -Normally a dash is recommended in this field. This provides circular hunting. **NOTE:** If this field is marked H, columns 21-22 must be marked OG or TW.
56	Automatic Circuit Assurance	Y = selected **-** = not selected	Enter Y if the ACA (Automatic Circuit Assurance) feature option is used by the trunk group. -By monitoring the holding time for both long and short calls, this feature gives an indication of possible trunk problems. -The definition of a long and short call is determined by the following parameters.
57-58	Automatic Circuit Assurance Short Call Threshold	**01-15** = number of calls in the short call -- = not selected	Enter the number of call attempts that must fall below the seconds listed in columns 59-60 before a short call report is made. -A default value is not provided for this field. -This feature is also used for remote maintenance.
59-61	Automatic Circuit Assurance Short Call Interval	**001-255 =** seconds **---** = not selected 1-3 = suggested value	Enter the number of seconds that a trunk must be seized before it is seen by the system as a short call. -This value should be set lower than the normal amount of time the site spends on a call (e.g., a telemarketing group may average calls that are very short in length). -A default value is not provided for this field.
62-64	Automatic Circuit Assurance Short Call Reset Interval	001-255 = seconds **---** = not selected	Enter the number of minutes that must pass before the short call threshold is reset. -The above listed short call parameters are monitored for the amount of time set here. -If the above parameters are reached within the time frame, then a short call report is sent to the Attendant/MDR. -If the parameters are not met, the timer is reset to zero and the short call parameters are set back to zero. -A default value is not provided for this field.

Table 10.1 Entry Fields for Record Code T1 (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
65-67	Automatic Circuit Assurance Long Call Interval	**001-255 =** minutes -- = not selected 45 = suggested value	Enter the number of minutes that a trunk must be seized before a report is made. -If this value is reached, a report is sent to the Attendant/MDR. This value should be set higher than the normal amount of time the site spends on a call (e.g., a site that has the data option may be making long data calls). - A default value is not provided for this field.
68	Outgoing Trunk Group Facility Restriction Level Outpulsed	Y = outpulse FRL - = not selected	If the trunk group has been given an FRL value, this field determines whether or not the FRL value is outpulsed when an outgoing trunk call is made. **NOTE:** If the FRL option is used, this field will normally be marked Y for Tie trunks connecting two switches in a network.
69	Incoming Trunk Group Default Facility Restriction Level	O-7 = number - = N/A (TCM not equipped)	This field determines the incoming FRL value for the trunk group. **NOTE:** If a remote network system does not have the capability to send an FRL, an FRL value can be given to that incoming trunk.
70	Outgoing Trunk Group Facility Restriction Level to Access	O-7 = number - = N/A (TCM not equipped)	This field determines the FRL value to be outpulsed for the trunk group. -The FRL value should only be outpulsed for a MERS networking environment.
71	Integrating Voice Messaging System Trunk Identifier	Y = IVMS trunk group - = not an IVMS trunk group	Enter Y if the trunk group is used to support the IVMS option.
72	Reserved	- = only allowed entry	This field is not used for this SVR.

Record Code T2:
Trunk Group Part . 2

10.2 Record Code T2, Figure 10.2A, provides parameters that define trunk groups. This record code is used along with Record Code T1 in defining trunk groups.

Columns 14-28 are only used if toll restriction is in effect. If the trunk group does not have toll restriction, dash columns 14-28. Figures containing flowcharts and examples for toll restriction configurations are included at the end of this record code. Programming information is as follows:

- A flowchart (Figure 10.2B) is included to explain toll restriction. The flowchart assumes that a station classed as toll restricted has dialed the trunk group access code. When toll restriction is placed on a trunk group, the flowchart explains the checkpoints that the system uses to determine the type of toll restriction that is to be used.

- Figures 10.2C and 10.2D explain three-digit and six-digit analysis as applied to the system.

- Figures 10.2E and 10.2F show a cross-section of the columns on Record Code T2 that apply to toll and code restriction. The three types of toll and code restriction are categorized and shown in examples.

- Figure 10.2G is a flowchart that shows how to fill out the various record codes that can be used for toll and code restriction. These record codes are T2, CR, EC, AS, and DA. It is recommended to read the flowchart before completing these record codes.

					INDEX	T5661		T5671			T5681			T5761	T5771	T5601	T5591	T5791	T5801	T5811	T5821	T5661	T5751	T6541	T5751

FORM | SEQ NO | RECORD CODE | TRK GRP NUMBER | TRK TOLL RESTN | TOLL ACS CODE IND | TOLL ACCESS CODE DIGITS | SEC TOLL ACS CODE INDICATOR | SEC TOLL ACS CODE DIGITS | CODE RESTN TBL NO | EXPAND/CONFLICT TBL | 1+ RESTN TBL NO | PAD CLS | MERS | BLOCK XMSN | IGNORE REV BAT CHK | MSG METER PEG IND | MSG METER PEG ANS | TRK CALLQUEING | RMT ACS/AUTH CODE

MERS sub-columns: ESCAPE DIG | PULSE SEIZURE | VALUE ESCAPE | TL BARRIER

PAD CLS: 2 WAY | 3 WAY

TOLL ACCESS CODE DIGITS: 1 | 2 | 3
SEC TOLL ACS CODE DIGITS: 1 | 2 | 3

| 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 1 | 1 | 0 | 0 | T | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

T5831		T5841	T6341	T5771				TRANS CODE'

TRK MOMENTARILY | OPEN OUTGO | TRK MONETARY | OPEN INCOMING | OUTPULSE DELAY | ATTD RCL NO ANS | FRL AUTH CD REQ TCM | MERS QUEUE ALLOW | TRANS CODE'

| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 80 |

Figure 10.2A   Record Code T2: Trunk Group Data 2 Data Sheet

Table 10.2   Entry Fields for Record Code T2

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Trunk Group Number	00-63 = number	This field determines the trunk group number. -If Record Code T1, columns 14-16, are marked DIC, PAG, REC, or NIC, columns 14-40 and 45-46 must be dashed. -Each trunk group number on this record code must appear on Record Code T1, columns 12-13. -Trunk group numbers must be unique across this record code.
14-15	Trunk Toll Restriction	**TL** = simple toll restriction (three-digit analysis) **ET** = expanded toll toll restriction (six-digit analysis) -- = N/A	Assign the type of toll restriction placed on a trunk group. -TL is used for trunk groups required to analyze the NPA dialed. -ET is used for trunk groups required to analyze the ABCs of the NPA dialed. -If this field is marked ET, column 27 must have an entry. -If this field is marked TL, column 26 must have an entry and columns 27-28 must be dashed. -If this field is marked --, columns 16-28 must be dashed. -If a station has a displayable COS that allows toll access, the call will bypass the toll restriction placed on the trunk group. -Toll access is assigned to stations on Record Code DD, columns 14-15, by marking the columns TA.
16-17	Toll Access Code Digits: Code Indicator	NM = number allowed **OP** = operator permitted NR = number restricted OR = operator restricted -- = allowed	Fields in columns 16-25 determine the access codes allowed to the toll restricted trunk group. The access codes determined by these fields are 1 + , 0 + or 0 - . An access code of 1 + is normally used to access toll trunks. In an NPA with conflicting codes, 1 + is always dialed. An access code of 0 + is used to make an operator assisted toll call. An access code of 0- is used to make a credit card call (or a call that is dialed after the digit 0 is dialed). -Columns 16-20 determine whether or not 1 + dialing is allowed. -Columns 21-25 determine whether or not 0+ or 0- dialing is allowed.

Table 10.2   Entry Fields for Record Code T2 (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
16-17 cont'd.	Toll Access Code Digits: Code Indicator	NM = number allowed OP = operator permitted NR = number restricted OR = operator restricted -- = allowed	-If toll restriction is in effect, for normal applications this field will only be marked NM or NR. -If this field is dashed, columns 18-20 and 23-25 must be dashed. -If this field is not dashed, columns 18-20 and 23-25 must be marked 0-- to 999.
18-20	Toll Access Code Digits: 1, 2, or 3	0-9 = number - = N/A	This field determines the one-, two-, or three-digit toll access or operator code required for the trunk group. -For normal applications, column 18 is marked 1 and columns 19-20 are dashed. -Columns 18-20 determine the digit while columns 16-17 determine whether or not the system allows access to that digit. -If digit 1 is dashed, then digits 2 and 3 must also be dashed.
21-22	Second Toll Access: Code Indicator	NM = number allowed OP = operator permitted NR = number restricted OR = operator restricted - = allowed	-Columns 21-25 are normally used to determine whether 0 + or 0- dialing is allowed. -If toll restriction is in effect, for normal applications this field will only be marked OP or OR. NOTE: The entry for the toll access code and the second toll access code cannot be the same.
23-25	Second Toll Access Code Digits 1, 2, or 3	0-9 = number - = N/A	This field determines the one-, two-, or three-digit toll access or operator code required for the trunk group. -For normal applications, column 18 is marked 1 and columns 19-20 are dashed. -Columns 18-20 determine the digit while columns 16-17 determine whether or not the system allows access to that digit. -If digit 1 is dashed, then digits 2 and 3 must also be dashed.

Table 10.2   Entry Fields for Record Code T2 (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
26	Code Restriction Table Number	**1-8** = number **-** = N/A	This field determines the code restriction table number used by the trunk group. -This field points to Record Code CR, column 12. Column 12 is a table number for the allowed NPA/ABC of that table. -If an entry is made in this column, Record Code CR must be completed.
27	Expanded or Conflicting Table Number	**1-8** = number **-** = N/A	This field determines the expanded or conflicting table number used for the trunk group. -This field points to Record Code EC, column 12. Column 12 is a table number for the allowed NPA(s) of that table. -If an entry is made in this column, Record Codes CR and EC must be completed.
28	1+ Code Restriction Table Number	**1-8** = number **-** = N/A	Assign the code restriction table number used by the trunk group. -This number is used when conflicting NPA and ABC codes exist. -If an entry is made in this column, Record Code CR must be completed.
29	Pad Class (two-way)	**1-9** = number or **-** = N/A	Assign pad two-way trunk application for a trunk group. -This is used to put additional dB pads (decimal level) on a trunk. This is used for volume control. -Two-way pertains to a two-way connection. **1** = FX **2** = PABWCO or PABX/CRL trunks 3 = non-tandem PABX Tie trunks (This is used in a tandem network, allowing the PABX to access CO trunks from a remote PABX, but not access Tie trunks that connect the remote PABX to other PABXs in the network. **4** = satellite Tie trunks (This PABX only has Tie trunks that connect it to a main switch. Other trunks are accessed at the main switch.) 5 = inter-tandem PABX Tie trunks (This is used in a tandem network, allowing incoming PABX trunks to access CO lines, but not access Tie lines to network PABXs.)

Table 10.2   Entry Fields for Record Code T2 (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
29 cont'd.	Pad Class (two-way)	1-9 = number or - = N/A	6 = tandem PABX Tie trunks (This is used in a tandem network, allowing incoming PABX trunks to access CO lines as well as Tie trunks to other PABXs.) 7 = class 4 WATS trunks (normally a small CO with limited capabilities) 8 = class 5 WATS trunks (This type of CO can provide toll switching.) 9 = conference port - = dictation access, recorder announcer access, paging access, or N/A
30	Pad Class (three-way)	2 4 = number or - = N/A	Assign the two-way trunk pad application assigned for a trunk group. This field is used to put additional dB pads (decimal level) on a trunk for volume control. Three-way pertains to a three-way connection. 2 = FX trunks, PABX/CO or PABX/CLR trunks, class 5 WATS trunks 4 = non-tandem PABX Tie trunks, satellite Tie trunks, inter-tandem PABX Tie trunks, tandem PABX Tie trunks, class 4 WATS trunks - = dictation access, recorder announcer access, paging access, or N/A.
31	MERS Escape Digit	0-9 = digit - = N/A	Assign the code used (number dialed) to access off-network facilities after placing an on-network MERS call. **NOTE:** If an entry is made in this field, Record Code SI, columns 19 and 23, may require entries.
32	MERS Pause Value/Seizure	I-5 = seconds - = N/A	After a trunk is seized, this field determines the amount of seconds the system waits before sending the first digit. -This is the pause applied after the escape digit and allows a second dial tone on the homing switch. **NOTE:** If an entry is made in this field, Record Code SI, column 18, may require an entry.

Table 10.2   Entry Fields for Record Code T2 (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
33	MERS Pause Value/Escape	I-5 = seconds - = N/A	After the escape digit is sent, this field determines the amount of seconds the system waits before sending the next digits. -Normally this field is only used for applications involving an older CO. It provides a pause after the first digit is dialed. **NOTE:** If an entry is made in this field, Record Code SI, columns 19 and 23, may require entries.
34	MERS Pause Value/Toll Barrier Code	1-5 = seconds ▪ = N/A	After the toll barrier code is sent (type 1 + or 0 +), this field determines the amount of seconds the system waits before sending the next digit. **NOTE:** If an entry is made in this field, Record Code SI, column 20, must be marked B.
35	Block Transmission	Y = blocked N = not blocked	Enter Y if blocked transmission is to be applied during outpulsing before dialing is completed. -This is used in applications where a DTMF station accesses a trunk group with outgoing DP signaling and is then fed to a CO that has combined DP and DTMF receivers. -It is recommended to apply block transmission to systems with IFPs on Tie trunks. -If block transmission is required and not performed, the result is a transmission of double digits.
36	Ignore Reverse Battery Check	I = ignore battery check ▪ = perform battery check	Enter Y if the reverse battery check is ignored by the system that acknowledges disconnect supervision. -An area serviced by a Bell CO should be marked I. If an FGBS pay phone is used, it is recommended to dash this field. -If ignore battery check is required and not performed, the system will see it as a disconnect.
37	Message Meter Pegs Indicator	Y = allowed ▪ = not allowed	Enter Y if the message meter pegs indicator for calls terminating to a trunk group is used. -This field is only used for motel applications that use the message meter pegs feature on the KEDU.

Table 10.2 Entry Fields for Record Code T2 (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
38	Message Meter Pegs on Answer	Y = allowed - = not allowed	Enter Y if the message meter pegs on answer for calls terminating to a trunk group is used. -This field is only used for motel applications that use the message meter pegs feature on the KEDU.
39	Trunk Call Queuing	Y = allowed - = not allowed	Enter Y if trunk call queuing is allowed. -It is recommended to activate this field if no alternate trunk group is allowed. -If Record Code T1, columns 14-16, are marked CAS, this field must be dashed.
40	Remote Access and Authorization Code	R = remote access A = authorization code requested with remote access - = not allowed	Enter R if the remote access trunk group feature is allowed for 24-hour a day service on this trunk group. Enter A if an authorization code is needed to access the remote access trunk group feature on this trunk group.
41-42	Trunk Momentarily Open Outgoing	03-15 = time in hundreds of milliseconds	This field determines the maximum time allowed for a loop to remain open on an outgoing trunk before the call is dropped. -It is recommended to enter 03 in this field.
43-44	Trunk Momentarily Open Incoming	02-I 5 = time in hundreds of milliseconds	This field determines the maximum time for a loop to remain open on an incoming trunk call before the call is dropped.
45-46	Outpulsing Delay	02-I 5 = time in 100 ms intervals or 10 = suggested value	Assign the time the system waits before beginning to send digits on an outgoing trunk.
47	Attendant Recall After No Answer Timeout	T = allowed N = not allowed	Enter T if trunk calls recall to the attendant after the no answer timeout parameter is reached. -This timing parameter is set on Record Code OT, columns 45-47.

Table 10.2   Entry Fields for Record Code T2 (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
48	Facility Restriction Level Authorization Code Request When Traveling Class Mark Has Been Received	**T** = allow request N = disallow request	Enter T if this trunk group requests an authorization code even if a TCM (Traveling, Class Mark) digit is received.
49	MERS Queue Allow	**T** = allowed MERS queuing N = disallowed MERS queuing	Enter T if MERS queuing is allowed for the trunk group. **NOTE:** When this feature is activated, the queuing begins with the first MERS route allowed for the NPA/ABC dialed and continues to the other routes.

Figure 10.28 Trunk Group Toll Restriction Flowchart

Figure 10.2B   Trunk Group Toll Restriction Flowchart (Continued)

Figure 10.2C Three-Digit Analysis

Figure 10.2D Six-Digit Analysis

	TRUNK TOLL RESTRIC-TION		TOLL ACCESS				2ND TOLL ACCESS				CODE RESTRIC-TION TABLE	EXPANDED OR CONFLICT-ING TABLE	1 + RESTRIC-TION TABLE
			CODE INDI-CATOR		CODE DIGITS 1 2 3		CODE INDI-CATOR		CODE DIGITS 1 2 3				
1 SIMPLE TOLL BLOCKING	14	15	16	17	18	19 20	21	22	23	24 25	26	27	28
A. BLOCK 0 ± AND 1 +	T	L	N	R	I	- -	O	R	O	- -	-	-	-
B. BLOCK 0 ± AND ALLOW 1 +	T	L	-	-	I	- -	O	R	O	- -	-	-	-
C. ALLOW 0 ± AND BLOCK 1 +	T	L	N	R	I	- -	O	P	O	- -	-	-	-
2 EXPANDED TOLL RESTRICTION (3-DIGIT ANALYSIS)													
A. BLOCK 0 ± AND ALLOW 1 +	E	T	N	M	I	- -	O	R	O	- -	X	-	-
B. ALLOW 0 + AND BLOCK 1 + AND 0 –	E	T	N	R	I	- -	N	M	O	- -	X	-	-
C. BLOCK 0 ± AND ALLOW 1 + FOR LOCAL CALLS	E	T	N	M	I	- -	O	R	O	- -	X	-	-
X = ANY NUMBER 1 - 4													
3 EXPANDED CODE RESTRICTION (3-DIGIT ANALYSIS)													
BLOCK 0 ± AND 1 +	E	T	N	R	I	- -	O	R	O	- -	X	-	-
X = ANY NUMBER 1 - 4													
4 EXPANDED CODE RESTRICTION (6-DIGIT ANALYSIS)													
A. BLOCK 0 ± AND ALLOW 1 +	E	T	N	M	I	- -	O	R	O	- -	X	-	X
B. ALLOW 0 + AND BLOCK 1 + AND 0 –	E	T	N	R	I	- -	N	M	O	- -	X	-	X
C. BLOCK 0 ± AND ALLOW 1 + (FOR CONFLICTING CODES)	E	T	N	M	I	- -	O	R	O	- -	X	X	X
D. ALLOW 0 + AND BLOCK 1 + AND 0 – (FOR CONFLICTING CODES)	E	T	N	R	I	- -	N	M	O	- -	X	X	X

NOTE: THESE EXAMPLES ARE JUST A FEW OF THE POSSIBLE COMBINATIONS.

1   SIMPLE TOLL BLOCKING

A. BLOCKS 0 ± AND 1 + , ALLOWS ALL LOCAL CALLS

B BLOCKS 0 ± , ALLOWS 1 + AND ALL LOCAL CALLS

C. BLOCKS 1 + , ALLOWS 0 + AND ALL LOCAL CALLS

Figure 10.2E   Samples of Toll Restriction for Areas with Toll Access Codes (1 + Most Common) and 0+ Dialing

2	EXPANDED TOLL RESTRICTION (3-DIGIT ANALYSIS)
	A. RESTRICTION DIVIDED AS FOLLOWS: (1) BLOCKS 0 ± (2) ALLOWS 1+ ACCESS TO SPECIFIC NPA CODES pt" THE CODE RESTRICTION TABLE. (3) ALLOWS ACCESS EITHER TO ALL OR ONLY SPECIFIC LOCAL ABC CODES PER THE CODE RESTRICTION TABLE.
	a. RESTRICTION DIVIDED AS FOLLOWS: (1) BLOCKS 1+ A N D 0 (2) ALLOWS 0 + ACCESS TO SPECIFIC NPA CODES PLR THE CODE RESTRICTION TABLE. (3) ALLOWS ACCESS EITHER TO ALL OR ONLY SPECIFIC LOCAL ABC CODES PER THE CODE RESTRICTION TABLE.
	c. RESTRICTION DIVIDED AS FOLLOWS: (1) BLOCKS 0 ± AND 1 + NPA. (2) ALLOWS 1 + FOR LOCAL ABC CODES PER THE CODE RESTRICTION TABLE.
3	EXPANDED CODE RESTRICTION (3-DIGIT ANALYSIS)
	RESTRICTION DIVIDED AS FOLLOWS (1) BLOCKS 0 ± AND 1 + (2) ALLOWS ACCESS ONLY TO SPECIFIC LOCAL ABC CODES PER THE CODE RESTRICTION TABLE.
4	EXPANDED CODE RESTRICTION (6-DIGIT ANALYSIS)
	A. RESTRICTION DIVIDED AS FOLLOWS: (1) BLOCKS 0 ± (2) ALLOWS 1+ ACCESS OF CERTAIN NPA CODES FOR TERMINATION TO SPECIFIC ABC CODES PER THE EXPANDED 0" CONFLICTING TABLE. * (3) ALLOWS ACCESS TO THE FOLLOWING PER THE CODE RESTRICTION TABLE: (a) 1 + ACCESS OF SPECIFIC NPA CODES. (b) ACCESS OF SPECIFIC LOCAL ABC CODES.
	a. RESTRICTION DIVIDED AS FOLLOWS. (1) BLOCKS 1 + AND 0 - (2) ALLOWS 0 + ACCESS OF CERTAIN NPA CODES FOR TERMINATION TO SPECIFIC ABC CODES PER THE EXPANDED 0" CONFLICTING TABLE. * (3) ALLOWS ACCESS TO THE FOLLOWING PER THE CODE RESTRICTION TABLE: (a) 0 + ACCESS OF SPECIFIC NPA CODES (b) ACCESS OF SPECIFIC LOCAl. ABC CODLS
	C. RESTRICTION DIVIDED AS FOLLOWS (1) BLOCKS 0 ± (2) ALLOWS 1+ ACCESS OF CERTAIN NPA CODES (THAT CONFLICT WITH LOCAL Aac CODES) FOR TERMINATION TO SPECIFIC Aac CODES PER THE 1 + RESTRICTION TABLE * (3) ALLOWS ACCESS TO THE FOLLOWING PER THE CODE RESTRICTION TABLE: (a) 1 + ACCESS OF SPECIFIC NPA CODES (b) ACCESS OF SPECIFIC LOCAL ABC CODES
	D. RESTRICTION DIVIDED AS FOLLOWS' (1) BLOCKS 1 + AND 0 -- (2) ALLOWS 0 + ACCESS OF CERTAIN NPA CODES (THAT CONFLICT WITH LOCAL ABC CODES) FOR TERMINATION TO SPECIFIC ABC CODES PER THE 1+ RESTRICTION TABLE * (3) ALLOWS ACCESS TO THC FOLLOWING PER THE CODE RESTRICTION TABLE: (a) 0 + ACCESS OF SPECIFIC NPA CODES (b) ACCESS OF SPECIFIC LOCAL ABC CODES
	NOTE: * THE ABC CODE5 THAT ARE LINKED TO THE NPA CODES ARE PLACED IN ANOTHER CODE RESTRICTION TABLE ON RECORD CODE CR.

Figure 4 0.2E   Samples of Toll Restriction for Areas With Toll Access Codes (1 + Most Common) and 0+ Dialing (Continued)

	TRUNK TOLL RESTRICTION	TOLL ACCESS		2ND TOLL ACCESS		CODE RESTRICTION TABLE	EXPANDED OR CONFLICTING TABLE	1 + RESTRICTION TABLE
		CODE INDICATOR	CODE DIGITS 1 2 3	CODE INDICATOR	CODE DIGITS 1 2 3			
1 SIMPLE TOLL BLOCKING	14 15	16 17	18 19 20	21 22	23 24 25	26	27	28
BLOCK 0 ±	T L	0 R	0 -		- - -	-	-	- -
2 EXPANDED TOLL RESTRICTION (3-DIGIT ANALYSIS)								
A. BLOCK 0 - AND ALLOW 0 +	E T	N M	0 . .	. .	- - -	X	-	-
B. ALLOW 0 ± -	E T	O P	0 . .		- - -	X	-	-
(= ANY NUMBER 1 - 4								
3 EXPANDED CODE RESTRICTION (3-DIGIT ANALYSIS)								
BLOCK 0 ±	E T	O R	0 - -	. .	. . .	X		
(= ANY NUMBER I-4								
4 EXPANDED CODE RESTRICTION (6-DIGIT ANALYSIS)								
BLOCK 0 ±	E T	O R	0 - -	. .	. . .	X	X	
(= ANY NUMBER I-4								

NOTE: THESE EXAMPLES ARE JUST A FEW OF THE POSSIBLE COMBINATIONS.

1 SIMPLE TOLL BLOCKING

BLOCK 0 ± AND FOREIGN NPA CALLS, ALLOWS ALL LOCAL.

2 EXPANDED TOLL RESTRICTION (3-DIGIT ANALYSIS)

A. RESTRICTION DIVIDED AS FOLLOWS:

(1) BLOCKS 0 - .

(2) ALLOWS 0 + CALLS TO NPA OR LOCAL ABC CODES PROGRAMMED IN THE CODE RESTRICTION TABLE.

(3) BLOCKS ANY DIALED NPA OR LOCAL ABC CODES NOT PROGRAMMED IN CODE RESTRICTION TABLE

B. RESTRICTION DIVIDED AS FOLLOWS:

(1) ALLOWS 0 ±

(2) BLOCKS ANY DIALED NPA OR LOCAL ABC CODES NOT PROGRAMMED IN CODE RESTRICTION TABLE

3 EXPANDED CODE RESTRICTION (3-DIGIT ANALYSIS)

RESTRICTION DIVIDED AS FOLLOWS:

(1) BLOCKS 0 ±

(2) ALLOWS ANY DIALED NPA OR LOCAL ABC CODES PROGRAMMED IN CODE RESTRICTION TABLE

4 EXPANDED CODE RESTRICTION (6-DIGIT ANALYSIS)

A. RESTRICTION DIVIDED AS FOLLOWS:

(1) BLOCKS 0 ±

(2) ALLOWS ACCESS OF CERTAIN NPA CODES FOR TERMINATION TO SPECIFIC ABC CODES PER THE EXPANDED OR CONFLICTING TABLE.'

(3) ALLOWS ACCESS TO THE FOLLOWING PER THE CODE RESTRICTION TABLE:

(a) ACCESS OF SPECIFIC NPA CODES.

(b) ACCESS OF SPECIFIC LOCAL ABC CODES.

YOTE: . THE ABC CODES THAT ARE LINKED TO THE NPA CODES ARE PLACED IN ANOTHER CODE RESTRICTION TABLE ON RECORD CODE CR.

Figure 10.2F   Samples of Toll Restriction for Areas with 0 + Dialing Alone

Figure 10.2G   Toll Restriction Flowchart

RECORD CODE T2 (COLUMN 26) MUST BE MARKED WITH THE CODE RESTRICTION TABLE NO. (ASSIGNED ON RECORD CODE CR) CHOSEN FOR THIS TRUNK GROUP.

RECORD CODE T2 (COLUMN 27) MUST BE MARKED WITH THE EXPANDED OR CONFLICTING CODE TABLE NO. (ASSIGNED ON RECORD CODE EC) CHOSEN FOR THIS TRUNK GROUP.

RECORD CODE T2 (COLUMN 28) MUST BE MARKED WITH THE 1+ RESTRICTION CODE TABLE NO. (ASSIGNED ON RECORD CODE EC) CHOSEN FOR THIS TRUNK GROUP.

RECORD CODE CR (COLUMN 12) MUST BE MARKED WITH THE CODE RESTRICTION TABLE NO. CHOSEN FOR THIS TRUNK GROUP.

RECORD CODE CR (COLUMNS 13-72) THE CODE RESTRICTION TABLE FOR THIS TRUNK GROUP MUST BE ENTERED WITH THE ALLOWED NONCONFLICTING NPA AND/OR ABC CODES.

RECORD CODE EC (COLUMN 12) MUST BE MARKED WITH THE EXPANDED OR CONFLICTING CODE TABLE NO. CHOSEN FOR THIS TRUNK GROUP.

RECORD CODE EC (COLUMNS 13-15, 18-20, 23-25, AND 28-30) MUST BE ENTERED WITH THE CONFLICTING NPA CODES.

RECORD CODE EC (COLUMNS 16, 21, 26 and 31) MUST BE MARKED WITH THE 1+ RESTRICTION CODE TABLE NO. (TO BE ASSIGNED ON RECORD CODE CR) THAT IS ASSOCIATED WITH THE CONFLICTING NPA CODES ASSIGNED IN COLUMNS 12-15, 18-20, 23-26, AND 28-30.

RECORD CODE CR (COLUMN 12) MUST BE MARKED WITH 1+ RESTRICTION CODE TABLE NO. CHOSEN FOR THIS TRUNK GROUP.

RECORD CODE CR (COLUMNS 13-72) THE 1+ RESTRICTION CODE TABLE FOR THIS TRUNK GROUP MUST BE ENTERED WITH THE ABC CODES THAT THE CONFLICTING NPA'S ASSIGNED IN RECORD CODE EC ARE ALLOWED TO ACCESS.

RECORD CODE T2 (COLUMNS 26) MUST BE MARKED WITH THE CODE RESTRICTION TABLE NO. (ASSIGNED ON RECORD CODE CR) CHOSEN FOR THIS TRUNK GROUP.

RECORD CODE CR (COLUMN 12) MUST BE MARKED WITH THE CODE RESTRICTION TABLE NO. CHOSEN FOR THIS TRUNK GROUP.

RECORD CODE CR (COLUMNS 13-72) THE CODE RESTRICTION TABLE FOR THIS TRUNK GROUP MUST BE ENTERED WITH THE ALLOWED NPA AND/OR ABC CODES.

RECORD CODE T2 (COLUMN 26) MUST BE MARKED WITH THE CODE RESTRICTION TABLE NO. (ASSIGNED ON RECORD CODE CR) CHOSEN FOR THIS TRUNK GROUP.

RECORD CODE T2 (COLUMN 27) MUST BE MARKED WITH THE EXPANDED OR CONFLICTING CODE TABLE NO. (ASSIGNED ON RECORD CODE EC) CHOSEN FOR THIS TRUNK GROUP.

RECORD CODE CR (COLUMN 12) MUST BE MARKED WITH THE CODE RESTRICTION TABLE NO. CHOSEN FOR THIS TRUNK GROUP.

RECORD CODE CR (COLUMNS 13-72) THE CODE RESTRICTION TABLE FOR THIS TRUNK GROUP MUST BE ENTERED WITH THE NPA CODES THAT DO NOT REQUIRE 6-DIGIT ANALYSIS AND/OR THE ALLOWED ABC CODES.

RECORD CODE EC (COLUMN 12) MUST BE MARKED WITH THE EXPANDED OR CONFLICTING CODE TABLE NO. CHOSEN FOR THIS TRUNK GROUP.

RECORD CODE EC (COLUMNS 13-15, 18-20, 23-25, AND 28-30) MUST BE MARKED WITH THE NPA CODES THAT REQUIRE 6-DIGIT ANALYSIS.

RECORD CODE EC (COLUMNS 17, 22, 27, and 32) MUST BE MARKED WITH THE EXPANDED CODE RESTRICTION TABLE NO. (TO BE ASSIGNED ON RECORD CODE CR) THAT IS ASSOCIATED WITH THE NPAS REQUIRING 6 DIGIT ANALYSIS.

RECORD CODE CR (COLUMN 12) MUST BE MARKED WITH THE EXPANDED CODE RESTRICTION TABLE NO. CHOSEN FOR THIS TRUNK GROUP.

RECORD CODE CR (COLUMNS 13-72) THE EXPANDED CODE RESTRICTION TABLE FOR THIS TRUNK GROUP MUST BE ENTERED WITH THE ABC CODES THAT THE NPA's ASSIGNED IN RECORD CODE EC ARE ALLOWED TO ACCESS.

END

Figure 10.2G   Toll Restriction Flowchart (Continued)

**Record Code CR:
Code Restriction
Numbers**

10.3 Record Code CR, Figure 40.3, gives toll restricted stations limited DDD (Direct Distance Dialing) access. A maximum of eight code restriction tables are provided in the system's data base. Each code restriction table can contain up to 1,000 NPA/ABC codes.

For normal applications, one code restriction table is all that is required, and it is assigned to all applicable trunk groups. This table includes all the allowed ABC codes of the HNPA (Home Numbering Plan Area) and all the FNPA (Foreign Numbering Plan Area) codes. Toll restriction stations accessing a trunk group assigned to this table are allowed to make calls to the NPAs/ABCs that are listed.

NOTE: When a code restriction table is assigned to a trunk group, normal toll restriction checks are expanded. The system allows only toll restricted stations accessing the trunk group to complete calls to codes entered in this table. These can be assigned per trunk group.

If greater flexibility is needed, up to eight tables can be defined with NPA /ABC codes. These tables can be assigned to different trunk groups. Toll restricted stations can be assigned to access only certain trunk groups. Since these trunk groups are only allowed to access certain NPAs/ABCs, the stations are restricted from calling unlisted NPAs/ABCs.

If six-digit analysis is needed for any NPA(s), Record Code EC must also be completed. Six-digit analysis is required for the following reasons:

● An NPA has ABC(s) that are conflicting codes. That is, the ABC has a 0 or 1 as the middle (B) digit.

● Cross boundary dialing is in effect (e.g., calls to certain ABCs within an NPA other than the HNPA are dialed/billed as local calls).

● Certain ABC(s) within the NPA will be treated in a different manner than other ABCs. That is, they will be routed differently because some ABCs are local calls while others are toll calls (e.g., an FX line or toll ABCs for the HNPA).

Figure 10.3 Record Code CR: Code Restriction Numbers Data Sheet

Table 10.3 Entry Fields for Record Code CR

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	**Code** Restriction Table	I-8 = number	This field determines the table number assigned to the allowable codes listed in columns 13-72. -This number is used by the system for identification purposes. -A code restriction table with no codes allowed is programmed by entering the code restriction table number in column 12 and dashes for the first entry in columns 13-15.
13-72	Allowable Three-Digit Numbering Plan Area/ABC Code Numbers	000-999 = NPA/ABC number - = range marker , = end of range marker	This field determines the allowable three-digit code numbers (NPA/ABC) that can be assigned for the possible eight different code restriction tables. -Commas are entered between individual NPA/ABC codes (e.g., 220,474). -Dashes are entered to indicate a series of codes (e.g., 220-229). -Column 72 can only contain a comma. -When a code restriction table is assigned in column 12, the codes are entered in sequence going from left to right across the page.

Record Code EC:
Expanded or
Conflicting Code
Check Tables

10.4 Record Code EC, Figure 10.4, is used in conjunction with expanded code restriction capabilities. This record code must be set up along with Record Code CR. Expanded code restriction is used to allow access to certain ABC codes within an NPA or for an NPA that has conflicting ABC codes. An ABC code is a conflicting code if it has a 0 or 1 as the middle digit (e.g., ABC = 212). 212 is an NPA in New York. A 0 or 1 as the middle digit is only applied to NPAs. However, some NPAs have more ABCs than they have numbers to accommodate. In these NPA areas, the ABCs are allowed a 0 or 1 as the middle digit, thereby causing a conflict between the ABC and NPA codes.

Figure 10.4 Record Code EC: Expanded or Conflicting Code Check Tables Data Sheet

Table 10.4   Entry Fields for Record Code EC

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	Table Number	1-8 = number	This field defines the table number of the expanded or conflicting code or codes that are allowed in the system. The table number is used by the system for identification purposes. -This number must be defined on Record Code CR, column 12. -The table number must be unique across this record code.
13-15, 18-20, 23-25, and 28-30	Expanded or Conflicting Code Numbers I-8	000-999 = N PA number - = N/A	Enter the NPA requiring expanded toll restriction. -The NPA codes must be unique on a per table (one EC form) basis. -This field can only contain an NPA.
16, 21, 26, and 31	1 + Restriction Code Table	1-8 = table number - = N/A	This field determines whether or not the NPA listed in preceding columns has conflicting codes. -This field points to Record Code CR, column 12, where the allowed ABCs for the NPA requiring six-digit analysis are listed. -For normal applications, either the 1 + restriction code table or the restriction code table will have an entry, not both. There are, however, applications that require an entry in both of these fields (e.g., conflicting codes in an NPA with cross boundary dialing). -If this application exists, fields for 1 + restriction (16, 21, 26, and/or 31) define the NPA with conflicting codes, and fields 17, 22, 27, and/or 32 point to Record Code CR for the ABC listing.
17, 22, 27, and 32	Restriction Code Table	1-8 = table number - = N/A	This field points to Record Code CR, column 12, where the allowed ABCs for the NPA requiring six-digit analysis are listed. -1 + restriction code tables and restriction code tables for normal applications are mutually exclusive; however, an entry can be made in each of these fields when required.

**Record Code AS:
Allowable Service Codes**

10.5 Record Code AS, Figure 10.5, defines the service codes such as 411, 611, and 911, that the system is allowed to dial. This record code is used in conjunction with the toll restriction feature and is applied on a trunk-group by trunk-group basis. If service codes are accessed through MERS, Record Code ST must be used.

Figure 10.5   Record Code AS: Allowable Service Codes Data Sheet

Table 10.5   Entry Fields for Record Code **AS**

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Trunk Group Number	00-63 = trunk group	This field determines the trunk groups allowed to access the service codes listed in columns 17-32. -The trunk group listed must be defined on Record Code T1, column 12-l 3. -Each trunk group number defined in columns 12-l 3 must be unique.
14-16	Service Code Prefixing	NON = no prefixing required N1 1 = format prefixed 11 N = format prefixed BTH = both formats prefixed	Assign the service code prefixing method applied to a toll access code (1 + etc.) dialed before a service code number.
17-24	Valid Service Code Values of N Allowable 11 N codes 2-9	Y = allowed ▪ = not allowed	This field determines the allowed dialed digits that follow the digits 11 (e.g., if 112, 113, and 114 are allowed, enter a Y in fields 17, 18, and 19). -The 11 N format is seldom found in use today.
25-32	Valid Service Code Values of N Allowable N11 codes 2-9	Y = allowed ▪ = not allowed	This field determines the allowed leading digits that precede the digits 11 (e.g., if 411, 611, and 911 are allowed, enter a Y in fields 27, 29, and 32).

Record Code TC: Trunk Circuit

10.6 Record Code TC, Figure 10.6, defines the trunk circuit data required and its related assignment. Dictation/paging, recorder announcer, and NIC (Network Interface Card) circuits require an entry in columns 12-28. All other columns for these cards must contain dashes except when recorder announcer access is required.

Figure 10.6   Record Code TC: Trunk Circuit Data Sheet

Table 10.6   Entry Fields for Record Code TC

CCL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Trunk Group Number	00-63 = trunk group number	This number must be a trunk group defined on Record Code T1, columns 12-I 3.
14-I 6	Member Number	000-063 = trunk group member number	This'field determines the outgoing order of the trunks. -The member numbers for each trunk group must be in sequential order beginning with member zero. -No gaps or duplications are allowed in the number order.
17	PEC	0 = PEC number	Enter PEC 0. -This card must be defined on Record Code FR and must be valid for that trunk type. -Each location for a trunk must be unique.
18	Group	A-D = group number	Which group (A, B, C, or D) within PEC 0 is this card?
19-20	Card Slot	00-11 = slot number	Which card slot within the group is this card?
21	Circuit Number	O-3 = assigned circuit number	Which circuit on the card is being used? -There must be at least one trunk circuit defined for each trunk group. -If the trunk group is defined on Record Code T1, columns 14-1 6, as DIC, only circuit position 0 or 1 can be used. -If the trunk group is defined on Record Code T1, columns 14-16, as PAG, only circuit position 2 can be used. -Circuits on the PADIC (Public Address and Dictation) card are assigned as required. This is a wiring option only; no software is needed. The circuits on the dictation/paging card are assigned as follows: circuit 0 dictation, circuit 1 dictation, circuit 2 paging. **-CAUTION: T1 span cards are programmed in universal card slots in the CPG and not in Recent Change, but they are not physically mounted in these slots.** **-The T1 cards must be mounted in the PEC files in dedicated card slots as indicated on the file designation strip.**

Table 10.6   Entry Fields for Record Code TC (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
22-23	Equipped Trunk Status	**IS** = in service **OS** = out of service	Is the card in service or out of service?
24-26	Trunk Number	**000-063** = number	This field determines the trunk circuit number. -Each trunk must have a unique number.
27-28	Trunk Type	GS = ground start **LP** = loop start (dictation/ paging) **EM** = E&M (Tie and recorder announcer) **LD** = loop dial, DID, DOD, or Tie	Assign the trunk type associated with the trunk. -If this field is marked EM, then Record Code FR, columns 16-19, must be marked EMT or EMT4. -If this field is marked GS or LD, then Record Code FR, columns 16-19, must be marked COT. -If this field is marked LD, then Record Code FR, columns 16-19, must be defined as ILT. -If this field is marked LP, the trunk must be defined on Record Code FR as a PDIC or as any E&M trunk. -If the trunk is defined on Record Code T1, columns 14-16, as DIC or PAG, this field must be marked LP. -If the trunk is defined on Record Code T1, columns 14-16, as REC, this field must be marked EM.
29-30	Incoming Signal	**WS** = wink start **DD** = delay dialing (Tie) **FA** = fast access **--** = N/A	This field determines the incoming start dial method used for the incoming trunk requirements in a trunk group. -Fast access is used by dial trunk groups from non-delay dial offices or systems. -WS is normally used for E&M, CCSA, or DID trunks that are sent from a stepper CO. - (--) will normally apply to DOD, ground, and loop start trunks. -FA is sometimes used by DID trunks. -If FA is marked, the trunk must be marked IN in columns 21-22 on Record Code T1. -If the trunk is defined on Record Code T1, columns 14-16, as DIC, PAG, or REC, this field must be dashed. -If this field is marked FA, then Record Code T1, columns 23-24, can only be dashed or marked DP.

Table 10.6   Entry Fields for Record Code TC (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
31-32	Outgoing Signal	ID = immediate dial (DOD) WS = wink start DD = delay dialing SO = seize out -- = N/A	This field determines the outgoing start dial **signal method** used for outgoing trunk requirements. -WS is used for Tie trunks that have supervision. -DD is used for Tie trunks that do not have supervision. -SO is used for E&M and CO line trunks. -SO must be marked if the trunk is used as a CO line. - (--) is used for DID, ground, or loop start trunks. -If the trunk group is defined on Record Code T1, columns 14-l 6, as DIC, PAG, or REC, this field must be dashed. -If this field is marked ID or SO, then Record Code T1, column 25, must be marked Y to return dial tone.
33-34	CO Trunk Group Number	**lO-99 = the CO trunk group lumber assigned o a system trunk group for AIOD** -- = N/A	Assign the CO trunk group number assigned to a system trunk group for AIOD. **NOTES:** If an entry is made in this field, an entry must be made in columns 35-36. -If any entry is made in this field, then Record Code T1, columns 33-34, must be marked AI and column 38 must be marked 1, 2, 3, or 4.
35-36	CO Trunk Group Member Number	lO-99 = the CO trunk group member number assigned to a system trunk group for AIOD -- = N/A	Enter the CO trunk member number assigned to a system trunk circuit for AIOD here. NOTES: If an entry is made in this field, an entry must be made in columns 33-34. -If any entry is made in this field, then Record Code T1, columns 33-34, must be marked AI and column 38 must be marked 1, 2, 3, or 4.

Table 10.6 Entry Fields for Record Code TC (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
37-40	Night Answer 1	0000-9999 = predetermined pilot number (right justify three-digit numbers) UUUU (or any combination of Us and dashes) = UNA zone(s) ---- = N/A (used for DIC, PAG, REC, CAS, and CLR)	This field determines the night answer position 1 destination. -The destination can be a predetermined pilot number or a universal night answer position. If a UNA is used, it can be any combination of the four UNA zones. -If an entry of 0000-9999 is made, the displayable COS assigned to the trunk group (of which this trunk is a member) must allow station access. COS for trunk groups is assigned on Record Code T1, columns 17-18. Station access is defined on Record Code DD, columns 24-25.
41-44	Night Answer 2	0000-9999 = predetermined pilot number (right justify three-digit numbers) UUUU (or any combination of Us and dashes) = UNA zone(s) ---- = N/A (used for DIC, PAG, REC, CAS, and CLR)	This field determines the night answer position 2 destination. -The destination can be a predetermined pilot number or a universal night answer position. If a UNA is used, it can be any combination of the four UNA zones. -If an entry of 0000-9999 is made, the displayable COS assigned to the trunk group (of which this trunk is a member) must allow station access. COS for trunk groups is assigned on Record Code T1, columns 17-18. Station access is defined on Record Code DD, columns 24-25.
45	Guaranteed Access	G = used for RA access or nailed connections • = not required	When this field is marked G, the trunk is given a dedicated time slot or talk path. -Guaranteed access is always used for recorder announcer trunks or a nailed connection. -If this field is marked G, then Record Code T1, columns 14-16, must be marked DIC or PAG.
46-47	Source Group	00-31= number or --= not assigned	This field determines the source group assigned to the trunk circuit. A source group is used to identify the branch trunk that is coming into the CAS Main or ACD group.
48-51	Central Office Line Directory	0000-9999 or 000-999 right justify three-digit numbers	This field determines the CO line directory number.

Record Code NA:
Nailed Trunk
Connection

10.7 Record Code NA, Figure 10.7, defines the permanent connection data between trunk circuits. Information selected includes to and from nailed connection data.

Figure 10.7 Record Code NA: Nailed Trunk Connection Data Sheet

Table 10.7 Entry Fields for Record Code **NA**

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Nailed Connection Identification number	00-47 = number	Assign the nailed connection trunk software identification number.
14-15	From:Trunk Group	00-63 = trunk group number	This field determines the trunk group (00-63) number of the from trunk.
16	From:PEC	0 = PEC number	This field determines the PEC number (always 0) of the from trunk.
17-19	From:Trunk Number	000-063 = trunk group member number	This field determines the trunk number (000-063) of the from trunk. -If one of the trunks in the nailed connection is a NIC (T1 Network Interface) used by the PD-200 Data Option, the other trunk must be a DTRK (digital trunk). -This trunk must have guaranteed access marked on Record Code TC, column 45. -The from trunk cannot have been used on a previous NA record. -The from trunk number must be listed on a TC record. -This trunk must be engineered in the trunk group on a TC record.
20-21	To:Trunk Group	00-63 = trunk group number	This field determines the trunk group (00-63) number of the to trunk. -The to trunk number must be listed on a TC record. This trunk must be engineered in the trunk group on a TC record. -The to trunk cannot have been used on a previous NA record.
23-25	To:PEC	0 = PEC number	This field determines the PEC number (always 0) of the to trunk.
22-24	To:Trunk Number	000-063 = trunk group member number	This field determines the trunk number (000-063) of the to trunk. -If one of the trunks in the nailed connection is an NIC (T1 Network Interface) used by the PD-200 Data Option, the other trunk must be a DTRK (digital trunk). -This trunk must have guaranteed access marked on Record Code TC, column 45.

**Record Code DA:
Trunk Group
Digit Absorption**

10.8 Record Code DA, Figure 10.8, provides for the absorption of digits by the CO on a per trunk group basis. Digits are not absorbed but are passed over to the end office and are only monitored by the system. These digits are used by the system to determine the start of an NPA or toll code, which is used to perform code restriction. The NPA or toll code must be sent from a non-common control end office. If the end office has no digit absorption characteristics, this record code need not be used. However, if digit absorption is required, the absorption pattern must be obtained.

NOTE: This record code is only required when toll restriction is used. Use the following guidelines when completing this record code.

- If a cut-in digit is used, it and all following digits are used for routing information.

- If an absorbed digit is used, it is ignored and all the following digits are used in routing.

- If absorbed repeatedly, it is repeatedly ignored.

The two types of switches used are the single MDA (Marking Digit Absorption) and the dual MDA-I marking switch.

When a single marking switch is used, two duplicate entries are always needed for a digit code. When a dual marking switch is used, each digit must be analyzed for its absorbed markings. Entries are based on first digit markings and second plus digits.

- Single Marking Switch

  - Two duplicate entries are always required for a dialed digit.
  - Under the appropriate digit value, enter the absorption markings (C, A, or R) in both the first digit action and second plus digits. Refer to first digit action digit value.

- Double Marking Switch

  - Each digit must be analyzed for its absorbed markings.
  - The analysis is based on the entries (C, A, or R) in the first digit action and second plus digits. Refer to first digit action digit value.

Figure 10.8   Record Code DA: Trunk Group Digit Absorption Data Sheet

Table 10.8   Entry Fields for Record Code DA

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	**Trunk Group**	00-63 = trunk group number	Enter the trunk group number (00-63) that needs digit absorption. -This number must be defined on Record Code T1. -A trunk group number can only appear once on this record code.
14-23	First Digit Action Digit Value:1-0	C = cut in **A** = absorb and unlock **R** = absorb repeatedly	This field determines the first digit action digit value needing digit absorption. -There must be at least one C marked in either the first digit action digit value or second plus digits action digit value fields. -The first digit actions cannot all be R.
24-33	**Second** Plus Digits Action Digit Value:1 -0	C = cut in **A** = absorb and unlock F? = absorb repeatedly	This field determines the second plus digit action digit value needing digit absorption. -The second plus digit action digit value applies to the first digit received following a legitimate cut-in action. -There must be at least one C marked in either the first digit action digit value or second plus digits action digit value fields. -If there is an A anywhere in the first digit action, there must be at least one in the second plus digit.

**MOST
ECONOMICAL
ROUTE
SELECTION**

11.0 This section describes the record codes required to define the MERS features. The following record codes are required:

- Record Code MR defines the NPA(s) requiring six-digit analysis.

- Record Code RP defines the routing list.

- Record Code SI defines the trunks allowed by a specific NPA/ABC.

- Record Code TR defines the ABC codes for an NPA that requires six-digit analysis.

- Record Code NR defines the ABC codes for an NPA that does not requires six-digit analysis.

- Record Code TP defines MERS time periods.

- Record Code ST defines the service codes allowed through MERS.

- Record Code PC defines SCC (Specialized Common Carrier) prefix code digits.

- Record Code TN defines the tone detector circuit.

- Record Code MS defines the SCC (Specialized Common Carrier) authorization codes.

- Record Code LP defines the prefix digits for MERS LDN (Listed Directory Number).

- Record Code MO defines station codes requiring a second sending instruction.

Record Code MR:
MERS Six-Digit
Translated NPA

11.1 Record Code MR, Figure 11.1A, defines the NPA(s) (Number Plan Area) that is given six-digit analysis through MERS. This is done before calls going to the NPA(s) are routed to outgoing trunks.

The HNPA (Home Number Plan Area) of the site must also be included on this record code. This is because some of the ABCs (or NNXs) within the HNPA will be local and will not have a toll charge, while other ABCs within the HNPA will be foreign and will have a toll charge. Six-digit analysis is used for calls to FNPAs (Foreign Number Plan Areas) that have different rates for calls within that NPA depending on their ABC.

After completing Record Code MR, complete Record Codes RP, SI, and TR. Other record codes for six-digit analysis are optional.

Diagrams following Table 11 .1 provide information for MERS record code completion.

Figure 11.1A   Record Code MR: Most Economical Route Selection Six-Digit Translated NPA Data Sheet

Table 11.1   Entry Fields for Record Code MR

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Most Economical Route Selection Numbering Plan Area Number	01-19 = number	This field determines the MERS NPA number code. This number is used by the system for identification purposes. -The entry for 01 must be the HNPA. Entries 02-19 are used by NPAs that need six-digit analysis. -It is recommended to list NPAs used in ascending order from 2-9. **NOTE:** The only valid enties in this field are 01-15 (01-19 is misleading).
14-16	Numbering Plan Area	200-999 = NPA	This field determines the NPA(s) that require six-digit analysis. -Any NPA that requires six-digit analysis through MERS and is not listed on this record code cannot be routed through the MERS option. -The first NPA listed on this record code must be the HNPA. -The NPAs must be in order. Gaps are not allowed in the NPA numbers. -After listing the HNPA, start with the lowest value FNPA and continue to the highest. -This number must be unique across the record code.
17-19	Like Numbering Plan Area Code	200-999 = like NPA code --- = N/A	This field determines the like NPA codes (200-999). -A like NPA code is entered if the NPA code given is translated using the ABC codes that are defined on Record Code TR.
20	Conflicting Code	Y = six-digit conflict exists N = no six-digit conflict exists	This field determines whether or not a conflicting code exists within this NPA. -A conflicting code condition exists if one or more ABCs within the NPA looks like an NPA. -To look like an NPA, an ABC will have a 0 (zero) or a 1 as the center digit (e.g., an ABC of 202 or 212 is a conflicting code because there are also NPAs of 202 and 212. NPA 202 is the NPA for Washington D.C., and 212 is an NPA in New York. **NOTE:** If an MR record has a conflicting code, then Record Code OF must be marked Y in column 27 for MERS 1 + dialing.

This diagram represents an application which can never
be used to initiate the MERS On-Net and MERS Off-Net features.

Dialed 1st Digit of
Station Number

AC
(Code Type 116)

Dialed D1/D2 Digits

TD
NOTE: Translation Type must never
specify MRN or MRS.

Figure 11.1B   Non-MERS Application

This diagram represents an application of MERS Off-Network using an access code defined with the MERS Off-Network code type to initiate the feature.

Dialed Access Code

↓

AC (Code Type 48)

1

Dialed Service Code or NPA or IDDD Code/Country Code
(or Undialed Home NPA)

| ST | MR | NR | NT |

Dialed ABC Code

↓

TR

Sending Instruction List Number

↓

SI

Routing List Number

↓

RP

Dest. Type = COT FXT TIE SCC WTS

LDN Prefix Index   Prefix Index   MERS SCC ID   Dest. Type = DGT   Dest. Type = INT   Dest. Type = LOC

| LP | PC | MS | TD* | IR | HD | T1/T2 |

Figure 11.1 C   Off-Network MERS Record Code Association

This diagram represents an application of MERS On-Net using an access code defined with the MERS On-Net code type to initiate the feature.

Figure 11.1D   On-Net MERS Record Code Association

NOTES:

Translation type must never specify MRN or MRS.

The MERS SCC ID and the other destination types (COT, FXT, SCC, WTS) may be specified for On-Net MERS but the DDD network will be used to complete On-Net MERS calls.

This diagram represents an application of MERS On-Net and/or MERS Off-Net. An access code defined with the IDDD variable numbering plan, the flexible numbering plan, or the 7-10 digit called number can initiate the feature. The 1st digit of either the flexible numbering plan or the 7-10 digit called number can also initiate the feature.

Dialed Access Code — AC (code types 96, 115, 127)

Dialed 1st Digit of Network Numbering Plan — AC (code types 96, 126)

Dialed 1st 3 Digits of Network Dialing Plan or IDDD Code/Country Code

NT

Trans. Type = MER
- Sending Inst./Routing Pattern Specified
- On-Net/NPA Code Specified

Trans. Type = DGT
- Dialed D1/D2 Digits — TD

Trans. Type = MRN — Dialed on-net ABC code — TR / ST

Trans. Type = MRS — Dialed Service Code Or NPA (Or Undialed Home NPA) — MR / NR

Dialed ABC Code — TR

Continued on the Next Page

Figure 11.1E   On/Off-Net MERS Record Code Association

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NOTES:
*   Translation type must never specify MRN or MRS.
**   The MERS SCC ID and the other destination types (COT, FXT, SCC, WTS) may be specified for On-Net MERS but the DDD network will be used to complete On-Net MERS calls.
*** Record Code MO is only applicable to On-Net MERS.

Figure 11.1 E   On/Off-Net MERS Record Code Association (Continued)

Record Code RP:
MERS Routing List

11.2 Record Code RP, Figure 11.2, defines the routing list data, including the trunks to be used by the MERS feature. Any trunks not listed on this record code cannot be accessed by calls using the MERS feature. In addition to listing all trunks to be used for MERS, this record code also lists the trunk order in which calls will go out. The routing list(s) is defined here and assigned to the various NPAs/ABCs on Record Codes TR and NR.

Figure 11.2   Record Code RP: Most Economical Route Selection Routing List Data Sheet

Table 11.2   Entry Fields for Record Code RP

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
1 2	MERS Routing List Number	O-7 = number	This field defines the identification number given to a route. -For most applications, only one routing pattern list number is required. -If only one routing pattern is used, enter 0 down the row 12 times in column 12. -The 12 entries coincide with the 12 possible sending instructions found on Record Code SI, columns 12-l 3. - All 12 entries must be made whether used or not used. If they are not used, they will be sent to intercept. -When off-network MERS is used, it is normally recommended to use a separate routing pattern list number. -A separate routing pattern list number can be used for local calls. -This number is referred on the following record codes: TR, columns 23, 26, 29 and/or 32 NR, columns 20, 23, 26 and/or 29 ST, column 19 NT, column 30
13-14	Select Order	**1-12** = number	This field identifies the trunks that can be used and the order of these trunks for calls placed using this route. -Each routing list/select order combination must be unique across this record code. -The select order must be continuous with no gaps for each routing list.

Table 11.2   Entry Fields for Record Code RP (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
15-17	Destination Type	**COT** = CO trunks **FXT** = FX trunks **TIE** = Tie trunks WTS = WATS trunks **INT** = intercept **LOC =** local termination **DGT** = D1/D2 digit SCC = specialized common carrier	This field determines how the trunk group is treated (see columns 17-18). -LOC (Local Termination) is used in a network environment when the system is only to look at the last four digits dialed. Since the first three digits (leading network digits) are all the same, the last four digits dialed determine the network switch to which the call is routed. -If an SCC is used, access to more than one local trunk group can be allowed. By allowing access to more than one local trunk group, the probability of accessing the SCC is greater. -If COT, FXT, WTS, or SCC is entered in this field, then Record Code T2, columns 32, 33 and 34, cannot be dashed. It is recommended to set these fields at the lowest possible value.
18-19	Destination Identifier	00-63 = trunk group number **00-l** 5 = intercept routing number -- = N/A or local termination or D1/D2 digit translation	This field determines the trunk group number, for the trunk type defined in columns 14-l 6. -If columns 14-16 are marked LOC or DGT, this field must be dashed. -If columns 14-l 6 are marked INT, this field must be marked 00-15. -If columns 14-16 are marked COT, FXT, SCC, TIE, or WTS, this field must be marked 00-63. -Trunk group numbers must be defined on Record Code T1, columns 12-l 3. -The destination identifier can also be an intercept routing number. This must be defined on Record Code IR, columns 12-13.
2 0	MERS SCC Identification Number	O-7 = number ▪ = not selected	If an SCC is included in this route, this field determines which SCC is to be used. -SCCs are identified on Record Code MS, column 12.

Table 11.2   Entry Fields for Record Code RP (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
21	Expensive Route	Y = tone N = not selected	Mark this field Y if a burst tone is to be heard when the call goes out over this route. -A burst tone is normally used to notify a caller that the call is going out over the most expensive route. -The most expensive route should be the last trunk group of the route. -With this feature, the caller has the option of hanging up and trying later or continuing the call over the most expensive route. -A tone can be assigned to as many trunk groups within a route as wanted.

Record Code SI:
MERS Sending
Instruction

11.3 Record Code SI, Figure 11.3, defines the special handling requirements for a trunk group and the trunk group's assigned destination number. Record Code RP defines the routes for MERS usage. Record Code SI determines what facilities, within a route, can be accessed by a specific NPA/ABC. The sending instructions are defined on this record code and assigned to the various NPAs/ABCs on Record Codes TR and NR.

Figure 11.3   Record Code SI: Most Economical Route Selection
Sending Instruction Data Sheet

Table 11.3   Entry Fields for Record Code SI

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Sending Instruction List Number	00-31 = number	Assign the sending instruction list number. -This number is used by the system for identification purposes. -This number is referred to on the following Record Codes: TR, columns 21-22, 24-25, 27-28, and 30-31 NR, columns 18-l 9, 21-22, 24-25, and 27-28 NT, columns 28-29 ST, columns 17-18 -The sending instruction/select order combination must be unique across all records. **NOTE:** Sending instruction list number 00 is a valid CPG entry; however, 00 should never be used on this record code.
14-15	Select Order	**1-12** = number	This field determines the routing pattern number that is used for this sending instruction. The routing pattern number used for this sending instruction is chosen from the list of routing patterns on Record Code RP, column 12. -This field must be continuous with no gaps for each sending instruction list.
16-17	Skip/Route Usage Allowed	**AL** = allowed **SK** = skipped	This field determines whether or not this sending instruction is allowed access to this trunk group. -The trunk groups are defined for each route on Record Code RP, and must be listed in the order in which they appear on that record code.
18	Pause After Trunk Seizure	**T** = required **-** = N/A	Enter T if a pause is required after a trunk is seized. -See Record Code T2, column 32, for the timing value required for this field. -This field is normally used for older COs.
19	Pause After Escape Digit Sent	**E** = equipped **-** = N/A	Enter E if a pause is required after an escape digit (trunk group access code) is sent. -See Record Code T2, columns 31 and 33, for the timing value required for this field.

Table 11.3   Entry Fields for Record Code SI (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
20	Pause After Toll Barrier Code Sent	B = required - = N/A	Enter B if a pause is required after a toll barrier code is sent. -See Record Code T2, column 34, for the timing value required for this field. -The toll barrier code is automatically removed by the MERS feature; if 1 + dialing is in effect, it must be added here.
21-22	Delete	01-15 = delete - = N/A	Indicate the number of digits to delete on this sending instruction (e.g., For an FX call, three digits can be deleted. Since an FX call is routed to only one predetermined NPA, the three digits that make up the NPA are not needed and can be removed from the number).
23	Prefix Escape Digit	E = prefixed - = N/A	Enter E if an escape digit (trunk group access group) is required.
24	Prefix Toll Barrier Code Sent	B = prefixed - = N/A	Enter B if the toll barrier code is to be prefixed. -See Record Code T2, columns 18-20, for the toll barrier code per trunk group.
25	Prefix Home Number Plan Area (HNPA) Code	H = prefixed - = N/A	Enter H if the HNPA code is to be prefixed.
26-27	Prefix Index	01-15 = prefix index ▪ = not selected	This field determines whether or not a prefix index is used. Up to l-1 5 prefix index can used. A prefix index is defined on Record Code PC.
28-29	Listed Directory Number Prefix	01-15 = prefix index ▪ = not selected	Example: This field determines the LDN (Listed Directory Number) prefix index (for other examples, see Record Code LP). -This is defined on Record Code LP.
30	Facility Restriction Level	O-7 = FRL ▪ = not selected	If this field is used, it determines the FRL value placed on this sending instruction. **NOTE:** An application for this field is to block calls, thereby forcing MERS call queuing.

**Record Code TR:
MERS Numbering Plan
Area/ABC Translation**

11.4 Record Code TR, Figure 11.4, lists all of the ABC codes for an NPA that requires six-digit analysis. NPAs that require six-digit analysis are defined on Record Code MR. Any NPA listed on Record Code MR must be listed on this form, including HNPAs.

The first entry on this form must be the HNPA. The ABCs local to the HNPA must be listed first. Next list the HNPA's toll ABCs. After all the ABCs for the HNPA are listed, enter all other NPAs appearing on Record Code MR. Begin with the lowest number and work upward (e.g., 212, 401, 813). For all NPAs listed on this record code, first list the local ABCs followed by the toll ABCs.

"**NOTES:**

- An ABC for an NPA can only be listed once, as either a local ABC or a toll ABC.

- ABC codes can be entered either singularly or by groups of consecutive numbers (e.g., 220-275, 277 • ---, 280-299). Numbers should be entered singularly when they must stand alone (e.g., 220-275, 277 • ---, 280-299). In this example, the numbers 276, 278, and 279 do not exist. Only numbers that contain conflicting codes can jump hundreds groups (e.g., 220-399).

- Both MERS off-network DDD (Direct Distant Dialing) and MERS on-network ABC codes can be listed. When MERS off-network dialing is used, this record code lists the ABC codes for NPAs that require six-digit analysis. When MERS on-network dialing is used, this record code lists the RNX (Remote Numbering Exchange) codes that are dialable three-digit network codes.

- Any ABC for an NPA not listed on this record code cannot be called over the MERS option. Include all ABCs for a given NPA. If denial to a certain ABC is required, that must be done by means of toll restriction.

- Record Code TR allows for three time periods. Time periods 1, 2, and 3 are defined on Record Code TP. Any time not within the ranges defined by time period l-2 or l-3 is considered to be time period 0.

**Figure 11.4   Record Code TR: Most Economical Route Selection
Numbering Plan Area/ABC Translation Data Sheet**

Table 11.4   Entry Fields for Record Code TR

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-14	On-Net/NPA Code	**200-999** = NPA code **ON1-ON4** = on-network code	All NPAs requiring six-digit analysis must be listed here. -These NPAs must first be identified on Record Code MR, which points to TR for the routing patterns and sending instructions needed for the different ABCs of this NPA. -The HNPA must be the first entry. -For MERS on-network dialing, enter the on-network code (ON1-ON4) that is defined on Record Code AC (code type number 105), NT (columns 25-27), or TD (columns 21-23). **NOTE:** This entry must be listed on Record Code MR for six-digit analysis or Record Code NT or TD for on-network dialing.
15-17	ABC Code Range (first code)	**200-999** = number	This field determines the first ABC code or the first ABC code in a sequence of ABC codes. -This field is used in conjunction with columns 18-20. **NOTE:** If an ABC code on this record code is the same as an NPA code or an RNX code for on-network dialing, the conflicting code field on Record Code MR, column 20, must be marked Y.
18-20	ABC Code Range (last code)	200-999 = number --- = N/A or single code	This field determines the last ABC code in a sequence of ABC codes. -The last ABC code (columns 18-20) must be greater than the first ABC code (columns 15-17). -If only one number is represented, columns 18-20 must be dashed (e.g., 221 is the only number not used; in a sequence that ranges from 220-299, enter 212 ---, 214-299).

Table 11.4   Entry Fields for Record Code TR (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
21-22	Time Period 0 Sending Instruction List Number	**01-31 =** list number -- = N/A	Assign the sending instruction used for time period 0. The sending instruction list number used here must be defined on Record Code SI, columns 12-l 3. -Use only this field if no time changes are required for entries on Record Code TR or NR. **NOTE:** When time changes are required, begin the first time period with time period 1. Enter routing information for the remainder of the day in time period 0. If all time periods are defined, time period 0 serves as a default value.
23	Time Period 0 Route List Number	O-7 = list number - = N/A	Assign the route list number for time period 0. -This field defines the time period not covered by time periods l-3. If no time changes are required for any entries on Record Code TR or NR, this is the only field that requires an entry. -When time changes are needed, begin the first time period with time period 1 and put a default value in columns 21-23. If the time periods defined on TP cover the entire day, the default value will not affect the routing because the default will never be used. -If an entry is made in columns 21-22, then an entry must be made in this field. -The route list number used here must be defined on Record Code RP, column 12.
24-25	Time Period 1 Sending Instruction, List Number	**01-31** = list number -- = N/A	Assign the sending instruction used for time period 1. -The sending instruction list number used here must be defined on Record Code SI, columns 12-l 3. -If this field is used, then Record Code TP must be filled out.
26	Time Period 1 Route List Number	O-7 = list number - = N/A	Assign the route list number used for time period 1. -If an entry is made in columns 24-25, then an entry must be made in this field. -The route list number used here must be defined on Record Code RP, column 12. -If this field is used, then Record Code TP must be filled out.

Table 11.4   Entry Fields for Record Code TR (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
27-28	Time Period 2 Sending Instruction List Number	01-31 = list number -- = N/A	Assign the sending instruction for time period 2. -The sending instruction list number used here must be defined on Record Code SI, columns 12-l 3. -If this field is used, then Record Code TP must be filled out.
2 9	Time Period 2 Route List Number	O-7 = list number - = N/A	Assign the route list number used for time period 2. -If an entry is made in columns 27-28, then an entry must be made in this field. -The route list number used here must be defined on Record Code RP, column 12. -If this field is used, then Record Code TP must be filled out.
30-31	Time Period 3 Sending Instruction List Number	01-31 = list number -- = N/A	Assign the sending instruction for time period 3. -The sending instruction list number used here must be defined on record code SI, columns 12-l 3. -If this field is used, then Record Code TP must be filled out.
3 2	Time Period 3 Route List Number	O-7 = list number - = N/A	Assign the route list number for time period 3. -If an entry is made in columns 30-31, then an entry must be made in this field. -The route list number used here must be defined on record code RP, column 12. -If this field is used, then Record Code TP must be filled out.

Record Code NR
MERS Three-Digit
Translated NPA

11.5 Record Code NR, Figure 11 .5, lists all of the ABC codes for NPAs that do not require six-digit analysis. This sheet defines the off-network routing for each time period used. The HNPA and NPAs requiring six-digit analysis are listed on Record Code TR and must not be listed on this record code. Time periods 0, 1, 2, and 3 are defined on Record Code TP.

Figure 11.5 Record Code NR: Most Economical Route Selection
Three-Digit Translated NPA Data Sheet

Table 11.5   Entry Fields for Record Code NR

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-14	Number Plan Area Code Range (First Code)	**200-999** = NPA number	All NPAs requiring three-digit analysis must be listed here. Any NPA not listed here cannot be called. NPAs needing six-digit analysis are not to appear on this record code. -This field determines either the NPA code or the first NPA code in a sequence of NPA codes. -Any NPA listed in in columns 12-I 7 must not appear on Record Code MR.
15-17	Number Plan Area Code Range (Last Code)	200-999 = N PA number	This field determines the last NPA code in a sequence of NPA codes. -The number entered in this field must be greater than the entry in columns 12-14.
18-19	Time Period 0 Sending Instruction List Number	**01-31** = sending instruction number	Assign the sending instruction for time period 0. -The sending instruction list number must be defined on Record Code SI, columns 12-I 3.
20	Time Period 0 Routing List Number	O-7 = routing list number	Assign the routing list number for time period 0. -The routing pattern list number must be defined on Record Code RP, column 12.
21-22	Time Period 1 Sending Instruction List Number	**01-31 =** = sending instruction number	Assign the sending instruction for time period 1. -The sending instruction list number must be defined on Record Code SI, columns 12-13. -Time periods are defined on Record Code TP.
23	Time Period 1 Routing List Number	O-7 = routing list number	Assign the routing list number for time period 1. -The routing pattern list number must be defined on Record Code RP, column 12.

Table 11.5   Entry Fields for Record Code NR (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
24-25	Time Period 2 Sending Instruction List Number	01-31 = sending instruction number	Assign the sending instruction for time period 2. -The sending instruction list number must be defined on Record Code SI, columns 12-13.
26	Time Period 2 Routing List Number	O-7 = routing list number	Assign the routing list number for time period 2. -The routing pattern list number must be defined on Record Code RP, column 12.
27-28	Time Period 3 Sending Instruction List Number	01-31 = sending instruction number	Assign the sending instruction for time period 3. -The sending instruction list number must be defined on Record Code SI, columns 12-l 3.
29	Time Period 3 Routing List Number	O-7 = routing list number	Assign the routing list number for time period 3. -The routing pattern list number must be defined on Record Code RP, column 12.

Record Code TP
MERS Time Period

11.6 Record Code TP, Figure 11.6, defines the time of day when each MERS time period is in effect. Time periods entered on this record code must not overlap one another (e.g., 12:00-4:00, 5:01-11:00).

Figure 11.6   Record Code TP: Most Economical Route Selection Time Period Data Sheet

Table 11.6   Entry Fields for Record Code TP

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	Time Period Number	I-3 = number	This field represents one of the four possible time periods allowed for the MERS feature. -This field is used by the system for identification purposes. -Each time period number must be unique.
13-14	Begin Time Hours	00-23 = hour	Enter the hour that the time period is activated.
15-16	Begin Time Minutes	00-59 = minute	Enter the minute that the time period is activated.
17-18	End Time Hours	00-23 = hour	Enter the hour that the time period ends.
19-20	End Time Minutes	00-59 = minute	Enter the minute that the time period ends.

Record Code ST:
Service Code
MERS Translation

11.7 Record Code ST, Figure **11. 7,** defines the service code translation data for MERS routing, correlating the sending instruction and routing list numbers to the service codes listed.

Figure 11.7   Record Code ST: Service Code MERS Translation Data Sheet

Table 11.7 Entry Fields for Record Code ST

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Translation Entry Number	01-20 = number	This field determines the number given to the translation entry. -This number is used by the system for identification purposes. -This number must be consecutive with no gaps. -Each translation entry number must be unique.
14-16	Service Code	11N N11 555 000 or 00- = code	Enter the allowed service code here. -Each service code must be unique. -N equals any digit from 2-9. 11N = suffixed service calls allowed N11 = prefixed service calls allowed 555 = long distance, directory, directory assisted calls allowed 000 = local, operator assisted calls allowed 00- = toll operator, operator assistance allowed when using equal access (MERS -0 and + 0 dialing allowed)
17-18	Sending Instruction List Number (0)	00-31 = number	Assign the sending instruction list number for time period 0 here. This must be defined on Record Code SI, columns 17-18.
19	Route List Number (0)	0-7 = number	Assign the list number for time period 0 here and define it on Record Code RP, columns 19.
20-21	Sending Instruction List Number (1)	00-31 = number	Assign the sending instruction list number for time period 1 here. This must be defined on Record Code SI, columns 17-18.
22	Route List Number (1)	0-7 = number	Assign the list number for time period 1 here and define it on Record Code RP, columns 19.
23-24	Sending Instruction List Number (2)	00-31 = number	Assign the sending instruction list number for time period 2 here. This must be defined on Record Code SI, columns 17-18.
25	Route List Number (2)	0-7 = number	Assign the list number for time period 2 here and define it on Record Code RP, columns 19.
26-27	Sending Instruction List Number (3)	00-31 = number	Assign the sending instruction list number for time period 3 here. This must be defined on Record Code SI, columns 17-18.
28	Route List Number (3)	0-7 = number	Assign the list number for time period 3 here and define it on Record Code RP, columns 19.

Record Code PC:
Prefix Code Digits

11.8 Record Code PC, Figure **11. 8,** defines the MERS prefix digits referenced by the prefix index defined on Record Codes MO and SI. If Record Code RP (associated with MO and SI, which reference the prefix index) specifies SCC identification, Record Code PC must provide the restriction indicator value and digits required to access the SCC.

Figure 11.8 Record Code PC: Prefix Code Digits Data Sheet

Table 11.8   Entry Fields for Record Code PC

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Prefix Index	**01-I** 5 = number	Indicate the prefix index. -This number is used by the system for identification purposes.
14-15	Restriction Indicator	NO **TL** **TG** **BT** or **--** = indicator	Assign the restriction indicator. -This field is applied only to an SCC dialing pattern. NO = perform all checks **TL** = bypass toll restrictions **TG** = bypass trunk group access restrictions **BT** = bypass toll and trunk group access restrictions -- = not applicable
16-45	Prefix Digits (D1-D30)	o-9, ***, #** **A** **D** **E** or **-** = digits	Assign the prefix digits not tied to a trunk group. -Column 16 cannot be dashed. O-9, *, #= telephone digits **A** = obtain authorization code (SCC only) **D** = pause. The next two digits specify a pause in increments of 0.5 seconds (SCC only) **E** = switch to DTMF and recognize tone from SCC if next digit is 1, or switch to DTMF if next digit is 0 (SCC only) **-** = unused -If the application is not an SCC: **D** = a short pause **E** = a long pause

Record Code TN: **11.9** Record Code TN, Figure 11.9, defines the tone detector
Tone Detector   circuit. The tone detector is used to detect and recognize tones
issued by an SCC (Specialized Common Carrier) when used as
a MERS route.

Figure 11.9   Record Code TN: Tone Detector Data Sheet

Table 11.9   Entry Fields for Record Code TN

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Index/Tone Detector Number	00-31 = number	This field determines the number assigned to the tone detector. This number is used by the system for identification purposes.
1 4	PEC	0 = PEC number	Enter PEC 0.
15	Group	**A-D** = group number	Which group (A, B, C, or D) within PEC 0 is the card?
16-17	Card Slot	00-I **1 = slot** number	Which card slot within the group is the card?
1 8	Circuit	O-3 = assigned circuit number	Which circuit on the card is being used?
19-20	Equipped Status	S = in service OS = out of service	Is the card in service or out of service?

Record Code MS: Specialized Common Carrier Authorization Codes

11.10 Record Code MS, Figure 11.10, defines the SCC (Specialized Common Carrier) authorization codes required to access the SCCs through MERS. Different SCC authorization codes can be given for each MERS SCC identification or for each MERS SCC identification and MDR (Message Detailed Recorder) work group combination.

Figure 11.10   Record Code MS: Specialized Common Carrier Authorization Codes Data Sheet

Table 11.10   Entry Fields for Record Code MS

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	MERS SCC Identification Number	0-7 = number	This field determines the identification number given to the SCC. -This number is used by the system for identification purposes.
13-14	Message Detail Recorder Work Number	00-63 = number -- = not selected	Enter the MDR work group number given to the SCC.
15-24	SCC Authorization Code	0-9, *, # = number - = not selected	Enter the SCC authorization code used for MERS access. -Column 15 cannot contain a dash. Digits entered into this field are to be left justified.

Record Code LP:
Prefix Code Digits
for Listed Directory
Numbers and
Other Applications

11.11 Record Code LP, Figure 11 .12, specifies up to ten prefix digits for MERS LDN (Listed Directory Number) processing and for other prefixing applications.

Figure 11.11   Record Code LP: Prefix Code Digits for Listed Directory Numbers and Other Applications Data Sheet

Table 11 .11   Entry Fields for Record Code LP

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Prefix Index	**01-I** 5 = number	This field determines the prefix index number. -This number is used by the system for identification purposes.
14-23	Prefix Digits (D1-D10)	**0-9,*,#** = telephone digits **D** = short pause **E** = long pause **-** = unused (digits 2-9 only)	This field determines the selected prefix digits. -Column 14 cannot contain a dash. -If this field has an entry of D, the short pause must be defined on Record Code OV, columns 18-20. -If this field has an entry of E, the long pause must be defined on Record Code OV, columns 21-23.

Record Code MO: **11.12** Record Code MO, Figure 11.12, lists a set of four-digit
MERS On-Net station codes that require a second (replacement) sending
Station Numbers and instruction application. The station codes are only impacted
Sending Instruction if the MERS on-net process selects a sending instruction that
Values deletes one or more digits. If the last four dialed digits match
a station code defined on Record Code MO, the associated
sending information will be applied. This allows a MERS on-net
trunk group to be used to outpulse a different number of digits
based on the station code dialed.

Figure 11.12 Record Code MO: **MERS On-Net Station Numbers and Sending instruction Values Data Sheet**

Table 11.12 Entry Fields for Record Code MO

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	Index	O-9 = number	This field determines the index number for the station code. -This number is used for identification purposes by the system.
13-16	Station Code	0000-9999 = number	Enter the station code. -This must be a four-digit number.
17	Pause After Trunk Seizure	T = trunk seizure pause ■ = no pause	Enter a T here if a pause is placed after trunk seizure.
18	Pause After Escape Digit Sent	E = escape digit pause ■ = no pause	Enter an E here if a pause is entered after the escape digit is sent.

Table 11.12   Entry Fields for Record Code MO (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
19	Pause After Toll Barrier Code Sent	**B** = toll barrier code pause ■ = not selected	Enter a B if a pause is entered after the toll barrier code is sent.
20-21	Delete/Number of Digits to Delete	**00-I** 5 = number -- = N/A	Indicate the number of digits to delete.
2 2	Prefix Escape Digit	**E** = escape digit prefix ■ = no prefix	Enter an E if prefixing is required on the escape digit.
2 3	Prefix Toll Barrier Code	**B** = toll barrier code prefix ■ = no prefix	Enter a B if prefixing is required on the toll barrier code.
2 4	Prefix Home Numbering Plan Area Code	**H** = HNPA code prefix ■ = no prefix	Enter an H if prefixing is required on the HNPA (Home Numbering Plan Area).
25-26	Prefix Index	**01-15** = number -- = no prefix	If a prefix index is used, assign the index number here.
27	Sending Instruction Pause Usage	Y = selected ■ = not selected	The sending instruction usage defines which of the fields specified on this record code will be used instead of the original sending instruction pause value. -Sending instructions are defined in columns 27-30 of this record code. -The original sending instruction values are defined on Record Code SI. -This field determines whether or not a pause is applied.
28	Sending Instruction' Delete Usage	Y = selected ■ = not selected	Enter a Y if a delete instruction is applied.
29	Sending Instruction Prefix Usage	Y = selected ■ = not selected	Enter a Y if a prefix instruction is applied.
3 0	Sending Instruction Prefix Index Usage	Y = selected ■ = not selected	Enter a Y if a prefix index instruction is applied.

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NETWORKING   **12.0** This section describes the record codes required to define the various networking features. The following record codes are required:

- Record Code NT defines the routing for private tandem switching networks.

- Record Code TD defines the translation of the digits for a tandem network.

Record Code NT: Private Network Translation

12.1 Record Code NT, Figure 12.1, defines the first level call routing for private tandem switching networks. Use one record for each RNX (or RNX range) with the same routing characteristics in the RNX numbering plan.

Figure 12.1 Record Code NT: Private Network Translation Data Sheet

Table 12.1 Entry Fields for Record Code NT

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-14	Code Range First Code	**000-999** = number	This field determines the code digits for the first code. **Note:** A conflict exists with the three-digit translated NPA's warning message. The private network digit analysis is combined with the three-digit translation (Record Code NR) on the same data base table. A problem may occur if the private network digits contain conflicting codes.
15-17	Code Range Last Code	**000-999** = number	This field determines the code digits for the last code. All numbers within this range (12-17) are included.
18-20	Translation Type	**LOC** **MRS** **TGS** **TGO** **ABC** **DGT** **MRN** or **MER** = type	Assign the type of translation assigned to this route. **LOC** = local termination based on the last four digits. **MRS** = off-network MERS processing on 7 and 10 digits. TGS = trunk group selection and outpulsing of received digits (see columns 21-24)

Table 12.1 Entry Fields for Record Code NT (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
18-20 (cont'd)	Translation Type	LOC MRS TGS TGO ABC DGT MRN or MER = type	**TGO** = trunk group selection and outpulsing of N digits (see columns 21-22) **ABC** = analysis of the ABC code before routing **DGT** = analysis of D1/D2 (digit 1, digit 2) of the last four terminal digits before sending **MRN** = private network MERS processing on 7 or 10 digits **MER** = perform IDDD checks and route via MERS -The 01X numbers are reserved for international dialing.
21-22	Select Trunk Group	00-63 = number -- = N/A	This field is only used if the translation type given in columns 18-20 is either TGO or TGS. Indicate the trunk group used for outpulsing the digits. -The selected trunk group must be listed on Record Code T1. The trunk group must not be defined on Record Code T1, columns 14-16, as DIC, NIC, PAG, or REC.
23-24	Number of Digits Outpulsed	00-15 = digits -- = N/A	This field is only used if the translation type given in columns 18-20 is TGS. -Enter the number of digits outpulsed.
25-27	Private Network/NPA Code	200-999, ON1-ON4 or ---	This field determines the private network code (ON1-ON4) or the NPA code number (200-999). 200-999 = NPA code as defined on Record Codes MR and TR ON1-ON4 = private network code as defined on Record Codes AC and TR -Record Code TR defines the phantom number used for on-network dialing. -This field must be used if columns 18-20 are marked MRN. For all other entries in columns 18-20, this field is dashed.
28-29, 31-32, 34-35, 37-38.	Sending Instruction List Number	01-31 = number -- = N/A	These fields can be used only if the translation type given in columns 18-20 is MER. Assign the sending instruction list number to be used for the various time periods. The sending instruction list numbers are defined on Record Code SI, columns 12-13.
30, 33, 36, 39.	Route List Number	O-7 = number - = N/A	These fields can be used only if the translation type given in columns 18-20 is MER. Assign the routing list number to be used for the various time periods. The routing list numbers are defined on Record Code RP, column 12.

Record Code TD:
Private Network
D1/D2

12.2 Record Code TD, Figure 12.2, defines, in a seven- or ten-digit, format, the translation of the digits for a tandem network. These digits are the D1/D2 digits of the four terminal digits (D1, D2, D3, D4).

NOTE: There is a conflict with the three-digit translated NPA warning message. The private network digit analysis was combined with the three-digit translation (Record Code NR) in the same data base table. A possible problem exists if the private network digits contain conflicting codes.

Figure 12.2   Record Code TD: Private Network D1/D2 Data Sheet

Table 12.2   Entry Fields for Record Code TD

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	First Two Digits of Terminal Digits	00-99 = number	This field determines the first two digits (D1/D2) of the four terminal digits that require local termination or outpulsing. -The first two digits of the terminal digits must be unique across all TD records. -These digits must correspond to a hundreds group engineered on Record Code HD. -If the first two digits are OX, then both OX and X hundreds groups must not be specified on Record Code HD. -If a number is listed here, the system will process both hundreds groups with the first two digits of OX for this application.
14-16	Translation Type	**LOC** **MRS** **TGS** **TGO** or **MRN**	Indicate the type of translation assigned to the route. **LOC** = local termination based on the last four digits MRS = off-network MERS processing on 7 and 10 digits **TGS** = trunk group selection and outpulsing of all received digits (see columns 17-18) **TGO** = trunk group selection and outpulsing of last N digits (see columns 17-20) MRN = on-network MERS processing on 7 and 10 digits (see columns 21-23)
17-18	Select Trunk Group	00-63 = number -- = N/A	This field is only used if the translation type defined in columns 14-l 6 is TGO or TGS. -Assign the trunk group used for outpulsing the digits. -The selected trunk group must be defined on Record Code T1. -The trunk application on Record Code T1 for this trunk group cannot have values of DIC, PAG, or REC.
19-20	Number of Digits Outplused	00-15 = number -- = N/A	This field is only used if the translation type defined in columns 14-16 is TGO. -The field determines the number of digits outpulsed. -If a five-digit numbering plan is in effect, the number of outpulsed digits must be indicated here.

Table 12.2   Entry Fields for Record Code TD (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
21-23	On-Net/NPA Code	200-999 **ON1-ON4=code** or **--- = N/A**	This field is only used if the translation type defined in columns 14-16 is MRN. -This field determines the on-network code (ON1-ON4) or the NPA code number (200-999). **Note:** Only four unique NPAs are allowed between the MR, NT, and TD record codes. 200-999 = NPA code as defined on Record Codes MR and TR **ON1-ON4 =** on-net code as defined on Record Codes AC and TR

**MESSAGE
DETAIL RECORDER**

13.0 This section describes the record codes required to define the system MDR (Message Detail Recorder) feature. The following record codes are required:

- Record Code MD defines the requirements for the MDR devices,

- Record Code MT defines the TTY requirements.

- Record Code S1 defines the screening options.

- Record Code S2 defines additional screening options.

Record Code MD: Message Detail Recorder
13.1 Record Code MD, Figure 13.1, defines the requirements for the MDR devices.

Figure 13.1   Record Code MD: Message Detail Recorder Data Sheet

Table 13.1   Entry Fields for Record Code MD

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-14	Call Answer Time (seconds)	001-225 = seconds --- = N/A	Indicate the number of seconds to pass before the system assumes that a call has been answered. -If a trunk does not have answer supervision, this timing value is used to estimate how much time it takes for a two-way connection to be reached. -If answer supervision is provided (for all trunks being recorded), this timing value normally is not needed.
15	Device Type (Terminal)	Y = equipped - = not equipped	If the device used for the MDR function is a terminal, enter Y in this field. -Columns 15 and 16 are mutually exclusive. -If an entry is made in this field, an entry must be made in columns 28-30 and columns 31-34 must be dashed.
16	Device Type (Remote Polling Device)	Y = equipped - = not equipped	If the device used for the MDR function is a remote polling device (CRT), enter Y in this field.

Table 13.1 Entry Fields for Record Code MD (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
17-19	Reserved	-- = only allowed entry	This field does not apply to this SVR.
20-21	Office Type Digits	0-9 = valid entry for each column - = N/A	This field assigns the unique number for office type digits 1 and 2, which are assigned by the telephone company, to identify the system application used by that particular office.
22-27	Office Identification Digits	0-9 = valid entry for each column - = N/A	This field assigns the unique number for office ID digits 1-6, which are assigned by the telephone company. This identifies each system and its physical location within the area served by the telephone company. -This field represents the billing number of the system.
28-30	Minimum Call Duration for a Terminal	001-255 = number --- = N/A	Indicate the minimum number of seconds that a call must be connected before a call record is produced at the MDR terminal. -Calls that last less than this amount of time are not recorded. -If this timing parameter is met, a record of the call is made whether or not the call was actually answered. -The value of this field is added to the value given in columns 12-14 when listing the length of the call.
31-33	Minimum Call Duration for a Remote Polling Device	001-255 = number --- = N/A	Indicate the minimum number of seconds that a call must be connected before a call record is produced at the remote polling device. -Calls that last less than this amount of time are not recorded. -If this timing parameter is met, a record of the call is made whether or not the call was actually answered. The value of this field is added to the value given in columns 12-14 when listing the length of the call.
34	Output Format	Y = EBCDIC format ▪ = TTY format	This field determines the format of the MDR output. -For normal applications, the entry is TTY.
35	Output the Second Line of the Call Record to MDR Port 0	Y = allowed ▪ = not allowed	Enter Y if a second line output of the call record to MDR port 0 is allowed. -Do not specify this if the MDR data is transmitted to a remote processor (COMDEV or other) that requires single line output format.

Record Code MT: **13.2** Record Code MT, Figure 13.2, defines the requirements for
Message Detail the MDR (Message Detail Recorder) TTY unit interfacing
Recorder Port the system.

Figure 13.2   Record Code MT: Message Detail Recorder Port Data Sheet

Table 13.2   Entry Fields for Record Code MT

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	Port Number	0= MDR call records (ASCII) 1 = MDR call record blocks (GTE-modified EBCDIC) - = N/A	This field determines the MDR format output.
13-15	Transmission Rate	--- = N/A	This field can only be dashed.
16-19	Security Lock	--- = N/A	This field can only be dashed.
20-21	Equipped Status	**IS =** in service OS = out of service	Is the card in service or out of service?
22-24	Input Timeout	--- = N/A	This field can only be dashed.
25-27	Security Lock Timeout	--- = N/A	This field can only be dashed.

**Record Code S1:
Message Detail Recorder
Screening Option 1**

13.3 Record Code S1, Figure 13.3, defines the scree
available with the system. A screening option is defir
as the ability to select the type of calls that are to be

**Figure 13.3   Record Code S1: Message Detail Recorder Screening Option
Sheet**

Table 13.3   Entry Fields for Record Code S1

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-15	Message Detail Recorder Device	**TERM** = terminal required **CART** = remote polling device required	This field determines whether or n< device listed here must be a devic engineered on Record Code MD.
16 = 17	Message Detail Recorder Work **Group** Number	00-63 = number	Indicate the MDR work group nun numbers assigned to this device. -MDR work groups are assigned tc lines on Record Code LD, column! -There must be at least one MDR \ assigned on Record Code LD. **NOTE:** The MDR work group num unique across the S1 record code
18	**Screening** Indicator	Y = required - = not required	Enter Y if a screening indicator is r -The combination of screening tabl MDR work group number must be across this record code.

Recc
Message Det
Screen

Figure 1 3.r

TERMINAL FEATURES   14.0 This section describes the record codes required to define the various system miscellaneous terminal features. The following record codes are required:

- Record Code CT defines the terminal parameters.

- Record Code TT defines the TTY requirements.

Record Code CT:
Customer Defined
Terminal

14.1 Record Code CT, Figure 14.1, allows parameters to be set for up to two customer defined terminal types. Record Code CT is used when none of the standard terminal types in Record Code TT (Terminal Type), field 0, meets the needs of the application. The various terminal characteristics of the customer defined terminal types are specified in this record code.

Figure 14.1   Record Code CT: Customer Defined Terminal Data Sheet

Table 14.1   Entry Fields for Record Code CT

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
1 2	Customer-Defined Terminal Type Number	1-2 = number	This field represents the customer defined terminal that is being defined. -This field is used by the system for identification purposes.
13-16	Function Code	TNAM = terminal type mnemonic CLSC = clear screen characters ABCC = absolute cursor control EEOL = erase to end of line EEOP = erase to end of page RVON = reverse video on RVOF = reverse video off APON = auxiliary port on APOF = auxiliary pot-t off	Indicate the function code of the customer defined terminal.
17-32	Hexadecimal Equivalent of the Bit Strings for the Function (Bytes 1-8)	00-FF = code -- = not selected	This field determines the hexadecimal equivalent codes, which represent the one to eight ASCII characters. These characters make up the control sequence or directive that performs the selected function code. -The ABCC function code includes the specification of row and column number position. -Since these values are dynamically provided when needed, non-ASCII placeholder notation indicators are to be used in defining the ABCC function code bytes. These codes are as follows: 80 = row number in ASCII notation 81 = column number in ASCII notation 90 = row number in decimal notion 91 = column number in decimal notion -The TNAM function code never specifies the hexadecimal equivalent code bytes.

Table14.1   Entry Fields for Record Code CT (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
33-36	Customer- Defined Terminal Name	(O-9) to **(A-Z) =** name ▪ = not selected	Assign the name given to the customer defined terminal. -This is the one-to-four-character name associated with this terminal type (referenced on Record Code TT). -This field is only supplied if the function code is TNAM.

Record Code TT:
Serial Device

14.2 Record Code TT, Figure 14.2, defines the requirements for a TTY unit to interface with the system.

Figure 14.2 Record Code TT: Serial Device Data Sheet

Table 14.2   Entry Fields for Record Code TT

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	Serial Device	0 or 1 = number	This field determines the serial device software port number (0 or 1) that is assigned for the TTY unit.
13-15	Transmission Rate	010 = 110 baud rate 030 = 300 baud rate 120 = 1,200 baud rate	This field determines the transmission rate (characters per second) used by the TTY unit.
16-18	Input Timeout	000-225 = time in minutes 060 = suggested value	Indicate the maximum time allowed between characters inputted via the system maintenance terminals before a command is aborted.
19-21	Security Lock Timeout	000-255 = time in minutes 005 = suggested value	Indicate the number of minutes it takes for the system maintenance terminal to lock after the last entry is made from the TTY.
22-25	Terminal Type	ADDS = ADDS Regent 60/ Viewpoint 60 DECV = DEC VT1 00 series LS31 = Lear Sieglar ADM31 or ADM32 TELE = Televideo 900 series XT 30 = GTE XT300 TTY= teletypewriter	Assign the type of terminal to be connected to the output port. -In addition, the customer can define up to two other terminal types (using Record Code CT). -The customer-defined terminal type must consist of characters as follows: A through Z, 0 through 9, -, or blank.
26	Echo	Y = selected N = not selected	Enter Y if an echo is used.
27	Printer	Y = selected N = not selected	Enter Y if a printer is used to provide a hard copy.
28	Terminal Mode	Y = selected (CRT) N = not selected	Enter Y if the terminal mode is a CRT.
29	FADS System Auto Dump Port	Y = selected N = not selected	Enter Y if if the FADS (Force Administration Data System) is in effect. -This feature is used in conjuction with CAS and provides historical data.

**HEALTH CARE/
HOTEL FEATURES**

15.0 This section describes the record codes required to define the various system health care and hotel features. The following record codes are required:

● Record Code HM defines the miscellaneous hotel features.

● Record Code KD defines the KEDU card location.

● Record Code KS defines the KEDU audit feature.

● Record Code MK defines KEDU special functions.

● Record Code PD defines the KEDU printer card location.

● Record Code RN defines room station access codes.

● Record Code CL defines routing information.

● Record Code TL defines printer information.

● Record Code AL defines additional printer information.

● Record Code WT defines health care ward groups.

Record Code HM:
Health Care/Motel
Miscellaneous

15.1 Record Code HM, Figure 15.1, defines the miscellaneous system functions of the hotel option.

Figure column headings (left to right):
FORM | SEQ NO | RECORD CODE | CTR TRK HOOKSWITCH FLASH TIMING | MSG METER PEG TIMING INTERVAL | DO NOT DISTURB REMOVE | PRINT ON WAKE UP | PRINT ON DO NOT DISTURB | PRINT ON WARD CONTROL BY | ATTN OF DO NOT DISTURB | PRINT ON WARD CONTROL BY | SYS OF DO NOT DISTURB | WAKE UP INTERVAL | NO OF MSG PEG ON TRK ANS | NO DIAL ALARM | RM RESTN OCCUPANCY STATUS CHANGE | TRANS CODE

Column position numbers: 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 ... 80

4 1 0 H M ... C - 4

Figure 15.1   Record Code HM: Health Care/Motel Miscellaneous Data Sheet

Table 15.1 Entry Fields for Record Code HM

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Combined Line and Recording Trunk Hookswitch Flash Timing	02-20 = timing intervals in 100 ms (8 = suggested value) -- = N/A	This field sets the timing for the outpulsed signal from the CLR (Combined Line and Recording) trunk. -This timing must be set when a hookswitch flash is recognized on the line calling via the CLR trunk. -The field is used to keep track of local calls for billing purposes. -Another option with this feature is to disallow a hookswitch flash on Record Code NC, columns 30-31.
14-15	Message Meter Peg Timing Interval	01-20 = timing intervals in minutes (1 = suggested value) -- = N/A	This field sets the timing between the message meter pegs or counts on calls from lines to outgoing trunks. -The field is used for billing purposes to tabulate the number of local calls made by a motel guest.
16-17	DND (Do Not Disturb) Remove	RM = the do not disturb feature is deactivated when a wake-up call is answered -- = N/A	Enter RM if the do not disturb feature is canceled once a wake up call is answered by the guest room telephone. -The wake-up call feature overrides the do not disturb feature.
18-19	Print on Wake UP	WU = output is printed -- = N/A	Enter WU if a print-out is output by the printer when the wake-up call feature is activated or deactivated by a station user from the guest room telephone. -It is recommended to always have a print-out to provide proof that the wake-up call was received by the guest.
20-22	Print on DND (Do Not Disturb)	DND = output is printed -- = N/A	Enter DND if a print-out is output to the printer when the ward control of the DND feature is activated or deactivated by a station user from a guest room telephone.
23-25	Print on Ward Control by Attendant of DND (Do Not Disturb)	ATT = output is printed -- = N/A	Enter ATT if a print-out is output to the printer when the ward control of the DND feature is activated or deactivated by the attendant. -The system may have an automatic timer that controls this feature.

Table 15.1   Entry Fields for Record Code HM (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
26-28	Print on Ward Control by System on DND (Do Not Disturb)	**SYS** = output is printed --- = N/A	Indicate whether or not a print-out is output to the printer when the ward control of the DND feature is activated or deactivated by the system.
29-30	Wake-Up Interval	**01-20** = time in minutes (3 = suggested value) -- = N/A	Indicate the time between wake-up call tries when a wake-up call is placed to a busy or no answer station.
31-33	Number of Message Pegs on Trunk Answer	**001-255** = number of peg counts on trunk answer -- = N/A (default = 1 peg count on trunk answer)	Indicate the number of message pegs or counts that are registered upon trunk answer. -This feature is used to increase the cost of a call.
34	No Dial Alarm	Y = no dial alarm activated - = no dial alarm not activated	Enter Y if the no dial alarm feature is activated.
35	Room Restriction on Occupancy **Status Change**	Y = room station restriction activated - = room station restriction not activated	Enter Y if the system is to automatically restrict a room station from making outside calls when the room status is changed to unoccupied. -This prevents unauthorized use of the telephone.

**Record Code KD:
Key Entry Display Unit
Assignment**

15.2 Record Code KD, Figure 15.2, defines the physical location
of the KEDU circuit card(s) and the features that can be
activated or deactivated at each KEDU. Because the maximum
number of KEDUs that the OMNI SI will support is two, the
maximum number of entries for this record code is two.

Figure 15.2   Record Code KD: Key Entry Display Unit Assignment Data Sheet

Table 15.2   Entry Fields for Record Code KD

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	KEDU Number	0-1 = number	This field is used to identify the KEDU that is to be defined by the following parameters. -The KEDU number must be unique across all KD forms.
13	PEC	0 = PEC number	Enter PEC 0.
14	Group	A-D = group number	Which group (A, B, C, or D) within PEC 0 is this card?
15-16	Card Slot	00-11 = slot number	Which card slot within the group is this card? -The FB-17209 card used to support the KEDU is a double width card.
17	Circuit	O-I = circuit number	Which circuit on the card is being used? - A maximum of two KEDU circuits or one KEDU circuit and one printer circuit can be used on the same card.
18	Wake Up	Y = allowed ▪ = not allowed	Enter Y if access to the wake-up feature is allowed.
19	Message Meter	Y = allowed ▪ = not allowed	Enter Y if access to the message meter feature is allowed. -This feature requires a printer.
20	Room Restriction	Y = allowed ▪ = not allowed	Enter Y if access to the room restriction feature is allowed.
21	Time	Y = allowed - = not allowed	Enter Y if access to the time feature is allowed.
22	Message Waiting	Y = allowed ▪ = not allowed	Enter Y if access to the message waiting feature is allowed.
23	Room Status	Y = allowed - = not allowed	Enter Y if access to the room status feature is allowed.
24	Do Not Disturb	Y = allowed ▪ = not allowed	Enter Y if access to the do not disturb feature is allowed.
25	Property Management System	P = PMS equipped ▪ = PMS not equipped	Enter Y if the PMS (Property Management System) is equipped in place of this KEDU. -If this field is marked P, OPI must be equipped on Record Code FR. -For this feature to work properly, an OPI card, a KEDU with PMS, and a KEDU printer must be equipped.

**Record Code KS:
Key Entry Display Unit
Special Function Access**

15.3 Record Code KS, Figure 15.3, defines the special functions performed by the KEDU for the audit feature.

Figure 15.3   Record Code KS: Key Entry Display Unit Special Function Access Data Sheet

Table 15.3A   Entry Fields for Record Code KS

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	KEDU Number	0-1 = number	This field is used to identify the KEDU that is to be defined by the following parameters. This number is used by the system for identification purposes. -The KEDU number must be unique across all KD forms.
13-14	Function Code	**DD** = do not disturb **MW** = message waiting **RR** = room restriction **WU** = wake up **RS** = room status **TM** = time **MM** = message meter **AR** = alarm reset	Indicate whether or not a print-out is provided when the KEDU button associated with this feature is depressed.

Table 15.3A   Entry Fields for Record Code KS (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
15-22	Function Access Digits Allowed	0 = print function without clearing the memory **1** = function canceled 2 = print function, then clear the memory (this value is used for the message meter feature only) 3-7 = not defined at this time; do not use	ndicate the action taken by the system when a particular function button is depressed from :he KEDU.

NOTE: If an access digit is indicated for a specific function code, one or more printers must be defined for that function on Record Code AL associated with the KEDU number. See Table 15.3B.

Table 15.3B KS Rules

```
Example:

                                    Meter                  Status
        Rec      KEDU      Message   Printer    Room       Printer
        Code     No .      Status    ID         Status     ID
        AL        0        AL        01         --         --

        Rec      KEDU      Function  Digits  Allowed
        Code     No .      Code      0 1 2 3 4 5 6 7
        KS        0        MM        0 1 - - - _ _ _      Allowed
        KS        0        RS        0 1 - - - - - -      Incorrect
```

Record Code MK:
Master Key Entry
Display Unit

15.4 Record **Code** MK, Figure 15.4, defines the special functions that are assigned to the KEDU. If more than one KEDU is in use, one must be assigned as a master for control of the features. If only one KEDU is in use, it is assigned as the master KEDU.

Figure 15.4   Record Code MK: Master Key Entry Display Unit Data Sheet

Table 15.4   Entry Fields for Record Code MK

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
1 2	Master KEDU Number	**O-I** = number	This field is used to identify the master KEDU, which is defined by the following parameters. The KEDU number must be unique across all KD forms.
13-16	Clear Memory Code for Wake UP	**0000-9999 =** clears memory ---- = N/A	Assign the security code used by the master KEDU to clear the memory for the wake-up feature.
17-20	Clear Memory Code for Message Meter	**0000-9999 =** clears memory ---- = N/A	Assign the security code used by the master KEDU to clear the memory for the message meter feature.
21-24	**Clear** Memory Code for Room Restriction	0000-9999 = clears memory ---- = N/A	Assign the security code used by the master KEDU to clear the memory for the room restriction feature.
25-28	Clear Memory Code for Message Waiting	0000-9999 = clears memory ---- = N/A	Assign the security code used by the master KEDU to clear the memory for the message waiting feature.
29-32	Clear Memory Code for Do Not Disturb	**0000-9999 =** clears memory ---- = N/A	Assign the security code used by the master KEDU to clear the memory for the do not disturb feature.
33-36	Clear Memory Code for Room Status	0000-9999 = clears memory ---- = N/A	Assign the security code used by the master KEDU to clear the memory for the room status feature.
37-43	Clear Memory Code for All Functions Allowed	**0000-9999 =** clears memory ---- = N/A	Assign the security code used by the master KEDU to clear the memory for the all functions allowed feature.
44	Wake-Up Function Allowed	**Y** = allowed - = not allowed	Enter Y if the master KEDU is allowed access to the wake-up feature through its control buttons. **NOTE:** If this field is dashed, the security code corresponding to this feature must also be dashed.
45	Message Meter Function Allowed	Y = allowed - = not allowed	Enter Y if the master KEDU is allowed access to the message meter feature through its control buttons. **NOTE:** If this field is dashed, the security code corresponding to this feature must also be dashed.

Table 15.4 Entry Fields for Record Code MK (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
46	Room Restriction Function Allowed	Y = allowed - = not allowed	Enter Y if the master KEDU is allowed access to the room restriction feature through its control buttons. **NOTE:** If this field is dashed, the security code corresponding to this feature must also be dashed.
47	Time Function Allowed	Y = allowed - = not allowed	Enter Y if the master KEDU is allowed access to the time feature through its control buttons. **NOTE:** If this field is dashed, the security code corresponding to this feature must also be dashed.
48	Message Waiting Function Allowed	Y = allowed - = not allowed	Enter Y if the master KEDU is allowed access to the message waiting feature through its control buttons. **NOTE:** If this field is dashed, the security code corresponding to this feature must also be dashed.
49	Room Status Function Allowed	Y = allowed - = not allowed	Enter Y if the master KEDU is allowed access to the room status feature through its control buttons. **NOTE:** If this field is dashed, the security code corresponding to this feature must also be dashed.
50	Do Not Disturb Function Allowed	Y = allowed - = not allowed	Enter Y if the master KEDU is allowed access to the do not disturb feature through its control buttons. **NOTE:** If this field is dashed, the security code corresponding to this feature must also be dashed.

Record Code PD:
Printer Assignment

15.5 Record Code PD, Figure 15.5, defines the physical location of the printer card circuit(s). It also gives the speed, format, and data transfer information for the printer assigned to support the KEDU. The card used in support of this feature is the FB-17209-A card.

Figure 15.5   Record Code PD: Printer Assignment Data Sheet

Table 15.5   Entry Fields for Record Code PD

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	Printer Number	0-1 = number	This field identifies the printer number and is used by the system for identification purposes. -The KEDU printer number must be unique across all forms.
13	PEC	0 = PEC number	Enter PEC 0. -This card must be defined on Record Code FR. -Each location must be unique.
14	Group	A-D = group number	Which group (A, B, C, or D) within PEC 0 is this card?
15-16	Card Slot	00-11 = slot number	Which card slot within the group is this card?
17	Circuit	0-1 = circuit number	Which circuit on the card is being used? -The printer circuit must appear on a KEDU card.
18-19	Baud Rate	03 = 300 baud -- = 1,200 baud	Indicate the baud rate or speed of the printer. -If an Axiom printer is used, this field can be defaulted.
20-21	Parity	OD = odd parity -- = even parity	Indicate the parity (used for error detection) of the printer. -If an Axiom printer is used, this field can be defaulted.
22-23	Paper Form	WD = wide print-out (at least 40-80 columns wide) -- = narrow print-out (40-80 columns wide)	Indicate the paper form by checking the number of characters that are typed by the printer on a per line basis. -If an Axiom printer is used, this field can be defaulted.
24	Stop Bit	2 = two stop bits ▪ = one stop bit	Indicate the number of stop bits needed to stop the data flow. -If an Axiom printer is used, this field can be defaulted.
25	Word Length in Bits	8 = eight-bit words ▪ = seven-bit words	Indicate the word length that is sent to the printer. -If an Axiom printer is used, this field can be defaulted.
26	Parity Inhibit	Y = printer does not require a parity bit ▪ = printer does require a parity bit	Enter Y if the printer needs a parity inhibit bit. -If an Axiom printer is used, this field can be defaulted.

Record Code RN: **15.6** Record Code RN, Figure 15.6, indicates when it is
Room Number   necessary to precede a room station number with an access
First Digit Translation   code for room-to-room calling.

Figure 15.6   Record Code RN: Room Number First Digit Translation Data Sheet

Table 15.6 Entry Fields for Record Code RN

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	Room Number First Digit	0-9 * or # = digit	This field determines the first digit of a three- or four-digit room directory number. -This number is preceded by an access code for room-to-room calling. -Unassigned first digits must also be entered. -The room number first digit must be unique across all RN forms.
13-15	Code Type	3DG = first digit of three-digit room station numbers 4DG = first digit of four-digit room station numbers INT = first digit of room station numbers that do not exist (not assigned)	This field determines whether the digit in column 12 is the first digit of a three-digit room directory number, a four-digit room directory number, or the number that does not exist. -If the number is non-existent due to never being defined, a move or a change call to that number is routed to an intercept condition. -Intercept conditions must be defined on Record Code IR.
16-17	Code Type Identifier	00-09 = 3DG missing digit needed 12 = 3DG missing digit not needed 15 = 4DG 00-15 = INT	This field determines the missing digit required for three-or four-digit room station numbers or specifies the intercept routing number assigned to an intercept condition. -If a missing digit is required, this field also selects the missing digit. If a missing digit is not specified, the console station number display will display L followed by a three-digit station number. -If the missing digit is specified, the console station number display will display the missing digit. -If the code type is INT, the code type identifier must be O-15. -If the code type is 3DG, the code type identifier must be O-9 or 12. -If the code type is 4DG, the code type identifier must be 15. The numbers O-15 are the intercept conditions defined or Record Code IR. Only one of these intercept conditions can be used in support of Record Code RN. -The intercept condition must be defined on Record Code IR.

Record Code CL:
Class of Call-
ControlledRouting

15.7 Record Code CL, Figure 15.7, defines routing information based on the first two digits (00-99) of the calling station's assigned directory number or room number.

Figure 15.7   Record Code CL: Class of Call-Controlled Routing Data Sheet

Table 15.7   Entry Fields for Record Code CL

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	First Two Digits of Room or Line Directory Numbers	00-99 = number	Indicate the first two digits of the assigned room or line directory numbers. -If the room or line directory numbers are three-digit numbers and a missing digit is listed on Record Code RN (columns 16-17), enter the missing digit in column 12. Enter the first digit of the three numbers in column 13. -If the room or line directory numbers are three-digit numbers and no missing digit is listed on Record Code RN (columns 16-I 7), enter 0 in column 12. Enter the first digit of the three numbers in column 13. -If the room or line directory numbers are four-digit numbers, enter the first two-digits of the room or line directory numbers in columns 12-I 3. -This number must be defined on Record Code HD, columns 13-14.
14-17	Destination Type	Line = line Attn = Attendant Console INTC = intercept	Indicate the destination to which all calls from the same hundreds or thousands group will go when the access code for call control routing is activated.
18-21	Destination Identifier	0000-9999 or 000-999 = the line directory number if the destination is a line A three-digit number must have a blank before it. 0128 = Attendant Console 0 0064 = Attendant Console 1 0192 = either of the two Attendant Consoles 0000-0015= intercept routing number	Indicate the destination to which all calls from the same hundreds group will terminate when the access code for call control routing is activated. -The destination can be any of the following: a room station number, a line directory number, an Attendant Console, or an intercept routing number. -If the destination is a line directory number, that number must be defined on Record Code LD. -If the destination is an Attendant Console circuit, that console circuit must be defined on Record Code AT. -If the destination is an intercept condition, that condition must be defined on Record Code IR.

Record Code TL:
Transaction Record
Control

15.8 Record Code TL, Figure 15.8, assigns printers to the function of the transaction record. All printer numbers indicated by the printer identification number must be valid printer numbers on a PD form. The four printers are given the following values:

● Printer No. 0 is assigned value 01.
● Printer No. 1 is assigned value 02.
● Printer No. 2 is assigned value 04.
● Printer No. 3 is assigned value 08.

If more than one printer is designated, use Table 15.8A.

Table 15.8A Printer ID
Number

Printer ID	Printer Number(s)
00	None
01	0
02	1
03	0, 1
04	2
05	0, 2
06	1, 2
07	0, 1, 2
08	3
09	0, 3
10	1, 3
11	0, 1, 3
12	2, 3
13	0, 2, 3
14	1, 2, 3
15	0, 1, 2, 3

Figure 15.8   Record Code TL: Transaction Record Control Data Sheet

Table 15.88   Entry Fields for Record Code TL

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Message Meter Print Status	**AC** **DE** **BT** or --	This field determines the conditions required for a print-out to be activated when this feature is used. -If this field is dashed, columns 14-15 must be dashed. -If this field is marked AC, DE, or BT, columns 14-15 must be marked 01-15. **AC** = transaction record is printed when message metering is activated. **DE** = transaction record is printed when message metering is deactivated. **BT** = transaction record is printed when message metering is activated or deactivated. -- = N/A
14-15	Message Meter Printer Number Identification	**01-15** = printer value -- = N/A	Assign the printer(s) that will give a print-out when this feature is used. -If only one printer is used, enter the printer value 01, 02, 04, or 08. -If more than one printer is used, enter the sum of the printer values from Table 15.8A (e.g., if printers 0 and 1 are used, enter 3; if printers 2 and 3 are used, enter 12).
16-17	Room Status Print Status	**AC** **DE** **BT** or --	Indicate the conditions required for a print-out to be activated when this feature is used. **AC** = transaction record is printed when message metering is activated. **DE** = transaction record is printed when message metering is deactivated. **BT** = transaction record is printed when message metering is activated or deactivated. -- = N/A
18-19	Room Status Printer Number Identification	**01-15** = printer value -- = N/A	Assign the printer(s) that will give a print-out when this feature is used. -If only one printer is used, enter the printer value 01, 02, 04, or 08. -If more than one printer is used, enter the value from Table 15.8A (e.g., if printers 0 and 1 are used, enter 3; if printers 2 and 3 are used, enter 12).

Table 15.88   Entry Fields for Record Code TL (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
20-21	Do Not Disturb Print Status	AC DE BT or --	Indicate the conditions required for a print-out to be activated when this feature is used. **AC** = transaction record is printed when message metering is activated. **DE** = transaction record is printed when message metering is deactivated. **BT** = transaction record is printed when message metering is activated or deactivated. -- = N/A
22-23	Do Not Disturb Printer Number Identification	**01-15** = printer value -- = N/A	Assign the printer(s) that will give a print-out when this feature is used. -If only one printer is used, enter the printer value 01, 02, 04, or 08. -If more than one printer is used, enter the sum of the printer values (e.g., if printers 0 and 1 are used, enter 3; if printers 2 and 3 are used, enter 12).
24-25	Room Restriction Print Status	AC DE BT --	Indicate the conditions required for a print-out to be activated when this feature is used. **AC** = transaction record is printed when message metering is activated. **DE** = transaction record is printed when message metering is deactivated. **BT=** transaction record is printed when message metering is activated or deactivated. -- = N/A
26-27	Room Restriction Printer Number Identification	**01-15** = printer value -- = N/A	Assign the printer(s) that will give a print-out when this feature is used. -If only one printer is used, enter the printer value 01, 02, 04, or 08. -If more than one printer is used, enter the sum of the printer values (e.g., if printers 0 and 1 are used, enter 3; if printers 2 and 3 are used, enter 12).
28-29	Message Waiting Print Status	AC DE BT or --	Indicate the conditions required for a print-out to be activated when this feature is used. **AC** = transaction record is printed when message metering is activated. **DE** = transaction record is printed when message metering is deactivated. **BT=** transaction record is printed when message metering is activated or deactivated. -- = N/A

Table 15.85 Entry Field for Record Code TL (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
30-31	Message Waiting Printer Number Identification	01-15 = printer value -- = N/A	Assign the printer(s) that will give a print-out when this feature is used. -If only one printer is used, enter the printer value 01, 02, 04, or 08. -If more than one printer is used, enter the sum of the printer values (e.g., if printers 0 and 1 are used, enter 3; if printers 2 and 3 are used, enter 12).
32-33	Wake-up Print Status	AC DE BT or --	Indicate the conditions required for a print-out to be activated when this feature is used. AC = transaction record is printed when message metering is activated. DE = transaction record is printed when message metering is deactivated. BT = transaction record is printed when message metering is activated or deactivated. -- = N/A
34-35	Wake-up Printer Number Identification	01-15 = printer value -- = N/A	Assign the printer(s) that will give a print-out when this feature is used. -If only one printer is used, enter the printer value 01, 02, 04, or 08. -If more than one printer is used, enter the sum of the printer values (e.g., if printers 0 and 1 are used, enter 3; if printers 2 and 3 are used, enter 12).
36-37	Maid Status Print Status	AC DE BT or --	Indicate the conditions required for a print-out to be activated when this feature is used. AC = transaction record is printed when message metering is activated. DE = transaction record is printed when message metering is deactivated. BT = transaction record is printed when message metering is activated or deactivated. -- = N/A
38-39	Maid Status Printer Number Identification	01-I 5 = printer value -- = N/A	Assign the printer(s) that will give a print-out when this feature is used. -If only one printer is used, enter the printer value 01, 02, 04, or 08. -If more than one printer is used, enter the sum of the printer values (e.g., if printers 0 and 1 are used, enter 3; if printers 2 and 3 are used, enter 12).

Table 15.8B   Entry Fields for Record Code TL (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
40-41	Calling Number Display Print Status	**AC** **DE** **BT** or --	Indicate the conditions required for a print-out to be activated when this feature is used. **AC** = transaction record is printed when message metering is activated. **DE** = transaction record is printed when message metering is deactivated. **BT** = transaction record is printed when message metering is activated or deactivated. -- = N/A
42-43	Calling Number Display Printer Number Identification	**01-15** = printer value -- = N/A	Assign the printer(s) that will give a print-out when this feature is used. -If only one printer is used, enter the printer value 01, 02, 04, or 08. -If more than one printer is used, enter the sum of the printer values (e.g., if printers 0 and 1 are used, enter 3; if printers 2 and 3 are used, enter 12).
44-45	Message Meter Unit Print Status	**AC** **DE** **BT** or --	Indicate the conditions required for a print-out to be activated when this feature is used. **AC** = transaction record is printed when message metering is activated. **DE** = transaction record is printed when message metering is deactivated. **BT=** transaction record is printed when message metering is activated or deactivated. -- = N/A
46-47	Message Meter Unit Printer Number Identification	**01-15** = printer value -- = N/A	Assign the printer(s) that will give a print-out when this feature is used. -If only one printer is used, enter the printer value 01, 02, 04, or 08. -If more than one printer is used, enter the sum of the printer values (e.g., if printers 0 and 1 are used, enter 3; if printers 2 and 3 are used, enter 12).

Record Code AL: Audit Record Control

15.9 Record Code AL, Figure 15.9, assigns a printer to a KEDU for the audit functions associated with that KEDU. The printer is assigned the following values:

- Printer No. 0 is assigned the value 01.
- Printer No. 1 is assigned the value 02.
- Printer No. 2 is assigned the value 04.
- Printer No. 3 is assigned the value 08.

The printer ID identifies a specific printer number or several printer numbers, depending on the value range entered. If more than one printer is to be designated, use Table 15.9A. Example: printer numbers 0 and 3 have the value of 9. Printer IDs and 'numbers are found in Table 15.9A.

Table 15.9A Printer ID Number

Printer ID	Printer Number(s)
00	None
01	0
02	1
03	0, 1
04	2
05	0, 2
06	1, 2
07	0, 1, 2
08	3
09	0, 3
10	1, 3
11	0, 1, 3
12	2, 3
13	0, 2, 3
14	1, 2, 3
15	0, 1, 2, 3

Figure 15.9 Record Code AL: Audit Record Control Data Sheet

Table 15.98 Entry Fields for Record Code AL

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	KEDU Number	O-3 = number	This field determines the selected KEDU number and is used by the system for identification purposes. -This number must be defined on Record Code KD.
13-14	Message Meter Function Status	**AL = message** metering information is to be printed -- = metering information is not to be printed	Enter AL if the printer(s) can accept message metering information associated with a KEDU. -Columns 15-l 6 indicate which printer(s) will print this information. -If AL is entered, columns 15-16 cannot be dashed

Table 15.95   Entry Fields for Record Code AL (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
15-16	Message Meter Printer Number Identification	**01-15** = number -- = N/A	Indicate whether or not this printer(s) can accept message metering. information associated with a KEDU. -When only one printer is selected to print, enter the sum of the printer values 01, 02, 04, or 08. -When more than one printer is selected to print, enter the value from Table 15.9A (e.g., for printer numbers 0 and 1, enter 3; for numbers 2 and 3, enter 12. -A printer number used in this field must be defined on Record Code PD.
17-18	Room Status Function Status	**AL** = message metering information is to be printed -- = metering information is not to be printed	Enter AL if the printer(s) can accept message metering information associated with a KEDU. Columns 19-20 indicate which printer(s) will print this information. -If AL is entered, columns 19-20 cannot be dashed.
19-20	Room Status Printer Number Identification	**01-15** = number -- = N/A	Indicate whether or not the printer(s) can accept message metering information associated with a KEDU. -When only one printer is selected to print, enter the sum of the printer values 01, 02, 04, or 08. -When more than one printer is selected to print, enter the value from Table 15.9A (e.g., for printer numbers 0 and 1, enter 3; for numbers 2 and 3, enter 12. -A printer number used in this field must be defined on Record Code PD.
21-22	Do Not Disturb Function Status	**AL** = message metering information is to be printed -- = metering information is not to be printed	Enter AL if the printer(s) can accept message metering information associated with a KEDU. -Columns 23-24 indicate which printer(s) will print this information. -If AL is entered, columns 23-24 cannot be dashed

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Table 15.9B   Entry Fields for Record Code AL (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
23-24	Do Not Disturb Printer Number Identification	**01-15** = number -- = N/A	Indicate whether or not the printer(s) can accept message metering information associated with a KEDU. -When only one printer is selected to print, enter printer value 01, 02, 04, or 08. -When more than one printer is selected to print, enter the sum of the printer value (e.g., for printer numbers 0 and 1, enter 3; for numbers 2 and 3, enter 12). -A printer number used in this field, must be defined on Record Code PD.
25-26	Room Restriction Function Status	**AL** = message metering information is to be printed -- = metering information is not to be printed	Enter AL if the printer(s) can accept message metering information associated with a KEDU. -Columns 27-28 indicate which printer(s) will print this information. -If AL is entered, columns 27-28 cannot be dashed.
27-28	Room Restriction Printer Number Identification	**01-15** = number -- = N/A	Indicate whether or not the printer(s) can accept message metering information associated with a KEDU. -When only one printer is selected to print, enter printer value 01, 02, 04, or 08. -When more than one printer is selected to print, enter the sum of the printer values (e.g., for printer numbers 0 and 1, enter 3; for numbers 2 and 3, enter 12. -A printer number used in this field must be defined on Record Code PD.
29-30	Message Waiting Function Status	**AL** = message metering information is to be printed -- = metering information is not to be printed	Enter AL if the printer(s) can accept message metering information associated with a KEDU. -Columns 31-32 indicate which printer(s) will print this information. -If AL is entered, columns 31-32 cannot be dashed.

Table 15.98 Entry Fields for Record Code AL (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
31-32	Message Waiting Printer **Number,** Identification	**01-l** 5 = number -- = N/A	Indicate whehter or not the printer(s) can accept message metering information associated with a KEDU. -When only one printer is selected to print, enter printer value 01, 02, 04, or 08. -When more than one printer is selected to print, enter the sum of the printer values (e.g., for printer numbers 0 and **1,** enter 3; for numbers 2 and 3, enter 12). -A printer number used in this field must be defined on Record Code PD.
33-34	Wake Up Function Status	**AL = message** metering information is to be printed -- = metering information is not to be printed	Enter AL if the printer(s) can accept message metering information associated with a KEDU. -Columns 35-36 indicate which printer(s) will print this information. -If AL is entered, columns 35-36 cannot be dashed.
35-36	Wake Up Printer Number Identification	**01-l** 5 = number -- = N/A	Indicate whether or not the printer(s) can accept message metering associated with a KEDU. -When only one printer is selected to print, enter printer value 01, 02, 04, or 08. -When more than one printer is selected to print, enter the sum of the printer values (e.g., for printer numbers 0 and 1, enter 3; for numbers 2 and 3, enter 12). -A printer number used in this field must be defined on Record Code PD.

Record Code WT:
Ward Control

15.10 Record Code WT, Figure 15.10, defines the ward groupings for the system. The beginning and ending times that the system will automatically impose the do not disturb feature are also defined. This feature provides quiet time for hospital patient rooms. A maximum of eight time periods can be used for up to 32 ward numbers. Time periods entered on this record code must not overlap one another (e.g. 12:00-4:00, 5:01-11:00).

Figure 15.10   Record Code WT: Ward Control **Data Sheet**

Table 15.10   Entry Fields for Record Code WT

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	Time Period Number	O-7 = number	This field determines which time period this field is. Up to eight time periods are allowed. -Each time period number must be unique.
13-14	Begin Time by Hour	00-23 = number	Indicate the hour that this feature, which prevents rooms from being rung, goes into effect.
15-16	Begin Time by Minute	00-59 = number	Indicate the minute of the hour that this feature goes into effect.
17-18	End Time by Hour	00-23 = number	Indicate the hour that the feature is no longer in effect.
19-20	End Time by Minute	00-59 = number	Indicate the minute of the hour that this feature is no longer in effect.
21-52	Ward Number	**A** = allowed **D** = disallowed	Enter A if the time periods created in columns 12-20 are in effect for this ward number. -Ward numbers are assigned to stations on Record Code LM, columns 32-33. -Ward control is assigned to attendants on Record Code AT, columns 39-40. -If allowed, the attendant can change these timing parameters from the console. **NOTE:** If a ward number is listed on Record Code LM, it must also be listed on this record code.

**CENTRALIZED
ANSWERING
SERVICE
BRANCH/MAIN**

16.0 This section describes the record codes required to define the various system CAS (Centralized Answering Service) features. The following record codes are required:

- Record Code CF defines the system CAS Branch features.

- Record Code AD defines the CAS Main agent position.

- Record Code AF defines ACD recorder announcer access.

- Record Code AG defines agent group characteristics.

- Record Code DK defines repertory dial numbers.

- Record Code RC defines RLT (Release Link Trunks) characteristics.

- Record Code SM defines LCD (Liquid Crystal Display) messages.

- Record Code SP defines supervisor messages.

- Record Code TM defines supervisor repertory dial key.

- Record Code RA defines CAS Main/ACD recorder announcers.

- Record Code SD defines secondary directory numbers.

Record Code CF:
CAS Branch Features

16.1 Record Code CF, Figure 16.1, defines the CAS Branch features used by the system.

Figure 16.1   Record Code CF: CAS Branch Features Data Sheet

Table 16.1   Entry Field for Record Code CF

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Release Link Trunk Displayable COS	**00-15** = number	Assign the displayable class of service for the RLT (Release Link Trunk). -The displayable class of service must appear on Record Code DC.
14-15	Release Link Trunk N-Displayable COS	**00-1**5 = number	Assign the n-displayable class of service for the RLT. -The n-displayable class of service must appear on Record Code NC.
16	Release Link Trunks Busy, Divert to Recorder Announcer	**Y** = divert - = no divert	Enter Y if the RLT diverts to a recorder announcer.
17	Camp on Recorder Announcer PEC	**0** = PEC number - = N/A	Indicate the PEC location of the recorder announcer that the RLT camps on to. -The OMNI S1 only has PEC 0. -If this field is dashed, then columns 18-20, must also be dashed. -If an entry is made in this field, columns 18-20 must have an entry. **NOTE:** If column 16 is dashed, this field must be dashed. If column 16 is Y, this field must not be dashed.
18-20	Camp on Recorder Announcer Group	000-063 = trunk number **---** = N/A	Indicate the trunk number that the RLT camps on to. -The trunk listed should be a member of a trunk group marked for recorder announcer on Record Code T1. -The trunk number field must correspond to a TC form defining a recorder announcer. -In order to work properly, the recorder announcer indicated must be used for this feature only.

Record Code AD: **16.2** Record Code AD, Figure 16.2, defines the agent position
Agent Position data required for the CAS Main and ACD operations. The system
supports a maximum of 192 agents.

Figure 16.2   Record Code AD: Agent Position Data Sheet

Table 16.2   Entry Fields For Record Code AD

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	Agent Group	O-7 = number	Select the agent group number for each of the agent positions.
13-15	Agent Position Number	**000-I 91 =** number	Select the agent position number. This field cannot be dashed.
16-19	Line Number	0000-9999 = number ---- = N/A	Identify the line number associated with the line 1 pushbutton on all Agent Instrument positions.
20	Supervisory Position (Supervisor)	Y = supervisory position N = agent position	Enter Y if this Agent Instrument is used as a supervisor position. -The system supports a maximum of 8 supervisors.
21-24	Supervisor Position (Line Number of Supervisor Line 2)	0000-9999 = number (right justify 3-digit numbers) ---- = agent position	Identify the line number for line 2 of an Agent Instrument being used as a supervisor position. - All supervisor positions are allowed a maximum of two directory numbers.

Table 16.2   Entry Fields for Record Code AD (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
25	Allow Agent to Originate Calls on Line 1	**A** = originating calls is allowed on line 1 ■ = originating calls is not allowed on line 1	Enter A if the Agent Instrument can make calls on line 1. **NOTE:** An Agent Instrument can be assigned up to two directory numbers. If two directory numbers are assigned, it is recommended to disallow outgoing calls on line 1.
26-27	Supervisor Number	**01-08 =** supervisor number	Indicate what supervisor number is given to this agent. -The system supports a maximum of 8 supervisors per system.
28	Supervisor Silent Monitor	Y = silent monitor allowed ■ = not selected	Enter Y if the silent monitor feature can be used. -This feature is used by supervisors only.
29	Link Card Location: PEC	0 = PEC number ■ = no selection NOTE: Enter PEC 0.	If the CAS Main/ACD instrument is a PACET (Programmable Attendant/Agent Console Electronic Telephone), use an unused circuit on FB-17209 card. -Fill in the card location here and in columns 30-33.
30	Link Card Location: Group	**A-D** = group number	Which group (A, B, C, or D) within PEC 0 is this card?
31-32	Link Card Location: Card Slot	**00-I 1 =** slot number	Which card slot within the group is this card?
33	Link Card Location: Circuit Number	O-1 = circuit number ■ = no selection	Which circuit on the card is being used?

Record Code AF:
Limited Automatic
Call Distribution
Feature

16.3 Record Code AF, Figure 16.3, defines the ACD trunk group pilot number or numbers allowed access to the recorder announcer when all stations are busy. The system supports a maximum of four ACD trunk group pilot numbers.

Figure 16.3   Record Code AF: Limited Automatic Call Distribution Feature Data Sheet

Table 16.3   Entry Fields for Record Code AF

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-27	**Automatic Call** Distribution Pilot Numbers l-4	**0000-9999** = pilot number or 000-999 **----** = N/A	This field determines the ACD trunk group pilot number (l-4) that diverts to a recorder announcer message when all stations in the hunt group are busy. -All ACD pilot numbers must appear as a pilot number on Record Code HG. **NOTE:** The ACD pilot number fields must use dashes consistently (e.g., 4321 = allowed; ---- = allowed; 43-- = not allowed).
28-30	Delay Between Incoming Seizure and Divert to Recorder Announcer	**001-255** = seconds **---** = N/A	When a call is in queue for the ACD group, this field determines the number of seconds a call will wait in that queue before it is sent to the recorder announcer message. -If the agent does not answer the queued call within this timing parameter, the call is forwarded to the recorder announcer message.
31-32	Calls Waiting **120-IPM** Flash Rate	01-l 5 = number -- = N/A	Indicate the number of calls waiting in queue before the call pressure indicator flashes at a rate of 120 IPMs.
33-34	**Calls Waiting** 30-IPM Flash Rate	**01-l** 5 = number -- = N/A	Indicate the number of calls waiting in queue before the call pressure indicator flashes at a rate of 30 IPMs. -This number should be less than the number entered in columns 31-32.
35-37	**Tone Type After** Recorder Announcer	**RBT** = ringback tone **MQC** = music on hold	Enter MQC if a caller who has heard the recorder announcer message hears music on hold after the message. Enter RBT if a caller who has heard the recorder announcer message hears ringback tone after the message. Ringback tone is the sound heard when the phone is ringing. -To set up the intercept-to-recorder-announcer condition, Record Code IR must be used. One predefined condition for this application is found on Record Code IR; it is route number 10. For intercept route number 10, Record Code IR must be used. **NOTE:** It is recommended to send the call to music on hold.

Record Code AG: **16.4** Record Code AG, Figure 16.4, defines the characteristics of
Agent Group the agent groups. The system supports a maximum of eight
agent groups.

Figure 16.4 Record Code AG: Agent Group Data Sheet

Table 16.4   Entry Fields for Record Code AG

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	Agent Group Number	**0-7** = number	This field determines the agent group number.
13-15	Music or Tone	**MQT** = music-on-hold **RBT** = ringback tone	If this field is marked MQT and access to a music source is provided, music is heard by the party on hold. If a music source is not provided, quite tone is heard. -If RBT is marked, ringback tone is heard.
16-18	Function	**CAS** = CAS Main **ACD** = ACD	Indicate whether or not the agent group is to act as a CAS Main or an ACD group.
19-21	Monitor Warning Tone	**MWT** = tone **---** = no tone	Enter MWT if the agent hears a warning tone when a supervisor monitors the agent's conversation.
22-24	Night/Day Mode	**NIT** = night mode **DAY** = day mode	Indicate what mode the initial system position is in. If the system goes down, the value that is set here is the mode in which the system will come back up. Enter NIT if agents operate 24 hours a day with no operator to change day/mode if the system goes down. Otherwise someone must go to the console and reset it if the system crashes. -For normal applications use the day mode.
25-26	Night Divert Destination Type	**LN** = line **TK** = trunk group **AG** = agent group **RA** = recorder announcer **AT** = attendant **--** = no destination	Indicate the night divert destination type for all agent calls when the system is in the night mode. If -- (no destination) is used, then ringback tone is heard.
27-30	Night Divert Destination Identifier	**0000-9999** = line number **0000-0063** = trunk group number **0128** = console 0 0064 = console 1 0192 = console 0 and 1 **----** = recorder announcer message played or no divert	Assign the the night destination identifier here.

Table 16.4   Entry Fields for Record Code AG (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
31-32	**Alternate Divert** Destination	**LN = line** **TK** = trunk group **AG** = agent group **RA** = recorder announcer **AT** = Attendant Console -- = no alternate	If a call remains in an agent queue longer than the time selected in columns 37-39, this field determines the alternate divert destination type. -Columns 33-36 define what line, trunk or agent group, etc. the destination is. **NOTE:** If an entry is made in this field, then an entry is required in columns 33-39.
33-36	Alternate Divert **Destination** Identifier	0000-9999 = line number 0000-0063 = trunk group number 0000-0007 = agent group number 0, 64, **128, or** 192 = Attendant Console combination number -- = no divert recorder announcer message played	Assign the alternate divert destination here. -If a line is used and three-digit numbers are in effect, the numbers must be right justified. -If ---- (for no divert recorder announcer message played) is used, it defaults to number 3, which is the night recording. -The night recording indicates that the office **is** closed. **NOTE:** If an entry is made in this field, then an entry is required in columns 31-32 and 37-39.
37-39	Alternate Divert Destination TIming	000-225 = seconds --- = not used	Assign the number of seconds a call must wait in queue before it is forwarded to the alternate divert destination. Note: If an entry is made in this field, then an entry is required in columns 31-32 and 33-39.
40	Play Recorder Announcer #1 Before Routing to Agent Group	Y = RA #1 N = not used	Indicate whether or not recorder announcer #1 is played before the call is routed to an agent. -The recording will play only once.
41	Recorder Announcer #1	1 = RA #1 **A** = alternate RA #1 - = not used	If a recorder announcer is played, this field determines whether recorder announcer #1 or alternate recorder announcer #1 will be played. -The recording will play only once.

Table 16.4   Entry Fields for Record Code AG (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
42-44	Time Between Recorder Announcer #1 and Recorder Announcer #2	**001-255 =** seconds --- = not used	Assign the number of seconds between playing RA #1 and RA #2.
45	Recorder Announcer #2	2 = RA #2 A = alternate RA #2 ■ = not used	If a recorder announcer is to be played, this field determines whether recorder announcer #2 or alternate recorder announcer #2 is played. -The recording is played only once unless column 46 is marked Y.
46	Repeat Recorder Announcer #2	Y = repeat RA #2 N = not used	This field determines whether or not recorder announcer #2 is to be repeated.
47-49	Time Between Repeats of Recorder Announcer #2	001-255 = seconds --- = not used	This field determines the number of seconds between playing the repeats of recorder announcer #2.
50	Recorder Announcer #3	2 = RA #2 ■ = not used	Indicate whether or not recorder announcer #3 is played. -Recorder announcer #3 is used for the night recording.
51-53	Call Waiting Level #1	001-255 = number of calls --- = not used	This field determines the number of calls for call waiting level #1. -This feature is the light on the Agent Instrument that indicates the number of calls in queue.
54-56	Call Waiting Level #2	001-255 = number of calls --- = not used	Assign the number of calls for call waiting level #2.
57-59	Call Waiting Level #3	001-255 = number of calls --- = not used	Assign the number of calls for call waiting level #3.
60-63	Pilot Number of Agent Group	0000-9999 = line number ---- = not used	Identify the pilot number of the agent group. -Three-digit numbers should be right justified.
64	Repertory Dial Set	O-3 = number ■ = not used	The system can support only four instruments, with this feature.

Table 16.4   Entry Fields for Record Code AG (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
65	Agent Hands - Free Operation	Y = used ■ = not used	This field determines whether or not the agent is allowed hands-free operation.
66-68	Time in Work State	**001-254 = seconds** **INF** = infinite time (as much time as is needed before another call comes in) --- = not used	Enter the time allowed for the agent to be in the work state. -When the agent is in the work'state, calls are not sent to the agent's telephone. -This gives the agent time to complete necessary paper work before another call comes in.
69-71	Force Administration Data System Call Delay Time	--- = only allowed entry	This feature is not supported by the OMNI SI and must be dashed.
72	Early Unstaff	**E** = early unstaffed ■ = not allowed	If an IFP is used, the feature is built in. -This feature acts like forward busy.
73	CAS Local Flash	**M** = CAS Main or ACD ■ = CAS Branch (default)	Enter M if a relay flash is allowed to the CAS Main or the CAS Branch.
74	Alert Tone	**M** = CAS Main ■ = CAS Branch	Enter M if a alerting tone is provided by the CAS Main or the CAS Branch.
75	Agent Transfer	X = agent transfer ■ = not allowed	Enter X if the agent is allowed to transfer calls.
76	Terminate to Agent	**T** = terminate to agent ■ = not allowed	This field determines whether or not the agent is allowed to receive transferred calls. -If a T is marked, then the agent is allowed to receive in-house calls.
77	Line/Attendant Transfer to Agent Line 1	X = allowed ■ = not allowed	This field determines whether or not the agent is allowed to receive transferred attendant or line calls on line 1. -If an X is marked, then the agent is allowed to receive transferred external calls.

Record Code DK:
Repertory Dial Key Code

16.5 Record Code DK, Figure **16. 5,** defines the set of repertory dial numbers that can be assigned to agent groups. The maximum number of entries for each repertory dial set is 17, corresponding to the repertory dial keys on the CAS Main instrument. If the agent group is ACD, the maximum number of code entries is 16. One entry should be made for each agent group. Use one record for each repertory dial number in each of the sets.

Figure 16.5   Record Code DK: Repertory Dial Key Code Data Sheet

Table 16.5   Entry Field for Record Code DK

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	Set Number	O-3 = number	This field determines the set used.
13-14	Repeat Dial Key - Number	00-l 6 = number	This field determines the repertory dial key.
15-30	Dial Key Code	**A-Z** 0-9 **/** **?** **=** * , : ; . **+** **#** **$** and **blank=** allowable entries	Indicate the repertory dial key characters assigned to the indicated dial key. -Each dial key code can be 16 characters. **NOTE:** The following seven ASCII characters can also be entered in the dial key code: **&** = pause (= in character position 1, repertory dial key applies to line 1) = in character position 1, repertory dial key applies to line 2 **<** = in character position 1, auto connect to line 2 auto disconnect line 2; if active, enter line 1 on hold > = in character position 1, auto connect to line 2 and enter line 1 on hold % = hookswitch flash **@** = release

Record Code RC:
Release Link
TrunkCircuit

16.6 Record Code RC, Figure 16.6, defines the trunk characteristics associated with the CAS (Centralized Answering Service) Branch RLTs (Release Link Trunks).

Figure 16.6   Record Code RC: Release Link Trunk Circuit Data Sheet

Table 16.6   Entry Field for Record Code RC

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Release Link Trunk Number	**00-I** 5 = number	The release link trunk number must be unique across this record code. Each RLT number must be unique across this form.
14	PEC	0 = PEC number	Enter PEC 0. -The physical location for each RLT must be unique. -The card used is a double-width card.
15	Group	**A-D** = group number	Which group (A, B, C, or D) within PEC 0 is this card?
16-17	Card Slot	**00-I 1 =** slot number	Which card slot within the group is this card?
18	Circuit Number	O-3 = assigned circuit number	Which circuit on the card is being used?
19-20	Equipped Status	IS = in service OS = out of service	Is the card in service or out of service?
21-22	Release Link Trunk Type	**RL =** RLT card type on Record Code FR **EM** = ERLT type on Record Code FR	Assign the card type used to support this trunk. -If an FB-17251 card is used, enter RL. -If an FB-17201 card is used, enter EM.
23	Guaranteed Access	Y = required (CAS Main) - = not required	Enter Y if the system guarantees a time slot for the RLT circuits. -It is recommended to give RLTs guaranteed access.
24-27	Release Link Trunk Directory Test Number	0000-9999 = number ---- = N/A	Indicate the directory number assigned for each RLT that provides a special 100-millisecond tone to alert the agent that this is a test call. -When entering three-digit numbers, leave column 24 blank before entering the digits. **NOTE:** It is recommended that each branch have a test line. Due to the high cost of the RLT, this trunk should be tested daily for malfunctions.

Record Code SM: **16.7** Record Code SM, Figure 16.7, defines the message that
Source Messages   appears in the LCD (Liquid Crystal Display) of the agent's
instrument. These messages are displayed when a call from a
source group is routed to an agent.

Figure 16.7   Record Code SM: Source Messages Data **Sheet**

Table 16.7   Entry Field for Record Code SM

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Source Group Number	00-31 = number	This field determines the source group number.
14-29	Message	A-Z 0-9 / ? = . * , ; + # & and **blank=** allowable entries	This field determines the source message up to 16 characters long.

Record Code SP: 16.8 Record Code SP, Figure 16.8, defines selected messages
Special Messages   that a supervisor can send to an agent. The system supports a
maximum of eight messages.

Figure 16.8   Record Code SP: Special Messages Data Sheet

Table 16.8   Entry Fields for Record Code SP

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
1 2	Message Number	O-7 = number	This field determines the number assigned to the message. -This number is used by the system for identification purposes.
13-28	Message	**A-Z** o-9 / ? = * ' : ; + # $ and **blank=** allowable entries	This field determines the special message that will appear on the agent's instrument. -This message can be up to 16 characters long.

**Record Code TM:
Supervisor Talk/Monitor
Repertory Dial
Key Code**

16.9 Record Code TM, Figure 16.9, defines the supervisor's repertory dial key code (one maximum). This table has been expanded to collect key codes for the silent monitor feature.

Figure 16.9   Record Code TM: Supervisor Talk/Monitor Repertory Dial Key Code Data Sheet

Table 16.9   Entry Fields for Record Code TM

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-27	**Supervisor's** Dial Key Code	A-Z 0-9 / ? = * , : ; + # $ and **blank=** allowable entries	This field determines the supervisor's dial repertory key code assigned to the supervisor's talk monitor dial key. The dial key code can be a maximum of 16 characters. **NOTE:** The following special ASCII characters can also be used as entries in the supervisor's dial key code: **&** = pause (= in character position 1, repertory dial key applies to line 1) = in character position 1, repertory dial key applies to line 1 **<** = in character position line 1 **>** = in character position line 2 % = hookswitch flash **@** = release
28-43	Supervisor's Silent Monitor Dial Key Code	**A-Z** O-9 / ? = * , : ; + # $ and **blank=** allowable entries	This field determines the supervisor's dial repertory key code assigned to the supervisor's silent monitor dial key. The dial key code can be a maximum of 16 characters. **NOTE:** The following special ASCII characters can also be used as entries in the supervisor's dial key code: & = pause (= in character position 1, repertory dial key applies to line 1) = in character position 1, repertory dial key applies to line 1 **<** = in character position line 1 **>** = in character position line 2 % = hookswitch flash **@** = release

Record Code RA: **16.10** Record Code RA, Figure 16.10, defines the recorder
Recorder Announcer announcer locations used for CAS Main/ACD functions. The
CAS Main/ACD feature supports up to five dedicated recorder
announcers; however, only three recorder announcers can be
used per agent group. One of these is used as a night
recording. The night recording advises that the "office is closed,
please call again."

Figure 16.10   Record Code RA: Recorder Announcer Data Sheet

Table 16.10   Entry Fields For Record Code RA

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	Recorder Announcer #1 PEC	O=PECO ▪ = not selected	If recorder announcer #1 is used, enter 0.
13-15	Recorder Announcer #1 -Trunk Number	000-063 = trunk number -- = not selected	Identify the trunk used in support of recorder announcer #1. -This recording is normally used to inform incoming calls that no agents are available to answer the call because all agents are busy. -Some applications use RA #1 to provide other information as well.
16	Alternate Recorder Announcer #1 PEC	O=PECO ▪ = not selected	If alternate recorder announcer #1 is used, enter 0. -The alternate RA #1 can provide the same or a different message as RA #1 and provide additional access.
17-19	Alternate Recorder Announcer #1 Trunk Number	000-063 = trunk number -- = not selected	Identify the trunk used in support of alternate recorder announcer #1 .
20	Recorder Announcer #2 PEC	O=PEC 0 ▪ = not selected	If recorder announcer #2 is used, enter 0. RA #2 can provide a second recording when agents are still busy.
21-23	Recorder Announcer #2 Trunk Number	000-063 = trunk number -- = not selected	Identify the trunk used in support of recorder announcer #2.
24	Alternate Recorder Announcer #2 PEC	O=PECO ▪ = not selected	If alternate recorder announcer #2 is used, enter 0. -The alternate RA #2 can provide the same message as RA #2 or a different mesage. It also provides additional access.

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Table 16.10   Entry Fields for Record Code RA (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
25-27	Alternate Recorder Announcer #2 Trunk Number	000-I 27 = trunk number --- = not selected	Identify the trunk used in support of alternate recorder announcer #2.
28	Recorder Announcer #3 PEC	0 = PEC 0 ■ = not selected	If recorder announcer #3 is used, enter 0. This recorder announcer is used for the night recording.
29-31	Recorder Announcer #3 Trunk Number	000-127 = trunk number --- = not selected	Identify the trunk used in support of recorder announcer #3.
32	Return Answer on Recorder Announcer #1	Y = return answer N = not selected	Enter Y if RA #1 has message return answer supervision. -A trunk must be answered before an RA message can be heard (a ringdown central office trunk). -The E&M and DID trunks can be connected to an RA without answer supervision being returned.
33	Return Answer on Alternate Recorder Announcer #1	Y = return answer N = not selected	Enter Y if alternate RA #1 has message return answer supervision.
34	Return Answer on Recorder Announcer #2	Y = return answer N = not selected	Enter Y if RA #2 has message return answer supervision.
35	Return Answer on Alternate Recorder Announcer #2	Y = return answer N = not selected	Enter Y if alternate RA #2 has message return answer supervision.
36	Return Answer on Recorder Announcer #3	Y = return answer N = not selected	Enter Y if RA #3 has message return answer supervision.

Record Code SD:
CAS Secondary
Directory Numbers

16.11 Record Code SD, Figure 16.11, defines the secondary directory numbers of a branch that **are** directed to the primary directory numbers of that branch. All secondary directory numbers must be unique and cannot be a primary directory number or a pilot number of a station hunt group.

Figure 16.11   Record Code SD: CAS Secondary Directory Numbers Data Sheet

Table 16.11   Entry Fields for Record Code SD

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-15	Primary Directory Numbers	0000-9999 = number	Assign the primary directory number of a line that is to have secondary directory numbers. -The primary directory number must have an n-displayable class of service with SD (CAS secondary number) specified. -This number must be a valid directory number appearing on Record Code LD.
16-55	**CAS** Secondary Numbers	0000-9999 = number ---- = N/A **NOTE:** The numbers must be filled in from right to left; if dashes are used, they must be consistent,	This field determines the CAS Branch secondary directory numbers. -Enter the secondary directory numbers associated with a primary directory number. -These numbers are divided into 10 four-digit number groups. -Columns 16-l 9 cannot be dashed. -If three-digit numbers are used, they must be right justified. **NOTE:** A line number defined on Record Code LD, with a class of service specifying a secondary directory number, must appear as the primary directory number on Record Code SD.

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PD-200
PACKET DATA

17.0 This section describes the record codes required to define the various system packet data features. The following record codes are required:

- Record Code RT defines the data system routing patterns.

- Record Code CP defines additional call routing information.

- Record Code AP defines the system's APMs (Asynchronous Packet Managers).

- Record Code AQ defines port parameters that can be modified by another device.

- Record Code XP defines the system's SPMs (Synchronous Packet Managers).

- Record Code P1 defines the ADMP parameters.

- Record Code P2 defines additional ADMP parameters.

- Record Code CI defines global information.

- Record Code C2 defines additional global information.

- Record Code SR defines PD-200 speed call numbers.

In addition to the above record codes, FR, LD, and SL must be completed for a data system.

Record Code RT:
Data System
Routing

17.1 Record Code RT, Figure 17.1 defines the system numbering plan by groups according to the type of usage. Since each server number represents one type of usage, one entry is required per server number. The sub-port field (columns 29-30) must be dashed for both asynchronous and synchronous (X.25) groups. Primary and secondary destination fields (columns 33-42) are only used if the usage type defined in columns 15-16 is 01 or 02. The primary and secondary destination fields define the VPLC (Voice Packet Line Card) location and the VPLC circuit, which is connected to the associated SPM (Synchronous Packet Manager). Any X.121 address defined on this record code must also be defined on Record Code CP.

NOTE: A NIC (Network Interface Card) is treated the same as an SPM (X.25).

Figure 17.1   Record Code RT: Data System Routing Data Sheet

Table 17.1   Entry Fields for Record Code RT

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-14	Index Route Number	001-126 = number	This field determines the index route number and is used by the system for identification purposes.
15-16	Usage	00 01 02 03 04 05 06 or 07	Indicate the types of devices routed to by this address and how the switch is to send calls to them. This field is generally set to 5 for asynchronous devices. The types are: 00= X.25 single line. The device routed to is an X.25 SPM, and only one device can receive calls to this address. 01 = X.25 load share. Two SPMs can receive calls to this address, and the one with the most current LCN (Logical Channel Number) capacity receives the call. This feature is often used to double the LCN capacity into a single X.25 host or to provide connections into two physical hosts that act as a single virtual host. 02 = X.25 backup. Two SPMs are also addressed by this type, but the secondary device is used only in cases where the primary cannot be used (either the line is down or it is at LCN capacity). This provides an emergency route to a host via another PD-200 or a PDN (Public Data Network). 03 = ADMP. The Administrative Pseudo-Packet Device Handler can be specified in the routing tables. Calls to it are treated like a single line X.25 route, but are sent to the ADMP. 04 = asynchronous direct ordered non-rotary groups. Asynchronous devices can be directly addressed by sub-address (digits 13 and 14 of the X.121 address can be from 01 - 89), the group is built in incrementally increasing sub-address order. Terminals are normally put into this category. 05 = Asynchronous, direct-ordered rotary hunt groups. Asynchronous devices can be called directly as above or can be addressed as a group with sub-address 00. When a sub-address is used, the first device available and usable in the group is selected; if it does not answer (e.g., - host ringing timeout), the next available usable device is tried, and so on.

Table 17.1   Entry Fields for Record Code RT (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
15-16 cont'd	Usage --	0 0 01 0 2 0 3 0 4 0 5 06 or 07	06 = asynchronous, random-ordered non-rotary groups. Asynchronous devices are addressed directly by sub-address 01-89, but the actual order in which the group is built depends only on the order in which the devices are loaded and initialized. Unlike the direct-ordered variety, these groups can have any sub-address (from 01 ▪ 89) no matter what the group size. Direct-ordered groups are limited in sub-address from 01 to size-of-group. Terminals can be configured in this type of group. 07 = asynchronous, random-ordered rotary hunt groups. Asynchronous devices are addressable with sub-address 00 or (directly) with any sub-address allowed in the group.
17-20	X.1 21 Address (DNIC)	O-9 = select ▪ = not selected	This field contains the Data Network Identifier Code (DNIC: first 4 digits of the X.121 address), the main server address (next 8 digits), and port number (last 2 digits). -The full address is structured as DNIC SSSSSSSS PP, where SSSSSSSS is the 8-digit server number and PP is the sub-address number of the port. -The DNIC will usually be 3110. The server number will identify the PD-200 network end routing group (when data calls are made outside this network e.g., to Telenet). -The network assigns the X.121 sever ID number. The port number is the portion of the address that is used to sequence "ordered" type asynchronous device groups. -Column 17 cannot be dashed.
21-28	X.121 Address (server)	O-9 ▪ = not selected	Indicate the server number of the X.121 address used for this route.
29-30	X.1 21 Address (sub-port)	-- = not selected, this is the only allowed entry	Indicate the sub-port number of the X.121 address used for this route. -This field must be dashed.

Table 17.1 Entry Fields for Record Code RT (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
31-32	Maximum Size of This Rotary	01-89 = number	Identify the number of asynchronous devices that make up this rotary group. -This is the number of ports actually defined for this group of devices. -The field must be less than or equal to the Maximum Number To Configure field. -This field applies only if columns 15-16 are marked 05 or 07. -If columns 15-16 are marked 00, 01, 02, 03, 04, or 06, this field must be dashed. -Since each number defined here requires a software address, it is not recommended to overbuild for possible growth.
33	Primary X.25 Route Destination PEC	0 = PEC number	This field determines the location of the first route used by an SPM (X.25) or NIC when the usage type defined in columns 15-16 is 01 or 02. -If the usage type defined in columns 15-16 is 00, 03, 04, 05, 06, or 07, this field must be dashed. Enter PEC 0.
34	Group	A-D = group number	Which group (A, B, C, or D) within PEC 0 is this card?
35-36	Card Slot	00-10 = slot number	Which card slot within the group is this card?
37	Circuit Number	0-7 = assigned circuit number - = N/A	Which circuit on the card is being used?
38	Secondary X.25 Route Destination. PEC	0 = PEC number	This field determines the location of the second route used by an SPM (X.25) or NIC when the usage type defined in columns 15-16 is 01 or 02. -If the usage type defined in columns 15-16 is 00, 03, 04, 05, 06, or 07, this field must be dashed. Enter PEC 0.
39	Group	A-D = group number	Which group (A, B, C, or D) within PEC 0 is this card?
40-41	Card Slot	00-10 = slot number	Which card slot within the group is this card?
42	Circuit Number	0-7 = assigned circuit number - = N/A	Which circuit on the card is being used?

Record Code CP:
Data System
Common Port

17.2 Record Code CP, Figure 17.2, defines the parameters for the common asynchronous and synchronous (X.25) port attributes. The parameters required by the data system ADMP processor are also defined. The X.121 address is used for data call setup and verification. The system requires an entry in this record code for each of the following:

* SPM (Synchronous Packet Manager)
● APM (Asynchronous Packet Manager)
● ADMP (each two-card set)
● NIC (Network Interface Card)

Record Code RT establishes groups of lines by usage; Record Code CP identifies each member of each group. The sub-ports for the asynchronous groups (established on Record Code RT) must be defined here. Sub-ports are never defined for SPMs or NICs. A synchronous (X.25) group can have a maximum of two synchronous members. If a synchronous (X.25) group has two members, both members must have the same X.121 address.

Figure 17.2   Record Code CP: Data System Common Port Data Sheet

Table 17.2   Entry Fields for Record Code CP

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	PEC	0 = PEC number	Identify the controlling PEC for this remote processor. -Enter PEC 0.
13	Group	A-D = group number	Identify the group where the remote processor is configured. -Which group (A, B, C, or D) within PEC 0 is this card?
14-15	Card Slot	00-10 = slot number	Identify the slot where the remote processor is configured. -Which card slot within the group is this card? -Card slot 11 cannot be used.
16	Circuit Number	0-7 = assigned circuit number	Identify the circuit of the remote processor. -Which circuit on the card is being used?
17-20	X.1 21 Address (DNIC)	0-9 = number - = not selected	This field determines the DNIC of the X.121 address. This is the X.121 address for the device as the network sees it. This address is like a phone number for a data network. -The X.121 addresses are gotten from a network just as DID numbers are gotten from a CO. -The PD-200 system requires X.121 addresses. -This address is used in the processing of X.25 call setup and verification. -If the device is asynchronous, this address must be 14 digits. -If the device is a synchronous X.25 or if the device is an ADMP, this address can contain 0-1 4 digits. -X.121 addresses are checked by data base or the UCB/DCP. All X.121 addresses must be different. The DNIC is the first four digits of the X.121 address and will usually be 3110. -311 = USA or country number: 0 = Telenet or newtork number. -The DNIC identifies the PD-200 network. -If data calls will be made outside this network (e. g., to Telenet), server numbers are assigned by the network. -Dashes cannot be entered in column 17.

Table 17.2 Entry Fields for Record Code **CP** (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
21-28	X.1 21 Address (sever number)	O-9 = number ■ = not selected	identify the sever number of the X.121 address. -The sever number is the next eight digits after the DNIC. -The sever number identifies the PD-200 routing group.
29-30	X.1 21 Address (sub-port)	O-9 = number ■ = not selected	Identify the sub-port number of the X.121 address. -Only asynchronous devices require an entry in this field. -These last two digits of the X.121 address are the port number and specify the specific device.
31-34	Device or Port Type	**Term** **Host** X.25 or **PX25**	This field determines the type of endpoint device to which the APM or SPM is connected. -If this field is defined as an asynchronous terminal or host, the asynchronous configuration tables will be used. Otherwise, use the X.25 tables. -Term = APM is attached to an asynchronous terminal or modem. -Host =APM is attached to an asynchronous host. -X.25 = SPM is attached to any X.25 device. -**PX25** = device is an ADMP. NOTE: If columns 31-34 = PX25, columns 14-15 must contain the slot number of the ADMP A card and column 16 must be marked 0.
35	Account Calls From/To This Device	Y = collected N = not collected (always N for ADMP)	Enter Y if accounting of calls to/from this device is collected. -If this parameter is enabled, an accounting record will be generated. -If both devices involved in a call have this field disabled, no account record will be generated.
36	Fast Selected Acceptance Supported	Y = selected N = not selected (always N for asynchronous)	Enter Y if the connected device supports accepting of fast select. -If this is enabled and a fast select call is directed toward this device, that call will be allowed to connect as long as there are no other facility conflicts. Otherwise, the call is cleared. -This field is only used with SPM ports.

Table 17.2   Entry Fields for Record Code CP (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
37	Throughput Class Negotiation	**Y** = selected **N** = not selected (always no for asynchronous)	Enter Y if the connected device supports throughput class negotiation according to X.25 standards. -The rules for negotiation and facility usage are the same as in flow control (by CCITT standards). This field determines whether or not throughput class negotiation is supported.
38	Window and Packet Size Negotiation	**Y** = selected N = not selected	Enter Y if the connected device supports window and packet size negotiation that is according to X.25 standards. -If enabled, the window and packet size facilities will always be placed in call request packets to the device and checked in any call or accept packets from the device. -Standard CCITT X.25 negotiation rules will be enforced. If not enabled, the facilities will not be allowed from the device and will not be sent to that device. -Only X.25 SPMs can negotiate these parameters; APMs should be set to N. -This field determines whether or not window and packet size negotiation is supported. -This field is only used with SPM ports (X.25 in columns 31-34). -If columns 31-34 are marked Term, Host or PX25, mark this field N.
39	Bar Calls From Device	Y = barred N = not barred	Enter Y if the call processor allows outgoing calls to the device through the network. -If calls cannot be placed from the device, it becomes a terminate-only device.
40	Bar Calls To Device	Y = barred N = not barred	Enter Y if the call processor can allow any ingoing calls to the device through the network. -If calls cannot be placed to the device, it becomes an originate-only device.

Table 17.2   Entry Fields for Record Code CP (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
41	Make Paid Calls	Y = selected (always Y for ADMP) N = not selected	This field is only valid for asynchronous terminals/modems connected to APMs. -The field specifies the charging default for the connect command from this device. -The default is either to make caller paid calls or collect (reverse charge) calls. -This is part of the facility field of the call packet. -If this field is enabled (Y), the default will be the placement of paid calls. This port is billed by the network for calls it originates. -If disabled (N), the default will be collect calls from this device. -The terminal user may enter an R (requesting reverse charging) or a P (requesting paid call) at the end of the connect command and this will always override the default. -If this column is marked Y and column 42 is marked N, the normal connect command will fail to work properly. -Since the host usually pays a call charge, most terminals do not make paid calls.
42	**Accept Collect** Calls	Y = selected **(always Y for** ADMP) N = not selected	This field specifies whether or not this device is billable. -Billable devices may initiate paid calls (or collect calls) and should accept a call that has the collect facility specified in the call packet. -If this field is enabled (Y), the call processor will allow such calls to the device and this device will have to pay for the call. -Otherwise, calls having the collect (reverse charging) facility are not be able to connect to this device (the call will be cleared). -If this field is marked N, this device may initiate only collect calls. -If this column is marked Y and column 42 is marked N, accounting information will be lost for collect calls. -Y is normally selected.
43	Is the Data System Configured as DCE?	Y = selected (always Y) N = not selected	Enter Y if the system is configured as a DCE. -Always enter Y for ADMP and NIC.

Table 17.2   Entry Fields for Record Code CP (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
44	Is the Data System a DCE?	Y = selected **NOTE:** Enter Y if SPM is connected to a PDN (Public Data Network) N = not selected (usually N)	This field determines if this device is configured as a DCE.
45	ADMP or MDR	**M = MDR** - = not connected **MDA = PX25** device	Enter M if the port is connected to an MDR. -If columns 31-34 are marked PX25, enter A in this field.

**Record Code AP:
Data System
Asynchrouous Port**

17.3 Record Code AP, Figure 17.3, defines the common interface parameters for each APM (Asynchronous Packet Manager). This record code is only used for asynchrouous ports, and an entry for each APM must be found here.

There are three types of parameters that are defined for each of the terminals or groups of terminals. They are:

- X.3 parameters
- Local parameters
- Optional subscription parameters

For normal applications, all terminals within the same group (having the same DNIC and server number) have the same parameters, depending on the terminal types.

Figure 17.3   Record Code AP: Data System Asynchronous Port Data Sheet

Table 17.3A   Entry Fields for Record Code AP

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	PEC	0 = PEC number	This field determines the location of the line card (VPLC) used in support of this APM. -Enter PEC 0.
13	Group	A-D = group number	Which group (A, B, C, or D) within PEC 0 is this card?
14-15	Card Slot	00-10 = slot number	Which card slot within the group is this card?
16	Circuit Number	0-7 = assigned circuit number	Which circuit on the card is being used?
17-19	ASCII Character for Escaping from Data Transfer	0 1 or 2-127 suggested value = 1 for terminals 0 for host	Indicate the ASCII character that the DTE user can input to initiate an escape from the data transfer mode. 0 = escape not possible 1 = DLE character initiates escape 2-127 = selected character initiates escape -If another ASCII character is required, see Table 17.3B. -This parameter specifies the character used to indicate to the terminal that the user wants to enter command mode. -The value is the decimal equivalent of the ASCII character to be typed. -This is X.3 parameter 1.
20	Pad Echo	0 = no echo 1 = echo suggested value = 1 for terminals 0 for host	This field specifies the default value of ECHO. -If this parameter is enabled, then ECHO will occur in data transfer mode; otherwise, no echoing will occur in data transfer mode. -This field is normally set at 0 for full duplex and 1 for half duplex. If station equipment does not display information that is keyed in, then try setting this field to 1. -This is X.3 parameter 2.

Table **17.3A**   Entry Fields for Record Code AP (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
21-23	Data IForwarding Characters	0 1 2 4 8 16 32 64 128 suggested value = 2 for terminals 0 for host	Indicate a predefined character or set of characters that are typed by the user (DTE) to tell the terminal to transmit/forward a packet. 0 = user cannot initiate data forwarding 1 = alphanumeric characters (A-Z, a-z, 0-9) 2 = carriage return 4 = characters ESC, BEL, ENQ, ACK 8 = characters DEL, CAN, DC2 16 = characters ETX, EOT 32 = characters HT, LF, VT, FF 64 = a character inserted by the user in user text column 0 or 1 which is not any of the characters listed in O-32 above 128 = all other characters not mentioned above -This is X.3 parameter 3.
24-26	dle Timer	0 = data will not be forwarded in the timeout. I-255 = length of delay in 50-ms increments suggested value = 20 for terminals 0 for host	Indicate the allowed interval between input (DTE) characters. -When this interval is exceeded, the timeout causes the forwarding of a packet. -The time is selected in 50-ms increments, so a selection of 2 = 100 ms. -This field specifies the default value of the idle timer. -This timer clocks the time between characters. -If this timer expires, all of the characters buffered up to that point will be forwarded in a packet. -This is X.3 parameter 4.

Table 17.3A   Entry Fields for Record Code AP (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
27	Device Flow Control	0 or 1 suggested value = 0 for terminals **1** for host	This field allows the PAD (remote end) to temporarily slow the output from this device when the PAD is momentarily unable to receive more data . This parameter determines the default value of device flow control. -If this parameter is enabled, the PAD will be able to flow control the device when the PAD falls behind in processing or if the amount of characters buffered becomes too great due to transmission condition or network slow-down. -When the PAD sends a control-S, the device stops transmission to the PAD. If the device continues to transmit and overruns the buffer, data is lost. -When the PAD becomes unblocked, it transmits a control-Q. It continues to transmit this character until the device starts sending data. Then the PAD sends an indication to the connected device that it can continue. 0 = disable use of flow control 1 = enable use of flow control -This is X.3 parameter 5.
28	Printing of Service Signals	0 1 or 5 suggested value = 5 for terminals 0 for host	Indicate wehther or not this device prints network service signals. -Example: Network tells you "connected" upon completing a connection. 0 = no service signals sent to DTE **1** = all service signals except PAD prompt are sent 5 = all service signals sent including PAD prompt -This is X.3 parameter 6. -This parameter sets the default value for control of PAD service signals. -This parameter controls the sending of the PAD generated messages and disallows or allows different classes of messages. -These message classes are user acknowledgments and prompts.

Table 17.3A   Entry Fields for Record Code AP (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
29-30	Break Options	0 1 2 8 or 21 suggested value = 21 for terminals 0 for host	Identify the action to be taken at the remote end when the user (DTE) depresses the break key. 0 = nothing 1 = send an interrupt packet to PAD 2 = reset 8 = escape from the data transfer mode 21 = send an interrupt plus an indication of a break message to PAD and discard output to user (DTE) -This is X.3 parameter 7. X.3 Parameter 8 determines whether or not the system discards the output.
31-32	Padding Characters After Carriage Return	0-31 = number of characters to be inserted. suggested value = 7 for terminals 0 for host	Indicate how many padding characters are to be inserted after a carriage return. -Printing devices need sufficient time for the mechanism to perform the carriage return. -This parameter determines the number of null characters to wait before continuing to send any other characters. -There are no real characters sent. The APM/SPM waits the amount of time it would take to transmit those characters. -This is X.3 parameter 9.
33-35	Line Width	0 or 1-255 suggested value = 80 for terminals 0 for host	Indicate the maximum number of output characters printed per line at the user (DTE) device. 0 = this function will not be performed automatically I-255 = number of characters per line -This parameter specifies the default value of line folding. -This parameter determines the number of characters to transmit before an automatic carriage return/line feed is sent. This causes long lines to fold or wrap onto the next line. -If this parameter is 0, the function is disabled. A backspace will cause the internal counter to be decremented by one for each backspace character received. A carriage return will reset the counter. -This parameter is normally set at 0 since most station equipment performs this function automatically. Otherwise, standard line lengths are 80 or 132 characters. -This is X.3 parameter 10.

Table 17.3A   Entry Fields for Record Code AP (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
36-37	Transmission Speed	0 2 3 12 13 14 or 15	identify the transmission rate at which data is sent. -This is a read-only parameter. 0= 110 bps (uses 2 stop bits) 2 = 300 bps (uses 1 stop bit) 3 = 1.2 kbps (uses 1 stop bit) 12 = 2.4 kbps (uses 1 stop bit) 13 = 4.8 kbps (uses 1 stop bit) 14 = 9.6 kbps (uses 1 stop bit) 15 = 19.2 kbps (uses 1 stop bit) This is X.3 parameter 11.
38	Flow Control of PAD	0 = PAD flow control not allowed. 1 = PAD flow control allowed suggested value = 1 for terminals 1 for host	This field determines whether or not a signal is sent by the user terminal (DTE) to warn the remote end that this terminal is temporarily unable to receive more data. -This field specifies the default value of flow control. -If this parameter is enabled (Y), then the device and/or user of the device can flow control the PAD. -This will disallow transmission of control-S and control-Q. However, if this parameter is disabled (N), the device cannot flow control the PAD, but the device can transmit the flow control characters through the network. -Control-S stops the PAD and control-Q ends flow control. This is commonly done by printers and users that get behind in some type of listing and wish to catch up. -This is X.3 parameter 12.
39	Line Feed Insertion After Carriage Return (CR)	0 1 4 5 6 or 7 suggested value = 4 for terminals 0 for host	Indicate whether or not an automatic insertion of a line feed after any carriage return is transmitted. 0 = no line feed inserted 1 = insert line feed after each carriage return sent to the user terminal (DTE) as data 4 = insert line feed after each carriage return sent to user terminal (DTE) as an echo 5 = combination of 1 and 4 6 = insert line feed after each carriage return sent from the user terminal as data and to the user terminal as an echo 7 = combination of 1 and 6 -This is X.3 parameter 13.

Table 17.3A   Entry Fields for Record Code AP (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
40-41	Padding After Line feed	0-15 = number of PAD characters to be inserted suggested value = 2 for terminals 0 for host	Identify the number of padding characters inserted after the occurrence of a line feed. -Printing devices need sufficient time to perform the line feed. -This parameter determines the default value of line feed padding. -This is the number of null characters after a line feed is sent to a device that the system will pause before sending additional data. -The carriage return padding field is normally assigned. If terminals lose information at the beginning of each line, the value in this field should be increased. -This is X.3 parameter 14.
42	Line Editing	0 or 1 suggested value = 0 for terminals 0 for host	This field allows corrections to be made, during the data transfer mode, to data previously inputted by the user (DTE) -The next three parameters determine the control characters to be used if editing is chosen. 0 = editing not enabled during data transfer 1 = editing enabled during data transfer -This parameter sets the default mode of the editing function that the PAD performs. If this parameter is enabled, the PAD will process editing characters. This only applies to data transfer mode. Editing will always be enabled (Y) for command mode on terminals. If this field is enabled, timers should be turned off and the forwarding condition should be set to transmit on carriage return. If this field is disabled (N), all editing characters (LF, BS, etc.) are lost in data transfer mode. -This is X.3 parameter 15.
43-45	Backspace Character	O-I 27 = character suggested value = 8 (Control H) for terminals 0 for host	Identify the editing character that will delete the previous character entered (backspace function). -See the previous ASCII character set to select another character. O-I 27 = ASCII character to be used for character delete -This is X.3 parameter 16.

Table 17.3A   Entry Fields for Record Code AP (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
46-48	Line Delete Character	0-127 = character suggested value = 24 (Control X) for terminals 0 for host	Identify the character used in editing which will delete the last line entered. -See the previous ASCII character set to select another character. 0-127 = ASCII character to be used for line delete -This is X.3 parameter 17.
49-51	Line Display Character	0-127 = character suggested value = 18 (Control R) for terminals 0 for host	Identify the character to be used in editing which will display the current contents of the PAD buffer. -See the previous ASCII character set to select another character. 0-127 = ASCII character to be used for line display -This is X.3 parameter 18.
52-54	Terminal Type Number	0-127 = character	Identify the type of device attached to each APM. -Enter the appropriate value (O-127) from Table 17.3B. -This option selects local (not CCITT standardized) parameter number 1. -Asynchronous host = 127 -Each APM user can specify the device type while connecting a call. -The terminal type in this field will be used if no other is specified by the user. -The terminal type number choices are listed in Table 17.3C. -This option selects local (not CCITT standardized) parameter number 1.

Table 17.3A   Entry Fields for Record Code AP (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
55	Local Parity Check	0 or 1 suggested value = 1 for terminals 0 for host	This field determines whether or not a local parity check is performed. 0 = no local parity check and send transparently through network (transmit parity received through network) 1 = check local parity and send space parity through network (ignore parity received through network) -This parameter determines the default value of eighth bit transparency. -This function specifies that the PAD should or should not check parity. -If this parameter is enabled, the PAD will check parity. -This field is normally set to N for asynchronous devices. -This field selects local (not CCITT standardized) parameter number 2.
56	Device Parity	0 = odd parity 1 = even parity 2 = mark parity 3 = space parity suggested value = 1 for terminals	This field determines the type of parity to be used locally. - For host, ask the site if the host is configured for odd or even parity. -This parameter determines the parity of the device if the device is a permanent terminal or a host. -This entry must match the parity of the device. -This option selects local (not CCITT standardized) parameter number 3.
57	Half or Full Duplex	0 = full duplex 1 = half duplex suggested value = 0 for terminals 1 for host	This field determines if the device is half or full duplex. -This option selects local (not CCITT standardized) parameter number 4.
58-60	Interval Timer	0 1-255 suggested value = 0 for terminals 20 for host	Indicate the maximum time period during which the PAD collects characters for one packet. When this timer expires, the current packet is sent. 0 = packet will not be forwarded when the timer expires 1-255 = number of 50-ms increments before the timer expires -The selection must be made in increments of 50 ms, so a selection of 2 = 100 ms. -This option selects local (not CCITT standardized) parameter number 5.

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Table 17.3A   Entry Fields for Record Code AP (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
61-63	Break Signal Timing	002-006 = number of increments suggested value = 5 (250 ms) for terminals 5 (250 ms) for host	Assign the length of the break signal to the asynchronous device. -The selection must be made in increments of 50 ms, so a selection of 2 = 100 ms.
64-66	Command Inactivity Timer	O-255 = number of increments suggested value = 12 (60 **seconds)** for terminals 0 for host	If this timer is enabled, it drops the connection when no user commands are sent within the time period specified. -The user may disable this timer by the user command signal "Test No-Disconnect." -The selection must be made in increments of 5 seconds each, so a selection of 2 = 10 seconds.
67-69	Data Transfer Inactivity Timer	0 or l-255 suggested value = 0 for terminals 0 for host	If this timer is enabled, it drops the connection when data is not transmitted or received within the time period specified. 0 = timer disabled. 1-255 = number of increments (5 minutes each) -The selection must be made in increments of 5 minutes, so a selection of 2 = 10 minutes.

Table 17.3A   Entry Fields for Record Code AP (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
70 ...	Data Set Signal Wait-Down Timer "	Y = timer enabled N = timer disabled suggested value = Y for terminals N for host	This field determines whether or not this timer is enabled or disabled. -The timer controls the delay between the time when the user disconnects (goes on-hook) and the time when the connection is actually dropped. -If Y is selected (enable), mark Record Code Cl, columns 46-48, with the actual delay time. -This configuration parameter determines whether or not the port is configured to use the DSS wait-down option. -This option specifies the use of the disconnect delay timer. -This timer comes into effect any time the PAD disconnects the device (terminal or host). When a PAD drops its DSS, it begins running this timer. When the timer expires, the PAD can continue on to its next DSS state. -This parameter specifies whether or not this timer value can be used. =If this field is enabled, the PAD will use the timer that is defined on Record Code AP, columns 24-26, for APMs or XP, columns 60-62, for SPMs; otherwise, no timer will be run. This allows hosts that do not scan their DSS very quickly to catch ports that were remotely disconnected.

Table 17.3A   Entry Fields for Record Code AP (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
71	Autobaud	Y = autobaud enabled N = autobaud disabled suggested value = **Y** for terminals **N** for host	This field determines whether or not this line/device can support autobaud. -Autobaud allows the user to use all speeds and parity supported by the system without making changes in the data base. -The user must only type the appropriate hunt confirm sequence at connect time and the system will set the appropriate speed. -This configuration parameter determines whether or not the associated terminal dynamically changes its speed and will, on initialization, go through hunt confirm. -Hunt confirm is a sequence of characters that will allow the PDH to detect the speed of the terminal. -Value Y = hunt/confirm is required for the terminal. -Value N = hunt/confirm is not required; TTY is fixed speed. -If this field is marked Y, the system will ignore the entry made in columns 36-37 which defines the transmission speed.
72	Is Terminal Permanent?	Y = terminal is permanent N = terminal is not permanent suggested value = **N** for terminals **Y** for host	This field determines whether or not this port will always be attached to the same terminal type.
73	Wait for Data Set Signal Drop	Y = wait enabled N = wait disabled suggested value = **Y** for terminals **N** for host	Indicate whether or not this APM is to wait for DTR (Data Terminal Ready) to drop before allowing a new call.
74	Host Line Adaptive Speed	Y = adaptive speed enabled N = adaptive speed disabled suggested value = **N** for terminals **Y** for host	Indicate whether or not the host attached to this APM supports adaptive speed. -This option never applies to APMs attached to terminals.

Table 17.3A Entry Fields for Record Code AP (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
75-77	Echo Characters	0 1 2 4 8 16 32 64 128 or 255 suggested value = **255** for terminals **0** for host	If the PAD Echo option = yes, this field determines which characters are to be echoed. **0** = no characters echoed **1** = alphanumeric characters (A-Z, a-z, 0-9) **2** = carriage return **4** = characters ESC, BEL, ENQ, ACK **8** = characters DEL, CAN, DC2 **16** = characters ETX, EOT **32** = characters HT, LF, VT, FF **64** = a character inserted by the user in user text columns 0 or 1 which is not any of the characters listed in 0-32 above **128** = all other characters not mentioned above **255** = all characters
78	APM Configuration	**0-3** = number	This field determines the configuration which applies to this APM. -A modem pool will be configured as 2. **0** = APM attached to host with modem **1** = APM attached to host directly **2** = APM attached to terminal with modem **3** = APM attached to terminal directly
79-80	Reserved	-- = only allowed entry	This field is reserved for future use.

Table 17.3B ASCII Character Set

ASCII DEC. NO.	CHAR.	MEANING	ASCII DEC. NO.	CHAR.	MEANING
2	STX	Start of text	33	!	Exclamation mark
3	ETX	End of text	34	"	Quotation mark
4	EOT	End of transmission	35	#	Number sign
5	ENQ	Enquiry	36	$	Dollar sign
6	ACK	Acknowledgment	37	%	Percent sign
7	BEL	Bell	38	&	Ampersand
8	BS	Backspace	39	'	Apostrophe
9	HT	Horizontal tab	42	*	Asterisk
10	LF	Line feed	43	+	Plus sign
11	VT	Vertical tab	44	,	Comma
12	FF	Form feed	45	-	Minus sign or hyphen
13	CR	Carriage return	46	.	Period or decimal point
14	SO	Shift out	47	/	Slash
15	SI	Shift in	48	0	Zero
16	DLE	Data link escape	49	1	One
17	DC1	Device control 1	50	2	Two
18	DC2	Device control 2	51	3	Three
19	DC3	Device control 3	52	4	Four
20	DC4	Device control 4	53	5	Five
21	NAK	Negative acknowledgment	54	6	Six
22	SYN	Synchronous idle	55	7	Seven
23	EAPM	End of transmission block	56	8	Eight
24	CAN	Cancel	57	9	Nine
25	EM	End of medium	58	:	Colon
26	SUB	Substitute	59	;	Semicolon
27	ESC	Escape	60	L	Left angle bracket
28	FS	File separator	61	=	Equal sign
29	GS	Group separator	62	⌐	Right angle bracket
30	RS	Record separator	63	?	Question mark
31	US	Unit separator	64	@	At sign
32	SP	Space or blank	65	A	Upper case A

Table 17.3B ASCII Character Set (Continued)

ASCII DEC.NO	CHAR.	MEANING	ASCII DEC.NO	CHAR.	MEANING
66	B	Upper case B	97	a	Lower-case a
67	C	Upper case C	98	b	Lower-case b
68	D	Upper case D	99	c	Lower-case c
69	E	Upper case E	100	d	Lower-case d
70	F	Upper case F	101	e	Lower-case e
71	G	Upper case G	102	f	Lower-case f
72	H	Upper case H	103	g	Lower-case g
73	I	Upper case I	104	h	Lower-case h
74	J	Upper case J	105	i	Lower-case i
75	K	Upper case K	106	j	Lower-case j
76	L	Upper case L	107	k	Lower-case k
77	M	Upper case M	108	l	Lower-case l
78	N	Upper case N	109	m	Lower-case m
79	O	Upper case O	110	n	Lower-case n
80	P	Upper case P	111	o	Lower-case o
81	Q	Upper case Q	112	p	Lower-case p
82	R	Upper case R	113	q	Lower-case q
83	S	Upper case S	114	r	Lower-case r
84	T	Upper case T	115	s	Lower-case s
85	U	Upper case U	116	t	Lower-case t
86	V	Upper case V	117	u	Lower-case u
87	W	Upper case W	118	v	Lower-case v
88	X	Upper case X	119	w	Lower-case w
89	Y	Upper case Y	120	x	Lower-case x
90	Z	Upper case Z	121	y	Lower-case y
91	[	Left square bracket	122	z	Lower-case z
92	\	Back slash	123	Г	Left brace
93	]	Right square bracket	124	I	Vertical line
94	∧	Circumflex or up arrow	125	⌐	Right brace
95	∨	Back arrow or underscore	126	∫	Tilde
96	`	Grave accent	127	DEL	Delete

Table 17.3C   Terminal Types

PD-200 DATA SYSTEM VALUE	TERMINAL MODEL	ID TYPE
31	Add Consul 520, 580, 980	D1
31	Add Envoy 620, Regent	D1
80 87 82	Alanthus Data Terminal T-133 T-300 T-1200	A1 A8 A3
93	Am-Jacquard Arntext 425	D1
93	Anderson Jacobsen 510	D1
21	Anderson Jacobsen 630	B3
22	Anderson Jacobsen 820,832	B3
26 93 93 93 37	Generic Terminal Anderson Jacobsen 860 Apple II Atari 400, 800 AT & T Dataspeed 40-1, 40-2, 40-4 Beehive Minibee, Microbee	B1, B2 B5 D1 D1 D1 D1
5 18 8	Generic Terminal Computer Devices CD1 1030 Computer Devices Teleterm 1132 Computer Devices Miniterm 1200 Series	C1-C4 A2 D1 A2
6 19	Generic Terminal Computer Transceiver Execuport 300 Computer Transceiver Execuport 1200	D1, D2 A2 A9
87 93 93 27 94 28 3 24	Generic Terminal Computer Transceiver Execuport 4000 CPT 6000, 8000 Data Media Elite Datapoint 2200 Datapoint 1500, 1800 Datapoint 3000, 3300, 3600, 3800 Data Products Portaterm Data Terminal & Communications DTC 300, 302	A1-A9 A8 D1 D1 D1 D1 D2 A1 B3
90 38	Generic Terminal Diablo Hyterm 1550, 1620 Digilog 33 & Telecomputer II	B3-B5 B3 D1

Table 17.3C Terminal Types

PD-200 DATA SYSTEM VALUE	TERMINAL MODEL	ID TYPE
	Digital Equipment:	
17	(LA 35-36) Decwriter II	A8
17	(LA 120), Decwriter III	A8
41	Digital Equipment VT50, VT52, VT100, WS78, WS200	D1
90	Gen-Comm Systems 300	B3
13	GE Terminet 30	A5
13	GE Terminet 300	A4
10	GE Terminet 120, 1200	A3
29	Hazeltine 2000	D1
93	Hazeltine 1500, 1400	D1
95	Hewlett Packard 2100	D3
40	Hewlett Packard 2621	D3
93	Hewlett Packard 2640 Series	D1
93	IBM 3101	D1
93	Informer 1304, D304	D1
36	Infoton 100, 200, 400 Vistar	D1
93	Intelligent Systems Intecolor	D1
93	Interec Intertube II	D1
93	Lanier Word Processor	D1
32	Lear Siegler ADM Series	D1
93	Lexitron 1202, 1303	D1
81	Memorex 1240	A2
93	Micom 2000, 2001	D1
93	NBI 3000	D1
4	NCR 260	A2
93	Perkin-Elmer Model 1100, Owl, Bantam	D1
87	Perkin-Elmer Carousel 300 Series	A8
93	Radio Shack TRS 80	D1
35	Research Inc. Teleray	D1
34	Tektronix 4002-4024	D1
93	Teleray 3300-3700	D1
1	Teletype Model 33	A1
2	Teletype Model 35	A1
30	Teletype Model 40	D1
23	Teletype Model 43	B3
30	Teletype Model 40-1, 40-2, 40-3	D1
	Texas Instruments:	
16	725	A7
7	733	A2
15	735	A6
33	743, 745	D1
39	763, 765	D2
90	820	B3

Table 17.3C   Terminal Types

PD-200 DATA SYSTEM VALUE	TERMINAL MODEL	ID TYPE
20	Trendata 4000 (ASCII)	B1
81	Tymshare: 110, 212	A2
87	315	A8
90	325	B3
25	Univac DCT 500	B2
93	Wang 20, 25, 30, 015, 130, 145	D1
80	Western Union EDT: 33, 35	A1
9	30, 300	A3
12	1200	A4
93	Xerox 800, 850, 860	D1
90	Xerox 1700	B3
127	Asynchronous host	A1
80	All Other ID Types	A1
81	All Other ID Types	A2
82	All Other ID Types	A3
83	All Other ID Types	A4
84	All Other ID Types	A5
85	All Other ID Types	A6
86	All Other ID Types	A7
87	All Other ID Types	A8
88	All Other ID Types	A9
89	All Other ID Types	B1
90	All Other ID Types	B3
93	All Other ID Types	D1
94	All Other ID Types	D2
95	All Other ID Types	D3
91	All Other ID Types	B4
92	All Other ID Types	B5
93	All Other ID Types	D1
94	All Other ID Types	D2
95	All Other ID Types	D3

Record Code AQ:
Data System
Asynchronous Port
Set/Read List

17.4 Record Code AQ, Figure 17.4, provides a list of parameters applied to the remote end of a data call. These parameters temporarily override the pre-existing parameters of the remote end of a data call while a data call is connected to/from the port specified on this record code. This allows the port specified in this record code to control the configuration of its call partner on both incoming and outgoing data calls. The remote port may be reconfigured while the call is set up. It is restored to the original configuration when the call is disconnected.

This option is normally implemented for host ports; however, any asynchronous or synchronous (X.25) port can be assigned this record code. The following rules apply for this record code:

- Any port defined in columns 12-1 6 of this record code must have an entry on Record Code CP.

- If the port is asynchronous, it requires an entry on Record Code AP.

- If the port does not reconfigure the port at the remote end, an entry on this record code is not needed.

The values assigned to the options defined on this record code depend on the requirements of the device which is attached to the port. For parameters that do not need reconfiguration at call setup, enter a dash in the field.

Figure 17.4   Record Code **AQ:** Data System Asynchronous Port Set/Read List Data Sheet

Table 17.4   Entry Fields for Record Code AQ

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	PEC	0 = PEC number	This field determines the location of the port. What PEC is this card located in?
13	Group	**A-D** = group number	Which group (A, B, C, or D) within the PEC is this card?
14-15	Card Slot	**00-l 0 = slot** number	Which card slot within the group is this card?
16	Circuit Number	O-7 = assigned circuit number	Which circuit on the card is being used?
17-19	Escape from Data Transfer Character (ASCII Value)	O-l 27	Assign the ASCII character that allows a user to stop the flow of data. -This parameter specifies the character that will be received to indicate that the terminal user wants to enter command mode. 0 = escape not allowed **1** = DLE character initiates escape 2-l 27 = decimal representation of selected ASCII character (see ASCII character set table) -This is X.3 parameter 1.
20	PAD Echo	0 = no echo 1 = echo allowed	Enter 1 if PAD echo is provided. -This field determines the default value of echo. If this parameter is enabled, then echo will occur in data transfer mode; otherwise, no echoing will occur in data transfer mode. Generally, this field should be set to N for full duplex and Y for half duplex. If station equipment displays two of each character, set this field to N. If station equipment does not display information that is keyed in, then try setting this field to Y. -PAD echo provides for all input characters to be echoed back to the device attached during the data transfer mode -This is applied only to full-duplex devices. -This is X.3 parameter 2.

Table 17.4   Entry Fields for Record Code AQ (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
21-23	Data forwarding Character	0 1 2 4 8 16 32 64 or 128 = number	Assign the predefined character or set of characters that are entered on the attached device to begin transmission of a packet. 0 = user cannot initate data forwarding 1 = alphanumeric characters (A-Z, a-z, 0-9) 2 = carriage return 4 = characters ESC, BEL, ENQ, ACK 8 = characters 16 = characters 32 = characters 64 = a character inserted by the user in text column 0 or 1, which is not any of the characters listed in O-32 above 128 = all other characters not listed above
24-26	Idle Timer Delay	0 = data not forwarded on timeout l-255 = number of 50-ms increments	Indicate the allowed intervals between the user input characters. -This field specifies the default value of the idle timer. -This timer clocks the time between characters. If this timer expires, all of the characters buffered up to that point will be forwarded in a packet. -Zero disables this timer. -If this interval is exceeded, the timeout causes the forwarding of a data packet. -The time is selected in 50-ms increments, so a selection of 2 = 100 ms. -This is X.3 parameter 4.
27	Ancillary Device Flow Control	0 = disables flow control 1 = enables flow control	Indicate whether or not the PAD (Packet Assembler Disassembler) can temporarily slow the output from this device when the PAD is unable to receive more data. -This parameter sets the default value of device flow control. -If this parameter is marked 1, the PAD can flow control the device. -Flow control is used when the PAD cannot process data fast enough or when the amount of characters buffered is too great (due to the transmission condition or network slow-down).

Table 17.4   Entry Fields **for Record Code** AQ (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
27 (cont'd)	Ancillary Device Flow Control	0 = disables flow control 1 = enables flow control	-The PAD sends a control-S, signaling the device to stop transmission to the PAD. Should the device continue to transmit and overrun the buffer, data will be lost. When the PAD becomes unblocked, it transmits a control-Q. Transmission of this character continues until the device starts sending data. The PAD then signals the connected device to continue data flow. -This field is dependent upon column 35 being set to Y. -This is X.3 parameter 5.
28-29	Break Options	0 1 2 8 or **21**	This field determines the action to be taken by an APM when a user depresses the break key at the device attached to the APM. 0 = nothing **1** = send an interrupt packet (X.25 special packet) to the PAD **2 =** send a reset packet (X.25 special packet); this can cause data to be lost. 8 = escape from data transfer mode 21 = send an interrupt packet (X.25 special packet) plus indication of the break message to the PAD; also discard the output to the user (DTE) -This is X.3 parameter 7.
30-31	Padding Characters After Carriage Return	O-31 = number of characters inserted	Assign the amount of padding characters, inserted after a carriage return is depressed. -Printing devices need sufficient time for the mechanism to perform the carriage return. -This parameter sets the number of null characters to wait before continuing to send any other characters. **NOTE:** There are no real characters sent. The APM/SPM waits the amount of time it would take to transmit those characters.

Table 17.4   Entry Fields for Record Code AQ (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
32-34	Line Width	0 = function performed automatically l-255 = number of characters per line	Assign the the number of output characters to be printed per line at the user device. -This parameter sets the default value of line folding. This determines the number of characters to transmit before an automatic carriage return/line feed is sent. This causes long lines to fold or wrap to the next line. If this field is set at 0, this function is disabled. A backspace will cause the internal counter to be decremented by one for each backspace character received, and carriage return will reset the counter. This field is normally set to 0 because most station equipment does this automatically. Otherwise, standard line lengths are 80 or 132 characters. -This is X.3 parameter 10.
35	Pad Flow Control	0 = PAD flow control not allowed 1 = PAD flow control allowed	If selected, this field determines that the APM will send a signal when the device attached to it is temporarily unable to receive more data. -This field sets the default value of flow control. -If this field is marked 1, the device and/or user of the device can flow control the PAD. This disallows transmission of control-S and control-Q. -If this field is marked 0, the device cannot flow control the PAD. However, the device can transmit flow control characters through the network. -Control-S stops the PAD and control-Q ends flow control. This is commonly done by printers and users that get behind and need to catch up. -This is X.3 parameter 12.
36	Line Feed After Carriage Return (CR)	0 1 4 5 6 or 7 = number	This option allows automatic insertion of a line feed after any carriage return is transmitted. -This parameter sets the default LF (Line Feed) insertion. This causes the PAD to insert an LF character into the transmission stream. 0 = no line feed inserted 1 = insert line feed after each carriage return sent to the user terminal (DTE) as data

Table 17.4   Entry Fields for Record Code AQ (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
36 (cont'd)	Line Feed After Carriage Return (CR)	0 1 4 5 6 or 7	**4** = insert line feed after each carriage return sent to the user terminal (DTE) as an echo **5** = combination of (1) and (4) **6** = insert line feed after each carriage return sent from the user terminal as data, plus to the user terminal as an echo **7** = combination of (1) and (6) -This field will usually be set to 0 or 1. If the user's terminal is double spacing lines, this field should be changed to 0. If the user's terminal is overprinting lines, this field should be set to 1. -This is X.3 parameter 13.
37-38	Padding After Line Feed	**0-15** = number of PAD characters to be inserted	Assign the number of padding characters inserted after the occurrence of a line feed. -Printing devices need sufficient time to perform the line feed. -This parameter sets the default value of line feed padding. It is the amount of null characters after a line feed is sent to a device that the switch will pause before sending additional data. Normally, the carriage return padding field is put in first. If terminals are still losing information at the beginning of each line, the value in this field is increased. -This is X.3 parameter 14.
39	**Line Editing**	**0** or 1	This option allows corrections to be made, during the data transfer mode, to data previously inputted by the user. -The parameter specifies the default mode of the editing function that the PAD performs. -If this parameter is enabled, the PAD will process editing characters. This only applies to data transfer mode. Editing will always be enabled (1) for command mode on terminals. If this field is enabled, timers should be turned off and the forwarding condition should be set to transmit on carriage return. If this field is disabled, all editing characters (LF, BS, etc.) are lost in data transfer mode. 0= editing not enabled during data transfer **1** = editing enabled during data transfer -This is X.3 parameter 15.

Table 17.4   Entry Fields for Record Code AQ (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
40	**LocalParity** Check	0 or 1 = number	Indicate whether or not a local parity check is performed. -This parameter sets the default value of eighth bit transparency. This determines if the PAD checks the parity bit. If enabled, the PAD will check parity. Normally, this field is set at 0 for asynchronous devices. 0 = no local parity check and send transparently through the network (transmit parity received through the network) 1 = check local parity and send space parity through the network (ignore parity received through the network) -This is local parameter 2.
41-43	**Interval Timer**	0 or I-255 = number	Indicate the maximum time period during which the PAD collects characters for one packet. -When this timer expires, the current packet is sent. ▪ The selection must be made in increments of 50 ms, so a selection of 2 = 100 ms. 0 = packet will not be forwarded when timer expires I-255 = number of 50-ms increments before timer expires

Record Code XP:
Data System
x.25 Port

17.5 Record Code XP, Figure 17.5, defines the parameters required to describe the X.25 port attributes. An XP record is required for every SPM (Synchronous Packet Manager) on the system. One is also required for the ADMP. The parameters below specify situations where the SPM ports must be configured differently than the ADMP ports. If this is not specified, configure the ADMP ports the same as SPM ports.

NOTE: For an ADMP (defined as PX25 in Record Code CP, columns 31 through 34), enter the PEC and slot position of the ADMP-A card. For an SPM, enter the slot position of the associated line card.

Figure 17.5 Record Code XP: Data System X.25 Port Data Sheet

Table 17.5 Entry Fields for Record Code XP

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	PEC	0 = PEC number	What PEC is this card located in?
13	Group	A-D = group number	Which group (A, B, C, or D) within the PEC is this card?
14-15	Card Slot	00-I0 = slot number	Which card slot within the group is this card?
16	Circuit Number	O-7 = assigned circuit number	Which circuit on the card is being used?
17-18	X.25 Speed	01 = 1,200 baud 02 = 2,400 baud 03 = 4,800 baud 04 = 9,600 baud 05 = 19.2 kbps 06 = 48 kbps 07 = 56 kbps 08 = 64 kbps	This field determines the X.25 speed of the device. -For ADMP, enter the speed of the device used for remote access to the ADMP (see Record Code P1, column 12). -The speed for the value 5 is different when used for a NIC. If NIC, then the X.25 speed must be 05-07 as follows: ADMP NIC 01 = 1,200 baud 02 = 2,400 baud 03 = 4,800 baud 04 = 9,600 baud 05 = 19.2 kbps 05 = 32 kbps 06 = 48 kbps 06 = 48 kbps 07 = 56 kbps 07 = 56 kbps 08 = 64 kbps
19	Port May Call Itself	Y = port may call itself N = port may not call itself ADMP = N SPM=Y	Enter Y if this port or ADMP is allowed to call itself. This field allows the X.25 device to route a call to itself. -This is a special bit intended for network programmers who are experienced with routing. This will enable testing of a single device. No external routing loop detection will be made by the switch while this field = Y.
20	Allocate LCNs in Ascending Order	Y=yes N=no	Enter Y if LCNs are allocated in ascending order. -Enter Y for ADMP and all ports except the port connected to a public data network.

Table **17.5** **Entry Fields for Record Code XP (Continued)**

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
21	Frame Level Bi-synchronous, Use EBCDIC Synchronizing Character	Y = bisynchronous N = not bisynchronous This field must be marked N.	This field determines whether or not the device attached to this port is a bi-synchronous device. -This field must be marked N because bisynchronization is not supported in this SVR. -This field specifies the frame sync character for the bisynchronous protocol only. If this field = 1, the character will be hex 32, which is the EBCDIC equivalent of the sync character. Otherwise the sync character will be hex 16, which is the ASCII equivalent of the sync character.
22	Frame Level HDLC	Y = HDLC device N = not HDLC NIC = N	This field determines whether or not the device attached to this port uses frame level HDLC format. -Enter Y for all devices except NIC which must be N.
23	Frame Level supports Extended Addressing	Y = selected N = not selected	This field determines whether or not the device attached to this port supports frame level extended addressing. -Enter N for all devices.
24	Is X.25 Frame Level Address A or B?	Y = address A N = address B	This field determines whether or not this device uses X.25 frame level address A or address B. -Enter Y (address A) for all ports connected to a PDN (Public Data Network). -Enter N for all other devices. -When programing two NIC cards on different systems that are used together, one should be marked Y and the other N.
25	Is X.25 Device Directly Connected?	Y = direct connect N = not direct connect	This field determines whether the SPM is directly connected to the X.25 device or to a modem. -Enter Y for all devices not connected to modems. -Enter N for devices connected by modems.

Table 17.5   Entry Fields for Record Code XP (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
26	External Clocking	Y = externally clocked N = not externally clocked	Indicate whether or not this device is clocked from an external source. -Enter N for all devices except NIC which must be marked Y. -If this field = Y, the SPM will be clocked via pins 15 and 17 of the RS-232 or V35 connector connected to the X.25 SPM. If N, the SPM provides clocking to the line (must not be a modem). -If this field is marked Y, column 25 must be marked N. -If this field is marked N, column 25 must be marked Y. -This field is not used for the NIC.
27-30	Incoming Low LCN	0000-255 = LCN range Enter 0000 in this field.	Identify the the lower limit of the LCN (Logical Channel Number) range to be used only for incoming calls.
31-34	Incoming High LCN	0000-255 = LCN range Enter 255 in this field.	Identify the the upper limit of the LCN range to be used only for incoming calls.
35-38	Bidirectional Low LCN	0000-255 = LCN range Enter 0000 in this field.	Identify the lower limit of the LCN range to be used for both incoming and outgoing calls.
39-42	Bidirectional High LCN	0000-255 = LCN range Enter 255in this field.	Identify the upper limit of the LCN range (0000-4095) to be used for both incoming and outgoing calls.
43-46	Outgoing Low LCN	0000-255 = LCN range Enter 0000 in this field.	Identify the lower limit of the LCN range (0000-4095) to be used only for outgoing calls.
47-50	Outgoing High LCN	0000-255 = LCN range Enter 0000 in this field.	Identify the upper limit of the LCN range (0000-4095) to be used only for outgoing calls.

Table 17.5   Entry Fields for Record Code XP (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
51-53	Frame Size	000-007 suggested value = 005	This field determines the frame size or number of bits per packet. 000= 16 **001 = 32** 002 = 64 **003 =** 128 004 = 256 **005 =** 512 006 = 1,024 007 = 2,048
54-56	Frame Window Size	001-l 27 = window size suggested value = 007	Identify the maximum number of unacknowledged frames that can be sent or received at one time. This can range from 1 to 7 (module 8) if extended addressing is not used. -If extended addressing is used, then this field could range from 1 to 127 (module 128). -Extended addressing is not supported in this release, so only values from I-7 should be used in this field.
57-59	Retries	000-031 suggested value = **10** for all ports	This field determines the number of frame level retransmissions of any packet type before that packet is considered untransmittable. -This causes an error condition that is dealt with by the X.25 SPM. This corresponds to CCITT X.25 N2 parameter.
60-62	Frame Retransmission Timer (200-ms)	**01** 02 04 **10** 20 30 or **50**	Indicate the time for frame retransmission (002-255) (multiples of 200 ms). -The X.25 speed is set in columns 17-18. -If X.25 speed = 1,200 baud, enter 50. -If X.25 speed = 2,400 baud, enter 30. -If X.25 speed = 4,800 baud, enter 20. -If X.25 speed = 9,600 baud, enter 10. -If X.25 speed = 19.2 kbps,enter 04. -If X.25 speed = 48 kbps,enter 02. -If X.25 speed = 56 kbps, enter **01.** -If X.25 speed = 64 kbps, enter 01.
63-65	Restart Retransmission Timer (1 O-second)	002-063 = timer range Enter 006 for all devices.	This field determines the time limit between a restart indication and a restart confirmation. This value is specified in increments of 10 seconds.

Table 17.5   Entry Fields for Record Code XP (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
66-68	Call Retransmission Timer (1 &Second)	002-063 = timer range Enter **018** for all devices.	This field determines the timing factor for retransmitting calls. -This value is specified in increments of 10 seconds.
69-71	Reset Retransmission Timer (1 O-Second)	002-063 = timer range Enter 006 for all devices.	This field determines the timing factor for sending resets. -This value is specified in increments of 10 seconds. -When a reset is sent, an acknowledgment must be received before the timer runes out.
72-74	Clear Retransmission Timer (1 O-Second)	002-063 = timer range Enter 006 for all d e v i c e s .	This field determines the timing factor for retransmitting clear signals. -This value is specified in increments of 10 seconds.
75-77	Maximum Calls Active	000-063 = maximum calls Enter 005 for ADMP Enter 255 for all other devices.	This field determines the maximum number of active calls.

Record Code P1:
Data System
Global Parameter -
Part 1

17.6 Record Code P1, Figure **17. 6,** defines the parameters required by the data system ADMP processor. The PI Record Code will contain only one record.

Figure 17.6   Record Code P1: Data System Global Parameter Data Sheet - Part 1

Table 17.6   Entry Fields for Record Code P1

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12	ADM P Access from Data Network and RS-232	Y=yes N=no	This field determines whether or not the ADMP user interface can be accessed from ports other than the ADMP maintenance terminal. -This field allows or disallows access to the ADMP from the data network.
13-15	Universal Controller Board Polling Cycle	000-255 = number of seconds for polling suggested value = 10 to 15 seconds -suggested entry is 5 seconds	This field determines how often the ADMP should poll the UCB to check its operation. -The selection must be made in increments of 1 second, so 005 = 5 seconds. -This field is the number of seconds which elapse before polling all UCBs again. -If this value is 20, the ADMP UCB poller runs through the list of UCBs, polling each of them. This is repeated after waiting 20 seconds.
16	Account/Event Record Report Type	0 = accounts 1 = events 2 = events/ accounts separate 3 = events/ accounts combined	Identify what type of report is printed. -"Event" reports relate to malfunctions of the system and "account" reports relate to has to do with call acounting. -Because there are two types of reports, they are normally sent to different locations (2).
17	Information/ Warning Record Report Type	- = only allowed entry	Not used in this SVR. 0 = warning 1 = information 2 = information/ warning separate 3 = information/ warning combined
18	Overflow Account/Event Record Report Type	- = only allowed entry	Not used in this SVR. 0 = overflow accounts 1 = overflow events/accounts 2 = overflow events/accounts separate 3 = overflow events/accounts combined
19	Call MDR on System Startup	Y = selected N = not selected	The suggested entry is Y if MDR is to report account/events/information/warning to the ADMP.

Table 17.6   Entry Fields for Record Code P1 (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
20	Stop Account Recording on File Full	Y = stop recording N = overwrite old accounting records	This field determines the action that is taken when the file is full. Y = recording is stopped when the event file is full N = overwrite the oldest event record -This currently impacts systems where event reports are saved until a device calls the ADMP. -Up to 4,000 event reports can be saved simultaneously. -It is recommended to enter an N in this field; this keeps the most recent information.
21	User Inter-face Package Timeout	Y = timeout N = no timeout	This field determines whether or not the user interface package timeout is used. -The user interface package timeout is the timeout applied when the ADMP terminal is in the UI (User Interface) mode. The UI mode is listed within the system table which is listed within the table edit. -If no entry is made from the ADMP terminal keyboard within 10 minutes, the system automatically cancels the UI mode and returns to the diagnostic mode. -The timeout value for this field is a predetermined 10 minutes and cannot be changed.

Record Code P2:
Data System
Global Parameter .
Part 2

17.7 Record Code P2, Figure 17.7, defines the parameters
required by the data system ADMP processor. Record Codes
P1 and P2 define the type of report the ADMP generates
and the destination for sending these reports. The ADMP
can generate accounting records and event records.
Accounting and events are stored in files.

Only one P2 record will exist for each ADMP report type;
therefore, this record code will contain a maximum of two
records. The two types are account and event. If a P2 record
is missing for either of the two types, that particular type of
report is not generated by ADMP.

The ADMP records can be reported to an RS-232C connection
that is linked to the ADMP maintenance console or a specified
X.121 incoming or outgoing address (columns 27 through 42).
If the destination is an outgoing X.121, the ADMP maintains
a permanent connection to this port, which is specified in the
following' X.121 address. That port can never be assigned to
a user. The recommended configuration is outgoing to an
X.121 address and use a dedicated device.

If the destination is incoming, the ADMP waits for a call from
the port specified in the following X.121 address (and reports
only to that port). Since the ADMP cannot initiate a disconnect,
the originating end controls this call. It is suggested that the
incoming X.121 address be assigned only for this purpose.

Figure 17.7   Record Code P2: Data System Global Parameter Data Sheet - Part 2

Table 17.7   Entry Fields for Record Code P2

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Report Type	AC = accounts EV = events IN = information OA = overflow account OE = overflow event WA = warning	This field determines the type of report generated.
14	Report Records to Destination	0 **1** 2 **or** **3 =** number	This field determines where the system will send the report(s) listed in columns 12-13. 0 = nowhere, reports are discarded 1 = RS-232C (ADMP maintenance console), the reports appear on the ADMP terminal 2 = outgoing to specified X.1 21 address (recommended), the reports are to be sent to another device 3 = incoming from specified X.1 21 address, the reports are stored until a device calls in requesting the reports -If account and event reports are to be sent to separate devices, this field will appear once for each report. -It is recommend to send reports to a dedicated outgoing hard-copy terminal.
15	Report to CEC	N = no	This field determines whether or not reports are sent to the CEC. -This field must be marked N.
16	Format	**Y = yes** N = no	This field determines whether or not the records are reported in formatted ASCII or Binary. -Enter Y if records are reported to the ASCII device. -This field only applies to incoming or outgoing reports. -Reports sent to the ADMP terminal (RS-232) will always be in ASCII format. -This field is normally set to 1 (ASCII). -All report examples given earlier are in ASCII format.

Table 17.7   Entry Fields for Record Code P2 (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
17-19	Time Between Outgoing Calls (1 Second)	000-255 = seconds suggested value = 10 (010) seconds	This field determines the time (in seconds) between outgoing calls. -This field is only for outgoing reports or reports to the ADMP terminal. -The field determines the number of seconds the system will wait before retrying an outgoing call.
20-21	Start Time Hour	00-23 = hour number	This field determines the hour for the start time (00-23) for the 24-hour clock.
22-23	Start Time Minute	00-59 = minute number	This field determines starting time in minutes (00-59) to make an outgoing account call.
24-26	Period (1 Hour)	000-255 = hour number	This field determines the number of hours to wait between outgoing account calls.
27-30	X.1 21 Address (DNIC)	3-9 = number	If the system is configured for incoming or outgoing call reports, this is the only X.121 address that can send or receive a data call. -Calls from or to other incoming or outgoing addresses will not be accepted. -This field is only used if column 14 is marked 2 or 3. -This field determines the DNIC of the X.121 address.
31-38	X.1 21 Address (server number)	0-9 = number	This field determines the server number of the X.1 21 address. -This field is only used if column 14 is marked 2 or 3.
39-40	X.1 21 Address (sub-port)	0-9 = number	This field determines the sub-port number of the X.121 address. -This field is only used if column 14 is marked 2 or 3.

Record Code CI: **17.8** Record Code CI, Figure 17.8, defines the global
Data System information for call processing. One record is required per
Call Processing . **system.**
Data Part 1

Figure 17.8   Record Code CI: Data System Call Processing Data Sheet ▪ Part 1

Table 17.8 Entry Fields for Record Code CI

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-15	Maximum Number of Ports	0001-0960 suggested value = maximum allowed for release	This field determines the maximum number of ports configured in the system including the ADMP port.
16-18	Maximum Number of Routes	000-127 suggested value = maximum allowed for release	Indicate the maximum number of routing records entered in the system. -See Record Code RT, columns 12-1 4. -If a call is placed to an X.121 address designated for a rotary type routing record (Record Code RT, columns 15-I 6), it will try devices in this routing group until either an idle device is found, all devices in this routing record are tried, or the number of devices specified in this field are tried (whichever occurs first).
19-21	Maximum Rotary Count	000-255 suggested value = 3	This field determines the maximum number of tries to be made to a rotary hunt group. -When a free port in a rotary is allocated to a call and there is no answer, the call processing will allocate another free port to try. -This option defines the number of free ports the call is tried on before the call is rejected. This is to avoid unnecessary repetition of tries when a device connected to the rotary hunt group cannot be reached.
22-25	Maximum Number of Virtual Circuits Supported	0005-I 000 suggested value = 1000	This field determines the the maximum number of virtual circuits (i.e., active calls) that can be supported by the system at any one time
26-28	Number of Administrative Virtual Circuits	suggested value = 5	This field determines the number of virtual circuits to be allocated to exclusive administrative. -This field allows the system administrator to reserve virtual circuits for ADMP usage (no restriction on incoming or outgoing).

Table 17.8   Entry Fields for Record Code CI (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
29-31	Default Maximum X.25 Packet Size	004 = 16 bytes 005 = 32 bytes 006 = 64 bytes 007 = 128 bytes 008 = 256 bytes 009 = 512 bytes 010 = 1024 bytes suggested value = 007	This is the default X.25 data packet maximum size to be used when packet size negotiation is not in effect. -Codes are CCITT standard. -This value is used when packet size negotiation is not in effect (see Record Code CP, column 38).
32-34	Default X.25 Window Size	**001-007** = number	This field determines the default window size used for X.25 calls that do not use window size negotiation. -This is the window size used when the window size negotiation is not in effect (see Record Code CP, column 38).
35-37	Default X.25 Throughput Class	003-015 suggested value = 8	This field allows X.25 throughput class negotiation.
38-40	System **Maximum** Packet Size	004-015 This value should always be 10.	This field determines the maximum valid X.25 data packet size that the Netlink can support. -The default is 10 and should be treated as a constant.
41-43	Minimum Number Of Call Buffers	000-255 suggested value = 25	This field determines the minimum number of call buffers to be maintained by the system. -This field is used by the switch to self-limit the number of calls active at any one time. -It is only checked for new, non-administrative calls in order to limit typing up system resources.
44	Enable Accounting	Y=Yes N = No suggested value = Y	This field determines whether or not accounting is enabled. -This field is set in the switch version of the table by messages sent from the Account Administrator table. -If delays are being experienced, or for some other reason accounting is to be temporarily suspended, this bit is reset and the type of accounting field (column 45) remains intact.

Table 17.8   Entry Fields for Record Code CI (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
45	**Type of Accounting to** Perform	0-2 **suggested value =** 2	This field determines the type of data call accounting performed by the system. -This field is only valid when column 44 is Y. 0= no accounting, statistics are kept only on a per-port basis **1** = X.25 accounting, APM-to-APM calls are not accounted for 2 = full accounting, all calls are to be accounted for -For values 1 or 2, column 35 on Record Code CP is checked for each device, and if both devices indicate "no accounting" for that port, then no accounting record is generated.
46-48	Time of **Accounting to Perform**	002-255 suggested value = 8 (i.e., 20 seconds)	This field determines the time for an APM to wait between calls. -The value is in 2.5second increments. -This value is used when the value in column 73 of Record Code AP is Y.
49	**Terminal Command** Service Signal **Prompt**	**@ = Suggested character**	This character is displayed as a prompt by the terminal when in the command mode. -This character will tell the user to enter a command. -The valid character set includes all ASCII characters with a decimal value from 33 to 127. -This prompt should be a printable ASCII character, except "(" (ASCII 5B Hex) and ")" (ASCII 5D Hex).
50-55	**No Disconnect Password**	**see comments**	This password allows a terminal user to remain in command mode indefinitely without timeout disconnect. -The password should be a printable ASCII character string. -The password should not contain "(" (ASCII 5B Hex) and ")" (ASCII 5D Hex). -This password is used with the terminal user command "Test No Disconnect."

Record Code C2:
Data System
Call Processing
Data - Part 2

17.9 Record Code C2, Figure 17.9, provides the global information for data call processing. The "Private Herald" is displayed when an asynchronous terminal is connected to its local APM. The "Profile Identifier" is displayed to request terminal characteristics identification. One 'record is required per system.
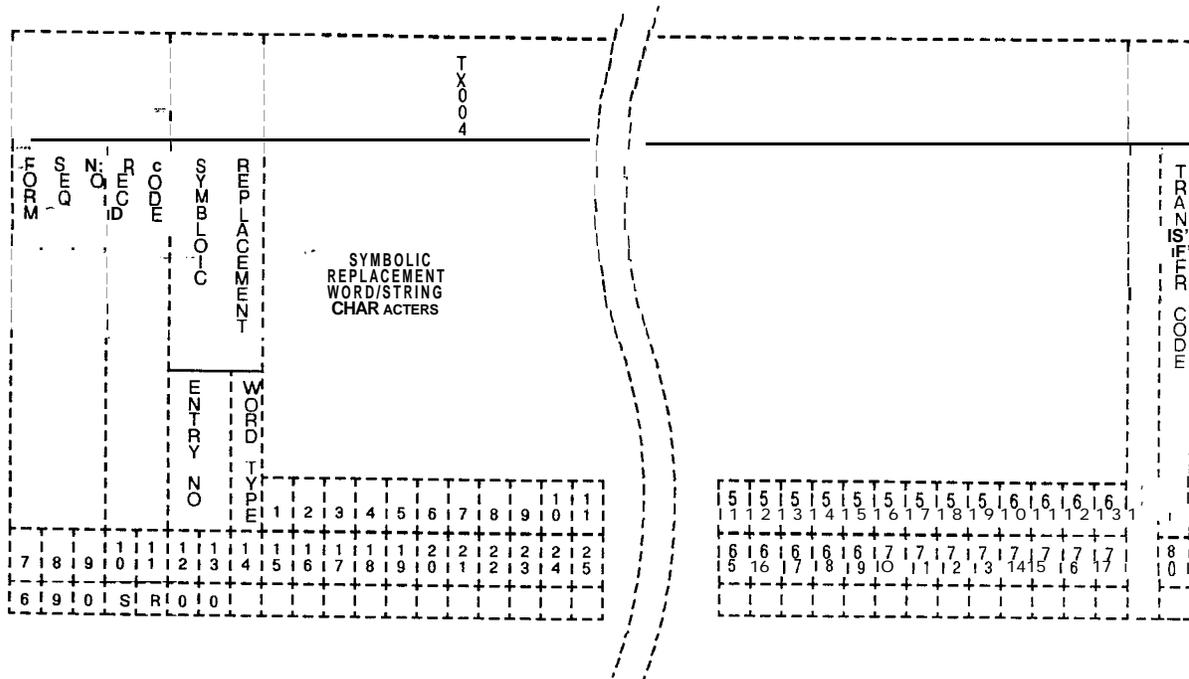

Figure 17.9   Record Code C2: Data System Call-Processing Data Sheet - Part 2

Table 17.9   Entry Fields for Record Code C2

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-43	Private Herald (PH)	**A-Z =** letter	This field determines the printable ASCII string for private herald. -This is the actual private herald displayed when a terminal comes up and has gone through hunt-confirm sequence. -Any ASCII characters are valid. -It should not contain "(" (ASCII 5B Hex) or ")" (ASCII 5D Hex). For example," FGBS Data Network" would be a valid entry to notify that a user is now connected to the particular data network. -Other than the above exception, any ASCII characters are valid.
44-75	Profile Identifier	**A-Z =** letter	This field determines the printable ASCII string for profile identifier. -This is a prompt for a user at an asynchronous terminal to specify terminal characteristics identifier. -An example would be "Terminal Type = ".

Record Code SR:
Data System
Symbolic Replacement
Word/String

17.10 Record Code SR, Figure 17.10, provides mapping of symbolic user terminal input to actual terminal commands. A maximum of 8 records are allowed. This is the only optional record code for the PD-200 data feature.

Figure 17.10   Record Code SR: Data System Symbolic Replacement Word/String Data
Sheet

Table 17.10   Entry Fields for Record Code SR

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
12-13	Symbolic Replacement Entry Number	00-8 = number	This field defines a unique number that is associated with the symbolic replacement data entry found in columns 15-77.
14	Symbolic Replacement Word Type	0 or 1	This field determines the type of symbolic replacement that is to be used. -0 = normal replacement. When this field is marked with a 0, the symbolic character string is taken as equivalent to a command. The replacement string and the command are defined in columns 15-77. The system replaces the word with the specified character string when the word is encountered in a user input. Normal replacement is used to define commands other than X.1 21 addresses. These commands are input by the user to the terminal and are used to perform certain functions (e.g., S = Stat, user's name = Help). -1 = address replacement. When this field is marked with a 1, the symbolic character string is taken as equivalent to an X.121 address. The replacement string and the X.121 address are defined in columns 15-77. The data system replaces the word with the X.121 address specified in this record. It also replaces the X.121 address with the specified word whenever it has to output a message containing the particular address. For example, "Computer 70300271 ". When a user types "C Computer" at a terminal during the command mode, the system replaces "Computer" with "70300271" and the command will actually be "C 70300271". Also, the system output "70300271 Disconnected" is printed to terminal as "Computer Disconnected".

Table 17.10   Entry Fields for Record Code SR (Continued)

COL. NO.	COL. NAME	VALID ENTRIES	COMMENTS
15-77	Symbolic Replacement Word/String Characters	**A-Z =** letter	This field determines the symbolic replacement word and the symbolic replacement string. -The format of this field is as follows: -First, enter the symbolic replacement word in ASCII characters. This enrty must start in the first open field and can contain any printable characters (no control or space characters). The entry is followed by a single space. The space informs the Call Handler CH where the symbolic replacement word ends and the symbolic replacement string starts. -Second, leave a blank space and then enter the symbolic replacement string. The symbolic replacement string can contain any character sequence at all including spaces and commas, but cannot contain any control characters. For example, COMP C 30100123, COMP is the keyword that the CH would look for in the user's command line and, if found, would be replaced by C 30100123. NOTES: The symbolic replacement word must be entered first. -The symbolic replacement word cannot contain any space. -Enter one space after the symbolic replacement word; then enter the actual command string. For example: If the string is MAIL C 70300442, then the word MAIL can be used instead of the string C 70300442. -In this example, 70300442 is the server number of the X.121 address.

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INTEGRATED FEATUREPHONE USAGE FORMS

18.0 This section provides detailed instructions for completing three customer-specific usage forms. Each of the following forms is to be completed by the customer:

- FeatureComm Key Plan (Figure 18.1)

- Multi-Line FeatureComm Control Programming and Feature Button Assignments (Figure 18.2)

- Single Line FeatureComm Control Programming and Feature Button Assignments (Figure 18.3)

FeatureComm Key Plan

18.1 The Feature Comm Key Plan will include information on station designation, instrument type, directory number, and line appearance designation. Changes to this form must be provided for in the data base prior to station(s) implementation.

Instructions

18.2

Company Name

18.2.1 Enter name of customer (company).

Location

18.2.2 Enter customer's address or other appropriate major building designation.

Telephone Number

18.2.3 Enter the customer's main (listed) telephone number – not the telephone numbers used on the Key Plan.

Originator

18.2.4 Enter the name of the person responsible for collecting information shown on the Key Plan and related forms.

Sales Order Number

18.2.5 Enter the appropriate sales order number for this customer and for this job.

S.W.O./C.W.O. (Service Work Order/ ChangeWork Order)

18.2.6 Enter, if applicable, the appropriate work order number

Date

18.2.7 Enter the date of the issuance form.

Key Plan Number

18.2.8 Enter the Key Plan number that is consistent with the number plan accepted or developed for this account.

Rev. (Revision)

18.2.9 Enter, when applicable, a revision number each time a change to the previous Key Plan is requested. If new, enter 0.

Page- Of __

18.2.10 If more than one page is needed to diagram the basic Key Plan, enter the page number in the space indicated for each page, followed by the number of pages included in the full diagram.

Location

18.2.11 Enter a brief description of the specific location within the customer's site where the Key Plan exists.

Company Name	Location	Telephone Number	Key Plan, No.	Rev.
Originator		Sates Order Number	Page	Of
Comments		Customer Signature	Location	

	S.W.O./C.W.O	Date	Department	

Station Designation

IFP = Featurecomm III or IV   POTS = All Other

Line Appearance Designation

Instrument Type	FC3 = Featurecomm III		C = Control Appearance

FC3 = Featurecomm III
FC3A = Featurecomm III W/Add on Module
FC4 = Featurecomm IV
FC4A = Featurecomm IV W/Add on Module
FC4S = Featurecomm IV W/Speakerphone
FC4SA = Featurecomm IV W/Speakerphone & Add on Module
FC5 = Featurecomm V
FC6 = Featurecomm VI

(IFP)
Featurecomm III or IV

(POTS) All Other

CI = Comm I
FLC = Flashcomm Plus
FC1 = Featurecomm
FC1S = Featurecomm W/Speakerphone
FC2 = Featurecomm II
FC2S = Featurecomm II W/Speakerphone
OTHR = All Other

C = Control Appearance
LC = Logical Control Appearance
NC = Non-Control Appearance
LNC = Logical Non-Control Appearance
DSS = DSS Appearance
NB = No Button Appearance

Station Dir#																		
Station Designation																		
Instrument Type																		
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		

Figure 18.1   FeatureComm Key Plan (Form 1)

Department   **18.2.12** Enter, if known, the specific name of the customer's department where the Key Plan exists.

Station Dir # (Station DirectoryNumber)   18.2.13 As the first entry in each of the vertical columns on the diagram, enter the PABX directory number specifically assigned to that station and considered the prime directory number for that station

Station Designation   **18.2.14** As the second entry in each vertical column on the diagram, enter either:

- POTS (non-integrated and all other telephones)
- AIFP (Analog Integrated Featurephone)
- DIFP (Digital Integrated Featurephone)
- DFP/APM (Digital Integrated Featurephone with APM)

This properly designates the type of station hardware to be used. It also indicates the type of line equipment and software needed in the PABX to implement the line appearance.

Instrument Type   **18.2.15** As the third entry in each vertical column on the diagram, enter a specific destination from the list (as shown in Figure 18.1) to indicate the kind of station equipment involved. If the previous entry in Station Designation was IFP, only those equipment codes shown for IFP should be entered. If the previous entry in Station Designation was POTS, only those equipment codes shown for POTS should be entered. Instruments not specifically represented for POTS should be shown as Other.

Line Appearance Designation   18.2.16 The horizontal entries on the Key Plan diagram are used to individually show the relationship of each directory number to each instrument involved in the Key Plan. In the Line Appearance Designation list, several different mnemonics or codes are used to describe how and why each line or directory number appears at each station. There are six different codes. These codes are as follows:

- C (Control Appearance). The use of code C indicates a programmed line button appearance of the directory number at a station that has the right to privacy or control of that directory number.

- LC (Logical Control Appearance). The use of code LC indicates a programmed line button appearance of a software only or logical directory number at a station that has the right to privacy or control of that logical directory number.

- NC (NonControl Appearance). The use of code NC indicates a programmed line button appearance of the directory number at a station that does not have the right to privacy or control of that directory number.

- LNC (Logical Non-Control Appearance). The use of code LNC indicates a programmed line button appearance of a software only or logical directory number at a station that does not have the right to privacy or control of that logical directory number.

NOTE: The use of the four previous codes (C, LC, NC, and LNC) is limited to appearances of directory numbers under the control of IFP (FeatureComm) only.

- DSS (Dialing Station Select). The use of code DSS indicates a programmed DSS button appearance of the directory number that is under control of a POTS telephone or IFP. This is the only way a standard POTS line circuit can appear on an IFP. A DSS button is used to answer calls and automatically dial the directory number only. The LED (Light Emitting Diode) associated with the DSS button also provides line status. Outgoing calls cannot be originated via a DSS button.

- NB (No Button Appearance). The use of code NB indicates the termination of a directory number at a single-line telephone where no button is allowed or provided. When the code is used in conjunction with an IFP station, control for the directory number is assumed to be at that station.

NOTES:

- An IFP controlled line is limited to a maximum of eight line button and DSS button appearances.

- Only one control appearance is allowed per directory number.

- The prime directory number for a multi-line IFP will automatically be downloaded from the PABX software to the IFP when the telephone is initialized (plugged in) and will appear on feature button number 8 (bottom button, first row nearest keypad).

- Feature button number 5 on a multi-line IFP will automatically be downloaded for hold when the telephone is initialized.

- Any changes on the Key Plan must be provided for in the PABX data base prior to implementation at the station(s).

Multi-Line Feature-Comm III/IV Feature Button Assignments

18.3 The Multi-line FeatureComm Feature Button Assignments (Figure 18.2) include information on line selection preference (incoming and outgoing), feature button number and functional assignment, and button label information.

Instructions	**18.4**
Key Plan Number	**18.4.1** Enter the number on the associated Key Plan (Figure 18.1).
Prime Directory Number	**18.4.2** Enter the assigned or prime directory number for this specific telephone.
Instrument Type	18.4.3 Enter the appropriate code for this telephone as shown on the Key Plan.
User Name	**18.4.4** Enter the user's name using the last name only, if known. If unknown, leave blank.
User Location	18.4.5 Enter a brief description of the user's location, i.e., room number, post number, or grid location or floor.
Intercom Group	18.4.6 Enter S.A.K.P. (Same As Key Plan) since all IFPs on this Key Plan should be in the same intercom group. If more than one intercom group is desired per Key Plan, enter S.A. (Same As) followed by the directory numbers to be included in the specific group.
Call Pickup Group	18.4.7 Enter the number of the call pickup group assigned on the basis of overall station reviews, typically by user department, functional group, or physical layout. If assignment has not been made or is unknown, enter S.A. (Same As) followed by the directory numbers to be in the group.
Line Selection Preference	18.4.8 Select and enter one of four codes to designate user-specific incoming preference. The codes are as follows:

- Ringing line (10)
- Flashing line (01)
- Either line (11)
- No preference (00)

Select and enter one of four codes to designate user-specific outgoing preference. The codes are as follows:

- Prime line (100)
- Last line used (010)
- Any idle line (001)
- No preference (000)

NOTE: No entry in the area will cause the use of the default code for preference. The default code is l-O-1 -0-O.

Figure 18.2   Multi-Line FeatureComm Feature Button Assignments (Form 2)

Feature Button　**18.4.9** The number shown in this column designates the feature button to be used to assign and program the desired functions on this specific IFP. Physically, the buttons are numbered starting with the row of buttons nearest the keypad, starting at the top of the row and proceeding downward in order, i.e., button number 1 is the top button in the first row; button number 9 is the top button in the second row.

　　　　　　　　　　NOTE: A FeatureComm II has one row of buttons (8) and the FeatureComm IV has two rows of buttons (16).

Function Assignment　18.4.10 Enter the name of the function or feature to be assigned to the designated button. Examples of 47 feature and function descriptions are shown at the bottom of Figure 18-2.

　　　　　　　Code　**18.4.11** Enter the two-digit code corresponding to the feature or function shown in the previous column. Examples of 47 codes are shown at the bottom of Figure 18-2.

Feature Button Data　**18.4.12** If the following functions or features have been selected, additional information about the feature button needs to be entered:

- Station speed calling
- Repertory dial
- Dual access
- Reminder
- Time and date
- Call forward
- Special call forward
- Auto intercom
- Message waiting
- Special call waiting
- Manual signal

If the information is known at the time of form preparation, enter it in the column under the heading "If Feature Button Only". If the information is not available, the user must be alerted at the time of user training and/or telephone installation to add the appropriate information. Consult the User's Manual or Programming Manual as necessary.

If the feature button has been designated a line button, enter the directory number and ring type of the line in the column under "If Line Button Enter". If the feature button has been designated **a** DSS button, enter the directory number, ring type, and coverage type of the line in the column under the heading of "If DSS Button Enter". Examples of the ring and coverage types are summarized at the bottom of Figure 18.2. Consult the User's Manual or Programming Manual for detailed input directions as necessary.

Remarks 18.4.13 At the originator's discretion, enter any note or comment to further clarify the programmable information.

Button Label 18.4.14 Enter, if known, the description that should appear on the button label when the telephone is installed. Preprinted labels are available for most features and are packaged with the instrument at the factory. Blank labels are also provided to allow the user discretion in button labeling.

For stations to be equipped with add-on modules, the reverse side of the form can be used in a similar fashion to describe feature button assignments on the add-on module. The button numbering on the add-on module begins with the top-left button (row number 1, button number 1) and ends with the bottom-right button (row number 3, button number 30).

Single-Line Feature-Comm Feature Button Assignments 18.5 The Single-Line FeatureComm Feature Button Assignments (Figure 18.3) include information on intercom group, call pickup group, feature button number and functional assignment, feature/function code, feature button data, and button label information.

Instructions 18.6

Key Plan Number 18.6.1 If the instrument is associated with a Key Plan, enter the number of the Key Plan as shown on Key Plan (Figure 18.1). If it is not associated with the Key Plan, enter "None".

Prime Directory Number 18.6.2 Enter the assigned or prime directory number for this specific telephone.

Instrument Type 18.6.3 Enter one of the following codes to properly describe the instrument to be used:

- FC3 = FeatureComm III
- FC3A = FeatureComm III w/Add-on Module
- FC4 = FeatureComm IV
- FC4A = FeatureComm IV w/Add-on Module
- FC3S = FeatureComm IV w/Speakerphone
- C4AS = FeatureComm IV w/Add-on Module & Speakerphone
- FCV = FeatureComm V
- FCVI = FeatureComm VI

User Name   18.6.4 Enter user's name using last name only, if known. If unknown, leave blank.

User Location   18.6.5 Enter a brief description of user's location, i.e., room number, post number, or grid location or floor.

Intercom Group   18.6.6 Enter S.A.K.P. (Same As Key Plan) since all IFPs on this Key Plan should be in the same intercom group. If more than one intercom group is desired per Key Plan, enter S.A. (Same As) followed by the directory numbers to be included in the specific group.

Call Pickup Group   18.6.7 Enter the number of the call pickup group assigned on the basis of overall station reviews, typically by user department, functional group, or physical layout. If assignment has not been made or is unknown, enter S.A. (Same As) followed by the directory numbers to be in the group

Feature Button   **18.6.8** The number shown in this column designates the feature button to be used to assign and program the desired functions on this specific IFP. Physically, the buttons are numbered in order, starting at the top-left button (row number 1, button number 1) and ending with the bottom-right button (row number 2, button number 16).

Function Assignment   18.6.9 Enter the name of the function or feature to be assigned to the designated button. Examples of 47 feature and function descriptions are shown at the bottom of Figure 18 3.

Code   18.6.10 Enter the two-digit code corresponding to the feature or function shown in the previous column. Examples of 47 codes are shown at the bottom of Figure 18 3.

Figure 18.3   Single-Line FeatureComm Feature Button Assignments (Form 3)

Feature Button Data   **18.6.11**   If the following functions or features have been selected, additional information about the feature button needs to be entered:

- Station speed calling
- Repertory dial
- Dual access
- Reminder
- Time and date
- Call forward
- Special call forward
- Auto inercom
- Message waiting
- Special call waiting
- Manual signal

If the information is known at the time of form preparation, enter it in the column under the heading "If Feature Button Only". If the information is not available, the user must be alerted at the time of user training and/or telephone installation to add the appropriate information. Consult the User's Manual or Programming Manual as necessary.

If the feature button has been designated a DSS button, enter the directory number, ring type, and coverage type of the line in the column under the heading of "If DSS Button Enter". As a reminder, line buttons are not allowed on single-line configured FeatureComm III/IV telephones. Examples of the ring and coverage types are summarized at the bottom of Figure 18.3. Consult the User's Manual or Programming Manual for detailed input directions as necessary.

For stations to be equipped with add-on modules, the reverse side of the form may be used in a similar fashion to describe feature button assignments on the add-on module. The button numbering on the add-on module begins with the top-left button (row number 1, button number 1) and ends with the bottom-right button (row number 3, button number 30). Also, line buttons cannot be assigned or programmed on the add-on module.

Remarks   **18.6.12** At the originator's discretion, enter any note or comment to further clarify the programmable information.

Button Label   **18. 6. 13** Enter, if known, the description that should appear on the button label when the telephone is installed.

Preprinted labels are available for most features and are packaged with the instrument at the factory. Blank labels are also provided to allow user discretion in button labeling.

Upon completion, this form, along with the Key Plan and Multi-Line Feature Button Assignments, if applicable, must be sent to the persons responsible for the following tasks:

- PABX Data Base Generation and Maintenance
- Station Installation
- Customer Training

REFERENCES **19.0** The following reference documents (Table 19.1)
complement/supplement the information provided in this practice:

Table 19.1 References

DOCUMENT	NUMBER	ISSUE	DESCRIPTION
Fujitsu GTE Practices:	TL-130000-1001	3	Introduction/Features
	TL-130500-1001	3	System Configuration
	TL-130100-1001	3	Operation
	278-904-l 80	3	PD-200 Packet Data System
	TL-130300-1001	3	Hardware/Software Installation
	TL-130200-1001	3	Maintenance
Hardware Ordering Guide:	FM-41 444		Ordering Guide
	FM-41 444-A, -B, or -C		Ordering Sheets
Data Base Sheets:	FM-41 479	4/86	Software Programming Data Sheets (Instructions for completing the software programming data sheets are contained in Technical Practice TL-130400-1001.)
Configuration Management:	C M - 6 3 8 2 0 2 - S V	-	System Version Stocklist
	CM-638202-SVR	-	System Version Release 5.2.1 .O
Customer Instructions:	CI-278-248	2	Executive Features Insert
	CI-278-294	2	Busy Lamp Display Unit
	CI-278-401	1	Attendant Manual Hotel/Motel Health-Care Features Insert
	CI-278-402	1	Key Entry Display Unit Instructions

Table 19.1   References(Continued)

DOCUMENT	NUMBER	ISSUE	DESCRIPTION
	CI-278-403	1	Administrative Station Hotel/Motel Health-Care Features Insert
	CI-278-407	2	CAS and ACD Agent Instrument
Customer Instructions:	CI-278-408	2	ACD Single Line Agent Instructions
	CI-278-409	1	OMNI Series Station User's Guide
	CI-278-41 0	1	OMNI Series Attendant Manual
	CI-278-41 1	1	Maid Service Features Insert
	CI-278-41 2	1	OMNI Series Generic Station User's Guide (No Access Codes Included)
	CI-278-41 7	1	Asynchronous Packet Manager User's Guide
	CI-278-41 8	1	Integrated Voice Messaging System User's Guide
	CI-473-365	1	FeatureComm V/VI Handbook for CD-100 Data
	CI-473-366	1	FeatureComm V/VI User's Manual (Voice Features Only)
	CI-473-395	1	FeatureComm V/VI Handbook for PD-200 Data
	CI-473-396	1	FeatureComm V/VI User's Manual for PD-200 Data
	CI-473-397	1	OMNI FeatureComm Handbook (Voice Features Only)
	CI-473-398	1	OMNI FeatureComm User's Manual (Voice Features Only)
	CI-473-51 9	1	FeatureComm Quick Reference Guide

CROSS REFERENCE

20.0 This section provides cross-references to other documents which may prove useful in configuring the data base.

Record Code Number to Recent Change Number

20.1 Table 20.1 provides a cross-reference of the record code numbers to Recent Change numbers. When the Recent Change number pertains to a specific record code column number, the column number is included.

Record Code Number to Form Sequence Number

20.2 Table 20.2 provides a cross-reference of the record code numbers to the form sequence numbers.

Record Code Number to T Table Number

20.3 Table 20.2 provides a cross-reference of the record code numbers to the T table numbers.

Table 20.1   Cross Reference of Features to Record Codes and Recent Change

Feature	Record Codes Used	Record Code Column(s) Numbers	Recent Change Numbers Used in Support of Feature
Access Code	AC	all	
Attendant Console C	AT A DC DD NC. OF OT	all all all all -all all 30-32, 45-47	AT = 117, **181, 184, 188, 218** **BD= 189** **BK= 190** CA = 183, **185, 186, 187** NC = 203, **211, 213** **OF = 89, 209**
ACA	T1	56-67	
ACD	AD AF AG DK DT HG LD MH OC OF RA SD T1	all all all all all all 16-18 all all 42 all all 45-48	**HG= 125, 127, 128** MH = 126 **OF = 89, 209**
AIOD	T1	38	
BLDU	AT BD BK CA	37 all all 61	189 190
CAS Branch	CF OE OT SD T1	all 15-17 51-62 all 49	218
CAS Main	AD AF AG AL DK HG MH TM	all all all all all all all all	46, 61, 65, 66, 45, 142, 218

Table 20.1   Cross Reference of Features to Record Codes and Recent Change

Feature	Record Codes Used	Record Code Column(s) Numbers	Recent Change Numbers Used in Support of Feature
CAS Main (Cont'd)	O E O T RC SM SP T1 TM	14, 15, 17 48-62 all all all 14-1 6, 49 all	
C D - 1 0 0	F R L D	all all	FR = 215
CO line	D D L D LM T C	16-I 7, 40-41 45-48 28-29, 30-31 31-32	
Code Call	CD	all	
Confer-ence Calls	D D	18-I 9, 20-21	DD = 213
COS	AT AU D C D D L D NC O F T1	33-36 18-21 all all 32-35 all 38-41 17-20	DC = 211, 213 DD = 166, 211, 213 LD = 112, 114 NC= 167, 212, 214 OF = 89, 209
Customer Defined Terminal	CT	all	
Dial Call Pickup	E D L D NC	22-23 37-39, 40 22-23	ED = 135, 136, 137, 138, 139, 140
Dictation Access	DC D D T1	allowed trunks 22-23 14-16	
FADS	O E SL T T	47-49 12, 15-18 29	
Five-Digit Dialing	O E NT	48 23-24	

Table 20.1   Cross Reference of Features to Record Codes and Recent Change

Feature	Record Codes Used	Record Code Column(s) Numbers	Recent Change Numbers Used in Support of Feature
Frame Image (Card Placement)	FR	all	FR = 221
FRL	AT FA L D - OF SI T1	43 all 36 12-21, 54 30 68-70	215 219
Hunt Group	HG MH	all all	127 126
Intercept	CL IR RN	14-17 all 14-16	CL = 205, 206 IR = 205, 206
Intercom Groups	LD LM	all all	LD = 119 LM = 144
IFP	LA LD LM	all	LD = 105, 107, 108, 109, 117, 121, 141 LM = 106, 113, 117, 141 110, 112, 114, 118, 119, 132-134, 136, 144-145
IFP Line Appearances	LA	all	LA = 118, 145
IVMS	AC LD LM NC OD o v T1	140,141 = code type # 45-48 30-31 70, 71 all 28, 29 71	
KEDU	KD KS	all all	

Table 20.1 Cross **Reference of Features to Record Codes and Recent Change**

Feature	Record Codes Used	Record Code Column(s) Numbers	Recent Change Numbers Used in Support of Feature
MERS on/off-net	AC AC AC A C AC AT AU CB D D D D IR LP MO MR MS NT OE O F O F OV P C RP SI ST T 2 T D T P T R TN NT	48, 89, 90, 94, 96, 102, 105, 115, 116, 126 and 127 = code type # 3 7 14-17 1 f-21 32-33, 38-39, 42-47 all all all all all all 24 18-20, 28-30 27, 45-47, 50 and 55-56 12-17 all all all all 28, 31-34, 49 12-16 all all all 18-20	
MDR	L D MD MS MT O E S1 s2 T F T T	49-50 all all all 15-I 7, 45-46 all all all 13-28	

Table 20.1   Cross Reference of Features to Record Codes and Recent Change

Feature	Record Codes Used	Record Code Column(s) Numbers	Recent Change Numbers Used in Support of Feature
Misc System Features ..	CA IR MS OD· O F O F O T	12-19 all all all 5 2 all all	CA = 203 IR = 205, 206 MS = 216, 217 OD = 218, 221, 222 OF=89 OF = 209 OT = 201
Motel Health Care	A C - AL CL HM IR K D KS L M MK P D RN T 2 TL WT	all all all all all all all 32-33 all all all all all all	KD = 206
Music on Hold	AF AG o c	35-37 13-15 all	
Night Answer (PNA)	CA NC PN TC	20-31 36-37 all 39-44	203
Night Answer (UNA)	CA NC TC	12-I 9, 27-30 36-37 37-44	NC = 212, 214
Paging	PZ T I	all 14-16	

Table 20.1   Cross Reference of Features to Record Codes and Recent Change

Feature	Record Codes Used	Record Code Column(s) Numbers	Recent Change Numbers Used in Support of Feature
PD-200	AP AQ CI c2 CP FR LD NA OE P1 P2 SL SR RT XP	all all all all all all 12-15 all all all all 13-14, 15-18 all all all	CI = Call Processing Information, C2 = X.25 and ASYN. Characteristics Common Port Information FR = 221 NA= 168 P1 = System Table, Account/Events Report option, Account Administration P2 = Account/Events Report SL = System Access Password Table SR = Symbolic Replacement Table RT = Routing Table XP = X.25 Frame Level Information, Packet Level
Recorder Announcer	AF AG CF IR OT RA T1	28-30, 35-37 25-26, 31-32 17 65-66 all 14-16 12-14	OT = 201, 204
Remote Access	AU LD OD OF T2	all 51 all 38-40 40	OD = 218, 221, 222 OF = 89, 209
SCC	MS TD	all all	216 217
Security Lock	SL	all	
Silent Monitor	NC	72-73, 74-75	
Speed Call	GC GS LD NC ov	all all 41-44 68-69 18-23	GC = 207 GS = 202 LD = 110, 113

Table 20.1   Cross Reference of Features to Record Codes and Recent Change

Feature	Record Codes Used	Record Code Column(s) Numbers	Recent Change Numbers Used in Support of Feature
Tandem Network	MO NT OD OE OV TI T2 TD	all all all 50 26, 27 68-70 all	
Toll Restriction	AS CR DA DD EC GS IR SA T2	all all all 14-15 all 14-15 12, 13 13-14 14-28	
TCM	FA	all	FA = 215
Traffic	TF	all	
Trunk Group and Member Features	CR EC NA OE TI T2 TC	all all all 18-19 all all all	CR = none EC = none NA = 168 OE = none T1 = 160, 161, 169 T2 = 160, 161 TC = 151, 153, 154, 156, 157, 158, 159
Ward Control	AT LM WT	39 32-33 all	

Table 20.2   Form Sequence Number for the Various Record Codes

Record Code	Form Sequence Number		Record Code	Form Sequence Number
AC	900		MK	370
AD	520		MO	268
A F	460		MR	280
A G	500		MS	255
AP	400		MT	290
AQ	670 680		NA NC	040 125
AS	140		NT	284
A T	050		OC	286
AU	310			015
B D'	-046		O D	068
BK				
CA	047 055		OE OF	001 002
CB	272		O T	020
CD	235		ov	021
C F	145		P1	630
CH	910		P 2	640
CL	350		P C	265
CN	057		P D	380
CP	650		PZ	230
CR	095		R A	495
C T	215		R C	150
CI	600		RN	340
c2	610		RP	260
DA			RT	
DC	030 130		S2	620 320
DD	031		SA	330
D F	005			245
DK	560		SD	080
D T	180		SI	270
E C	097		SL	223
E D	045		SM	540
F A	950		SP	550
FR			SR ST	690 285
GC	012 060		T1	100
G S	200		T 2	110
HD	010		T C	120
HG	070		T D	288
HM	410		TF	210
IR	240		T L	390
KD	360		TM	570
KS	405		TN	185
LA	067		T P	250
L D	065		T R	289
LI	013		T T	220
LM	066		WT	43
LP	266		XP	660
MD	300			
MH	071			

Table 20.3   Record Code/T Table Cross-Reference

T Table Number	Record Code(s)	T Table Number	Record Code(s)	T Table Number	Record Code(s)	T Table Number	Record Code(s)
TX000	AP, C1, CP, XP	T26H1	--	T3191	RC	T5321	PC, RC
TX001	CP, P1	T2621	AT	T3201	KD	T533D	OT
TX002	P1	T2631	AT	T3202	PD	T5330	AD
TX003	SL	T2641	AT	T3203	PD	T5331	AG
TX004	SR	T2651	AT	T3211	KD	T5332	AD
TX005	RT	T2661	DT	T3212	PD	T5333	SM
TX006	C1, C2	T2671	DT	T3213	PD	T5334	SP
TX007	--	T2681	DT	T3221	KD	T5335	DK
TX008	CP, P1, P2	T2691	DT	T3222	PD	T5336	TM
TX009	FA	T2701	FR	T3223	PD	T5337	AD
TX010	FA	T2711	FR	T3231	KD	T5338	--
TX100	FR	T2721	FR	T3232	PD	T5339	AD
T25A1	FR	T2731	FR	T3233	PD	T534A	--
T25B1	FR	T2741	FR	T4441	MD, OE	T534D	--
T25C1	FR	T2742	FR	T4451	MT	T5340	TT
T25D1	FR	T2751	FR	T4461	MD	T5341	AG
T2541	AT, OC	T2752	--	T4471	MD	T5342	TC
T2551	AT, OC	T2761	FR	T4472	--	T5343	T1
T2561	AT, OC	T2762	FR	T4473	S2	T5344	FR
T2571	AT, OC	T2771	FR	T4474	S1, S2	T5345	RA
T2581	TC	T2772	--	T4481	MD	T5346	OF, OV, RA
T26A1	FR	T3121	RC	T4482	--	T5347	AD
T26B1	FR	T3131	RC	T4483	S2	T5348	AD
T26C1	FR	T3141	RC	T4484	S1, S2	T5349	TM
T26D1	FR	T3151	RC	T4491	--	T5361	AT, LD, LM, MH
T26E1	--	T3161	RC	T5291	OE, OV	T5371	LD, MH
T26F1	--	T3171	RC	T5301	MO	T5381	AT, LD
T26G1	--	T3181	RC	T5311	OF	T5382	LD

Table 20.3   Record Code/T Table Cross-Reference

T Table Number	Record Code(s)	T Table Number	Record Code(s)	T Table Number	Record Code(s)	T Table Number	Record Code(s)
T5391	LD	T5671	T2	T5931	CA	T6061	PZ
T5401	AT, LD, LM, OC	T5681	T2	T5941	TP	T6071	OE, OF
T5411	LD	T5691	AS	T5944	WT	T608D	AF, OT
T5421	ED	T5701	AS	T5951	NR, TR	T608M	OV
T5431	LD	T5711	T1	T5961	AT	T608Q	SA
T5441	KS	T5721	TI	T5962	AT	T608R	OV
T5451	AT	T5731	TI	T5971	NT	T608T	OV
T5471	TC	T5741	TI	T5981	TD	T6081	OT
T5481	RP	T5751	TI, T2	T5991	TI	T6091	NC
T5491	TC	T5761	T2	T6001	SA	T6101	DC, DD
T5511	TC	T5771	T1, T2	T6005	NA, RP	T6102	GC
T5512	TC	T5781	DA	T6011	GS	T611D	--
T5521	TC	T5791	T2	T6012	SA	T6111	OC
T5531	--	T5801	T2	T6013	LD	T6121	DT
T5541	TC	T5811	T2	T6014	AD	T6131	OC
T5551	TC	T5821	T2	T6015	OD	T6134	OC
T5571	ST	T5831	T2	T6021	CA, DT, PN, SA	T6141	--
T5572	OF	T5841	T2	T6031	IR	T6151	OE
T5591	T2	T5842	TI	T6041	TF	T6161	MH
T5601	T2	T5861	AT	T6046	--	T6180	AT, LD, OC
T5611	T1	T5871	CA	T605D	--	T6194	LD, LM, MH
T5621	--	T5881	CA	T605F	CT	T6195	WT
T5631	--	T5891	AT	T6051	TT	T6211	--
T5641	T1	T5901	CA	T6053	--	T6221	--
T5651	T1	T5911	CA	T6055	SL	T6231	OE
T5661	AS, T1, T2	T5921	CA	T6058	OE	T6241	AC
T5662	T1	T5922	CA	T6059	OE	T6251	AC

Table 20.3   Record Code/T Table Cross-Reference

T Table Number	Record Code(s)	T Table Number	Record Code(s)	T Table Number	Record Code(s)	T Table Number	Record Code(s)
T6261	EC	T639F	DF, MR	T6551	KD	T7012-0	BK
T6271	CR, TC	T639G	TL	T6552	MK	T7012-1	BK
T6281	MR	T6390	CH	T6561	LD	T7012-2	BK
T6291	NR, TR	T6391	AF	T6562	FR	T7012-3	BK
T63A1	MS	T6394	FR	T6563	FR	T7012-4	BK
T63A2	MS	T6395	--	T6564	LD	T7012-5	BK
T63A3	MS	T6401	OE	T6565	--		
T63B1	TN	T6411	LD	T6566	FR	T7012-6	BK
T63W1	I1	T6421	AG, HD	T6567	FR	T7012-7	BK
T63W2	I1	T6431	CN, HG, LD, MH, OD, SD	T7010-0	BD	T705A	FR
T63W3	I1	T6441	CN, HG, LD, MH, OD, SD	T7010-1	BD	T705B-0	OE
T63X1	CB	T6451	RN	T7010-2	BD	T7050	LA, LM
T63Y1	SI	T6461	CL	T7010-3	BD	T7052	LD
T6301	RP	T6471	AT, HM, KD, LD	T7010-4	BD	T7054	LD, LM
T6311	SI	T6481	--	T7010-5	BD	T7055	LA, LD
T6321	TC, LP	T6482	KD	T7010-6	BD	T7056	LD
T6331	TC	T6491	MK	T7010-7	BD	T7059	OE
T6341	T1, T2	T6492	MK	T7011-0	AT	T808Q	SA
T6351	RC	T6501	PD	T7011-1	AT		
T6361	CF	T6511	TL	T7011-2	AT		
T6371	CD, PZ	T6512	AL	T7011-3	AT		
T6381	CF, TN	T6521	CA	T7011-4	AT		
T639A	OF, OT	T6531	AU	T7011-5	AT		
T639B	FR	T6532	OF	T7011-6	AT		
T639D	CH	T6541	T2	T7011-7	AT		

CPG ERROR
MESSAGES
21.0 Table 21 .1 describes the error messages that are detected by the CPG program. These massages are used to correct the errors that are generated in a CPG run.

Table 21.1   CPG Error Messages

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
AC-02	CODE TYPE NOT DEFINED	A CODE TYPE MUST BE ONE OF THE VALID CODE TYPES AS SHOWN IN THE CODE SYMBOL MODULE AND BE APPROPRIATE FOR THE SVR.
AC-02	VALUE OF SECOND ELEMENT TOO SMALL	
AC-02	VALUE OF SECOND ELEMENT TOO LARGE	
AC-02	ELEMENTS HAVE INCOMPATIBLE VALUES	
AC-02	SECOND ELEMENT CONTAINS INVALID VALUE	CODE TYPE-CODE TYPE IDENTIFIER THE CODE TYPE IDENTIFIER SPECIFIED IS INAPPOPRIATE FOR THE CODE TYPE. SEE THE CODE SYMBOL MODULE FOR VALID VALUES FOR EACH CODE TYPE.
AC-03	VALUES TO BE FILLED LEFT TO RIGHT	IN DEFINING THE ACCESS CODE DIGITS, THE USE OF DASHES MUST BE CONSISTENT. IF DIGIT 2 is '-', THEN DIGIT 3 MUST BE '-'.
AC-04	ACCESS CODE AND CODE TYPE CONFLICT	A CODE TYPE OF '10' INDICATES THE FIRST DIGIT OF A TWO-DIGIT ACCESS CODE. IF USING THIS CODE TYPE, THEN DIGIT 2 AND DIGIT 3 MUST BE '-'. ONLY DIGIT 1 CAN BE SPECIFIED.
AC-05	ACCESS CODE AND CODE TYPE CONFLICT	A CODE TYPE OF '11' INDICATES THE FIRST DIGIT OF A THREE-DIGIT ACCESS CODE. IF USING THIS CODE TYPE, THEN DIGIT 2 AND DIGIT 3 MUST BE '-'. ONLY DIGIT 1 CAN BE SPECIFIED.
AC-51	ACCESS CODE ERROR	THE ACCESS CODES MUST BE UNIQUE ACROSS THE AC RECORDS. THIS ALSO APPLIES TO ANY TWO-DIGIT COMBINATIONS. ACCESS CODE 10- 210 ACCESS CODE DUPLICATION
AC-52	A REQUIRED RECORD TYPE NOT FOUND	

Table 21.1 CPG Error Messages

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
AC-52	FEATURE NOT USABLE WITHOUT INDICATED RECORDCODE	THE LISTED RECORD CODE IS REQUIRED FOR THE CODE TYPE SPECIFIED. RECORD CODES CODE TYPES AD 113 AT 5-18, 45-46, 89-90, 102, 106-I 07 CL 7 6 ED 2 25 GS 12,119 MK 7 0 P N 3 0 R C 53, 55-56 WT 98-I 00, 115
AC-52	AGENT GROUP NUMBER NOT FOUND	THE AGENT GROUP NUMBER SPECIFIED IN THE CODE TYPE IDENTIFIER FIELD FOR CODE TYPE 112 MUST BE DEFINED ON AN AG RECORD.
AC-52	ATTENDANT NOT FOUND	THE ATTENDANT NUMBER/S SPECIFIED IN THE CODE TYPE IDENTIFIER FIELD FOR CODE TYPE 9 MUST BE DEFINED ON AN AT RECORD.
AC-52	CLASS OF SERVICE REQUIRED	
AC-52	FEATURE NOT USABLE' WITHOUT CLASS OF SERVICE MARK	THE LISTED CLASS OF SERVICE MARK ON RECORDS DC, DD OR NC IS REQUIRED FOR THE SPECIFIED CODE TYPES TO WORK. CLASS OF SERVICE MARK CODE TYPE CC (RECODE CODE DC, DD) 22, 23 CF (RECODE CODE NC) 2 0 CV RECODE CODE NC) 21 CO (RECODE CODE NC) 28, 29 EX (RECODE CODE NC) 19 HD (RECODE CODE NC) 40, 44 MC (RECODE CODE NC) 32, 33 PA (RECODE CODE DC, DD) 34, 35 PC (RECODE CODE DC, DD) 33, 32 PK (RECODE CODE NC) 39, 43 RL (RECODE CODE DC, DD) 53 SA (RECODE CODE NC) 120 UN (RECODE CODE NC) 31 (ENDCHK)
AC-52	CODE TYPE IDENTIFIER - ON-NET CODE ON TR	THE ON-NET CODE SPECIFIED IN THE CODE TYPE IDENTIFIER FIELD FOR CODE TYPE 105 MUST BE DEFINED ON A TR RECORD.

Table 21.1   CPG Error Messages

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
AC-52	FIELD CONFLICTS WITH TRUNK APPL	THE TRUNK GROUP SPECIFIED IN THE CODE TYPE IDENTIFIER FIELD FOR CODE TYPES 1, 2, 4, 7, 8, 36, AND 69 MUST BE DEFINED WITH A COMPATIBLE TRUNK APPLICATION ON A T1 RECORD.
AC-52	INTERCEPT ROUTING CODE NOT FOUND	THE INTERCEPT ROUTING CODE SPECIFIED IN THE CODE TYPE IDENTIFIER FIELD FOR CODE TYPE 0 MUST BE DEFINED ON AN IR RECORD.
AC-52	INVALID CODE TYPE FOR SA ACCESS CODE	THE SA ACCESS CODE SPECIFIED ON AN SA RECORD MUST APPEAR ON AN AC RECORD WITH A CODE TYPE OF 1, 2, 3, 4, OR 8.
AC-52	INVALID PILOT NUMBER SPECIFICA-TION	THE PILOT NUMBER SPECIFIED IN THE CODE TYPE IDENTIFIER FIELD FOR CODE TYPES 37, 38, 41, 42, 61, 62 ,138, OR 139 MUST BE DEFINED AS THE PILOT NUMBER OF THE CORRESPONDING HUNT GROUP ON THE HG RECORD. (TABGEN/GENDIG)
AC-52	REFERENCED TRUNK IS NOT A RECORDER ANNOUNCER	THE TRUNK NUMBER SPECIFIED IN THE CODE TYPE IDENTIFIER FOR CODE TYPE 49 MUST BE DEFINED ON T1 AND TC RECORDS AS A RECORDER ANNOUNCER.
AC-52	SCC NUMBER NOT FOUND	THE SCC NUMBER SPECIFIED IN THE CODE TYPE IDENTIFIER FIELD FOR CODE TYPE 120 MUST BE DEFINED ON AN SA RECORD.
AC-52	TRUNK GROUP NOT FOUND	THE TRUNK GROUP NUMBER SPECIFIED IN THE CODE TYPE IDENTIFIER FIELD CODE TYPES 1, 2, 3, 4, 7, 8, 27, 36, 69, 97, AND 141 MUST BE DEFINED ON A T1 RECORD.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES

AC-53	CLASS OF SERVICE/ ACCESS CODE ERROR	A FEATURE WAS SPECIFIED IN THE CLASS OF SERVICE RECORD CODES (DC, DD, NC), BUT AN ACCESS CODE FOR THE FEATURE WAS NOT DEFINED.
		
		        DISPLAYABLE ACCESS CODE
		CLASS OF SERVICE TYPE
		       c c 22,23
		       D A 3 6
		       MC 32,33
		       ME 4 8
		       P A 34,35
		       P C 32,33
		       R L 53,55,56
		
		     N-DISPLAYABLE ACCESS CODE
		CLASS OF SERVICE TYPE
		       CF 2 0
		       CO 28,29
		       c v 21
		       D C 2 4
		       D D 71,72
		       EX 19
		       HD 40,44
		       MA 8 3
		       o c 13,14
		       PK 39,43
		       SA 120
		       S C 119
		       UN 3 1
		       w u 81,82
		
		(ENDCHK)

AC-54	NO ACCESS CODE FOUND FOR TRUNK GROUP. NO ACCESS FOUND FOR TRUNK GROUP	ACCESS CODES SHOULD BE DEFINED FOR ALL TRUNK GROUPS HAVING A DIRECTION OF OUTGOING OR TWO-WAY ON A T1 RECORD. IF A TRUNK GROUP DOES NOT HAVE AN ACCESS CODE, ACCESS TO IT MUST BE PROVIDED ON ANOTHER RECORD CODE SUCH AS NT, TD, LS, OR RP. (ENDCHK)

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
AC-55	FIRST DIGIT CONFLICTS OR NOT DEFINED	IF TWO AND/OR THREE DIGIT ACCESS CODES ARE DEFINED, THEN THE FIRST DIGIT OF THE TWO AND/OR THREE DIGIT ACCESS CODE MUST BE DEFINED ON AN AC RECORD. REC ACCESS CODE CODETYPE CODE CODE TYPE IDENTIFIER AC 1-- 10 0001 FIRST DIGIT OF A TWO DIGIT ACCESS CODE AC 12- 00 0000 TWO DIGIT ACCESS CODE AC 2-- 11 0002 FIRST DIGIT OF A THREE DIGIT ACCESS CODE AC 211 02 0010 THREE DIGIT ACCESS CODE
AC-56	REQUIRED CODE TYPE NOT FOUND	IF WARD CONTROL WAS SPECIFIED ON AN AT RECORD, THEN CODE TYPES 98 AND 99 ARE REQUIRED, AND IF TIME PERIOD CONTROL WAS SPECIFIED ON AN AT RECORD,THEN CODE TYPE 100 IS REQUIRED. (ENDCHK)
AC-57	CODE TYPE 007 REQUIRES SUPY OTG SIGNAL OF SO	AN ACCESS CODE WITH CODE TYPE 7 MUST REFERENCE A TRUNK GROUP WITH TRUNKS HAVING A SUPERVISORY OUTGOING SIGNAL OF 'SO'. (ENDCHK)
AC-58	SA ACCESS CODES MUST APPEAR ON AC	AN ACCESS CODE USED ON AN SA RECORD WAS NOT FOUND ON AN AC RECORD. (ENDCHK)
AC-59	CODE TYPE 066 REQUIRED	CODE TYPE 66 IS REQUIRED INPUT ON AN AC RECORD WHENEVER THERE-ARE RN RECORDS WITH A CODE TYPE OF 3DG OR 4DG. (ENDCHK)
AC-60	A VMS DIR. NO. ON OD REQUIRES CERTAIN CODE TYPES ON AC	CODE TYPES 132, 133, 134, AND 136 (THE VMS COMMAND ACCESS CODES) ARE REQUIRED INPUT ON AN AC RECORD WHENEVER THERE IS AN OD RECORD WITH A VMS DIRECTORY NUMBER. (ENDCHK)
AC-63	SILENT MONITOR CARD SM, NOT EQUIPPED ON FR	FOR SILENT MONITOR ACCESS CODE (64), A SILENT MONITOR CARD (SM) MUST APPEAR ON AN FR RECORD.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
AC-64	MERS NPA NOT PREVIOUSLY DEFINED	FOR THE MERS ON-NETWORK DIALING ACCESS CODE (105) THE MERS ON-NET NPA MUST HAVE BEEN DEFINED ON A TR RECORD. (TABGEN/GENDIG)
AC-65	MERS NPA OR ON-NET CODE NOT FOUND ON MR FORM	FOR THE MERS ON NETWORK DIALING ACCESS CODE (105) THE MERS ON-NET NPA MUST HAVE BEEN DEFINED ON AN MR RECORD. (TABGEN/GENDIG)
AC-66	REQUIRED CODE TYPE NOT FOUND	FOR THE MERS ON NETWORK DIALING FEATURE TO WORK PROPERLY AN ACCESS CODE MUST BE PROVIDED WITH ONE OF THE FOLLOWING CODE TYPES: 94, 96, 105, 126, OR 127. (ENDCHK)
AC-67	OPI CARD NOT EQUIPPED	MAID IN-PROGRESS (CODE TYPE 84) AND MAID COMPLETE (CODE TYPE 85) WITH CODE TYPE IDENTIFIER GREATER THAN 0 REQUIRES AN OPI CARD
AC-68	FIELD VALUE CONFLICTS WITH OPI CARD ON FR	IF THE OPI CARD IS EQUIPPED **ON** FR, MAID IN-PROGRESS (CODE TYPE 84) AND MAID COMPLETE (CODE TYPE 85), THE CODE TYPE IDENTIFIER MUST BE IN THE RANGE 1 TO 6
AD-06	LINE NUMBER OF SUPERVISOR LINE 2 - SUPERVISOR	ONLY THE SUPERVISOR IS ASSIGNED A LINE 2 ON AN AD RECORD AGENT LINE'2 FOR OTHER AGENTS IS ASSIGNED ON AN LD RECORD.
AD-09	INVALID CHARACTER PATTERN IN 2ND FIELD	THE SILENT MONITOR FIELD MAY BE SPECIFIED ONLY IF THE SUPERVISOR FIELD IS SPECIFIED.
AD-10	ELEMENTS HAVE INCOMPATIBLE VALUES	A SUPERVISOR MUST HAVE A DATA LINK.
AD-51	AGENT GROUP NUMBER NOT FOUND	EACH AGENT GROUP APPEARING ON AN AD RECORD MUST BE ENTERED ON AN AG RECORD.

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
AD-52	DUPLICATE AGENT POSITION NUMBER	EACH AGENT NUMBER MUST BE UNIQUE.
AD-56	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH INCOMING CARD TYPE	
AD-56	FUNCTION OF CARD NOT ALLOWED FOR CARD TYPE DEFINED ON FORM FR	DATA LINK PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT FUNCTION SPECIFIED IS INVALID FOR THE CARD TYPE DEFINED ON FR (FOR THIS PEC TYPE). AN AGENT DATA LINK MUST APPEAR ON AN AGENT CARD. IF THE CARD TYPE IN THE MESSAGE IS "OVER", THAT INDICATES THAT A CARD IN THE PREVIOUS LOCATION IS A WIDE CARD AND IT OVERHANGS INTO THIS PYHSICAL LOCATION ON FR.
AD-56	NONEXISTENT PHYSICAL LOCATION	DATA LINK PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED IS NOT VALID FOR THIS PEC TYPE.
AD-56	PHYSICAL LOCATION NOT DEFINED ON RECORD CODE FR	DATA LINK PHYSICAL LOCATION THE PEC, GROUP, AND SLOT SPECIFIED WAS NOT DEFINED ON AN FR RECORD.
AD-56	PHYSICAL LOCATION PREVIOUSLY FILLED	DATA LINK PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED FOR THE AGENT DATA LINK MUST BE UNIQUE.
AD-58	REQUIRED VALUE NOT FOUND ON LISTED FORM	THE LINE NUMBER OF SUPERVISOR LINE 2 MUST BE A VALID ENTRY ON AN LD RECORD.
AD-59	FUNCTION OF AGENT GROUP MUST BE ACD IF DATA LINK EQUIP IS -	SELF - EXPLANATORY

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
AD-60	THE SUPER-VISOR NO. MUST BE UNIQUELY DEFINED	IF A SUPERVISOR NO. APPEARS WITH A 'Y' IN THE SUPERVISOR FIELD FOR A PARTICULAR AGENT NO., THEN ANOTHER AGENT SUPERVISOR CANNOT HAVE THE ALREADY DEFINED SUPERVISOR NUMBER.
AD-60	CLASS OF SERVICE NOT ALLOWED	CLASS OF SERVICE NOT ALLOWED WHEN THE FIELD ALLOW AGENT CALL ORIGINATION ON LINE 1 HAS THE VALUE 'A' (TABGEN/GENCAS)
AD-61	CLASS OF SERVICE NOT ALLOWED	CERTAIN FEATURES IN NC RECORD ARE NOT ALLOWED. FEATURES OC, CO, DC, CV, CF,TC, TD, UN, TM, PD, HD, PK, CN, DD,WU, MA AND SD ARE NOT ALLOWED WHEN THE FIELD ALLOW AGENT CALL ORIGINATION ON LINE 1 HAS THE VALUE 'A'. (TABGEN/GENCAS)
AD-63	DUPLICATE AGENT POSITION NUMBER	AN AGENT POSITION DEFINED ON THE LD RECORD MUST BE SPECIFIED ON AN AD RECORD. (ENDCHK)
AD-66	A SUPERVISOR MUST BE DEFINED IF IT IS SPECIFIED BY AN AGENT	SUPERVISOR - SUPERVISOR NUMBER A SUPERVISOR MUST BE DEFINED IF IT IS SPECIFIED BY AN AGENT POSITION NUMBER. (ENDCHK)
AD-69	SUPY LINE 2 MUST BE POTS	THE INSTRUMENT TYPE ON THE LD RECORD MUST BE POTS FOR SUPERVISORY LINE. 2. (TABGEN/GENCAS)
AD-70	SUPY LINE 2 MUST BE IN PEC 0 - 3	THE PHYSICAL LOCATION PEC ON THE LD RECORD MUST BE 0 TO 3 FOR SUPERVISORY LINE. 2.(TABGEN/GENCAS)
AD-72	SILENT MONITOR CARD SM, NOT EQUIPPED ON FR	SILENT MONITOR IS EQUIPPED FOR SUPERVISOR, BUT THERE IS NO SILENT MONITOR CARD (SM) PROVIDED ON FR RECORD.
AF-01	DASHES MUST BE USED CONSISTENTLY IN FIELD	THE ACD PILOT NUMBER FIELDS MUST USE DASHES CONSISTENTLY.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
AF-02	DASHES MUST BE USED CONSISTENTLY IN FIELD	THE 9TH ART CARD MUST USE DASHES CONSISTENTLY.
AF-03	ELEMENTS HAVE INCOMPATIBLE VALUES	CHECK ON EQUIPPED STATUS IF PEC, GROUP, AND CARD SLOT FIELDS ARE DASHES, THEN THE EQUIPPED STATUS MUST BE 'N'.
AF-51	PHYSICAL LOCATION PREVIOUSLY FILLED	THE 9TH ART CARD MUST CONTAIN A UNIQUE PHYSICAL LOCATION.
AF-51	NONEXISTENT PHYSICAL LOCATION	THE CARD WAS ASSIGNED TO A NONEXISTENT PHYSICAL LOCATION.
AF-51	CARD OVER-HANGS INTO A PREVIOUSLY FILLED SLOT	THIS CARD IS AN OVERSIZED CARD AND IS TRYING TO FILL TWO SLOTS. OF THE TWO SLOTS IT FILLS, THE RIGHT HAND ONE HAS ALREADY BEEN FILLED.
AF-51	PREVIOUS CARD OVERHANGS INTO THIS SLOT	THE CARD TO THE LEFT OF THIS SLOT IS AN OVERSIZED CARD. THE RIGHT HALF OF THAT CARD FILLS THIS SLOT.
AF-52	INVALID PILOT NUMBER SPECIFICATION	THE PILOT NUMBER SPECIFIED IN THE ACD PILOT NUMBERS 1 THRU 4 MUST APPEAR AS A PILOT NUMBER ON AN HG RECORD.
AF-53	PEC NUMBER IS NOT EQUIPPED	THE PEC NUMBER SPECIFIED MUST BE MARKED EQUIPPED ON THE OF RECORD.
AG-01	NIGHT DAY MODE - NIGHT DIVERT DESTINATION	IF NIGHT MODE IS SPECIFIED, THEN A NIGHT DIVERT DESTINATION MUST BE SPECIFIED.

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES

AG-02	NIGHT DIVERT DESTINATION - NIGHT DIVERT DESTINATION ID	A NIGHT DIVERT DESTINATION ID MUST CONTAIN ONLY THE ALLOWABLE VALUES ASSIGNED TO THE CORRESPONDING NIGHT DIVERT DESTINATION TYPE AS FOLLOWS:
		
		          ALLOWABLE VALUE:
		NIGHT DIVERT NIGHT DIVERT
		DESTINATION DESTINATION ID
		LN (LINE) 0000 TO 9999
		TK (TRUNK GROUP) 0000 TO 0063
		          DEPENDING ON SVR
		AG (AGENT GROUP) 0000 TO 0007
		          DEPENDING ON SVR
		RA (REC. ANN. #3) ----
		AT (ATTENDANT) 0000 TO 0128

AG-03	ALTERNATE DIVERT DESTINATION - ALTERNATE DIVERT DESTINATION ID	AN ALTERNATE DIVERT DESTINATION ID MUST CONTAIN ONLY THE ALLOWABLE VALUES ASSIGNED TO THE CORRESPONDING ALTERNATE DIVERT DESTINATION TYPE AS FOLLOWS:
		          ALLOWABLE VALUE:
		ALTERNATE DIVERT ALTERNATE NIGHT
		DESTINATION DIVERT DESTINATION ID
		
		LN (LINE) 0000 TO 9999
		TK (TRUNK GROUP) 0000 TO 0063
		AG (AGENT GROUP) 0000 TO 0007
		RA (RECORDER ANNOUNCER) PXXX WHERE
		                 P= PEC NUMBER
		                 XXX=TRUNK NUMBER
		AT (ATTENDANT) 0000 TO 0128

AG-04	NIGHT/ALTERNATE DIVERT DESTINATION - AGENT GROUP	IF A CAS MAIN/ACD GROUP IS SPECIFIED AS THE NIGHT/ALTERNATE DIVERT DESTINATION, IT CANNOT BE THE SAME GROUP.
AG-05	ALTERNATE DIVERT DESTINATION TIMING	THE ALTERNATE DIVERT DESTINATION TIMING IS REQUIRED IF AN ALTERNATE DIVERT DESTINATION IS SPECIFIED.
AG-06	PLAY RA #1 BEFORE ROUTING - RA #1	RECORDER ANNOUNCER #1 MUST BE PLAYED IF PLAY RA #1 BEFORE ROUTING TO AGENT GROUP IS SPECIFIED AS 'Y'.
AG-07	TIME BETWEEN RA #1 AND RA #2	THE TIME BETWEEN RA #1 AND RA #2 IS REQUIRED IF BOTH RECORDER ANNOUNCERS ARE TO BE PLAYED.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
AG-08	TIME BETWEEN REPEAT OF RA #2	IF RA #2 IS TO BE REPEATED, THEN THE TIME BETWEEN REPEAT OF RA #2 MUST BE SPECIFIED
AG-09	CALL WAIT LEVEL 1 - CALL WAIT LEVEL 2 - CALL WAIT LEVEL 3	CALL WAIT LEVEL 2 MUST BE GREATER THAN CALL WAIT LEVEL 1. CALL WAIT LEVEL 3 MUST BE GREATER THAN CALL WAIT LEVEL 2.
AG-10	AGENT HANDS-FREE OPERATION - TIME IN WORK STATE	IF AGENT HANDS-FREE OPERATION IS NOT SPECIFIED ('N'), THEN TIME IN WORK STATE VALUE MUST BE DASHED.
AG-11	FUNCTION - TIME IN WORK STATE	IF THE FUNCTION IS 'CAS', THEN A TIME IN WORK STATE VALUE MUST BE DASHED.
AG-12	FUNCTION - CAS LOC FLASH/AGENT TRANSFER/ ALERT TONE	IF THE FUNCTION IS ACD, THEN CAS LOC FLASH, AGENT TRANSFER, AND ALERT TONE CANNOT BE SPECIFIED. CAS LOC FLASH, AGENT TRANSFER, AND ALERT TONE DO NOT APPLY TO ACD.
AG-13	AGENT TRANSFER - CAS LOC FLASH/ALERT TONE	IF AGENT TRANSFER IS SPECIFIED, THEN CAS LOC FLASH AND ALERT TONE MUST BE SPECIFIED.
AG-14	ELEMENTS HAVE INCOMPATIBLE VALUES	IF RECORDER ANNOUNCER ('RA') IS SPECIFIED AS NITE DIVERT DESTINATION, THEN RA #3 MUST NOT BE DASHED.
AG-51	RECORDCODE TYPE NOT FOUND	
AG-51	AGENT GROUP NUMBER NOT FOUND	EACH AGENT GROUP ASSIGNED TO A TRUNK GROUP ON A T1 RECORD MUST APPEAR ON AN AG RECORD. (INTER & ENDCHK)
AG-52	DUPLICATE AGENT GROUP NUMBER	THE AGENT GROUP NUMBER ON EACH AG RECORD MUST BE UNIQUE.

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
AG-53	NIGHT DIVERT DESTINATION ID	IF A NIGHT DIVERT DESTINATION ID IS SPECIFIED, IT MUST EXIST; I.E., IT MUST ALSO BE ENTERED ON AN APPROPRIATE RECORD AS FOLLOWS: NIGHT DIVERT CORRESPONDING DESTINATION ID REQUIRED RECORD LN LINE NUMBER L D TK TRUNK GROUP NUMBER T1 AND T2 AG AGENT GROUP NUMBER AG RA ---- (REC. ANN. #3) RA AT ATTENDANT MASK AT -- ---- NONE
AG-54	ALTERNATE DIVERT DESTINATION ID	IF AN ALTERNATE DIVERT DESTINATION ID IS SPECIFIED, IT MUST EXIST; I.E., IT MUST ALSO BE ENTERED ON AN APPROPRIATE RECORD AS FOLLOWS: ALTERNATE DIVERT CORRESPONDING DESTINATION ID REQUIRED RECORD LN LINE NUMBER L D TK TRUNK GROUP NUMBER T1 AND T2 AG AGENT GROUP NUMBER A G RA PEC AND TRUCK NUMBER T C OF RECORDER/ANN AT ATTENDANT MASK AT -- ---- NONE
AG-55	FUNCTION NOT SAME AS THE DIVERTING GROUP	IF A CAS MAIN/ACD GROUP IS SPECIFIED AS THE NIGHT/ALTERNATE DIVERT DESTINATION, IT MUST HAVE THE SAME FUNCTION AS THE DIVERTING GROUP; I.E. BOTH MUST BE CAS OR BOTH MUST BE ACD. (ENDCHK)

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES

AG-56	FIELD DOES NOT HAVE REQUIRED VALUE	RA #1, RA #2 AND RA #3 FIELDS IF SPECIFIED ON AN AG RECORD REQUIRE CERTAIN FIELDS TO BE EQUIPPED ON AN RA RECORD, DEPENDING ON THE VALUE SPECIFIED: THE REQUIREMENTS ARE AS FOLLOWS:
		
		FIELD AND VALUE ON AG RECORD VALUES REQUIRED ON RA RECORD
		
		RA #1: 1 RA #1
		   A ALT RA #1
		RA #2: 2 RA #2
		   A ALT RA #2
		RA #3: 3 RA #3
		   A ALT RA #3

AL-01	ELEMENTS HAVE INCOMPATIBLE VALUES	
AL-01	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
AL-01	2ND FEATURE REQUIRED IF FIRST SPECIFIED	FUNCTION STATUS ▪ PRINTER ID THERE ARE CERTAIN VALUES REQUIRED IN THE PRINTER ID FIELD DEPENDING ON THE FUNCTIONS STATUS VALUE: FUNCTION STATUS ALLOWABLE VALUES OF PRINTER NUMBER ID AL 01-15 -- --
AL-51	KEDU NUMBER NOT FOUND	THE SPECIFIED KEDU NUMBER MUST BE A VALID KEDU NUMBER ON A KD RECORD.

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Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
AL-52	PRINTER NUMBER NOT FOUND	THE PRINTER ID IDENTIFIES A SPECIFIC PRINTER NUMBER OR SEVERAL PRINTER NUMBERS DEPENDING ON THE VALUE RANGE ENTERED. ALL PRINTER NUMBERS INDICATED BY THE PRINTER ID MUST BE VALID PRINTER NUMBERS ON A PD RECORD. PRINTER ID / PRINTER NUMBER(S) 0　NONE 1　0 2　1 3　0,1 4　2 5　0,2 6　1,2 7　0,1,2 8　3 9　0,3 10　1,3 11　0,1,3 12　2,3 13　0,2,3 14　1,2,3 15　0,1,2,3
AP-52	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH FCN OF INCOMING CARD	
AP-52	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH INCOMING CARD TYPE	
AP-52	FUNCTION OF CARD NOT ALLOWED FOR CARD TYPE DEFINED ON FORM FR	PHYSICAL LOCATION THE PEC, GROUP, SLOT AND CIRCUIT FUNCTION SPECIFIED IS INVALID FOR THE CARD TYPE DEFINED ON FR (FOR THIS PEC TYPE). ASYNCHRONOUS PORT MUST APPEAR ON A VPLO, VPL1, VP20 (VOICE OR VOICE AND DATA) OR VP21 CARD. (PHYLOC) IF THE CARD TYPE IN THE MESSAGE IS "OVER" THAT INDICATES THAT A CARD IN THE PREVIOUS LOCATION IS A WIDE CARD AND IT OVERHANGS INTO THIS PHYSICAL LOCATION ON FR.

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Table 21.1   CPG   Error   Messages   (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
AP-53	PHYSICAL LOCATION NOT DEFINED ON RECORD CODE LD:	
AP-53	PHYSICAL LOCATION NOT DEFINED	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT OF AN ASYNCHRONOUS PORT MUST BE DEFINED ON AN LD RECORD.
AP-53	USE OF PHYSICAL LOC CONFLICTS WITH INSTR. TYPE SPECIFIED ON LD	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT OF AN ASYNCHRONOUS PORT MUST BE DEFINED ON AN LD RECORD WITH AN INSTRUMENT TYPE OF 'DFPA' OR 'APM' (DEPENDING ON THE SVR).
AP-54	DUPLICATE PHYSICAL LOCATION	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED MUST BE UNIQUE ACROSS ALL AP RECORDS.
AP-56	PHYSICAL LOCATION NOT FOUND ON RECORD CODE CP	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT OF AN ASYNCHRONOUS PORT MUST BE DEFINED ON A CP RECORD WITH A DEVICE TYPE OF EITHER 'TERM' OR 'HOST'.
AP-56	HOST LINE ADAPT. SPEED IS VALID ONLY FOR DEVICE TYPE HOST ON CP	PHYSICAL LOCATION - HOST LINE ADAPTIVE SPEED THE PEC, GROUP, SLOT, AND CIRCUIT OF AN ASYNCHRONOUS PORT MUST BE DEFINED ON A CP RECORD WITH A DEVICE TYPE 'HOST' IF HOST LINE ADAPTIVE SPEED IS SPECIFIED AS 'Y'.
AP-82	PHYSICAL LOCATION IS MISSING ON NAMED RECORDCODE	PHYSICAL LOCATION THE COMPLETE DEFINITION ON AN ASYNCHRONOUS PORT INCLUDES AN LD, CP AND AP RECORD. (ENDCHK)
AQ-52	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH FCN OF INCOMING CARD	

Table 21.1   CPG   Error   Messages   (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
AQ-52	FUNCTION OF CARD NOT ALLOWED FOR CARD TYPE DEFINED ON FORM FR	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT FUNCTION SPECIFIED IS INVALID FOR THE CARD TYPE DEFINED ON AN FR RECORD (FOR THIS PEC TYPE). AN ASYNCHRONOUS PORT MUST APPEAR ON A VPLO, VPL1, VP20 (VOICE AND DATA OR DATA) OR VP21 CARD. (PHYLOC) IF THE CARD TYPE IN THE MESSAGE IS " OVER ", THAT INDICATES THAT THE CARD IN THE PREVIOUS LOCATION IS A WIDE CARD AND IT OVERHANGS INTO THIS PHYSICAL LOCATION ON FR.
AQ-52	NONEXISTENT PHYSICAL LOCATION	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED IS NOT VALID FOR THIS PEC TYPE. (PHYLOC)
AQ-52	PHYSICAL LOCATION NOT DEFINED ON RECORD CODE FR	PHYSICAL LOCATION THE PEC, GROUP, AND SLOT SPECIFIED WAS NOT DEFINED ON AN FR RECORD. (PHYLOC)
AQ-53	USE OF PHYSICAL LOC CONFLICTS WITH INSTR. TYPE SPECIFIED ON LD	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT OF AN ASYNCHRONOUS PORT MUST BE DEFINED ON AN LD RECORD WITH AN INSTRUMENT TYPE OF 'DFPA' OR 'APM'.
AQ-54	DUPLICATE PHYSICAL LOCATION	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED MUST BE UNIQUE ACROSS ALL AQ RECORDS.
AQ-55	SITE HAS INCONSISTENT DATA BASE	AN INCONSISTENCY HAS BEEN DETECTED IN THE SET/READ LIST OF THE LISTED PORT TABLE ENTRY.
AS-51	TRUNK GROUP NOT FOUND	THE TRUNK GROUP SPECIFIED MUST HAVE A CORRESPONDING T1 RECORD.
AS-52	DUPLICATE TRUNK GROUP NUMBER	THIS NUMBER MUST BE UNIQUE ACROSS AS RECORDS.
AT-01	ATTENDANT BILLING NUMBER	DASHES MUST BE USED CONSISTENTLY IN FIELD.

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
AT-03	PEC - PEC INDICATED BY THE CONSOLE	THE ATTENDANT BILLING NUMBER MUST BE IN THE SAME PEC AS INDICATED BY THE CONSOLE.
AT-04	SECOND FIELD PATTERN MUST BE SPECIFIED IF FIRST FIELD IS Y	
AT-04	SECOND ELEMENT CONTAINS INVALID VALUE	
AT-04	INVALID CHARACTER PATTERN IN 2ND FIELD	PROGRAMMABLE ATTENDANT CONSOLE - PROGRAMMABLE SWITCHES ONLY ONE TYPE OF CONSOLE MAY BE USED ON THE SYSTEM (I.E., STANDARD AND PROGRAMMABLE SWITCHES MAY NOT CO-EXIST).
AT-05	VALUE OF SECOND ELEMENT TOO SMALL	

AT-05	VALUE OF SECOND ELEMENT TOO LARGE	ATTENDANT NUMBER - PEC
		THE PLACEMENTS OF ATTENDANTS IN THE PECS ARE AS FOLLOWS:
		
		ATTENDANT NUMBER PEC
		    0 TO 1 0
		    2 TO 3 1
		    4 TO 5 2
		    6 TO 7 3

AT-06	SECOND ELEMENT CONTAINS INVALID VALUE	EQUIPPED STATUS - LINE STATUS IF THE EQUIPPED STATUS OF THE DATA LINK IS IS/OS, THE LINE STATUS OF LINE DATA MUST BE THE SAME OR --.
AT-07	CKT MUST BE 0 IF PROGRAM-MABLE ATTENDANT CONSOLE IS '-'	CIRCUIT - PROGRAMMABLE ATTENDANT CONSOLE IF PROGRAMMABLE ATTENDANT CONSOLE IS DASHED, THEN THE CIRCUIT OF THE DATA LINK MUST BE 0.
AT-51	DUPLICATE ATTENDANT CONSOLE NUMBER	THE ATTENDANT NUMBER MUST BE UNIQUE ACROSS THE AT RECORDS.

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
AT-52	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH FCN OF INCOMING CARD	
AT-52	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH INCOMING CARD TYPE	
AT-52	FUNCTION OF CARD NOT ALLOWED FOR CARD TYPE DEFINED ON FORM FR	DATA LINK PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT FUNCTION SPECIFIED IS INVALID FOR THE CARD TYPE DEFINED ON FR (FOR THIS PEC TYPE). ATTENDANT DATA LINK MUST APPEAR ON AN ATTN CARD. (PHYLOC) IF THE CARD TYPE IN THE MESSAGE IS "OVER" THAT INDICATES THAT A CARD IN THE PREVIOUS LOCATION IS A WIDE CARD AND IT OVERHANGS INTO THIS PYHSICAL LOCATION ON FR.
AT-52	NONEXISTENT PHYSICAL LOCATION	DATA LINK PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED IS NOT VALID FOR THIS PEC TYPE. (PHYLOC)
AT-52	PHYSICAL LOCATION NOT DEFINED ON RECORD CODE FR	DATA LINK PHYSICAL LOCATION THE PEC, GROUP, AND SLOT SPECIFIED WAS NOT DEFINED ON AN FR RECORD. (PHYLOC)
AT-52	PHYSICAL LOCATION PREVIOUSLY FILLED	DATA LINK PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED FOR THE ATTENDANT DATA LINK MUST BE UNIQUE. (PHYLOC)
AT-55	PEC NUMBER IS NOT EQUIPPED	PEC NUMBER THE PEC SPECIFIED MUST BE MARKED EQUIPPED ON THE OE RECORD.
AT-55	NONEXISTENT PHYSICAL LOCATION	THE CARD WAS ASSIGNED TO A NONEXISTENT PHYSICAL LOCATION.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
AT-55	CARD OVERHANGS INTO A PREVIOUSLY FILLED SLOT	THIS CARD IS AN OVERSIZED CARD AND IS TRYING TO FILL TWO SLOTS. OF THE TWO SLOTS IT FILLS, THE RIGHT HAND ONE HAS ALREADY BEEN FILLED.
AT-55	PREVIOUS CARD OVERHANGS INTO THIS SLOT	THE CARD TO THE LEFT OF THIS SLOT IS AN OVERSIZED CARD. THE RIGHT HALF OF THAT CARD FILLS THIS SLOT.
AT-56	PEC/BLDU NOT FOUND	THE PEC AND BLDU SPECIFIED DID NOT HAVE A CORRESPONDING BK RECORD.
AT-58	PEC NUMBER NOT FOUND ON BD	THE BLDU NUMBER SPECIFIED ON AN AT RECORD MUST HAVE AN EQUIPPED STATUS ON A BD RECORD.
AT-59	DUPLICATE PEC/BLDU NUMBER	ONLY ONE ATTENDANT CONSOLE CAN USE A PARTICULAR BLDU.
AT-60	ALL AT FORMS MUST HAVE ONLY ONE TYPE OF CONSOLE	ONLY ONE TYPE OF CONSOLE MAY BE USED ACROSS ALL AT RECORDS. (ENDCHK)
AT-61	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH FCN OF INCOMING CARD	
AT-61	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH INCOMING CARD TYPE	
AT-61	FUNCTION OF CARD NOT ALLOWED FOR CARD TYPE DEFINED ON FORM FR	LINE PHYSICAL LOCATION THE PEC, GROUP, SLOT AND CIRCUIT FUNCTION SPECIFIED IS INVALID FOR THE CARD TYPE DEFINED ON FR (FOR THIS PEC TYPE). ATTENDANT LINE MUST APPEAR ON A POTS OR OFFP LINE CARD. (PHYLOC)

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
AT-61	NONEXISTENT PHYSICAL LOCATION	LINE PHYSICAL LOCATION THE PEC, GROUP, SLOT AND CIRCUIT SPECIFIED IS NOT VALID FOR THIS PEC TYPE. (PHYLOC)
AT-61	PHYSICAL LOCATION NOT DEFINED ON RECORD CODE FR	LINE PHYSICAL LOCATION THE PEC, GROUP, AND SLOT SPECIFIED WAS NOT DEFINED ON AN FR OR LR RECORD. (PHYLOC)
AT-61	PHYSICAL LOCATION PREVIOUSLY FILLED	LINE PHYSICAL LOCATION THE PEC, GROUP, SLOT AND CIRCUIT SPECIFIED FOR THE ATTENDANT LINE MUST BE UNIQUE. (PHYLOC)
AT-62	TOO MANY UNIQUE LINE CARD ADDRESSES	A MAXIMUM OF 32 COMBINATIONS OF GROUP AND CARD SLOT IS ALLOWED PER PEC. AN ATTENDANT CIRCUIT IS CONSIDERED A LINE CIRCUIT.
AT-63	CLASS OF SERVICE NOT ALLOWED	AN ATTENDANT MAY NOT HAVE STATION SILENT MONITOR ACCESS.
AT-71	LINE CARD NOT FOUND	THE LINE CARD FOR THE ATTENDANT LINE'S PHYSICAL LOCATION MUST BE SPECIFIED ON AN FR RECORD. (TABGEN)
AT-80	FRL MUST BE SPECIFIED	FRLS HAVE BEEN EQUIPPED FOR THIS SYSTEM ON RECORD CODE OF AND MUST THEREFORE BE SPECIFIED FOR EVERY ATTENDANT ON RECORD CODE AT.
AT-80	INCONSISTENT ENGINEERING OF FRLS	FRLS HAVE BEEN SPECIFIED FOR SOME PARTS OF THE SYSTEM AND NOT OTHERS. ENSURE THAT ALL ATTENDANTS, LINES, TRUNK GROUPS, MERS ROUTES, ETC. HAVE FRLS ENTIRELY ENABLED OR DISABLED.
AT-82	OPI CARD NOT EQUIPPED	RECEIVE PMS MESSAGES WAS INDICATED BUT OPI CARD WAS NOT EQUIPPED.
AT-83	DTMF RECEIVER NOT EQUIPPED ON RECORD FR	ATTENDANT CONSOLES REQUIRE USE OF A DTMF RECEIVER.

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
AU-51	DUPLICATE AUTHORIZATION CODE NUMBER	THE AUTHORIZATION CODE NUMBER MUST BE UNIQUE ACROSS ALL AU RECORDS.
AU-52	CLASS OF SERVICE NOT DEFINED	THE DISPLAYABLE CLASS OF SERVICE NUMBER MUST BE DEFINED ON A DC RECORD.
AU-53	CLASS OF SERVICE NOT DEFINED	THE N-DISPLAYABLE CLASS OF SERVICE NUMBER MUST BE DEFINED ON AN NC RECORD.
BD-01	SECOND ELEMENT CONTAINS INVALID VALUE	PEC ▪ GROUP ▪ CARD SLOT ▪ CIRCUIT DASHES MUST BE USED CONSISTENTLY ACROSS THE ENTIRE PHYSICAL LOCATION (PEC, GROUP, CARD SLOT, CIRCUIT). IF ANY OF THE FIELDS CONTAIN DASHES, THEN ALL MUST BE DASHED. IF ONE OF THE FIELDS IS SPECIFIED (NONDASHED), THEN ALL MUST BE SPECIFIED.
BD-51	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH FCN OF INCOMING CARD	
BD-51	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH INCOMING CARD TYPE	
BD-51	NONEXISTENT PHYSICAL LOCATION	PHYSICAL LOCATION THE PEC, GROUP, SLOT AND CIRCUIT SPECIFIED IS NOT VALID FOR THIS PEC TYPE. (PHYLOC)
BD-51	PHYSICAL LOCATION NOT DEFINED ON RECORD CODE FR	PHYSICAL LOCATION THE PEC, GROUP, AND SLOT SPECIFIED WAS NOT DEFINED ON AN FR RECORD. (PHYLOC)

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
BD-51	FUNCTION OF CARD NOT ALLOWED FOR CARD TYPE DEFINED ON FORM FR	PHYSICAL LOCATION THE PEC, GROUP, SLOT AND CIRCUIT FUNCTION SPECIFIED IS INVALID FOR THE CARD TYPE DEFINED ON FR (FOR THIS PEC TYPE). A BLDU CIRCUIT MUST APPEAR ON AN ATTN CARD. (PHYLOC) IF THE CARD TYPE IN THE MESSAGE IS "OVER" THAT INDICATES THAT A CARD IN THE PREVIOUS LOCATION IS A WIDE CARD AND IT OVERHANGS INTO THIS PHYSICAL LOCATION ON FR.
BD-51	PHYSICAL LOCATION PREVIOUSLY FILLED	PHYSICAL LOCATION THE PEC, GROUP, SLOT AND CIRCUIT SPECIFIED FOR THE BLDU CIRCUIT MUST BE UNIQUE. (PHYLOC)
BD-51	CARD OVERHANGS INTO A PREVIOUSLY FILLED SLOT	THIS CARD IS AN OVERSIZED CARD AND IS TRYING TO FILL TWO SLOTS. OF THE TWO SLOTS IT FILLS, THE RIGHT HAND ONE HAS ALREADY BEEN FILLED.
BD-51	PREVIOUS CARD OVERHANGS INTO THIS SLOT	THE CARD TO THE LEFT OF THIS SLOT IS AN OVERSIZED CARD. THE RIGHT HALF OF THAT CARD FILLS THIS SLOT.
BD-55	PEC NUMBER NOT EQUIPPED	PEC NUMBER THE PEC SPECIFIED MUST BE EQUIPPED ON THE OE RECORD.
BK-51	PEC NUMBER NOT FOUND ON BD	EACH PEC SPECIFIED ON A BK RECORD, MUST ALSO BE SPECIFIED IN THE BD RECORD.
BK-52	DUPLICATE PEC/BLDU NUMBER	THE COMBINATION OF PEC AND BUSY LAMP DISPLAY UNIT NUMBER MUST BE UNIQUE ACROSS ALL BK RECORDS.
BK-53	HUNDREDS GROUP NOT FOUND	THE SPECIFIED HUNDREDS GROUP WAS NOT ENGINEERED ON AN HD RECORD.
CA-02	SECOND ELEMENT LESS THAN FIRST ELEMENT	ATTENDANT CALL WAITING QUEUE SIZES QUEUE 1-QUEUE 2. ATTENDANT CALL WAITING QUEUE 2 MUST BE LARGER THAN ATTENDANT CALL WAITING QUEUE 1.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
CA-04	ONLY ONE FIELD CAN BE SPECIFIED	NIGHT ANSWER POSITIONS 1 AND 2 PNA DESTINATION NUMBER · UNA ZONES ONLY ONE OF THESE FIELDS CAN BE SPECIFIED. PNA DEST UNA NO ZONES **02** ---- ALLOWED -- UU-- ALLOWED 15 UUUU INCORRECT
CA-05	DASHES MUST BE USED CONSISTENTLY IN FIELD	IF THE ATTENDANT ASSIGNMENT STATUS IS DASH, THEN THE CHOICE OF CONSOLE ORDER FIELDS MUST ALL BE DASHES.
CA-51	ATTENDANT NOT FOUND	THE ATTENDANT MARKED FOR NIGHT ANSWER CONTROL MUST APPEAR ON AN AT RECORD.
CA-52	HUNDREDS GROUP NOT FOUND	THE FIRST TWO DIGITS OF DIRECTORY NUMBER FIELDS SHOULD BE VALID NUMBERS CORRESPONDING TO THE DIRECTORY NUMBERS IN USE.
CA-56	A REQUIRED RECORD TYPE NOT FOUND	IF A CA RECORD IS SUPPLIED AT LEAST ONE AT RECORD MUST BE SUPPLIED ALSO.
CA-57	**P N A** DESTINATION NUMBER	THE PNA DESTINATION NUMBER SPECIFIED MUST BE A VALID PNA DESTINATION NUMBER DEFINED ON A PN RECORD.
CA-57	TOO MANY PNA PILOT NUMBERS	MORE THAN THE SVR MAXIMUM NUMBER OF UNIQUE PNA PILOT NUMBERS HAVE BEEN USED.
CA-58	ATTENDANT NOT FOUND	IF AN ATTENDANT NUMBER IS SPECIFIED IN ANY OF THE EIGHT CHOICES OF CONSOLE FIELDS, THAT NUMBER MUST BE A VALID ATTENDANT CIRCUIT NUMBER DEFINED ON AN AT RECORD.
CB-01	INVALID RECORD CODE · DIGITS INCONSISTENT	CODE BLOCKED DIGITS 8 · 10 MUST BE ENTIRELY DASHED OR NOT DASHED AT ALL.
CB-50	7/1 0-DIGIT CHECKING NOT SPECIFIED ON RECORDCODE 0F	IF A 7-DIGIT CODE BLOCKED NUMBER IS SPECIFIED THEN 7-DIGIT CHECKING MUST BE ENABLED ON RECORD CODE OF. IF A 10-DIGIT CODE BLOCKED NUMBER IS SPECIFIED THEN 10-DIGIT CHECKING MUST BE ENABLED ON RECORD CODE OF.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
CB-51	DUPLICATE ENTRY	A DUPLICATE CB RECORD HAS BEEN DETECTED.
CD-52 ᵪ	CLASS OF SERVICE REQUIRED	AT LEAST ONE DC OR DD RECORD SHOULD SPECIFY CODE CALL ACCESS ('CC').
-CF-01	INVALID CHARACTER PATTERN IN 2ND FIELD	
CF-01	DASHES MUST BE USED CONSISTENTLY IN FIELD	
CF-01	SECOND ELEMENT CONTAINS INVALID VALUE	CAMP-ON RECORDER ANNOUNCER PEC NUMBER - PABX TRUNK NUMBER. DASHES MUST BE CONSISTENT. IF ONE FIELD IS DASHED THEN THE OTHER MUST BE DASHED.
CF-02	INVALID CHARACTER PATTERN IN 2ND FIELD	
CF-02	SECOND ELEMENT CONTAINS INVALID VALUE	
CF-02	SECOND PATTERN MUST BE SPECIFIED IF FIRST FIELD IS 'Y	
CF-02	CF-02 DASHES MUST BE USED CONSISTENTLY IN FIELD	IF RLT BUSY DIVERT TO RECORDER ANNOUNCER IS DASHED, CAMP-ON RECORDER ANNOUNCER MUST BE DASHED. IF RLT BUSY DIVERT TO RECORDER ANNOUNCER IS 'Y', CAMP-ON RECORDER ANNOUNCER MUST BE SPECIFIED (NOT DASHED).
CF-51	CLASS OF SERVICE NOT DEFINED	THE DISPLAYABLE CLASS OF SERVICE MUST APPEAR ON A DD RECORD AND THE N-DISPLAYABLE CLASS OF SERVICE MUST APPEAR ON AN NC RECORD.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
CF-53	CLASS OF SERVICE FEATURES CONFLICT	FOR VIOLATION AND RESTRICTION PATTERNS BETWEEN DISPLAYABLE AND N-DISPLAYABLE CLASSES OF SERVICE, SEE APPENDIX 1.
CF-54	TRUNK NUMBER NOT FOUND	THESE FIELDS MUST CORRESPOND TO A TC RECORD DEFINING A RECORDER ANNOUNCER. THE RECORDER ANNOUNCER INDICATED MUST BE USED FOR THIS FEATURE ONLY. IN ORDER TO WORK PROPERLY THIS RECORDER ANNOUNCER CANNOT BE USED FOR ANY OTHER PURPOSE.
CF-54	REFERENCED TRUNK IS NOT A RECORDER ANNOUNCER	THE TRUNK SPECIFIED SHOULD BE A MEMBER OF A TRUNK GROUP OF THE TYPE RECORDER ANNOUNCER ON A T1 RECORD.
CF-55	PEC NUMBER NOT EQUIPPED	THE SPECIFIED PEC WAS NOT EQUIPPED ON THE OE OR OF RECORD.
CH-01	VALUES TO BE FILLED LEFT TO RIGHT	
CH-01	DASHES MUST BE USED CONSISTENTLY IN FIELD	IN DEFINING THE OLD ACCESS CODE DIGITS, THE USE OF DASHES MUST BE CONSISTENT. IF DIGIT 1 IS DASHED THEN DIGITS 2 AND 3 MUST BE DASHES. IF DIGIT 2 IS DASHED THEN DIGIT 3 MUST BE DASHED.
CH-02	ONE FIELD MUST BE SPECIFIED	OLD ACCESS CODE - OLD DIRECTORY NUMBER ONE OF THESE FIELDS MUST BE FILLED WITH DASHES AND THE OTHER FIELD MUST SPECIFY A NON-DASH VALUE.
CH-03	NEW DIRECTORY NUMBER - NEW CODE TYPE	NEW DIRECTORY NUMBER - NEW CODE TYPE ONE OF THESE FIELDS MUST BE FILLED WITH DASHES AND THE OTHER FIELD MUST SPECIFY A NON-DASH VALUE.
CH-04	INVALID CHARACTER PATTERN IN 2ND FIELD	NEW CODE TYPE - NEW CODE TYPE IDENTIFIER BOTH FIELDS MUST CONTAIN DASHES OR BOTH FIELDS MUST SPECIFY A NON-DASH VALUE.
CH-05	VALUE OF SECOND ELEMENT TOO SMALL	

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
CH-05	VALUE OF SECOND ELEMENT TOO LARGE	
CH-05	ELEMENTS HAVE INCOMPATIBLE VALUES	
CH-05	SECOND ELEMENT CONTAINS INVALID VALUE	NEW CODE TYPE - NEW CODE TYPE IDENTIFIER THE CODE TYPE IDENTIFIER SPECIFIED IS INAPPROPRIATE FOR THE CODE TYPE. SEE THE CODE SYMBOL MODULE FOR VALID VALUES FOR EACH CODE TYPE.
CH-51	ACCESS CODE NOT FOUND	THE OLD ACCESS CODE REFERENCED ON THE CH RECORD MUST BE DEFINED ON AN AC RECORD. (TABGEN/GENDIG)
CH-52	A CH RECORD REQUIRES A CODE TYPE OF 50 ON AC AND VICE VERSA	AN AC RECORD WITH A CODE TYPE OF 50 (CHANGE/RESTORE ACCESS CODE) REQUIRES THAT A CH RECORD BE SPECIFIED AND VICE VERSA. (ENDCHK)
CH-53	INVALID CODE TYPE FOR CHANGE/ RESTORE	THE CODE TYPE OF THE OLD OR NEW STATION NUMBER OR THE OLD OR NEW CODE TYPE ITSELF IS NOT APPROPRIATE FOR USE WITH THE CHANGE/RESTORE FEATURE. (TABGEN/GENDIG)
CH-54	AGENT GROUP NUMBER NOT FOUND	THE AGENT GROUP NUMBER SPECIFIED IN THE CODE TYPE IDENTIFIER FIELD FOR CODE TYPE 112 MUST BE DEFINED ON AN AG RECORD.
CH-54	ATTENDANT NOT FOUND	THE ATTENDANT NUMBER(S) SPECIFIED IN THE CODE TYPE IDENTIFIER FIELD FOR CODE TYPE 9 MUST BE DEFINED ON AN AT RECORD.
CH-54	INTERCEPT ROUTING CODE NOT FOUND	IF THE CODE TYPE IS 000, THEN THE CODE TYPE IDENTIFIER MUST BE A VALID INTERCEPT ROUTING NUMBER ON AN IR RECORD.
CH-54	REFERENCED TRUNK IS NOT A RECORDER ANNOUNCE	THE TRUNK NUMBER SPECIFIED IN THE CODE TYPE IDENTIFIER FOR CODE TYPE 49 MUST BE DEFINED ON T1 AND TC RECORDS AS A RECORDER ANNOUNCER.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTIONOFMESSAGES
CL-01	VALUE OF SECOND ELEMENT TOO SMALL	
CL-01	VALUE OF SECOND ELEMENT TOO LARGE	DESTINATION TYPE - DESTINATION IDENTIFIER CERTAIN VALUES IN THE DESTINATION TYPE FIELD REQUIRE SPECIFIC VALUES OR RANGE OF VALUES IN THE DESTINATION IDENTIFIER FIELD: DESTINATION DESTINATION TYPE IDENTIFIER ----------- --------- LINE 0000-9999 ATTN 0001-0255 INTC 0000-0015
CL-51	REQUIRED VALUE NOT FOUND	DESTINATION TYPE - DESTINATION IDENTIFIER 1. IF THE DESTINATION TYPE IS 'LINE', THE DESTINATION IDENTIFIER VALUE SPECIFIED MUST BE A VALID LINE STATION NUMBER DEFINED ON AN LD RECORD. 2. IF THE DESTINATION TYPE IS 'ATTN', THE DESTINATION IDENTIFIER VALUE SPECIFIED MUST BE A VALID ATTENDANT CIRCUIT DEFINED ON AN AT RECORD. 3. IF THE DESTINATION TYPE IS 'INTC', THE DESTINATION IDENTIFIER VALUE SPECIFIED MUST BE A VALID INTERCEPT ROUTING NUMBER DEFINED ON AN IR RECORD.
CL-52	DUPLICATE FIRST TWO DIGITS	THE FIRST TWO DIGITS WERE ALREADY SPECIFIED ON A PREVIOUS CL RECORD.
CL-53	HUNDREDS GROUP NOT FOUND	THE SPECIFIED HUNDREDS GROUP WAS NOT ENGINEERED ON AN HD RECORD.
CL-56	HUNDREDS GROUP CONFLICT	FOR A TWO DIGIT ENTRY OF THE FORM 'OX', HUNDREDS GROUP 'OX' AND 'X' EXIST AT THE SITE. BOTH WILL USE THE SAME CL ENTRY.
CN-51	ATTENDANT NOT FOUND	A SPECIFIED ATTENDANT WAS NOT ENGINEERED ON AN AT RECORD.

Table 21.1   CPG   Error   Messages   (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
CP-01	INVALID CHARACTER STRING	X.1 21 ADDRESS THE X.121 ADDRESS MUST CONSIST OF FROM ONE TO FOURTEEN NUMERIC DIGITS FOLLOWED BY DASHES.
CP-02	ELEMENTS HAVE INCOMPATIBLE VALUES	DEVICE TYPE - X.121 ADDRESS IF THE DEVICE TYPE IS 'TERM' OR 'HOST', THEN THE X.121 ADDRESS MUST CONSIST OF FOURTEEN NUMERIC DIGITS AND NO DASHES. ASYNCHRONOUS DEVICES MUST SPECIFY A FULL X.121 ADDRESS (DNIC, SERVER, SUBPORT). IF THE DEVICE TYPE IS 'X25', 'PX25' OR 'NIC', THE SUB-PORT MAY BE DASHES.
CP-03	ELEMENTS HAVE INCOMPATIBLE VALUES	DEVICE TYPE - WINDOW AND PACKET NEGOTIATION IF THE WINDOW AND PACKET NEGOTIATION FIELD IS 'Y', THEN THE DEVICE OR PORT TYPE FIELD MUST BE 'X25' OR 'NIC'. ONLY SYNCHRONOUS DEVICES MAY PERFORM WINDOW AND PACKET NEGOTIATION.
CP-04	ELEMENT 2 IS A MEANINGLESS SPECIFICATION	

CP-04	ELEMENTS HAVE INCOMPATIBLE VALUES	DEVICE TYPE - ADMP OR MDR FIELD
		CERTAIN VALUES IN THE ADMP OR MDR FIELD REQUIRE SPECIFIC VALUES IN THE DEVICE TYPE OR PORT TYPE FIELD:
		
		   ADMP OR MDR DEVICE TYPE
		      A PX25
		      M TERM
		               TERM,HOST,X25,NIC

CP-51	NO PACKET ROUTER FOR PORT	PHYSICAL LOCATION THE PEC, GROUP, SLOT AND CIRCUIT SPECIFIED FOR EVERY DATA PORT MUST APPEAR ON A LOCAL PACKET BUS WHICH IS CONTROLLED BY A PACKET ROUTER. (TABGEN/GENDAT)
CP-52	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH FCN OF INCOMING CARD	

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
CP-52	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH INCOMING CARD TYPE	
CP-52	FUNCTION OF CARD NOT ALLOWED FOR CARD TYPE DEFINED ON FORM FR	PHYSICAL LOCATION THE PEC, GROUP, SLOT AND CIRCUIT FUNCTION SPECIFIED IS INVALID FOR THE CARD TYPE DEFINED ON FR (FOR THIS PEC TYPE). DEVICE TYPE TERM MUST APPEAR ON A VPLO, VPL1, VP20 (DATA OR VOICE AND DATA), OR VP21 CARD. DEVICE TYPE HOST MUST APPEAR ON A VPLO, VPL1, VP20 (DATA OR VOICE AND DATA), OR VP21 CARD. DEVICE TYPE X25 MUST APPEAR ON A VPLO, VPL1, VP20 (DATA OR VOICE AND DATA), OR VP21 CARD. DEVICE TYPE PX25 MUST APPEAR ON AN ADMP CARD. DEVICE TYPE NIC MUST APPEAR ON A NIC CARD. (PHYLOC) IF THE CARD TYPE IN THE MESSAGE IS "OVER", THAT INDICATES THAT A CARD IN THE PREVIOUS LOCATION IS A WIDE CARD AND IT OVERHANGS INTO THIS PHYSICAL LOCATION ON FR.
CP-52	NONEXISTENT PHYSICAL LOCATION	PHYSICAL LOCATION THE PEC, GROUP, SLOT AND CIRCUIT SPECIFIED IS NOT VALID FOR THIS PEC TYPE. (PHYLOC)
CP-52	PHYSICAL LOCATION NOT DEFINED ON RECORD CODE FR	PHYSICAL LOCATION THE PEC, GROUP, AND SLOT SPECIFIED WAS NOT DEFINED ON AN FR RECORD. (PHYLOC)
CP-53	PHYSICAL LOCATION NOT DEFINED ON RECORD CODE LD	
CP-53	PHYSICAL LOCATION NOT DEFINED	

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
CP-53	USE OF PHYSICAL LOC CONFLICTS WITH INSTRUMENT TYPE SPECIFIED ON LD	DEVICE TYPE - PHYSICAL LOCATION THE PEC, GROUP, SLOT AND CIRCUIT OF SOME DATA PORTS MUST BE DEFINED ON AN LD RECORD. DEVICE TYPE TERM MUST APPEAR ON AN LD RECORD WITH INSTRUMENT TYPE 'DFPA' OR 'APM'. DEVICE TYPE HOST MUST APPEAR ON AN LD RECORD WITH INSTRUMENT TYPE 'DFPA' OR 'APM'. DEVICE TYPE X25 MUST APPEAR ON AN LD RECORD WITH INSTRUMENT TYPE 'SPM'. DEVICE TYPE NIC MUST APPEAR ON A TC RECORD AS A MEMBER OF A NIC TRUNK GROUP.
CP-54	DUPLICATE PHYSICAL LOCATION	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED MUST BE UNIQUE ACROSS ALL CP RECORDS.
CP-55	X.121 ADDRESS NOT IN ROTARY	X.121 ADDRESS AN ASYNCHRONOUS PORT (DEVICE TYPE OF 'TERM' OR 'HOST') MUST BE PART OF AN ASYNCHRONOUS GROUP (ORDER ROTARY, ORDER DIRECT, RANDOM ROTARY, RANDOM DIRECT) DEFINED ON AN RT RECORD. (TABGEN/GENDAT)
CP-57	MDR MUST BE SPECIFIED ON RECORD CODE OE AND P1	ADMP OR MDR FIELD IF THIS DATA PORT IS SPECIFIED AS INTERFACING TO THE MDR PROCESSOR THEN MDR MUST BE EQUIPPED ON THE OE RECORD. THE MDR FIELD ON SYSTEM START-UP (MDR EQUIPPED) MUST BE 'Y' ON THE P1 RECORD.
CP-58	ONLY ONE MDR AND ONE ADMP X.121 ADDRESS MAY BE SPECIFIED	ADMP OR MDR FIELD THE DATA PORT INTERFACING TO THE MDR PROCESSOR AND THE PSEUDO DATA PORT INTERFACING TO THE ADMP MUST BE UNIQUE.
CP-59	AN ADMP CARD MUST BE DEFINED ON RECORD CODE FR	ADMP OR MDR FIELD IF THIS DATA PORT IS SPECIFIED AS INTERFACING TO THE PSEUDO DATA PORT, THEN AN ADMP CARD MUST BE DEFINED ON AN FR RECORD. (ADMPCK)

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
CP-60	NO. PORTS DEFINED ON CP CANNOT EXCEED MAX PORTS DEFINED ON C1	PHYSICAL LOCATION THE C1 RECORD DEFINES THE MAXIMUM NUMBER OF PORTS WHICH THE SYSTEM ALLOWS. (ENDCHK)
CP-61	X.121 ADDRESS CONFLICT/DUPLICATION	X.121 ADDRESS THE X.121 ADDRESS SPECIFIED MUST BE UNIQUE ACROSS ALL CP RECORD. IN ADDITION, THERE MUST BE NO CONFLICT BETWEEN THE TWELVE NUMERIC DIGIT X.121 ADDRESSES FOR SYNCHRONOUS DATA PORTS (DEVICE TYPES 'X25', 'NIC' AND 'PX25') AND THE FOURTEEN NUMERIC DIGIT X.121 ADDRESSES FOR ASYNCHRONOUS DATA PORTS (DEVICE TYPES 'TERM' AND 'HOST')
CP-62	ROTARY MUST HAVE SAME CONTROLLING DCP	PHYSICAL LOCATION ALL DEVICES IN A GIVEN ROTARY MUST HAVE THE SAME CONTROLLING DCP SPECIFIED ON RECORD CODE LD. (GENDAT)
CP-63	X121 ADDRESS FOR ADMP DIFFERS ON RT	X.121 ADDRESS THE X.121 ADDRESS SPECIFIED FOR ADMP MUST BE SAME AS THE X.121 ADDRESS OF ADMP ON RECORD CODE RT. (ADMPCK)
CP-64	ADMP NOT SPECIFIED ON CP	FIELD ADMP-CARD ADMP IF THE CARD ADMP IS DEFINED ON RECORD CODE FR THEN THE ADMP MUST BE SPECIFIED IN ADMP OR MDR FIELD. (ADMPCK)
CP-82	PHYSICAL LOCATION IS MISSING ON NAMED RECORD CODE	PHYSICAL LOCATION EVERY DATA PORT APPEARING ON AN LD RECORD MUST ALSO APPEAR ON A CP RECORD. EVERY NIC APPEARING ON A TC RECORD MUST APPEAR ON A CP RECORD. (ENDCHK)
CR-01	ENTRY ATTEMPTED IN NONVACANT LOCATION	AN ENTRY INTO THE CODE RESTRICTION TABLES HAD BEEN ATTEMPTED, BUT THAT LOCATION AND BIT POSITION WAS ALREADY FULL. THE ENTRY WAS NOT MADE. CHECK THE THREE DIGIT NPA/ABC CODE NUMBER IN THE DESIGNATED COLUMN AGAINST CODES PREVIOUSLY ENTERED IN THAT CODE RESTRICTION TABLE FOR A DUPLICATION. (TABGEN/GENDIG)

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
CR-02	INVALID SEQUENCE	AN INVALID SEQUENCE OF NPA/ABC CODES HAD BEEN SPECIFIED TO BE ENTERED. NO ENTRIES WERE MADE. CHECK THE SEQUENCE CONTAINING THE DESIGNATED COLUMN FOR A LOWER BOUND LESS THAN OR EQUAL TO THE UPPER BOUND. (TABGEN/GENDIG)
C R - 0 3	IMPROPER STARTING COLUMN	THE CPG HAS DETERMINED THAT THE FIRST NPA/ABC CODE LISTED ON THE CODE RESTRICTION RECORD IS NOT IN THE PROPER COLUMNS. PROPER TABLE GENERATION IS NOT GUARANTEED. (TABGEN/GENDIG)
CR-04	INVALID SYNTAX	THE NPA/ABC CODE TO BE ENTERED IS NOT STRICTLY NUMERIC AND CONVERSION FROM THE RECORD TO A VALUE HAD FAILED. (TABGEN/GENDIG)
CR-05	LAST OPERATOR INVALID	A DASH (SIGNIFYING A SEQUENCE) IS FOLLOWED ONLY BY BLANKS. CHECK FIRST TO VERIFY THAT A SEQUENCE WAS MEANT INSTEAD OF A SINGLE ENTRY AND, IF IT WAS, PROVIDE THE TERMINAL NUMBER OF THE SEQUENCE ON THE SAME RECORD. (TABGEN/GENDIG)
CR-06	INVALID OPERATOR	A CHARACTER OTHER THAN COMMA, DASH, OR BLANK HAD BEEN USED IN AN OPERATOR'S POSITION IN THE DESIGNATED COLUMN. (TABGEN/GENDIG)
CR-07	MISPLACED BLANK	A BLANK HAD BEEN USED IN AN OPERATOR'S LOCATION. A COMMA WAS ASSUMED. (TABGEN/GENDIG)
CT-01	VALUES TO BE FILLED LEFT TO RIGHT	HEXADECIMAL EQUIVALENT BYTES HEXADECIMAL EQUIVALENT BYTES MUST BE FILLED IN FROM LEFT TO RIGHT, WITH DASHED BYTES IN THE RIGHTMOST BYTES OF THE HEXADECIMAL BYTE FIELDS.
CT-02	INVALID CHARACTER PATTERN IN 2ND FIELD	HEXADECIMAL EQUIVALENT BYTES IF ONE DIGIT OF A HEXADECIMAL EQUIVALENT BYTE IS DASHED, THE THE OTHER DIGIT OF THE BYTE MUST BE DASHED.

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
CT-03 ···	FOR FUNCTION CODE, TNAM, BYTES I-8 MAY NOT BE SPECIFIED	FUNCTION CODE - HEXADECIMAL EQUIVALENT BYTES IF THE FUNCTION CODE IS 'TNAM', THEN THE HEXADECIMAL EQUIVALENT BYTES MAY NOT BE SPECIFIED.
CT-04 .	ELEMENT 2 IS MEANINGLESS SPECIFICATIÓN	
CT-04	ELEMENTS HAVE INCOMPATIBLE VALUES	FUNCTION CODE - HEXADECIMAL EQUIVALENT BYTES IF THE FUNCTION CODE IS 'TNAM', THEN THE CUSTOMER DEFINED TERMINAL NAME MUST BE SPECIFIED. IF THE FUNCTION CODE IS NOT 'TNAM', THEN THE CUSTOMER DEFINED TERMINAL NAME MUST BE DASHED.
CT-50	DUPLICATE TTY NO. AND FUNCTION CODE NOT ALLOWED	TERMINAL TYPE NUMBER - FUNCTION CODE THE TERMINAL TYPE NUMBER AND FUNCTION CODE COMBINATION CANNOT BE DUPLICATED.
CT-51	FCN CODES OF CLSC , ABCC, EEOL, AND EEOP REQUIRED	FUNCTION CODE THE FOLLOWING FUNCTION CODES ARE REQUIRED FOR COMPLETENESS OF A CUSTOMER-DEFINED TERMINAL: 'CLSC', 'ABCC', 'EEOL', AND 'EEOP'.(ENDCHK)
DA-01	INVALID CHARACTER PATTERN IN 2ND FIELD	FIRST DIGIT ACTIONS - SECOND PLUS DIGITS THERE MUST BE AT LEAST ONE 'C' ACROSS BOTH OF THESE FIELDS.
DA-02	INVALID CHARACTER PATTERN IN 2ND FIELD	FIRST DIGIT ACTIONS - SECOND PLUS DIGITS IF THERE IS AN 'A' ANYWHERE IN THE FIRST DIGIT ACTIONS, THERE MUST BE AT LEAST ONE 'C' IN THE SECOND PLUS DIGITS.
DA-03	INVALID CHARACTER PATTERN IN 2ND FIELD	FIRST DIGIT ACTIONS CANNOT BE ALL 'R'.

Table 21.1   CPG   Error   Messages   (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
DA-51	TRUNK GROUP NOT FOUND	THE TRUNK GROUP SPECIFIED MUST HAVE A CORRESPONDING T1 RECORD.
DA-52	DUPLICATE TRUNK GROUP NUMBER	THIS NUMBER MUST BE UNIQUE ACROSS ALL DA RECORDS.
DC-51	DUPLICATE DISPLAYABLE CLASS OF SERVICE DATA	DISPLAYABLE CLASS OF SERVICE NUMBER MUST BE UNIQUE ACROSS THE DC RECORDS.
DC-53	TRUNKGROUP NOT FOUND	ATRUNKGROUPREFERENCEDONADCRECORD WAS NEVER INPUT ON A T1 RECORD. (ENDCHK)
DD-02	**CLASS** OF SERVICE FEATURES CONFLICT	SWITCHED DIRECT LINE - CO LINE CONFLICT IF CO LINE INDICATED ('CL'), THEN SWITCHED DIRECT LINE ('SL') SHOULD ALSO BE INDICATED.
DD-51	DUPLICATE DISP. CLASS OF SERVICE DATA	DISPLAYABLE CLASS OF SERVICE NUMBER MUST BE UNIQUE ACROSS THE DD RECORDS. (ENDCHK)
DD-52	CONFERENCE CIRCUITS NOT DEFINED	MEET ME CONFERENCE OR PROGRESSIVE CONFERENCE, IF INDICATED, NEEDS ONE OF THE CONFERENCE CIRCUITS ON THE FR RECORD SPECIFIED.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
DD-53	TOLL ACCESS -TRUNK GROUP ACCESS CONFLICT	IF TOLL ACCESS IS INDICATED ('TA') THEN AT LEAST ONE TRUNK GROUP IN THE TRUNK GROUP ACCESS FIELD ON RECORD DC SHOULD BE 'Y'.
DD-54	CLASS OF SERVICE NOT DEFINED	A DISPLAYABLE CLASS OF SERVICE REFERENCED ON THE DD RECORD MUST BE DEFINED ON A DC RECORD.
DK-53	DUPLICATE AGENT GROUP/ REPERTORY DIAL KEY NUMBER	EACH COMBINATION OF AGENT GROUP AND REPERTORY DIAL KEY NUMBER MUST BE UNIQUE.
DT-01	VALUE OF SECOND ELEMENT TOO SMALL	
DT-01	VALUE OF SECOND ELEMENT TOO LARGE	DTMF RECEIVER NUMBER - PEC REQUIREMENTS VALUE OF DTMF RECEIVER / VALUE OF PEC o - 7 → 0 8 -15 → 1 16-23 → 2 24-31 → 3 32-39 → 4 (SVR 8.2.X.X. ONLY) 40-47 → 5 (SVR 8.2.X.X. ONLY) 48-55 → 6 (SVR 8.2.X.X. ONLY) 56-63 → 7 (SVR 8.2.X.X. ONLY) RECEIVER NUMBER - PEC REQUIREMENTS

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
DT-51	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH FCN OF INCOMING CARD	
DT-51	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH INCOMING CARD TYPE	
DT-51	FUNCTION OF CARD NOT ALLOWED FOR CARD TYPE DEFINED ON FORM FR	PHYSICAL LOCATION THE PEC, GROUP, SLOT AND CIRCUIT FUNCTION SPECIFIED IS INVALID FOR THE CARD TYPE DEFINED ON FR (FOR THIS PEC TYPE). A DTMF RECEIVER CIRCUIT MUST APPEAR ON A DTMF CARD. THE PEC, GROUP, SLOT AND CIRCUIT SPECIFIED IS NOT VALID FOR THIS PEC TYPE. (PHYLOC) IF THE CARD TYPE IN THE MESSAGE IS "OVER", THAT INDICATES THAT A CARD IN THE PREVIOUS LOCATION IS A WIDE CARD AND IT OVERHANGS INTO THIS PYHSICAL LOCATION ON FR.
DT-51	PHYSICAL LOCATION NOT DEFINED ON RECORD CODE FR	PHYSICAL LOCATION THE PEC, GROUP AND SLOT SPECIFIED WAS NOT DEFINED ON FR. (PHYLOC)
DT-51	PHYSICAL LOCATION PREVIOUSLY FILLED	PHYSICAL LOCATION THE PEC, GROUP, SLOT AND CIRCUIT SPECIFIED FOR THE DTMF RECEIVER CIRCUIT MUST BE UNIQUE. (PHYLOC)
DT-51	CARD OVERHANGS INTO A PREVIOUSLY FILLED SLOT	THIS CARD IS AN OVERSIZED CARD AND IS TRYING TO FILL TWO SLOTS. OF THE TWO SLOTS IT FILLS, THE RIGHT HAND ONE HAS ALREADY BEEN FILLED.
DT-51	DUPLICATE DTMF RECEIVER NUMBER	THE DTMF RECEIVER NUMBER MUST BE UNIQUE ACROSS ALL DT RECORDS.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
DT-57	DUPLICATE DTMF RECEIVER NUMBER	THE DTMF RECEIVER NUMBER MUST BE UNIQUE ACROSS ALL DT RECORDS.
DT-58	PEC NUMBER NOT EQUIPPED	THE PEC NUMBER SPECIFIED MUST BE MARKED EQUIPPED ON THE OE RECORD.
EC-01	SECOND ELEMENT EQUALS FIRST ELEMENT (NPA CODES)	NPA CODES MUST BE UNIQUE ON A PER TABLE (ONE EC RECORD) BASIS
EC-03	ELEMENTS HAVE INCOMPATIBLE VALUES	
EC-03	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
EC-03	2ND FEATURE REQUIRED IF FIRST SPECIFIED	1 + RESTRICTION TABLE ▪ RESTRICTION CODE TABLE ONLY ONE OR THE OTHER OF THESE MAY BE SPECIFIED FOR EACH NPA CODE ENTERED. BOTH CANNOT BE SPECIFIED. HOWEVER, BOTH MAY BE DASHED IF DESIRED
EC-51	DUPLICATE CODE CHECK TABLE NUMBE	THE TABLE NUMBER MUST BE UNIQUE ACROSS THE EC RECORDS.
EC-53	CODE RESTRICTION TABLE NOT FOUND	THESE TABLE NUMBERS MUST BE DEFINED ON A CR RECORD.
ED-01	VALUES TO BE FILLED LEFT TO RIGHT	PICKUP GROUP NUMBERS SHOULD BE FILLED IN FROM LEFT TO RIGHT.
ED-51	DUPLICATE EXTENDED DIAL CALL PICKUP TABLE	THIS NUMBER MUST BE UNIQUE ACROSS THE ED RECORDS.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
ED-52	EXTENDED PICKUP GROUP NOT REFERENCED ON LD FORM	EXTENDED DIAL CALL PICKUP TABLE EACH TABLE NUMBER SHOULD APPEAR ON AN LD RECORD IN THE EXTENDED DIAL CALL PICKUP TABLE FIELD. (ENDCHK)
-FA-50	DUPLICATE AUTHORIZATION CODE NUMBER	FRL AUTHORIZATION CODE DUPLICATE FRL AUTHORIZATION CODES ARE NOT ALLOWED.
FA-51	FRL AUTHORIZATION CODE OUT OF RANGE	FRL AUTHORIZATION CODE THE NUMBER OF FRL AUTHORIZATION CODE DIGITS ON FA RECORD MUST BE THE SAME, AS THE NUMBER OF FRL AUTHORIZATION CODE DIGITS SPECIFIED ON OF RECORD (FOUR TO SEVEN DIGITS).
FA-51	THREE HASH BUCKET ENTRIES FILLED	FRL AUTHORIZATION CODE THE ALGORITHM USED TO GENERATE THE FRL AUTHORIZATION CODE TABLE ENTRIES HAS DETECTED THE OCCURRENCE OF A FOURTH (OR FIFTH, SIXTH, SEVENTH, EIGHTH) CODE WITH THE SAME HASH VALUE. FOR INITIAL ENGINEERING THIS IS IN VIOLATION OF ADVERTISED FRL AUTHORIZATION CODE GENERATION REQUIREMENTS. FOR RE-ENGINEERING, THIS IS A POSSIBLE CONDITION. THE OCCURRENCE OF A FIFTH CODE WITH THE SAVE HASH VALUE WILL CAUSE AN ADDITION DISK ACCESS BY CALL PROCESSING. (FRLGEN)
FA-51	REACHED MAXIMUM BUCKET ENTRY, RECORD REJECTED	FRL AUTHORIZATION CODE THE ALGORITHM USED TO GENERATE THE FRL AUTHORIZATION CODE TABLE ENTRIES HAS DETECTED THE OCCURRENCE OF A NINTH (OR MORE) CODE WITH THE SAME HASH VALUE. (FRLGEN)
FA-52	INVALID RECORD CODE	FA RECORDS WERE CODED FOR A SITE WITHOUT THE TRAVELING CLASS MARK (TCM) FEATURE, I.E. THE TRAVELING CLASS MARK FIELD ON THE OF RECORD WAS DASHED OUT.
FR-01	ELEMENTS HAVE INCOMPATIBLE VALUES	

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
FR-01	VALUE OF SECOND ELEMENT TOO LARGE	
FR-Oi	VALUE OF SECOND ELEMENT TOO SMALL	CARD TYPE - PRIMARY, SECONDARY, TERTIARY IDENTIFIERS CONSULT THE CARD TYPES VS. IDENTIFIERS, AND STATUS CHART TO DETERMINE APPROPRIATE VALUES TO SPECIFY FOR EACH PARTICULAR CARD TYPE.
FR-02	ELEMENTS HAVE INCOMPATIBLE VALUES	CARD TYPE - PHYSICAL LOCATION IF THE CARD TYPE IS DTRK, THEN THE GROUP FIELD MUST BE 'C', SINCE T1 SPANS CAN ONLY BE INSTALLED IN THAT GROUP. SPECIFIC CARD PLACEMENT RESTRICTIONS ARE IN EFFECT FOR THE CARD TYPES OF BT, DCPB, PBE, PR AND RPTR. THESE CARDS MAY ONLY BE PLACED IN THE FOLLOWING GROUP/SLOTS: AOO, A02, A10, BOO, B02, B09, C06, CI 0, C09, DOO, DO1 , D1 0.
FR-03	VALUE OF SECOND ELEMENT TOO LARGE	
FR-03	VALUE OF SECOND ELEMENT TOO SMALL	CARD TYPE-PEC THE FOLLOWING CARD TYPE CAN APPEAR ONLY IN PECS O-3: AGNT, AIOD, ART, ATTN, CONF, ERLT, KEDU, AND RLT. THE FOLLOWING CARD TYPE SPECIFIES THE VALID RANGE OF THE THREE IDENTIFIERS AND STATUS GIVEN A PARTICULAR CARD. CARD TYPES VS. IDENTIFIERS AND STATUS CHART VALUE ALLOWED ALLOWED ALLOWED STATUS O F CARD PRIMARY SECONDARY TERITIARY FIELD TYPE ID RANGE ID RANGE ID RANGE ADMP 0000-0001 0000-0001 ---- -- AGNT ---- ---- ---- --

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES			
FR-03 (cont'd)	VALUE OF SECOND ELEMENT TOO SMALL	AIOD	----	----	----	IS,OS
		ART	0009,0010, 0011	----	----	IS,OS
		ATTN BT	----	----	----	--
		CIP	0000-0001 0000-0015	0000-0007 ----	....	....
		CONF	0000-0001	----	----	IS,OS
		COT	----	----	----	- -
		DCP	0000-0003	----	----	--
		DCPB	0000-0003	0000-0001	0000-0007	--
		DTMF	----	----	----	--
		DTM1	----	----	----	--
		DTRK	----	----	----	--
		DVC	0000-0031	0000-0015	----	--
		EMT	----	----	----	--
		EMT4	----	----	----	..
		ERLT	----	----	----	--
		FP	0000-0031	----	----	--
		FPOP	0000-0031	----	----	--
		ILT	----	----	----	..
		KEDU	----	----	.....	--
		NIC	0000-0003	----	----	--
		OFFP	0000-0031	----	----	--
		OPI	----	----	----	--
		PBE	0000-0001	----	----	..
		PDIC	----	----	----	--
		POTS	0000-0031	----	----	--
		PR	0000-0001	----	----	--
		RLT	----	----	----	--
		RPTR	0000-0001	0000-0007	----	--
		SM	0000-0007	----	----	--
		TDET	----	----	----	--
		VCIP	0000-0031	0000-0015	----	--
		VPLO	0000-0031	----	----	..
		VPL1	0000-0031	----	--_-	--
		VP20	0000-0031	0000-0015 (-JR ___	0000-0001 OR ___	--
		VP21	0000-0031	----	----	--
FR-50	FIELD DOESN'T HAVE REQUIRED VALUE	CARD TYPE - PRIMARY, SECONDARY, TERTIARY IDENTIFIERS FOR CARD TYPE VP20 THE TERTIARY IDENTIFIER MUST BE DASHES IF THE SECONDARY IDENTIFIER IS DASHES. THE TERTIARY IDENTIFIER MUST NOT BE DASHES IF THE SECONDARY IDENTIFIER IS NOT DASHES. (FRCHKS)			

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
FR-50	CARD TYPE - PEC & IDENTIFIERS CONFLICT	CARD TYPE - PEC - PRIMARY, SECONDARY, TERTIARY IDENTIFIERS.
		CONSULT THE CARD TYPES VS. IDENTIFIERS CHECKS CHART TO DETERMINE APPROPRIATE VALUES TO SPECIFY FOR EACH PARTICULAR CARD TYPE. THE CHART STATES THE MEANING OF THE PRIMARY, SECONDARY AND TERTIARY IDENTIFIERS ON THE FR RECORD AND THE CHECKS FOR EACH SET OF CARD TYPES.
		CHECK 1: FOR CARD TYPE ADMP -THE ADMP NUMBER AND THE ADMP CARD NUMBER COMBINATION CANNOT BE DUPLICATED.
		CHECK 2: FOR CARD TYPE ART - THE ART CARD NUMBER CANNOT BE DUPLICATED.
		CHECK 3: FOR CARD TYPES CONTAINING PACKET ROUTER NUMBER AND LOCAL PACKET BUS NUMBER INFORMATION (BT, DCPB AND RPTR) - THE PEC, THE PACKET ROUTER NUMBER AND THE LOCAL PACKET BUS NUMBER COMBINATION CANNOT BE DUPLICATED ACROSS ANY OF THE CARD TYPES. FOR THE REVISED CONFIGURATION, THE PACKET ROUTER NUMBER AND BUS SEGMENT COMBINATION CANNOT BE DUPLICATED ACROSS ANY OF THE CARD TYPES.
		CHECK 4: FOR CARD TYPES CONTAINING RELATIVE CONTROLLER CARD NUMBER INFORMATION (CIP, DVC, VCIP, AND VP20) THE PEC AND RELATIVE CONTROLLER CARD NUMBER COMBINATION CANNOT BE DUPLICATED ACROSS ANY OF THE CARD TYPES.
		CHECK 5: FOR CARD TYPE CONF -THE CONFERENCE CIRCUIT NUMBER CANNOT BE DUPLICATED.
		CHECK 6: FOR CARD TYPES CONTAINING DCP NUMBER INFORMATION (DCP AND DCPB) THE DCP CANNOT BE DUPLICATED ACROSS EITHER OF THE CARD TYPES.
		CHECK 7: FOR CARD TYPES CONTAINING RELATIVE LINE CARD NUMBER INFORMATION (DVC, FP, FPOP, OFFP, POTS, VCIP, VPLO, VPL1, VP20 AND VP21) THE PEC AND RELATIVE LINE CARD NUMBER CANNOT BE DUPLICATED ACROSS ANY OF THE CARD TYPES.

Table 21.1   CPG   Error   Messages   (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
FR-50 **(Continued)**		CHECK 8: FOR CARD TYPE PBE THE PEC AND THE PACKET ROUTER NUMBER COMBINATION CANNOT BE DUPLICATED. FOR THE REVISED CONFIGURATION, THE PACKET ROUTER NUMBER CANNOT BE DUPLICATED. CHECK 9: FOR CARD TYPE PR THE PEC AND THE PACKET ROUTER NUMBER COMBINATION CANNOT BE DUPLICATED. FOR THE REVISED CONFIGURATION, THE PACKET ROUTER NUMBER CANNOT BE DUPLICATED.
		CHECK 10: FOR CARD TYPE SM THE SILENT MONITOR CARD NUMBER CANNOT BE DUPLICATED.
		CHECK 11: FOR CARD TYPE NIC AND ADMP THE CONTROLLING DCP MUST APPEAR AS THE DCP NUMBER FOR CARD TYPE DCP OR DCPB.
		CHECK 12: FOR CARD TYPE AIOD AND OPI ONLY ONE CARD OF THIS TYPE IS ALLOWED.

CARD TYPES VS. IDENTIFIERS CHECKS CHART

CARD TYPE	PRIMARY IDENTIFIER	SECONDARY IDENTIFIER	TERTIARY IDENTIFIER	CHECKS APPLICABLE
ADMP	ADMP NUMBER	ADMP CARD NUMBER	CONTROLLING DCP NUMBER	CHECKS 1 & 11
AIOD	N/A	N/A	N/A	CHECK 12
ART	ART CARD NUMBER	N/A	N/A	CHECK 2
BT	PACKET ROUTER NUMBER	LOCAL PACKET BUS/BUS SEGMENT	N/A	CHECK 3
CIP	REL. CONTROLLER CARD NUMBER	N/A	N/A	CHECK 4
CONF	CONFERENCE CIRCUIT NUMBER	N/A	N/A	CHECK 5
DCP	DCP NUMBER	N/A	N/A	CHECK 6
DCPB	DCP NUMBER	PACKET ROUTER NUMBER	LOCAL PACKET BUS/BUS SEG	CHECKS 3 & 6
DVC	RELATIVE LINE CARD NUMBER	REL. CONTROLLER CARD NUMBER	N/A	CHECKS 4 & 7
FP	RELATIVE LINE CARD NUMBER	N/A	N/A	CHECK 7
FPOP	RELATIVE LINE CARD NUMBER	N/A	N/A	CHECK 7
NIC	CONTROLLING DCP NUMBER	N/A	N/A	CHECK 11
OPI	RELATIVE LINE CARD NUMBER	N/A	N/A	CHECK 7

Table 21.1 CPG Error Messages (Continued)

FR-50 (Continued)		CARD TYPES VS. IDENTIFIERS CHECKS CHART			
		CARD TYPE	PRIMARY IDENTIFIER	SECONDARY IDENTIFIER	TERTIARY IDENTIFIER	CHECKS APPLICABLE
		OPI	N/A	N/A	N/A	CHECK 12
		PBE	PACKET ROUTER NUMBER	N/A	N/A	CHECK 8
		POTS	RELATIVE LINE CARDNUMBER	N/A	N/A/	CHECK 7
		PR	PACKET ROUTER NUMBER	N/A	N/A	CHECK 9
		RPTR	PACKET ROUTER NUMBER	BUS SEGMENT NUMBER	N/A	CHECK 3
		SM	SILENT MONITOR CARD NUMBER	N/A	N/A	CHECK 10
		VCIP	RELATIVE LINE CARD NUMBER	REL. CONTROLLER CARD NUMBER	N/A	CHECKS 4 & 7
		VPL0	RELATIVE LINE CARD NUMBER	N/A	N/A	CHECK 7
		VPL1	RELATIVE LINE CARDNUMBER	NIA	N/A	CHECK 7
		VP20	RELATIVE LINE CARD NUMBER	REL. CONTROLLER CARD NUM OR NIA	0000,0001 OR N/A	CHECKS 4 & 7
		VP21	RELATIVE LINE CARD NUMBER	N/A	N/A	CHECK 7

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
FR-51	PHYSICAL LOCATION PREVIOUSLY FILLED	PHYSICAL LOCATION THE PEC, GROUP, AND SLOT SPECIFIED FOR THIS CARD MUST BE UNIQUE
FR-51	T1 TRUNK SLOTS NOT FILLED IN CORRECT ORDER	CARD TYPE - PHYSICAL LOCATION DTRK CARDS BLOCK THE INDICATED SLOTS FROM THE LOWEST TO HIGHEST SLOT NUMBER WITHOUT ANY OTHER TYPE OF CARD ALLOWED RESIDING IN DTRK BLOCKED SLOTS. (FRCHKS)
FR-51	SLOT UNUSABLE BY T1 EQUIPMENT	CARD TYPE - PHYSICAL LOCATION NO OTHER TYPE OF CARD CAN RESIDE IN ONE OF THE SLOTS BLOCKED BY THE T1 SPAN WHICH IS IMPLIED BY THE INPUT OF A DTRK CARD. (FRCHKS)
FR-51	NONEXISTENT PHYSICAL LOCATION	PHYSICAL LOCATION THE PEC, GROUP, AND SLOT SPECIFIED MUST BE VALID FOR THE PEC TYPE. (FRCHKS)
FR-51	PREVIOUS CARD OVERHANGS INTO THIS SLOT	PHYSICAL LOCATION A PREVIOUS FR RECORD CANNOT DEFINE A WIDE CARD WHICH OVERHANGS INTO A SPECIFIED SLOT. (FRCHKS)
F R - 5 1	INVALID CARD TYPE FOR THIS PEC TYPE	CARD TYPE - PEC THE CARD TYPE MUST BE ALLOWABLE FOR THE PEC TYPE ('SI') SPECIFIED ON THE OE RECORD. (FRCHKS)
FR-51	PHYSICAL LOCATION INVALID FOR SPECIFIED CARD TYPE	CARD TYPE - PHYSICAL LOCATION THE CARD TYPE SPECIFIED HAS BEEN ASSIGNED TO A PHYSICAL LOCATION TO WHICH IT IS NOT ALLOWED. (FRCHKS)
FR-51	MAX NUMBER OF CARDS OF THIS TYPE EXCEEDED	THE CARD TYPE LIMIT HAS BEEN EXCEEDED. (FRCHKS)
FR-51	SLOT BLOCKED BY DTRK CARD. NO CARD PLACED IN THIS SLOT	INFORMATIONAL MESSAGE WHICH SHOWS THAT DTRK CARDS ARE NOT PHYSICALLY PLACED IN UNIVERSAL SLOTS, BUT RENDER THE SLOTS UNUSABLE BY OTHER CARD TYPES. (FRCHKS)

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES		
FR-52	DUPLICATE PHYSICAL LOCATION	PHYSICAL LOCATION THE PEC, GROUP AND SLOT SPECIFIED FOR A CARD MUST BE UNIQUE.		
		CARD TYPES VS. CARD SLOT RESTRICTION CHART - PART 1		
		CARD TYPE	VALID GTD1000 GROUP/SLOTS	VALID OMNI-SII GROUP/SLOTS	VALID OMNI-SI GROUP/SLOTS
		ADMP	NONE	NONE	ALL EXCEPT A00
		AGNT	ALL EXCEPT AOO, BOO, COO &D00	ALL EXCEPT A10 & C10	ALL EXCEPT A00
		AIOD	ALL EXCEPT AOO, BOO, COO &D00	ONLY A01 & CO1	ALL EXCEPT A00
		ART	ALL EXCEPT AOO, B00, COO &D00	ALL EXCEPT AI0 & C10	ALL EXCEPT A00
		ATTN	ALL EXCEPT AOO, BOO, COO &D00	ALL EXCEPT A10 & C10	ALL EXCEPT A00
		BT	NONE	NONE	A00, A02, A10, B00, B02, B09, C06, C10, D00, D01, D10
		CIP	ALL EXCEPT AOO, BOO, COO &D00	ALL EXCEPT A10 & CI0	ALL EXCEPT A00
		CONF	ALL	ALL	ALL
		COT	ALL EXCEPT AOO, BOO, COO &D00	ALL EXCEPT A10 & CI0	ALL EXCEPT A00
		DCP	NONE	NONE	ALL
		DCPB	NONE	NONE	A00, A02, A10, B00, B02, B09, C06, C10, D00, D01, D10
		DTMF	ALL	ALL	ALL
		DTM1	ALL	ALL	NONE
		DTRK	A01 THRU 106 B01 THRU B06	A02 THRU A07 B02 THRU B07	C 01 - C 06
		DVC	NONE	NONE	ALL EXCEPT A00

Table 21.1   CPG Error Messages (Continued)

FR-52 (Continued)		CARD TYPES VS. CARD SLOT RESTRICTION CHART - PART 2		
		CARD TYPE	VALID GTD1000 GROUP/SLOTS	VALID OMNI-SII GROUP/SLOTS	VALID OMNI-SI GROUP/SLOTS
		EMT	ALL EXCEPT AOO, BOO, COO, & D00	ALL EXCEPT A10 & CI0	ALL EXCEPT A00
		EMT4	ALL EXCEPT AOO, BOO, COO, & D00	ALL EXCEPT A10 & CI0	ALL EXCEPT A00
		ERLT	ALL EXCEPT AOO, BOO, COO, & D00	ALL EXCEPT A10 & CI0	ALL EXCEPT A00
		F P	ALL EXCEPT AOO, BOO, COO, & D00	ALL EXCEPT A10 & CI0	ALL EXCEPT A00
		FPOP	ALL EXCEPT AOO, BOO, COO, & D00	ALL EXCEPT A10 & CI0	ALL EXCEPT A00
		ILT	ALL EXCEPT AOO, BOO, COO, & D00	ALL EXCEPT A10 & CI0	ALL EXCEPT A00
		KEDU	ALL EXCEPT AOO, BOO, COO, C07, C08, C09, DOO, D07, D08, DO9	ALL EXCEPT A10 & C10	ALL EXCEPT A00
		NIC	NONE	NONE	ALL EXCEPT A00
		OFFP	ALL EXCEPT AOO, BOO, COO, & D00	ALL EXCEPT A10 & CI0	ALL EXCEPT A00
		OPI	NONE	NONE	ALL EXCEPT A00
		PBE	NONE	NONE	AOO, A02, A10, BOO, B02, B09, C06, C10, DOO, D01, D10
		PDIC	ALL EXCEPT AOO, BOO, COO, & D00	ALL EXCEPT A10 & CI0	ALL EXCEPT A00
		POTS	ALL EXCEPT AOO, BOO, COO, & D00	ALL EXCEPT A10 & CI0	ALL EXCEPT A00
		PR	NONE	NONE	AOO, A02, AI 0, BOO, B02, B09, C06, C10, DOO, D01, D10
		RLT	ALL EXCEPT AOO, BOO, COO, & D00	ALL EXCEPT A10 & CI0	ALL EXCEPT A00
		RPTR	NONE	NONE	AOO, A02, A10, BOO, B02, B09, C06, C10, DOO, D01, D10
		SM	ALL EXCEPT AOO, BOO, COO, & D00	ALL EXCEPT A10 & CI0	ALL EXCEPT A00

Table 21.1   CPG Error Messages (Continued)

FR-52 (Continued)		CARD TYPES VS. CARD SLOT RESTRICTION CHART - PART 2			
		CARD TYPE	VALID GTD1 000 GROUP/SLOTS	VALID OMNI-SII GROUP/SLOTS	VALID OMNI-SI GROUP/SLOTS
		TDET	NONE	NONE	ALL EXCEPT A00
...		VCIP	NONE	NONE	ALL EXCEPT A00
		VPL0	NONE	NONE	ALL EXCEPT A00
		VPL1	NONE	NONE	ALL EXCEPT A00
		VP20	NONE	NONE	ALL EXCEPT A00
		VP21	NONE	NONE	ALL EXCEPT A00

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
FR-53	DEFINING A DATA CARD REQUIRES SPECIFICATION OF S3D OPT ON O E	CARD TYPE THE DATA SYSTEM CARD TYPES (ADMP, BT, DCP, DCPB, NIC, PR, PBT, RPTR, VP20 (DATA ONLY AND VOICE AND DATA).
.FR-54	PEC NUMBER IS NOT EQUIPPED	PEC THE PEC NUMBER SPECIFIED MUST BE MARKED EQUIPPED ON THE OE RECORD.
FR-56	THE LOCAL PACKET BUS IS NOT COMPLETE	A LOCAL PACKET BUS IS COMPLETELY DEFINED BY A PACKET ROUTER (CARD TYPE, PR) AND A BUS TERMINATOR (CARD TYPES BT, DCPB); OR A PAIR OF LOCAL PACKET BUSES CAN BE DEFINED BY A PACKET ROUTER, TWO BUS TERMINATORS, AND A PACKET BUS EXTENDER (CARD TYPE, PBE). (ENDCHK)
FR-56	THE LOCAL PACKET BUS IS INVALID	TEXT IDENTIFYING THE CAUSE OF THE ERROR MESSAGE IS ALSO PRINTED. THIS CHECK VERIFIES THE CONFIGURATION OF PR/PBE, BT, DCPB, AND RPTR CARDS FOR ALL BUS SEGMENTS ENGINEERED. IT ALSO VERIFIES THE COMBINATIONS OF PECS AND GROUPS. (FRCHKS)
FR-57	A'DATA CARD IS NOT ON A LOCAL PACKET BUS	CARD TYPE ▪ PHYSICAL LOCATION ALL DATA CARDS MUST BE PLACED ON A LOCAL PACKET BUS. THE ENDS OF A LOCAL PACKET BUS ARE DEFINED BY THE PLACEMENT OF PR, PBE, BUS TERMINATOR AND RPTR CARDS. DATA CARDS MUST BE PLACED BETWEEN A PR OR PBE AND A BUS TERMINATOR OR RPTR. (ENDCHK OR FRCHKS)
FR-58	THE NUMBER OF DATA CKTS ON A BUS SEGMENT CANNOT EXCEED 64	CARD TYPE THE NUMBER OF DATA CIRCUITS ON A LOCAL PACKET BUS SEGMENT CANNOT EXCEED 64. CIRCUITS ARE COUNTED AS FOLLOWS: ADMP CARDS: 1 CIRCUIT. DCP CARDS: 1 CIRCUIT. NIC CARDS: 1 CIRCUIT. VPLO CARDS: 8 CIRCUITS. VPL1 C A R D S : 2 CIRCUITS. VP20 CARDS: 8 CIRCUITS (VOICE AND DATA,DATA ONLY). VP21 CARDS: 2 CIRCUITS. (FRCHKS)

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
FR-58	THE NUMBER OF DATA CKTS ON A LOCAL PACKET BUS CANNOT EXCEED 64	CARD TYPE THE NUMBER OF DATA CIRCUITS ON A LOCAL PACKET BUS CANNOT EXCEED 64. THIS LIMIT IS IMPOSED BY THE DATA SYSTEM SOFTWARE DEFINITION OF THE PLA (PACKET LINE ADDRESS). VPLO CARDS HAVE 8 CIRCUITS; VPL1 CARDS HAVE 2 CIRCUITS; ADMP AND DCP HAVE ONE CIRCUIT. (ENDCHK)
FR-59	SPECIFYING THE S3D OPTION REQUIRES CERTAIN DATA CARDS	CARD TYPE IF THE DATA OPTION IS SPECIFIED ON THE OE RECORD, THEN AT LEAST ONE EACH OF THE FOLLOWING CARDS MUST BE DEFINED: ADMP, PR, AND BT (DCPB). (ENDCHK OR FRCHKS)
FR-60	VALUES MUST BE CONTINUOUS	CARD TYPE - PRIMARY IDENTIFIER THE PRIMARY INDEX FOR SILENT MONITOR (SM) CARDS MUST BE CONTINUOUS (I.E., THE SILENT MONITOR CARD NUMBERS MUST BE ASSIGNED FROM 0 TO 7 CORRESPONDING TO THE NUMBER OF SM CARDS 1 TO 8. (FRCHKS)
FR-61	DCP ON NIC OR ADMP CARD NOT FOUND	PHYSICAL LOCATION IF A CONTROLLING DCP NUMBER IS USED AS THE PRIMARY IDENTIFIER FOR A NIC CARD OR THE TERTIARY IDENTIFIER FOR AN ADMP CARD, THE SAME CONTROLLING DCP NUMBER MUST BE USED AS THE PRIMARY IDENTIFIER ON A DCP OR DCPB CARD. (FRCHKS)
FR-62	EXPAN. FILE UNEQUIPPED ON OE FOR GRP C/D	EXPANSION FILE STATUS IF GROUP C OR D ARE SPECIFIED THEN THE EXPANSION FILE STATUS OF RECORD CODE OE MUST BE EQUIPPED.
FR-63	THE ADMP IS NOT COMPLETE	PRIMARY IDENTIFIER THE ADMP IS MADE UP OF MORE THAN ONE CARD AND ALL CARDS NEEDED TO MAKE IT UP MUST BE SPECIFIED.
FR-64	CONTROLLING DCPS ON AN ADMP CARD SET MUST BE EQUAL	PRIMARY IDENTIFIER/TERTIARY IDENTIFIER THE ADMP IS MADE UP OF MORE THAN ONE CARD AND ALL CARDS OF THE SET MUST SPECIFY THE SAME CONTROLLING DCP.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
FR-65	ADMPIDCP CARDS MUST BE ON PRIMARY BUS SEGMENT	ADMP AND DCP CARDS MUST BE ON A PRIMARY BUS SEGMENT. (A PRIMARY BUS SEGMENT CONTAINS A PACKET ROUTER OR A PACKET BUS EXTENDER).
GC-51	DUPLICATE SPEED CALLING ACCESS GROUP	THE SPEED CALLING ACCESS CLASS MUST BE UNIQUE ACROSS THE GC RECORDS.
GC-52	RANGE OF SP. LIST NOS. OUT OF ORDER. NEAREST MULTIPLE OF 4 ALLOTTED	THE SPEED CALLING LIST NUMBERS MUST BE SPECIFIED IN SETS OF FOUR STARTING WITH 0. IF THEY ARE NOT SPECIFIED IN THE SAID ORDER, THE FIRST ENTRY NUMBER AND LAST ENTRY NUMBER WILL BE ADJUSTED ACCORDINGLY (PLUS OR MINUS) TO THE NEAREST MULTIPLE OF FOUR. FOR EXAMPLE, USER SPECIFIES AS FOLLOWS: FIRST ENTRY NUMBER IS 2, LAST ENTRY NUMBER IS 6 FIRST ENTRY NUMBER IS 20, LAST ENTRY NUMBER IS 50 THE ENTRY NUMBERS ACTUALLY SHOULD HAVE BEEN: FIRST ENTRY NUMBER IS 0, LAST ENTRY NUMBER IS 7 FIRST ENTRY NUMBER IS 20, LAST ENTRY NUMBER IS 51
GC-53	ELEMENTS HAVE INCOMPATIBLE VALUES	THE LAST ENTRY NUMBER CANNOT BE LESS THAN THE FIRST ENTRY NUMBER. (GCGEN)
GS-01	VALUES TO BE FILLED LEFT TO RIGHT	SPEED CALLING NUMBER DIGITS DIGITS SHOULD BE FILLED IN FROM LEFT TO RIGHT WITH NO IMBEDDED DASHES.
GS-51	DUPLICATE SPEED CALLING LIST NUMBER	THE SPEED CALLING LIST NUMBER MUST BE UNIQUE ACROSS THE GS RECORDS.
HD-01	MAXIMUM NUMBER OF HUNDREDS GROUPS EXCEEDED	THE MAXIMUM NUMBER OF HUNDREDS GROUPS SUPPORTEDBYTHESVRHASBEENEXCEEDED. (GENLIN)

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
HD-02	MAXIMUM NUMBER OF DIRECTORY NUMBERS EXCEEDED	THE MAXIMUM NUMBER OF DIRECTORY NUMBERS SUPPORTED BY THE SVR HAS BEEN EXCEEDED. (TABGEN/GENLIN)
HD-51	DUPLICATE HUNDREDS GROUP	THE SPECIFIED HUNDREDS GROUP WAS ALREADY ENGINEERED ON A PREVIOUS HD RECORD.
HG-56	TOO MANY CIRCULAR HUNT GROUPS	THE MAXIMUM NUMBER OF CIRCULAR HUNT GROUPS SUPPORTED BY THE SVR HAS BEEN EXCEEDED. (TABGEN/GENLIN)
IR-03	VALUE OF SECOND ELEMENT TOO SMALL	
IR-03	VALUE OF SECOND ELEMENT TOO LARGE	DESTINATION TYPE - INTERCEPT DESTINATION VALUE OF DESTINATION TYPE — ALLOWABLE VALUES OF INTERCEPT DESTINATION TO 0000 LN 0000-9999 (A ROOM NUMBER) AT 0001-0255 (ANY COMBINATION OF THE EIGHT ATTENDANTS) RA 0000-0127 PEC AND TRUNK NUMBER, XYW, WHERE X IS PEC AND YYY IS TRUNK NUMBER RL 0000-0000 (RLT NUMBER) TI 0000-0031 OR 0063 (TIE TRUNK GROUP NUMBER
IR-51	DUPLICATE INTERCEPT ROUTING NUMBER	INTERCEPT ROUTING NUMBER MUST BE UNIQUE ACROSS THE IR RECORDS.
IR-53	REQUIRED VALUE NOT FOUND ON LISTED FORM	
IR-53	ATTENDANT NOT FOUND	
IR-53	RLT NUMBER NOT FOUND	

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
IR-53	**TRUNK** GROUP NOT FOUND	
IR-53	REFERENCED TRUNK IS NOT A RECORDER ANNOUNCER	DESTINATION TYPE - INTERCEPT DESTINATION A. IF THE DESTINATION TYPE IS 'AT', THE DESTINATION MUST BE A VALID ATTENDANT CIRCUIT ON AN AT RECORD. B. IF THE DESTINATION TYPE IS 'RA', THE DESTINATION MUST BE A VALID RECORDER ANNOUNCERONATCRECORD C. IF THE DESTINATION TYPE IS 'LN', THE DESTINATION MUST BE A VALID LINE STATION NUMBER ON AN LD RECORD. D. IF THE DESTINATION TYPE IS 'TI', THE DESTINATION MUST BE A VALID TRUNK GROUP NUMBER ON A T1 RECORD AND THE TRUNK APPLICATION MUST BE 'TIE'
KD-51	TOO MANY UNIQUE KEDU OR PRINTER CARD ADDRESSES	A MAXIMUM OF TWO KEDU CIRCUITS, OR ONE KEDU CIRCUIT AND ONE PRINTER CIRCUIT, CAN BE PLACED IN THE SAME CARD'SLOT. (GENMIS)
KD-52	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH FCN OF INCOMING CARD	
KD-52	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH INCOMING CARD TYPE	
KD-52	FUNCTION OF CARD NOT ALLOWED FOR CARD TYPE DEFINED ON FORM FR	PHYSICAL LOCATION THE PEC, GROUP, SLOT AND CIRCUIT FUNCTION SPECIFIED MUST BE VALID FOR THE CARD TYPE DEFINED ON FR (FOR THIS PEC TYPE). KEDU CIRCUIT MUST APPEAR ON A KEDU CARD. (PHYLOC) IF THE CARD TYPE IN THE MESSAGE IS "OVER", THAT INDICATES THAT A CARD IN THE PREVIOUS LOCATION IS A WIDE CARD AND IT OVERHANGS INTO THIS PYHSICAL LOCATION ON FR.

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
KD-52	NONEXISTENT PHYSICAL LOCATION	PHYSICAL LOCATION THE PEC, GROUP, SLOT AND CIRCUIT SPECIFIED MUST BE VALID FOR THIS PEC TYPE. (PHYLOC)
KD-52	PHYSICAL LOCATION NOT DEFINED ON RECORD CODE FR	PHYSICAL LOCATION THE PEC, GROUP AND SLOT SPECIFIED MUST BE DEFINED ON FR. (PHYLOC)
KD-52	PHYSICAL LOCATION PREVIOUSLY FILLED	PHYSICAL LOCATION THE PEC, GROUP, SLOT AND CIRCUIT SPECIFIED FOR THE KEDU CIRCUIT MUST BE UNIQUE. (PHYLOC)
KD-52	CARD OVERHANGS INTO A PREVIOUSLY FILLED SLOT	THIS CARD IS AN OVERSIZED CARD AND IS TRYING TO FILL TWO SLOTS. OF THE TWO SLOTS IT FILLS, THE RIGHT HAND ONE HAS ALREADY BEEN FILLED.
KD-52	PREVIOUS CARD OVERHANGS INTO THIS SLOT	THE CARD TO THE LEFT OF THIS SLOT IS AN OVERSIZED CARD. THE RIGHT HALF OF THAT CARD FILLS THIS SLOT.
KD-53	DUPLICATE KEDU NUMBER	THE KEDU NUMBER MUST BE UNIQUE ACROSS ALL KD RECORDS.
KD-54	PEC NUMBER IS NOT EQUIPPED	THE PEC NUMBER SPECIFIED MUST BE MARKED EQUIPPED ON THE OE OR OF RECORD.
KD-55	OPI CARD NOT EQUIPPED	THE PMS EQUIPPED FIELD IS SPECIFIED FOR THE KEDU, BUT THE OPI CARD IS NOT EQUIPPED OF FR.
KD-56	ONLY ONE KEDU MAY HAVE PMS	THE PMS EQUIPPED FIELD IS SPECIFIED FOR THE MORE THAN ONE KEDU.
KD-57	OPI CARD ON FR REQUIRES KEDU WITH PMS	FOR THE PMS FEATURE TO WORK PROPERLY, BOTH AN OPI CARD AND A KEDU WITH PMS ARE REQUIRED. (ENDCHK)
KD-58	PMS KEDU REQUIRES PRINTER ON THE SAME CARD	FOR THE PMS FEATURE TO WORK PROPERLY, A PRINTER MUST BE ENGINEERED WITH THE PMS KEDU. (ENDCHK)

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
KS-01	ELEMENTS HAVE INCOMPATIBLE VALUES	
KS-01	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
KS-01	2ND FEATURE REQUIRED IF FIRST SPECIFIED	FUNCTION CODE - ACCESS DIGITS ALLOWED FUNCTION CODE ALLOWABLE VALUES OF FUNCTION ACCESS DIGIT 2 MM 2, - DD,RS,MW, - TM,RR,WU,AR -
KS-51	KEDU NUMBER NOT FOUND	THE KEDU NUMBER SPECIFIED MUST BE A VALID KEDU NUMBER DEFINED ON A KD RECORD.
KS-52	KEDU FUNCTION NEEDS PRINTER ASSIGNMENT ON AL FORM	IF AN ACCESS DIGIT IS INDICATED FOR A SPECIFIC FUNCTION CODE, ONE OR MORE PRINTERS MUST BE DEFINED FOR THAT FUNCTION ON THE AL RECORD ASSOCIATED WITH THE KEDU NUMBER. MESSAGE METER ROOM STATUS REC KEDU STATUS PRINTER STATUS PRINTER CODE NO ID ID AL 0 AL 01 -- -- REC KEDU FUNCTION DIGITS ALLOWED CODE NO CODE 01 234567 KS 0 MM 0 1 - - - - - -ALLOWED KS 0 RS 0 1 - - - - - - INCORRECT
LA-51	LINE APP MUST BE ON MULTILINE FEATURE-PHONE	THE LINE DIRECTORY NUMBER SPECIFIED AS THE FEATUREPHONE WAS NOT SPECIFIED AS A MULTILINE FEATUREPHONE ON AN LD RECORD. (GENLIN)
LA-51	LINE APP MUST BE ON FEATUREPHONE PRIME CONTROL LINE	THE DIRECTORY NUMBER SPECIFIED AS THE FEATUREPHONE IS NOT A FEATUREPHONE PRIME CONTROL LINE. (GENLIN)

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
LA-52	INVALID LINE APPEARANCE	THE LINE DIRECTORY NUMBER SPECIFIED AS THE APPEARANCE WAS NOT SPECIFIED ON AN LD RECORD OR A POTS LINE WAS SPECIFIED. (GENLIN)
LA-53	CO LINE MAY NOT HAVE DSS APPEARANCES	THE LINE DIRECTORY NUMBER SPECIFIED AS THE DSS APPEARANCE WAS SPECIFIED AS A CO LINE ON AN LD RECORD. (GENLIN)
LA-54	MORE THAN MAXIMUM NUMBER OF LINE APPEARANCES	THE LINE DIRECTORY NUMBER SPECIFIED AS THE APPEARANCE OCCURRED AS A LINE APPEARANCE MORE TIMES THAN THE SYSTEM SVR ALLOWS. (GENLIN)
LA-55	DUPLICATE LINE APPREARANCE	THE LINE DIRECTORY NUMBER SPECIFIED AS THE APPEARANCE WAS SPECIFIED AS AN IDENTICAL APPEARANCE ON THE FEATUREPHONE ON A PREVIOUS LA RECORD. (GENLIN)
LA-56	LINE APPEARANCES MUST BE IN SAME PEC	THE LINE DIRECTORY NUMBER SPECIFIED AS THE APPEARANCE AND THE LINE DIRECTORY NUMBER SPECIFIED AS THE FEATUREPHONE MUST BE IN THE SAME PEC. (GENLIN)
LA-57	MULTILINE FEATUREPHONE DOES NOT HAVE LA RECORDS	A MULTILINE FEATUREPHONE ENGINEERED ON AN LD RECORD DID NOT HAVE ANY LINE APPEARANCES ENGINEERED FOR IT ON AN LA RECORD. THIS IS A WARNING MESSAGE SINCE SOME TYPES OF LINE APPEARANCES ARE ENGINEERED ON LD RECORDS AND AN LA RECORD IS A DUPLICATE ENTRY FOR DOCUMENTATION PURPOSES. (TABGEN)
LA-58	FEATUREPHONE ENGINEERING LIMITS EXCEEDED	THE LIMITS ON THE NUMBER OF TIMES ANY DIRECTORY NUMBER MAY APPEAR ON A DATA LINE CARD WERE EXCEEDED. (FPCHKS)
LA-59	MULTILINE FEATUREPHONE CONFLICTS WITH LM RECORD	IF THE FEATUREPHONE WITH APPEARANCES ON IT HAS AN LM RECORD, THEN THE MULTILINE FEATUREPHONE FIELD ON LM MUST BE 'Y'. (GENLIN)

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
I-A-60	SINGLE **LINE** FEATUREPHONE CANNOT BE A LINE APPEARANCE	IF THE MULTILINE FEATUREPHONE FIELD ON LM IS DASHED (THE FEATUREPHONE IS A SINGLE LINE SET), THEN IT CANNOT BE A LINE APPEARANCE. (GENLIN)
LA-61	A VISUAL CALL PARK LINE CANNOT BE A LINE APPEARANCE	A VISUAL CALL PARK LINE (SPECIFIED ON RECORD CODE LD AS LINE TYPE, 'VP', CANNOT BE A LINE APPEARANCE SINCE IT IS A SINGLE LINE). (GENLIN)
LA-70	FEATUREPHONE LINE NOT FOUND	THE LINE DIRECTORY NUMBER SPECIFIED AS THE FEATUREPHONE WAS NOT SPECIFIED ON AN LD RECORD. (GENLIN)
LA-99	SITE HAS INCONSISTENT DATA BASE	T7050 ENTRY FOR LINE SOFTWARE ID AN ENTRY IN T7050, LINE APPEARANCE TABLE, FOR THE INDICATED LINE SOFTWARE ID REPRESENTS AN INVALID LINE APPEARANCE. CPG CROSS-CHECKS INSTRUMENT TYPE, LINE TYPE AND MULTIPLE APPEARANCE BIT IN OTHER TABLES TO DETERMINE VALID ENTRIES. WHILE THIS MESSAGE WILL DETECT ISOLATED DATA BASE ERRORS, MULTIPLE MESSAGES CAN INDICATE A BAD DUMP FROM THE SITE FOR PEC RESIDENT MEMORY FILES. (REVLA)
LD-02	SECOND FIELD MUST BE A DASH	PICKUP GROUP NUMBER - PICKUP GROUP TYPE IF THE PICKUP GROUP NUMBER IS DASHED, THEN THE PICKUP GROUP TYPE MUST BE DASHED.
LD-03	ELEMENTS HAVE INCOMPATIBLE VALUES	
LD-03	ELEMENT 2 IS MEANINGLESS SPECIFICATION	

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
LD-03	2ND FEATURE IS MEANINGLESS SPECIFICATION	DIVERT CONDITION - DIVERT DESTINATION VALUE OF ALLOWABLE VALUE OF DIVERT CONDITION DIVERT DESTINATION ND --,TO,LN,AT,RA/TR,RM,PN BY,NA,BN, OR DA TO,LN,AT,RA/TR,RM,PN
LD-04	ELEMENT 2 IS MEANINGLESS SPECIFICATION ELEMENTS HAVE INCOMPATIBLE VALUES	
LD-04	ELEMENTS HAVE INCOMPATIBLE VALUES	
LD-04	2ND FEATURE IS MEANINGLESS SPECIFICATION	
LD-04	SECOND ELEMENT CONTAINS INVALID VALUE	
LD-04	VALUE OF SECOND ELEMENT TOO LARGE	

Table 21.1   CPG   Error   Messages   (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
LD-04	VALUE OF SECOND ELEMENT TOO SMALL	DIVERT DESTINATION - DIVERT DESTINATION IDENTIFIER **VALUE OF DIVERT DESTINATION** — **ALLOWABLE VALUES OF DIVERT DESTINATION IDENTIFIER** -- ---- TO 0000 LN 0000-9999 (A STATION NUMBER) AT 0001-0255 (ANY COMBINATION OF THE8 ATTENDANTS) RA XYYY (PEC NO. AND TRUNK NO.) WHERE:X = PEC NUMBER YYY = TRUNK NUMBER TR XYYY (PEC NO. AND TRUNK NO.) WHERE: X = PEC NUMBER YYY = TRUNK NUMBER PN 0000-9999 (HUNT GROUP PILOT NUMBER) SC 0001-0008 (SPEED CALLING LIST ENTRY NUMBER) VM ---- THE DIVERT DESTINATION IS CODED ON THE LM RECORD, WHILE THE DIVERT DESTINATION IDENTIFIER IS STILL CODED ON THE LD RECORD.
LD-09	SECOND ELEMENT EQUALS FIRST ELEMENT	LINE NUMBER - DIVERT DESTINATION IDENTIFIER THESE NUMBERS MUST BE DIFFERENT.
LD-12	THE TWO ELEMENTS MUST HAVE THE SAME VALUE	LINE LOCATION PEC - DATA LINK LOCATION PEC THE PEC NUMBER OF THE DATA LINK AND THE PEC NUMBER OF THE LINE'S PHYSICAL LOCATION MUST MATCH. THE DATA LINK PEC IS CODED ON THE LM RECORD FOR AN ANALOG FEATUREPHONE AND ON THE AD RECORD FOR AN AGENT PACET INSTRUMENT, WHILE THE LINE LOCATION PEC IS STILL CODED ON THE LD RECORD.
LD-13	ILLEGAL CARD SLOT	FEATUREPHONE DATA LINK CARDS MAY NOT BE PLACED IN UNIVERSAL SLOT 04 OF FILES C AND D.

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
LD-14	DASHES MUST BE USED CONSISTENTLY IN FIELD	DESCRIPTION OF DATA LINK AND LINE LOCATION THE DATA LINK AND LINE LOCATION FIELDS MUST BE ALL DASHES OR ALL FIELDS MUST BE SPECIFIED.
LD-15	ELEMENTS HAVE INCOMPATIBLE VALUES	
LD-15	ELEMENT 2 IS MEANINGLESS SPECIFICATION	AGENT POSITION NUMBER - INSTRUMENT TYPE IF THE AGENT POSITION NUMBER IS DASHES THEN THE INSTRUMENT TYPE CANNOT BE 'PACT'; IF THE AGENT POSITION NUMBER IS NOT DASHES THEN THE INSTRUMENT TYPE MUST BE 'POTS' OR 'PACT'.
LD-16	INSTRUMENT TYPE - OTHER FIELDS (ON RECORD CODES LD AND LM)	▪ INSTRUMENT TYPE = 'POTS': 1) THE LINE TYPE MUST BE 'L1' OR '--'. 2) THE CARD LOCATION AND CIRCUIT MUST NOT BE DASHED. 3) THE CLASS OF SERVICE FIELDS MUST NOT BE DASHED. 4) THE MDR WORK GROUP FIELD MUST BE DASHED. 5) THE CONTROLLING DCP FIELD MUST BE DASHED. 6) THE SIGNALLING MODE MUST NOT BE 'FP' (LM - LD CHECK). 7) THE DATA LINK MUST BE DASHED (LM - LD CHACK) 8) THE CONTROLLING FEATUREPHONE FIELD MUST BE DASHED (LM - LD CHECK) 9) THE MULTILINE FEATUREPHONE FIELD MUST BE DASHED (LM - LD CHECK).

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
LD-16 (cont'd)	INSTRUMENT TYPE -OTHER FIELDS (ON RECORD CODES LD AND LM) (cont'd)	- INSTRUMENT TYPE = 'PACT': 1) THE LINE TYPE MUST BE 'L1' OR '--'. 2) THE CARD LOCATION AND CIRCUIT MUST NOT BE DASHED. 3) THE CLASS OF SERVICE FIELDS MUST NOT BE DASHED. 4) THE MDR WORK GROUP FIELD MUST NOT BE DASHED. 5) THE CONTROLLING DCP FIELD MUST BE DASHED.. - INSTRUMENT TYPE = 'AIFP': 1) THE LINE TYPE MUST BE 'CO', 'NP', 'VP', OR 'PC'. 2) THE CARD LOCATION AND CIRCUIT MUST NOT BE DASHED. 3) THE CLASS OF SERVICE FIELDS MUST NOT BE DASHED. 4) THE MDR WORK GROUP FIELD MUST NOT BE DASHED. 5) THE CONTROLLING DCP FIELD MUST BE DASHED. 6) THE SIGLALLING MODE MUST BE 'FP' (LM - LD CHECK). 7) THE DATA LINK MUST NOT BE DASHED (LM - LD CHECK). - INSTRUMENT TYPE = 'DIFP': 1) THE LINE TYPE MUST BE 'CO', 'DA', 'NP', 'VP' OR 'PC'. 2) THE CARD LOCATION AND CIRCUIT MUST NOT BE DASHED. 3) THE CLASS OF SERVICE FIELDS MUST NOT BE DASHED. 4) THE MDR WORK GROUP FIELD MUST NOT BE DASHED. 5) THE CONTROLLING DCP FIELD MUST BE DASHED.. 6) THE SIGLALLING MODE MUST BE 'FP' (LM - LD CHECK).

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
LD-16 (cont'd)	INSTRUMENT TYPE - OTHER FIELDS (ON RECORD CODES LD AND LM) **(cont'd)**	- INSTRUMENT TYPE = 'DFPA': 1) THE LINE TYPE MUST BE 'CO', 'NP', 'VP' OR 'PC'. 2) THE CARD LOCATION AND CIRCUIT MUST NOT BE DASHED. 3) THE CLASS OF SERVICE FIELDS MUST NOT BE DASHED. 4) THE MDR WORK GROUP FIELD MUST NOT BE DASHED. 5) THE CONTROLLING DCP FIELD MUST BE DASHED. 6) THE SIGLALLING MODE MUST BE 'FP' (LM - LD CHECK). - INSTRUMENT TYPE = 'APM': 1) THE LINE TYPE MUST BE 'DA'. 2) THE DIRECTORY NUMBER MUST BE DASHED. 3) THE CARD LOCATION AND CIRCUIT MUST NOT BE DASHED. 4) THE CLASS OF SERVICE FIELDS MUST BE DASHED. 5) THE MDR WORK GROUP FIELD MUST BE DASHED. 6) THE DIVERT DESTINATION IDENTIFIER MUST BE DASHED. 7) THE FRL MUST BE DASHED. 8) THE GROUP AND INDIVIDUAL SPEED CALLING FIELDS MUST BE DAZSHED. 9) THE REMOTE ACCESS AND AUTHORIZATION CODE FIELD MUST BE DASHED. 10) THE CONTROLLING DCP FIELD MUST NOT BE DASHED. - INSTRUMENT TYPE = 'SPM': 1) THE LINE TYPE MUST BE 'DA'. 2) THE DIRECTORY NUMBER MUST BE DASHED. 3) THE CARD LOCATION AND CIRCUIT MUST NOT BE DASHED. 4) THE CLASS OF SERVICE FIELDS MUST BE DASHED. 5) THE MDR WORK GROUP FIELD MUST BE DASHED. 6) THE DIVERT DESTINATION IDENTIFIER MUST BE DASHED. 7) THE FRL MUST BE DASHED. 8) THE GROUP AND INDIVIDUAL SPEED CALLING FIELDS MUST BE DAZSHED. 9) THE REMOTE ACCESS AND AUTHORIZATION CODE FIELD MUST BE DASHED. 10) THE CONTROLLING DCP FIELD MUST NOT BE DASHED.

Table 21.1   CPG   Error   Messages   (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
LD-16 (cont'd)	INSTRUMENT TYPE - OTHER FIELDS (ON RECORD CODES LD AND LM) (cont'd)	INSTRUMENT TYPE = '----': 1) THE LINE TYPE MUST BE 'NW'. 2) THE CARD LOCATION AND CIRCUIT MUST NOT BE DASHED. 3) THE CLASS OF SERVICE FIELDS MUST BE DASHED. 4) THE MDR WORK GROUP FIELD MUST BE DASHED. 5) THE DIVERT DESTINATION IDENTIFIER MUST BE EITHER '0003' OR '0011'. 6) THE FRL MUST BE DASHED. 7) THE GROUP AND INDIVIDUAL SPEED CALLING FIELDS MUST BE DAZSHED. 8) THE REMOTE ACCESS AND AUTHORIZATION CODE FIELD MUST BE DASHED.
	LINE TYPE - OTHER FIELDS (ON RECORD CODES LD AND LM)	- LINE TYPE = 'CO': 1) THE INTERCOM GROUP MUST BE DASHED. 2) THE DIVERT DESTINATION - LINE TYPE = 'DA': 1) THE INTERCOM GROUP MUST BE DASHED. 2) THE PICKUP GROUP AND EXTENDED FIELDS MUST BE DASHED. 3) THE DIVERT DESTINATION IDENTIFIER MUST BE DASHED. 4) THE GROUP AND INDIVIDUAL SPEED CALLING FIELDS MUST BE A DASH. - LINE TYPE = 'L1': 1) THE INTERCOM GROUP MUST BE DASHED. 2) THE PICKUP GROUP AND EXTENDED FIELDS MUST BE DASHED. 3) THE DIVERT DESTINATION IDENTIFIER MUST BE DASHED. - LINE TYPE = 'NW': 1) THE INTERCOM GROUP MUST BE DASHED. 2) THE PICKUP GROUP AND EXTENDED FIELDS MUST BE DASHED. 3) THE DIVERT DESTINATION IDENTIFIER MUST NOT BE DASHED. - LINE TYPE = 'VP': 1) THE INTERCOM GROUP MUST BE DASHED. 2) THE PICKUP GROUP AND EXTENDED FIELDS MUST BE DASHED. 3) THE DIVERT DESTINATION IDENTIFIER MUST BE DASHED. 4) THE MULTILINE FEATUREPHONE FIELD MUST BE DASHED. - LINE TYPE = '--': 1) THE INTERCOM GROUP MUST BE DASHED.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
LD-18	ELEMENTS HAVE INCOMPATIBLE VALUES	DIAL CALL PICKUP GROUP - EXTENDED CALL PICKUP GROUP ONLY ONE OF A PICKUP GROUP OR EXTENDED GROUP MAY HAVE A VALUE. BOTH MAY BE DASHED BUT BOTH MAY NOT BE SPECIFIED.
LD-19	LINE DIRECTORY NUMBER	THE LINE DIRECTORY NUMBER MAY BE DASHES ONLY IF THE AGENT POSITION NUMBER IS NOT DASHES.
LD-19	LINE DIRECTORY NUMBER - INSTRUMENT TYPE	IF THE DIRECTORY NUMBER IS DASHES THEN THE INSTRUMENT TYPE MUST BE EITHER 'APM' OR 'SPM'.
LD-20	ELEMENT 2 IS A MEANINGLESS SPECIFICA-TION	
LD-20	ELEMENTS HAVE INCOMPATIBLE VALUES	AGENT POSITION NUMBER - WARD NUMBER FOR AN AGENT POSITION, DASHES MUST BE CODED FOR WARD NUMBER. WARD NUMBER IS INVALID FOR AN AGENT.
		AGENT POSITION NUMBER - DIAL CALL PICKUP FOR AN AGENT POSITION, DASHES MUST BE CODED FOR DIAL CALL PICKUP FIELDS.
		AGENT POSITION NUMBER - DIAL CALL PICKUP FOR AN AGENT POSITION, THE DIVERT CONDITION MUST BE 'ND'.
LD-21	ELEMENTS HAVE INCOMPATIBLE VALUES	
LD-21	ELEMENT 2 IS A MEANING-LESS SPECIFICA-TION	
LD-21	2ND FEATURE REQUIRED IF FIRST SPECIFIED	CO LINE - DIVERT INFORMATION. FOR A CO LINE THE DIVERT CONDITION MUST BE 'DA' AND THE DIVERT DESTINATION MUST BE 'TR'. THE DIVERT CONDITION AND DIVERT DESTINATION ARE CODED ON THE LM RECORD. WHILE THE DIVERT DESTINATION' IDENTIFIER IS STILL CODED ON THE LD RECORD.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
LD-23	ELEMENT 2 IS A MEANINGLESS SPECIFICA- TION	DATA LINK LOCATION - AGENT POSITION NUMBER. IF THE AGENT POSITION IS SPECIFIED, THEN THE DATA LINK PEC MUST BE IN THE RANGE 0 TO 3.
LD-26	INDIVIDUAL SPEED CALLING LIST MUST BE SPECIFIED	DIVERT DESTINATION - INDIVIDUAL SPEED CALLING LIST.
		IF THE DIVERT DESTINATION IS 'SC', THEN THE INDIVIDUAL SPEED CALLING LIST MUST NOT CONTAIN DASHES. THE DIVERT DESTINATION IS CODED ON THE LM RECORD, WHILE THE INDIVIDUAL SPEED CALLING LIST IS STILL CODED ON THE LD RECORD.
LD-51	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH FCN OF INCOMING CARD	
LD-51	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH INCOMING CARD TYPE	

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
LD-51	FUNCTION OF CARD NOT ALLOWED FOR CARD TYPE DEFINED ON FORM FR	LINE LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT FUNCTION SPECIFIED IS INVALID FOR THE CARD TYPE DEFINED ON FR (FOR THIS PEC TYPE). A LINE WITH INSTRUMENT TYPE 'DIFP' MUST APPEAR ON A VCIP, DVC OR VP20 (VOICE OR VOICE AND DATA) LINE CARD. A LINE WITH INSTRUMENT TYPE 'DATD' MUST APPEAR ON A DVC LINE CARD. A LINE WITH INSTRUMENT TYPE 'DIFP' AND LINE TYPE OF 'DA' MUST APPEAR ON A DVC LINE CARD. A LINE WITH INSTRUMENT TYPE 'AIFP' MUST APPEAR ON A FP OR FPOP LINE CARD. A LINE WITH INSTRUMENT TYPE 'PACT' OR 'POTS' MUST APPEAR ON A POTS OR OFFP LINE CARD. A LINE WITH INSTRUMENT TYPE 'APM' OR 'SPM' MUST APPEAR ON A VPLO, VPL1, VP20 (VOICE AND DATA OR DATA), OR VP21 LINE CARD. A LINE WITH INSTRUMENT TYPE 'DFPA' MUST APPEAR ON A VP20 (VOICE AND DATA) LINE CARD. (PHYLOC) IF THE CARD TYPE IN THE MESSAGE IS "OVER" THAT INDICATES THAT A CARD IN THE PREVIOUS LOCATION IS A WIDE CARD AND IT OVERHANGS INTO THIS PHYSICAL LOCATION ON FR. LINE LOCATION THE PEC, GROUP, SLOT AND CIRCUIT FUNCTION SPECIFIED IS INVALID FOR THE CARD TYPE DEFINED ON FR. A LINE WITH INSTRUMENT TYPE 'DATD' MUST APPEAR ON A DVC LINE CARD. A LINE WITH INSTRUMENT TYPE 'POTS' MUST APPEAR ON A POTS OR OFFP LINE CARD.
LD-51	INEFFICIENT USE OF VPL1 CARD FOR INSTRUMENT TYPE SPECIFIED	LINE LOCATION INSTRUMENT TYPE 'APM' IS PERMITTED ON A VPL1 LINE CARD, HOWEVER IT IS A SLOW SPEED DEVICE WHICH NORMALLY IS ASSIGNED TO A VPLO LINE CARD. (PHYLOC)

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
LD-51	DVCIP CARD MUST BE IN THE RANGE OF 0-3 CIRCUITS	IF THE INSTRUMENT TYPE IS DATD, ON THE DVCIP CARD, THEN THE CIRCUIT NUMBER MUST BE EITHER 0, 1, 2, 3.
LD-51	NONEXISTENT PHYSICAL LOCATION	LINE LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED MUST BE VALID FOR THIS PEC TYPE.
LD-51	PHYSICAL LOCATION NOT DEFINED ON RECORD CODE FR	LINE LOCATION THE PEC, GROUP, AND SLOT SPECIFIED MUST BE DEFINED ON AN FR RECORD. (PHYLOC)
LD-51	PHYSICAL LOCATION PREVIOUSLY FILLED	LINE LOCATION THE PEC GROUP SLOT AND CIRCUIT SPECIFIED FOR THE LINE MUST BE UNIQUE. (EXCEPT FOR THE SPECIFICATION OF NON-PRIME CONTROL LINES WHICH MUST SPECIFY THE SAME LINE LOCATION AS THE CONTROLLING DIGITAL PHONE OR FEATUREPHONE.) (PHYLOC)
LD-51	CARD OVERHANGS INTO A PREVIOUSLY FILLED SLOT	THIS CARD IS AN OVERSIZED CARD AND IS TRYING TO FILL TWO SLOTS. OF THE TWO SLOTS 'IT FILLS, THE RIGHT HAND ONE HAS ALREADY BEEN FILLED.
LD-51	PREVIOUS CARD OVERHANGS INTO THIS SLOT	THE CARD TO THE LEFT OF THIS SLOT IS AN OVERSIZED CARD. THE RIGHT HALF OF THAT CARD FILLS THIS SLOT.
LD-51	LINE TYPE DA MUST BE ON DVC CARD FOR DIFP	IF THE INSTRUMENT TYPE IS 'DIFP' AND THE LINE TYPE IS 'DA', THEN THE CARD TYPE FOR THAT LOCATION MUST BE DVC. (PHYLOC)
LD-51	CIRCUIT NUMBER TOO LARGE FOR CARD TYPE	THE CIRCUIT NUMBER SPECIFIED DOES NOT MATCH THE LIMITS OF THE CARD TYPE AT THE SPECIFIED PHYSICAL LOCATION. (PHYLOC)
LD-52	**CLASS OF** SERVICE NOT ALLOWED	SIGNAL MODE - CLASS OF SERVICE IF SIGNAL MODE IS 'NO', THEN THE FOLLOWING DISPLAYABLE CLASS OF SERVICE FEATURES WILL NOT WORK: 1. TOLL ACCESS 5. PAGING ACCESS 2. MEET-ME CONFERENCE 6. MAINTENANCE ACCESS 3. PROGRESSIVE CONF. 7. MODEM ACCESS 4. DICTATION EQUIPMENT 8. MERS ON-NET

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTIONOFMESSAGES
		IF SIGNAL MODE = 'NO', THE FOLLOWING N-DISPLAYABLE CLASS-OF-SERVICE FEATURES WILL NOT WORK: 1. EXECUTIVE OVERRIDE 5. DIAL CALL PICKUP 2. ORIG. CALL WAITING 6. CALL FORWARDING-VAR 3. CAMP-ON/AUTO RECALL 7. SPEED CALLING 4. ATT. INFO CALLS 8. UNIVERSAL NITE ANS. IF THE SIGNAL MODE IS SOMETHING OTHER THAN 'FP' THEN THE FOLLOWING DISPLAYABLE CLASS OF SERVICE FEATURE WILL NOT WORK: 1. CO LINE
LD-53	CLASS OF SERVICE CONFLICT	CLASS OF SERVICE FOR CHECKS ON VIOLATIONS AND REQUIREMENTS BETWEEN DISPLAYABLE AND N-DISPLAYABLE CLASSES OF SERVICE.
LD-54	CLASS OF SERVICE NOT DEFINED	CLASS OF SERVICE ALL DISPLAYABLE CLASSES OF SERVICE MUST APPEAR ON DD RECORDS. ALL N-DISPLAYABLE CLASSES OF SERVICE MUST APPEAR ON NC RECORDS.
LD-55	CLASS OF SERVICE CONFLICT	CLASS OF SERVICE - DIVERT INFORMATION IF THE N-DISPLAYABLE CLASS OF SERVICE SELECTED INCLUDES THE ORIGINATING ONLY ('OR') FEATURE, THE DIVERT CONDITIONS 'BY', 'NA', 'BN', AND 'DA' WILL BE MEANINGLESS_. (DIVERT)
LD-57	CLASS OF SERVICE CONFLICT IF HUNT GROUP	CLASS OF SERVICE - DIVERT INFORMATION FOR LINES WHICH DO NOT DIVERT (BUT WHICH ARE IN A HUNT GROUP) THE DISPLAYABLE CLASS OF SERVICE MUST NOT INCLUDE SWITCH DIRECT LINE ('SL') OR CO LINE ('CL').

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
LD-57	CLASS OF SERVICE CONFLICT	CLASS OF SERVICE - DIVERT INFORMATION FOR LINES WHOSE DISPLAYABLE CLASS OF SERVICE INCLUDES SWITCHED DIRECT LINE ('SL'), THE DIVERT DESTINATION SPECIFIED MUST BE A LINE ('LN'), AN ATTENDANT ('AT'), A RECORDED ANNOUNCEMENT ('TR'), OR A TONE ('TO'). A HUNT GROUP PILOT NUMBER ('PN') IS PERMISSIBLE ONLY IF THE HUNT GROUP SPECIFIED DOES NOT HAVE CAMP-ON. IF A LINE'S DIVERT CONDITION IS 'LN' THEN THAT LINE'S DISPLAYABLE CLASS OF SERVICE MUST HAVE STATION ACCESS ('SA') SPECIFIED. IF A LINE'S DIVERT CONDITION IS 'AT' THEN THAT LINE'S N-DISPLAYABLE CLASS OF SERVICE MUST HAVE ATTENDANT INFORMATION ('AI') SPECIFIED. (DIVERT)
LD-58	EXTENDED DIAL CALL PICKUP TABLE NOT INITIALIZED	EXTENDED DIAL CALL PICKUP THE EXTENDED DIAL CALL PICKUP TABLE SPECIFIED (IF ANY) MUST APPEAR ON A CORRESPONDING ED RECORD.
LD-59	DIRECTORY NUMBER NOT FOUND	DIVERT DESTINATION A. IF DESTINATION TYPE IS 'LN', THE DESTINATION ID MUST BE A VALID STATION NUMBER OR AN LD RECORD. B. IF DESTINATION TYPE IS 'PN', THE DESTINATION ID MUST BE A VALID HUNT GROUP PILOT NUMBER ON AN HG RECORD. (DIVERT)
LD-60	DUPLICATE DATD HAS BEEN FOUND ON SAME CKT	MORE THAN ONE DATD CANNOT BE ASSIGNED TO THE SAME PHYSICAL LOCATION. (TABGEN)
LD-62	DTMF RECEIVER NOT EQUIPPED ON RECORDCODE FR	INSTRUMENT TYPE 'PACT' REQUIRES THE USE OF DTMF RECEIVERS.
LD-63	PEC NUMBER NOT EQUIPPED	LINE LOCATION PEC THE PEC NUMBER INDICATED MUST BE MARKED EQUIPPED ON THE OE RECORD.
LD-64	TRUNK NUMBER NOT FOUND	DIVERT INFORMATION IF THE DESTINATION TYPE IS 'TR', THEN THE DESTINATION ID MUST BE A VALID TRUNK ON A TC RECORD.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
LD-64	ATTENDANT NOT FOUND	DIVERT INFORMATION IF THE DESTINATION TYPE IS 'AT', THEN THE DESTINATION ID MUST BE A VALID ATTENDANT OR ATTENDANTS ON AT RECORDS. (DIVERT)
LD-65	DUPLICATE SPEED CALLING LIST	SPEED CALLING THE INDIVIDUAL SPEED CALL LIST LINK MUST BE UNIQUE PER PEC AND IN THE RANGE 0 TO 30.
LD-66	FIELD DOESN'T HAVE REQUIRED VALUE	SIGNAL MODE - CLASS OF SERVICE IF AN LD RECORD CONTAINS AN N-DISPLAYABLE CLASS OF SERVICE WHICH ALLOWS SCC ACCESS, THEN THE SIGNAL MODE ON THE LD RECORD MUST BE 'TC' OR 'MX' OR 'FP'.
LD-67	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH FCN OF INCOMING CARD	
LD-67	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH INCOMING CARD TYPE	
LD-70	FEATURE-PHONE LINE NOT FOUND	CONTROLLING FEATUREPHONE THE LINE NUMBER USED AS A CONTROLLING FEATUREPHONE MUST BE ENGINEERED AS A LINE ON AN LD RECORD. (TABGEN)
LD-71	LINE CARD NOT FOUND	LINE LOCATION THE LINE CARD BEING ASSIGNED MUST BE SPECIFIED ON AN FR OR LR RECORD (DEPENDENT ON THE SVR). (GENLIN)
LD-72	CANNOT ASSIGN LINE ID	INSTRUMENT TYPE / LINE TYPE THERE MUST BE SPACE AVAILABLE IN THE SYSTEM TABLES TO ASSIGN A LINE SOFTWARE ID IN THE GIVEN PEC FOR ANY 'BDML', 'DDML', 'DTML', OR 'FPML' LINE CONTROLLED BY ANOTHER DIGITAL PHONE OR FEATUREPHONE OR ANY LINES WITH A LINE TYPE OF 'NP' OR 'CO'. A MAXIMUM OF 256 LINES OF ALL KINDS IS ALLOWED PER PEC. (GENLIN)

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
LD-74	SPEED CALLING ACCESS GROUP NOT FOUND	THE GROUP SPEED CALLING ACCESS GROUP MUST BE DEFINED ON A GC RECORD.
LD-75	FIELD DOES NOT HAVE REQUIRED VALUE	AGENT POSITION NUMBER - N-DISPLAYABLE CLASS OF SERVICE. AN AGENT LINE MUST HAVE HOOKSWITCH FLASH IN THE N-DISPLAYABLE CLASS OF SERVICE.
LD-76	FIELD DOES NOT HAVE REQUIRED VALUE	CLASS OF SERVICE - CO LINE A CO LINE REQUIRES A DISPLAYABLE CLASS OF SERVICE WITH SWITCHED DIRECT LINE AND CO LINE.
LD-77	TOO MANY AGENT POSITIONS EQUIPPED PER PEC	AGENT POSITION NUMBER - LINE CIRCUIT PHYSICAL LOCATION INSTRUMENT TYPE ('PACT') - LINE CIRCUIT PHYSICAL LOCATION. THE SYSTEM MAXIMUM NUMBER OF AGENT POSITIONS OR AGENT PACETS PER PEC MUST NOT BE EXCEEDED. MAXIMUM PER PEC IS SIXTEEN.
LD-78	DUPLICATE AGENT POSITION NUMBER	AGENT POSITION NUMBER THE SPECIFIED AGENT POSITION NUMBER CANNOT APPEAR ON A PREVIOUS LD RECORD.
LD-79	INCONSISTENT PHYSICAL LOCATION FIELDS	LINE LOCATION - DATA LINK LOCATION THE PHYSICAL LOCATION FIELDS (BOTH LINE CIRCUIT AND DATA LINK) FOR A FEATUREPHONE NON-PRIME CONTROL LINE MUST MATCH THE PHYSICAL LOCATION FIELDS OF THE CONTROLLING FEATUREPHONE. (FPCHKS)
LD-80	CONTROLLING FEATURE-PHONE MUST BE MULTILINE	CONTROLLING FEATUREPHONE A LINE DIRECTORY NUMBER USED IN A CONTROLLING FEATUREPHONE FIELD MUST BE ENGINEERED AS A MULTILINE FEATUREPHONE OR DIGITAL PHONE ON AN LD RECORD. (TABGEN)
LD-81	INVALID FEATURE-PHONE PHYSICAL LOCATION	LINE LOCATION A FEATUREPHONE OR DIGITAL PHONE MAY NOT BE ASSIGNED TO CIRCUIT 7 OF A LINE CARD ENGINEERED AS RELATIVE LINE CARD NUMBER 31 IN A PEC ON AN FR RECORD. REARRANGE CARD ASSIGNMENTS TO PLACE OTHER TYPES OF LINES IN THIS LOCATION. (GENLIN)

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
LD-82	PHYSICAL LOCATION DEFINED ON LD IS MISSING ON NAMED RECORD CODE	INSTRUMENT TYPE IF THE INSTRUMENT TYPE ON AN LD RECORD IS A DATA DEVICE ('ARM', 'SPM', OR 'DFPA'), THE APPROPRIATE CP AND AP, AQ OR XP RECORDS MUST BE INPUT FOR THE SAME PORT. (ENDCHK)
LD-83	CLASS OF SERVICE NOT ALLOWED	A FEATUREPHONE NON-PRIME CONTROL LINE MAY NOT HAVE STATION SILENT MONITOR ACCESS.
LD-84	TRUNKS DIVERTED TO BY CO LINE MUST HAVE SUPY OTG = SO	A TC RECORD MUST SPECIFY SUPERVISORY OUTGOING SIGNAL OF 'SO' FOR A TRUNK DIVERTED TO BY A CO LINE. (DIVERT)
LD-85	A LINE CANNOT DIVERT TO ITSELF	THE DIVERT DESTINATION OF A LINE CANNOT BE ITSELF. (DIVERT)
LD-86	CONTROLLING DCP NUMBER NOT DEFINED ON RECORD CODE FR	DCP NUMBER THE DCP NUMBER REFERENCED IN THE LD RECORD MUST BE DEFINED ON AN FR RECORD.
LD-87	PC LINE TYPE MISSING OR EXTRA FOR FEATURE-PHONE	EVERY FEATUREPHONE MUST HAVE ONE AND ONLY ONE PRIME CONTROL LINE. (FPCHKS)
LD-88	FEATURE-PHONE ENGINEERING LIMITS EXCEEDED	THE LIMITS PER CARD OR PER PEC HAVE BEEN EXCEEDED. (FPCHKS)
LD-89	FRL MUST BE SPECIFIED	FRLS HAVE BEEN EQUIPPED FOR THIS SYSTEM ON RECORD CODE OF AND MUST THEREFORE BE SPECIFIED FOR EVERY LINE ON RECORD CODE LD.
LD-89	INCONSISTENT ENGINEERING OF FRLS	FRLS HAVE BEEN SPECIFIED FOR SOME PARTS OF THE SYSTEM AND NOT OTHERS. ENSURE THAT ALL ATTENDANTS, LINES, TRUNK GROUPS, MERS ROUTES, ETC. HAVE FRLS ENTIRELY ENABLED OR DISABLED.

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
LD-91	NO ACCESS TO VMS IN N-DISPLAYABLE COS WITH DIVT. DEST VM	CLASS OF SERVICE - DIVERT INFORMATION THE VMS ACCESS FIELD, 'VM', SHOULD BE SPECIFIED ON NC RECORD IF A LINE HAS A DIVERT DESTINATION 'VM'. (DIVERT)
LD.-92	DATD REQUIRES STATION ACCESS IN DISPLAYABLE cos	INSTRUMENT TYPE - CLASS OF SERVICE INSTRUMENT TYPE DATD REQUIRES THAT THE DISPLAYABLE CLASS OF SERVICE SPECIFIES STATION ACCESS AS YES.
LD-93	DATD REQUIRES DATA LINE SECURITY IN N-DISPLAYABLE CLASS OF SERVICE	INSTRUMENT TYPE - CLASS OF SERVICE INSTRUMENT TYPE DATD REQUIRES THAT THE N-DISPLAYABLE CLASS OF SERVICE SPECIFIES DATA LINE SECURITY AS YES.
LD-93	FIELD DOESN'T HAVE REQUIRED VALUE	LINE TYPE - CLASS OF SERVICE LINE TYPE DA WITH INSTRUMENT TYPE DIFP REQUIRES THAT THE N-DISPLAYABLE CLASS OF SERVICE SPECIFIES DATA LINE SECURITY AS YES. LINE TYPE 'L1' REQUIRES THAT THE N-DISPLAYABLE CLASS OF SERVICE SPECIFIES HOOKSWITCH FLASH AS YES. LINE TYPE 'VP' REQUIRES THAT THE N-DISPLAYABLE CLASS OF SERVICE SPECIFIES ORIGINATING ONLY, TERMINATING ONLY AND CALL PARK.
LD-94	NO. OF PORTS EXCEEDED FOR THIS DCP	NUMBER OF PORTS PER CONTROLLING DCP ARE LIMITED TO 240. ANY CONTROLLING DCP CAN HANDLE UP TO 240 ENTRIES OF LD RECORDS. (ADMPCK)
LI-52	DUPLICATE LOGICAL LINE DIRECTORY NUMBER	THE LINE DIRECTORY NUMBER MUST BE UNIQUE ACROSS ALL LI RECORDS.
LI-54	DUPLICATE LOGICAL LINE SOFTWARE ID	THE SOFTWARE ID CANNOT BE DUPLICATED ACROSS THE LI RECORDS.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
LI-51	SID CONFLICT	A LINE CARD HAS ALREADY BEEN PLACED IN THE SAID PHYSICAL LOCATION. THE LOGICAL LINE SOFTWARE ID CANNOT BE PRESERVED. (NOTE: THE SOFTWARE ID OF A LINE NUMBER ON LD RECORD CODE WHICH IS NOT A LOGICAL LINE, IS THE SAME AS THAT GIVEN TO A LOGICAL LINE ON LI RECORD. CHECK LINE CARD ADDRESS TABLE (T2541) WITH THE PEC AND LINE CARD NO. PRINTED WITH THE ERROR MESSAGE). (GENLIN)
LI-52	NO CORRE-SPONDING LD RECORD FOR LI	EVERY LI RECORD MUST HAVE A CORRESPONDING LD RECORD. (GENLIN)
LM-01	DASHES MUST BE USED CONSISTENTLY IN FIELD	THE DATA LINK FIELDS MUST BE ALL DASHES OR ALL FIELDS MUST BE SPECIFIED.
LM-02	ELEMENTS HAVE INCOMPATIBLE VALUES	
LM-02	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
LM-02	2ND FEATURE IS MEANINGLESS SPECIFICATION	DIVERT CONDITION - DIVERT DESTINATION VALUE OF ALLOWABLE VALUE OF DIVERT CONDITION DIVERT DESTINATION ND --, TO, LN, AT, RA/TR, RM, PN BY, NA, BN, OR DA TO, LN, AT, RA/TR, RM, PN
LM-51	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH FCN OF INCOMING CARD	
LM-51	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH INCOMING CARD TYPE	

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
LM-51	FUNCTION OF CARD NOT ALLOWED FOR CARD TYPE DEFINED ON FR	DATA LINK LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT FUNCTION SPECIFIED IS INVALID FOR THE CARD TYPE DEFINED ON FR (FOR THIS PEC TYPE). A LINE WITH INSTRUMENT TYPE 'AIFP' MUST APPEAR ON A CIP DATA LINK CARD. A LINE WITH INSTRUMENT TYPE 'DIFP' MUST APPEAR ON A VLPO OR VPL1 DATA LINK CARD. (PHYLOC) IF THE CARD TYPE IN THE MESSAGE IS "OVER", THAT INDICATES THAT A CARD IN THE PREVIOUS LOCATION IS A WIDE CARD AND IT OVERHANGS INTO THIS PYHSICAL LOCATION ON FR.
LM-51	NONEXISTENT PHYSICAL LOCATION	DATA LINK LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT FUNCTION SPECIFIED MUST BE VALID FOR THIS PEC TYPE. (PHYLOC)
LM-51	PHYSICAL LOCATION NOT DEFINED ON RECORD CODE F R	DATA LINK LOCATION THE PEC, GROUP, AND SLOT MUST BE DEFINED ON FR. (PHYLOC)
LM-51	PHYSICAL LOCATION PREVIOUSLY FILLED	DATA LINK LOCATION THE DATA LINK LOCATION MUST BE UNIQUE. (PHYLOC)
LM-51	CIRCUIT NUMBER TOO LARGE FOR CARD TYPE	THE SPECIFIED CIRCUIT NUMBER IS NOT VALID FOR THE TYPE OF CARD IN THE GIVEN PHYSICAL LOCATION. (PHYLOC)
LM-52	PEC NUMBER IS NOT EQUIPPED	DATA LINK LOCATION THE PEC NUMBER INDICATED MUST BE MARKED AS EQUIPPED ON THE OE RECORD.
LM-53	MAX PRECEDENCE LEVEL APPLIES TO AUTOVON ONLY	THE MAX PRECEDENCE LEVEL FIELD MAY CONTAIN VALUES OTHER THAN DASH ONLY IF AUTOVON IS SPECIFED ON THE OF RECORD.
LM-54	INVALID RECORD CODE	LM RECORDS ARE NOT VALID FOR INSTRUMENT TYPES '----',' APM', AND 'SPM' AND THE LINE TYPES 'L1' AND 'DA'. (SPECIFIED ON AN LD RECORD)

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
LM-54	AGENTS CANNOT HAVE AN LM RECORD	THE AGENT DATA LINK IS COLLECTED ON THE AD RECORD, NOT THE LM RECORD. NO FIELDS ON THE LM RECORD APPLY TO AGENTS.
LM-55	VALID LM RECORD NOT FOUND WHEN REQUIRED	AN LM RECORD IS REQUIRED FOR INSTRUMENT TYPE 'AIFP'. (FPCHKS)
LM-56	INVALID CONTROLLING FEATURE-PHONE	THE CONTROLLING FEATUREPHONE MUST BE A FEATUREPHONE PRIME CONTROL LINE WITH THE SAME LINE CIRCUIT AND DATA LINK CIRCUIT PHYSICAL LOCATIONS AS THE DIRECTORY NUMBER ON THE LM RECORD BEING CONTROLLED. (FPCHKS)
LM-57	MULTILINE FEATURE-PHONE CONFLICTS WITH LM RECORD	IF THE FEATUREPHONE HAS NON-PRIME CONTROL OR CO LINES ON RECORD CODE LD, THE MULTILINE FEATUREPHONE FIELD ON RECORD CODE LM MUST BE 'Y' IF AN LM RECORD IS PROVIDED FOR THE FEATUREPHONE PRIME CONTROL LINE. (GENLIN)
LM-58	DIVERT CONDITION MUST BE ND	WHEN A DIRECTORY NUMBER IS DEFINED ON LD AS A FEATUREPHONE, THEN THE DIVERT CONDITION ON LM MUST BE ENTERED AS AN 'ND' (NO DIVERT) EXCEPT WHEN THE LINE TYPE IS 'CO' (ON LD) OR THE FEATUREPHONE IS A MEMBER OF A HUNT GROUP.
Lrvl-59	DATA LINK OF 127 NOT ALLOWED	A FEATUREPHONE'S OR DIGITAL FEATUREPHONE'S CONTROLLER MAY NOT BE ASSIGNED TO CIRCUIT 7 OF A CONTROLLING CARD (CIP) ENGINEERED AS RELATIVE CONTROLLING CARD NUMBER 15 ON AN FR RECORD, SINCE THIS WILL RESULT IN A DATA LINK NUMBER OF 127. THE VALID RANGE FOR DATA LINK NUMBERS IS 0 TO 126.
MD-01	ELEMENTS HAVE INCOMPATIBLE VALUES	
MD-01	ELEMENT 2 IS MEANINGLESS SPECIFICATION	

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
MD-01	2ND FEATURE REQUIRED IF FIRST SPECIFIED	MDR PORT 1 THE TERMINAL AND MDR PORT 1 FIELDS CANNOT BOTH BE 'Y'.
MH-51	INVALID PILOT NUMBER SPECIFICATION	THE HUNT GROUP PILOT NUMBER MUST HAVE BEEN DEFINED ON AN HG RECORD. (GENLIN)
MH-52	INVALID SEQUENCE NUMBER	THE SEQUENCE NUMBERS WITHIN A HUNT GROUP MUST START WITH ZERO AND BE IN ASCENDING ORDER WITH NO GAPS. (GENLIN)
MH-53	DIRECTORY NUMBER ERROR	THE DIRECTORY NUMBER MUST BE A VALID LINE NUMBER. (GENLIN)
MH-54	MEMBER ALREADY IN ANOTHER HUNT GROUP	A DIRECTORY NUMBER MAY BE IN ONLY ONE HUNT GROUP. (GENLIN)
MH-55	AGENT POS. NOT ALLOWED IN HUNT GROUP	A HUNT GROUP MEMBER MUST NOT BE AN AGENT POSITION. (GENLIN)
MH-56	PREVIOUS DIVERT DATA IGNORED	DIVERT DATA PREVIOUSLY SPECIFIED FOR THIS LINE HAS BEEN OVERRIDDEN AND REPLACED BY A DIVERT TO THE NEXT HUNT GROUP MEMBER. (GENLIN)
MH-57	CLASS OF SERVICE NOT ALLOWED	LINES MARKED WITH SWITCH DIRECT LINE OR ORIGINATING ONLY SHOULD NOT BE A MEMBER OF A HUNT GROUP: (GENLIN)
MH-59	FIXED CALL FORWARDING - FEATURE-PHONES - HUNT GROUPS	A FEATUREPHONE EQUIPPED WITH FIXED CALL FORWARDING ON A LINE SHOULD BE THE LAST MEMBER OF A TERMINAL HUNT GROUP. (FPCHKS)

Table 21.1   CPG   Error   Messages   (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
MI-01	INVALID MONITOR MODE COMMAND	AN INVALID MONITOR MODE COMMAND HAS BEEN SPECIFIED. ONLY THE FOLLOWING MONITOR COMMANDS ARE AVAILABLE: OPTIONS RUN SAVE PRINT END
MI-01	END OF FILE DETECTED	CPG WILL PRODUCE THIS ERROR MESSAGE IF NO 'END' MONITOR COMMAND IS ENTERED.
MI-02	INVALID OPTION COMMAND	AN INVALID OPTION COMMAND HAS BEEN SPECIFIED. THE FOLLOWING OPTIONS ARE AVAILABLE (DEPENDING UPON SVR): BATCH/TSO - MODE TO BE RUN UNDER. TABLES/NOTABLES - SPECIFIES WHETHER THE TABLE LISTING SHOULD BE PRINTED. SORT/NOSORT - SORT THE INPUT FILE ON RETRIEVAL FROM PANVALET. HALT/NOHALT - CONTROLS USER INTERACTION DURING A FORWARD PROCESS. INREC= - SPECIFIES THE PANVALET SOURCE FOR THE INPUT RECORD FILE. TITLE = - SPECIFIES THE TITLE FOR THE OFFICE RECORD LISTINGS. SITENO= - SPECIFIES THE SITE DRAWING NUMBER FOR THE OFFICE RECORD LISTINGS. ALT/NOALT - CONTROLS GENERATION OF ALL ALTERNATE SORT LISTING. CART/NOCART - CONTROLS WHETHER INPUT RECORDS OR A DATA BASE ARE INPUT TO THE CPG.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
MI-02 (cont'd)	INVALID OPTION COMMAND	TABONLY/NOTABONLY - CONTROLS WHETHER OR NOT BLANK TABLES SHOULD BE PRINTED. ERRIN/NOERRIN - CONTROLS PLACEMENT OF ERROR MESSAGES IN THE MIRROR REPORT LISTING. FULLTAB/NOFULLTAB - PRODUCES PARTIAL TABLE OUTPUT FOR IMPLEMENTED PECS AND LINES ONLY. PROTO/NOPROTO - PRODUCES ODDB LOAD MODULE IN FORMAT SUITABLE FOR DOWNLOADING TO THE DECPROTOTYPE UTILITY SYSTEM OR THE IBM-PC. THE DEFAULT MODE IS BATCH. THE DEFAULT BATCH OPTIONS ARE: TABLES,NOHALT,SORT,ALT,NOCART,NOTABONLY,ERRIN, NOFULLTAB,NOPROTO THE DEFAULT TSO OPTIONS ARE: NOTABLES,HALT,SORT,NOALT,NOCART,NOTABONLY,ERRIN, NOFULLTAB,NOPROTO RESTRICTIONS : - PANVALET FILE NAMES MUST FOLLOW ALL PANVALET NAMING CONVENTIONS. - THE HALT OPTION CANNOT BE SPECIFIED IN BATCH MODE. THE TITLE CANNOT EXCEED 50 ALPHANUMERIC CHARACTERS. THE SITENO CANNOT EXCEED 6 NUMERIC CHARACTERS. - THE CART OPTION CANNOT BE SPECIFIED WITH ANY OTHER OPTIONS. - THE TABONLY OPTION CANNOT BE SPECIFIED WITH ANY OTHER OPTIONS.
MI-03	INVALID RUN COMMAND	AN INVALID RUN COMMAND HAS BEEN SPECIFIED. THE FOLLOWING COMMANDS ARE AVAILABLE: RUN - RUN A FORWARD PROCESS ON THE ENTIRE INPUT RECORD FILE. RUN RC (,RC) - RUN A FORWARD PROCESS ON THE SELECTED RECORD CODES WHERE 'RC' IS THE RECORD CODE MNEMONIC. RUN (SYNTAX] INTRA] INTER) RC (,RC) RESTRICTIONS: - ALL RECORD CODES SPECIFIED MUST CONTAIN AT LEAST ONE RECORD. INTER CHECKS MUST BE SPECIFIED IF TABLES ARE GENERATED. - INTER CHECKS MUST BE SPECIFIED IF ALTERNATE SORTS ARE GENERATED.

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
MI-04	IINVALID SAVE COMMAND	AN INVALID SAVE COMMAND HAS BEEN SPECIFIED. THE FOLLOWING COMMAND FORMATS ARE AVAILABLE: SAVE - SAVE THE INPUT RECORD FILE IN THE PANVALET FILE SPECIFIED ON THE OPTION 'INREC = '. SAVE 'PANDSN' - SAVE THE INPUT RECORD FILE IN THE PANVALET FILE 'PANDSN'.
MI-07	INVALID REVERSE COMMAND	AN INVALID REVERSE COMMAND HAS BEEN SPECIFIED. THE FOLLOWING COMMANDS ARE AVAILABLE: REVERSE ▪ REVERSE THE ENTIRE INPUT DATA BASE REVERSE RC (RC) ▪ REVERSE ONLY THE SELECTED RECORD CODES WHERE 'RC' IS THE RECORD CODE MNEMONIC.
MI-08	PRINT REQUEST - TABLE NOT FOUND	THE TABLE NAME (TXXXX OR TXXXX-XX) WAS NOT FOUND IN THE CPG LIST OF VALID TABLES FOR THE SVR. THE PRINT REQUEST FOR THE TABLE WAS IGNORED.
MI-09	INREC PARAMETER REQUIRES SITE NO PARAMETER	IN THE OPTIONS STATEMENT, IF THE INREC PARAMETER SPECIFIES A PANVALET INPUT FILE THE SITENO PARAMETER MUST SPECIFY THE SITE ID (JD-NUMBER) OF THE INPUT RECORDS.
MI-10	ABOVE RECORD HAS INCONSISTENT JOB ID. IT HAS BEEN DELETED	THE JOB DRAWING NUMBER (COLUMNS 1-6) OF THE ABOVE RECORD IS DIFFERENT THAN THE JOB DRAWING SERIAL NUMBER ON THE OPTIONS COMMAND.
MI-I 1	ERROR IN SORT OF INPUT RECORD FILE	A SYSTEM ERROR OCCURRED WHEN TRYING TO SORT THE INPUT RECORD FILE. CHECK LISTING FOR ANY JCL ERRORS. BRING LISTING TO CPG SUPPORT GROUP.
MI-I 2	DATA NOT SORTED, INTER CHECKS AND TABLE GENERATION NOT COMPLETE	TO PERFORM ALL INTER CHECKS AND TO GENERATE TABLES, THE INPUT RECORDS MUST BE IN ASCENDING ORDER. IF TABLES ARE TO BE GENERATED, CODE THE SORT OPTION ON THE OPTIONS COMMAND.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
MI-13	KEY CONDITION RAISED WHEN CREATING VSAM FILE	A SYSTEM ERROR OCCURRED WHEN TRYING TO COPY THE INPUT RECORD FILE TO A DIRECT ACCESS FILE. CHECK TO MAKE SURE TWO JOBS WITH THE SAME SITE NUMBER WERE NOT RUNNING AT THE SAME TIME. BRING LISTING TO CPG SUPPORT GROUP.
MI-14	ABOVE RECORD HAS INVALID RECORDCODE - IT HAS BEEN DELETED	THE ABOVE RECORD HAS AN INVALID RECORD CODE. IT WILL NOT BE CHECKED FOR ERRORS.
MI-15	ABOVE RECORD HAS INVALID FORM SEQUENCE NUMBER - IT HAS BEEN DELETED	THE ABOVE RECORD EITHER HAD AN INVALID FORM SEQUENCE NUMBER OR THE RECORD CODE DID NOT CORRESPOND TO THE FORM SEQUENCE NUMBER.
MI-16	DATASET NOT FOUND IN PANVALET LIBRARY	THE DATASET SPECIFIED AS THE INREC NAME WAS NOT FOUND IN THE SPECIFIED PANVALET LIBRARY. CHECK THE INREC NAME FOR CORRECTNESS. CHECK THE LIB PARAMETER IN THE JCL TO MAKE SURE THE CORRECT PANVALET LIBRARY IS BEING SEARCHED.
MK-01	DASHES MUST BE USED CONSISTENTLY IN FIELD	SECURITY CODES DASHES MUST BE CONSISTENT FOR EACH FUNCTION SECURITY CODE.
MK-51	MASTER KEDU NUMBER NOT FOUND	THE MASTER KEDU NUMBER SPECIFIED MUST BE A VALID KEDU NUMBER DEFINED ON A KD RECORD.
MO-01	INVALID CHARACTER PATTERN IN 2ND FIELD	
MO-01	SECOND FIELD MUST BE --- IF FIRST FIELD IS .	USAGE FIELDS - INSTRUCTION/INDEX FIELDS IF A PARTICULAR USAGE FIELD IS DASHED, THEN THE CORRESPONDING INSTRUCTION/INDEX FIELD MUST BE DASHED.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
MO-50	PREFIX INDEX NOT FOUND ON PC FORM	PREFIX INDEX IF A PREFIX INDEX IS SPECIFIED ON AN MO RECORD, THEN IT SHOULD BE SPECIFIED ON A PC RECORD TOO.
MR-01	ELEMENTS HAVE INCOMPATIBLE VALUE	
MR-01	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
MR-01	2ND FEATURE REQUIRED IF FIRST SPECIFIED	
MR-01	VALUE OF SECOND ELEMENT TOO SMALL	
MR-01	VALUE OF SECOND ELEMENT TOO LARGE	ON-NET CODE RESTRICTION ON-NET MERS CODES MUST BE NUMBERED FROM 20 TO 23.
MR-01	INVALID CHARACTER PATTERN IN 2ND FIELD	ON-NET CODE ALLOWABLE VALUES ALLOWABLE VALUES FOR AN ON-NET CODE ARE 'ON1' TO 'ON4'. WHEN 'ON1' TO 'ON4' ARE SPECIFIED, THEN THE CONFLICT CODE MUST BE 'N'.
MR-51	DUPLICATE MERS NPA NUMBER	THE MERS NPA NUMBER MUST BE UNIQUE ACROSS ALL MR RECORDS.
MR-51	ONLY 4 UNIQUE NPAS ALLOWED	ONLY FOUR NPAS ARE ALLOWED IN THE NPA CODE FIELD WITH A LIKE-NPA CODE FIELD OF DASHES. CONSOLIDATE THE NPAS USING THE LIKE NPA. (GENDIG)
MR-52	ALL NPAS CONTAIN CONFLICT CODES	DUE TO TABLE CONSTRAINTS ONLY FOUR SETS OF NPA AND ABC CODES ARE ALLOWED FOR MERS ROUTING. ONE OF THESE TABLES IS USED FOR 3-DIGIT NPA TRANSLATION, SO THE REMAINING THREE TABLES MAY BE USED FOR 6-DIGIT TRANSLATION CONTAINING CONFLICT CODES. CONSOLIDATE THE NPAS USING THE LIKE NPA. (GENDIG)

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
MR-53	DUPLICATE NPA CODE	THE MERS NPA NUMBER OCCURRED ON A PREVIOUS MR RECORD.
MR-55	MERS NPA NOT PREVIOUSLY DEFINED	THE LIKE NPA CODE HAS NOT BEEN SPECIFIED AS A MERS NPA CODE ON A PREVIOUS MR RECORD. THIS CHECK DOES NOT INVOLVE MERS NPAS ON THE MR, NT, OR TD RECORDS. (GENDIG)
MR-56	VALUES MUST BE CONTINUOUS	MERS NPA INDEX GAPS ARE NOT ALLOWED IN THE MERS NPA NUMBER. (ENDCHK)
MR-57	FIELD DOES NOT HAVE REQUIRED VALUE	IF AN MR RECORD INDICATES CONFLICT CODES, THEN MERS 1 + DIALING MUST BE 'Y' ON THE OF RECORD.
MS-01	VALUES TO BE FILLED LEFT TO RIGHT	AUTHORIZATION CODE DIGITS IF THE AUTHORIZATION CODE IS LESS THAN TEN DIGITS, THEN THE DIGITS MUST BE PACKED TO THE LEFT WITH THE REMAINING FIELDS DASHED.
MS-50	MDR WORK GROUP & SCC ID NUMBER DUPLICATED	MDR WORK GROUP - SCC ID NUMBER DUPLICATE MDR WORK GROUP AND SCC ID NUMBER COMBINATION IS NOT ALLOWED.
MS-51	MAXIMUM NUMBER OF UNIQUE AUTHORIZATION CODES EXCEEDED	THE TOTAL NUMBER OF SCC AUTHORIZATION CODES MUST NOT BE GREATER THAN THE SYSTEM LIMIT OF 255. (TABGEN/GENDIG)
MS-51	MDR WORK GROUP NO NOT FOUND ON LD FORM	MDR WORK GROUP NUMBER IF A MDR WORK GROUP IS REFERENCED ON AN MS RECORD, THEN THAT MDR WORK GROUP SHOULD BE DEFINED ON AN LD RECORD.
NA-53	TRUNK GROUP - HAS INVALID N-DISP CLASS OF SERVICE MARK	THE TRUNK GROUP SPECIFIED ON RECORD NA (FROM/TO) MUST CORRESPOND TO A TRUNK GROUP ON RECORD T1, HAVING AN N-DISPLAYABLE CLASS OF SERVICE WHICH INDICATES DATA LINE SECURITY.
NA-54	DUPLICATE TRUNK NUMBER	THE TO OR FROM TRUNK WAS SPECIFIED ON A PREVIOUS NA RECORD.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
NA-55	TRUNK NUMBER NOT FOUND	THE TO OR FROM TRUNK NUMBER MUST BE SPECIFIED ON A TC RECORD.
NA-56	TRUNK IS NOT IN SPECIFIED TRUNK GROUP	THE SPECIFIED TRUNK WAS NOT ENGINEERED IN THE TRUNK GROUP ON A TC RECORD.
NA-57	PEC NUMBER IS NOT EQUIPPED	THE SPECIFIED PEC NUMBER MUST BE MARKED AS EQUIPPED ON THE OE OR OF RECORD.
NA-58	TRUNK MUST HAVE GUARANTEED ACCESS	ANY TRUNK USED IN A NAILED CONNECTION MUST SPECIFY GUARANTEED ACCESS ON RECORD CODE TC.
NA-59	INVALID NAILED CONNECTION	IF ONE TRUNK IN THE NAILED CONNECTION IS A NIC THEN THE OTHER TRUNK MUST BE A DTRK OR NIC.
NA-60	REQUIRED VALUE NOT FOUND ON LISTED FORM	PEC - TRUNK NUMBER EVERY NIC TRUNK MUST APPEAR IN A NAILED CONNECTION ON AN NA RECORD. A NIC AT THE INDICATED PEC AND TRUNK NUMBER APPEARED ON A TC RECORD BUT NO CORRESPONDING NA RECORD WAS ENTERED.
NC-01	ELEMENTS HAVE INCOMPATIBLE VALUE	
NC-01	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
NC-51	DUPLICATE N-DISPLAYABLE CLASS OF SERVICE DATA	N-DISPLAYABLE CLASS OF SERVICE NUMBER MUST BE UNIQUE ACROSS THE NC RECORDS. FOR VIOLATION AND RESTRICTION PATTERNS BETWEEN DISPLAYABLE AND N-DISPLAYABLE CLASSES OF SERVICE, SEE APPENDIX 1.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
NC-54	SILENT MONITOR CARD SM NOT EQUIPPED ON FR	THE STATION SILENT MONITOR ACCESS FIELD REQUIRES A SILENT MONITOR CARD.
ND-51	DUPLICATE N-DISPLAYABLE CLASS OF SERVICE DATA	N-DISPLAYABLE CLASS OF SERVICE NUMBER MUST BE UNIQUE ACROSS THE ND RECORDS. FOR VIOLATION AND RESTRICTION PATTERNS BETWEEN DISPLAYABLE AND N-DISPLAYABLE CLASSES OF SERVICE, SEE APPENDIX 1.
NR-01	SECOND ELEMENT LESS THAN FIRST ELEMENT. SECOND ELEMENT EQUAL FIRST ELEMENT.	IN THE NPA CODE RANGE FIELD THE LAST NPA MUST BE GREATER THAN THE FIRST NPA CODE.
NR-02	DASHES MUST BE USED CONSISTENTLY IN FIELD	IN TIME PERIODS 1 TO 3, THE SENDING INSTRUCTION LIST NUMBER AND THE ROUTING LIST NUMBER MUST BOTH BE DASHES OR BOTH CONTAIN VALID VALUES.
NR-51	CODE RANGE INCLUDES INVALID NPA	THE NPA CODE RANGE FIELDS CONTAIN A THREE DIGIT CODE THAT IS NOT AN NPA CODE. SPLIT THE NPA DATA INTO MULTIPLE NR RECORDS TO AVOID THE INVALID NPA. (GENDIG)
NR-52	SENDING INSTRUCTION NOT DEFINED	A SENDING INSTRUCTION LIST NUMBER USED ON AN NR RECORD WAS NOT DEFINED ON AN SI RECORD.
NR-53	ROUTING LIST NOT DEFINED	A ROUTING LIST NUMBER USED ON AN NR RECORD WAS NOT DEFINED ON AN RP RECORD.
NR-54	DUPLICATE NPA ENTRY	AN NPA CODE SPECIFIED ON THE NR RECORD WAS ALREADY SPECIFIED. (GENDIG
NR-55	NPA CODE SPECIFIED ON MR FORM	AN NPA CODE ON THE NR RECORD WAS ALREADY SPECIFIED AS A 6-DIGIT TRANSLATED NPA CODE ON AN MR RECORD. (GENDIG)

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
NR-56	TIME PERIOD DATA REQUIRED	THE TIME PERIOD WAS SPECIFIED ON A TP RECORD. THEREFORE DATA FOR THE INDICATED TIME PERIOD IS REQUIRED ON THE NR RECORD.
NR-57	TIME PERIOD NOT FOUND	THE NR RECORD SPECIFIED VALUES FOR A TIME PERIOD WHICH WAS NOT SPECIFIED ON A TP RECORD.
NR-58	TIME PERIOD VALUES MUST MATCH ACROSS ALL RECORDS	IF SEVERAL NR AND TR RECORDS HAVE THE SAME SENDING INSTRUCTION LIST NUMBER AND ROUTING LIST NUMBER FOR TIME PERIOD 0, THEY MUST ALSO HAVE IDENTICAL VALUES FOR TIME PERIODS 1, 2, AND 3.
NR-59	ROUTE LIST/SEND INSTR DO NOT HAVE SAME NUMBER OF SELECT ORDERS	A ROUTING LIST SENDING INSTRUCTION COMBINATION DOES NOT MATCH IN THE NUMBER OF SELECT ORDER. IT IS POSSIBLE TO HAVE ERRONEOUS VALUES IN THE ROUTING LIST OR SENDING INSTRUCTIONS IF THEY DO NOT HAVE THE SAME NUMBER OF SELECT ORDERS.
NR-60	# OR * BEING OUTPULSED ON NON-DTMF TRUNK GROUP	A ROUTING LIST SENDING INSTRUCTION COMBINATION ASSOCIATES A TRUNK GROUP (RECORD CODES RP AND T1) WITH AN OUTGOING SIGNALING MODE OF 'DP' OR '--' WITH A PREFIX INDEX (RECORD CODES St, LP AND/ OR PC) THAT SPECIFIES THE OUTPULSING OF DIGITS ' # ' AND/OR ' * '.
NT-01	ELEMENTS HAVE INCOMPATIBLE VALUES	
NT-01	ELEMENT 2 IS MEANINGLESS SPECIFICATION	

Table 21.1   CPG   Error   Messages   (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
NT-01	2ND FEATURE REQUIRED IF FIRST SPECIFIED	TRANSLATION TYPE GIVEN A CERTAIN TRANSLATION TYPE, THE SELECT TRUNK GROUP, THE NUMBER OF DIGITS OUTPULSED, SENDING INSTRUCTION, AND ROUTING LIST FIELDS MUST BE AS FOLLOWS: TRANS- SELECT NO. OF SENDING ROUTING LATION TRUNK DIGITS INSTR LIST TYPE OUTPULSED LOC -- · -- MRS -- · -- TGS 00-63 · -- DGT -- · -- ABC -- · -- TGO 00-63 1-15 -- MRN -- · -- MER -- · 01-31 o-7
NT-02	ELEMENTS HAVE INCOMPATIBLE VALUES	
NT-02	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
NT-02	2ND FEATURE REQUIRED IF FIRST SPECIFIED	MERS ON-NET LIKE NPA FOR ALL TRANSLATION TYPES EXCEPT MRN, THE MERS LIKE NPA FIELD MUST BE DASHES. THE LIKE NPA FIELD MUST BE SPECIFIED FOR TRANSLATION TYPE MRN.
NT-04	SECOND ELEMENT LESS THAN FIRST ELEMENT. SECOND ELEMENT EQUALS FIRST ELEMENT.	IN THE CODE RANGE FIELDS THE SECOND CODE IS LESS THAN OR EQUAL TO THE FIRST CODE.
NT-51	DUPLICATE TRANSLATION ENTRY NUMBER	THE TRANSLATION ENTRY NUMBER MUST BE UNIQUE.

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
NT-52	FIELD CONFLICTS WITH TRUNK APPLICATION	THE TRUNK APPLICATION CANNOT BE DIC, PAG, REC OR NIC.
NT-53	TRUNK GROUP NOT FOUND	THE SELECT TRUNK GROUP MUST BE FOUND ON THE T1 RECORD.
N T - 5 4	DUPLICATE ABC ENTRY	THE CODE RANGES SPECIFIED MUST BE UNIQUE ACROSS ALL NT RECORDS. (GENDIG)
NT-54	DUPLICATE NPA/OFFICE/SE RVICE CODE	THE NPA OR OFFICE CODE MUST BE UNIQUE ACROSS ALL NT RECORDS.
NT-55	MERS NPA OR ON-NET CODE NOT ON MR FORM	THE NPA SPECIFIED IN THE LIKE NPA MUST BE FOUND ON THE MR RECORD. (GENDIG)
NT-56	TIME PERIOD DATA REQUIRED	THE TIME PERIOD WAS SPECIFIED ON A TP RECORD. THEREFORE DATA FOR THE INDICATED TIME PERIOD IS REQUIRED ON THE NT RECORD.
NT-57	TIME PERIOD NOT FOUND	THE NT RECORD SPECIFIED VALUES FOR A TIME PERIOD WHICH WAS NOT SPECIFIED ON A TP RECORD.
NT-58	TIME PERIOD VALUES MUST MATCH ACROSS ALL RECORDS	IF SEVERAL NT, NR, AND TR RECORDS HAVE THE SAME SENDING INSTRUCTION LIST NUMBER AND ROUTING LIST NUMBER FOR TIME PERIOD 0, THEY MUST ALSO HAVE IDENTICAL VALUES FOR TIME PERIODS 1, 2, AND 3.
NT-59	ROUTE LIST/SEND INSTR DO NOT HAVE SAME NUMBER OF SELECT ORDERS	A ROUTING LIST SENDING INSTRUCTION COMBINATION DOES NOT MATCH IN THE NUMBER OF SELECT ORDER. IT IS POSSIBLE TO HAVE ERRONEOUS VALUES IN THE ROUTING LIST OR SENDING INSTRUCTIONS IF THEY DO NOT HAVE THE SAME NUMBER OF SELECT ORDERS.
NT-61	ONLY 4 UNIQUE NPAS ALLOWED	ONLY FOUR UNIQUE NPAS ARE ALLOWED BETWEEN MR, NT, AND TD RECORDS. (GENDIG)
NT-62	SENDING INSTRUCTION LIST NOT FOUND	THE SENDING INSTRUCTION LIST MUST BE ENGINEERED ON RECORD CODES.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
NT-63	ROUTE LIST NOT FOUND	THE ROUTING LIST MUST BE ENGINEERED ON AN RP RECORD.
NT-64	# OR * BEING OUTPULSED ON NON-DTMF TRUNK GROUP	A ROUTING LIST SENDING INSTRUCTION COMBINATION ASSOCIATES A TRUNK GROUP (RECORD CODES RP AND T1) WITH AN OUTGOING SIGNALING MODE OF 'DP' OR '--' WITH A PREFIX INDEX (RECORD CODES SI, LP AND/ OR PC) THAT SPECIFIES THE OUTPULSING OF DIGITS ' # ' AND/OR ' * '.
OC-04	DASHES MUST BE USED CONSISTENTLY IN FIELD	PEC - GROUP - CARD SLOT - EQUIP STATUS DASHES MUST BE USED CONSISTENTLY ACROSS THE ENTIRE PHYSICAL LOCATION (PEC, GROUP, CARD SLOT, AND EQUIPMENT STATUS) FOR MUSIC-ON-HOLD. IF ANY OF THESE FIELDS CONTAIN DASHES, THEN ALL SHOULD BE DASHES. SIMILARLY, IF ONE IS NON-DASHED, THEN ALL MUST BE NON-DASHED.
OC-54	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH FCN OF INCOMING CARD	
OC-54	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH INCOMING CARD TYPE	
oc-54	FUNCTION OF CARD NOT ALLOWED FOR CARD TYPE DEFINED ON FORM FR	PHYSICAL LOCATION THE PEC, GROUP, SLOT AND CIRCUIT FUNCTION SPECIFIED MUST BE VALID FOR THE CARD TYPE DEFINED ON FR (FOR THIS PEC TYPE). THE MUSIC ON HOLD CIRCUIT MUST APPEAR ON A POTS OR OFFP LINE CARD. (PHYLOC) IF THE CARD TYPE IN THE MESSAGE IS "OVER", THAT INDICATES THAT A CARD IN THE PREVIOUS LOCATION IS A WIDE CARD AND IT OVERHANGS INTO THIS PYHSICAL LOCATION ON FR.
oc-54	NONEXISTENT PHYSICAL LOCATION	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED MUST BE VALID FOR THIS PEC TYPE. (PHYLOC)

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
OC-54	PHYSICAL LOCATION NOT DEFINED ON RECORD CODE FR	PHYSICAL LOCATION THE PEC, GROUP, AND SLOT SPECIFIED MUST BE DEFINED ON FR. (PHYLOC)
OC-54	PHYSICAL LOCATION PREVIOUSLY FILLED	PHYSICAL LOCATION THE PEC, GROUP, SLOT AND CIRCUIT SPECIFIED FOR THE MUSIC ON HOLD CIRCUIT MUST BE UNIQUE. (PHYLOC)
OC-54	CARD OVERHANGS INTO A PREVIOUSLY FILLED SLOT	THIS CARD IS AN OVERSIZED CARD AND IS TRYING TO FILL TWO SLOTS. OF THE TWO SLOTS IT FILLS, THE RIGHT HAND ONE HAS ALREADY BEEN FILLED.
OC-54	PREVIOUS CARD OVERHANGS INTO THIS SLOT	THE CARD TO THE LEFT OF THIS SLOT IS AN OVERSIZED CARD. THE RIGHT HALF OF THAT CARD FILLS THIS SLOT.
OC-55	PEC NUMBER	THE PEC NUMBER SPECIFIED MUST BE MARKED EQUIPPED ON THE OE RECORD.
OC-71	LINE CARD NOT FOUND	THE MUSIC ON HOLD CIRCUIT IS CONSIDERED A LINE CIRCUIT. A LINE CARD FOR THE MUSIC ON HOLD CIRCUIT WAS NOT SPECIFIED ON AN FR RECORD (PHYLOC)
OD-01	VALUE OF SECOND ELEMENT TOO LARGE	

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES

OD-01 ...	VALUE OF SECOND ELEMENT TOO SMALL (INVALID NUMBER OF DIGITS TO OUTPULSE) ..	TYPE - IDENTIFIER
		FOR EACH TYPE, THE IDENTIFIER MUST BE IN THE APPROPRIATE RANGE AS THE FOLLOWING CHART INDICATES.
		
		   TYPE IDENTIFIER RANGE
		   ------ ----------
		   RMA 0000
		   VMS 0000-0063 TRUNK GROUP
		   SPD 0001-0008 SPEED CALL LIST ENTRY
		   MDU 0000-0063 TRUNK GROUP
		   TGS 0000-0063 TRUNK GROUP
		   TGO XXW WHERE XX = 00-15 NUMBER OF DIGITS OUTPULSED, YY = 00-63 TRUNK GROUP

OD-50	**CLASS** OF SERVICE NOT SPECIFIED ON OF FOR REMOTE ACCESS	CLASS OF SERVICE EITHER THE N-DISPLAYABLE CLASS OF SERVICE OR THE DISPLAYABLE CLASS OF SERVICE (OR BOTH) SHOULD BE SPECIFIED ON THE RECORD OF WHEN A REMOTE ACCESS DIRECTORY NUMBER IS SPECIFIED ON AN OD RECORD.
OD-51	ONLY ONE TRUNK GRP PER SYSTEM IS ALLOWED FOR THE VMS/MDU FEATURE	TYPE - IDENTIFIER TYPES 'VMS' AND 'MDU' MUST HAVE THE SAME IDENTIFIER (TRUNK GROUP NUMBER).
OD-52	AN N-DISP. COS OF VM SPECIFIED ON NC REQUIRES A VMS DIR. NUMBER	N-DISPLAYABLE COS - TYPE IF ANY NC RECORD SPECIFIES A CLASS OF SERVICE OF VM, THEN A VMS DIRECTORY NUMBER MUST BE DEFINED ON AN RECORD OD. (ENDCHK)
OD-53	A DIV. DEST. OF VM SPECIFIED ON LD REQUIRES A VMS DIR. NO. ON OD	DIVERT DESTINATION - TYPE IF ANY LD RECORD SPECIFIES A DIVERT DESTINATION OF 'VM', THEN A VMS DIRECTORY NUMBER MUST BE DEFINED ON AN OD RECORD. (ENDCHK)
OE-02	REQUIRED VALUE NOT FOUND ON LISTED FORM	PEC FIELDS AT LEAST ONE PEC MUST BE MARKED AS EQUIPPED. (ENDCHK)

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
OE-51	IF ESP IS EQUIPPED ON OE, PORT 1 ON MT MUST BE PRESENT	
OE-5-I	REQUIRED DATA NOT FOUND .	IF THE ESP IS EQUIPPED ON THE OE RECORD, THEN AN MT RECORD WITH PORT 1 MUST BE PRESENT. (ENDCHK)
OE-52	IF ESP IS EQUIPPED ON OE, TRANS. RATE ON MT MUST BE 2400	
OE-52	FIELD DOESN'T HAVE REQUIRED VALUE	IF THE ESP IS EQUIPPED ON THE OE RECORD, THEN THE TRANSMISSION RATE FOR PORT 1 ON THE MT RECORD MUST BE 2400 BAUD. (ENDCHK)
OE-53	IF ESP IS EQUIPPED ON OE, MDR PORT 1 ON MD MUST BE SPECIFIED	
OE-53	FIELD DOESN'T HAVE REQUIRED VALUE	IF THE ESP IS EQUIPPED ON THE OE RECORD, THEN THE MDR PORT 1 ON MD MUST BE SPECIFIED ON THE MD RECORD. (ENDCHK)
OF-09	DASHES MUST BE USED CONSISTENTLY IN FIELD	CAMP-ON/CALL WAITING TONE - CAMP-ON TONE TYPE IF CAMP-ON/CALL WAITING TONE IS DASHED, THEN THE CAMP-ON TONE TYPE MUST BE DASHES.
OF-I 0	REQUIRED VALUE NOT FOUND ON LISTED FORM	AT LEAST ONE PEC MUST BE MARKED AS EQUIPPED. (ENDCHK)
OF-I 1	SECOND ELEMENT CONTAINS INVALID VALUE	TRAVELING CLASS MARK - FRL AUTHORIZATION CODE NUMBER OF DIGITS. IF THE TRAVELING CLASS MARK FIELD IS DASHED, THEN THE FRL AUTHORIZATION CODE NUMBER OF DIGITS MUST BE DASHED.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
OF-12	SECOND ELEMENT CONTAINS INVALID VALUE	TRAVELING CLASS MARK - DEFAULT FRL ON MERS QUEUE TIMEOUT. IF THE TRAVELING CLASS MARK FIELD IS DASHED, THEN THE DEFAULT FRL ON MERS QUEUE TIMEOUT VALUES MUST BE DASHED.
OT-01	SECOND ELEMENT LESS THAN FIRST ELEMENT	SECOND ELEMENT EQUALS FIRST ELEMENT THE MAXIMUM HOOKSWITCH TIMING VALUE MUST BE GREATER THAN OR EQUAL TO THE MINIMUM HOOKSWITCH TIMING VALUE.
OV-01	SECOND ELEMENT EQUALS FIRST ELEMENT	
OV-01	SECOND ELEMENT LESS THAN FIRST ELEMENT	LONG TIMING VALUE - SHORT TIMING VALUE THE LONG TIMING VALUE MUST EXCEED THE SHORT TIMING VALUE.
OV-50	NCC PORT USAGE NOT SPECIFIED ON OE	NCC OUTPUT SCAN TIME INTERVAL WHEN THE NCC OUTPUT SCAN TIME INTERVAL IS SPECIFIED, THEN THE NCC PORT USAGE SHOULD BE SPECIFIED ON THE OE RECORD.
OV-50	TIME INTERVAL OUTPUT SCAN NOT SPECIFIED	WHEN THE NCC PORT USAGE IS SPECIFIED ON THE OE RECORD, THEN THE NCC OUTPUT SCAN TIME INTERVAL SHOULD BE SPECIFIED ON THE OV RECORD.
PC-01	VALUES TO BE FILLED LEFT TO RIGHT	PREFIX DIGITS IF THERE ARE LESS THAN THE MAXIMUM ALLOWED PREFIX DIGITS, THEN THE DIGITS MUST PACKED TO THE LEFT WITH THE REMAINING FIELDS DASHED.
PC-02	SECOND ELEMENT CONTAINS INVALID VALUE	PREFIX DIGITS IF ANY PREFIX DIGIT IS AN 'E', THEN THE NEXT PREFIX DIGIT MUST BE '0' OR '1'.
PC-03	A CHAR D MUST BE FOLLOWED BY TWO DIGITS IN THE RANGE 00 TO 99	PREFIX DIGITS IF ANY PREFIX DIGIT IS A 'D', THEN THE NEXT TWO PREFIX DIGITS MUST BE IN THE RANGE 00 TO 99.

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
PC-04	ELEMENTS HAVE INCOMPATIBLE VALUES	
PC-04	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
PC-04	2ND FEATURE REQUIRED IF FIRST SPECIFIED	RESTRICTION INDICATOR - PREFIX DIGITS IF AT LEAST ONE PREFIX DIGIT IS AN 'A', 'D', OR 'E', THEN RESTRICTION INDICATOR CANNOT BE DASHED.
PC-50	PREFIX INDEX DUPLICATED	PREFIX INDEX MUST BE UNIQUE ACROSS PC RECORDS.
PD-51	TOO MANY UNIQUE KEDU OR PRINTER CARD ADDRESSES	ONLY TWO PRINTER CIRCUITS MAY APPEAR IN A CARD SLOT. IF ONE KEDU CIRCUIT HAS BEEN PLACED IN THE SAME CARD SLOT, THEN ONLY ONE PRINTER CIRCUIT MAY BE PLACED IN THAT CARD SLOT. (TABGEN/GENMIS)
PD-52	INVALID FIELD(S) FOR PMS PRINTER	THE PRINTER ON THE SAME CARD AS THE PMS KEDU MUST HAVE A BAUD RATE OF 1200, NO PARITY, AND 2 STOP BITS. (PHYLOC)
PD-52	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH FCN OF INCOMING CARD	
PD-52	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH INCOMING CARD TYPE	

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
PD-52	FUNCTION OF CARD NOT ALLOWED FOR CARD TYPE DEFINED ON FORM FR	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT FUNCTION SPECIFIED MUST BE VALID FOR THE CARD TYPE DEFINED ON FR (FOR THIS PEC TYPE). PRINTER CIRCUIT MUST APPEAR ON A KEDU CARD. (PHYLOC) IF THE CARD TYPE IN THE MESSAGE IS "OVER", THAT INDICATES THAT A CARD IN THE PREVIOUS LOCATION IS A WIDE CARD AND IT OVERHANGS INTO THIS PYHSICAL LOCATION ON FR.
PD-52	NONEXISTENT PHYSICAL LOCATION	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED MUST BE VALID FOR THIS PEC TYPE. (PYHLOC)
PD-52	PHYSICAL LOCATION NOT DEFINED ON RECORDCODE F R	PHYSICAL LOCATION THE PEC,GROUP AND SLOT SPECIFIED MUST BE DEFINED ON FR. (PHYLOC)
PD-52	PHYSICAL LOCATION PREVIOUSLY FILLED	PHYSICAL LOCATION THE PEC, GROUP, SLOT AND CIRCUIT SPECIFIED FOR THE PRINTER CIRCUIT MUST BE UNIQUE. (PHYLOC)
PD-52	C A R D OVERHANGS INTO A PREVIOUSLY FILLED SLOT	THIS CARD IS AN OVERSIZED CARD AND IS TRYING TO FILL TWO SLOTS. OF THE TWO SLOTS IT FILLS, THE RIGHT-HAND ONE HAS ALREADY BEEN FILLED.
PD-52	PREVIOUS C A R D OVERHANGS INTO THIS SLOT	THE CARD TO THE LEFT OF THIS SLOT IS AN OVERSIZED CARD. THE RIGHT HALF OF THAT CARD FILLS THIS SLOT.
PD-53	DUPLICATE PRINTER NUMBER	PRINTER NUMBER THE PRINTER NUMBER MUST BE UNIQUE ACROSS ALL PD RECORDS.
PD-54	PEC NUMBER IS NOT EQUIPPED	PEC NUMBER THE PEC NUMBER SPECIFIED MUST BE MARKED EQUIPPED ON THE OE RECORD.

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
PN-53	PNA PILOT NUMBER NOT PREVIOUSLY ENTERED	THE PNA PILOT NUMBER MUST BE DEFINED AS ONE OF THE FOLLOWING: 1. A VALID LINE (ROOM) NUMBER ON AN LD RECORD. 2. A VALID REMOTE ACCESS DIRECTORY NUMBER ON AN OD OR OF RECORD. 3. A VALID RLT DIRECTORY NUMBER ON AN RC RECORD. 4. A VALID PILOT NUMBER ON AN HG RECORD. 5. A VALID MESSAGE DESK UNATTENDED DIRECTORY NUMBER ON AN OD RECORD. (ENDCHK)
PN-54	DUPLICATE PNA DESTINATION NUMBER	THE PNA DESTINATION NUMBER MUST BE UNIQUE ACROSS ALL PN RECORDS.
PN-55	AN MDU DIR. NO. ON OD MUST APPEAR ON RECORD CODE PN	PILOT NUMBER THE MDU DIRECTORY NUMBER ON AN OD RECORD IS A SPECIAL APPLICATION OF A PREDETERMINED NIGHT ANSWER PILOT NUMBER AND THEREFORE MUST BE DEFINED ON A PN RECORD. (ENDCHK)
PZ-52	FIELD CONFLICTS WITH LISTED FIELD	IF THE ATTENDANT PAGING AREA FIELDS ARE NOT DASHED, THEN ATTENDANT PAGING FIELD ON THE CA RECORD MUST BE 'Y'.
PI-51	IF ADMP PORT TIMEOUT IS SPECIFIED, AN ADMP PORT MUST BE DEFINED ON CP	USER INTERFACE PACKAGE TIMEOUT IS SPECIFIED ON P1, AN ADMP PORT MUST BE DEFINED ON CP. (ENDCHK)
P2-51	DUPLICATE ADMP DUMP TYPE	ADMP DUMP TYPE THE ADMP DUMP TYPE MUST BE UNIQUE ACROSS ALL P2 RECORDS.
RA-01	ELEMENTS HAVE INCOMPATIBLE VALUES	
RA-01	ELEMENT 2 IS MEANINGLESS SPECIFICATION	

Table 21.1   CPG   Error   Messages   (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
RA-01	2ND FEATURE REQUIRED IF FIRST SPECIFIED	WHEN THE PEC IS SPECIFIED FOR RECORDER ANNOUNCER (RA #1 - RA #3) OR ALTERNATE RECORDER ANNOUNCER (ALT RA #1 - ALT RA #3), THE TRUNK NUMBER SHOULD ALSO BE SPECIFIED. IF THE PEC IS DASHED, THEN THE TRUNK NUMBER SHOULD ALSO BE DASHED.
RA-52	REQUIRED VALUE NOT FOUND ON LISTED FORM	A RECORDER ANNOUNCER EQUIPPED ON AN RA RECORD MUST APPEAR ON A TC RECORD WITH AN APPLICATION OF 'REC' ON A T1 RECORD.
RA-52	REFERENCED TRUNK IS NOT A RECORDER ANNOUNCER	THE TRUNK SPECIFIED SHOULD BE A MEMBER OF A TRUNK GROUP OF THE TYPE, RECORDER ANNOUNCER, ON THE T1 RECORD.
RA-53	PEC NUMBER IS NOT EQUIPPED	THE SPECIFIED PEC MUST BE MARKED AS EQUIPPED ON THE OE RECORD.
RC-51	DUPLICATE RLT NUMBER	RELEASE LINK TRUNK NUMBER MUST BE UNIQUE ACROSS RC RECORDS.
RC-52	PHYSICAL LOCATION	EACH RELEASE LINK TRUNK (RLT) NUMBER MUST HAVE A UNIQUE PHYSICAL LOCATION.
RC-52	NONEXISTENT PHYSICAL LOCATION	THE CARD SLOT WAS ASSIGNED TO A NONEXISTENT PHYSICAL LOCATION.
RC-52	CARD OVERHANGS INTO A PREVIOUSLY FILLED SLOT	THIS CARD IS AN OVERSIZED CARD AND IS TRYING TO FILL TWO SLOTS. OF THE TWO SLOTS IT FILLS, THE RIGHT HAND ONE HAS ALREADY BEEN FILLED.
RC-52	PREVIOUS CARD OVERHANGS INTO THIS SLOT	THE CARD TO THE LEFT OF THIS SLOT IS AN OVERSIZED CARD. THE RIGHT HALF OF THAT CARD FILLS THIS SLOT.
RC-54	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH FCN OF INCOMING CARD	

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
RC-54	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH INCOMING CARD TYPE	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT FUNCTION SPECIFIED MUST BE VALID FOR THE CARD TYPE DEFINED ON FR (FOR THIS PEC TYPE). AN RLT CIRCUIT MUST APPEAR ON AN RLT OR ERLT CARD. (PHYLOC)
RC-54	FUNCTION OF' CARD NOT ALLOWED FOR CARD TYPE DEFINED ON FORM FR	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED MUST BE VALID FOR THE CARD TYPE DEFINED ON FR (FOR THIS PEC TYPE). AN RLT CIRCUIT MUST APPEAR ON AN RLT, ERLT, DTRK OR T1IN CARD. (PHYLOC) IF THE CARD TYPE IN THE MESSAGE IS "OVER", THAT INDICATES THAT A CARD IN THE PREVIOUS LOCATION IS A WIDE CARD AND IT OVERHANGS INTO THIS PHYSICAL LOCATION ON FR.
RC-54	NONEXISTENT PHYSICAL LOCATION	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED MUST BE VALID FOR THIS PEC TYPE. (PHYLOC)
RC-54	PHYSICAL LOCATION NOT DEFINED ON RECORD CODE FR	PHYSICAL LOCATION THE PEC, GROUP, AND SLOT SPECIFIED MUST BE DEFINED ON AN FR RECORD. (PHYLOC)
RC-54	PHYSICAL LOCATION PREVIOUSLY FILLED	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED FOR THE RLT CIRCUIT MUST BE UNIQUE. (PHYLOC)
RC-54	PEC NUM'BER IS NOT EQUIPPED ON THE OE FORM	THE PEC NUMBER SPECIFIED MUST BE MARKED EQUIPPED ON THE OE RECORD.
RC-55	PEC NUMBER IS NOT EQUIPPED	THE PEC NUMBER SPECIFIED MUST BE MARKED EQUIPPED ON THE OE RECORD.
RN-01	VALUE OF SECOND ELEMENT TOO SMALL	

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES		
RN-01	VALUE OF SECOND ELEMENT TOO LARGE	CODE TYPE - CODE TYPE IDENTIFIER FOR EACH VALUE OF CODE TYPE, REQUIRED VALUES OR VALUE RANGES ARE INDICATED AS FOLLOWS: CODE TYPE CODE TYPE IDENTIFIER ---- ---------- INT 0-1 5 3DG 0-9, 12 4DG 15		
RN-51	DUPLICATE LINE(ROOM) NUMBER 1ST DIGIT	THE ROOM NUMBER 1ST DIGIT MUST BE UNIQUE ACROSS ALL RN RECORDS.		
RN-52	INTERCEPT ROUTING CODE NOT FOUND	IF THE CODE TYPE IS 'INT', THEN THE CODE TYPE IDENTIFIER MUST BE A VALID INTERCEPT ROUTING NUMBER ON AN IR RECORD.		
RP-01	ELEMENT 2 IS MEANINGLESS SPECIFICATION			
RP-01	ELEMENTS HAVE INCOMPATIBLE VALUES'			
RP-01	2ND FEATURE REQUIRED IF FIRST SPECIFIED			
RP-01	VALUE OF SECOND ELEMENT TOO LARGE			
RP-01	RP-01 VALUE OF SECOND ELEMENT TOO SMALL	VALUE OF TRUNK GROUP TYPE OR INTERCEPT		VALUE OF TRUNK GROUP NUMBER OR INTERCEPT ROUTING NUMBER
		INT		00-I 5
		COT,FXT,TIE,WTS,SCC		00-31 OR 00-63 DEPENDS ON SVR
		LOC, DGT --		

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
RP-03	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
RP-03	ELEMENTS HAVE INCOMPATIBLE VALUES	DESTINATION TYPE - MERS SCC ID IF THE DESTINATION TYPE IS 'SCC', THEN THE MERS SCC ID FIELD CANNOT BE DASHED. SIMILARILY, IF THE DESTINATION TYPE IS NOT 'SCC', THEN THE MERS SCC ID FIELD MUST BE DASHED.
RP-51	ROUTING LIST NOT USED	ROUTING LIST NUMBER THE ROUTING LIST NUMBER DEFINED ON AN RP RECORD SHOULD BE REFERENCED ON AN NR, NT, ST OR TR RECORD. (ENDCHK)
RP-52	DUPLICATE ROUTING LIST/SELECT ORDER	ROUTING LIST - SELECT ORDER THE ROUTING LIST/SELECT ORDER COMBINATION MUST BE UNIQUE ACROSS ALL RP RECORDS.
RP-53	INTERCEPT ROUTING CODE NOT FOUND	
RP-53	TRUNK GROUP NOT FOUND	DESTINATION IDENTIFIER ALL TRUNK GROUP NUMBERS MUST APPEAR ON A T1 RECORD. ALL INTERCEPT ROUTING NUMBERS MUST APPEAR ON AN IR RECORD.
RP-55		SELECT ORDER SELECT ORDERS MUST BE CONTINUOUS WITH NO GAPS FOR EACH ROUTING LIST. (ENDCHK)
RP-60	SCC NUMBER MUST BE ENGINEERED ON MS RECORD	MERS SCC ID NUMBER THE MERS SCC ID NUMBER MUST BE DEFINED ON AN MS RECORD.
RP-61	FOR GIVEN DEST. TYPE, MERS FIELDS ON T2 CANNOT BE DASHED	DESTINATION TYPE - DESTINATION IDENTIFIER FOR DESTINATION TYPES 'COT', 'FXT', 'TIE', 'WTS', AND 'SCC', THE FOLLOWING MERS FIELDS ON A T2 RECORDCANNOTBEDASHED: 1. MERS PAUSE VALUE - ESCAPE 2. MERS PAUSE VALUE - TOLL BARRIER CODE 3. MERS PAUSE VALUE - SEIZURE 4. MERS QUEUE ALLOWED

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
RP-62	REQUIRED VALUE NOT FOUND ON LISTED FORM	DESTINATION TYPE - DESTINATION IDENTIFIER FOR DESTINATION TYPE 'SCC', THE DESTINATION TYPE IDENTIFIER MUST BE A VALID TRUNK GROUP WITH AN APPLICATION TYPE OF 'COT', 'FXT', 'TIE', OR 'WTS' ON A T1 RECORD.
RP-63	SUPY OUTGOING SIGNAL OF SO NOT ALLOWED	DESTINATION TYPE - DESTINATION IDENTIFIER THE DESTINATION TRUNK GROUP USED FOR MERS CANNOT HAVE SUPERVISORY OUTGOING SIGNAL OF 'SO' ON RECORD CODE TC.
RT-01	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
RT-01	ELEMENTS HAVE INCOMPATIBLE VALUES	
RT-01	2ND FEATURE REQUIRED IF FIRST SPECIFIED	USAGE FIELD - PRIMARY X.25 ROUTE DESTINATION IF THE USAGE FIELD IS IN A RANGE OF '00' TO '03', THEN THE PRIMARY DESTINATION FIELDS CANNOT BE DASHED. IF THE USAGE FIELD IS IN A RANGE OF '04' TO '07', THEN THE PRIMARY DESTINATION FIELDS MUST BE DASHED.
RT-02	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
RT-02	ELEMENTS HAVE INCOMPATIBLE VALUES	
RT-02	2ND FEATURE REQUIRED IF FIRST SPECIFIED	USAGE FIELD - SECONDARY X.25 ROUTE DESTINATION IF THE USAGE FIELD IS '01' OR '02', THEN THE SECONDARY DESTINATION FIELDS CANNOT BE DASHED. IF THE USAGE FIELD IS NOT '01' OR '02', THEN THE SECONDARY DESTINATION FIELDS MUST BE DASHED.
RT-03	INVALID CHARACTER STRING	X.1 21 ADDRESS IF THE X.121 ADDRESS IS LESS THAN 14 DIGITS, THEN THE DIGITS MUST BE PACKED TO THE LEFT WITH THE REMAINING FIELDS DASHED.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
RT-04	DASHES MUST BE USED CONSISTENTLY IN FIELD	
RT-04	INVALID CHARACTER PATTERN IN 2ND FIELD	PRIMARY X.25 ROUTE DESTINATION SECONDARY X.25 ROUTE DESTINATION DASHES MUST BE USED CONSISTENTLY ACROSS THE ENTIRE PHYSICAL LOCATION (PEC, GROUP, CARD SLOT, AND CIRCUIT). IF ANY OF THE FIELDS ARE DASHED, THEN ALL MUST BE DASHED. IF ONE OF THE FIELDS IS NON-DASHED, THEN ALL MUST BE NON-DASHED.
RT-51	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH FCN OF INCOMING CARD	
RT-51	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH INCOMING CARD TYPE	
RT-51	FUNCTION OF CARD NOT ALLOWED FOR CARD TYPE DEFINED ON FORM FR	PRIMARY/SECONDARY X.25 ROUTE DESTINATIONS THE PEC, GROUP, SLOT AND CIRCUIT FUNCTION SPECIFIED MUST BE VALID FOR THE CARD TYPE DEFINED ON FR (FOR THIS PEC TYPE). FOR USAGE 00 AND 01, THE PRIMARY X.25 ROUTE DESTINATION MUST APPEAR ON A VPLO, VPL1, VP20 (VOICE AND DATA OR DATA), VP21 OR NIC CARD. FOR USAGE 02, THE PRIMARY AND SECONDARY X.25 ROUTE DESTINATION MUST APPEAR ON A VPLO, VPL1, VP20 (VOICE AND DATA OR DATA), VP21 OR NIC CARD. FOR USAGE 03, THE PRIMARY X.25 ROUTE DESTINATION MUST APPEAR ON AN ADMP CARD. (PHYLOC) IF THE CARD TYPE IN THE MESSAGE IS "OVER", THAT INDICATES THAT A CARD IN THE PREVIOUS LOCATION IS A WIDE CARD AND IT OVERHANGS INTO THIS PHYSICAL LOCATION ON FR.

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
RT-51	NONEXISTENT PHYSICAL LOCATION	PRIMARY/SECONDARY X.25 ROUTE DESTINATIONS THE PEC, GROUP, SLOT AND CIRCUIT SPECIFIED MUST BE VALID FOR THIS PEC TYPE.
RT-51	PHYSICAL LOCATION NOT DEFINED ON RECORD CODE F R	PRIMARY/SECONDARY X.25 ROUTE DESTINATIONS THE PEC, GROUP AND SLOT SPECIFIED MUST BE DEFINED ON AN FR RECORD.. (PHYLOC)
RT-51	DUPLICATE ROUTE NUMBER	ROUTE NUMBER. THE ROUTE NUMBER MUST BE UNIQUE ACROSS ALL RT RECORDS.
RT-53	NO. OF ROUTES DEFINED ON RT CANNOT EXCEED MAX ROUTES DEFINED ON C1	THE C1 RECORD DEFINES THE MAXIMUM NUMBER OF ROUTES WHICH CAN BE DEFINED FOR A SYSTEM. (ENDCHK)
RT-58	ONLY ONE ADMP X121 ADDR MAY BE SPECIFIED	X.1 21 ADDRESS THE X.121 ADDRESS FOR THE ADMP MUST BE LIMITED TO ONE. ADMP CAN ONLY HAVE ONE ROUTE. (ADMPCK)
RT-59	AN ADMP CARD MUST BE DEFINED ON RECORDCODE F R	USAGE FIELD IF ADMP IS SPECIFIED FOR THE USAGE FIELD OF DATA SYSTEM ROUTING DATA, THEN AN ADMP CARD MUST BE DEFINED ON FR. (ADMPCK)
RT-64	ADMP NOT SPECIFIED ON R T	USAGE FIELD-CARD TYPE IF THE CARD TYPE ADMP IS DEFINED ON RECORD CODE FR THEN AN ADMP MUST BE SPECIFIED ON RT.
SA-5 1	DTMF RECEIVERS NOT EQUIPPED ON RECORD CODE F R	SELF-EXPLANATORY
SA-51	DUPLICATE SCC NUMBER	THE SCC NUMBER WAS SPECIFIED ON A PREVIOUS SA RECORD.
SD-01	DASHES MUST BE USED CONSISTENTLY IN FIELD	SECONDARY DIRECTORY NUMBERS THESE FIELDS MUST BE FILLED FROM LEFT TO RIGHT, WITH DASHES BEING CONSISTENT.

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
SD-51	CLASS OF SERVICE NOT DEFINED	PRIMARY DIRECTORY NUMBER - CLASS OF SERVICE THE PRIMARY DIRECTORY NUMBER MUST HAVE AN N-DISPLAYABLE CLASS OF SERVICE WITH 'SD' (CAS SECONDARY NUMBER) SPECIFIED. (GENLIN)
SD-51	DIRECTORY NUMBER NOT FOUND	PRIMARY DIRECTORY NUMBER THIS NUMBER MUST BE A VALID DIRECTORY NUMBER APPEARING ON AN LD RECORD. (GENLIN)
SD-54	REQUIRED DATA NOT FOUND	A LINE NUMBER WAS FOUND ON AN LD RECORD WITH A CLASS OF SERVICE SPECIFYING SECONDARY DIRECTORY NUMBER, BUT THE LINE NUMBER DID NOT APPEAR AS THE PRIMARY DIRECTORY NUMBER ON AN SD RECORD. (GENLIN)
SI-01	ELEMENTS HAVE INCOMPATIBLE VALUES	SKIP - OTHER FIELDS IF THE VALUE 'SK' IS SPECIFIED FOR THE SKIP FIELD THEN ALL FIELDS TO THE RIGHT OF THE SKIP FIELD MUST CONTAIN DASHES.
SI-51	DUPLICATE SENDING INST./SELECT ORDER	SENDING INST - SELECT ORDER THE SENDING INSTRUCTION/SELECT ORDER COMBINATION MUST BE UNIQUE ACROSS ALL SI RECORDS.
SI-52	SENDING INST NOT USED ON TR, NR, OR ST FORM	
SI-52	SENDING INST. NOT USED	SENDING INSTRUCTION A SENDING INSTRUCTION LIST NUMBER WHICH IS SPECIFIED ON AN SI RECORD SHOULD BE REFERENCED ON A NR, NT, ST OR TR RECORD. (ENDCHK)
SI-53	VALUES MUST BE CONTINUOUS	SELECT ORDER SELECT ORDERS MUST BE CONTINUOUS WITH NO GAPS FOR EACH SENDING INSTRUCTION LIST. (ENDCHK)
SI-60	PREFIX INDEX NOT FOUND	THE PREFIX INDEX REFERENCED ON THE SI RECORD MUST BE DEFINED ON A PC RECORD.
SI-61	PREFIX INDEX NOT FOUND	THE LDN PREFIX INDEX REFERENCED ON THE SI RECORD MUST BE DEFINED ON AN LP RECORD.

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
SI-62	FRL MUST BE SPECIFIED	FRLS HAVE BEEN EQUIPPED FOR THIS SYSTEM ON RECORD CODE OF AND MUST THEREFORE BE SPECIFIED FOR EVERY MERS ROUTE ON RECORD CODE SI.
SI-62	INCONSISTENT ENGINEERING OF FRLS	FRLS HAVE BEEN SPECIFIED FOR SOME PARTS OF THE SYSTEM AND NOT OTHERS. ENSURE THAT ALL ATTENDANTS, LINES, TRUNK GROUPS, MERS ROUTES, ETC. HAVE FRLS ENTIRELY ENABLED OR DISABLED.
SL-51	DUPLICATE SECURITY LOCK NUMBER	SECURITY LOCK NUMBER THE SECURITY LOCK NUMBER MUST BE UNIQUE ACROSS ALL SL RECORDS.
SL-52	DUPLICATE PHYSICAL LOCATION	DATA SYSTEM USER SECURITY LEVEL THE DATA SYSTEM USER SECURITY LEVEL MUST BE UNIQUE ACROSS ALL SL RECORDS.
SL-53	SPECIFYING DATA SECURITY LVL REQUIRES SPECIFYING S3D OPT ON OE	DATA SYSTEM USER SECURITY LEVEL THE DATA SYSTEM USER SECURITY LEVEL CAN ONLY BE SPECIFIED FOR SYSTEMS THAT HAVE THE PACKET SWITCH DATA OPTION AS DEFINED BY THE S3D OPTION OF THE OE RECORD.
SM-51	DUPLICATE SOURCE GROUP NUMBER	EACH SOURCE GROUP NUMBER MUST BE UNIQUE.
SM-52	REQUIRED VALUE NOT FOUND ON LISTED FORM	SOURCE GROUP FOR EACH SOURCE GROUP APPEARING ON A TC RECORD THERE SHOULD BE A CORRESPONDING SOURCE GROUP MESSAGE ON A SM RECORD. (ENDCHK)
SP-51	DUPLICATE MESSAGE NUMBER	THE MESSAGE NUMBER APPEARED ON A PREVIOUS SP RECORD.
SP-52	REQUIRED VALUE NOT FOUND ON LISTED FORM	SOURCE GROUP NUMBER A SOURCE GROUP NUMBER USED ON A TC RECORD WAS NOT DEFINED ON AN SP RECORD. (ENDCHK)

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
SR-01	INVALID CHARACTER STRING	SYMBOLIC REPLACEMENT WORD STRING CHARACTERS THE SYMBOLIC REPLACEMENT WORD/STRING CHARACTER FIELDS ARE COMPOSED OF SYMBOLIC REPLACEMENT WORD PLUS THE SYMBOLIC REPLACEMENT STRING. THE FIRST 'N' ASCII CHARACTERS BEFORE THE FIRST BLANK CHARACTER WILL BE THE SR WORD. THE NEXT 'M' ASCII CHARACTERS FOLLOWING THE FIRST BLANK CHARACTER WILL BE THE SR STRING. 'N' + 'M' HAVE TO BE LESS THAN OR EQUAL TO THE TOTAL OF 63 SYMBOLIC REPLACEMENT WORD/STRINGCHARACTERS.
SR-51	DUPLICATE SYMBOLIC REPLACEMENT ENTRY NUMBER	SYMBOLIC REPLACEMENT ENTRY NUMBER THE SYMBOLIC REPLACEMENT ENTRY NUMBER MUST BE UNIQUE ACROSS ALL SR RECORDS.
ST-01	ELEMENTS HAVE INCOMPATIBLE VALUES	
ST-01	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
ST-01	2ND FEATURE REQUIRED IF FIRST SPECIFIED	
ST-01	VALUE OF SECOND ELEMENT TOO SMALL	
ST-01	VALUE OF SECOND ELEMENT TOO LARGE	
ST-01	INVALID SYNTAX	INVALID SERVICE CODE THE SERVICE CODE MUST BE OF THE FORM '11N', 'N11', '555', '00-' OR 'OOO', WHERE 'N' IS A NUMBER BETWEEN 2 AND 9.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
ST-02	DASHES MUST BE USED CONSISTENTLY IN FIELD	IN THE TIME PERIODS 1 TO 3, THE SENDING INSTRUCTION LIST NUMBER AND THE ROUTING LIST NUMBER MUST BOTH BE DASHED OR BOTH CONTAIN VALID VALUES.
ST-51	DUPLICATE TRANSLATION ENTRY NUMBER	THE TRANSLATION ENTRY NUMBER MUST BE UNIQUE.
ST-52	DUPLICATE NPA/OFFICE/SERVICE CODE	THE SERVICE CODE MUST BE UNIQUE.
ST-53	SENDING INSTRUCTION NOT DEFINED	THE SENDING INSTRUCTION LIST NUMBER MUST BE DEFINED ON AN SI RECORD.
ST-54	ROUTING LIST NOT DEFINE	THE ROUTING LIST NUMBER MUST BE DEFINED ON AN RP RECORD.
ST-55	VALUES MUST BE CONTINUOUS	TRANSLATION ENTRY NUMBER THE TRANSLATION ENTRY NUMBERS MUST BE CONSECUTIVE WITH NO GAPS. (ENDCHK)
ST-56	TIME PERIOD DATA REQUIRED	THE TIME PERIOD WAS SPECIFIED ON A TP RECORD. THEREFORE DATA FOR THE INDICATED TIME PERIOD IS REQUIRED ON THE ST RECORD.
ST-57	TIME PERIOD NOT FOUND	THE ST RECORD SPECIFIED VALUES FOR A TIME PERIOD WHICH WAS NOT SPECIFIED ON A TP RECORD.
ST-58	TIME PERIOD VALUES MUST MATCH ACROSS ALL RECORDS	IF SEVERAL ST, NR, AND TR RECORDS HAVE THE SAME SENDING INSTRUCTION LIST NUMBER AND ROUTING LIST NUMBER FOR TIME PERIOD 0, THEY MUST ALSO HAVE IDENTICAL VALUES FOR TIME PERIODS 1, 2, AND 3.
ST-59	ROUTE LIST/SEND INSTR DO NOT HAVE SAME NUMBER OF SELECT ORDERS	A ROUTING LIST SENDING INSTRUCTION COMBINATION DOES NOT MATCH IN THE NUMBER OF SELECT ORDER. IT IS POSSIBLE TO HAVE ERRONEOUS VALUES IN THE ROUTING LIST OR SENDING INSTRUCTIONS IF THEY DO NOT HAVE THE SAME NUMBER OF SELECT ORDERS.

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
ST-60 ...	#OR * BEING OUTPULSED ON NON-DTMF TRUNK GROUP	A ROUTING LIST SENDING INSTRUCTION COMBINATION ASSOCIATES A TRUNK GROUP (RECORD CODES RP AND TI) WITH AN OUTGOING SIGNALING MODE OF 'DP' OR '--' WITH A PREFIX INDEX (RECORD CODES SI, LP AND/ OR PC) THAT SPECIFIES THE OUTPULSING OF DIGITS ' # ' AND/OR ' * '
SY- 01	BLANKS ON . INPUT RECORD	BLANKS WERE FOUND IN SOME FIELD (OTHER THAN THE COMMENTS FIELD) ON THE INPUT RECORD.
SY-02	INVALID CHARACTER STRING	THE FIELD BEGINNING IN THE LISTED COLUMN CONTAINS AN INVALID STRING.
SY-03	NUMERIC FIELD CONTAINS NON-NUMERIC DATA	THE FIELD BEGINNING IN THE LISTED COLUMN IS TO CONTAIN NUMERIC DATA (DIGITS O-9) ONLY. NON-NUMERIC DATA WAS FOUND.
SY-04		A NUMERIC FIELD CONTAINS A VALUE THAT IS NOT IN THE ALLOWABLE RANGE OF VALUES FOR THAT FIELD.
SY-05	INVALID CHARACTER STRING OR NUMERIC VALUE	THE FIELD BEGINNING IN THE LISTED COLUMN CONTAINS AN INVALID VALUE. THE FIELD CAN CONTAIN EITHER A NUMERIC VALUE OR SOME CHARACTER STRING (USUALLY ' - ').
SY-06	INVALID CHARACTER	THE COLUMN LISTED IS TO CONTAIN A CHARACTER (A-Z), A DIGIT (0-9), OR A DASH. AN INVALID CHARACTER WAS FOUND IN THE COLUMN.
S1-51	DUPLICATE SCREENING TABLES	SCREENING TABLE - MDR WORK GROUP NUMBER THE COMBINATION OF SCREENING TABLE AND MDR WORK GROUP NUMBER MUST BE UNIQUE ACROSS ALL S1 RECORDS.
SI-52	MDR WORK GROUP NUMBER NOT FOUND ON LD FORM	THE MDR WORK GROUP NUMBER MUST BE SPECIFIED ON AT LEAST ONE LD RECORD.
SI-53	MDR DEVICE NOT ON MD FORM	THE MDR DEVICE SPECIFIED ON AN S1 RECORD MUST BE A DEVICE ENGINEERED ON AN MD RECORD.

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
TC-56	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH INCOMING CARD TYPE	
TC-56	FUNCTION OF CARD NOT ALLOWED FOR CARD TYPE DEFINED ON FORM FR	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT FUNCTION SPECIFIED MUST BE VALID FOR THE CARD TYPE DEFINED ON FR (FOR THIS PEC TYPE). PHYSICAL TRUNK TYPE OF 'EM' MUST APPEAR ON AN 'EMT OR 'EMT4 TRUNK CARD. PHYSICAL TRUNK TYPE OF 'GS', 'LP', AND 'LD' (OUTGOING) MUST APPEAR ON A COT TRUNK CARD. PHYSICAL TRUNK TYPE OF 'LD' (INCOMING) MUST APPEAR ON AN ILT TRUNK CARD. PAGING/DICTATION CIRCUITS (TRUNK APPLICATION 'DIC' OR 'PAG' MUST APPEAR ON A PDIC CARD. TRUNKS WITH TRUNK APPLICATION 'NIC' MUST APPEAR ON A NIC CARD. (PHYLOC) IF THE CARD TYPE IN THE MESSAGE IS "OVER", THAT INDICATES THAT A CARD IN THE PREVIOUS LOCATION IS A WIDE CARD AND IT OVERHANGS INTO THIS PHYSICAL LOCATION ON FR.
TC-56	NONEXISTENT PHYSICAL LOCATION	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED MUST BE VALID FOR THIS PEC TYPE. (PHYLOC)
TC-56	PHYSICAL LOCATION NOT DEFINED ON RECORDCODE FR	PHYSICAL LOCATION THE PEC, GROUP, AND SLOT SPECIFIED MUST BE DEFINED ON AN FR RECORD.
TC-56	PHYSICAL LOCATION PREVIOUSLY FILLED	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED FOR THE TRUNK CIRCUIT MUST BE UNIQUE. (PHYLOC)
TC-56	CARD OVERHANGS INTO A PREVIOUSLY FILLED SLOT	THIS CARD IS AN OVERSIZED CARD AND IS TRYING TO FILL TWO SLOTS. OF THE TWO SLOTS IT FILLS, THE RIGHT HAND ONE HAS ALREADY BEEN FILLED.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
TC-56	PREVIOUS CARD OVERHANGS THIS SLOT	THE CARD TO THE LEFT OF THIS SLOT IS AN OVERSIZED CARD. THE RIGHT HALF OF THAT CARD FILLS THIS SLOT.

TC-56	INVALID CIRCUIT NUMBER	TRUNK GROUP-CIRCUIT THERE ARE CERTAIN REQUIRED VALUES FOR THE CIRCUIT ON THE TC RECORD DEPENDING ON THE TRUNK APPLICATION ON THE T1 RECORD:
		
		CP BEGIN TRUNK APPLICATION (T1 RECORD)
		CIRCUIT
		
		                         DIC
		0 OR 1
		                         PAG
		  2
		CP END
		(PHYLOC)

TC-57	TOO MANY PNA PILOT NUMBERS	MORE THAN THE SVR MAXIMUM NUMBER OF UNIQUE PNA PILOT NUMBERS HAVE BEEN USED. (PNADES)
TC-65	DUPLICATE TRUNK NUMBER	PEC - TRUNK NUMBER. THE COMBINATION OF PEC AND TRUNK NUMBER FIELDS MUST BE UNIQUE ACROSS ALL TC RECORDS.
TC-66	ILLEGAL VALUE FOR DIC, PAG, OR REC APPL	

TC-66	ILLEGAL VALUE FOR TRUNK APPLICATION	PHYSICAL TRUNK TYPE THERE ARE CERTAIN REQUIRED VALUES FOR THE PHYSICAL TRUNK TYPE FIELD ON A TC RECORD DEPENDING ON THE TRUNK APPLICATION INDICATED ON THE T1 RECORD:
		
		   TRUNK PHYSICAL
		   APPLICATION TRUNK
		   T1 RECORD) TYPE
		
		   DIC LP
		   PAG LP
		   REC EM
		   NIC EM OR LP

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
TC-67	ILLEGAL VALUE FOR DIC, PAG OR REC APPL	
TC-67	ILLEGAL VALUE FOR TRUNK APPLICATION	SUPERVISORY INCOMING SIGNAL ▪ SUPERVISORY OUTGOING SIGNAL THERE ARE CERTAIN REQUIRED VALUES FOR THE SUPERVISORY INCOMING SIGNAL AND THE SUPERVISORY OUTGOING SIGNAL DEPENDING ON THE TRUNK APPLICATION INDICATED ON THE T1 RECORD (DEPENDING ON SVR). TRUNK APPLICATION (T1 RECORD) SUPERVISORY INCOMING SIGNAL SUPERVISORY OUTGOING SIGNAL DIC -- ID OR -- PAG -- ID OR -- REC -- ID OR -- NIC -- ID OR --
TC-68	ILLEGAL VALUE FOR DIC, PAG OR REC APPL	TRUNK CARRIER THERE ARE CERTAIN REQUIRED VALUES FOR THE TRUNK CARRIER ON A TC RECORD DEPENDING ON THE TRUNK APPLICATION INDICATED ON THE T1 RECORD (DEPENDING ON SVR): TRUNK APPLICATION (T1 RECORD) TRUNK CARRIER DIC AT OR -- PAG AT OR -- REC AT OR --
TC-69	ILLEGAL VALUE FOR DIC, PAG OR REC APP	
TC-69	ILLEGAL VALUE FOR TRUNK APPLICATION	CO TRUNK NUMBER IF THE TRUNK APPLICATION ON A T1 RECORD IS 'DIC', 'PAG', 'REC' OR 'NIC' THEN THE CO TRUNK NUMBER MUST BE DASHED.
TC-71	ILLEGAL VALUE FOR DIC, PAG OR REC APPL	

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES

TC-71	ILLEGAL VALUE FOR TRUNK APPLICATION	GUARANTEED ACCESS
		THERE ARE CERTAIN REQUIRED VALUES FOR THE GUARANTEED ACCESS ON A TC RECORD DEPENDING ON THE TRUNK APPLICATION INDICATED ON THE T1 RECORD (DEPENDING ON SVR):
		
		TRUNK APPLICATION (T1 RECORD) GUARANTEED ACCESS
		
		     DIC -
		     PAG -
		     REC
		     NIC

TC-72	PNA DESTINATION NOT FOUND	PNA DESTINATION NUMBER THE PNA DESTINATION NUMBER SPECIFIED MUST BE A VALID PNA DESTINATION NUMBER ON A PN RECORD.
TC-73	ILLEGAL VALUE FOR NIGHT ANSWER FIELD	NIGHT ANSWER POSITION 1 & 2 NIGHT ANSWER FIELDS MUST BE DASHES FOR TRUNK APPLICATIONS 'CAS', 'CLR', 'DIC', 'PAG', 'REC' AND 'NIC'.
TC-74	PEC NUMBER IS NOT EQUIPPED	THE PEC NUMBER SPECIFIED MUST BE MARKED EQUIPPED ON THE OE OR OF RECORD.
TC-75	INVALID TRUNK INCOMING SIGNAL FOR FAST ACCESS	SUPERVISORY INCOMING SIGNAL IF THE SUPERVISORY INCOMING SIGNAL ON THE TC RECORD IS 'FA' (FAST ACCESS TRUNK), THEN THE TRUNK INCOMING SIGNAL FOR ITS TRUNK GROUP ON THE T1 RECORD MUST BE ALL DASHED OR DIAL PULSE ONLY.
TC-76	FIELD DOESN'T HAVE REQUIRED VALUE	SOURCE GROUP NUMBER FOR A TRUNK CIRCUIT WITH A TRUNK APPLICATION OF 'CAS' (T1 RECORD), A VALID SOURCE GROUP MUST BE ENTERED; DASHES ARE NOT ALLOWED IN THIS CASE.
TC-77	TRUNKS MARKED WITH ID/SO MUST HAVE DIAL TONE RETURNED	SUPERVISORY OUTGOING SIGNAL TRUNKS HAVING THE SUPERVISORY OUTGOING SIGNAL OF 'ID', OR 'SO' MUST HAVE DIAL TONE RETURNED AS 'Y' ON RECORD T1

Table 21.1   CPG   Error   Messages   (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
TC-78	NOT A CO LINE	THE LINE DIRECTORY NUMBER SPECIFIED AS A CO LINE WAS NOT ENGINEERED AS A CO LINE ON AN LD RECORD. (TABGEN)
TC-70	TRUNK GROUP HAS INVALID CLASS OF SERVICE MARK	CLASS OF SERVICE A TRUNK MARKED FOR PNA MUST HAVE A CLASS OF SERVICE THAT SPECIFIES STATION ACCESS ON RECORD T1 FOR THE TRUNK GROUP
TC-80	REQUIRED DATA NOT FOUND	THE TRUNK REFERENCED ON RECORD LD FOR A CO LINE DOES NOT MATCH THE TRUNK REFERENCED ON RECORD TC FOR THE SAME LINE DIRECTORY NUMBER. (TABGEN)
TC-81	REQUIRED DATA NOT FOUND	CO LINE DIRECTORY NUMBER A LINE DIRECTORY NUMBER SPECIFIED ON RECORD LD HAVING A DISPLAYABLE CLASS OF SERVICE WITH 'CL' (CO LINE) SHOULD BE SPECIFIED ON TC AS A CO LINE DIRECTORY NUMBER. (TABGEN)
TC-82	FIELD CONFLICTS WITH TRUNK APPLY	CO LINE DIRECTORY NUMBER A CO LINE DIVERTS TO A TRUNK, BUT THE TRUNK GROUP APPLICATION ON RECORD T1 WAS NOT 'COT' (DIVERT).
TC-86	VALUES MUST BE CONTINOUS	THE MEMBER NUMBERS FOR EACH TRUNK GROUP MUST BE NUMBERED IN SEQUENTIAL ORDER BEGINNING WITH MEMBER ZERO WITH NO GAPS OR DUPLICATES ALLOWED.
TC-87	IF ONE TRK HAS SUPY OUTGOING SIGNAL SO THEN ALL TRKS IN GRP MUST	SUPERVISORY OUTGOING SIGNAL 'SO' MUST BE USED FOR ALL MEMBERS OF A TRUNK GROUP IF REQUIRED FOR ONE MEMBER.
TC-99	SITE HAS INCONSISTENT DATA BASE	THECPGREVERSEPROCESSHASDETECTEDA PROBLEM IN THE CUSTOMER'S DATA BASE IN THE TABLE INDICATED IN THE ERROR MESSAGE. (TGLINK)
TD-01	ELEMENT 2 IS MEANINGLESS SPECIFICATION	

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
TD-01	ELEMENTS HAVE INCOMPATIBLE VALUES	

TD-01	2ND FEATURE REQUIRED IF FIRST SPECIFIED	TRANSLATION TYPE
		GIVEN THE TRANSLATION TYPE, THE SELECT GROUP AND THE NUMBER OF DIGITS OUTPULSED MUST BE ENTERED AS THE FOLLOWING:
		
		TRANSLATION SELECT NO. OF
		   TYPE TRUNK DIGITS
		                   GROUP OUTPULSED
		
		      LOC -- -
		      MRS -- -
		      TGS 00-63 ·
		      TGO 00-63 1-15
		      MRN -- -

TD-02	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
TD-02	ELEMENTS HAVE INCOMPATIBLE VALUES	
TD-02	2ND FEATURE REQUIRED IF FIRST SPECIFIED	MERS ON-NET NPA-CODE FOR ALL TRANSLATION TYPES EXCEPT 'MRN', THE MERS ON-NET NPA-CODE FIELD MUST BE DASHED. THE ON-NET NPA-CODE FIELD MUST BE SPECIFIED FOR TRANSLATION TYPE 'MRN'.
TD-51	DUPLICATE FIRST TWO DIGITS	THE FIRST TWO DIGITS OF TERMINAL DIGITS MUST BE UNIQUE ACROSS ALL TD RECORDS.
TD-52	FIELD CONFLICTS WITH TRUNK APPLY	SELECT TRUNK GROUP THE TRUNK APPLICATION ON THE T1 RECORD FOR THIS TRUNK GROUP CANNOT HAVE VALUES OF 'DIC', 'PAG', OR 'REC'.
TD-53	TRUNK GROUP NOT FOUND	SELECT TRUNK GROUP THE SELECT TRUNK GROUP MUST BE DEFINED ON A T1 RECORD.

Table 21 .1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
TD-56	'HUNDREDS GROUP CONFLICT ...	IF THE FIRST TWO DIGITS HAVE THE FORM 'OX', THEN BOTH 'OX' AND 'X' HUNDREDS GROUPS MUST NOT BE SPECIFIED ON HD RECORDS. IF PRESENT, THE SYSTEM WILL PROCESS BOTH HUNDREDS GROUPS WITH FIRST TWO DIGITS OF 'OX' FOR THIS APPLICATION.
T D - 5 7	HUNDREDS . GROUP NOT .FOUND	FIRST TWO DIGITS OF TERMINAL DIGITS THE FIRST TWO DIGITS MUST CORRESPOND TO A HUNDREDS GROUP ENGINEERED ON AN HD RECORD.
TD-60	'POSSIBLE CONFLICT WITH MERS 3-DIGIT TRANSLATION	CONFLICT WITH 3-DIGIT TRANSLATED NPA'S WARNING MESSAGE. PRIVATE NETWORK DIGIT ANALYSIS WAS COMBINED WITH 3-DIGIT TRANSLATION (RECORD CODE NR) IN THE SAME DATA BASE TABLE. POSSIBLE PROBLEM IF PRIVATE NETWORK DIGITS CONTAIN CONFLICT CODES. (GENDIG)
TD-61	ONLY 4 UNIQUE NPAS ALLOWED	ONLY FOUR UNIQUE NPAS ARE ALLOWED BETWEEN MR, NT, AND TD RECORDS. (GENDIG)
TF-01	DASHES MUST BE USED CONSISTENTLY IN FIELD	DATA DUMP HEADER SITE ID IF ONE CHARACTER IS DASHED IN THE DATA DUMP HEADER SITE ID, THEN ALL CHARACTERS MUST BE DASHED
TL-01	ELEMENTS HAVE INCOMPATIBLE VALUES	
TL-01	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
TL-01	2ND FEATURE REQUIRED IF FIRST SPECIFIED	PRINT STATUS - PRINTER ID THE PRINTER STATUS AND PRINTER NUMBER FIELDS MUST BOTH BE DASHED OR NONDASHED.

Table **21.1** CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
TL-51	PRINTER NUMBER NOT FOUND	THE PRINTER ID IDENTIFIES A SPECIFIC PRINTER NUMBER OR SEVERAL PRINTER NUMBERS DEPENDING ON THE VALUE RANGE ENTERED. ALL PRINTER NUMBERS INDICATED BY THE PRINTER ID MUST BE VALID PRINTER NUMBERS ON A PD RECORD. PRINTER ID PRINTER NUMBER(S) 0 NONE 1 0 2 1 3 0,1 4 2 5 0,2 6 1,2 7 0,1,2 8 3 9 0,3 10 1,3 11 0,1,3 12 2,3 13 0,2,3 14 1,2,3 15 0,1,2,3
TL-52	OPI CARD NOT EQUIPPED ON RECORDCODE FR	PMS FIELDS ON TL REQUIRE AN OPI CARD TO BE EQUIPPED ON AN FR RECORD.
TN-51	PEC NUMBER IS NOT EQUIPPED	PEC NUMBER THE PEC NUMBER MUST BE MARKED AS EQUIPPED ON THE OE RECORD.
TN-52	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH FCN OF INCOMING CARD	
TN-52	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH INCOMING CARD TYPE	

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
TN-52	FUNCTION OF CARD NOT ALLOWED FOR CARD TYPE DEFINED ON FORM FR	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT FUNCTION SPECIFIED MUST BE VALID FOR THE CARD TYPE DEFINED ON FR (FOR THIS PEC TYPE). TONE DETECTOR CIRCUIT MUST APPEAR ON A TDET CARD. (PHYLOC) IF THE CARD TYPE IN THE MESSAGE IS "OVER", THAT INDICATES THAT A CARD IN THE PREVIOUS LOCATION IS A WIDE CARD AND IT OVERHANGS INTO THIS PHYSICAL LOCATION ON FR.
TN-52	NONEXISTENT PHYSICAL LOCATION	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED MUST BE VALID FOR THIS PEC TYPE. (PHYLOC)
TN-52	PHYSICAL LOCATION NOT DEFINED ON RECORD CODE FR	PHYSICAL LOCATION THE PEC, GROUP, AND SLOT SPECIFIED MUST BE DEFINED ON FR. (PHYLOC)
TN-52	PHYSICAL LOCATION PREVIOUSLY FILLED	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED FOR THE TONE DETECTOR CIRCUIT MUST BE UNIQUE. (PHYLOC)
TP-51	DUPLICATE TIME PERIOD NUMBER	THE TIME PERIOD NUMBER OCCURRED ON A PREVIOUS TP RECORD.
TP-52	TIME PERIOD OVERLAP	THE TIME OF DAY SPECIFIED ON THE CURRENT TP RECORD OVERLAPS WITH THE TIME OF DAY ON A PREVIOUS TP RECORD.
TR-01	SECOND ELEMENT EQUALS FIRST ELEMENT	
TR-01	SECOND ELEMENT LESS THAN FIRST ELEMENT	NPA/ABC CODE RANGE IN THE ABC CODE RANGE FIELD THE SECOND ABC CODE MUST BE LESS THAN OR EQUAL TO THE FIRST ABC CODE. IF ONLY ONE NUMBER IS TO BE REPRESENTED THE SECOND ABC CODE FIELD SHOULD BE DASHED.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
TR-02	DASHES MUST BE USED CONSISTENTLY IN FIELD	TIME PERIODS 1 TO 3 IN TIME PERIODS 1 TO 3 THE SENDING INSTRUCTION LIST NUMBER AND THE ROUTING LIST NUMBER MUST BOTH BE DASHED OR BOTH CONTAIN VALID VALUES.
TR-51	MERS NPA NOT ON MR, NT, OR TD FORM	THE NPA CODE ON THE TR RECORD MUST BE SPECIFIED AS A 6-DIGIT TRANSLATED NPA ON AN MR RECORD OR AS AN ON-NET CODE ON EITHER AN NT OR TD RECORD. (GENDIG)
TR-52	SENDING INST. NOT DEFINED	SENDING INSTRUCTION LIST NUMBER A SENDING INSTRUCTION LIST NUMBER USED ON A TR RECORD MUST BE DEFINED ON AN SI RECORD.
TR-53	ROUTING LIST NOT DEFINED	ROUTING LIST NUMBER A ROUTING LIST NUMBER USED ON A TR RECORD MUST BE DEFINED ON AN RP RECORD.
TR-54	MERS NPA NOT PREVIOUSLY DEFINED	TR RECORDS MUST BE PROVIDED FOR AN NPA CODE SPECIFIED AS BEING 6-DIGIT TRANSLATED ON AN MR RECORD, AND AN ON-NET CODE SPECIFIED ON AN NT OR TD RECORD. (ENDCHK)
TR-55	DUPLICATE ABC ENTRY	AN ABC CODE SPECIFIED ON THE TR RECORD WAS ALREADY SPECIFIED. (GENDIG)
TR-56	TIME PERIOD DATA REQUIRED	THE TIME PERIOD WAS SPECIFIED ON A TP RECORD. THEREFORE DATA FOR THE INDICATED TIME PERIOD IS REQUIRED ON THE TR RECORD.
TR-57	TIME PERIOD NOT FOUND	THE TR RECORD SPECIFIED VALUES FOR A TIME PERIOD WHICH WAS NOT SPECIFIED ON A TP RECORD.
TR-58	TIME PERIOD VALUES MUST MATCH ACROSS ALL RECORDS	IF SEVERAL NR, NT, ST, AND TR RECORDS HAVE THE SAME SENDING INSTRUCTION LIST NUMBER AND ROUTING LIST NUMBER FOR TIME PERIOD 0 THEY MUST ALSO HAVE IDENTICAL VALUES FOR TIME PERIODS 1, 2, AND 3.
TR-59	ROUTE LIST/SEND INSTR DO NOT HAVE SAME NO. OF SELECT ORDERS	A ROUTING LIST/SENDING INSTRUCTION COMBINATION DOES NOT MATCH IN THE NUMBER OF SELECT ORDER. IT IS POSSIBLE TO HAVE ERRONEOUS VALUES IN THE ROUTING LIST OR SENDING INSTRUCTION IF THEY DO NOT HAVE THE SAME NUMBER OF SELECT ORDERS.

Table 21.1   CPG   Error   Messages   (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
TR-60	ABC CODE CONFLICTS WITH NPA,BUT CONFLICT CODE IS NOT Y ON MR	IF THE SECOND DIGIT OF THE ABC CODE OR CODE RANGE SPECIFIED IS ZERO OR ONE, THEN THE CONFLICT CODE ON THE MR RECORD SHOULD BE 'Y'.
TR-61	# OR * BEING OUTPULSED ON NON-DTMF TRUNK GROUP	A ROUTING LIST SENDING INSTRUCTION COMBINATION ASSOCIATES A TRUNK GROUP (RECORD CODES RP AND T1) WITH AN OUTGOING SIGNALING MODE OF 'DP' OR '--' WITH A PREFIX INDEX (RECORD CODES SI, LP AND/ OR PC) THAT SPECIFIES THE OUTPULSING OF DIGITS ' # ' AND/OR ' * '
TT-03	SECOND ELEMENT CONTAINS INVALID VALUE	ESP - TERMINAL TYPE IF THE ESP IS ALLOWED ON THE PORT, THEN THE TERMINAL TYPE MUST BE 'ADDS'.
TT-04	SECOND ELEMENT CONTAINS INVALID VALUE	ESP - ECHO IF THE ESP IS ALLOWED ON THE PORT, THEN THE ECHO FIELD MUST BE 'N'.
TT-05	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
TT-05	ELEMENTS HAVE INCOMPATIBLE VALUES	TERMINAL TYPE - PRINTER IF THE TERMINAL TYPE IS 'TTY', THEN THE PRINTER FIELD MUST BE 'N'.
TT-06	SECOND ELEMENT CONTAINS INVALID VALUE	ESP - PRINTER IF THE ESP IS ALLOWED ON THE PORT, THEN THE PRINTER FIELD MUST BE 'N'.
TT-51	DUPLICATE TTY NUMBER	TTY (PORT) NUMBER THE TTY (PORT) NUMBER MUST BE UNIQUE ACROSS ALL TT RECORDS.
TV-60	ESP NOT EQUIPPED ON OE	ESP IF ESP IS EQUIPPED ON A TT RECORD, IT SHOULD ALSO BE EQUIPPED ON AN OE RECORD.
TT-61	FADS AUTO DUMP CAN BE 'Y' FOR ONLY ONE PORT	FADS AUTO DUMP ONLY ONE PORT CAN BE DESIGNATED AS THE FADS AUTO DUMP PORT.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
TT-62	ESP CAN BE 'Y' FOR ONLY ONE PORT	ESP ONLY ONE PORT CAN BE DESIGNATED AS THE ESP PORT.
H -01	SECOND ELEMENT LESS T-HEN FIRST ELEMENT	TRUNK GROUP -ALTERNATE TRUNK GROUP THESE TRUNK GROUP NUMBERS CANNOT BE EQUAL.
TI-02	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
T1-02	2ND FEATURE REQUIRED IF FIRST SPECIFIED	TRUNK APPLICATION ▪ DISPLAYABLE CLASS OF SERVICE, N-DISPLAYABLE CLASS OF SERVICE A CLASS OF SERVICE IS MEANINGFUL ONLY WHEN THE TRUNK APPLICATION IS 'TIE', 'COT', 'FXT', OR 'WTS', AND THE TRUNK DIRECTION IS 'IN' (INCOMING) OR 'TW' (TWO-WAY). THE CLASS OR SERVICE FIELDS FOR THESE TRUNK APPLICATIONS, HOWEVER, CAN BE DASHED. TRUNK APPLICATION 'NIC' MUST HAVE CLASS OF SERVICE DATA.
TI-02	ELEMENT HAVE INCOMPATIBLE VALUES	
TI-03	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
T1-03	ELEMENTS HAVE INCOMPATIBLE VALUES	
TI-03	2ND FEATURE REQUIRED IF FIRST SPECIFIED	TRUNK APPLICATION ▪ TIE TRUNK CALLING NUMBER A TIE TRUNK CALLING NUMBER IS MEANINGFUL ONLY WHEN THE TRUNK APPLICATION IS 'TIE'. THE TIE TRUNK CALLING NUMBER, HOWEVER, CAN BE DASHED.
T1-04	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
T1-04	ELEMENTS HAVE INCOMPATIBLE VALUES	

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
TI-04	2ND FEATURE REQUIRED IF FIRST SPECIFIED	TRUNK APPLICATION - TRUNK DIRECTION - ACD TRUNK PILOT NUMBER ACD TRUNK PILOT NUMBER CAN BE USED WITH ANY TRUNK APPLICATION IF THE TRUNK DIRECTION IS INCOMING OR TWO-WAY. THE FOLLOWING IS A LIST OF REQUIREMENTS: TRUNK APPLICATION — ACD DIRECTION — TRUNK PILOT NUMBER CAS,CLR,COT,FXT, TIE OR WTS — IN,TW — 0000-9999 DIC,PAG,REC,NIC - — - — ---- CAS,CLR,COT, FXT,TIE,OR VVTS — OG,TW — ----
TI-05	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
TI-05	ELEMENTS HAVE INCOMPATIBLE VALUES	
T1-05	2ND FEATURE REQUIRED IF FIRST SPECIFIED	ACD TRUNK PILOT NUMBER - TRUNK INCOMING SIGNAL AN ACD TRUNK PILOT NUMBER CAN BE SPECIFIED ONLY IF THE INCOMING SIGNALING FIELDS ARE DASHED.
T1-06	INVALID CHARACTER PATTERN IN 2ND FIELD	TRUNK INCOMING SIGNAL (RETURN DIAL TONE - RETURN DISTINCTIVE DIAL TONE) ONE OR THE OTHER OF THESE FIELDS CAN BE SPECIFIED ('Y'), BUT NOT BOTH.
TI-08	ELEMENTS HAVE INCOMPATIBLE VALUES	
TI-08	ELEMENT 2 IS MEANINGLESS SPECIFICATION	

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
TI-08	2ND FEATURE REQUIRED IF FIRST SPECIFIED	BILLING MODE - TRUNK OUTGOING SIGNAL (MF) MF SIGNALING APPLIES ONLY TO CAMA BILLING MODE. THUS, IF THE BILLING MODE IS SPECIFIED AS 'CM', THEN THE MF OUTGOING SIGNAL FIELD MUST BE 'Y'. THE MF OUTGOING SIGNAL FIELD FOR ALL OTHER BILLING MODE SPECIFICATIONS MUST BE DASHED.
TI-09	ELEMENTS HAVE INCOMPATIBLE VALUES	
TI-09	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
TI-09	2ND FEATURE REQUIRED IF FIRST SPECIFIED	BILLING MODE - TRUNK DIRECTION WHEN THE BILLING MODE IS 'CM' (CAMA), THE TRUNK DIRECTION MUST BE 'OG' (OUTGOING ONLY).
TI-10	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
TI-10	ELEMENTS HAVE INCOMPATIBLE VALUES	
TI-10	2ND FEATURE REQUIRED IF FIRST SPECIFIED	BILLING MODE - AIOD CHANNEL VALUE OF BILLING MODE ALLOWABLE VALUE OF AIOD CHANNEL CM OR -- AI 1,2,3,4
TI-11	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
TI-11	ELEMENTS HAVE INCOMPATIBLE VALUES	

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
TI-11	2ND FEATURE REQUIRED IF FIRST SPECIFIED	TRUNK DIRECTION . DISPLAYABLE CLASS OF SERVICE, N-DISPLAYABLE CLASS OF SERVICE CLASS OF SERVICE MUST BE DASHES FOR TRUNK DIRECTION OF 'OG'.
T1-12	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
T1-12	ELEMENTS HAVE INCOMPATIBLE VALUES	
T1-12	2ND FEATURE REQUIRED IF FIRST SPECIFIED	TRUNK DIRECTION-TRUNK INCOMING SIGNAL- TRUNK OUTGOING SIGNAL IF THE TRUNK DIRECTION IS 'OG' (OUTGOING ONLY), THEN THE TRUNK OUTGOING SIGNALING FIELDS MUST BE NONDASHED, AND THE TRUNK INCOMING SIGNALING FIELDS MUST BE DASHED. IF THE TRUNK DIRECTION IS 'IN' (INCOMING ONLY), THEN THE TRUNK INCOMING SIGNALING FIELDS MUST BE NONDASHED, AND THE TRUNK OUTGOING SIGNALING FIELDS MUST BE DASHED. IF THE TRUNK DIRECTION IS 'TW' (TWO WAY), THEN THE TRUNK INCOMING SIGNALING FIELDS MUST BE NONDASHED, AND THE OUTGOING SIGNALING FIELDS MUST BE NONDASHED.
TI-13	INVALID CHARACTER PATTERN IN 2ND FIELD	MISSING DID DIGITS IF DIGIT 1 IS DASHED, THEN DIGIT 2 MUST BE DASHED.
TI-14	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
TI-14	ELEMENTS HAVE INCOMPATIBLE VALUES	

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
TI-14	2ND FEATURE REQUIRED IF FIRST SPECIFIED	TRUNK APPLICATION - DISCONNECT SUPERVISION IF THE TRUNK APPLICATION IS 'TIE', THEN DISCONNECT SUPERVISION MUST BE 'BT'.
T1-16	DASHES MUST BE USED CONSISTENTLY IN FIELD	TIE TRUNK CALLING NUMBER DASHES MUST BE USED CONSISTENTLY.
TI-17	DASHES MUST BE USED CONSISTENTLY IN FIELD	ACD PILOT NUMBER DASHES MUST BE USED CONSISTENTLY.
TI-20	ILLEGAL VALUE FOR TRUNK APPLICATION	TRUNK APPLICATION THE FOLLOWING FIELDS MUST HAVE CERTAIN REQUIRED VALUES IF TRUNK APPLICATION IS 'DIC', 'PAG', 'REC' OR 'NIC': FIELD NAME REQUIRED VALUE TRUNK DIRECTION -- TRUNK INCOMING SIGNAL ---- TRUNK OUTGOING SIGNAL ---- TRUNK DISCONNECT SUPERVISION -- BILLING MODE -- ALTERNATE TRUNK GROUP -- TRUNK TRANSFER ALLOWED - TIE TRUNK CALLING NUMBER ---- AIOD CHANNEL MISSING DID DIGITS 1 & 2 -- ACD TRUNK PILOT NUMBER ---- ACD TRANSLATION INDICATOR -- ROUTE TO RLT ANSWER BACK R/A ACA OUTGOING TRUNK GROUP FRL TO ACCESS
TI-21	ELEMENTS HAVE INCOMPATIBLE VALUE	
TI-21	ELEMENT 2 IS MEANINGLESS SPECIFICATION	

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
T1-21	2ND FEATURE REQUIRED IF FIRST SPECIFIED	
TI-21	RECORDER ANNOUNCER NOT ALLOWED FOR TRUNK APPLICATION	TRUNK APPLICATION - R/A RETURN ANSWER BACK THE R/A RETURN ANSWER BACK FIELD CAN BE SPECIFIED ('Y') ONLY IF THE TRUNK APPLICATION IS 'REC'.
T1-22	MF CAMA ONLY IS NOT ALLOWED FOR TRK APPL CAS	CAS TRUNK APPLICATION - TRUNK OUTGOING SIGNAL FOR TRUNK APPLICATION, 'CAS', OUTGOING SIGNAL MF (CAMA ONLY) IS NOT ALLOWED.
TI-23	AGENT GROUP # MUST BE SPECIFIED FOR TRUNK APPLICATION CAS	TRUNK APPLICATION - AGENT GROUP NUMBER FOR TRUNK APPLICATION, 'CAS', AN AGENT GROUP NUMBER MUST BE SPECIFIED.
TI-24	SECOND ELEMENT CONTAINS INVALID VALUE	TRUNK DIRECTION - TRUNK HOMING SELECTION IF TRUNK HOMING SELECTION IS SPECIFIED, THE TRUNK DIRECTION MUST BE 'OG' OR 'TW'.
TI-25	ELEMENTS HAVE INCOMPATIBLE VALUES	
TI-25	ELEMENT 2 IS MEANINGLESS SPECIFICATION	ACA - ACA TOLERANCES IF THE ACA FIELD IS 'Y', THEN THE ACA TOLERANCE FIELDS (ACA SHORT CALL THRESHOLD, INTERVAL, AND THE LONG CALL INTERVAL) MUST BE NOT BE DASHED.
TI-26	ELEMENTS HAVE INCOMPATIBLE VALUES	
TI-26	ELEMENT 2 IS MEANINGLESS SPECIFICATION	OUTGOING TRUNK GROUP FRL OUTPULSED - TRUNK DIRECTION IF THE OUTGOING TRUNK GROUP FRL OUTPULSED IS 'Y', THEN THE TRUNK DIRECTION MUST BE 'OG' OR 'TW'.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
T1-27	ELEMENTS HAVE INCOMPATIBLE VALUES	
T1-27	ELEMENT 2 IS MEANINGLESS SPECIFICATION	INCOMING TRUNK GROUP DEFAULT FRL - TRUNK DIRECTION IF THE INCOMING TRUNK GROUP DEFAULT FRL IS SPECIFIED, THEN THE TRUNK DIRECTION MUST BE 'IN' OR 'TW'.
T1-28	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
T1-28	ELEMENTS HAVE INCOMPATIBLE VALUE	OUTGOING TRUNK GROUP FRL TO ACCESS - TRUNK DIRECTION IF THE OUTGOING TRUNK GROUP FRL TO ACCESS IS SPECIFIED, THEN THE TRUNK DIRECTION MUST BE 'OG' OR 'TW'.
T1-29	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
T1-29	ELEMENTS HAVE INCOMPATIBLE VALUES	VMS TRUNK IDENTIFIER - TRUNK APPLICATION ONLY TIE TRUNK GROUPS CAN BE USED FOR VMS.
T1-51	DUPLICATE TRUNK GROUP NUMBER	TRUNK GROUP NUMBER THE TRUNK GROUP NUMBER MUST BE UNIQUE ACROSS T1 RECORDS.
T1-52	CLASS OF SERVICE NOT DEFINED	CLASS OF SERVICE THE DISPLAYABLE CLASSES OF SERVICE SELECTED FOR EACH TRUNK GROUP MUST BE INITIALIZED BY A DD RECORD. THE N-DISPLAYABLE CLASSES OF SERVICE SELECTED FOR EACH TRUNK GROUP MUST BE INITIALIZED BY AN NC RECORD.
T1-53	CLASS OF SERVICE FEATURES CONFLICT	CLASS OF SERVICE FOR VIOLATION AND REQUIREMENT PATTERNS OF DISPLAYABLE AND N-DISPLAYABLE CLASSES OF SERVICE FEATURES SEE APPENDIX 1.
T1-56	AIOD CIRCUIT NOT DEFINED	AIOD CHANNEL THE AIOD CIRCUIT SHOULD BE DEFINED ON THE FR RECORD.

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
TI-57	INVALID ALTERNATE TRUNK GROUP	ALTERNATE TRUNK GROUP THE ALTERNATE TRUNK GROUP MUST BE DEFINED AS A TRUNK GROUP ON A T1 AND T2 RECORD. (ENDCHK)
T1-59	PILOT NO. BELONGS TO TERMINAL HUNT GRP	IN ORDER FOR THE ACD FEATURE TO WORK PROPERLY, IT IS MORE DESIRABLE TO USE A PILOT NUMBER FROM A CIRCULAR HUNT GROUP. (GENTRK)
TI-60	INVALID PILOT NUMBER	THE ACD PILOT NUMBER SHOULD BE A VALID PILOT NUMBER ON AN HG RECORD, AN ATTENDANT CALLING NUMBER ON AN AT OR CN RECORD, OR A STATION NUMBER ON AN LD RECORD. (GENTRK)
T1-61	TRUNK GROUP ACCESS ERROR	TRUNK GROUP NUMBER EACH TRUNK GROUP SHOULD BE MARKED FOR TRUNK GROUP ACCESS ON A DC RECORD IF THE TRUNK GROUP DIRECTION IS OUTGOING OR TWO-WAY. (ENDCHK)
T1-62	CLASS OF SERVICE NOT ALLOWED	TRUNK GROUP - DISPLAYABLE CLASS OF SERVICE CONFLICTS AN INCOMING TRUNK GROUP IS RESTRICTED FROM HAVING CERTAIN FEATURES. THE FOLLOWING ARE THE ONLY FEATURES ALLOWED FOR TRUNK GROUPS WITH AN APPLICATION TYPE OF 'COT', 'FXT', OR 'WTS': 1. TRUNK GROUP ACCESS 2. DICTATION EQUIPMENT ACCESS ('DA') 3. STATION ACCESS ('SA') 4. RLT ACCESS ('RL') THE FOLLOWING ARE THE ONLY FEATURES RESTRICTED FROM 'TIE' TRUNK APPLICATION TRUNK GROUPS: 1. SWITCHED DIRECT LINE ('SL') 2. PROGRESSIVE CONFERENCE ('PC')

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
T1-63	CLASS OF SERVICE NOT ALLOWED	GROUP - N-DISPLAYABLE CLASS OF SERVICE CONFLICTS AN INCOMING TRUNK GROUP IS RESTRICTED FROM HAVING CERTAIN FEATURES. THE FOLLOWING ARE THE ONLY FEATURES ALLOWED FOR TRUNK GROUPS WITH AN APPLICATION TYPE OF 'COT' OR 'FXT': 1. ATTENDANT INFORMATION ('AI') 2. DATA LINE SECURITY ('DS') 3. UNIVERSAL NIGHT ANSWER ('UN') 4. COMPUTER ACCESS ('CA') THE FOLLOWING ARE THE ONLY FEATURES ALLOWED FOR 'WTS' TRUNK APPLICATION TRUNK GROUPS: 1. DATA LINE SECURITY ('DS')
T1-63 (cont'd)	CLASS OF SERVICE NOT ALLOWED	THE FOLLOWING ARE THE ONLY FEATURES ALLOWED FOR 'TIE' TRUNK APPLICATION TRUNK GROUPS: 1. ATTENDANT INFORMATION ('AI') 2. DATA LINE SECURITY ('DS') 3. UNIVERSAL NIGHT ANSWER ('UN') 4. COMPUTER ACCESS ('CA') 5. SPECIAL COMMON CARRIER ACCESS ('SA') 6. SPEED CALLING ALLOWED ('SC')
T1-64	ILLEGAL VALUE FOR TRUNK APPL. CAS (T1)	TRUNK APPLICATION - DISPLAYABLE CLASS OF SERVICE FOR TRUNK APPLICATION, 'CAS', STATION ACCESS IS REQUIRED IN THE TRUNK GROUP'S DISPLAYABLE CLASS OF SERVICE. THE FOLLOWING FEATURES ARE NOT ALLOWED IN THE TRUNK GROUP'S DISPLAYABLE CLASS OF SERVICE: 1. SWITCHED DIRECT LINE ('SL') 2. MODEM ACCESS ('MD')

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
T1-65	IF THE SC FEATURE IS USED THEN N-DISP COS IS INVALID	TRUNK DIRECTION - N-DISPLAYABLE CLASS OF SERVICE IF TRUNK DIRECTION ON THE T1 RECORD IS 'OG' OR '--' THEN THE ASSOCIATED N-DISPLAYABLE CLASS OF SERVICE MUST NOT BE MARKED FOR SPEED CALLING ('SC')
T1-66	TRUNK GROUP NOT FOUND	A TRUNK GROUP REFERENCED ON AN OD RECORD WAS NOT FOUND ON A T1 RECORD. (ENDCHK)
T1-67	TRUNK GROUP NOT FOUND	FOR VMS AND MDU TYPES SPECIFIED ON THE OD RECORD, THE TRUNK GROUP SPECIFIED AS THE IDENTIFIER MUST BE DEFINED ON A T1 RECORD. (ENDCHK)
T1-68	INVALID TRUNK APPL FOR VMS/MDU TRUNK GROUP ON RECORD CODE, OD	THE TRUNK APPLICATION SPECIFIED ON T1 CANNOT BE 'DIC', 'PAG', 'REC, OR 'NIC' FOR THE TRUNK GROUP SPECIFIED FOR VMS AND MDU DIRECTORY NUMBERS ON THE OD RECORD. (ENDCHK)
T1-72	FRL MUST BE SPECIFIED	FRLS HAVE BEEN EQUIPPED FOR THIS SYSTEM ON RECORD CODE OF, AND OUTGOING TRUNK GROUP FRL TO ACCESS MUST THEREFORE BE SPECIFIED FOR EVERY OUTGOING OR TWO-WAY TRUNK GROUP ON RECORD CODE TI.
T1-72	INCONSISTENT ENGINEERING OF FRLS	FRLS HAVE BEEN SPECIFIED FOR SOME PARTS OF THE SYSTEM AND NOT OTHERS. ENSURE THAT ALL ATTENDANTS, LINES, TRUNK GROUPS, MERS ROUTES, ETC. HAVE FRLS ENTIRELY ENABLED OR DISABLED. IN THE CASE OF TRUNK GROUPS, ALL OUTGOING OR TWO-WAY TRUNK GROUPS REQUIRE OUTGOING FRL TO ACCESS TO BE CONSISTENTLY ENGINEERED.

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
T1-72	INCOMING DEFAULT FRL MUST BE SPECIFIED	IF A SYSTEM HAS FRLS EQUIPPED AND TCM UNEQUIPPED (RECORD OF) THEN ALL INCOMING AND TWO-WAY TRUNK GROUPS MUST HAVE AN INCOMING DEFAULT FRL.
T1-73	FIELD DOESN'T HAVE REQUIRED VALUE	A TRUNK GROUP SPECIFIED ON AN OD RECORD IN THE IDENTIFIER FIELD WITH A CODE TYPE OF 'TGO' OR 'TGS' MUST HAVE A TRUNK DIRECTION OF 'OG' OR 'TW' SPECIFIED ON THE T1 RECORD. (ENDCHK)
T2-01	ELEMENTS HAVE INCOMPATIBLE VALUES	
T2-01	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
T2-01	2ND FEATURE REQUIRED IF FIRST SPECIFIED	TRUNK TOLL RESTRICTION - EXPANDED OR CONFLICTING CODE TABLES IF THE TOLL RESTRICTION IS 'ET', THEN AN EXPANDED OR CONFLICTING CODE CHECK TABLE MUST BE SPECIFIED. IF THE TOLL RESTRICTION IS 'TL' OR '--', THEN AN EXPANDED OR CONFLICTING CODE CHECK TABLE MUST BE DASHED.
T2-02	ELEMENTS HAVE INCOMPATIBLE VALUES	
T2-02	ELEMENT 2 IS MEANINGLESS SPECIFICATION	
T2-02	2ND FEATURE REQUIRED IF FIRST SPECIFIED	2ND FEATURE REQUIRED IF FIRST SPECIFIED. TOLL ACCESS CODE INDICATOR - TOLL ACCESS CODE VALUE OF ACCESS CODE INDICATOR — ALLOWABLE VALUES OF TOLL ACCESS CODE DIGITS NM, OP, NR, OR — 0-- TO 999 -- — ---

Table 21.1   CPG   Error   Messages   (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
T2-04	VALUES TO BE FILLED LEFT TO RIGHT	TOLL ACCESS CODE - SECOND TOLL ACCESS CODE IF DIGIT 1 IS DASHED, THEN DIGITS 2 AND 3 MUST BE DASHED. IF DIGIT 2 IS DASHED, THEN DIGIT 3 MUST BE DASHED.
T2-05	SECOND ELEMENT EQUALS FIRST ELEMENT	TOLL ACCESS CODE - SECOND TOLL ACCESS CODE THESE FIELDS CANNOT BE THE SAME.
T2-51	DUPLICATE TRUNK GROUP NUMBER	
T2-51	TRUNK GROUP NOT FOUND	TRUNK GROUP NUMBER A. TRUNK GROUP NUMBER MUST BE UNIQUE ACROSS T2 RECORDS. B. EACH TRUNK GROUP NUMBER APPEARING ON A T2 RECORD MUST ALSO APPEAR ON A T1 RECORD C. EACH TRUNK GROUP NUMBER APPEARING ON A T1 RECORD MUST APPEAR ON A T2 RECORD. (ENDCHK)
T2-52	CODE CHECK TABLE NOT FOUND	EXPANDED OR CONFLICTING CODE TABLE THE EXPANDED OR CONFLICTING TABLE SELECTED MUST HAVE A CORRESPONDING EC RECORD TO INITIALIZE THE TABLE.
T2-53	CODE RESTRICTION TABLE NOT FOUND	CODE RESTRICTION TABLE - 1+ RESTRICTION TABLE NOT FOUND RESTRICTION TABLE NUMBERS MUST APPEAR ON A CR RECORD.
T2-54	ILLEGAL VALUE FOR DIC, PAG OR REC APPL	

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
T2-54	ILLEGAL VALUE FOR TRUNK APPLICATION	THE FOLLOWING FIELDS HAVE CERTAIN REQUIRED VALUES IF THE TRUNK APPLICATION IS 'DIC', 'PAG', 'REC' OR 'NIC': FIELD NAME — REQUIRED VALUE TRUNK TOLL RESTRICTION `--` TOLL ACCESS CODE `-----` SECOND TOLL ACCESS CODE `-----` CODE RESTRICTION TABLE `-` EXPANDED OR CONFLICTING TABLE `-` 1 + RESTRICTION TABLE `-` 2-WAY PAD CLASS `-` (DIC,PAG, NIC ONLY) 3-WAY PAD CLASS `-` MERS `----` DTMF BLOCK TRANSMISSION N REVERSE BATTERY CHECK `-` MESSAGE METER PEG `--` TRUNK CALL QUEUEING N REMOTE-ACCESS AUTHORIZATION CODE `-` OUTPULSING DELAY `--` ATTENDANT RECALL N MERS QUEUE N
T2-55	TRUNK CALL QUEUE DOES NOT HAVE REQUIRED VALUE	AN OUTGOING TRUNK MAY NOT HAVE TRUNK CALL QUEUING.
T2-56	FIELD DOES NOT HAVE REQUIRED VALUE	FOR A TRUNK GROUP WITH TRUNK APPLICATION CAS (T1 RECORD), TRUNK CALL QUEUEING IS NOT ALLOWED.
WT-51	DUPLICATE TIME PERIOD NUMBER	TIME PERIOD NUMBER THE TIME PERIOD NUMBERS MUST BE UNIQUE ACROSS ALL WT RECORDS.
WT-53	TIME PERIOD OVERLAP	TIME PERIODS MUST NOT OVERLAP.
WT-54	WARD NUMBER NOT ACTIVATED IN ANY TIME PERIOD	THE WARD NUMBER WAS SPECIFIED ON AN LD RECORD, BUT WAS NOT ACTIVATED IN ANY TIME PERIOD ON WT RECORDS. (ENDCHK)

Table 21.1 CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
XP-01	VALUE OF SECOND ELEMENT TOO LARGE	
XP-o-1	VALUE OF SECOND ELEMENT TOO SMALL .	EXTENDED ADDRESSING - FRAME WINDOW SIZE IF THE FRAME LEVEL SUPPORTS EXTENDED ADDRESSING FIELD IS 'N', THEN THE FRAME WINDOW SIZE FIELD MUST BE IN THE RANGE 1 TO 7.
XP-02	SECOND ELEMENT EQUALS FIRST ELEMENT	X.25 DEVICE DIRECTLY CONNECTED - EXTERNAL. CLOCKING THE FIELD, IS X.25 DEVICE DIRECTLY CONNECTED, CANNOT CONTAIN THE SAME VALUE AS THE EXTERNAL CLOCKING FIELD. ONE OR THE OTHER OF THESE FIELDS CAN BE SPECIFIED ('Y'), BUT NOT BOTH.
XP-03	INVALID CHARACTER STRING	LOGICAL CHANNEL NUMBER ASSIGNMENTS (LCNS) ALL SIX LCN ASSIGNMENT FIELDS MUST NOT CONTAIN ZEROS.
XP-03	SECOND ELEMENT CONTAINS INVALID VALUE.	LOW LCN - HIGH LCN IF ANY OF THE LOW LCN STARTS WITH 'OOOO', THEN THE MATCHING SET HIGN LCN SHOULD BE '0000'.
XP-04	VALUE OF SECOND ELEMENT TOO SMALL	HIGH LOGICAL CHANNEL ASSIGNMENT FIELDS THE HIGH LCN MUST BE GREATER THAN OR EQUAL THE LOW LOCN ON INCOMING, BI-DIRECTIONAL AND OUTGOING CHANNELS.
XP-05	VALUE OF SECOND ELEMENT TOO SMALL	LOGICAL CHANNEL NUMBER ASSIGNMENTS THE BI-DIRECTIONAL FIELDS' VALUES MUST CONTAIN LARGER NUMBER VALUES THAN THE INCOMING FIELDS'. THE OUTGOING FIELDS' VALUES MUST CONTAIN LARGER NUMBER VALUES THAN THE BI-DIRECTIONAL FIELDS' VALUES.
XP-52	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH FCN OF INCOMING CARD	

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
XP-52	CARD TYPE DEFINED ON FR INCOMPATIBLE WITH INCOMING CARD TYPE	
XP-52	FUNCTION OF CARD NOT ALLOWED FOR CARD TYPE DEFINED ON FORM FR	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT FUNCTION SPECIFIED MUST BE VALID FOR THE CARD TYPE DEFINED ON FR (FOR THIS PEC TYPE). A SYNCHRONOUS DATA PORT MUST APPEAR ON AN ADMP OR NIC CARD OR A VPLO, VPL1, VP20 (VOICE AND DATA OR DATA) OR VP21 LINE CARD. (PHYLOC)
XP-52	NONEXISTENT PHYSICAL LOCATION	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED MUST BE VALID FOR THIS PEC TYPE. (PHYLOC)
XP-52	PHYSICAL LOCATION NOT DEFINED ON RECORD CODE FR	PHYSICAL LOCATION THE PEC, GROUP, AND SLOT SPECIFIED MUST BE DEFINED ON AN FR RECORD. (PHYLOC)
XP-53	PHYSICAL LOCATION NOT DEFINED ON RECORD CODE LD/CP	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED MUST BE DEFINED ON AN LD RECORD (EXCEPT FOR THE PX25 PORT WHICH MUST BE DEFINED ON A CP RECORD).
XP-53	USE OF PHYSICAL LOC CONFLICTS WITH INSTR. TYPE SPECIFIED ON LD	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED MUST BE DEFINED ON AN LD RECORD WITH AN INSTRUMENT TYPE OF 'SPM'. (EXCEPT FOR THE PX25 PORT).
XP-53	PHYSICAL LOCATION NOT DEFINED ON RECORD CODE CP	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED MUST BE DEFINED ON A CP RECORD. (SVR 8220 AND BEYOND)
XP-53	XP RECORD APPLIES ONLY TO SYNCH DEVICE TYPES ON CP	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED MUST BE DEFINED ON A CP RECORD WITH A DEVICE TYPE OF 'X25', 'PX25' OR 'NIC '.

Table 21.1   CPG Error Messages (Continued)

CPG ERROR MESSAGES	TITLE	DESCRIPTION OF MESSAGES
XP-54	DUPLICATE PHYSICAL LOCATION	PHYSICAL LOCATION THE PEC, GROUP, SLOT, AND CIRCUIT SPECIFIED MUST BE UNIQUE ACROSS ALL XP RECORDS.
XP-55	NONEXISTENT PHYSICAL LOCATION	PHYSICAL LOCATION THE PEC, GROUP, AND SLOT SPECIFIED MUST BE VALID FOR THE PEC TYPE SPECIFIED ON THE OE RECORD.
XP-55	AN SPM ON A VPL0 CARD MUST HAVE A BAUD RATE OF 9600 OR LESS	PHYSICAL LOCATION - BAUD RATE A SYNCHRONOUS DATA PORT MUST SPECIFY A BAUD RATE OF 9600 OR LESS IF IT CONNECTS TO A VPLO LINE CARD.
XP-55	SPM/CARD TYPE COMBINATION REQUIRES BAUD RATE OF 9600 OR LESS	PHYSICAL LOCATION - BAUD RATE A SYNCHRONOUS DATA PORT MUST SPECIFY A BAUD RATE OF 9600 OR LESS IF IT CONNECTS TO A VPLO OR VP20 LINE CARD.
XP-56	DEVICE TYPE/CLOCK/DIRECT CONNECT CONFLICT	CLOCK/DIRECT CONNECT THE ABOVE FIELDS MUST BE 'Y' FOR DEVICE TYPE 'NIC' ON RECORD CODE CP. FOR ALL OTHER DEVICE TYPES, ONE OF THE FIELDS MUST BE 'Y'.
XP-57	DEVICE TYPE NIC REQUIRES FIELD TO BE N	FRAME LEVEL BISYNCH/HDLC THE ABOVE FIELDS MUST BE 'N' FOR DEVICE TYPE 'NIC' ON RECORD CODE CP.
XP-58	DEVICE TYPE NIC REQUIRES X.25 SPEED TO BE 5 TO 8	X.25 SPEED SELF-EXPLANATORY
XP-82	PHYSICAL LOCATION IS MISSING ON NAMED RECORD CODE	PHYSICAL LOCATION EVERY SYNCHRONOUS DATA PORT APPEARING ON AN LD AND CP RECORD MUST APPEAR ON AN XP RECORD. EVERY NIC APPEARING ON A TC AND CP RECORD MUST APPEAR ON AN XP RECORD. (ENDCHK)

ALPHABETICAL INDEX OF RECORD CODES

F = TL-130000-1001   O = TL-130100-1001   M = TL-130200-1001   I = TL-130300-1001   D = TL-130400-1001   S = TL-130500-1001   A = TL-100000-1001

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LIST OF TABLES

GENERAL **1 .0** This technical practice document provides maintenance procedures for the Fujitsu GTE Business Systems' OMNI SI Digital PABX (Private Automatic Branch Exchange), System Version Release 52.1 .X. This document contains basic information and step by step procedures for:

- Locating and correcting system failures caused by problems with system power, hardware, software, or peripheral equipment.

- Making modifications or changes to system hardware, software, and peripheral equipment.

- Monitoring the status of system hardware, software, and peripheral equipment by using self-testing diagnostics.

System Software Maintenance and Applications **1.1** The following system maintenance software features and their applications are covered:

- Maintenance Commands

- On-Line maintenance

- System Maintenance General Principles

- Troubleshooting

- Call Tracing

- PD-200 Maintenance

- Recent Change

- Off-Line Diagnostics

Maintenance Terminals **1.1.1** A maintenance terminal interacts with system maintenance features. As the system responds to user keyboard commands to provide information or perform certain functions, information is printed on the terminal display screen. The system will support a printer connected to a maintenance terminal. The printer provides a permanent record of maintenance operations.

Security Levels **1.1.2** The use of system maintenance software requires the technician to directly access the system data base. The level of data base access is determined by the maintenance feature used and the task. The following security levels apply:

- Security Level 0: lock not open

- Security Level 1: display capability traffic studies and system status

- Security Level 2: line changes and other rearrangements of existing facilities

- Security Level 3: feature changes not requiring hardware changes

- Security Level 4: complete Recent Change capabilities

- Security Level 5:)ata Base changes and Maintenance Requests.

- security Level 6: generic changes

- Security Level 7: spare

- . Security Level 8: spare

Security Codes
1.1.3 Security codes prevent unauthorized access to the data base. Security codes are four-character passwords made up of letters, numbers, or a combination of both. They are used to unlock the data base security lock. The security code which opens the lock at one security level will allow access at that level or to those below it.

The use of an incorrect security code, or the incorrect level of security code, will result in the following on-screen message:

   INVALID SECURITY ACCESS

If this prompt appears, check the security code as well as the nature of the task being done. This prompt will also appear if an attempt is made to work at a Security Level higher than the one authorized.

The following procedure unlocks the security lock:

   1. Type SL OL

      The system responds: SECURITY CODE >

   2. Type four-character security code

      The System responds: OPEN AT LEVEL X

      where X is the security level open

System Diagnostics
1.2 Self-testing diagnostics and manual hardware testing determine system fault conditions.

Self-Testing Diagnostics
1.2.1 As part of normal operations, the system automatically conducts diagnostic self-tests on a periodic basis. Failures detected by the system are recorded as Fault Codes listed in the Fault Log. The Fault Log is accessed using the maintenance terminal as part of the routine troubleshooting process (see Section 5.0 Troubleshooting).

The Smart Loader program occurs at the beginning of the generic diskette. After loading this program the system conducts memory tests and self-testing diagnostics for about 20 seconds.

Diagnostic self-tests are performed on Attendant Consoles, agent instruments, and Featurephones. These self-tests are conducted at each instrument in order to check equipment performance without affecting system operations.

Manual Hardware Testing

1.2.2 Maintenance commands place system hardware in an out-of-service condition for maintenance purposes. The "maintenance busy" status tells system software that this particular piece of hardware is not available for service (see Section 2 0 Maintenance Commands).

The system conducts tests while the hardware is in the out-of-service condition. Response Codes show whether or not the equipment passed system tests and was allowed to be placed in service, or failed system tests and was not placed in service (see Section 5.0 Troubleshooting).

Reference Documents

1.3 Maintenance personnel should become familiar with OMNI SI information contained in the following Technical Practices before performing maintenance tasks:

- TL-130000-1001 System Description/Features

- TL-130100-1001 Operation

- TL-130300-1001 Installation- Appendix 1 Printed Circuit Board Strapping Options

- TL-130400-1001 Data Base Programming

- PD-200 Packet Data System 278-922-180 - Appendix 1 PD-200 Packet Data System, Administration and Maintenance

System Configuration

1.4 The following paragraphs contain the frame image listing, the power restriction categories for removal and replacement of cards, and the procedure for handling the cards.

Frame Image

1.4.1 The frame image card locations for a fully configured OMNI SI system appear in Figure 1 .1. The frame image includes the Expansion File, the Get Started File, and the Power File. The location of Groups A, B, C and D are shown as well as the location of TI-Span cards.

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
										←———			T1					——→																		
EXPANSION FILE X	CHM85		IFCC	MPB85	PCMFS	PCMFS	PCMI	PCMI	PCMUS C6	FDC	PCMUS C5	LCM	PCMUS C4	SIL	PCMUS C3	T1S	PCMUS C2	T1B2	PCMUS C1	PCMUS C7	PCMUS C8	PCMUS C9	PCMUS C10	PCMUS C11	PCMUS D0	PCMUS D1	PCMUS D2	PCMUS D3	PCMUS D4	PCMUS D5	PCMUS D6	PCMUS D7	PCMUS D8	PCMUS D9	PCMUS D10	PCMUS D11
GET STARTED FILE Y	M1MB	MPG16	IFCC	CP85E	MPB85	NSDC	FMSD	TPI2	EPCMN		INCKS		PCMTS		CHM85	PCMFS	PCMI	PCMUS A0	PCMUS A2	PCMUS A4	PCMUS A5	PCMUS A7	PCMUS A8	PCMUS A9	PCMUS A10	PCMUS A11		PCMUS B0	PCMUS B2	PCMUS B3	PCMUS B5	PCMUS B6	PCMUS B7	PCMUS B8	PCMUS B9	PCMUS B11
POWER FILE	01 PSUPY	02	03	04 PFT	05	06 BC5R	07	08																												

Figure 1.1   Frame Image Gard Locations for a Fully Configured System

Card List **1.4.2** A complete list of OMNI SI cards according to card number appears in Table 1 .1. Cards used for the PD-200 Option are also included in the list. Information about removal and replacement is noted with the card and explained at the end of the table.

Table 1.1   OMNI SI Cards

CARD NO.	MNEMONIC	DESCRIPTION
FB-15277-A	SIL	Span Interface and Output Format for T1
FB-15277-I A	SIL	Span Interface and Output format for T1
FB-15278-A	FDC	Frame Detector Circuit for T1
FB-15280-A	LCM	Line Compensator for T1
FB-17288-A	CP85E	Central Processor Unit Enhanced (8085) (Note 1)
FB-17187-A	PCMI	PCM Interface
FB-17188-A	TP12	Test Panel Interface Version 2 (Notes 1, 3)
FB-17189-A	PCMFS	PCM Frame Synchronization
FB-17189-BOA	PCMFS	PCM Frame Synchronization
FB-17192-A	T1 B2	T1 Buffer Circuit 2
FB-17197-A	PSUPY	Power Supervisory (Note 1)
FB-17201 -A	PEMT	PCM Two-Wire E&M Trunk (Note 2)
FB-17202-A	PCOT	PCM Central Office Trunk (Note 2)
FB-17202-BOA	PCOT	PCM Central Office Trunk (Note 2)
FB-17203-A	PDTMF	PCM Dual Tone Multi-frequency
FB-17204-A	BC5R	Battery Charger 5 volt Regulator (Note 1)
FB-17208-A	ATTI2	Attendant Interface, Number 2 (Note 2)
FB-17209-A	SIDML	SI Dual Modem and Current Loop (Note 2)

Table 1.1 OMNI S1 Cards (Continued)

CARD NO.	MNEMONIC	DESCRIPTION
FB-1721 O-A	PADIC	Public Address and Dictation
FB-17213-BOA	MPG16	Memory Paging 16 Page (Note 1)
FB-17215-A	MPB85	Multiprocessor Buffer 8085 (Notes 1, 3)
FBI.721 7-A	EPCMN	Expandable PCM Network (Notes 1, 3)
FB-17218-A	CHM85	Channel Memory 8085 (Notes 1, 3)
FB-17220-BOA	FMSD	File Management System Card (Notes 1, 2, 3)
FB-17224-A	IFCC	Inter-file Connector Card
FB-17225-A	CIP	Control Interface to Periphery (Note 2)
FB-17226-A	VPLC	Voice Packet Line Card (Type VPLO and VPL1)
FB-17226-I A	VPLCD	Voice Packet Line Card Derived
FB-17227-A	PBE/T	Packet Bus Extender/Terminator (Note 3)
FB-17228-BOA	PRE	Packet Router Extender (Note 3)
FB-17229-A	ADM P-A	Administrative Maintenance Processor A (Note 3)
FB-17230-BOA	ADMP-C	Administrative Maintenance Processor C (Note 3
FB-17231 -A	UCB	Universal Controller Board
FB-17235-A	VCIP	Voice Control Interface Processor
FB-17236-A	DVCIP	Data Voice Control Interface Process. (Notes 1, 2)
FB-17242-A	NIC	Network Interface Card
FB-17246-A	VPLC2	Voice Packet Line Card 2 (Type VP20 and VP21)
FB-17250-A	POPS	PCM Off-Premises Station Line Card (Note 2)
FB-17251 -A	PRLT	PCM Release Link Trunk (Note 2)
FB-17254-A	PLCC	PCM Line Circuit Card (Note 2)
FB-17254-1A	PLCC	PCM Line Circuit Card (Note 2)
FB-17265-A	OCA	Outrigger Cable Adapter
FB-17276-A	OAIOD	OMNI Automatic Identification of Outward Dialing
FB-17280-A	PPTR	PCM Progress Tone Repeater

Table 1.1   OMNI S1 Cards (Continued)

CARD NO.	MNEMONIC	DESCRIPTION
FB-17312-A	RPTR	Repeater Card (Note 3)
FB-17314-1A	M1MB	Memory 1 Megabyte (Note 1)
FB-20718-1A	T1S	Supervisory Alarm Circuit for T1
FB-20771-I A	INCK	Intermediate Network Clock (Note 1)
FB-20922-A	INCKS	Synchronized Intermediate Network Clock (Note 1)
FB-20974-A	PCMTS	PCM Tone Source Card (Note 1)
FB-20992-A	NSDC	Narrow Serial Device Controller (Notes 1, 3)
FB-20996-A	RABR	Recorder Announcer Buildout Resistor
FB-51051 -A	PFT	Power Fail Transfer
FB-51267-A	PFWTA	PCM Four-Wire E&M Trunk (Note 2)
FB-51279-A	PCONF	PCM Conference Card
FB-51280-A	PILT	PCM Incoming Loop Trunk DID (Note 2)
FB-51280-BOA	PILT	PCM Incoming Loop Trunk DID (Note 2)
FB-100119-I	PMI	Property Management System Interface (Note 1)

NOTES:

1. Power to cabinet must be turned OFF before card can be removed or replaced
2. Card position must be placed in MAINTENANCE BUSY state before card can be removed
3. Cables must be disconnected from the front of the card before removing from the cabinet.

Power Restrictions

1.4.3 There are three power restriction categories for the removal and replacement of OMNI SI printed circuit boards. PABX service may be affected as follows:

- AC power ON - No interruption to PABX service

- AC power OFF - Warm start required (about a 15 second system outage)

- AC power off and battery pack fuse removed - Cold start required (about a ten minute system outage)

Cards with peripheral service circuits (lines and trunks) may be removed and replaced while the PABX is operating. The removal and replacement of common control cards may require AC power down or AC power down with the battery pack fuse removed. Table 1.2 provides a reference between cards and the power restrictions for removal and replacement.

Handling Cards

1.4.4 (PCBs) Printed circuit boards require special handling during removal and storage because of their sensitivity to static electrical charges. A static discharge as low as 40 volts can damage the PCB metal-oxide semiconductor integrated and hybrid circuitry. The following procedures are used when handling a PCB:

1. A wrist strap must be worn, and it must be connected to a bare metal or plated part of the frame (screw, card guide support, etc.) when performing the following procedures:

   - Removing the static-sensitive PCB from the SI frame and placing it in an anti-static plastic bag.

   - Removing a static sensitive PCB from an anti-static plastic bag and inserting it into the frame.

   - Repairing static sensitive cards or handling static sensitive components. Because the human body can hold static electricity, cards should never come in contact with skin or clothing.

2. Remove static sensitive cards from anti-static packaging immediately before placing into the OMNI SI frame.

3. Static sensitive cards are stored in anti-static packaging.

Card Removal and Replacement

1.4.5 OMNI SI PCBs fall into the three power restrictions shown in paragraph 1.9. When removal or replacement are required, refer to Table 1.2.

Table 1.2   Power Restriction Status

Card No.	Mnemonic	AC ON	AC OFF	Remove Battery Fuse
FB-15277-I A	SIL	X		
FB-15278-A	**FDC**	X		
FB-15280-A	**LCM**	X		
FB-17187-A	PCMI	X		
FB-17188-A	TPI2		X	
FB-17189-A	PCMFS	X	-	-
FB-17192-A	T1B2	X	-	-
FB-17197-A	PSUPY	-	X	-
FB-17201-A	PEMT	X	-	-
FB-17202-A	PCOT	X	-	-
FB-17203-A	PDTMF	X	-	-
FB-17204-A	BC5R	-	X	X
FB-17208-A	ATTI2	X	-	-
FB-17209-A	SIDML	X	-	-
FB-17210-A	PADIC	X	-	-
FB-17213-BOA	MPG16	-	X	X
FB-17215-A	MPB85	-	X	-
FB-17217-A	EPCMN	-	X	-
FB-17218-A	CHM85	-	X	-
FB-17220-BOA	**FMSD**		X	-
FB-17224-A	IFCC		X	
FB-17225-A	CIP	X		

Table 1.2   Power Restriction Status (Continued)

Card No.	Mnemonic	AC ON	AC OFF	Remove Battery Fuse
FB-17226-A	VPLC	X		
FB-17227-A	PBE/T	X		
FB-17228-BOA	PRE		X	
FB-17229-A	ADMP-A		X	
FB-17230-BOA	ADMP-C	∎	X	
FB-17231 -A	UCB		X	
FB-17235-A	VCIP	X		
FB-17236-A	DVCIP	X		
FB-17242-A	NIC	X	∎	
FB-17246-A	VPLC 2	X		
FB-17250-A	POPS	X		
FB-17251 -A	PRLT	X		
FB-17254-A	PLCC	X		
FB-17265-A	OCA	X		
FB-17276-A	OAIOD	X		
FB-17288-A	CP85E		X	
FB-17314-I A	M1MB		X	X
FB-20718-I A	T1S	X		
FB-20771-1 A	INCK		X	
FB-20922-A	INCKS		X	
FB-20974-A	PCMTS		X	
FB-20992-A	NSDC		X	
FB-51051 -A	PFT	X		
FB-51267-A	PFWTA	X		
FB-51279-A	PCONF	X		
FB-51280-A	PILT	X		

MAINTENANCE COMMANDS AND DISPLAYS

2.0 The OMNI SI system provides software support and status display programs that aid in system maintenance and fault isolation. The system provides maintenance displays, maintenance commands and maintenance request commands . Maintenance displays provide records of system operations and records of automatic fault detection. Maintenance commands, memory access commands, and maintenance requests permit testing of devices and/or circuits and the removal of defective devices and/or circuits from operation without affecting the operation of the system.

Maintenance Displays

2.1 Maintenance displays provide both general and specific information on system operations. The displays are:

- **System** Status
- Fault Log
- Response Codes
- ACA (Automatic Circuit Assurance Requests Log)
- Traffic Study
- Display Condition

System Status

2.1.1 System status can be displayed on the system maintenance terminal by entering the status command. The STATUS (or "ST.") command is used. The system will respond by causing the maintenance terminal to print out the following:

```
STATUS.
 07/04  12:36
CECO    PEC0PEC1 PEC2PEC3PEC4PEC5PEC6PEC7MDR ESPADMP
INS     INS UNE UNE UNE UNE UNE UNE INS INS INS
OK      OK  OK  OK  OK  OK  OK  OK  OK  OK

NO ALARMS PRESENT
```

With an ADMP out of service:

```
STATUS.
 09/19  16:18
CEC0    PEC0PEC1 PEC2PEC3PEC4PEC5PEC6PEC7MDR ESP ADMP
INS     INS UNE UNE UNE UNE UNE UNE INS UNE OOS
OK      OK  OK  OK  OK  OK  OK  OK  OK  OK

ALARMS PRESENT
```

**Fault Log
Request Commands**

2.1.2 The status printout wilt show NO ALARMS PRESENT when there are no faults in the system. If the printout shows that alarms are present, a printout of the fault log should be requested by executing the appropriate fault log command. The fault log is a record of the last 32 faults that were detected by the CEC. A printout of these faults is arranged in the same order that the faults occurred (earliest is first entry on the list; most recent is the last entry on the list). The commands for executing a fault log report are as follows:

(a) To dump a fault log, enter the following:

```
FLOG INS DUMP. or
FL INS. or
FL INS DU.
```

(b) To clear a fault log, enter the following:

```
FLOG INS CLEAR. or
FL INS CLEAR.or
FL INS CL. or
```

(c) To dump and clear **a** fault log, enter the following:

```
FL INS DUMP CLEAR. or

FL INS DU CL.
```

Fault Log Display

When a system fault occurs, a message is printed on the maintenance terminal connected to the CEC. The fault is also logged in memory so that maintenance personnel can later retrieve a recent, operational history of the system. This fault log may be displayed and/or cleared at any time via maintenance commands.

The format of a fault message as printed on the terminal is shown in Figure 2.1. A key item in the fault message is the two-digit fault code. Table 2.1 lists the fault codes and their functions.

Fault codes and their associated fault message printouts form the basis for system troubleshooting as described in section 5.0 of this practice. A fault code quick reference chart is given in Figure 2.3. For each code, the fault title and the meaning of data stored in the CEC CPU registers are given.

MONTH/DAY

HOUR/MINUTE

ON-LINE CEC (0)
(CONTROLS ON-LINE I-I-Y)

CEC REPORTING
FAULT (0) (REPORTS
FAULT)

FAULT CODE

| MM/DD | HH/MM | C E C X | CECX | FAULTnn | B C D E H L |
| | | | | | xx xx xx xxxx xx |

XX = TWO HEXAIDECIMAL DIGITS
NN = TWO-DIGIT FAULT CODE

REGISTER STORED
DATA VALUE AT TIME
OF FAULT

Figure 2.1   Fault Reporting Format on TTY

Table 2.1   Fault Codes and Functions

CODE	FUNCTION
00	BLOCK PARITY FAILURE
01	DYNAMIC RAM MEMORY FAILURE
02	CONTROL MEMORY READ-AFTER-WRITE FAILURE
06	SYSTEM NETWORK TEST FAILURE
08	NETWORK TEST MALFUNCTION
09	DIRECTIVE TEST MALFUNCTION
10	DIRECTIVE HOPPER FULL MALFUNCTION
11	ILLEGAL EVENT ERROR MALFUNCTION
12	READ-AFTER-WRITE FAILURE IN CHANNEL MEMORY
15	T1 ALARM
16	10 MS STOPPED
17	ALARM FAULT
19	PRE-LOADING MEMORY TEST FAILURE
20	EVENTHOPPERERROR
21	DIRECTIVE HOPPER ERROR
22	MDR SDC FAULT
25	REAL TIME CLOCK FAILURE
27	HOTEL /HEALTH CARE DISK BACKUP FAILURE
28	CAS MAIN/ACD AGENT DATA LINK ERROR
29	CAS MAIN/ACD MESSAGE QUEUE ERROR
30	ATTENDANT CONSOLE DATA CHECK ERROR
32	CIP/VCIP/DVCIP CARD FAILURE
33	CIP/VCIP/DVCIP PORT FAILURE
36	CHANGE MDR SYSTEM CLOCK FAILURE
37	SYSTEM WARM START
39	ADMP INITIALIZATION AND ASSOCIATED ERRORS
40	DISK FILES GV TX009/GVTX010 (TCM/FRL) AND I/0 ERRORS
41	FMS DISK ERROR
42	TIME SLOT LOCKUP

REGISTER STORED DATA VALUE

FAULT CODE	B	C[1]	D[2]	E[3]	H	L
00-CEC Block Parity Failure			02 = Test Failure	Page onwhich failureoccurred	Address of Faulty Byte	
				00 = I0 08 = I4 01 = I1 09 = I5 02 = D0 0A = D4 03 = D1 0B = D5 04 = I2 0C = I6 05 = I3 0D = I7 06 = D2 0E = D6 07 = D3 0F = D7		
OI-CEC Dynamic Memory Failure			02 = Test Failure	Page onwhich failureoccurred 00 = I0 08 = I4 01 = I1 09 = I5 02 = D0 0A = D4 03 = D1 0B = D5 = 0C = I6 05 = I3 0D = I7 06 = D2 0E = D6 07 = D3 0F = D7	Address of Faulty Byte	
02- CEC Control Memory Read-After- Write Failure			Data Written	Data Read	Address of Faulty Byte	
03 -CEC/PEC Common Memory Read-After- Write Failure	PEC No.		Data Written	Data Read	Address of Faulty Byte	
04-CEC Total Communication Failure And OS-CEC Single Channel Communication Failure	Channel No. that failed	00 = Cannot Allocate Message Buffer 01 = Test Message Timeout 02 = MPB85 Timeout (While Un-Loading) 03 = Check Allocate Message Buffer 04 = MPB85 Timeout (Single Byte)				

Figure 2.2   Fault Code Quick Reference Guide

FAULT CODE	B	C'	D²	E³	H	L
'I-		**05 = Read** After Write **Error in CEC** Memory	Data Written	Data Read	Address of Faulty **Byte**	
		06 = MPB85 Timeout (While Loading)				
		07 = Cannot Bring Up Channel on Startup				
		08 = First Faulty **Byte** in Message				
06-CEC System Network Test Failure	PEC X	**Timeslot** in PEC X	**00 = PEC(s) did** not respond		PEC Y	**Timeslot** in PEC Y
			01 = Only one **PEC responded**	PEC No. not responding		
			02 = **Test** Failure			
08-PEC Network Test Failure	PEC No.	Channel No.	**00 = PEC(s)** did not respond			
			02 = Test Failure			
			03 = Network Detected Off-line			
09-PEC Directive Test Failure	PEC No.	Channel No.	**00 = PEC(s) did** not respond			
			02 = Test Failure			
IO-PEC Directive Hopper Full	PEC No.					
11 PEC Illegal Event Error	PEC No.	Parameter 1	Parameter 2	Parameter 3	Event No.	

REGISTER STORED DATA VALUE

Figure 2.2   Fault Code Quick Reference Guide (Continued)

FAULTCODE	REGISTER STORED DATA VALUE					
	B	C1	D2	E3	H	L
12-PEC Read After Write Channel Memory Failure	PEC No.	Channel No.	Data Written	Data Read	Address of Faulty Byte	
13-PEC Self Test Error	PEC No.	00 = PEC-CEC Common Memory Read-and-Write	Data Written	Data Read	Address of Faulty Byte	
		01 = PEC Block Parity			Address of Faulty Byte	
		02 = PEC Dynamic Memory			Address of Faulty Byte	
		03 = PEC Illegal Directive	Directive NO.	Parameter 1	Parameter 2	Parameter3
		04 = MPB85 Timeout	Counter		Addressof Attempted Write	
		06 = Invalid Test No.	Test No.			
		07 = MDR Checksum on Call Info Buffer				
		08 = PEC Illegal PEC Directive	Directive No.	Parameter 1	Parameter 2	Parameter 3
14-PEC 10 MS Error	PEC No.		02 = Test Failure		CEC Count	PEC Count
15 T1 Alarm	PEC No.	00 = T1A	OO=System Alarm			
		01 = T1B	01 = Remote Alarm			
			02 = Cutoff Alarm			
			03 = Local Alarm			
16CEC 10 MS Stopped						

Figure 2.2   Fault Code Quick Reference Guide (Continued)

FAULT CODE		B	C¹	D²	E3	H	L
			REGISTER STORED DATA VALUE				
17-CEC Alarm Fault		Attendant Console No.	**00 = Art Card** Alarm **01-10 = T1** Line Numberl-16 **11-18 = Attend-** ant 00-07 = Trans- mission Fault				
18-Common Memory Block Parity Error		PEC No. .		End Address of Block		Address of Block That Failed	
19-CEC Preloading Memory Test		00 = Instruction Page0 0 1 = Instruction Page 1 02 = Data Page 0 03 = Data Page 1				Address of Block That Failed	

Figure 2.2   Fault Code Quick Reference Guide .(Continued)

MAINTENANCE

OMNI SI ®

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REGISTER STORED DATAVALUE

FAULT CODE	B	C¹	D²	E³	H	L
		80 = Illegal Directive No. Into Target Routine				
		FF = PED Test Failed				
22-24 Spare						
25 Real Time Clock Failure						
27 H/M Data not Backed up	Disk Operation Failure	Failure Mode				
28-CAS Main/ ACD Agent Data Link Error	PEC No.	Data Link No.	A=Time-out / 9 = 2nd Nack / 8 = Data Not Expected	Agent I.D.	No Meaning	
	PEC No.	Data Link No.	FF = Request for Initialization	Agent I.D.	No Meaning	
	PEC No. Buffer Destination	No Meaning	C = No PEC Message Buffer Available	No Meaning	No Meaning	
29-CAS Main/ ACD Message Queue Error	PEC No.		B = Failure When a PEC's Queue Cleared / All PEC Queue Were Cleared			
	No. of Times That No Message Buffers Were Available	00 = Message Buffer Queue Not Cleared / FF=Message Buffer Queue Cleared	C = No Message Buffers Were Available			
30-Attendant Console Data Check Error	Console No.	Console No.		Type of Error 8 = Checksum 9 = Data Link A=Time-out Occurred / FF=Data Link Check Failure		
31 PEC ODDB Backup Failure	PEC No.					

Figure 2.2   Fault Code Quick Reference Guide (Continued)

		REGISTER STORED DATAVALUE				
FAULT CODE	B	C¹	D²	E³	H	L
32- CIP Card Failure	PEC No.	00 = CLP Card Test Failure	Card No.			
		01 = CIP Card XMIT Error				
		02 = CIL Card Watchdog Timer Error				
		03 = CIP Card Hardware Error				
		04 = CIP Card Initialization Error				
33-CIP Port Failure	PEC No.	00= Data Link Test Failure	Port No.			
		01 = Port LBP Protocol Error				
		02 = CIP Port Sync Error		Total #of Sync Change		
		03 = Port Initial-ization Error				
		04 = Test Com-mand Failure				
		05 = PCRT Soft Protocol		Total #of Soft Protocol		
		06 = Down Load Failure	SID	Block Number	DN = Directory Number	
34-Remote FADS Transmission Error	80 = MDR-ESP Communications, Status Change	Number of Communications Status Change	Current Status 01 = OK OO=BAD	*See Below		
	01 = MDR Mem-ory Allocation Failure	Number of Figures	--	No Meaning		
	02 = Remote FADS must be started (FADS periodicdata collection in-terval error)	Previous ESP State	New ESP State	No Meaning		
35-Remote FADS Reporting Error	01 = Real-Time Packet Lost Sync	Real-Time Packet Count	Real-Time Data Timer	No Meaning		

Figure 2.2 Fault Code Quick Reference Guide (Continued)

	REGISTER STORED DATA VALUE					
FAULT CODE	B	C[1]	D[2]	E[3]	H	L
	02 = Real-Time Packet Count Error	Real-Time Packet Count	Real-Time Data Timer	No Meaning		
	03 = 15 Minute Packet Count Lost Sync	15 Minutes Packet Count	15 Minutes Data Timer	No Meaning		
	04 = 15 Minute Packet Count Error	15 Minutes Packet Count	15 Minutes Data Timer	No Meaning		
	05 = Logon ID Packet Count Error	Logon ID Packet Count	Logon ID Data Timer	No Meaning		
	06 = Max # of Times Cannot Find a Buffer	Buffer Failure Peg Value	oo	No Meaning		
	07 = Logoff Buffer Overflow	oo	oo	No Meaning		
37-System Restart	0 0	0 0				
		CEC Reload				

NOTES:

1. See Table 6-4
2. See Table 6-5
3. See Table 6-5, Register E
4. Fault 34 Reg E = Reason for Change
   - 00 = MDR not in Service
   - 01 = Timeout Waiting for ESP Acknowledgement
   - 02 = Unexpected Input from ESP
   - 06 = Acknowledge from ESP
   - 12 = No-Acknowledge from ESP

Figure 2.2   Fault Code Quick Reference Guide (Continued)

			REGISTER STORED DATA VALUE				
FAULT CODE	I I	B	C¹	D²	E³	H	L
39-ADMP Initialization and Associated Errors		01 = Can't Enable ADMP or No Buffer Available					
		02 = Host PEC/ADMP	0 PECOOS 1 DS OOS				
		03 = Duplicate initial Request					
		04 = Configurating Data Error	DevTyp	Dev Number 1	Dev Number 2 Card Slot	PARM 1	PARM2
		05 = PR Does Not Match	P E C #	OWNGP			
		06 = Spare	PARM 1	PARM 2	PARM3		
		07 = Undefined Status	Status				
		08 = Spare	PARM 1 = DevTyp	PARM 2 =PEC	PARM3 = SID		I
		09 = Dev Type Not Implemented		DevTyp			
40-Disk Files GVTX009/ GVTX010 (TCM/FRL) and **I/O** ERRORS		00 = GVTX009 01 = GVTX010 02 = RC/OM	00 = File Failed to Open 0 1 = Read Record Error 02 = Write Record Error 03 = File Failed to Close	See FMS Code for D² Register Data Values			
41-Disk I/O Error		I/O Request Code (See Note 5)	Error Code (See Note 6)	DCB Table Index (TCT1X))	DCB Sequence Index (TCS1X)	DRB ADDR	
42-Time Slot Lock-UP		PEC Number	Time Slot Number	Hardware ID	Call Store Number		

NOTES:

5. I/O Request Codes are as follows:

02 = Read PEC 0 Generic and Data Base
03 = Read PEC 1 Generic and Data Base
04 = Read PEC 2 Generic and Data Base
05 = Read PEC 3 Generic and Data Base
06 = Read MDR Generic and Data Base
08 = Read PEC 0 Data Base Only
09 = Read PEC 1 Data Base Only
OA = Read PEC 2 Data Base Only
OB = Read PEC 3 Data Base Only
OC = Read MDR Data Base Only
OE = Write all Data Base
13 = Read HC/M Data
14 = Write HC/M Data (MR)
15 = Write HC/M Data (Power Fail)

18 = Read a Recent Change Program
IA = Close Recent Change File
1 D = Read Featurephone Generic
1 E = Load a PEC (Parallel Loading)
1 F = Close Featurephone File
20 = Read PEC 4 Generic and Data Base
21 = Read PEC 5 Generic and Data Base
22 = Read PEC 6 Generic and Data Base
23 = Read PEC 7 Generic and Data Base
24 = Read PEC 4 Data Base
25 = Read PEC 5 Data Base
26 = Read PEC 6 Data Base
27 = Read PEC 7 Data Base

NOTES:

6. Error Codes are as follows:

81 = Disk Directory Full
82 = Not Enough Spare to Define File
83 = File Size Is Larger then Disk
84 = Filename in Use
85 = Record Size too Large
86 = Device's not Equal
87 = Device Invalid
88 = Filename Is Invalid
89 = Security Violation
8A = File Does not Exist
88 = Not Allowed on FMS System File
8C = File Is Already Open
8D = Mode Is Invalid
8E = FID(s) not Available
8F = FID Is Invalid
90 = FID Is not an Active File
91 = FID Specified Is Already in Use
92 = FID in Use by Other Processor

93 = Read Past Logical EOF Attempted
94 = File Is not Open for Input
95 = File Is not Open for Output
96 = Write Past Physical EOF Attempted
97 = Seek Past EOF Attempted
98 = Record Sizes not Equal
99 = Files Open on Device
9A = FID not Sized
9B = Access Is Invalid
9E = Device not Ready
9F = Device I/O Error
A0 = Device Write Protected
AI = Device not Mounted
A2 = Request not Allowed on Mounted Disk
A3 = No Device Attached
A4 = Device Is Private
A8 = Invalid Command Number
FF = Timeout

**TTY Response
Log Display**

2.1.3 A response log is provided within the system memory to record the responses to tests performed. The system performs these tests when certain tasks attempted will alter the system configuration. For example, the system conducts a series of tests when the PEC is to be placed in service or out of service. A response message is associated with each task attempted. If an operating system maintenance terminal is connected to the in-service CEC, the response messages are printed as they occur.

For most tasks, the response messages appear only if the task is successfully completed. This is true even though some failures occur. Each response message includes information about those failures. The format for the response messages is shown in Figure 2.3. As a quick reference guide for the response codes, refer to Figure 2.4.

DATE

HOUR/MINUTE

ON-LINE CEC (0)
(CONTROLS ON-LINE TTY)

CEC REPORTING
RESPONSE (0)
(REPORTS RESPONSE)

RESPONSE CODE

MM/DD	HH/MM	CECX	CECX	FAULTnn	B	C	D	E	H	L
						xx	xx	xx	xxxx	xx

XX = TWO HEXAIDECIMAL
    DIGITS
NN = TWO-DIGIT FAULT CODE

REGISTER STORED DATA
VALUE AT TIME OF
RESPONSE

Figure 2.3   Response Reporting Format on TTY

RESPONSE CODE	REGISTER STORED DATA VALUE					
	B	C	D	E	H	L
00-Task 1 Put PEC INS	PEC No.	00 = PEC is UP and Running	Address of TCB			
		01 = PEC Has Bad RAM			Address of Faulty Byte	
		02 = Control Lead Test Failure			01 = CPRST 02 = Request 03 = 10 MS	
		03 = Common Memory is bad			Address of Faulty Byte	
		04 = Disk Unit Failure				
		05 = Start Unit Failure				
		06 = Channel Memory Failure on Startup				
01 -Task 2 Put PEC OOS	PEC No.		Address of TCB			
02-Task 4 Allow SBY CEC to Check PEC Leads	PEC No.		Address of TCB			
03-Task 5 Check SBY CEC-PEC Links	PEC No.	00 = PEC is Up and Running	Address of TCB			
		01 = PEC Has Bad RAM			Address of Faulty Byte	

Figure 2.4   Response Code/Quick Reference Guide

REGISTER STORED DATA VALUE

RESPONSE CODE	B	C	D	E	H	L
		02 = Control Lead Test Failure			01 = CPRST 02 = Request 03 = 10 MS	
		03 = Common Memory is Bad			Address of Faulty Byte	
		04 = Disk Unit Failure				
		05 = Start Up Failure				
		06 = Chanel Memory Failure on Start up				
04-Task 6 Check SBY CEC-PEC to INS	PEC No.	00 = PEC is Up and Running	Address of TCB			
		01 = PEC Has Bad RAM			Address of Faulty Byte	
		02 = Control Lead Test Failure			01 = CPRST 02 = Request 03 = 10 MS	
		03 = Common Memory is Bad			Address of Faulty Byte	
		04 = Disk Unit Failure				
		05 = Start Up Failure				
		06 = Chanel Memory Failure on Start up				
OS-Task 7 Start Communication Between CEC	PEC No.	OO=Make OOS--INS	Address of TCB			
		01 = Make OOS--SBY Transition				
06-Task 15 Call Recovery			Address of TCB			
07-Communica- tions Channel is Back Ins	Channel No.					
08-H/HC Tape Write Successful						
09-Power Re- stored. No System Shut-down						

Figure 2.4   Response Code/Quick Reference Guide (Continued)

RESPONSE CODE	B	C	D	E	H	L
		REGISTER STORED DATA VALUE				
10- Task 29 Agent Recovery Attempt	Agent I.D.	OO = Rec. OK FF = REC. Fail (Agt.-- OOS)	Address of TCB		No. of Recovery Attempts	
1 I- CIP Port Status Change	PEC No.	00 = CIP Port to 00s	Port No.			
		01 = CIP Port to 1s				
		02 = CIP Port to MOOS				
12-CIP Card Status Change	PEC No.	OO=CIPCard to 00s	Card No.			
		01 =CIPCard to IS				
13-ESP	Previous ESP State	Current ESP State 02 = m-Service	OF = Data Transm. to ESP begins at next qtr. hour ID = Data Transm. begins in two qtr. hours			
14-SBY-CEC Dynamic; Data Updated	Not Applicable					
15-BLDU	PEC No.	BLDU No.	Error Type *	00 = Out of synchronization 01 = In synchronization 02 = Negative acknowledge 03 = Invalid key identitv 04 = Invalid BLDU number		

Figure 2.4   Response Code/Quick Reference Guide (Continued)

Response Code.
Descriptions

Following are the response code descriptions listed in numerical order:

Response Code 00

This message is printed in response to an attempt to put the PEC in service. Before loading or putting a PEC in service, perform the following tests:

(1) Test all of the random access memory of the PEC.

(2) Test the control lead by clearing the response word in common memory and sending a Central Processor Reset signal (CPRST). Clear the CPRST signal. Check the response word in common memory to verify that the reset has occurred.

(3) Test the request lead by using the same procedure as above.

(4) Test the 10 ms interrupt line by using the same procedure as above.

(5) Test the CEC-PEC common memory.

Register Stored Value

- Register B has the PEC number.

  - Register C has a value of 00 through 06 (see Register C value summary following Response Code 13). Value 00 indicates that the PEC has been successfully placed in service and no further action is necessary.

NOTE: Other possible values for register C are explained where applicable in the following response code?.

Response Code 06

Responds to a call recovery attempt and indicates that it was completed.

RESPONSE CODE 08

Responds to the successful completion of the station status disk write operation. It indicates that the station status dynamic data was backed up on the disk in its entirety; This response is posted after automatic write-on power failure or on maintenance request operations. To write station status data on disk, refer to maintenance request code 2E, Response 08 does not use the registers to convey information.

Response Code 09

Responds to the restored power after fault code 26 power failure has occurred and indicates that there is no system outage before power is restored. The station status memory may or may not be backed up, depending on the power failure status. If the station status write operation is in progress at the time of power restoration, the operation will continue until completed. However, if the operation has not begun, station status write operation will not occur. Response registers are not used to convey information.

Response Code 10

Responds to an Agent Instrument recovery task. See fault code 28 description in the fault tables for conditions under which recovery will be attempted. If register C indicates that the recovery has failed, the Agent Instrument will be put out of service. If the recovery action is successful, the Agent Instrument will remain in its current state.

Response Code 11

Responds to placing an Integrated Featurephone CIP port in or out of service, or in a (MOOS) Maintenance Out-Of-Service busy state. When the port has failed for any reason, Fault Code 33 will be printed and the system will attempt a recovery (put back in service). See Fault Code 33 description for the conditions under which recovery will be attempted. If the recovery attempt fails, the port (Integrated Featurephone) will be put out of service. If the recovery attempt is successful, the port will remain in its current state. The port is placed in MOOS state when the Integrated Featurephone is in the process of downloading.

Response Code 12

Responds to placing an Integrated Featurephone CIP card in or out of service. See Fault Code 32 description for the conditions under which the CIP card will change its state.

Response Code 13

This message indicates that the ESP state has been changed to in service. This implies that MDR-ESP communications has been established and that remote FADS data is transmitted to the ESP as soon as the initial data collection period has ended. Register B indicates the previous ESP state. Register C contains the value 02 indication that the current ESP state is in service.

Register D indicates when remote FADS data collected for 15-minute periodic intervals begins to be transmitted to the ESP. The value OF in register D indicates that data transmission begins at the next quarter hour following the output of response 13. If D = **10,** data transmission begins on the following quarter hour. For example, response code 13 is received at 9:05; if D = OF, the data transmission begins at 9:15; if D = 10, data transmission will begin at 9:30.

Response Code 14

This message indicates that the standby CEC's dynamic data
has been updated by the in-service CEC. This task is
performed whenever a CEC goes from out of service to standby
and response 14 indicates completion of this task. To ensure
dynamic data integrity between CECs, recent change and CEC
generic writes should not be performed until a response code 14
has been printed after a CEC goes standby.

Response Code 15

This message indicates that the BLDU status has been changed
from out of service to in service or from in service to out of
service. Register B has the PEC number, register C has the
BLDU number, and register D has the error types.

Automatic Circuit Assurance Log Request Commands

2.1.4 The Automatic Circuit Assurance (ACA) log can be displayed on the system TTY or CRT terminal by entering the ACA log commands. The ACA log is a record of the last 32 reports that were generated. A printout of these reports is arranged in the same order that they occurred (earliest, first, most recent, last). The commands for executing an ACA log report are as follows:

This command prints ACA reports stored in the ACA log.

```
ACA INS. or ACA INS DUMP
```

This command clears all reports in the ACA log.

```
ACA INS CLEAR
```

This command prints all ACA reports and then clears the log.

```
ACA INS DUMP CLEAR.
```

ACA Log Display   The ACA report is printed on the maintenance terminal in the following format:

```
┌──────────────────────────────────────────────────────────────────────┐
│ SITE: AAAA      MM/DD       HH:MM        ACA CALL REPORT    = >         │
│                             SHORT                                       │
│                                                                        │
│                        Trunk Group       x x                           │
│                        Trunk  Number      x x x                         │
│                        Short  Calls       x x                          │
│                        Minutes            x x x                         │
│        or                                                              │
│ SITE: AAAA      MM/DD       HH:MM        ACA CALL REPORT      =>        │
│                             LONG                                        │
│                                                                        │
│                        Trunk Group       x x                           │
│                        Trunk  Number      x     x      x               │
│                        Long Call          - -                          │
│                        Minutes            x x x                         │
│ where                                                                  │
│                                                                        │
│ SITE = Site  identification                                            │
│ MM/DD = Month/day                                                      │
│ HH:MM =   Hour/minute                                                  │
│ Short Calls = Number of short trunk seizures                           │
│ Long Calls = Long trunk seizure                                        │
│ Minutes = How long it took before the trigger threshold was reached    │
└──────────────────────────────────────────────────────────────────────┘
```

Traffic Data Polling Command   **21.5** The traffic data polling commands are used to request an immediate dump of the traffic data registers. Either the active or passive registers can be polled. The active registers are the registers used to store the results of the current traffic study period and the passive registers store the data of the previous traffic study period. Input format for the traffic polling commands is shown below. The traffic data will be transferred without header.

To poll the active registers, enter:

```
┌──────────────────────────────────────────────────────────┐
│                  [CNTL] As # [CNTL] B.                    │
└──────────────────────────────────────────────────────────┘
```

"s" is defined as the ASCII representation of the hexadecimal site identity (site ID) defined in the data base (Table T6041).

To poll the passive registers, enter:

```
[CNTL] As ! [CNTL] B.
```

NOTE: Depress and hold the CNTL control key while entering A and B in the traffic data polling command. Do not depress the CNTL key when entering s, #, or !.

Time of Day/Traffic Study Command

2.16 The Traffic Data (TD) commands provide a means of displaying and setting the time-of-day clock in the system, and beginning and ending automatic traffic studies. The traffic data scan rate, the format of and timing between traffic data reports, and the site identification printed with each traffic data report are all controlled by the data base. The format of a traffic data report is shown in Figure 2.5.

The data base determines how frequently the system will collect traffic information, and how often a traffic report will be printed out (refer to data base software Table T6041). Note that the automatic output indicator (Table T6041) must be set for the reports to be generated continuously. The reports will continue until terminated by the appropriate command. The traffic data command input and output formats are shown in Table 2.2.

NOTE: The status command is used to display the current reading of the time-of-day clock.

REG	LINE#	1	2	3	4	5	6	7	8	9
INTCPT CALLS	000 ----	TOLL RESTR	FEAT. NO.	VAC. NO.	INVAL NO.	DID RESTR	CONF. RESTR	ACOF RESTR	DIGIT T/OUT	----
	001 ACD RA	CHGN STA#	INV AN#	PREE DNI	NO ANS	----	----	----	---	
TIME OUTS	002 STILL BUSY	FIRST DIGIT	----	NO ANS.	RECAL HOLD	CALL PARK	CALL HOLD	SIL HOLD	NO ANS	C.O. S.B.
ATTENDT CONSOLE	003 CALLS Q'ED	LEVEL 1 WTG	LEVEL 2 WTG	TIME OUT	----	----	---	----	----	----
LOOP ATTEMPT	004 CONSL #1	CONSL #2	----	____	____	____		----	----	----
LOOP USAGE	005 CONSL #1	CONSL #2	.....	.....	.....	....	.....	.....	.....	
MISC. ATTEMPTS	006 LINE TO LINE	DTMF	CONF	CALL STORE	TONE DETEC	----	----	----	DIGIT STORE	----
MISC. USAGE	007 ----	DTMF	CONF	CALL STORE	TONE DETEC	----	----		DIGIT STORE	
MISC OVF.	008 ----	DTMF	CONF	CALL STORE	TONE DETEC	----		----	DIGIT STORE	----
RING ATTEMPTS	009 PECO	----		----	----	----				----
RING USAGE	010 PECO	----	----	----	----	----	----	----	.	----
RING OVERFLOW	011 PECO	----	____	____	----	____	----			
STAR (LAB USE ONLY)	012 CSAT FULL	NCS CSAT	CSN OOR	ACSN PCSN	NO PCSN	CS QUED	TK/CS BSD	INV STATE	NOT QUED	INV TS
(LAB USE ONLY)	013 INV PORT	ALR QUED	INV NETW	INV STATE	INV PORT	BAD LINK	INV AI-I-	INV OFST	TS LOCK	----
(LAB USE ONLY)	014 ----	'---	----	----	.....	----	-_-	----	....	
MISC	015 AIOD BLOCKED	HG BUSY	DM HGC	DM HGNW	CL INT LEVEL 3	____		----	----	----
INC TRK CALLS	016 TGOO	TG01	TG02	TG03	TG04	TG05	TG06	TG07	TG08	TG09
	017 TG10	TG11	TG12	TG13	TG14	TG15	TG16	TG17	TG18	TG19
	018 TG20	TG21	TG22	TG23	TG24	TG25	TG26	TG27	TG26	TG29
	019 TG30	TG31	TG32	TG33	TG34	TG35	TG36	TG37	TG36	TG39
	020 TG40	TG41	TG42	TG43	TG44	TG45	TG46	TG47	TG48	TG49
	021 TG50	TG51	TG52	TG53	TG54	TG55	TG56	TG57	TG58	TG59
	022 TG60	TG61	TG62	TG63	.....	.....	.....			.....
INC TRK USAGE	023 TGOO	TG01	TG02	TG03	TG04	TG05	TG06	TG07	TG08	TG09
	024 TG10	TG11	TG12	TG13	TG14	TG15	TG16	TG17	TG18	TG19
	025 TG20	TG21	TG22	TG23	TG24	TG25	TG26	TG27	TG28	TG29
	026 TG30	TG31	TG32	TG33	TG34	TG35	TG36	TG37	TG38	TG39
	027 TG40	TG41	TG42	TG43	TG44	TG45	TG46	TG47	TG48	TG49
	028 TG50	TG51	TG52	TG53	TG54	TG55	TG56	TG57	TG58	TG59
	029 TG60	TG61	TG62	TG63	____	____	----	----	----	----

Figure 2.5   Traffic Register Layout

REG	LINE#	CONTENTS (10 COUNTERS PER LINE)									
OTG TRK CALLS	030 TGOO	TG01	TG02	TG03	TG04	TG05	TG06	TG07	TG08	TG09
	031 TG10	TG11	TG12	TG13	TG14	TG15	TG16	TG17	TG18	TG19
	032 TG20	TG21	TG22	TG23	TG24	TG25	TG26	TG27	TG28	TG29
	033 TG30	TG31	TG32	TG33	TG34	TG35	TG36	TG37	TG38	TG39
	034 TG40	TG41	TG42	TG43	TG44	TG45	TG46	TG47	TG48	TG49
	035 TG50	TG51	TG52	TG53	TG54	TG55	TG56	TG57	TG58	TG59
	036 TG60	TG61	TG62	TG63	----	____	____	____	____	RLT
OTG TRK USAGE	037 TGOO	TG01	TG02	TG03	TG04	TG05	TG06	TG07	TG08	TG09
	038 TG10	TG11	TG12	TG13	TG14	TG15	TG16	TG17	TG18	TG19
	039 TG20	TG21	TG22	TG23	TG24	TG25	TG26	TG27	TG28	TG29
	040 TG30	TG31	TG32	TG33	TG34	TG35	TG36	TG37	TG38	TG39
	041 TG40	TG41	TG42	TG43	TG44	TG45	TG46	TG47	TG48	TG49
	042 TG50	TG51	TG52	TG53	TG54	TG55	TG56	TG57	TG58	TG59
	043 TG60	TG61	TG62	TG63	____	____	____	____	____	----
INC/OTG ATB	044 TGOO	TG01	TG02	TG03	TG04	TG05	TG06	TG07	TG08	TG09
	045 TG10	TG11	TG12	TG13	TG14	TG15	TG16	TG17	TG18	TG19
	046 TG20	TG21	TG22	TG23	TG24	TG25	TG26	TG27	TG28	TG29
	047 TG30	TG31	TG32	TG33	TG34	TG35	TG36	TG37	TG38	TG39
	048 TG40	TG41	TG42	TG43	TG44	TG45	TG46	TG47	TG48	TG49
	049 TG50	TG51	TG52	TG53	TG54	TG55	TG56	TG57	TG58	TG59
	050 TG60	TG61	TG62	TG63	____	____	____	____	____	RLT
OTG TRK OVF	051 TGOO	TG01	TG02	TG03	TG04	TG05	TG06	TG07	TG08	TG09
	052 TG10	TG11	TG12	TG13	TG14	TG15	TG16	TG17	TG18	TG19
	053 TG20	TG21	TG22	TG23	TG24	TG25	TG26	TG27	TG28	TG29
	054 TG30	TG31	TG32	TG33	TG34	TG35	TG36	TG37	TG38	TG39
	055 TG40	TG41	TG42	TG43	TG44	TG45	TG46	TG47	TG48	TG49
	056 TG50	TG51	TG52	TG53	TG54	TG55	TG56	TG57	TG58	TG59
	057 TG60	TG61	TG62	TG63	____	____	____	____	____	RLT
TS USAGE	058 BUS0	BUS1	----	____	BUS4	BUS5	BUS6	BUS7	----	----
		(GET STARTED FILE)			(EXPANSION FILE)					
	059 ----	----	----	----	----	----	----	----	----	----
	060 ----	----	----	----	----	----	----	----	----	----
	061 ----	----	----	----	----	----	----	----	----	----
TS OVF	062 BUS0	BUS1			BUS4	BUS5	BUS6	BUS7	----	----
		(GET STARTED FILE) ----	----		(EXPASION FILE)					
	063 ----	----	----	----	----	----	----	----	----	----
	064 ----	----	----	----	----	----	----	----	----	----
	065 ----	----	----	----	----	----	----	----	----	----

Figure 2.5   Traffic Register Layout (Continued)

Table 2.2   Traffic Data Commands Input and Output Formats

INPUT FORMAT	OUTPUT FORMAT
TD DT.- to display the date and time of day	xx/yy/zz nn : nn
TD DT xx/yy/zz nn:nn · to change the time-of-day clock.	DT xx/yy/zz nn : nn ? EXECUTED
TD BS. · to-begin a traffic study ··	BS site xx/yy/zz nn/nn aa bbb cccc dddd/eeee/: Y. EXECUTED
TD ES.- to end a traffic study where xx = the month yy = the day of the month zz = the last two digits of the year nn:nn = the time of day in hours and minutes in 24-hour format	ES site xx/yy/zz nn:nn aa bbb cccc dddd/eeee/:? Y.EXECUTED where site = the data-base controlled ID xxlyylzz = the month, day, and year request is made aa = the number of minutes be-tween automatic traffic data dumps bbb = the number of seconds between each traffic scan cccc = the number of scans between traffic data dumps dddd/eeee = the first and last addresses of the traffic registers Y. is entered by the user.

FTM 0184   The following information is being supplied to clarify the operation of the traffic data facilities on the OMNI SI in areas of:

- All trunks busy
- Overflow
- Usage

ATB (lines 41-47 in traffic layout) ▪ Pegging occurs each time the last available trunk (defined as the last trunk in the idle trunk state) is changed from idle to any other trunk state. It is valid to have ATB pegged for an incoming only trunk group, an outgoing only trunk group,. or for a 2-way trunk group.

OVF (lines 48-54 in traffic layout) ▪ Pegging occurs when the system tries to use a trunk group which has all trunks busy. It is valid for a 2-way trunk group or an outgoing only trunk group to peg this count. It is invalid to have an incoming only trunk group peg this counter. It is pegged when the system tries to use a trunk in the trunk group which has all trunks busy.

Usage will be shown if:

1. The call was properly pegged for the number of calls, but this was during a previous scan period, and the call stayed up throughout successive scans. This would give usage with no calls to the trunk group.

2. The trunk is implemented in data base and exists physically, but is not connected to a CO trunk. This is primarily a problem with Ground Start trunks going to the "incoming preseized" trunk state. The usage scan sees the trunk as not idle, or maintenance busy.

3. Trunks are in the "system out of service" state (trunk state 13). This will show up as usage with no calls to that trunk group. This applies to the following cases:

   a. The trunk and trunk group exists in data base, but the trunk(s) are marked as unequipped in T5551 when the system comes up.

   b. Whenever the PEC goes out of service, all the trunks in it will will placed in a system out-of-service state.

   c. If a T1 alarm occurs, all trunks in that T1 span will be placed in a system out-of-service state.

   NOTES:

   1. Maintenance busy trunks are not counted in the usage counts.
   2. If the data base is set up correctly, it is possible to have usage counters pegged up even though no calls have been made.

Display Command   **2.1.7** The display command (Line, Trunk, Call State) is used to list the addresses and data of the tables listed below:

- T4170   Line State Table
. T4160   Line Call Store Link Table
. T8941   Trunk State Table
. T8944   Trunk Call Store Link Table
. T 1 3 9 0   Call Store Table

This information is used in call tracing and is shown in section **6. 0.**

The formats of the display commands are shown in Table 2.3.

Table 2.3   Display Command Input and Output Formats

Display Line State:

    <u>Input</u>
    DISPLAY LINE DN <directory number>STATE

    <u>output</u>

PAGE	ADDRESS	DATA
XX	YYYY	ZZ

where: XX = page ID (DO, D2, D3, D4, D5, D6, D7)
                            YYYY = address of line state
                            ZZ = present state (see Table 2.4 for CEC Line State Codes)

Display Line Call Store Link:

    <u>Input</u>
    DISPLAY LINE DN <directory number>CSLINK

    <u>Output</u>

PAGE	ADDRESS	CS#	PAGE	CS ADDR RANGE
XX	YYYY	ZZ	AA	BBBB-CCCC

where: XX = page of line call store link
                            YYYY = first of two addresses of line call store link
                            ZZ = call store number in decimal
                            BBBB = start address of call store
                            CCCC = end address of call store

or

    <u>Output</u>

PAGE	ADDRESS	CS#	PAGE	CS ADDR RANGE
XX	YYYY		IDLE-NOT LINKED	

where: XX and YYYY are as above
                            idle-not linked means the line is not presently linked to a
                            cal l store.

Table 2.3 Display Command Input and Output Formats (Continued)

Display Trunk State:

Input
DISPLAY TRUNK <trunk number>STATE

where: <trunk number> .= system trunk number in decimal (O-63).

Output

PAGE	ADDRESS	DATA
xx ^	YYYY	ZZ

where: XX = page ID (DO, D2, D3, D4, D5, D6, D7)
YYYY = address of trunk state
ZZ = present trunk state (see Table 2.5 for CEC Trunk State Codes)

Display Trunk Call Store Link:

Input
DISPLAY TRUNK <trunk number>CSLINK

Output

PAGE	ADDRESS	CS#	PAGE	CSADDR RANGE
xx	YYYY	zz	AA	BBBB-CCCC

where: XX = page of trunk call store link
YYYY = first o two addresses of trunk call store link
ZZ = call store number in decimal
AA = page of call store (DO, D2, D3, D4, D5, D6, D7)
BBBB = start address of call store
CCCC = end address of call store,

or

output

PAGE	ADDRESS	CS#	PAGE	CS ADDR RANGE
xx	YYYY	IDLE-NOT LINKED		

where: XX and YYYY are as above
idle-not linked means the line is not presently linked to a
call store.

Table 2.3 Display Format (Continued)

Display Call Store Address:

    Input
    DISPLAY CS<CS number>ADDRESS

where: <CS number> = call store number in decimal

    Output
    PAGE   CS ADDR RANGE
    -------   --------------------------
    XX   BBBB-CCCC

where: XX = page ID (D0, D1, D2, D3, D4, D5, D6, D7)
                                         BBBB = start address of call store
                                         CCCC = end address of call store

Table 2.4 CEC Line State Codes

CODE	LINE STATE
00	Line idle
01	Line ringing
02	Line busy
03	Line digit collection
04	Call-back in progress
05	Call-back ringing
06	Line locked out
07	Line maintenance busy
08	Staff for call-store assignment
09	Line stall (idle)
0A	Line stall (off-hook)
0B	Line off-hook recovery

Table 2.5   CEC Trunk State Codes

CODE	TRUNKSTATE
01	Incoming pre-seized trunk
02	Incoming mishandled trunk
03	Incoming FX trunk wait for resources
04	Incoming not answered (idle)
05	incoming loop not answered (idle)
06	Incoming busy (idle)
07	Incoming signaling A
08	Incoming signaling B
09	Incoming dialing (idle)
OA	Incoming delay dial wait
08	Outgoing start dial wait
0C	Outgoing wink start wait
0D	Outgoing busy (idle)
0E	Outgoing guard after release
0F	Outgoing immediate dial
10	Outgoing glare check
11	Recorder Announcer message interval
12	Incoming seizure stall
13	System out of service (PEC out of service)
14	Outgoing wait for disconnect, PBX release first
15	Retry, put in service
16	Outgoing pre-seized
17	Spare
18	Outgoing dialing
19	Outgoing busy (busy)
1A	Outgoing not answered
1B	Outgoing wink start time
1C	Panel Maintenance busy
1D	Not busy

Table 2.5   CEC Trunk State Codes (Continued)

CODE	TRUNKSTATE
1E	Maintenance busy
1F	System busy
20	Incoming not answered (busy)
21	Incoming loop not answered (busy)
22	Incoming busy (busy)
23	incoming dialing
24	Incoming dialing (busy)
25	Recorder Announcer start
26	Recorder Announcer message cycle
27	Call recovery trunk off-hook
28	CAS Main ACD recorded announcement start
29	CAS Main ACD recorded message cycle
2A	Nailed connection

Maintenance Commands

2.2 Maintenance commands are used to take suspected defective lines, trunks, stations, or cards out of service. An individual defective line, trunk, etc. can be taken out of service without affecting the operation of the system. The defective unit can be placed back in service after maintenance. The following are the maintenance commands available in the system:

- Force commands
- Memory watch command
- Put commands
- Test commands
- Trace commands
- Unlock commands

Software Identity Method

The Software Identity (SID) for a line or trunk must be determined before using the PUT or FORCE SID method of maintenance command entry; however some commands such as FORCE DN...OS. or FORCE TR CI...OS. do not require SID.

Software Identity Calculations

For initial installations, the SID number for lines or trunks can be found in the Cable Pair Listing - Table in TL-130400-1001 Use the decimal listing under each line or trunk number.

1. To calculate the SID for lines use R C Table 221 and the following calculation:

   SID = RC Table 221 primary identifier x 8 + circuit number; or

   SID = Line card's position number in the Line Card Address Table T2541 x 8 + the circuit number; where:

   VCIP, DVCIP, VPLC (types VPLO and VPL1), and VPLC2 (type VP20 and VP21) cards are treated as voice cards

2. To calculate the SID for ports, use RC Table 22 and:

   SID = RC Table 221 secondary identifier x 8 + circuit number,where VCIP, DVCIP, VPLC (type VPLO and VPL1), and VPLC2 (type VP20 and VP21) cards are treated as data cards

   To calculate the SID for the CIP, use the following calculation:

   SID = RC Table 221 primary identifier x 8 + circuit number

3. To calculate SID for trunks, use the following calculation:

   SID = Trunk circuit's position number in the Trunk Card Address Table T2581

4. To calculate the SID for DTMF receivers:

   SID = DTMF receiver's position number in the DTMF Receiver Address Table T2661.

5. To calculate the SID for conference cards:

   SID = 0 if conference card is in Conference Card 0 Address Table T2741

   SID = 1 if conference card is in Conference Card 1 Address Table T2742.

NOTE: All SID calculations and entries must be in decimal. Fault Code responses given by the system are in hexadecimal and must be converted to decimal prior to the SID calculation or entry.

**Force In Service
Out of Service
Command**

2.2.1 The FORCE command can be used to force devices and/or circuits into the maintenance busy state when not idle. Removing a device from service using the FORCE command takes the device down unconditionally.

Featurephones

2.2.1.1 To force an Analog or Digital Featurephone connected to a CIP, DCIP, or DVCIP port in service .or out of service, enter the following:

```
-------------------------------------------------------
                                            IS.
        FORCE  CIP  DN  <directory-no. >
                                            OS.
                     or
                                            IS.
        FORCE  CIP  PORT  < pec > < port>
                                            OS.

  where
  < directory-no. >  = three- or four-digit directory number
     of a Featurephone
  <pec> = 0
  <port> = 0 to 127
-------------------------------------------------------
```

NOTES:

1 Port number is derived by relative CIP card number x 8 + circuit number on card. The relative CIP card number is determined by the card's position in the Featurephone Data Link Information Table T7053-0.

2. For the DVCIP card, circuit numbers are defined:

Voice	Data
0	1
2	3
4	5
6	7

To force a Digital Featurephone, with voice application only, connected to a VPLC2 (type VP20) port out of service, enter the command given below:

```
-----------------------------------------------------
|                                              IS.
|      FORCE  DN  < directory-no, >
|                                              OS.
|                  or
|                                              IS.
|      FORCE  DIFP  <pec> <grp> <slot> <ckt>
|                                              OS.
|
| where
|
| < directory-no, >  = three- or four-digit directory number
|     of a Featurephone
| <pec>  =  0
| <grp>  =  A to D
| <slot> =  0 to 11
| <ckt>  =  0 to 7
-----------------------------------------------------
```

To force a Digital Featurephone with the data option connected to a VPLC2 (type VP20) voice and data combination port out of service, enter the command given below:

```
-----------------------------------------------------
|                                              IS.
|      FORCE  DN  <directory-no, >
|                                              OS.
|                  or
|                                              IS.
|      FORCE  DFPAPM  <pec> <grp> <slot> <ckt>
|                                              OS.
|
  where

  <directory-no, >  = three- or four-digit directory number
      of a Featurephone
  <pec>  =  0
  <grp>  =  A to D
  <slot> =  0 to 11
  <ckt>  =  0 to 7
-----------------------------------------------------
```

Line Cards with   **2.2.1.2** To force a CIP, VCIP, or DVCIP interface card in
Featurephones   service, enter the following:

```
┌─────────────────────────────────────────────────────────────┐
│                                               IS.            │
│        FORCE CIP CARD < pec > <card-no. >                    │
│                                               OS.            │
│                                                              │
│  where                                                       │
│                                                              │
│  <pec> =  0                                                  │
│  <card-no.> = 0 to 15                                        │
└─────────────────────────────────────────────────────────────┘
```

To force the VPLC2 (type VP20 or VP21) card out of service,
enter the command given below. This command causes all
ports on the card to be placed out of service regardless of port
type (voice, data, or voice and data). for VPLC2 cards with data
ports, a maintenance request is sent to the ADMP. The
command input is as follows:

```
┌─────────────────────────────────────────────────────────────┐
│                                               IS.            │
│       FORCE VPLC < pec >  < grp >  < slot >                  │
│                                               OS.            │
│                                                              │
│  where                                                       │
│                                                              │
│  <pec> =  0                                                  │
│  <grp>  = A to D                                             │
│  <slot> = 0 to 11                                            │
└─────────────────────────────────────────────────────────────┘
```

Trunks   **2.2.1.3** To force a trunk circuit from active to maintenance busy
using the physical location, enter the following:

```
┌─────────────────────────────────────────────────────────────┐
│  FORCE TRUNK CIRCUIT < pec > < grp  > <slot > <circuit > OS. │
│                                                              │
│  where                                                       │
│  <pec> =  0                                                  │
│  <grp>  = A to D                                             │
│  <slot>  = 0 to 11                                           │
│  <circuit> -=  0 to 3                                        │
└─────────────────────────────────────────────────────────────┘
```

To force a trunk circuit from active to maintenance busy suing the SID, enter the following:

```
FORCE TRUNK SID < pec > < sid >          OS.

where
 < pec > = 0
 < sid > = Trunk circuit SID relative to the PEC: 0 to 63
```

Attendant and Busy Lamp Display Unit   **2.2.1.4** To force an Attendant Console in service or out of service, enter the following:

```
                                             IS.
FORCE CONSOLE < attendant console >
                                             OS.

where

<attendant console > = 0 to 1
```

To force Busy Lamp Display Unit (BLDU) in service or out of service, enter the following:

```
                                             IS.
          FORCE BLDU < pec > < bldu >
                                             OS.

where

 < pec > = 0 (only)
 < bldu > = 1, 2
```

Agent Instruments   **2.2.1.5** To force an Agent Instrument in service or out of service, enter the following:

```
                                             IS.
          FORCE AGENT <position-no. >
                                             OS.

 where

 <position-no. > = 0 to 191
```

**Force Download and
Load Commands**

2.2.1.6 Certain devices in the system require downloading software from the disk into remote processors. These devices are:

1. Digital Integrated Featurephone (DIFP)
2. Digital Integrated Featurephone with Data Option (DFPAPM)
3. VCIP and DVCIP cards
4. Asynchronous Packet Manager (APM)
5. Synchronous Packet Manager (SPM)
6. VPLC2 card (type VP20 or VP21)
7. Universal Controller Board (UCB) DCP and NIC cards
8. ADMP card

The force download command is used to load Featurephone control software into 2 and 3 above. The load command is used to load Featurephone control software into 1 and 6. It can also be used to load data call control software into 2, 4, 5, and 7, and administrative software into 8.

Download to any of the card types involves a complete reload of the device. Download to a Digital Featurephone involves sending only data unique to the featurephone (i.e., directory number, etc.).

The format of the force download command is as follows:

```
FORCE DOWNLOAD < pec > < sid > .
                       or
FORCE DOWNLOAD DN < directory-number >

where

 <pec> =  0
 <sid> = Software ID (SID) of a featurephone to
         download (0 to 225).
 < directory-number > = three-or four-digit directory
         number of the featurephon to be downloaded.
                       or
FORCE  DOWNLOAD  <pec>  <sid>  INTERFACE

where

 <pec> =  0
 <sid> = Software ID of a Digital Featurephone
         plugged into the card (o to 225).
```

The format of the load command is as follows:

```
LOAD <device>  < pec >  <grp> <slot> OP.

where

    < device > = ADMP, DCP, VPLC, NIC

                         or

LOAD  <device>  <pec>  <grp>  <slot>  <ckt> OP.

where

    <device> = SPM, APM, DIFP, DFPAPM
                        or
 LOAD  DN  <directory number >

    where

    <directory number > = three- or four digit directory
        number of a Digital Featurephone connected to a
        VPLC2 circuit.
    <pec> = =  0
    <grp> = A to D
    <slot>  = 0 to 11
    <ckt> = 0 to 7
```

NOTES:

1. When a download to a card is completed, each of the individual Digital Featurephones plugged into the card is downloaded with data unique to the Digital Featurephone.
2. Download to a VCIP or DVCIP card puts all ports **on** the card out of service until the download is complete.
3. For LOAD DIFP ALL command, the PEC number is appended to the response message.

The following paragraphs provide guidelines and sample sue of these commands.

Downloading **2.2.1.7** Several versions of the force download and load
Featurephones commands have been provided for downloading Featurephones, depending on type and application. Usage guidlines are contained in Table 2.6.

Table 2.6 Download Commands for Featurephones

Featurephone Type/Application	Command Version
Digital (without Data Option	
System Voice	FORCE DOWNLOAD...
PD-200	LOAD DN...
Digital (with Data Option)	
Voice Reload Only System Voice	(No separate command)
PD-200	FORCE DOWNLOAD...
Data Reload Only	
CD-1 00	(No separate command)
PD-200	LOAD DFP/APM...
Voice and Data Reload	
CD-I 00	FORCE DOWNLOAD...
PD-200	LOAD DN... LOAD DFP/APM...

NOTE; LOAD DN works with VPLC2 connected phones only

LOAD DN < directory number >

**Downloading VCIP,
DVCIP, and VPLC Cards**

2.2.1.8 To download software into the VCIP, DVCIP, or VPLC card, use the following command:

```
FORCE DOWNLOAD < pec > < sid > INTERFACE

where
<pec> = 0
<sid> = Software ID of a Digital Featurephone plugged
   into the card (0 to 225).
```

To download software into the VPLC2 (type VP20 or VP21) card, use the following command:

```
LOAD VPLC <pec > <grp> <slot> OP>

where

<pec> = 0          or
<grp> = A to D              FORCE DOWNLOAD < pec > > sid > IN >
<slot> = 0 to 11
```

NOTES:

1. When a download to a card is completed, each of the individual Digital Featurephones plugged into the card is downloaded with data unique to the Digital Featurephone.
2. Download to a VCIP, DVCIP, or VPLC card puts all ports on the card out of service until the download is complete.
3. Load VPLC will be denied if there are no voice devices connected to the card.

Downloading ADMP, UCB (DCP), and NIC Card

2.2.1.9 To download the ADMP, UCB.(DCP), and NIC card, use the following command:

```
LOAD <device> <pec > <grp> <slot> OP>

where

 <device> = ADMP, DCP, NIC
<pec> = 0
<grp> = A to D
<slot> = 0 to 11
```

Bulk Downloading Commands

2.2.1.10 Several bulk downloading commands have been provided for situations in which all circuits and/or cards need to be downloaded.

Force Download All. To force download all Integrated Featurephones, VCIP, DVCIP, and VPLC2 cards in one PEC, use the following command:

```
FORCE DOWNLOAD < pec > ALL.

where

<pec> – 0
```

After the last equipped and in-service port on the last equipped and in-service card receives the download command from the pec, a download complete message will appear on the maintenance TTY.

Example: 08.25 08: 35 DOWNLOAD COMPLETED BY PEC7

NOTE: Response 11's in-service and maintenance out-of-service can appear on the terminal after the download complete message. This can happen if a phone received the download command, but an oup-of-sync or some other problem temporarily put the port out of service. Also, the message can be put on the printer queue before the last card's response 11 s.

Force Download Stop. To stop the force download all process, the following command is used:

```
FORCE DOWNLOAD < pec > STOP.

where

 <pec> = 0
```

Load DIFP All. To perform a load DIFP for all applicable Featurephones in all PECs, the ALL form of the following command may be used:

```
                                              ALL.
              LOAD DIFP
                                              STOP.
```

If LOAD DIFP ALL is typed, a request is sent to download all Featurephones in each PEC. No request is sent to the data switch. Messages are printed for each PEC download response, e.g., IN PROGRESS PO, PEC NOT EQUIPT P1, and IN PROGRESS P2. As each voice circuit is downloaded, a message, RESPONSE 11, is printed which indicates successful completion.

If LOAD DIFP STOP is typed, a request is sent to stop download of all Featurephones in each PEC. No request is sent to the data switch. Messages are printed for each PEC STOP response, e.g., IN PROGRESS PO, PEC NOT EQUIPT P1, and IN PROGRESS P2. Each PEC stops the downloading of Featurephones.

Other ALL Commands. Other load command versions may be used in bulk form in a similar manner to that of the LOAD DIFP ALL command.

Memory Watch Command 2.2.2 The Memory Watch (MW) command is used to display data changes to an address on one of the CEC memory pages. Memory watch can be initiated by either of the TTY ports, but only one at a time. If the watch is in progress, another watch cannot be initiated until the first memory watch is turned off. Either TTY port can cancel the watch. Any one of the CEC memory pages can be watched. The input/output format for memory watch is shown in Table 2.7.

```
INPUT                                              OUTPUT

1. Initiate MEMORY WATCH
     MW ON c Page > < Address >                    Watching <Address >
                                                   Present Data < Data >

where

<Page>   = DO, D1, D2, D3, D4, D5, D6, D7,
             IO, I1, I2, 13, 14, I5, I6, I7
<Address > = Address to be watched
 <Data>  = Initial data at theat address

                                                   MW < NDATA >
                                                      MW < NDATA >


                                                   .
                                                   MW < NDATA >
                                                   < NDATA >  = New Data

2. Initiate memory watch if already
     on MW ON <Page> <Address>                     Turn watch off first

3. Cancel memory watch
   MW OFF                                          Watch turned off
```

**PUT Command
Entry**
2.2.3 Four methods are used to enter maintenance commands into the system:

- Physical location
- Software identification
- Directory number
- Equipment number

The following are examples of each type of maintenance command entry method:

**Physical Location
Method**
Enter the following information into the system:

NOTE: These forms of the PUT command cannot be used for Integrated Featurephone lines.

```
┌──────────────────────────────────────────────────────────────────────
│                  LINE                                              IS
│       PUT        TRUNK  CARD  <pec>  <group>  <slot>
│                  DTMF                                              OS.
│
│                                        or
│
│                  LINE                                              IS
│       PUT        TRUNK  CERCUIT  <pec>  <group>  <slot>  <circuit>
│                  DTMF                                              OS.

  where

  <pec> =  0
  <slot>  = 0 to 11
  <group>  =  A  to  D
  <circuit >  = 0 to 7 for line circuits, 0 to 3 for trunk circuits, 0 to 3 for DTMF
          receivers.
└──────────────────────────────────────────────────────────────────────
```

For example:

```
┌──────────────────────────────────────────────
│            PUT LINE CIRCUIT 0 B 9 4 OS.
│                          or
│            put tr ci 0 c 2 3 os.
└──────────────────────────────────────────────
```

Software Identity   Enter the following information:
Method

```
┌─────────────────────────────────────────────────────────────────────────┐
│              LINE                                          IS            │
│     PUT      TRUNK  SID  <pec> <sid>                                     │
│              DTMF                                         OS.            │
│                                                                          │
│                                  or                                      │
│                                                                          │
│              LINE                                          IS            │
│     PUT      TRUNK  CERCUIT <pec> <group> <slot> <circuit>              │
│              DTMF                                         OS.            │
│   where.                .                                                │
│                                                                          │
│    <pec> =  0                                                            │
│    <sid>  = 0 to 255 for line circuits, 0 to 63 for trunk circuits, 0 to 7 for DTMF │
│       receivers                                                          │
└─────────────────────────────────────────────────────────────────────────┘
```

For example:

```
┌──────────────────────────────────────────────────┐
│                PUT LI SID 0 255 IS.               │
│                        or                         │
│                PUT TR SID 0 63 OS.                │
└──────────────────────────────────────────────────┘
```

Directory Number   The directory number method must be used when changing the
Method   state of line circuits associated with Featurephones. Enter the
                following   information:

```
┌─────────────────────────────────────────────────────────────────────────┐
│                                                    IS.                   │
│          PUT  LINE  DN  <directory  number >                             │
│                                                    OS.                   │
│                                                                          │
│    where                                                                 │
│                                                                          │
│    <directory  number  > = XXXX (three- or four-digit directory number)  │
└─────────────────────────────────────────────────────────────────────────┘
```

For example:

```
┌──────────────────────────────────────────────────┐
│                PUT LINE DN 4112 OS.               │
└──────────────────────────────────────────────────┘
```

Equipment Number Method

To change the status of a Release Link Trunk (RLT) using the equipment number, enter the following information:

```
PUT <equipment-type > < equipment  number >              IS.

                                                          OS.

 where

         <equipment-type  >  =  RLT
         <equipment  number  >  =  0  to  =  15  for RLTs
```

For example:

```
                         PUT RLT 15 OS.
```

System response when PUT command is successfully entered is:

```
                         MR 00 EO.
```

System response when PUT command is unsuccessfully entered is:

```
                         MR  00 EO.
```

Unsuccessful completions result because active circuits (and will be completed when the circuit becomes idle), or because circuits are already in the maintenance busy (out of service) state. If a PUT command is entered to place an entire card in maintenance and one of the circuits on the card is active, the system will respond MR 00 EA., and only the idle circuits on the card will go to the maintenance busy state. When the active circuit becomes idle, it will change to the maintenance busy state and the system will respond with MR 00 EO.

PUT Cancel Command

When using a PUT or FORCE command after **a** prior PUT command, the following system response may appear:

```
┌─────────────────────────────────────────────────────┐
I            MAINTENANCE   COMMAND   DENIED.            |
└─────────────────────────────────────────────────────┘
```

This occurs when the prior PUT command has not been completed because of waiting for circuits to become idle.

To avoid further waiting, cancel the PUT command by entering the PUT CANCEL command. All circuits which have been put out of service will remain out of service. Any circuits which were not put our of service because of heing busy will remain in service.

The command to cancel a PUT is:

```
┌─────────────────────────────────────────────────────┐
|               PUT  CANCEL  COMPLETE.                  |
└─────────────────────────────────────────────────────┘
```

If the PUT CANCEL command is successful, the response is:

```
┌─────────────────────────────────────────────────────┐
|               PUT  CANCEL  COMPLETE.                  |
└─────────────────────────────────────────────────────┘
```

If no PUT was in progress, the response is:

```
┌─────────────────────────────────────────────────────┐
I               PUT  NOT  IN  PROGRESS.                 |
└─────────────────────────────────────────────────────┘
```

Test Command (Featurephone)

22.4 The TEST command is used to perform a hardware diagnostic on an Integrated Featurephone. To perform the test, enter the following:

```
┌─────────────────────────────────────────────────────┐
|                                                       |
|   TEST  DN  <directory-number > .                     |
|                                                       |
|                        or                             |
|                                                       |
|   TEST PHONE  < pec > < sid > .                       |
|                                                       |
|   where                                               |
|                                                       |
|   < directory-number > = directory number             |
|         assigned to a Featurephone                    |
|   < pec > =  0                                         |
|   < sid > = 0 to 255                                  |
└─────────────────────────────────────────────────────┘
```

Test failure is indicated by PORT IS OS. or COMMAND COMPLETED ON maintenance terminal.

Unlock Command

2.2.5 UNLOCK command is used to unlock a Featurephone which has been locked by the user. To unlock a Featurephone, enter the following:

```
UNLOCK DN < directory-number > .

where

< directory-number > = directory number assigned
        to a Featurephone
```

Memory Access Commands

2.3 Memory access commands can be used to control the system configuration and make changes to the data base. This paragraph covers the following memory **access** commands:

- General read command
- General write command
- Bulk input command
- Hardware write command

General Read and Data General Read Commands

2.3.1 The General Read (GR) command can be used to read a single system memory location or a string of consecutive memory locations. If a string of memory locations is read, the output pattern will continue until the entire string has been output. A string is output in groups of 8 hexadecimal numbers: therefore, only every eighth memory address will be printed on a line. For example:

XXXX   nn   nn   nn   nn   nn   nn   nn   nn

4FCE   00   OA   1   F   3C   00   12   69

To stop the TTY output before completion of printing, momentarily depress the escape (ESC) key.

The format for the GR command is shown as follows

```
GR < memory> <begin > <end > .

where
     < memory > =              I0, I1, I2, 13, I4, I5, I6, I7, DO, D1, D2, D3,
                               D4, D5, D6, D7

     <begin>  =                Address to be read, or the beginning address
                               of a string of memory locations to be read.

     <end>  = .                Last address of a string of memory locations
                               to be read (not needed if reading only one
                               address).

          KEY
       I0 . ..17 =             CEC  instruction  memory  pages
       DO ...D7 =              CEC  data  memory  pages
```

NOTE: Data pages can be read when security level 2 is used. To read 10-17, security level 6 must be open.

The Data General Read (DGR) command allows the user to selectively dump the contents of memory for many of the PD-200 Data System processors. The maintenance terminal is made unavailable for other maintenance functions while the DGR command is executing. The system allows the user to discontinue a dump request by using the ESC key. To display the memory data for the hardware or device at the location defined, enter the following DGR command:

```
                     A
DGR  <device>  <pec>  <grp>  <slot>  <ckt>  <begin>  <end>.
                     B
where
        <device> = ADMP, DCP, SPM, APM, DFPAPM, or NIC
        A/B = refers to the A or B processor of the ADMP, DCP, and SPM
        devices. (For ADMP, only A is supported.) Omit for other devices.
        <pec> = 0 to 7
        <grp> = A to D
        <slot> = 0 to 11
        <ckt> = 0 to 7 (Omit for ADMPan DCP.)
        <begin> = starting memory address. Valid values: 000000-FFFFFF
        <end> = ending memory address. Valid values: 000000-FFFFFF

                Address must contain all 6 digits including leading zeroes.

                If only one byte is to be read, the ending address can be omitted.
                (Address range may not exceed 100 hexadecimal locations.)

                Examples:

                To dump 10 bytes of ADMP processor A: DGR ADMP A 0 D 02
                0005CB.

                To dump 1 byte of APM processor: DGR APM C 3 2 00043D.
```

The system prints a message on the maintenance terminal to indicate the status of the GR or DGR commands as follows in Table 2.7:

Table 2.7   Status of the GR or DGR Command

(a) SYNTAX ERROR	The original input command wording or abbreviations were not correct.
(b) CABINET NOT IN SERVICE	The CEC was not in service.
(c) COMMAND IN USE	A command is already in progress from an input terminal.
(d) PEC NOTEQUIPPED	The command PEC number input is in not equipped
(e) PEC NOT INS	The command PEC number input is not in service.
(f) COMMAND COMPLETED	Request successfully completed.
(g) IN PROGRESS	The system is executing this request. When the request is completed, a message COMMAND COMPLETED follows.
(h) COMMAND FAILED	The request was not processed successfully.
)i) MR TIMED OUT	The response was not received from the ADMP in a system defined time.
(j) ADDRESS DOES NOT MATCH DEVICE TYPE	The device is not at the given PEC group slot address.

General Write Command

2.3.2 The General Write (GW) command is used to change the contents in memory at up to 16 consecutive memory locations with the last change **data** entry followed by a period. The TTY output will show the existing data in each memory location, the new data to be entered, and a prompt when all requested changes are displayed. If the changes are correct, the user must enter Y followed by a period. If the changes displayed are not correct, the user must enter N followed by a period to terminate the input, and reenter the general write request. Input/output formats for the GW command are as follows:

```
GW    ,memory > < begin > < data >

       where

           <memory> =               lo, I1, I2, 13, I4, I5, 16, 17, DO, D1, D2,
                                     D3, D4, D5, D6, D7

           < begin >    =            Address to be read, or the beginning
                                     address of a string of memory
                                     locations to be read.

           < data >     =            One hexadecimal byte of data. (This
                                     field can be repeated up to a maximum
                                     of 16 values.

       KEY
       10 . ..17                     CEC  instruction  memory  pages
       D0...D7                       CEC  data  memory  pages
```

The prompts and output from the GW command are as follows:

If new data (nn) is correct, type Y.
If not, type N.

xxxx = an address
aa   = the old data
nn   = the new data
zz   = page identity

NOTES:

1. Up to 16 addresses can be entered.
2. Data base addresses on DO, D2, D3, D4, PO-P7 can be written when security level 2 is used. All other areas on DO, D1, D2, D3, D4, D5, D7, and all addresses on 10, 11, 12, 13, 14, 15, 16, and 17, can be written when security level 6 is open.

Bulk Input Command

2.3.3 The Bulk Input (BI) command is used to change the data base data memory at up to 8 memory locations which need not be consecutive. End each address-entry (excerpt the last) with a BI GW < memory > . End the last address-data entry with a period. After the last address-data entry and period are entered, the TTY prints the existing data and the new data for each address specified, followed by a prompt. If correct, the user must enter Y followed by a period. If incorrect as shown, the user must enter N followed by a period to terminate the input, and must reenter the command with the correct data.

Format for the BI command is as follows:

```
BI [GW] < memory >  <ADDRESS  > < data > . . . < address < data > .

   [HW]

   where

       < memory > =              Valid  memory  pages  for  the  respective
                                 commands  (i.e.,  GW  or  HW)

       <ADDRESS> =               Address  to  be  written  to

       <data> =                  One  hexadecimal  byte  of  data
```

Hardware Write Command

2.3.4 The Hardware Write (HW) command is used to write hardware addresses into the PEC > The list of changes can include from 1 to 16 data entries. The last data entry must be followed by a period. The HW command format is as follows:

```
HW <memory> <ADDRESS> <data>

    where

        < memory > =                    PO, P1, P2, P3, P4, P5, P6, P7

        <ADDRESS > =                    Address written to or the beginning
                                        address of a string of memory locations to
                                        be written to.

        <data>  =                       One hexadecimal byte of data. (This field
                                        can be repeated up to a maximum of 16
                                        values.)
```

NOTES:

1. A security level of 6 or higher is required.
2. The valid address ranges are:
    PEC Hardware; 500-5FF
    Channel Memory 0: 400-47F
    Channel Memory 1: 800-87F

Maintenance Request Commands

2.4 The Maintenance Request(MR) command is used to initiate the maintenance functions. MR codes are entered into the system using a maintenance terminal. MR codes are used as part of the MR command system. The MR command input format is:

```
                                    MR xx.
```

The output format (prompt) to a maintenance request code (xx, above) asks the user for verification that he desires to execute the command requested.

```
┌─────────────────────────────────────────────────────────────────────┐
│                              MR xx nn                                 │
│                                                                       │
│  xx aa (Y/N) > Y.Executed nn                                          │
│                                                                       │
│  where                                                                │
│                                                                       │
│  xx = the request code.                                               │
│  nn = a response code.                                                │
│  aa = a status command code.                                          │
│  Y. is entered by the user.                                           │
└─────────────────────────────────────────────────────────────────────┘
```

Maintenance Request Codes

CODE	PROGRAM
09	Write system data base and PEC data base
OE	Force the peripheral circuit to maintenance busy
OF	set the peripheral circuit to maintenance busy when idle
10	Release the peripheral circuit from maintenance busy
11	Disable the alarm
12	turn off present alarms
13	Enable the alarms
26	Restart system diagnostics on in-service CEC

Alarm Command Codes 2.4.1 The alarm codes and their functions are as follows:

- Code 11 disables the alarm reporting circuits for alarms indicated by steady lighting of the ALARM LED on the Attendant Console. and any audible indication from devices connected to relay 5 of the Attendant Interface (ATT12) card in the PEG. Alarm reporting by the system remains disabled until enabled by entering the proper code. Alarms will still be recorded even while the alarm circuits are disabled. The fault reporting system is not affected by the alarm codes. The ALARM LED on the ESSD card will flash when a fault occurs.

- Code 12 turns off any existing alarm indications (indicated by steady lighting of the ALARM LED) and any device connected to relay 5 of the ATTI2 card). However, if the cause of the alarm has not been corrected before executing this code, the alarm indications will be repeated immediately afterwards.

- Code 13 resets the alarm reporting system and enables the reporting of any recent or future alarms. This code is used to enable the alarm reporting circuit after it has been disabled (inhibited) by a Code 11.

**MR Data Base
for Peripheral Circuits**

2.4.2 When executed, maintenance busy codes remove individual circuits from service so that maintenance can be performed. the system data base is used to identify system hardware and to designate its status. the characteristics of a particular system are documented on a hard copy of the system data base. the identity information needed by the system for a maintenance busy code is:

● PEC number (always 0)
● Circuit type (Table 2.9)
● Software Code ID Number per circuit

Table 2.8   Circuit-Type Codes for Maintenance Busy Functions

CIRCUITTYPE	CODE	SOFTWARE IDENTIFICATION NUMBER
Line	0	0 0 - F F
Trunk	1	00-3F
DTMF Receiver	2	00-07
Conference Bridge	3	00-01
Console Interface	4	00-01
Release Link Trunk (RLT)	5	00-OF
KEDU	6	00-01
Printer	7	00-01
Unequipped	F	

Software codes (circuit ID numbers) are stored in CEC memory on data page 0, designated as Table T2241 (Table 2.10).

Circuit identity information is written into specific memory locations via the CPG program prior to system installation, or via general writes or Recent Change afterwards. When a maintenance busy code is executed, the system automatically accesses the addresses listed in T2241 (Table 2.10). Therefore, the circuit information must be entered into Table T2241 before MR code is executed. Two bytes of data must be entered for each circuit (1 through 8, Table 2.10). The first half of the first byte identifies the PEC number and the second half identifies the type of circuit. The second byte must have the software identification number, which is a piece of software information which represents a specific, individual circuit. (Refer to the hard copy of the local data base.)

Table 2241)Table 2.10) has been filled in; the appropriate maintenance busy code can be executed. the maintenance busy codes and their functions are as follows:

- Code E - Forces a peripheral circuit to maintenance busy. If a call using the specified circuit is in progress at the time the maintenance request is made, the call is dropped.

- Code F - Sets a peripheral circuit to maintenance busy as soon as any calls using the circuit are completed.

- Code 10 - Sets a circuit which is maintenance busy to the in-service status.

	BIT POSITIONS	7 6 5	4 3	2 1 0	
	ADDRESS		DATA		CIRCUIT
BYTE 1	6322	PEC 0		CIRCUIT TYPE	
					1
BYTE 2	6323		SOFTWARE ID		
	6324	PEC 0		CIRCUIT TYPE	
					2
	6325		SOFTWARE ID		
	6326	PEC 0		CIRCUIT TYPE	
					3
	6327		SOFTWARE ID		
	6328	PEC 0		CIRCUIT TYPE	
					4
	6329		SOFTWARE ID		
	632A	PEC 0		CIRCUIT TYPE	
					5
	632B		SOFTWARE ID		
	632C	PEC 0		CIRCUIT TYPE	
					6
	632D		SOFTWARE ID		
	6323	PEC 0		CIRCUIT TYPE	
					7
	632F		SOFTWARE ID		
	6323	PEC 0		CIRCUIT TYPE	
					8
	632F		SOFTWARE ID		

CIRCUITTYPE	CODE	SOFTWARE IDENTIFICATION RANGE
LINE	O	
Trunk	1	00-7F
DTMF Receiver	2	00-07
Conference Bridge	3	00-01
Console Interface	4	00-01
Release Link Trunk (RLT) KEDU	5 6	00-01 00-04
Printer	7	00-04
Unequipped	F	

Table 3-3. Layout of Table T2241, Data Page 0.

BIT POSITIONS →	7	6	5	4	3	2	1	0	

	ADDRESS	DATA			CIRCUIT
BYTE 1 →	8682	PEC NO.	NOT USED	CIRCUIT TYPE	1
BYTE 2 →	8683	SOFTWARE ID			
	8684	PEC NO.	NOT USED	CIRCUIT TYPE	2
	8685	SOFTWARE ID			
	8686	PEC NO.	NOT USED	CIRCUIT TYPE	3
	8687	SOFTWARE ID			
	8688	PEC NO.	NOT USED	CIRCUIT TYPE	4
	8689	SOFTWARE ID			
	868A	PEC NO.	NOT USED	CIRCUIT TYPE	5
	868B	SOFTWARE ID			
	868C	PEC NO.	NOT USED	CIRCUIT TYPE	6
	868D	SOFTWARE ID			
	868E	PEC NO.	NOT USED	CIRCUIT TYPE	7
	868F	SOFTWARE ID			
	8690	PEC NO.	NOT USED	CIRCUIT TYPE	8
	8691	SOFTWARE ID			

11

Successfully entered combined commands such as

```
.--------------------------------------------.
|                    MRE                       |
'--------------------------------------------'
```

will receive response output such as

```
.--------------------------------------------.
|                  MR OE EO                    |
'--------------------------------------------'
```

In summary:

MR = Maintenance Request Command
OE = "FORCE" the Peripheral Circuit to Maintenance Busy
EO = successful Completion

Disk Backup of Room Status

2.4.3 The following room status dynamic data is backed onto disk when the command

MR 2E

is entered from the system maintenance terminal:

- Message Waiting
- Do Not Disturb
- Room-to-Room Blocking
- "wake-Up Calls
- Room Restrictions

The Room Status data is saved in disk file XVHCM.

After a system cold start, the following are loaded from disk:

Generic Software
Data Base
Saved Room Status

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ON-LINE MAINTENANCE   3.0 The on-line Maintenance software is a part of the primary
system software. It consists of menu-driven programs which
provide maintenance capabilities while the system is on-line
and handling phone calls. When a particular transaction is
selected and executed, those parts of the system handling calls
are bypassed so that service is not interrupted. All test results
are given in plain language rather than codes.

Some of the transactions simply call for displays of system
activities at that particular time. These displays provide
information which aids in maintenance and trouble shooting
decisions. Comparing several displays of a single transaction
can assist in isolating intermittent failures

Accessing On-Line .   **3.1** In order to access the On-Line Maintenance feature, the
Maintenance   user must first access the System Options Menu. This procedure
is described in the following steps:

1. Type SL OL. (period)

   The system responds: SECURITY CODE >

2. Type four-character security code XXXX. (period)

NOTE: A security level of five or higher must be entered to work
with on-line maintenance.

   The system responds: OPEN AT LEVEL 5

3. Type RC .   Recent Change (period)

   The system responds:

```
                                                    0
                   SYSTEM OPTIONS MENU

      1) SYSTEM RECENT CHANGE PRIMARY MENU
      28) MAINTENANCE
      83) CAS MAIN/ACD SUPERVISOR OPTIONS
      89) SAVE DATA BASE
      X) END RECENT CHANGE

   ENTER TRANSACTION NUMBER -- > 28.
```

4. Type 28. (period) to select the Maintenance Options Menu.

   The system responds:

```
+---------------------------------------------------+
|                                              28   |
|           MAINTENANCE  OPTIONS  MENU              |
| 29     SYSTEM  STATUS  DISPLAY                     |
| 30     TOUCH  CALL  RECEIVER  TEST                 |
| 31     NETWORK  TEST                               |
| 32     TRAFFIC  DATA  OPTIONS                      |
| 34     MEMORY  TEST  RESULTS                       |
| 35     TRUNK  SEQUENCE  STATE  DISPLAY             |
| 37     TOUCH  CALL  RECEIVER  STATUS              |
|        DISPLAY                                     |
| 13     DATA  SWITCH  DEVICE  STATUS  DISPLAY       |
| 14     MASS  STORAGE  UTILITY                      |
| 15     TABLE  DISPLAY  FACILITY                    |
|  0     RETURN  TO  SYSTEM  OPTIONS  MENU           |
|                                                   |
|ENTER TRANSACTION NUMBER -- >                      |
+---------------------------------------------------+
```

5. When an item is selected from the Maintenance Options Menu(a primary menu), the transaction is loaded into system memory and executed. After that particular test or display is completed, the system responds:

ENTER END (E), REPEAT (R) OR TRANSACTION NUMBER (0 - 224)

With this prompt the user can end the exercise (type E period), repeat the same transaction (type R period), or proceed to another transaction (type another transaction number from zero to 224 period).

If the user enters E, the Recent Change Options Menu appears:

```
+---------------------------------------------------+
|            RECENT  CHANGE  OPTIONS                 |
|                                                   |
|          A) BEGIN                                 |
|          B) SAME  ONE                             |
|          C) BACK  ONE                             |
|          D) HELP                                  |
|          E)  ERROR  EXPLANATION                   |
|          F) SYSTEM OPTIONS MENU                   |
|          X) END  RECENT  CHANGE                   |
|    ENTER  THE  LETTER  OF  YOUR  CHOICE  HERE>     |
+---------------------------------------------------+
```

The following explanations apply to the Recent Change Options menu which is displayed after every On-Line Maintenance Option transaction. This menu allows the user to select the next transaction to enter.

A) BEGIN - Show the Recent Change System Options Menu
B) SAME ONE - Show the same menu just displayed
C) BACK ONE - Show the menu before the one just displayed
D) HELP - Show the Help Menu
E) ERROR EXPLANATION - Show the Error Explanation Menu
F) SYSTEM OPTIONS MENU - Show the Systems Option Menu
X) END RECENT CHANGE - End On-Line Maintenance

HELP (Option D) and ERROR EXPLANATION (Option E) are used to assist the user in selecting additional transactions. The HELP option cannot be used for certain applications, and a NOT AVAILABLE prompt will appear.

An experienced user can omit the step of selecting transactions from a menu by simply entering the correct transaction number. Both the System Options Menu and the Maintenance Options Menu offer a prompt which allows the user to input transaction numbers. In this case, the user will see the following prompt:

ENTER TRANSACTION NUMBER -- >

Maintenance Options 3.2 The following paragraphs provide descriptions of Maintenance Options Menu transactions:

System Status Display **3.2.1** System Status Display (transaction 29) shows the number of currently allocated system resources. For example, if the Narrow Serial Device Controller (NSDC) port is marked as a TTY in the data base, The presentation is a snapshot display. To update this display, the program would have to be repeated. If the NSDC port is marked as a CRT, the presentation is constantly being updated until, an EXIT TRANSACTION function (CONTROL-C) is entered. A sample Real-Time System Status Display follows:

```
 ┌─────────────────────────────────────────────────────────────┐
 │                                                               │
 │            REAL-TIME  SYSTEM  STATUS  DISPLAY          29      │
 │                                                               │
 │                       12:02    6/09/87                        │
 │                                                               │
 │    RESOURCES IN USE:                                          │
 │                                                               │
 │    CALL  STORES            o o o                              │
 │                                                               │
 │    DIGIT  STORES           000                                │
 │                                                               │
 │    TOUCH  CALL  RECEIVERS  o o o                              │
 │                                                               │
 │    BUSY  LINES             000                                │
 │                                                               │
 │    BUSY  TRUNKS            000                                │
 │                                                               │
 │                                                               │
 │    TIME  SLOTS:                                               │
 │                                                               │
 │                                                               │
 │    PCM  BUS 0            0 0                                  │
 │                                                               │
 │    PCM  BUS 1            0 0                                  │
 │                                                               │
 │    PCM  BUS 2            NOT  AVAILABLE                       │
 │                                                               │
 │    PCM  BUS 3            NOT  AVAILABLE                       │
 │                                                               │
 │    PCM  BUS 4            0 0                                  │
 │                                                               │
 │    PCM  BUS 5            0 0                                  │
 │                                                               │
 │    PCM  BUS 6            0 0                                  │
 │                                                               │
 │    PCM  BUS 7            0 0                                  │
 │                                                               │
 │    DO YOU WANT TO REPEAT THIS FUNCTION > N.                   │
 │                                                               │
 └─────────────────────────────────────────────────────────────┘
```

Touch Call
Receiver Test

3.2.2 The Touch Call Receiver Test (transaction 30) is used to test Touch Call Receivers (TCRs) in a system. The test runs on one or all TCRs by passing DTMF tones through a network connection and then verifying digit decoding. If a failure occurs, the physical location is given in the test results. A sample Touch Call Receiver Test Display appears below:

```
TOUCH CALL RECEIVER TEST                                      30

                        13:48 10/01/87

ENTER "ALL", OR SINGLE TCR NUMBER > ALL.

PEC            TOUCH CALL RECEIVER PEC SID

NUM   0     1     2     3     4     5     6     7

0     PASS  BUSY  FAIL     FAIL


NO ERRORS DETECTED (OR IF CRT)

DO YOU WANT AN ERROR SUMMARY > Y.

(ON SECOND PAGE IF CRT)


SUMMARY OF DETECTED ERRORS:

      TCR #2 LOCATED IN PEC 0 GRP D UNIV SLOT 11 CIRCUIT 2

      TCR #3 LOCATED IN PEC 0 GRP D UNIV SLOT 11 CIRCUIT 3

DO YOU WANT TO REPEAT THIS FUNCTION (Y/N) > N.
```

Network Test 3.2.3 The Network Test (transaction 31) checks the network used to carry DTMF tones to TCRs. The entire network or part of the network can be tested. A TCR is required in each file for testing with network connections made through each of the file's 24 channels (0 · 23) to verify passing of DTMF tones Following is a sample Network Test Display:

```
                         NETWORK  TEST                    31
                         12:02   06/11/87

ENTER ALL, OR PCM BUS # > ALL.

                      0   RESULT/CHANNEL  23       RESULT
                                                   FOR PCM
                                                   BUS
     PCM  BUS        # + .....................
                         ---------------- +
        0            I  BB    B              I    PASS
        1            I************************ I ALL  TESTED CHANNELS
                     FAILED
        2            I...........................................  I PCM  BUS
                                                             NOT
                                                             AVAILABLE
        3            I.......................................... I PCM  BUS
                                                             NOT
                                                             AVAILABLE
        4            IBB    B * * * B      I    FAILURE  IN
                                                CHANNEL(S)
        5            I.......................................... I   COULD NOT
                                                             TEST:TCR
                                                             BUSY
        6            I.......................................... I   COULD NOT
                                                             TEST:NO
                                                             TCR IN BUS
        7            I B                      I    PASS
                     + -----------------------
                     -------------- +

DO YOU WANT TO REPEAT THIS FUNCTION (Y/N) > N.
```

Traffic Data Menu
Options Menu

3.2.4 The Traffic Data Menu (transaction 32) allows the user to check traffic activities to determine if delays in system activity are caused by faulty operation or by temporary peaks in traffic load. The user selects the number of times that traffic data is collected (scans) and the length of time that data is collected before printing out automatically. The menu function may be repeated manually to access updated traffic information.

The Traffic Data Menu provides the user with the following options:

```
┌──────────────────────────────────────────────────────────────────────┐
│                    TRAFFIC DATA MENU                          32       │
│                                                                        │
│      A) CHANGE TRAFFIC COLLECTION PARAMETERS                           │
│                                                                        │
│      B) DISPLAY TRAFFIC METERS                                         │
│                                                                        │
│      C) RETURN TO MAINTENANCE OPTIONS                                  │
│                                                                        │
│  ENTER THE LETTER OF YOUR CHOICE HERE -- >                             │
└──────────────────────────────────────────────────────────────────────┘
```

Current Collection
Parameter Settings

3.2.4.1 Selection of Current Collection Parameter Settings (transaction A) allows the user to enter or change real-time system status parameters before displaying intercepts and timeout calculations. The following real-time parameters are set for maintenance purposes:

```
┌──────────────────────────────────────────────────────────────────────┐
│           CURRENT  COLLECTION  PARAMETER  SETTINGS              36     │
│                      12:05 1 0/04/84                                   │
│                                                                        │
│  AUTOMATIC DUMP: ON                                                    │
│  COLLECTION INTERVAL: 60 MINUTES                                       │
│  INTERVAL BETWEEN USAGE SCANS: 100 SECONDS                             │
│                                                                        │
│  ENTER NEW SETTINGS (PERIOD TO SKIP)                                   │
│                                                                        │
│  AUTOMATIC  DUMP (ON-OFF) > ON.                                        │
│  COLLECTION  INTERVAL (15-30-60) > 60.                                 │
│  INTERVAL  BETWEEN  USAGE  SCANS (lo-100 SECONDS) > 100 SECONDS.       │
│                                                                        │
│  DO YOU WANT TO EXECUTE THIS CHANGE (YIN) >                            │
│                                                                        │
└──────────────────────────────────────────────────────────────────────┘
```

NOTE: During maintenance, allow 10 seconds between scans before continuing a function.

Traffic Meters   3.2.4.2 Selection of Traffic Meters Menu (transaction B) allows
Menu   the user to display the following specific traffic registers:

```
+------------------------------------------------------------------------+
|                   TRAFFIC   METERS   MENU                       33      |
|                                                                        |
|        A)  INTERCEPTS  AND  TIMEOUTS                                    |
|                                                                        |
|        B)  DTMF, CONFERENCE, LINE  RING, CALL  AND  DIGIT  STORE        |
|                                                                        |
|        C)  CONSOLE   RELATED                                           |
|                                                                        |
|        D)  TIME  SLOT                                                  |
|                                                                        |
|        E)  TRUNK  GROUP,  RLT  TRAFFIC                                 |
|                                                                        |
|        X)  RETURN  TO  TRAFFIC  MENU                                   |
|                                                                        |
| ENTER  THE  LETTER  OF  YOUR  CHOICE  HERE  >  A.                      |
|                                                                        |
| ACTIVE  OR  PASSIVE  BUFFER  >  ACT.                                   |
+------------------------------------------------------------------------+
```

The following are the contents of displays found in the Traffic Meters Menu:

- INTERCEPTS AND TIMEOUTS (Transaction A)

```
PERIOD 11:30/12:00   10/04/87

                INTERCEPTS  AND  TIMEOUTS
                     12:05     10/04/87

      INTERCEPTS                              TIMEOUTS

 TOLL  RESTRICTED        0000        STILL  BUSY        0033

  FEATURE  RESTRICTED  0000          FIRST  DIGIT       0027

 VACANT  NUMBER         0000         NO  ANSWER         0002

 INVALID  NUMBER        0000         RECALL  HOLD       0000

 DID  RESTRICTED        0000         CALL  PARK         0000

  CONFERENCE            0000         CALL  HOLD         0000
  RESTRICTED

 ACOF  RESTRICTED       0000         RLT HOLD           0000

 DIGIT  TIMEOUT         0031         RLT STILL BUSY 0000

 AIOD BLOCKED           0000         RLT  NO  ANSWER 0000

 ENTER  END  (E),  REPEAT  (R)  OR  TRANSACTION  NUMBER  (O-224)  >
```

. DTMF, CONFERENCE LINE RING, CALL AND DIGIT STORE
(Transaction B)

```
PERIOD 11:30/12:00   10/04/87

                    MISCELLANEOUS
                      12:05 1 0/04/87

                         ATTEMPTS  USAGE      OVERFLOW

 LINE TO LINE            00525

 HUNT GROUP BUSY         03525

 DTMF    .               01625      00081      00000

  CONFERENCE             00000      00000      00000

 CALL STORE              02982      01751      00000

 DIGIT STORE             01673      00110      00000

 LINE RING PECO          00100      00034      00000

 ENTER END (E), REPEAT (R) OR TRANSACTION NUMBER (O-224) >
```

● CONSOLE RELATED METERS (Transaction C)

```
PERIOD 11:30/12:00   10/04/87

                 CONSOLE RELATED METERS
                      12:05 1 0/04/87

                                  CONSOLE   LOOP
                         ATTEMPTS            USAGE

 CONSOLE #0              00000              00000

 CONSOLE #1              00000              00000

 CALLS QUEUED            0 0 0 0 0

 LEVEL #1 WAITING        00000

 LEVEL #2 WAITING        0 0 0 0 0

 TIMEOUT                 00000

 ENTER END (E), REPEAT (R) OR TRANSACTION NUMBER (O-224) >
```

● TIME SLOT TRAFFIC (Transaction D)

```
PERIOD 11:30/1 2:00    10/04/87

                    TIME  SLOT  TRAFFIC

                        12:05    8/25/87


               PCM  BUS        USAGE           OVERFLOW

               0              00000             00000

               1              00000             00000

               2              NOT   AVAILABLE

               3              NOT   AVAILABLE

               4              00000             00000

               5              00000             00000

               6              00000             00000

               7              00000             00000

ENTER  END  (E),  REPEAT  (R)  OR  TRANSACTION  NUMBER  (O-224)  >
```

● TRUNK GROUP , RLT TRAFFIC (Transaction E)

```
PERIOD 11:30/1 2:00 1 0/04/87

                    TRUNK  GROUP  TRAFFIC

                         12:05  1 0/04/87


TRUNK
GROUP        INCOMING        · · · · · · · · · -OUTGOING-
· · · · · · ·
N U M B E R  CALLS    USAGE     CALLS     USAGE     ATB      OVF

   0 2      00317    00403     00037     00017     00000    00000
   0 3      00046    00098     00000     00000     00020    00000
   04                          00182     00166     00002    00000
   0 5      00008    00076     00149     00155     00011    00030
   0 6      00169    00603
   0 8      00002    00000     00000     00000     00002    00000
   0 9      00006    00002     00001     00000     00000    00000
   1 0      00125    00135     00203     00206     00000    00000
   RLT                         00295     00099     00114    00099

ENTER END (E), REPEAT (R) OR TRANSACTION NUMBER (O-224) >
```

RETURN TO TRAFFIC MENU (Transaction X)
Returns user to Traffic Data Menu

Return **to**
Maintenance Options   3.2.4.3 Selection of Return to Maintenance Options (Traffic Data
                              Menu transaction C) returns the user to the Maintenance Options
                              Menu.

Memory Test
Results

3.2.5 Memory Test Results (transaction 34) provides the user
with a status display of system memory tests. When a memory
failure is detected, the physical location of the faulty card
appears in the error message.

```
+-----------------------------------------------------------------+
|                 MEMORY  TEST  RESULTS                    34     |
|                                                                 |
|                   17:22   09/25/87                              |
| PRE-LOAD  MEMORY  TEST:-  FAILURE  DETECTED  ***                |
|                                                                 |
| AT CEC INST MEMORY ADDRESS: 72E6 , PAGE: 0, FAULT CODE: 19     |
|                                                                 |
| CARD FB-17314-A LOCATION: FILE Y , SLOT 1                       |
|                                                                 |
|                                                                 |
| STATIC MEMORY TEST:    NO  ERRORS  DETECTED                     |
|                                                                 |
| DYNAMIC MEMORY TEST: NO  ERRORS  DETECTED                       |
|                                                                 |
|                                                                 |
| DO YOU WANT TO REPEAT THIS FUNCTION (Y/N) >                     |
+-----------------------------------------------------------------+
```

Trunk Sequence State Display

3.2.6 Trunk Sequence State Display (transaction 35) provides the user with a plain language description of trunk sequence states. A CRT display updates the trunk sequence states until CONTROL-C is entered. Without a CRT, the display is updated by repeating the transaction. No display will be shown for a trunk number not in use.

```
┌─────────────────────────────────────────────────────────────────┐
│              REAL-TIME  TRUNK  SEQUENCE  STATE  DISPLAY      35   │
│                                                                   │
│                      13:46 1 0/04/82                              │
│                                                                   │
│ ENTER STARTING TRUNK NUMBER (8 OPT. RANGE 1-14) > 23 5.           │
│                                                                   │
│ Trunk Number              Sequence  State                        │
│                                                                   │
│ 23                 01     INCOMING   PRE-SEIZED                   │
│ 24                 1B     OUTGOING  WINK  START  TIME             │
│ 25                 OB     OUTGOING  START  DIAL  WAIT             │
│ 27                 1D     IDLE                                    │
│                                                                   │
│ DO YOU WANT TO REPEAT THIS FUNCTION (Y/N) >                      │
└─────────────────────────────────────────────────────────────────┘
```

Touch Call Receiver Status Display

3.2.7 Real-Time Touch Call Receiver Status (transaction 37) provides the user with a status display of all system Touch Call Receivers (TCRs). A CRT display updates the trunk sequence states until CONTROL-C is entered. Without a CRT, the display is updated by repeating the transaction.

```
┌─────────────────────────────────────────────────────────────────┐
│             REAL-TIME  TOUCH  CALL  RECEIVER  STATUS        37    │
│                      12:02 1 0/04/87                              │
│                   TOUCH  CALL  RECEIVER  PEC  SID                 │
│                                                                   │
│ PEC                                                               │
│ NUM      0     1     2     3     4     5     6     7              │
│                                                                   │
│ 0      IDLE  ....  BUSY  BUSY  MAIN  IDLE  ....  FAIL            │
│                                                                   │
│ DO YOU WANT TO REPEAT THIS FUNCTION (Y/N) >                      │
└─────────────────────────────────────────────────────────────────┘
```

**Data Switch Device
Status Display**

3.2.8 The Data Switch Device Status Display (transaction 13) provides the user with in-service/ out-of-service information for OMNI SI PD-200 Packet Line Cards and Remote Processors. The user selects transaction A to check the status of Packet Line Cards, transaction B to check the status of Remote Processors. or transaction C to exit the menu.

Data Switch Device Status Display

```
+---------------------------------------------------------------------+
|                                                              13     |
|             DATA  SWITCH  DEVICE  STATUS  DISPLAY                   |
|                                                                     |
|   A)  PACKET  LINE  CARDS  STATUS                                   |
|   B)  REMOTE  PROCESSORS  STATUS                                    |
|   C)  EXIT                                                          |
|                                                                     |
|   TYPE  THE  LETTER  OF  THE  DESIRED  TOPIC  >                     |
|                                                                     |
+---------------------------------------------------------------------+
```

**Packet Line
Cards Status**

3.2.8.1 Selection of Packet Line Cards Status (transaction A) allows the user to monitor the in-service/ out-of-service status of listed PD-200 Packet Line cards.

```
+---------------------------------------------------------------------+
|               PACKET  LINE  CARDS  STATUS                          |
|                                                                     |
|    CARD                          UNIV                              |
|    TYPE        PEC       GRP      SLOT       STATUS        . . . .  |
|    - - - -               - -      . .        . . . . .             |
| - - -                                                              |
|    ADMP        0         A        02         INS .                 |
|    BT          0         D        08         00s                   |
|    DCP         0         B        01         INS                   |
|    PBE         0         C        01         00s                   |
|    PR          0         A        01         INS                   |
|    VPL0        0         B        02         00s                   |
|    DCPB        0         C        02         INS                   |
|    VPL1        0         D        01         00s                   |
|    RPTR        0         A        03         INS                   |
|    NIC         0         B        03         00s                   |
|    VP20        0         C        03         INS                   |
|    VP21        0         D        02         00s                   |
|                                                                     |
|   DO  YOU  WISH  TO  SEE  MORE  (Y/N)  >                            |
+---------------------------------------------------------------------+
```

Remote Processors Status
3.2.8.2 Selection of Remote Processors Status (transaction B) allows the user to monitor the in-service/out-of-service status of listed PD-200 Remote Processor cards.

```
┌─────────────────────────────────────────────────────────────────┐
│               REMOTE  PROCESSORS  STATUS                          │
│       RP                        UNIV                              │
│      TYPE      PEC      GRP      SLOT      CKT      STATUS         │
│    ------      ---      ---      ----      -----    ---           │
│                                                                   │
│      DIFP       0        A        01        0        INS          │
│      DFPAPM     0        B        01        0        INS          │
│      SPM        0        C        01        0        00s          │
│      APM        0        D        01        0        INS          │
│                                                                   │
│   -DO YOU WISH TO SEE MORE (Y/N) >                                │
└─────────────────────────────────────────────────────────────────┘
```

Exit
3.2.8.3 Selection Exit of (transaction C) of the Data Switch Device Status menu allows the user to exit the menu.

Mass Storage Utility Menu
3.2.9 The Mass Storage Utility Menu (transaction 14) allows the user to control maintenance functions of the File Management System (FMS). One function is to move files from the hard disk to floppy disk, or from the floppy disk to hard disk. A second function displays or changes FMS contents.

Security level 6 is required when working with FMS utilities .

```
┌─────────────────────────────────────────────────────────────────┐
│                                                            14     │
│                 MASS  STORAGE  UTILITY  MENU                      │
│                 CURRENT  DEVICE  ASSIGNMENTS                      │
│                                                                   │
│      0 - 10 M BYTE DISK                1 -NO  DEVICE              │
│                                                                   │
│      2 - 800 K BYTE FLOPPY DISK        3 - NO DEVICE             │
│                                                                   │
│      4 - NO DEVICE                     5 - NO DEVICE             │
│                                                                   │
│      6 - NO DEVICE                     7 - NO DEVICE             │
│                                                                   │
│      TYPE THE LETTER OF THE DESIRED TOPIC  > B.                   │
│                                                                   │
│   A) DISK  BACKUP                                                 │
│   B) DISPLAY  DEVICE  CATALOG                                     │
│   C) EXIT                                                         │
└─────────────────────────────────────────────────────────────────┘
```

Disk Backup Option **3.2.9.1** Selection of the Disk Backup Option (transaction 14) **allows** the user to transfer files from the hard disk to the floppy disk, or from the floppy disk to the hard disk. The system responds with the following menu:

```
------------------------------------------------------------------
                       DISK  BACKUP
                 CURRENT  DEVICE  ASSIGNMENTS

     0 - 10 M BYTE DISK                    1 - NO DEVICE

     2 - 800 K BYTE FLOPPY DISK            3 - NO DEVICE

     4 - NO DEVICE                         5 - NO DEVICE

     6 - NO DEVICE                         7 - NO DEVICE


   TYPE SOURCE DEVICE (O-7)  > 0.

   TYPE  DESTINATION  DEVICE  (O-7)  > 2.

   ENTER  FILE  NAME  MASK  (*  :  STRING  /CHAR)  > *.

   REFORMAT  DESTINATION  DEVICE  (Y/N)  > Y.


   TYPE  LABEL  FOR  DESTINATION  DEVICE  (9CHARS) > Y.

 DO  YOU  WISH  TO  EXECUTE  THIS  COMMAND  > Y.
------------------------------------------------------------------
```

Current Device Assignments lists the hardware found in the FMS. A lo-megabyte hard disk and an 800-kilobyte floppy disk drive are listed here.

● When working with the Disk Backup Option, the user answers the following prompts:

1. SOURCE DEVICE - hard disk, enter 0; floppy disk enter 2
2. DESTINATION DEVICE - hard disk, enter 0; floppy disk enter 2
3. FILE NAME MASK - single or multiple files to be transferred
   - the (*) wild card matches any string
   - the (%) wild card matches any character

   Example:
   * = All files
   *sv999 = All files ending with sv999
   C% % % = All files four characters long and start with letter C
   G * = All files starting with letter G (all data base files)

4. REFORMAT DESTINATION DEVICE - Yes or No
   - Yes reply destroys all data on destination device
   - If reformatting, prompt for LABEL FOR DESTINATION DEVICE will appear. This prompt will not appear if reformatting is not entered.

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    -- Label is used to identify disk if more than one copy exists

    -- Label limited to nine characters

- If a backup floppy disk is wanted **type** "Y", if not type "N". A new disk should be formatted and used for each backup floppy disk. Use of old disks can affect usable space, and cause security problems.

  - If space runs out on a backup floppy disk, the following prompt will appear:

    FMS ERROR: NOT ENOUGH SPACE ON DISK

  - To override this prompt, type a period. The system will respond:

    MOUNT A FLOPPY • HIT. (PERIOD) WHEN READY

  - System will display prompt for reformatting. Follow instructions , and disk backup will continue. The system will respond:

    BACKUP COMPLETED, if the backup was successful, or BACKUP FAILED, if backup was unsuccessful.

Device Catalog Display Option
3.2.9.2 The Device Catalog Display Option (transaction 16) allows the user to display selected directory or file contents of FMS hardware devices. The system responds with the following menu:

```
-------------------------------------------------------------
                                                      16
           DEVICE  CATALOG  DISPLAY
           CURRENT  DEVICE  ASSIGNMENTS

   0 • 10 M BYTE DISK                    1 • NO DEVICE
   2 • 800 K BYTE FLOPPY DISK            3 • NO DEVICE
   4 • NO DEVICE                         5 • NO DEVICE
   6 • NO DEVICE                         7 • NO DEVICE

 TYPE THE DEVICE IDENTIFIER (O-7) > 0.
-------------------------------------------------------------
```

- Current Device Assignments lists the hardware found in the FMS. A 10 megabyte hard disk, and an 800 kilobyte floppy disk drive is listed here.

- When working with the Device Catalog Display Option, the user answers the following prompt:

TYPE THE DEVICE IDENTIFIER (0 ▪ 7) >
▪ DEVICE IDENTIFIER ▪ hard disk, enter 0; floppy disk, enter
2. The system responds with the following directory:

```
CATALOG LISTING OF S3E$CECO          DEVICE = 10 MBYTE FIXED DISK
                    REC FILE          RECS
      SECURITY
      F   I   L   E   SIZEA   MSIZE   OSREDE A T E D      LAST UPDATED RD
      WR      ---
   FMS$LABEL       016    00001   00001 15.04/86  16:44  15.04186  16:44  02 15
   FMS$DIREC       032    00320   00320 15.04/86  16:44  15.04/86  16:44  02 15
   FMS$BADSP       256    00001   00001 15.04/86  16:44  15.04/86  16:44  02 15
   FMS$ALMAP       256    00020   00020 15.04186  16:44  15.04/86  16:44  02 15
   FMS$GENER       256    00104   00104 02.06/86  16:52  05.06186  15:10  02 15
   XVCECGEN1       512    01017   00888 02.06/86  16:42  03.06/86  08:41  05 06
                                                                   08:07  05 06
   XVPEC           512    00112   00106 02.06/86  16:44  03.06/86  08:07  05 06
   XVFEATPH1       512    00043   00043 23/05/86  15:17  04/06/86  08:41  05 05
   XVFEATPH9       512    00053   00053 23/05/86  15:20                   05 05
   XVRCGSVR        512    00901   00794 02.06/86  16:03  03/06/86  08:41  05 05
                                                                   09:10  02 02
   XVMDR           512    00256   00246 02.06/86  16:46  03/06/86  09:10  05 06
   XVSRCUPDY       512    00028   00000 02.06/86  17:13  02/06/86  09:10  02 05
                                                                   17:13  00 15
```

● After writing the device directory, the system will provide the
following prompt:

ENTER COMMAND >

▪ The user responds to this prompt by entering the following
two-letter, UP, or END instructions:

(CO) ▪ COPY <device> <name>. <device> <name>
= Make a copy of file.

(DE) ▪ DELETE <name> = Delete a file from this device

(DO) ▪ DOWN < nnnnnn > = Display the next set of files

(RE) ▪ RENAME <name > <new name > = Rename a file
on this device

(SE) ▪ SELECT <name > = Select a file to display from
this device

UP < nnnnnn > = Display the previous set of files

END = End this program

For example, if the response SE is selected, the following file dump occurs:

FILE: XVCECGEN1ON S3E$CEC0   DEVICE = 10 MBYTE FIXED DISK

```
RECORD SIZE = 512    FILE SIZE = 01017    RECORD USED = 00828
RECO

RD #0000
0000 40 7A 01 F4 30 00 02 00  00 00 00 00 83 02 D9 B6@ 0
0010 91 4C 4A 29 91 5F 00 00  03 02 00 00 F2 OC 00 00 LJ)
0020 00 00 00 00 00 00 00 00  00 00 5E D6 82 20 00 00 A
0030 00 00 07 31 85 05 06 86  05 06 86 00 00 00 00 00 1
0040 00 00 00 00 00 00 00 00  00 00 03 10 86 1F 20 35 3E        5>
0050 2A 2B 21 01 3D 1D 22 23 24 25 26 27 28 29 30 31* + ! = "#$%&'() 01
0060 11 32 33 34 36 37 38 39  3A 3B 2E 2D 1 F B8 13 EO 23456789: ; •
0070 96 48 95 98 9A A0 9A A8  9A 28 89 60 8A 68 99 10 H        ( ' h

ENTER COMMAND >
```

● After writing the file contents, the system provides the following prompt:

ENTER COMMAND >

▪ The user responds to this prompt by entering the following two-letter, UP, or END instructions:

(CH) ▪ CHECKSUM = Calculate and update data switch record checksum

(DO) ▪ DOWN < number > = Display the next record, or current record plus number

(RD) ▪ RDOFFSET <offset > = Display this record starting at offset

(WR) ▪ WROFFSET <offset > <data > = Change data stored in the record

UP < number > = Display the previous record or current record-number
END = End this program

UP and (DO) DOWN scroll records within a file.

File Management System (FMS) Errors

When loading the FMS files into the system, certain errors may be received. For example, "FMS error 14" is received. This means that FILE D is not available for creation, for opening, or for seizure. Refer to Table 3.1 for status code and explanation.

Table 3.1   FMS StatusCode and Explanation

FMS STATUS CODE	EXPLANATION
00	no errors detected
01	disk directory full
02	not enough space to define file
03	file size is larger than disk
04	file name is in use
05	record size is too large
06	devices are not equal
07	device is invalid
08	file name is invalid
09	security violation
10	file does not exist
11	not allowed on FMS file
12	file is already open
13	mode is invalid
14	FIDs) not available
15	FID is invalid
16	FID not an active file
17	FID spedified is already in use
18	FID in use by other processor
19	read past logical EOF attempted
20	file is not open for imput
21	file is not open for output

Table 3.1   FMS StatusCode and Explanation (Continued

FMSSTATUS CODE	EXPLANATION
2 2	write past physical EOF attempted
2 3	seek past physical EOF attempted
2 4	record sizes not equal
2 5	files open on device
2 6	FID not seized
27	access is invalid
3 0	device not ready
3 1	device I/O error
3 2	device write protected
3 4	not allowed on mounted disk
3 5	no device attached
3 6	device is private
40	invalid commander number
126	command awaiting execution
127	command executing

**SYSTEMMAINTENANCE
GENERAL PRINCIPLES**

4.0 Maintenance commands are input via the maintenance terminal to designate particular parts of the system hardware as "maintenance busy" so that system software will not try to use that hardware during system operation. Hardware is out of service when designated as maintenance busy. That piece of hardware becomes available for maintenance purposes and can be physically removed from the system and replaced with a spare card. This will not cause interruption of service.

The maintenance terminal is also used to place parts of the system back into service. However, the part is tested by the system before it is placed back into use. When testing is completed, the system outputs response codes to any attempts to place equipment into service. A response code is outputted if the attempt is successful, or if the equipment fails system testing and is not placed into service. The responses are an aid to maintenance and troubleshooting.

Preventive Maintenance

4.1 The system does not require regularly scheduled preventive maintenance. Cabinet cooling is based on natural convection with no fans or air filters to clean or replace.

System Voltage Checks

4.2 Voltage checks are performed as part of troubleshooting and are discussed in the TL-130300-1001. Voltage adjustments are set at the factory and should not be altered as a part of field maintenance. Battery packs are checked during installation and are charged by the system.

**System Operation
Checks**

4.3 System operation checks simply use the standard functions of the system to ensure proper operation. Checks are usually performed when installation is completed and, selectively, at the conclusion of a corrective maintenance action. Refer to TL-130100-l 001 for detailed operating procedures when attempting to make particular types of calls and execute particular system features.

Spare Cards

4.4 Spare cards should be tested for correct operation after the system is completely tested and operational. To test the spare cards, replace a working card with an identical spare and test the feature or function associated with it. Once the function of the spare has been confirmed, remove it and replace the original.

Quick Reference Chart

4.5 Table 2.1 is a listing of the fault codes and functions associated with the system.

**Attendant Console
Code Display Fault**

4.6 The memory of each CEC provides an area called the fault log which records system faults. It records the last 32 faults detected. When a fault is detected, the ALARM LED on each Attendant Console flashes, indicating that a fault has occurred. Each console displays all faults reported in the fault log independently of the other consoles in the system. All of the faults listed on the fault log are displayed by repeated depressions of the ALARM pushbutton. If all faults have been displayed at an Attendant Console, an additional depression of the ALARM pushbutton causes the station number display to go off and the ALARM LED to stop flashing, unless a MAJOR alarm exists which will cause the ALARM LED to light steady. A steady ALARM LED should cause the Attendant to call for maintenance assistance.

Depressing the ALARM pushbutton associated with the flashing LED displays a three- or four-digit number in the station number display on the Attendant Console. This display is interpreted as follows:

- The first two digits indicate the fault type. Refer to Table 4.1

- The third digit indicates in which equipment complex the fault occurred. Refer to Table 4.1.

- If provided, the fourth digit gives additional information. Refer to Table 4.1.

Table 4.1   Attendant Console Fault Log Decoding Summary

FUNCTION	ATENDANT CONSOLE STATIONS NUMBER DISPLAY		
	FAULT TYPE		SELECTED OPTIONAL DIGIT
	DIGIT 1	DIGIT 2	DIGIT 3 + DIGIT 4
CEC block-parity error	0	1	*
CEC dynamic-memory failure	0	1	*
CEC network read-after-write-error	0	2	*
CEC-PEC common memory read-after-write-error	0	3	*
CEC total communication failure	0	4	Channel no.
CEC single communication failure	0	5	Channel no.
CEC system network test error	0	6	*
Preloading test failure	0	7	*
Peripheral Equipment Complex (PEC) Network test error	0	8	*
PEC directive test error	0	9	*
PEC directive hopper full	1	0	*
PEC illegal event error	1	1	*
PEC read-in after-write channel memory	1	2	*
PEC self-test error	1	3	*
PEC 10-ms test error	1	4	*
T1 alarm fault	1	5	*
CEC 10-ms interval timer failure	1	6	*
CEC alarm fault or PEC alarm fault	1	7	*
CEC memory block-parity error	1	8	*
CEC preloading memory failure	1	9	*
Peripheral equipment data hopper failure	2	0	PEC no.
Peripheral equipment data directive hopper error	2	1	PEC no.
Spare	2	2-4	Peripheral Equipment
Real-time clock failure	2	5	*
Power failure	2	6	*
Station status disk backup failure	2	7	*
CAS Main/ACD agent data link error	2	8	*
CAS Main/ACD message queue error	2	9	*
Attendant Console recovery data check error	3	0	Console no.
PEC ODDB backup failure	3	1	*
CIP card failure	3	2	Card no.
CIP port failure	3	5	Port no.
Remote FADS data transmission error	3	4	
Remote FADS reporting error	3	5	

* Not used
+ Demarcation unit; See CEC Fault Log

Fault Code 00
Block Parity Failure

Description:

When a program is loaded into the system, the CPU85 will generate block parity for each 256 bytes of instruction data and static data. This is done by an exclusive OR of the data table. Periodically, the CPU85 will recalculate the block parity and compare it with the value calculated earlier (detect memory failures and data mutilation).

```
Register Data as System Prints:
    CECO   CECO   Fault   00   B   C   D   E   H   I
                          00   00  02  XX  XX  XX

                                  Test      Address of
                                  Failure   Faulty Byte

                                            Failing
                                            Software Pace:
                                  00  = Instruction Page 0
                                  01  = Instruction Page 1
                                  02  = Data Page 0
                                  03  = Data Page 1
                                  04  = Instruction Page 2
                                  05  = Instruction Page 3
                                  06  = Data Page 2
                                  07  = Data Page 3
```

Fault Resolution Steps:

1. Remove fuse on battery pack.
2. Power down - turn off main circuit breaker at rear of OMNI SI cabinet.
3. Remove and replace MI MB in Y/01, FB-17314-1A (check strapping).
4. Power up and reload system - depress reset on PSUPY card.
5. Monitor PSUPY in P/01 for ASW LED to light.
6. If fault occurs, power down and reinstall original M1MB card, and replace the MPG16 card.
7. If fault is still present, read the data for the pre-loading, memory test (see disk handling and and Fault Code 19) and replace the MI MB card.
8. Power up and reload syste.
9. Monitor PSUPY in P/01 for ASW LED to light.
10. Replace fuse in battery pack.

FAULT CODE 00

FAULT CODE 00

REMOVE
BATTERY
PACK FUSE

POWER DOWN
SYSTEM

R&R MI MB IN Y/01
FB-17314
(Check Strapping)

POWER UP
AND RELOAD

MONITOR
PSUPY FOR
"ASW" TO LIGHT

FAULT 00
RECURS? →YES

NO

REPLACE
BATTERY
PACK FUSE

END

POWER DOWN &
REINSTALL ORIGINAL
MI MB CARD

R&R MP85 IN Y/02
FB-17213
(Check Strapping)

POWER UP
AND RELOAD

MONITOR
PSUPY FOR
"ASW" TO LIGHT

Fault Code 01
Dynamic RAM Memory

Description:
The system tests dynamic memory. A block of five bytes is put into a temporary storage area. A series of test patterns is read into the area of memory being tested and then verified. The data is returned to its original location and the test advances to the next five bytes of dynamic memory (interrupts are disabled during this test).

Register Data as System Prints:

```
CECO   CECO   Fault   01   B   C   D   E   H   L
                           00  00  02  X..X    XX    XX
```

```
                               Test        Address of
                             Failure       Faulty Byte

                                           Failing
                                           Software Page:
                                  00  =  Instruction Page 0
                                  01  =  Instruction Page 1
                                  02  =  Data Page 0
                                  03  =  Data Page 1
                                  04  =  Instruction Page 2
                                  05  =  Instruction Page 3
                                  06  =  Data Page 2
                                  07  =  Data Page 3
```

Fault Resolution Steps:

1. Remove fuse on battery pack.
2. Power down - turn off main circuit breaker at rear of OMNI SI cabinet.
3. Remove and replace MI MB in Y/01, FB-17314-A (check strapping).
4. Power up and reload system - depress "reset" on PSUPY card.
5. Monitor PSUPY in P/01 for ASW LED to light.
6. If fault recurs, power down and reinstall original MI MB card and replace the MPG16 card.
7. Remove and replace MP85 in Y/02, FB-17213-A (check strapping).
8. Power up and reload system.
9. Monitor PSUPY in P/01 for ASW LED to light.
10. Replace fuse in battery pack.

FAULT CODE 01

```
        ┌─────────────────┐
        │  FAULT CODE 01  │
        └─────────────────┘
                 │
                 ▼
        ┌─────────────────┐
        │     REMOVE      │
        │    BATTERY      │
        │   PACK FUSE     │
        └─────────────────┘
                 │
                 ▼
        ┌─────────────────┐
        │   POWER DOWN    │
        │     SYSTEM      │
        └─────────────────┘
                 │
                 ▼
        ┌─────────────────┐
        │ R&R MI MB IN Y/01│
        │     FB-17314     │
        │ (Check Strapping)│
        └─────────────────┘
                 │
                 ▼
        ┌─────────────────┐
        │    POWER UP     │
        │   AND RELOAD    │
        └─────────────────┘
                 │
                 ▼
        ┌─────────────────┐
        │    MONITOR      │
        │   PSUPY FOR     │
        │ "ASW" TO LIGHT  │
        └─────────────────┘
                 │
                 ▼
           ╱─────────╲          YES
          ╱ FAULT 01  ╲──────────────►
          ╲ RECURS?   ╱
           ╲─────────╱
                 │ NO
                 ▼
        ┌─────────────────┐
        │    REPLACE      │
        │ BATTERY PACK FUSE│
        └─────────────────┘
                 │
                 ▼
        ┌─────────────────┐
        │      END        │
        └─────────────────┘
```

```
        ┌─────────────────┐
        │  POWER DOWN &   │
        │REINSTALL ORIGINAL│
        │   MI MB CARD    │
        └─────────────────┘
                 │
                 ▼
        ┌─────────────────┐
        │ R&R MPG16 IN Y/02│
        │   FB-17213-BOA   │
        │ (Check Strapping)│
        └─────────────────┘
                 │
                 ▼
        ┌─────────────────┐
        │    POWER UP     │
        │   AND RELOAD    │
        └─────────────────┘
                 │
                 │ 1
                 ▼
        ┌─────────────────┐
        │    MONITOR      │
        │   PSUPY FOR     │
        │ "ASW" TO LIGHT  │
        └─────────────────┘
```

Fault Code 02
Control Memory
Read-After-Write
Failure

Description:

When a byte of data is written into the network memory, it is immediately read back and verified.

```
Register Data as System Prints:
   CECO    CECO    Fault   02    B    C    D    E    H    L
                          00    00    XX⌄⌄⌄ XX
                                      |         |         =-I--
                                    Data     Address  of
                                    Written  Faulty  Byte
                                         Data
                                         Read
```

Fault Resolution Steps:

1. Power down ▪ turn off main circuit breaker at rear of OMNI SI cabinet.-
2. Remove and replace EPCMN in Y/09, FB-17217-A (check strapping).
3. Power up system.
4. Monitor PSUPY in P/01 for ASW LED to light approximately 15 seconds to warm site.
5. If fault recurs, power down and reinstall original EPCMN card.
6. Remove and replace INCKS in Y/I 1 (check strapping).
7. Power up system.
8. Monitor PSUPY in P/01 for ASW LED to light.
9. If fault recurs, power down and reinstall original INCKS card.
10. Remove battery pack fuse.
11. Remove and replace MPG1 6 in Y/02, FB-17213-BOA (check strapping).
12. Power up and reload system ▪ depress reset on PSUPY card.
13. Monitor PSUPY in P/01 for ASW LED to light.
14. Replace battery pack fuse.

FAULT CODE 02

FAULT CODE 02

↓

POWER DOWN
SYSTEM

↓

R&R EPCMN
FB-17217 IN Y/09
(Check Strapping)

↓

POWER UP
AND RELOAD

↓

MONITOR
PSUPY FOR
"ASW" TO LIGHT

↓

FAULT 02
RECURS? —— YES

↓ NO

POWER DOWN &
REINSTALL ORIGINAL
EPCMN CARD

↓

R&R INCKS IN Y/11
(Check Strapping)

↓

POWER UP
SYSTEM

↓

MONITOR
PSUPY FOR
"ASW" TO LIGHT

↓

FAULT 02
RECURS? —— YES

↓ NO

POWER DOWN AND
REINSTALL ORIGINAL
INCKS CARD

↓

REMOVE
BATTERY PACK
FUSE

↓

R&R MI MB IN Y/02
FB-17213-BOA
(Check Strapping)

↓

POWER UP &
RELOAD SYSTEM

↓

MONITOR
PSUPY FOR
"ASW" TO LIGHT

↓

REPLACE
BATTERY PACK
FUSE

↓

END

Fault Code 07   <u>Description:</u>
Disk Error   Before loading the system memory from the disk, the system
tests its memory (except common memory). The number of
CRC errors is checked before loading.

Register Data as System Prints:
CECO   CECO   Fault   07   B   C   D   E   H   L
                              00   xx   00   00   00   00

Number
of CRC
errors

<u>Fault Resolution Steps:</u>

1.   Determine number of CRC errors identified in C register (if
less than 12 errors, disregard fault 07; if more, continue).
2.   Reload system -depress reset on PSUPY in P/01.
3.   Monitor PSUPY in P/01 for ASW LED to light.
4.   If fault recurs, power down system - turn off switch at rear
of OMNI SI cabinet.
5.   Remove and replace FMS in Y/07, FB-17220-BOA (check
strapping).
6.   Power up and reload system.
7.   Monitor PSUPY in P/01 for ASW LED to light.
8.   If fault recurs, power down and reinstall original FMS card.
9.   Remove and replace floppy disk drive.
10. Power up and reload system.
11. Monitor PSUPY in P/01 for ASW LED to light.

FAULT CODE 07

```
┌─────────────────────┐
│    FAULT CODE 07     │
└─────────────────────┘
            │
            ▼
┌─────────────────────┐
│  DETERMINE NUMBER   │
│  OF CRC ERRORS      │
│  (C Register Value) │
└─────────────────────┘
            │
            ▼
        CRC ERRORS       ── YES ──▶  ┌─────────────┐
          < 12?                       │  DISREGARD  │
                                      │  FAULT 07   │
            │ NO                      └─────────────┘
            ▼
┌─────────────────────┐
│      RELOAD         │
│      SYSTEM         │
└─────────────────────┘
            │
            1
            ▼
┌─────────────────────┐
│     MONITOR         │
│     PSUPY FOR       │
│  "ASW" TO LIGHT     │
└─────────────────────┘
            │
            ▼
        FAULT
        07 RECURS       ── YES ──▶
      EXCESSIVE CRC
        ERRORS?
            │ NO
            ▼
┌─────────────────────┐
│        END          │
└─────────────────────┘
```

POWER DOWN

R&R FMSD IN Y/02
FB-17220-BOA
(Check Strapping)

POWER UP &
RELOAD SYSTEM

MONITOR
PSUPY FOR
"ASW" TO LIGHT

FAULT 07
RECURS?   NO / YES

POWER DOWN &
REINSTALL ORIGINAL
FMS CARD

1

R&R FLOPPY
DISK DRIVE

MONITOR
PSUPY FOR
"ASW" TO LIGHT

**Fault Code 08
Network Test Failure**

Description:

The system tests the PCM network connecting a time slot to itself; it then sends a test pattern through the network. This fault code indicates that a failure has occurred in the PCM network.

Register Data as System Prints:

```
CECO    CECO    Fault   08   B    C    D    E    H    L
                            00   XX   XX   00   00   00
```

Time
Slot
#

PEC   Fault Type Code:
Number   00 = PEC(s) did not respond
(Always 0)   02 = Test Failure

Fault Resolution Steps:

1. Power down - turn off main circuit breaker at rear of OMNI SI cabinet.
2. Remove and replace CHM85, FB-17218-A, in X/01 and /or Y/15:
   (check strapping)
   - R + R X/01 if time slot # is odd
   - R = R Y/l 5 if time slot # is even
3. Power up system.
4. Monitor PSUPY in P/01 for ASW LED to light -approximately 15 seconds to warm start.
5. If fault recurs, power down and reinstall original CHM85 card.
6. Remove and replace , FB-17217-A in Y/09 (check strapping).
7. Power up system.
8. Monitor PSUPY in P/01 for ASW LED to light.
9. If fault recurs, power down and reinstall original EPCMN card.
10. Remove and replace INCKS in Y/1 1 (check strapping).
11. Power up system.
12. Monitor PSUPY in P/01 for ASW LED to light.
13. If fault recurs, remove and replace cables between EPCMN and target CHM85 cards.

FAULT CODE 08

FAULT CODE 08

POWER DOWN
SYSTEM

R&R CHM85
FB-17218 IN Y/15
AND/OR X/01
(Check Strapping)

POWER UP
SYSTEM

MONITOR
PSUPY FOR
"ASW" TO LIGHT

FAULT 08
RECURS? → YES

NO

POWER DOWN &
REINSTALL ORIGINAL
CHM85

R&R EPCMN
FB-17217 IN Y/09
(Check Strapping)

POWER UP
SYSTEM

MONITOR
PSUPY FOR
"ASW" TO LIGHT

FAULT 08
RECURS? → YES

NO

POWER DOWN &
IREINSTALL ORIGINAL
EPCMN

R&R INCKS IN Y/I 1
(Check Strapping)

POWER UP
SYSTEM

MONITOR
PSUPY FOR
"ASW" TO LIGHT

FAULT 08
RECURS? → NO

YES

R&R CABLES
BETWEEN EPCMN &
CHM85 CARDS

END

Fault Code 09
Directive Test
Malfunction

Description:
A simulated directive is sent to test the hopper loaders and unloaders. This fault indicates that the system did not respond with the correct event.

Register Data as System Prints:

CECO   CECO   Fault   09   B   C   D   E   H   L
⌐00⌐   00   ⌐XX⌐   00   00   00

PEC
Number
(Always 0)

00 = System did not respond correctly to directive test

03 = System made an invalid response to the directive test

Fault Resolution Steps:

1. Remove battery pack fuse.
2. Power down - turn off main circuit breaker at rear of OMNI SI cabinet.
3. Remove and replace MI MB, FB-17314-1A in Y/01 (check strapping).
4. Power up and reload system - depress reset on PSUPY card
5. Monitor PSUPY in P/01 for ASW LED to light.
6. If fault recurs, power down and reinstall original M1MB card.
7. Remove and replace CPU85, FB-17288-A in Y/04 (check strapping).
a. Power up and reload system.
9. Monitor PSUPY in P/01 for ASW LED to light.
10. If fault recurs, replace battery pack fuse, power down and reinstall original CPU85E card.
11. Remove and replace MPB85, FB-17215-A in Y/05 and X/04 (check strapping).
12. Monitor PSUPY card in P/01 for ASW LED to light.

FAULT CODE 09

```
                    FAULT CODE 09
                          │
                          ▼
                ┌──────────────────┐        ┌──────────────────┐        ┌──────────────────┐
                │ REMOVE  BATTERY  │        │   POWER DOWN &   │        │ REPLACE BATTERY  │
                │   PACK  FUSE     │        │ REINSTALL ORIGINAL│       │   PACK FUSE      │
                └──────────────────┘        │    M1MB CARD     │        └──────────────────┘
                          │                 └──────────────────┘                 │
                          ▼                          │                           ▼
                ┌──────────────────┐                 ▼                  ┌──────────────────┐
                │   POWER DOWN     │        ┌──────────────────┐        │   POWER DOWN &   │
                │    SYSTEM        │        │   R&R CPU85E     │        │ REINSTALL ORIGINAL│
                └──────────────────┘        │ FB-17288 IN Y/04 │        │  CPU85E CARD     │
                          │                 │ (Check Strapping)│        └──────────────────┘
                          ▼                 └──────────────────┘                 │
                ┌──────────────────┐                 │                           ▼
                │    R&R M1MB      │                 ▼                  ┌──────────────────┐
                │ FB-17314 IN Y/01 │        ┌──────────────────┐        │ R&R MPB85 FB-17215│
                │ (Check Strapping)│        │   POWER UP &     │        │ IN Y/04 & Y/05   │
                └──────────────────┘        │  RELOAD SYSTEM   │        │ (Check Strapping)│
                          │                 └──────────────────┘        └──────────────────┘
                          ▼                          │                           │
                ┌──────────────────┐                 ▼                           ▼
                │   POWER UP &     │        ┌──────────────────┐        ┌──────────────────┐
                │  RELOAD SYSTEM   │        │    MONITOR       │        │   POWER UP       │
                └──────────────────┘        │  PSUPY FOR       │        │   SYSTEM         │
                          │                 │ "ASW" TO LIGHT   │        └──────────────────┘
                          ▼                 └──────────────────┘                 │
                ┌──────────────────┐                 │                           ▼
                │    MONITOR       │                 ▼                  ┌──────────────────┐
                │  PSUPY FOR       │          ◇ FAULT 09 ◇             │    MONITOR       │
                │ "ASW" TO LIGHT   │   NO ◇ RECURS? ◇ YES              │  PSUPY FOR       │
                └──────────────────┘                                   │ "ASW" TO LIGHT   │
                          │                                            └──────────────────┘
                          ▼                                                     │
                   ◇ FAULT 09 ◇  YES                                           ▼
                   ◇ RECURS? ◇                                           (  END  )
                          │ NO
                          ▼
                ┌──────────────────┐
                │ REPLACE BATTERY  │
                │   PACK FUSE      │
                └──────────────────┘
```

Fault Code 10
Directive Hopper Full
Malfunction

Description:
The hopper is tested to ensure that directives are being unloaded. This fault indicates that the system is failing to unload its directive.

Register Data as System Prints:

CECOCECO   Fault10 |00| C   D   E   H   L
                        | 00   00   00   00   00

PEC
Number
(Always 0)

Fault Resolution Steps:

1. Remove battery pack fuse.
2. Power down - turn off main circuit breaker at rear of OMNI S I c a b i n e t .
3. Remove and replace M1MB, FB-17314-1A, in Y/01 (check strapping).
4. Power up and reload system - depress reset on PSUPY card.
5. Monitor PSUPY in P/01 for "ASW" LED to light.
6. If fault recurs, power down and reinstall original MI MB card.
7. Remove and replace CPU85, FB-17288-A in Y/04 (check strapping).
a. Power up and reload system.
9. Monitor PSUPY in P/01 for ASW LED to light.
10. If fault recurs, replace battery pack fuse, power down and reinstall original CPU85E card.
11. Remove and replace MPB85, FB-17215-A, in Y/05 and X/04 (check strapping).
12. Power up system.
13. Monitor PSUPY card in P/01 for ASW LED to light.

FAULT CODE 10

```
┌─────────────────┐
│  FAULT CODE 10  │
└─────────────────┘
         │
         ▼
┌─────────────────┐        ┌─────────────────────┐        ┌─────────────────────┐
│ REMOVE BATTERY  │        │   POWER DOWN &      │        │  REPLACE BATTERY    │
│   PACK FUSE     │        │ REINSTALL ORIGINAL  │        │    PACK FUSE        │
└─────────────────┘        │    M1 MB CARD       │        └─────────────────────┘
         │                 └─────────────────────┘                   │
         ▼                           │                               ▼
┌─────────────────┐        ┌─────────────────────┐        ┌─────────────────────┐
│  POWER DOWN     │        │    R&R CPU85E       │        │   POWER DOWN &      │
│   SYSTEM        │        │  FB-17288 IN Y/04   │        │ REINSTALL ORIGINAL  │
└─────────────────┘        │ (Check Strapping)   │        │   CPU85E CARD       │
         │                 └─────────────────────┘        └─────────────────────┘
         ▼                           │                               │
┌─────────────────┐        ┌─────────────────────┐        ┌─────────────────────┐
│   R&R MI MB     │        │    POWER UP &       │        │  R&R MPB85 FB-17215 │
│ FB-17314 IN Y/01│        │   RELOAD SYSTEM     │        │   IN Y/05 & X/04    │
│ (Check Strapping)│       └─────────────────────┘        │ (Check Strapping)   │
└─────────────────┘                  │                    └─────────────────────┘
         │                           ▼                               │
┌─────────────────┐        ┌─────────────────────┐        ┌─────────────────────┐
│   POWER UP &    │        │    MONITOR          │        │    POWER UP         │
│  RELOAD SYSTEM  │        │   PSUPY FOR         │        │    SYSTEM           │
└─────────────────┘        │  "ASW" TO LIGHT     │        └─────────────────────┘
         │                 └─────────────────────┘                   │
         ▼                           │                               ▼
┌─────────────────┐                  ▼                    ┌─────────────────────┐
│    MONITOR      │        NO  ◇ FAULT 10 ◇  YES          │    MONITOR          │
│   PSUPY FOR     │           ◇  RECURS?  ◇               │   PSUPY FOR         │
│  "ASW" TO LIGHT │                                       │  "ASW" TO LIGHT     │
└─────────────────┘                                       └─────────────────────┘
         │                                                          │
         ▼                                                          ▼
   ◇ FAULT 10 ◇  YES                                        ┌──────────┐
   ◇  RECURS?  ◇                                            │   END    │
         │ NO                                               └──────────┘
         ▼
┌─────────────────┐
│ REPLACE BATTERY │
│   PACK FUSE     │
└─────────────────┘
```

Fault Code 11
illegal Event Error
Malfunction

Description:
This fault is reported when the system receives an illegal value.
This fault indicates that the system has failed to respond
correctly to a directive.

Register Data as System Prints:

CECO CECO Fault 11 B   C   D   E   H   L

                    ⌊00⌋   ⌊XX⌋   ⌊XX⌋   ⌊XX⌋   ⌊XX⌋ 00

                     PEC   Event Event Event Event
                    Number ParameterParameterParameter Number
                    (Always 0) 1   2   3

Fault Resolution Steps:

1. Remove battery pack fuse.
2. Power down ▪ turn off main circuit breaker at rear of OMNI
    SI cabinet.
3. Remove and replace MI MB, FB-17314-IA, in Y/01 (check
    strapping).
4. Power up and reload system ▪ depress reset on PSUPY
    card.
5. Monitor PSUPY in P/01 for ASW LED to light.
6. If fault recurs, power down and reinstall original M1MB card.
7. Remove and replace CPU85, FB-17288-A in Y/04 (check
    strapping).
8. Power up and reload system.
9. Monitor PSUPY in P/01 for ASW LED to light.
10. If fault recurs, replace battery pack fuse, power down, and
    reinstall original CPU85E card.
11. Remove and replace MPB85, FB-17215-A, in Y/05 and
    X/O4 (check strapping).
12. Power up system.
13. Monitor PSUPY card in P/01 for ASW LED to light.

FAULT CODE 11

Fault Code 12
Read -After-Write
Failure in
Channel Memory

Description:

When data is written into channel memory, it is immediately read back and verified. This fault indicates that a failure has occurred in channel memory.

Register Data as System Prints:

CECO CECO Fault 12 B   C   D   E   H   L

                00   XX   XX   XX   00   00

                PEC   Channel   Data   Data

                Number   Number   Written   Read

                (Always 0)   (00-5F)

Fault Resolution Steps:

1. Power down - turn off main circuit breaker at rear of OMNI SI cabinet.
2. Remove and replace CHM85, FB-17218-A, in X/01 and Y/1 5 (check strapping).
3. Power up system.
4. Monitor PSUPY in P/01 for ASW LED to light - approximately 15 seconds to warm start.
5. If fault recurs, power down and reinstall original CHM85 cards.
6. Remove fuse from battery pack.
7. Remove and replace MI MB, FB-17213-BOA, in Y/O2 (check strapping).
8. Power up and reload system - depress reset on PSUPY card.
9. Monitor PSUPY in P/01 for ASW LED to light.
10. Replace fuse in battery pack.

FAULT CODE 12

FAULT CODE 12

POWER DOWN
SYSTEM

R&R CHM85
FB-17218 IN X/01
AND/OR Y/15
(Check Strapping)

POWER UP
SYSTEM

MONITOR
PSUPY FOR
"ASW" TO LIGHT

FAULT 12
RECURS? —— YES

NO

POWER DOWN &
REINSTALL ORIGINAL
CHM85 CARD

REMOVE FUSE
FROM BATTERY PACK

R&R MI MB
FB-17213-BOA IN Y/02
(Check Strapping)

1

POWER UP &
RELOAD SYSTEM

MONITOR
PSUPY FOR
"ASW" TO LIGHT

REPLACE FUSE IN
BATTERY PACK

END

Fault Code 15
T1 Alarm

Description:

The system monitors the T1S (T1 Supervision Circuit Card) for hardware alarms. This fault indicates that the data framing of a span has failed for 36 ms, the power has failed in the local office terminating equipment, or synchronization has been lost at the distant office for 1.2 seconds.

```
Register Data as System Prints:
CECOCECO    Fault15    B    C    D    E    H    L
                      ⌐00⌐  00  ⌐XX⌐ 00   00   00
                       |        |
                      PEC       ⌐——————⌐ Alarm  Number
                     Number     0 0 = System  Alarm
                    (Always 0)  0 1 = Remote  Alarm
                                0 2 = Cutoff  Alarm
                                0 3 = Local  Alarm
```

Fault Resolution Steps:

1. Observe T1 -Type Supervisory Card, FB-20718-1, in X/16.
2. SYS lamp lit indicates any alarm condition exists.
3. LOC lamp lit indicates framing synchronization is lost (fault code D, register value is 03). Complete the following steps:

   - Remove and replace FDC, FB-15278-A, in X/l 0 (check strapping).
   - If LOC lamp remains lit, repeat preceding procedure by replacing sequentially all T1 cards until the fault is cleared (check strapping):

PCB	SLOT
T1B2	X/18
T1S	X/16
SIL	X/l 4
LCM	X/12

4. REM lamp lit indicates problem exists at remote location (fault code D, register value is 01). Report condition to remote end personnel.
5. RPF lamp lit indicates power has failed at remote location (fault code D, register value is 01). Report condition to remote end personnel.
6. Check with remote end personnel to ensure that T1 alarm is not a temporary trunk failure condition.

FAULT CODE 15

```
            FAULT CODE 15
                 │
                 ▼
    ┌────────────────────────┐
    │   OBSERVE FRONT OF      │
    │   T1S FB-20718          │
    └────────────────────────┘
                 │
                 ▼
    ┌────────────────────────┐
    │ SYS LAMP LIT INDICATES  │
    │ ANY ALARM CONDITION     │
    │ EXISTS                  │
    └────────────────────────┘
                 │
                 ▼
          ◇ LOC LAMP
            LIT & D REGISTER
            VALUE = 03?        ──── NO ────▶
                 │
                YES
                 ▼
    ┌────────────────────────┐
    │   R&R FDC               │
    │   FB-15278 IN X/10      │
    │   (Check Strapping)     │
    └────────────────────────┘
```

◇ LOC LAMP REMAINS LIT? ──NO──▶ ◇ ANY LAMPS REMAIN LIT? ──YES──▶

- LOC LAMP REMAINS LIT? → YES
- ANY LAMPS REMAIN LIT? → NO

┌────────────────────────┐
│ R & R   │
│ SEQUENTIALLY ALL T1   │
│ CARDS UNTIL FAULT IS   │
│ CLEARED   │
└────────────────────────┘

END

◇ RPF LAMP LIT & D REGISTER VALUE = 01? ──NO──▶

- RPF LAMP → YES

┌────────────────────────┐
│ REPORT CONDITION   │
│ TO REMOTE   │
│ PERSONNEL   │
└────────────────────────┘

Fault Code 16 Description:
10 ms Stopped Failure The system performs checks to ensure that the 10 ms interrupt is operating. A time check is performed to see if the background scheduler has been interrupted to perform foreground scheduler tasks. If the average time is too short, it is assumed that the interrupt is not operating.

Register Data as System Prints:
CECOCECO   Fault16   B   C   D   E   H   L
                      00   00   00   00   00   00

Fault Resolution Steps:

1. Power down ▪ turn off main circuit breaker at rear of OMNI SI cabinet.
2. Remove and replace CPU85E, FB-17288-A, in Y/O4 (check strapping).
3. Power up system.
4. Monitor PSUPY card in P/01 for ASW LED to light.

FAULT CODE 16

```
          ┌─────────────────┐
          │  FAULT CODE 16  │
          └─────────────────┘
                   │
                   ▼
        ┌──────────────────────┐
        │     POWER DOWN       │
        │       SYSTEM         │
        └──────────────────────┘
                   │
                   ▼
        ┌──────────────────────┐
        │     R&R CPU85E       │
        │   FB-17288 IN Y/04   │
        │  (Check Strapping)   │
        └──────────────────────┘
                   │
                   ▼
        ┌──────────────────────┐
        │      POWER  UP       │
        │    AND RELOAD        │
        └──────────────────────┘
                   │
                   ▼
        ┌──────────────────────┐
        │      MONITOR         │
        │    PSUPY  FOR        │
        │ "ASW"  TO  LIGHT     │
        └──────────────────────┘
                   │
                   ▼
          ┌─────────────────┐
          │      END        │
          └─────────────────┘
```

Fault Code 17   Description:
Alarm Fault   This fault indicates that a fault has been detected in a T1 span or the alarm relays have been pulled on the ATT12 card.

Register Data as System Prints:

CECO	CECO	Fault17	B	C	D	E	H	L
			⌞XX⌟	⌞XX⌟	00	00	00	00

Attendant   00   = ATT12 card has failed
Console   01   = Fault on T1 span
Oor   1   09   = Attendant 0 transmission fault
       0A   = Attendant 1 transmission fault

Fault Resolution Steps:

1. If C register value is 00, 09, or OA, complete the following steps:

   - Identify which ATTI2 card has failed (B register value indicates Attendant Console number). Examine T2621 in the system data base to isolate PCMUS.
   - Force Attendant Console OOS - FORCE CONSOLE X OS.
   - Remove and replace ATTI2, FB-17208-A, in identified PCMUS slot (check strapping).
   - Force Attendant Console in service -FORCE CONSOLE x IS.
   - If fault recurs, replace Attendant Console.

2. If C register value is 01, go to fault code 15 to begin trouble- shooting.

FAULT CODE 17

```
         ┌──────────────────┐
         │  FAULT CODE 17   │
         └──────────────────┘
                  │
                  ▼
            ╱ C REG = 00, 09 ╲         NO      ╱              ╲
           ╱     or 0A?       ╲────────────────▶    C REG = 01?
            ╲                 ╱                 ╲              ╱
                  │ YES                              │ YES
                  ▼                                  ▼
         ┌──────────────────┐              ┌──────────────────┐
         │    IDENTIFY      │              │  GO TO FAULT     │
         │ CONSOLE/ATT1 2   │              │    CODE 15       │
         │ CARD VIA T2621   │              │ TROUBLESHOOTING  │
         └──────────────────┘              │   PROCEDURE      │
                  │                        └──────────────────┘
                  ▼                                  │
         ┌──────────────────┐                        │
         │  FORCE CONSOLE   │                        │
         │      00s         │                        │
         └──────────────────┘                        │
                  │                                   │
                  ▼                                   │
         ┌──────────────────┐                        │
         │  R&R ATT1 2      │                        │
         │   FB-17208       │                        │
         │ (Check Strapping)│                        │
         └──────────────────┘                        │
                  │                                   │
                  ▼                                   │
         ┌──────────────────┐                        │
         │  FORCE CONSOLE   │                        │
         │   IN-SERVICE     │                        │
         └──────────────────┘                        │
                  │                                   │
                  ▼                                   │
            ╱            ╲        NO                  │
           ╱   FAULT      ╲───────────────▶           │
            ╲  RECURS?    ╱                           │
                  │ YES                               ▼
                  ▼                         ┌──────────────────┐
         ┌──────────────────┐               │       END        │
         │  R&R ATTENDANT   │               └──────────────────┘
         │    CONSOLE       │                        ▲
         └──────────────────┘                        │
                  └─────────────────────────────────┘
```

Fault Code 19
Pre-Loading Memory
Failure Test

Description:

Before the contents of the disk are loaded into the system memory, **all** eight pages of the RAM are tested and any error is detected. This fault indicates that there is a failure in the RAM memory card.

Register Data as System Prints:

CECOCECO   Fault19   B   C   D   E   H   L
⌊00⌋ 00   00   00   ⌊XX   XX⌋

Address of
Failing Byte

Failing
Software Paae:

00 = instruction Page 0
01 = Instruction Page 1
02 = Data Page 0
03 = Data Page 1
04 = Instruction Page 2
05 = Instruction Page 3
06 = Data Page 2
07 = Data Page 3

Fault Resolution Steps:

1. Remove fuse from battery pack.
2. Power down · turn off main circuit breaker at rear of OMNI SI cabinet.
3. Remove and replace M1MB, FB-17314-1A, in Y/01 (check strapping).
4. Power up and reload system · depress reset on PSUPY card.
5. Monitor PSUPY in P/01 for ASW LED to light.
6. If fault recurs, power down system and reinstall original M1MB card.
7. Remove and replace MPG16, FB-17213-BOA in Y/02 (check strapping).
8. Power up and reload.
9. Monitor PSUPY card in P/01 for ASW LED to light.
10. Replace fuse in battery pack.

FAULT CODE 19

```
        ┌─────────────────┐
        │  FAULT CODE 19  │                    ┌──────────────────────┐
        └─────────────────┘                    │   POWER DOWN &       │
                 │                              │ REINSTALL ORIGINAL   │
                 ▼                              │   M1MB CARD          │
        ┌─────────────────┐                    └──────────────────────┘
        │  REMOVE FUSE    │                               │
        │  FROM BATTERY   │                               ▼
        │  PACK           │                    ┌──────────────────────┐
        └─────────────────┘                    │  R&R MPG16 IN Y/02   │
                 │                              │  FB-1721'3           │
                 ▼                              │  (Check Strapping)   │
        ┌─────────────────┐                    └──────────────────────┘
        │  POWER DOWN     │                               │
        │  SYSTEM         │                               ▼
        └─────────────────┘                    ┌──────────────────────┐
                 │                              │  POWER UP            │
                 ▼                              │  AND RELOAD          │
        ┌─────────────────┐                    └──────────────────────┘
        │ R&R MI MB IN Y/01│                              │
        │ FB-17314         │                              ▼
        │ (Check Strapping)│                   ┌──────────────────────┐
        └─────────────────┘                    │  MONITOR             │
                 │                              │  PSUPY FOR           │
                 ▼                              │  "ASW" TO LIGHT      │
        ┌─────────────────┐                    └──────────────────────┘
        │  POWER UP       │                               │
        │  AND RELOAD     │                               │
        └─────────────────┘                               ▼
                 │                              ┌──────────────────────┐
                 ▼                              │  REPLACE FUSE        │
        ┌─────────────────┐                    │  IN BATTERY          │
        │  MONITOR        │                    │  PACK                │
        │  PSUPY FOR      │                    └──────────────────────┘
        │  "ASW" TO LIGHT │                               │
        └─────────────────┘                               ▼
                 │                              ┌──────────────────────┐
                 ▼               YES            │         END          │
           ╱ FAULT 19 ╲─────────────           └──────────────────────┘
           ╲ RECURS?  ╱
                 │
                NO
```

Fault Code 22   Description:
MDR SDC Fault   An ambiguous MDR port assignment exists.

Register Data as System Prints:

```
CECO    CECO    Fault    22    B    C    D    E    H    L
                        \00 / 05 /           FF   00   00
                          |    |
                         PEC   |
                        Number |
                        (Always 0) |
                                  05 = Improper SDC port
                                       assignment
```

Fault Resolution Steps:

1. Reload system ▪ depress reset on PSUPY card.
2. If terminal records output on port 0, mark MDR port 0 in service in Table T4551; port 1 must be marked out of service; back up the data base.
3. If terminal records output on port 1, mark MDR port 1 in service in Table T4551; port 0 must be marked out of service; back up the data base.
4. Connect the output device to the MDR SDC output port (the port which is not marked as maintenance).
5. Warm start the system ▪ cycle main circuit breaker at rear of OMNI SI cabinet.
6. Place a trunk call which should be recorded by MDR.
7. If no MDR output, ask for assistance.

NOTE: MDR SDC port transmission data is derived from Table T6051.

FAULT CODE - 22

FAULT CODE 22

REGISTER C = 05

RELOAD SYSTEM - DEPRESS
"RESET" ON PSUPY IN P/01

IS A TERMINAL USED TO RECORD MDR OUTPUT?

PORT 0 YES

MARK MDR PORT 0 IN SERVICE IN TABLE T4551, PORT 1 MUST BE MARKED OUT OF SERVICE, BACK UP THE DATA BASE

PORT 1 YES

MARK MDR PORT 1 IN SERVICE IN TABLE T4551, PORT 0 MUST BE MARKED OUT OF SERVICE, BACK UP THE DATA BASE

NO

CONNECT THE OUTPUT DEVICE TO THE MDR SCD OUTPUT PORT (THE PORT WHICH IS NOT MARKED AS MAINTENANCE)

WARM START THE SYSTEM - CYCLE MAIN CIRCUIT BREAKER AT REAR OF SI CABINET

PLACE A TRUNK CALL WHICH SHOULD BE RECORDED BY MDR

IF NO MDR OUTPUT, ASK FOR ASSISTANCE. NOTE: MDR SDC PORT TRANSMISSION DATA IS DERIVED FROM TABLE T6051.

Fault Code 25
Real-Time Clock Failure

Description:
This fault indicates a problem with the Real-Time Clock which is part of the CPU85 card.

.

Register Data as System Prints:
    CECO   CECO   Fault   25   B   C   D   E   H   L
                          \XX/   00   00   00   00   00
                            |
                          00 = Clock is out of range
                          F1 = Read-after-write error
                          F2 = Real time clock problem

Fault Resolution Steps:

1.   Power down - turn off main circuit breaker at rear of OMNI
      SI cabinet.
2.   Remove and replace   CPU85E, FB-17288-A' in Y/04
      (check strapping).
3.   Power up system.
4.   Monitor PSUPY card in P/01 for ASW LED to light -
      approximately 15 seconds to warm start.

FAULT CODE - 25

```
        ┌──────────────────────┐
        │   FAULT CODE 25      │
        └──────────────────────┘
                  │
                  ▼
        ┌──────────────────────┐
        │  POWER DOWN SYSTEM   │
        └──────────────────────┘
                  │
                  ▼
        ┌──────────────────────┐
        │    R&R CPU85E        │
        │  FB-17288 IN Y/04    │
        │  (Check Strapping)   │
        └──────────────────────┘
                  │
                  ▼
        ┌──────────────────────┐
        │ POWER UP AND RELOAD  │
        └──────────────────────┘
                  │
                  ▼
        ┌──────────────────────┐
        │  MONITOR PSUPY FOR   │
        │  "ASW" TO LIGHT      │
        └──────────────────────┘
                  │
                  ▼
        ┌──────────────────────┐
        │        END           │
        └──────────────────────┘
```

Fault Code 27   Description:
Disk Backup Failure When a power failure occurs, dynamic memory (containing wake-up, message, etc.) is automatically written to disk to preserve data. This fault indicates that the Hotel/Health Care dynamic data was not backed up onto the disk.

Register Data as System Prints:
   CECO   **CECO**   Fault 27 B   C   D   E   H   L
                     XX   XX 00 00 00 00

                                01 = Disk operation failed
                              02 = Disk request failed

                      00 = Disk backup successful
                      1A = File read failed
                      1B = File write failed

Fault Resolution Steps:

1. Inform customer that the data has been lost and must be reentered.
2. If the problem is hardware related, perform the following procedures:

- Power down system - turn off main circuit breaker at rear of OMNI SI cabinet.
- Remove and replace FMSD in Y/07, FB-17220-BOA, (check strapping).
- Monitor PSUPY for ASW LED to light.

FAULT CODE - 27

```
        ┌──────────────────┐
        │  FAULT CODE 27   │
        └──────────────────┘
                 │
                 ▼
    ┌──────────────────────────┐
    │    POWER DOWN SYSTEM     │
    └──────────────────────────┘
                 │
                 ▼
    ┌──────────────────────────┐
    │        R&R FMSD          │
    │     FB-17220 IN Y/07     │
    │     (Check Strapping)    │
    └──────────────────────────┘
                 │
                 ▼
    ┌──────────────────────────┐
    │   POWER UP AND RELOAD    │
    └──────────────────────────┘
                 │
                 ▼
    ┌──────────────────────────┐
    │     MONITOR PSUPY FOR    │
    │     "ASW"  TO  LIGHT     │
    └──────────────────────────┘
                 │
                 ▼
         ┌──────────────┐
         │     END      │
         └──────────────┘
```

**Fault Code 30
Attendant Console
Recovery
Data Check Error**

Description:
Common transmission to an Attendant Console has failed.

Register Data as System Prints:
CECO   CECO   Fault   30   B   C   D   E   H   L
\XX/ \XX/   00   \XX/   00   00

Console   **08** = Check sum
0 or 1   09 = Data link
                           OA = Timeout occurred

FAULT CODE . 30

```
          ┌─────────────────────┐
          │   FAULT CODE 30     │
          └─────────────────────┘
                    │
          ┌─────────────────────┐
          │ NOTE CONSOLE NUMBER │
          └─────────────────────┘
                    │
                    ▼
              ◇ REGISTER E = ? ◇ ──FF──▶ ┌────────────────────────────┐
                                          │ ATTENDANT CONSOLE WILL     │
                                          │ AUTOMATICALLY REINITIALIZE │
                                          └────────────────────────────┘
                    │
                 A, 9, OR 8
                    │
                    ▼
          ◇ SINGLE FAULT &        ◇ ──YES──▶ ┌──────────────────────┐
            IS ATTENDANT                       │ NO    ACTION,  IGNORE │
            CONSOLE                            └──────────────────────┘
            OPERATING
            PROPERLY?
                    │
                   NO
                    │
                    ▼
          ◇ IS               ◇ ──NO──▶ ┌──────────────────────┐
            ATTENDANT                   │ POWER UP ATTENDANT   │
            CONSOLE                     │ CONSOLE              │
            POWERED UP?                 └──────────────────────┘
                    │
                   YES
                    │
                    ▼
          ◇ DID ATTENDANT    ◇ ──NO──▶ ┌──────────────────────────┐
            CONSOLE PASS                │ REPLACE ATTENDANT CONSOLE │
            SELF-TEST?                  └──────────────────────────┘
                    │
                   YES
                    │
                    ▼
          ┌─────────────────────────────┐
          │ FORCE ATTENDANT CONSOLE OS  │
          │ AND REMOVE AND REPLACE THE  │
          │ ATT12 CARD. FORCE CONSOLE   │
          │ IN SERVICE.                 │
          └─────────────────────────────┘
                    │
                    ▼
          ┌─────────────────────┐
          │        END          │
          └─────────────────────┘
```

Fault Code 32 Description:
CIPNCIPIDVCIP Card This fault indicates a failure in the CIPNCIPIDVCIP or VP20 card.
Failure

Register Data as System Prints:

CECO   CECO   Fault   32   B   C   D   E   H   L
\XX/   \XX/   \XX/   XX   XX   XX

PEC   Card
Number   Number
(Always 0)   (O-15)

00 = Card Test Failure
01 = Card XMIT Error
02 = Card Watch Dog Timer Error
03 = Card Hardware Error
04 = Card Initialization Error

Fault Resolution Steps:

1. Identify CIP/VCIP/DVCIP or VP20 relative card number
   location by performing a general read of T7053-0, address
   0B2F thru 0B3E (GR D2 0B2F 0B3E).

   0B2F = Relative Cl Card No. 0
   OB30 = Relative Cl Card No. 1
   OB31 = Relative Cl Card No. 2
   0832 = Relative Cl Card No. 3
   0833 = Relative Cl Card No. 4
   OB34 = Relative Cl Card No. 5
   0B35 = Relative Cl Card No. 6
   0836 = Relative Cl Card No. 7
   0837 = Relative Cl Card No. 8
   0838 = Relative Cl Card No. 9
   OB39 = Relative Cl Card No. 10
   0B3A = Relative Cl Card No. 11
   0B3B = Relative Cl Card No. 12
   0B3C = Relative Cl Card No. 13
   0B3D = Relative Cl Card No. 14
   0B3E = Relative Cl Card No. 15

2. Interpret contents to indicate physical location of card.

2.   If C register is 00, 02, 03, 05, 06, or 07, complete the following
      steps:
      - Force CIPNCIPIDVCIP OOS - FORCE CIP CA X YY OS.
        x = PEC #3, Always 0 or   FORCE VPLC (PEC GRP SLOT)
        YY = CARD 30 -15
      - Remove and replace CIPNCIPIDVCIP, FB -17235
        A/17236-A in identified slot (check strapping).
      - Force CIP/VCIP/DVCIP/VP20 INS - FORCE CIP CA X YY IS.
        x = PEC#, Always 0 or   FORCE VPLC (PEC GRP SLOT)
        YY = CARD #0 -15

3.   If PCB replaced is a VCIP/DVCIP, FB-17235-A/17236-A, force
      download the PCB as follows:
      - Identify data links associated with relative card number of the
        VCIP/DVCIP (i.e., VCIP #0/DVCIP #0 = Data Links O-7, VCIP
        #DVCIP #1 = Data Links 8-15, etc.)
      - Identify any SID associated with any previously defined data
        link by reading Table T7054-0.
      - Force download of this VCIP/DVCIP using the previously
        defined SiD:
        Force download X YYY IN.
        x = PEC#, Always 0
        Y Y Y = SID #0-255

4.   If fault recurs, reinstall original CIP/VCIP/DVCIP/VP20 card and
      download.

5.   Identify MPB85, FB-17215-A associated with identified
      CIPNCIPIDVCIP   card:

MPB85		PCMUS GROUP
Y/05	Groups A & B	
X/04	Groups C & D	

6.   Power down system - turnoff main circuit breaker at rear of
      OMNI SI cabinet.

7.   Remove and replace MPB85, FB-17215-A previously
      identified.

8.   Power up system.

9.   Monitor PSUPY card in P/01 for ASW LED to light.

10.   If C register value is 04, complete the following steps:

      - If a CIP/VCIP/DVCIP/VP20 card is supposed to be in an
        unequipped slot, install a CIPNCIPIDVCIP card.

      - If a CIP/VCIP/DVCIP card is correctly installed in the PCMUS,
        follow procedures for C register value 00 listed above.

FAULT CODE - 32

```
           ┌─────────────────┐
           │  FAULT CODE 32  │
           └─────────────────┘
                    │
                    ▼
  ┌─────────────────────────────┐
  │ IDENTIFY CIP/VCIP/DVCIP      │
  │ RELATIVE CARD NUMBER &       │
  │ ITS PCMUS LOCATION           │
  └─────────────────────────────┘
                    │
                    ▼
          ╱ C REGISTER = ╲   YES
          ╲ 00, 02, OR O3? ╱──────►
                    │
                    │ NO
                    ▼
          ╱ C REGISTER = ╲   NO
          ╲ 01?          ╱──────►
                    │
                    │ YES
                    ▼
  ┌─────────────────────────────┐
  │ RESEAT IDENTIFIED            │
  │ CIP/VCIP/DVIP CARD           │
  └─────────────────────────────┘
                    │
                    ▼
          ╱ C REGISTER = ╲   YES
          ╲ 01?          ╱──────►
                    │
                    │ NO
```

C REGISTER = 04?   — NO → END

INSTALL CIP/VCIP/DVCIP CARD IN IDENTIFIED PCMUS

C REGISTER = 04?   — NO

YES

FORCE CIP/VCIP/DVCIP CARD OS: FORCE CIP CA X YY OS.

FORCE CIPNCIPIDVCIP CARD.
CIP, FB-17225
VCIP, FB-17235
DVCIP, FB-17236

FORCE CIPNCIPIDVCIP CARD INS:
FORCE CIP CA X YY IS.

VCIP/DVCIP WAS REPLACED?   — NO

YES

IDENTIFY DATA LINKS ASSOCIATED WITH VCIP/DVCIP RELATIVE CARD NO.

IDENTIFY ANY SID ASSOCIATED WITH THE VCIP/DVCIP DATA LINKS

FORCE DOWNLOAD ON VCIP/DVCIP:
FORCE DOWNLOAD X YYY IN.

FAULT 32 RECURS?   — NO

YES

REINSTALL ORIGINAL VCIP, FB-17235 OR DVCIP, FB-17236

FAULT 32 RECURS?   — NO

YES

REINSTALL ORIGINAL CIP, FB-17225 CARD

IDENTIFY MPB85, FB-17215 ASSOCIATED WITH PCMUS HOUSING CIPNCIPIDVCIP CARD

POWER DOWN SYSTEM

R&R MPB85, FB-17215 PREVIOUSLY IDENTIFIED

POWER UP SYSTEM

MONITOR PSUPY FOR "ASW" TO LIGHT

END

Fault Code 33
CIPNCIPIDVCIP
Port Failure

Description:
This fault indicates a failure in the Integrated/Digital
Featurephone cabling or CIPNCIPIDVCIP card.

Register Data as System Prints:
CECO   CECO   Fault   33   B   C   D   E   H   L
                            \XX/ \XX/ \XX/ 00   00   00
                              | | |
                            PEC | Port
                          Number | Number
                        (Always 0) | (00-7F)

                              00 = Data Link Error
                              0 1 = CIP Port Protocol Error
                              0 2 = Port Sync Error
                              0 3 = Port Enable Error
                              04 = CIP Other Port Errors
                              0 5 = Test Failure
                              06 = Download Failure
                              07 = Port Recovery Errors

Fault Resolution Steps:

1.   Identify and locate Featurephone associated with fault report
     (customer complaint) or determine DN by deciphering port
     number
2.   Ensure that Featurephone is powered up.
3.   Run self-test - TEST PHONE DN XXXX or TEST DN
     XXXX. If test fails, remove and replace Featurephone.
4.   If Featurephone passes self-test, complete the following
     steps:

     ▪ At system maintenance terminal call up Recent Change
       menu 117 to show the PCMUS associated with the
       CIP/VCIP/DVCIP. When PCMUS is defined, identify
       CIPNCIPIDVCIP relative card number location by
       performing a general read of 17053-O address (B2F
       through OB3E) as shown below:

       GR D2 OB2F OB3E.

       OB2F = Relative CI Card No. 0
       OB30 = Relative CI Card No. 1
       OB31 = Relative CI Card No. 2
       OB32 = Relative CI Card No. 3
       OB33 = Relative CI Card No. 4
       OB34 = Relative CI Card No. 5
       0835 = Relative CI Card No. 6
       OB36 = Relative CI Card No. 7

0637 = Relative CI Card No. 8
OB38 = Relative CI Card No. 9
0839 = Relative CI Card No. 10
OB3A = Relative CI Card No. 11
OB3B = Relative CI Card No. 12
OB3C = Relative CI Card No. 13
OB3D = Relative CI Card No. 14
OB3E = Relative CI Card No. 15

- Using the relative CI card number, force the CIP/VCIP/DVCIP OOS.

  Force CIP/VCIP/DVCIP OOS - FORCE CIP CA X YY OS.
  x = PEC#, Always 0
  Y Y = CARD #O-l 5

- Remove and replace CIPNCIPIDVCIP, FB-17235 A/1 7236-A in identified slot (check strapping).

  Force CIPNCIPIDVCIP INS - FORCE CIP CA X YY IS.
  x = PEC#, Always 0
  Y Y = CARD #O-l 5

- If PCB replaced was a VCIP/DVCIP, F&17235- A/17236-A, force download PCB as follows:
- Identify data links associated with relative card number of the VCIP/DVCIP (i.e., VCIP/DVCIP #0 = Data Links O-7, VCIP/DVCIP #1 = Data Links 8-15,etc.).
- Identify any SID associated with any previously defined data link by reading Table T-7054.
- Force download of this VCIP/DVCIP using the previously defined SID:

  Force download X YYY IN.
  X = PEC#, Always 0
  YYY = SID #0-255

- If fault recurs, reinstall original CIP/VCIP/DVCIP card.

- Identify MPB85, FB-17215-A, associated with PCM group housing identified CIP/VCIP/DVCIP card.

MPB85	PCMUS GROUP
Y/05	Group A & B
x/o4	Group C & D

5. Power down system - turn off main circuit breaker at rear of OMNI SI cabinet.
6. Remove and replace MPE385, FB-17215-A, previously identified.

7. Power up system.

8. Monitor PSUPY in P/01 for ASW LED to light.

FAULT CODE - 33

```
┌─────────────────────┐
│   FAULT CODE 33     │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│ IDENTIFY & LOCATE   │
│   FAILING           │
│  FEATUREPHONE       │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│    ENSURE           │
│ FEATUREPHONE IS     │
│  POWERED UP         │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│ RUN SELF-TEST ON    │
│ FEATUREPHONE TEST   │
│ PHONE, DN XXXX, OR  │
│ TEST DN XXXX.       │
└─────────────────────┘
          │
          ▼
     ◇ FEATUREPHONE ◇ ─YES─▶
     ◇ PASSES SELF- ◇
     ◇   TEST       ◇
          │ NO
          ▼
┌─────────────────────┐
│ R&R FEATUREPHONE    │
└─────────────────────┘
```

```
┌─────────────────────┐
│ EXECUTE RC MENU     │
│ 117 & IDENTIFY      │
│ PCMUS ASSOCIATION   │
│ WITH THE            │
│ CIPNCIPIDVCIP PCB   │
│ FOR THIS            │
│ FEATUREPHONE        │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│   IDENTIFY          │
│ CIP/VCIP/DVCIP      │
│ RELATIVE CARD NO.   │
│ ASSOCIATED WITH     │
│   PCMUS             │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│   FORCE             │
│ CIP/VCIP/DVCIP CARD │
│   OOS:              │
│ FORCE CIP CA X YY   │
│   OS.               │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│ R&R CIP, VCIP, DVCIP│
│   CARD              │
│ CIP, FB-17225       │
│ VCIP, FB-17235      │
│ DVCIP, FB-17236     │
└─────────────────────┘
          │
          ▼
     ◇ VCIP/DVCIP ◇ ─YES─▶
     ◇   CARD     ◇
     ◇ REPLACED?  ◇
          │ NO
          ▼
     ◇ FAULT 33  ◇ ─NO─▶
     ◇ RECURS?   ◇
          │ YES
          ▼
┌─────────────────────┐
│ 'REINSTALL ORIGINAL │
│ CIP, FB-17225 CARD  │
└─────────────────────┘
```

```
┌─────────────────────┐
│ IDENTIFY DATA LINKS │
│ ASSOCIATED WITH     │
│ VCIP/DVCIP RELATIVE │
│  CARD NO.           │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│ IDENTIFY ANY SID    │
│ ASSOCIATED WITH     │
│ PREVIOUSLY DEFINED  │
│  DATA LINKS         │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│ FORCE DOWNLOAD      │
│ ON VCIP/DVCIP:      │
│ FORCE DOWNLOAD      │
│ X YYY IN.           │
└─────────────────────┘
          │
          ▼
     ◇ FAULT 33 ◇ ─NO─▶
     ◇ RECURS?  ◇
          │ YES
          ▼
┌─────────────────────┐
│ 'REINSTALL ORIGINAL │
│ VCIP, FB-17235, OR  │
│ DVCIP, FB-17236     │
└─────────────────────┘
```

```
┌─────────────────────┐
│ IDENTIFY MPB85,     │
│ FB-17215            │
│ ASSOCIATED WITH     │
│ PCMUS HOUSING       │
│ CIP/VCIP/DVCIP CARD │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│ POWER DOWN          │
│ SYSTEM              │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│ R&R MPB85,          │
│ FB-17215            │
│ (Check Strapping)   │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│ POWER UP            │
│ SYSTEM              │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│ MONITOR PSUPY       │
│ FOR "ASW" TO        │
│ LIGHT               │
└─────────────────────┘
```

```
              ┌─────────┐
              │  END    │
              └─────────┘
```

TL-130200-1001

Fault Code 36
Change MDR System
Clock Failure

Description:
This fault indicates that receiving a CRIB (Call Record
Information Buffer) from the idle crib list failed The indication is
that MDR failed to change its system clock after a request from a
user. If this happens, there were too many calls in progress to
handle the request.

Register Data as System Prints:
CECO   CECO   Fault   36   B   C   D   E   H   L
                               \XX / \XX / \XX / \XX /   _____

                               Old   Old   New
                               Hours   Seconds   Minutes

                                   Old   New   New
                                   Minutes   Hours   Seconds

Fault Resolution Step:

Repeat the request to change the system clock. If the fault is
reported again, repeat the request when traffic over the switch is
lighter.

Fault Code 37
System Warm Start

Description:

Fault Code 37 is generated every time a warm or cold start occurs in the system. Register B in Fault Code 37 contains the total count of warm starts which have occurred since the last cold start. If Register B = 0, then a cold start has occurred. Register C contains the threshold count for this fault. If register C contains any value other than 0, the system has attempted a warm start in 4 minutes or less since the last warm start. If register C is 5, the system will attempt a cold start.

Register Data as System Prints:

```
CEC0   CECO   Fault   37   B    C    D    E    H    L
                          \XX/__\XX/  00   00   00   00
```

Number of
warm starts
since the
last cold
start

Threshold count
if value of register
is more than zero

Fault Code 41 Description:
FMS Disk Error This fault indicates genera.l disk I/O errors.

Register Data as System Prints:

CECO   CECO   Fault   41   B   C   D   E   H   L

\XX/ \XX/ \XX/ \XX/ \XX/ \XX/

Request which failed
OE = Writing Out Data Base
14 = Writing Out HC/M
1D = Downloading F/P File
1F = Closing F/P File

DCB Table Index (TCTIX)

DRB (Device Request Block) Start Address (High Byte)

Error Code
FF = Timeout

DCB Sequence Index (TCSIX)

DRB Start Address (Low Byte)

Fault Resolution Steps:

1. Repeat the task that was being performed when fault occurred. If fault recurs, continue.
2. If the C register value is FF, this might indicate a hardware problem. Complete the following steps:

- Power down - turn off main circuit breaker at rear of OMNI SI cabinet.
- Remove and replace FMSD, FB-17220-BOA, in Y/07 (check strapping).
- Power up system.
- Monitor PSUPY card in P/01 for ASW LED to light.
- If fault recurs, remove and replace the floppy disk drive.
- If fault still recurs after performing above procedures, this indicates an internal data base or software problem and the technician should call for assistance.

FAULT CODE - 41

```
                    ┌─────────────────────┐
                    │   FAULT CODE 41     │
                    └─────────────────────┘
                               │
                    ┌─────────────────────┐
                    │   REPEATTASK        │
                    │   JUST PERFORMED    │
                    └─────────────────────┘
                               │
                            ╱─────╲
                          ╱  FAULT 41 ╲      NO
                         ⟨   RECURS?   ⟩─────────┐
                          ╲           ╱          │
                            ╲─────╱              │
                               │ YESC=FF         │
                    ┌─────────────────────┐      │
                    │   POWER DOWN        │      │
                    │   SYSTEM            │      │
                    └─────────────────────┘      │
                               │                 │
                    ┌─────────────────────┐      │
                    │   R&R FMSD,         │      │
                    │   FB-17220 IN Y/07  │      │
                    │   (Check Strapping) │      │
                    └─────────────────────┘      │
                               │                 │
                    ┌─────────────────────┐      │
                    │   POWER UP          │      │
                    │   SYSTEM            │      │
                    └─────────────────────┘      │
                               │                 │
                    ┌─────────────────────┐      │
                    │   MONITOR           │      │
                    │   PSUPY FOR         │      │
                    │   "ASW" TO LIGHT    │      │
                    └─────────────────────┘      │
                               │                 │
                            ╱─────╲              │
                          ╱  FAULT 41 ╲     NO   │
                         ⟨   RECURS?   ⟩─────────┤
                          ╲           ╱          │
                            ╲─────╱              │
                               │ YES             │
                    ┌─────────────────────┐  ┌────────────┐
                    │   R&R  FLOPPY       │─▶│    END     │
                    │   DISK DRIVE        │  └────────────┘
                    └─────────────────────┘
```

Fault Code 42 Description:
Time Slot Lockup Fault Code 42 is generated when a time slot lockup is detected. When allocating a time slot, a check should be made to see if the hardware **ID** is already in channel memory. If it is, then **a** time slot is locked **up.** The old time slot is released before allocating the new time slot.

Register Data as System Prints:
```
CECO   CECO   Fault   42   B    C    D    E    H    L
                      00  \XX/  \XX/  \XX/  00   00
                            |
                        Hardware
                           ID
                     Time Slot Call Store
                     Number    Number
```

TROUBLESHOOTING
5.0 Maintenance personnel can determine the source of most system failures based on built-in software fault reporting. Fault messages on the system terminal are used with standard troubleshooting procedures to isolate problems with specific components. Replacement or repairs can then **be made.** Many times this will only involve card replacement.

Fault isolation
5.1 A comprehensive set of troubleshooting procedures indexed by fault codes follows. The technician should first examine all faults reported on terminal printouts and/or the fault log.

Fault Code Procedures and Flowcharts
5.2 The procedures and flowcharts which follow list specifications and steps which should be taken for each of the system's fault codes.

Attendant Console
5.2.1 Always check the Attendant Console power source for proper voltages before replacement if a failure occurs. System -related console troubleshooting is contained in TL-1301 00-1001.

Attendant Console Fault Isolation
Description:
The attendant is unable to complete calls or the system does not respond to specific, keyed digits; console pushbuttons or displays do not function properly, or the console is completely dark, and the system will not respond to any input from the console.

make sure unused cards are unplugged

START

CONSOLE PUSHBUTTON
AND/OR DISPLAYS DO NOT
FUNCTION PROPERLY (NOTE 1).

PUSHBUTTONS FUNCTION,
BUT ASSOCIATED LEDS
DO NOT LIGHT.

REPLACE THE ATTI2 CARD
(CARD POSITION VARIABLE)
(NOTE 2).

IF THE PROBLEM IS NOT
SOLVED, REINSTALL THE
ORIGINAL AI-I-12 CARD (NOTE
2). REPLACE THE ATTENDANT
CONSOLE.

IF THE PROBLEM IS NOT
SOLVED, REINSTALL THE
ORIGINAL CARDS AND
REQUEST ASSISTANCE.

END

NOTES:
1. Before performing any work on the console, it
    must be powered down.
2. See paragraph 1.4.5

**Figure 5.1   Attendant Console and indicator Troubleshooting
Flowchart**

Figure 5.2   Attendant Console Troubleshooting Flowchart (Sheet 1 of 2)

NOTE: See paragraph 1.4.5.

Figure 5.2   Attendant Console Troubleshooting Flowchart (Sheet 2 of 2)

START

CONSOLE IS
INOPERATIVE.

VERIFY THAT THE ATTENDANT
CONSOLE IS PROPERLY
CONNECTED TO ITS POWER
SOURCE AND IS RECEIVING POWER.

IF THE PROBLEM IS STILL PRESENT.
TURN THE ATTENDANT CONSOLE
OFF AND THEN BACK ON.

IF THE PROBLEM IS STILL PRESENT,
REMOVE HEADSET. REPLACE AI72
CARD (POSITION VARIABLE). THEN
REINSTATE HEADSET. IF PROBLEM
IS NOT SOLVED, REINSTALL
ORIGINAL ATT12 CARD.

REPLACE THE FOLLOWING CARDS
IN SEQUENCE:
A. PCMFS CARD X/5 OR Y/16
   (NOTE 1)
B. MPB85 CARD X/4 OR Y/5 (SEE
   NOTE 1)
   IF PROBLEM IS NOT SOLVED,
   REINSTALL THE ORIGINAL CARD.

A

A

REPLACE THE CHM85 CARD X/1,
Y/15 (NOTES 1 AND 2). IF THE
PROBLEM IS NOT SOLVED,
REINSTALL THE ORIGINAL CARD.

REPLACE THE EPCMN CARD Y/9
(NOTES 1 AND 2). IF THE PROBLEM
IS NOT SOLVED, REINSTALL THE
ORIGINAL CARD.

REPLACE THE FOLLOWING CARDS
IN SEQUENCE:
A. INCKS CARD Y/11 (NOTES 1
   AND 2)
B. CP85E CARD Y/4 (NOTE 1).

IF THE PROBLEM IS NOT SOLVED.
REINSTALL THE ORIGINAL CARDS
AND REQUEST ASSISTANCE.

END

NOTES:
1. See paragraph 1.4.5.
2. Before removing or replacing these cards,
   disconnect the cables from the front of the card.

Figure 5.3   Attendant Console Operation Troubleshooting Flowchart

BLDU Unit
Troubleshooting
Procedures

5.2.2 Operational tests for the BLDU are contained in TL-130100-1001. Refer to Tables 5.1 through 5.3 for BLDU tests diagnostics.

Table 5.1   BLDU Station 100s Group Key Test

STEP	OPERATION	RESULT
1	Depress the Hundreds Group keys (1-l 0) across the front of the BLDU.	The Hundreds Group digit will appear in -/-segment display for each programmed Hundred s Group.

Table 5.2   BLDU LCDs and LEDs Test

STEP	OPERATION	RESULT
1	Simultaneously depress the last two keys on right of BLDU (keys 9 and 10).	All LCDs are lit (no numbers visible in line display field, no Bs or Rs visible in trunk group field, and 88 displayed in 7-segment display).
2	Release keys 9 and 10.	All LCDs and LEDs will be extinguished.

Table 5.3 BLDU Self-Diagnostics

STEP	OPERATION	RESULT
1	Remove BLDU cover (see note) and set dipswitch 4 to ON.	(a) - 1 displayed in 7-segment display for successful completion of ROM test. If not displayed, ROM test failed. (b) - 1 displayed in 7-segment display for successful completion of RAM test. If not displayed, RAM test failed. All LCD segments illuminated for 2 seconds. (c) - 1 displayed in 7-segment display to indicate completion of LCD test. All LEDs are on, with -4 displayed in 7-segment display.

Table 5.3   BLDU Self-Diagnostics (Continued)

STEP	OPERATION	RESULT
2	Within 5 seconds, depress key.	The key number will be displayed in hex on the 7-segment display.
3	Continue to depress keys.	Key numbers will be displayed.
4	Do not make a key depression for 5 seconds.	Unit will start tests over, with 1 displayed in 7-segment display.
5	Set dipswitch 4 to OFF and replace BLDU cover..	Displays will be cleared (no numbers or letters visible).

NOTE: To remove the BLDU cover, remove the two screws at the top back side of unit, slide the cover to the front (forward) of the BLDU approximately 1/2 inch, lift the cover upward until the tip stops (approximately 1 inch), slide the cover toward the rear of the unit (approximately 3/4 inch), then lift the cover up and out. To attach the cover, reverse the procedure.

Featurephone	**5.3** Perform the **procedures** listed in Table 5.4 for Featurephone
Self **-Test**	self-test diagnostics.
Diagnostics	

Table 5.4   Featurephone Self-Test Diagnostics

STEP	OPERATION	RESULT
- 1	Depress and hold #.	(a) Receive beep (b) "DIAGNOSTICS " appears.
2	Release #.	"WHICH TEST = ?" appears.
3	Select one of fhe following three tests and continue.	

TEST 1 ▪ Audible Signals

STEP	OPERATION	RESULT
4	Depress 2	(a) "AUDIBLE TEST" (b) Audible signals heard once each as follows: (1) Single beep (2) Double beep (3) Triple beep (4) Continuous ring Inside call = 1 sec. on; 3 sec. off. (5) Optional buzzer **NOTE:** Beep = 1 /10 sec. signal (c) Display clears

TEST 2 - LEDS, Feature Buttons, Keypad

STEP	OPERATION	RESULT
5	Depress 3.	(a) "LED TEST" (b) ALL LEDs ON (c) After 2 seconds, "BUTTON TEST" **NOTE:** In the following tests, the sequence described must be followed or else a programmable error will result.
6	Starting at the top left, depress and hold the feature button.	(a) LED ON (b) The specific feature programmed is displayed.
7	Release the feature button.	(a) LED OFF (b) Display remains
8	Continue down the button rows performing Steps 5 and 6 above.	When the last feature button is released, "Keypad TEST" is displayed.
9*	Starting with key 1, proceed left to right, top to bottom, depressing each key.	(a) Display fills with characters depressed. (b) 2-3 seconds after # released: (1) Double beep heard (2) Display clears
10	To terminate test, go off-hook then back on-hook.	

*   For the digital Featurephone, the keys need not be pressed in
     order.

TEST 3 ▪ Display

STEP	OPERATION	RESULT
11	Depress 4.	(a) The following each appear for 2-3 seconds in sequence: (1) "DISPLAY TEST" (2) ALL LCDS active. (3) Blank display (4) ABCDEFGHIJKLM (5) NOPQRSTUVWXYZ (6) 1234567890 (7) *# = /:?&. (b) Display clears.

Featurephone   Description:
Troubleshooting   The Featurephone does not operate. The Featurephone
Charts   pushbuttons and displays do not function properly; the system
does not respond to one or more of the Featurephone
pushbuttons.

Figure 5.4   Featurephone Troubleshooting Flowchart (Sheet 1 of 3)

A

IF THE PROBLEM IS STILL PRESENT,
REINSTALL THE ORIGINAL CIP, VCIP,
OR DVCIP CARD. EXECUTE "FORCE
DOWNLOAD".

REPLACE THE FOLLOWING CARDS IN
SEQUENCE: PCMFS X/5 OR Y/15
(NOTES 1 AND 2).
MPB85 X/4 OR Y/5 (NOTE 1) IF
PROBLEM IS STILL PRESENT,
REINSTALL ORIGINAL CARDS.

REPLACE THE FOLLOWING CARDS IN
SEQUENCE: CHM85 X/I, Y/15 (NOTES
1 AND 2).
IF PROBLEM IS STILL PRESENT,
REINSTALL ORIGINAL CARDS.

B

NOTES:
1. See paragraph 1.4.5
2. Before removing or replacing these
cards, disconnect the cable from the
front of the card.

Figure 5.4   Featurephone Troubleshooting Flowchart (Sheet 2 of 3)

Figure 5.4   Featurephone Troubleshooting Flowchart (Sheet 3 of 3)

Figure 5.5   Featurephone Control and Indicator Troubleshooting Flowchart

Station/Line/Trunk Troubleshooting

Description:
Stations are unable to complete DTMF calls properly. They are having problems completing calls or are getting wrong terminators. Stations are having transmission problems such as no transmission, double connections, no tones, and the wrong tones. A station will not ring at all, or it rings without interruption. A line or trunk does not function properly.

Figure 5.6   Station DTMF Troubleshooting Flowchart (Sheet 1 of 2)

Figure 5.6   Station DTMF Troubleshooting Flowchart (Sheet 2 of 2)

Figure 5.7   Ringing Operation Troubleshooting Flowchart (Sheet 1 of 3)

Figure 5.7   Ringing Operation Troubleshooting Flowchart (Sheet 2 of 3)

Figure 5.7 Ringing Operation Troubleshooting Flowchart (Sheet 3 of 3)

START

LINE DOES NOT FUNCTION
PROPERLY.

ISOLATE PROBLEM TO SPECIFIC
LINE CARDS WHERE LINE(S)
EXIST.

REPLACE THE FAULTY LINE
CARD(S) (PLCC) (POPS).
(SEE NOTE).

IF THE PROBLEM IS NOT SOLVED,
REINSERT THE ORIGINAL LINE
CARD(S) AND REPLACE THE
ASSOCIATED MPB85 CARD.
(SEE NOTE).

IF THE PROBLEM IS NOT SOLVED,
REINSTALL THE ORIGINAL MPB85
CARD AND REQUEST
ASSISTANCE.

END

NOTE: See paragraph 1.4.5.

Figure 5.8   Analog Line Operation Troubleshooting Flowchart

Figure 5.9   Trunk Operation Troubleshooting Flowchart

T1-Type Trunk Maintenance

5.4 The TI-Type Supervisory and Alarm Cards (FB-20718-1A) have buffers which retain the status of the sense and control points (see Table 5.5). With the maintenance TTY, maintenance personnel can read or write into the digital trunk address in the same manner as with the analog trunks. Refer to Table 5.6 for trunk addresses. Be advised that analog trunk card locations are preempted from use when T1 is implemented.

When referring to Table 5.5, note that the channel A and B signaling used with FX trunks does not provide for returning reverse battery from the CO. Therefore, the RB bit (bit 4 of the FX sense word) is an inactive bit and always appears as a 0 to the CPU.

Bit 5 of the FX trunk work, the CF (Current Flow) bit, is a logic-gated sense point. The TI-Type Supervisory Card gates the loop closure instruction forwarded to the far end with the detection of the IS (Incoming Seizure) sense bit to create the CF bit.

Table 5.5   Sense and Control Words for Digital Trunks

BIT 7	BIT 6	BIT 5	BIT 4	BIT 3	BIT 2	BIT 1	BIT 0	
GD	IS	C F	R B					FX TRUNK SENSE WORD
	IS							E&M TRUNK SENSE WORD
G S	L P							FX TRUNK CONTROL WORD
	L P							E&M TRUNK CONTROL WORD

GD = Ground Detected
GS = Ground Start
IS = Incoming   Sequence
C F = Current Flow
RB = Reverse Battery
LP = Close Loop

Channel Unit Removal   5.5 The T1-type interface cards do not detect removal of a loopstart channel unit at the CO and use should be avoided.

Table 5.6   Trunk to Digital Span: Channel Correlation

FILE	CARD LOCATION SLOT	UNIV. POS	ANALOG TRUNK HARDWARE ADDRESS IDENTIFICATION	DIGITAL SPAN CHANNEL IDENTIFICATION
	19	CI	0518	21
X			0519	22
			051A	23
			051 B	24
	17	c 2	0528	17
X			0529	18
			052A	19
			0528	20
			0538	13
X	15	C3	0539	14
			053A	15
			053B	16
			0548	9
X	13	C4	0549	10
			054A	11
			054B	12
			0558	5
X	11	C5	0559	6
			055A	7
			055B	8
			0568	1
x	9	C 6	0569	2
			056A	3
			056B	4

Removal of a ground-start channel unit at the CC causes the GD (Ground-Detected) sense point, bit 7, in the FX trunk sense word Table (5.5) to become true, making the associated trunk busy to the system.

Removal of an E & M or incoming loop dial channel unit at the far end causes an incoming seizure to the system. If the system data base is configured for the trunk circuit as a ringdown to the attendant, the removal of the far-end channel unit causes an incoming call to the attendant's loop.

If a channel unit at the CO channel bank is equipped with a busy key, operation of the busy key is equivalent to removing the channel unit from service.

NOTE:The FX channel unit, when configured as a loopstart channel unit, is not detected as removed from service when the busy key is operated.

Alarms   5.6 The SYS LED on the Tl-Type Supervisory card (FB-20718-1A) is activated when any one of the following occurs:

- A local alarm
- A remote alarm
- A RPR (remote power failure alarm)
- When the digital trunks are in a loop test mode
- When alarms above are off, but bit 2 (inhibit) is still being forwarded to the other end during the alarm restoral sequence.

An alarm signal to the Tl-type Supervisory Card will be forwarded when the Frame, Detector card (FB-15278-A) determines that the frame sequence from the CO has been lost

System alarms are associated with the system's status as a slave. If the FB-20922-A Network Clock card should lose frequency synchronization with the SINX input for more that 2 seconds, a fault code 15 will be generated. When the FB-20922-A Card regains frequency synchronization on the SINX input, a response code is generated.

When the RPF and SYS LEDs light (TI-Type Supervisory card), a power failure has occurred in the CO terminating equipment. A power failure occurs when a normally operated device, such as a relay, restores and closes a T1 PF T1 (Power Failure) circuit grounding input lead in the TI-Type Supervisory Card. When the power failure is detected, the RFP LED lights. If the power failure exists for longer than the local alarm (strapping option) threshold on the TI-Type Supervisory Card, the local alarm is activated. If a common power source feeds the office terminating repeaters, only two or more power sources are used, wire one T1 PF and T1 PFG pair per power source.

Testing   5.7 The loop test determines if the TI-Type interface can achieve frame synchronization. Before any loop test is initiated, all trunks must be in the maintenance busy state to avoid disconnection a customer from an established connection.

To perform the loop test, set the ACO (Alarm Cutoff) switch on the TI-Type Supervisory card to the UP position, then set the LPT (loop) switch to the UP position. During the loop test, the incoming bipolar stream is terminated into a 100-ohm resistor. An all one (1) logic value is transmitted to the distant end. The outgoing unipolar transmit signal is looped back to the receiver side. The framing synchronization during the loop test is such that the incoming bipolar stream is offset one channel from the outgoing unipolar stream.

If framing synchronization is achieved during the loop test, the SYS, ACO, and LOOP LEDs remain on. If framing synchronization is achieved in the system, but not with the far end, the span interface card may be defective. In most instances, if the loop test framing synchronization is achieved, it will also be achieved with the distant end barring any external wiring or repeater problems.

If an alarm condition exists before a loop test, or if an alarm condition appears after the system is placed in loop test, the alarm state will persist for approximately 13.5 seconds. If the alarm condition persists longer than 13.5 + or - 3 seconds, a failure has occurred in one or more of the cards.

To test the network clock synchronization, ensure that the T1-type card group is frame-synchronized to the far end. Once this has been determined and the coaxial cables are properly connected between the Span Interface card and the Network Clock card, the SINX input can be cabled. If the SINX input cabled to a span interface card in an active TI-type group cannot be selected, then that cable or span interface card is faulty. This testing can be done with the system off-line. The TI-Type Supervisory Card must not be in the loop test mode. If more than one LED on the Network Clock card handle is on, the system is not frequency-synchronizing to a master clock.

TI Trunk Trouble   5.8 Verify the the failure is not system related before starting any troubleshooting procedure on the digital trunk interface cards. Check the system fault log for codes 15 and 17. Trouble-shooting flowcharts for TI are shown in Figures 6-25 through **6-28.**

The following failures have been categorized in four different modes on the digital trunk interface:

1. Supervision failure is the full or partial loss of supervisory signaling capability between the system digital interface and the distant-end equipment when the span is synchronized.

2. Transmission failure is the full or partial loss of voice (analog) signals over the digital span while the system is synchronized.

3. Frame synchronization failure (misframing) occurs when the system cannot identify the start of a frame in the incoming span. Misframing results in loss of communication from the far end. In misframing errors, the clocks are assumed to be running synchronously, but the digital trunk interface cards cannot decode the incoming span data properly and locate the 245-channel frames.

4. A clock synchronization (frequency synchronization) problem, or loss-of-slaving condition, results when the system clock is running at a frequency other than that of the bit frequency on the incoming TI-type span. The system can maintain frame synchronization, but because of differences in clock frequencies, it will occasionally skip over a frame and never decode that frame of information. The system is slipping frames.

```
                    ┌─────────────────┐
                    │      START      │
                    └─────────────────┘
                             │
                             ▼
              ┌──────────────────────────────┐
              │ SYSTEM HAS LOST PARTIAL OR    │
              │ FULL SUPERVISION IN THE DIGITAL│
              │ TRUNK  INTERFACE.             │
              └──────────────────────────────┘
                             │
                             ▼
                          ◇◇◇◇◇◇
                     ARE ANY FAULT
                     CODES PRINTED ON        YES      ┌──────────────────────────────┐
                     THE  MAINTENANCE     ──────────▶ │ REFER TO SYSTEM FAULT TABLES  │
                        TTY?                          └──────────────────────────────┘
                          ◇◇◇◇◇◇
                             │
                             │  NO
                             │
                             ▼
                            ╱A╲
```

Figure 5.10   T1-Type Trunk Loss of Supervision Troubleshooting Flowchart (Sheet 1 of 7)

Figure 5.10   TI-Type Trunk Loss of Supervision Troubleshooting Flowchart (Sheet 2 of 7)

Figure 5.10   Tl-Type Trunk Loss of Supervision Troubleshooting Flowchart (Sheet 3 of 7)

Figure 5.10   Tl-Type Trunk Loss of Supervision Troubleshooting Flowchart (Sheet 4 of 7)

B

REMOVE AND REPLACE
FB-207181 CARD.

IF PROBLEM STILL EXISTS,
REINSERT THE ORIGINAL CARD
AND REPLACE MPB85 FB-17215-
A CARD IN X/4 (NOTE).

DOES THE
PROBLEM STILL
EXIST?

YES → G

NO

END

NOTE: See paragraph 1.4.5.

Figure 5.10   Tl-Type Trunk Loss of Supervision Troubleshooting Flowchart (Sheet 5 of 7)

```
                          ┌─────┐
                          │  B  │
                          └──┬──┘
                             │
                             ▼
        ┌─────────────────────────────────────┐
        │   REINSTALL  ORIGINAL  MPB85         │
        │   CARD.  REMOVE  ALL  OTHER          │
        │  CARDS  RESIDING  IN FILE  WITH      │
        │   TROUBLED  T1 -TYPE  TRUNK          │
        │  INTERFACE  EXCEPT  THE  CARDS       │
        │       REMOVED  PREVIOUSLY.           │
        │                                      │
        │      FB-17192-A  T1B2                │
        │   FB-17277-A OR 15277-1              │
        │            SIL                       │
        │      FB-15278-A  FDC                 │
        │      FB-15280-A  LCM                 │
        │       FB-20718-I  T1                 │
        │        SUPERVISORY                   │
        │      FB-17215-A  MPB85               │
        └──────────────────┬──────────────────┘
                           │
                           ▼
                        ╱─────╲                    ┌───────────────────────────────┐
                      ╱         ╲                   │  ISOLATE  DEFECTIVE  CARD  BY  │
                    ╱             ╲       YES       │ REINSTALLING  REMOVED  CARDS,  │
                   ╲ IS THE PROBLEM ╲─────────────▶ │  ONE AT A TIME, UNTIL FAILURE  │
                    ╲   SOLVED?    ╱                │ OCCURS.  REMOVE  AND  REPLACE  │
                      ╲         ╱                   │     DEFFECTIVE  CARD.          │
                        ╲─────╱                     └───────────────────────────────┘
                           │
                           │ NO
                           ▼
                        ┌─────┐
                        │  H  │
                        └─────┘
```

Figure 5.10   Tl-Type Trunk Loss of Supervision Troubleshooting Flowchart (Sheet 6 of 7)

Figure 6.10   TI-Type Trunk Loss of Supervision Troubleshooting Flowchart (Sheet 7 of 7)

Figure 5.11   Tl-Type Trunk Loss of Transmission Troubleshooting Flowchart (Sheet 1 of 6)

B

C

REFER TO SYSTEM FAULT CODES

REMOVE ALL OTHER CARDS
RESIDING IN FILE WITH TROUBLED
TI -TYPE TRUNK INTERFACE
EXCEPT THE CARDS REMOVED
PREVIOUSLY.

FB-17192-A T1B2
FB-17277-A OR 15277-1 SIL
FB-15278-A FDC
FB-15280-A LCM
FB-20718-I TI
SUPERVISORY

D

DOES THE
IPROBLEM STILL
EXIST?

YES

NO

END

DOES THE
IPROBLEM STILL
EXIST?

YES

D

NO

END

**Figure 5.11   TI-Type Trunk Loss of Transmission Troubleshooting Flowchart
(Sheet 2 of 6)**

Figure 6.11   T1-Type Trunk Loss of Transmission Troubleshooting Flowchart (Sheet 3 of 6)

D

REMOVE ALL OTHER CARDS IN FILE EXCEPT FOR THE FIVE DIGITAL TRUNK CARDS REMOVED PREVIOUSLY AND THE MPB85 FB-1721 5-A CARD (SEE NOTE).

IS THE PROBLEM SOLVED?

YES

NO

ISOLATE DEFFECTIVE CARD BY INSTALLING THE REMOVED CARDS ONE AT A TIME UNTIL FAILURE OCCURS. REMOVE AND REPLACE THE DEFFECTIVE CARD.

END

REINSTALL ALL CARDS REMOVED FROM THE FILE. REMOVE AND REPLACE THE CHM85 FB-17218-A CARD IN X/I (NOTES 1 AND 2).

NOTE: See paragraph 1.4.5.

F

**Figure 5.11   Tl-Type Trunk Loss of Transmission Troubleshooting Flowchart
(Sheet 4 of 6)**

**Figure 5.11   Tl-Type Trunk Loss of Transmission Troubleshooting Flowchart
(Sheet 5 of 6)**

G

REMOVE AND REPLACE INCKS
FB-20992-A OF INC FB-20771 I-1
(NOTES 1 AND 2)

A

REINSTALL ORIGINAL INCKS
FB-20992-A CARD. REMOVE
AND REPLACE EPCMN
FB-17217-A CARD IN Y/9.
(NOTES 1 AND 2)

IF PROBLEM STILL EXISTS,
REINSTALL THE ORIGINAL EPCMN
CARD.

1

IS THE
PROBLEM
SOLVED?

YES → END

NO

A

CALL EXPERIENCED
MAINTENANCE SUPPORT
PERSONNEL. THE PROBLEM MAY
BE A MULTI-CARD FAILURE. THE
BACKPLANE WIRING, OR THE
FAR-END INTERFACE EQUIPMENT.

NOTES:
1. See paragraph 1.4.5.
2. Before removing or replacing these cards,
disconnect the cables from the front of the card.

Figure 5.11   T1-Type Trunk Loss of Transmission Troubleshooting Flowchart
(Sheet 6 of 6)

**Figure 5.12   T1-Type Trunk Loss of Frame Synchronization Troubleshooting Flowchart
(Sheet 1 of 10)**

**Figure 5.12   Tl-Type Trunk Loss of Frame Synchronization Troubleshooting Flowchart
(Sheet 2 of 10)**

**Figure 5.12   Tl-Type Trunk Loss of Frame Synchronization Troubleshooting Flowchart
(Sheet 3 of 10)**

**Figure 5.12   Tl-Type Trunk Loss of Frame Synchronization Troubleshooting Flowchart
(Sheet 4 of 10)**

Figure 5.12   TI -Type Trunk Loss of Frame Synchronization Troubleshooting Flowchart (Sheet 5 of 10)

**Figure 5.12   TI-Type Trunk Loss of Frame Synchronization Troubleshooting Flowchart
(Sheet 6 of 10)**

```
                          ┌─┐
                          │ │
                          └┬┘
                           │
                           ▼
              ┌─────────────────────────┐
              │   REINSTALL ORIGINAL    │
              │   FB-20718-1 CARD.      │
              └────────────┬────────────┘
                           │
                           ▼
              ┌─────────────────────────┐
              │ THE PROBLEM IS MOST LIKELY IN │
              │ THE BACKPLANE WIRING OR IS A  │
              │ MULTIPLE CARD FAULT.  CALL FOR│
              │        ASSISTANCE.      │
              └────────────┬────────────┘
                           │
                           ▼
                   ╭───────────────╮
                   │     END       │
                   ╰───────────────╯
```

NOTE: See paragraph 1. 45

Figure 5.12   TI-Type Trunk Loss of Frame Synchronization Troubleshooting Flowchart
(Sheet 7 of 10)

**Figure 5.12   T1-Type Trunk Loss of Frame Synchronization Troubleshooting Flowchart
(Sheet 8 of 10)**

Figure 5.12   Tl-Type Trunk Loss of Frame Synchronization Troubleshooting Flowchart (Sheet 9 of 10)

B

O

PROBLEM NOT IN SYSTEM.
CHECK SPAN LINE OR CO
EQUIPMENT.

DOES SYSTEM
FRAME
SYNCHRONIZE?

YES → a

NO

REPLACE THE FB-17217-A. IF
PROBLEM STILL EXISTS,
REINSTALL THE ORIGINAL CARD.

DOES SYSTEM
FRAME
SYNCHRONIZE?

YES → a

NO

PROBLEM MOST LIKELY IN
BACKPLANE WIRING OR A
MULTIPLE CARD FAULT. CALL FOR
ASSISTANCE.

**Figure 5.12 T1-Type Trunk Loss of Frame Synchronization Troubleshooting Flowchart
(Sheet 10 of 10)**

Figure 5.13 TI-Type Trunk Loss of Network Synchronization Troubleshooting Flowchart
(Sheet 1 of 2)

**Figure 5.13   TI-Type Trunk Loss of Network Synchronization Troubleshooting Flowchart
(Sheet 2 of 2)**

Figure 5.14   System Loading Troubleshooting Flowchart (Sheet 1 of 4)

B

IF THE PROBLEM STILL EXISTS, CONNECT TYPE 200 TEST SET TO THE SYSTEM (SEE TOOLS AND TEST EQUIPMENT).

CHECK TEST SET LAMPS. INTERRUPT ENABLE AND SYNC SHOULD BE ON.

NO LIGHTS

CHECK POWER. SEE TL130300-1001.

LAMPS ON

HALT/WAIT/HOLD LAMPS ON.

END

OPEN FLOPPY DISK DRIVE DOOR, SET CPU SWITCH ON THE TEST SET TO RESET DEPRESS. THEN RELEASE CPU EXECUTE.

LAMPS GO OUT WHEN EXECUTE IS DEPRESSED AND ON AGAIN WHEN RELEASED.

C

Figure 5.14   System Loading Troubleshooting Flowchart (Sheet 2 of 4)

Figure 5.14 system Loading Troubleshooting Flowchart (Sheet 3 of 4)

B

UNPLUG THE FOLLOWING CARDS
FROM THE BACKPLANE:
A. FB-17217-A EPCMN
B. FB-17215-A MPB85
C. FB-20992-A NSDC
DEPRESS RESET SWITCH.

DOES THE
PROBLEM STILL
EXIST?

YES

NO

REPLACE, ONE AT A TIME, THE
FOLLOWING CARDS. DEPRESS
THE PSUPY RESET SWITCH AFTER
INSTALLING EACH CARD. IF
TROUBLE STILL EXISTS,
REINSTALL THE ORIGINAL CARD.
A. FB-17288-A CP85E
B. FB-20922-A INCKS OR
FB-20771 -A INCK
C. FB-17213-BOA MPG-16
D. FB-17314-A MI MB
E. FB-17188-A TP12
(SEE NOTE.)

REINSERT, ONE AT A TIME; THE
CARDS THAT WERE UNPLUGGED
ABOVE (SEE NOTE). DEPRESS THE
PSUPY RESET SWITCH AFTER
EACH CARD. IF TROUBLE
REAPPEARS, REPLACE CARD THAT
WAS LAST REINSERTED. CHECK
CABLES CONNECTED TO CARD
FB-17217-A.

IF TROUBLE STILL EXISTS WHEN
CABLES ARE CONNECTED,
PERFORM SYSTEM
TROUBLESHOOTING. REFER TO
OFF-LINE DIAGNOSTICS.

END

IF TROUBLE STILL EXISTS WHEN
CABLES ARE CONNECTED,
PERFORM SYSTEM
TROUBLESHOOTING. REFER TO
OFF-LINE DIAGNOSTICS.

END

CAUTION
DEPRESSING THE PSUPY RESET BUTTON OR REMOVING
THE MI MB CARD WILL DESTROY THE SYSTEM MEMORY.
DO NOT DO EITHER UNLESS A DISK DRIVE IS PRESENT TO
PERMIT A RELOAD OF THE SYSTEM.

NOTE: Before removing or replacing these cards, disconnect the
cables from the frot of the card.

Figure 5.14   System Loading Troubleshooting Flowchart (Sheet 4 of 4)

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CALL TRACING   6.0 Call tracing provides troubleshooting information for experienced technical personnel trained in the operation and maintenance of the system.

Call tracing involves analyzing the address data contents of channel memory, control memories A and B, and pad memory as the system makes voice/data connections. Connections take place during a period of time, and employ certain parts of the system. The time interval is called a time slot, and the parts which come into play depends on the type of connection (see Figure 6.1). The channel memory and control memory A are used in two-party calls while channel memory and control memories A and B are used in three-party calls.

All of these memories are interrelated with a time slot/channel number. A complete memory cross-reference is shown in Table 6.1.

A brief description of how a call is processed will help the user understand call tracing.

1. A call has been established between Directory Number 2083 (physical location: group A, universal card slot 5, circuit 6) and directory number 2055 (physical location. group B, universal card slot 6, circuit 3) (see Figure 6.2).

2. The system stores the hardware ID of the off-hook directory number in a time slot (channel number) in channel memory. Here, 2083 (HID 56 hex) is assigned channel 18 (address 0449) in channel memory.

Figure 6.1   Time-Switch Network Memories

Table 6.1 Memory Cross-Reference
Fujitsu GTE OMNI SI: Get Started File
Channel Memory to PCMN Network Memory Cross-Reference

	GROUP 0 SLOTS AO, A2, A4, A5, A7, A9, AI 0, AI 1			GROUP 1 SLOTS B0, B2, B3, B5, B6, B7, B8, B9, B11		
	CHAN MEM	PCMN NET MEMORY		CHAN MEM	PCMN NET MEMORY	
	04...	C M A 08...	C M B OA... PAD OC...	04...	C M A 08...	C M B 0A... PAD O C . . .
CH 00	...00		...00	...01		. ..02
CM 01	. ..04		. ..08	. ..05		. ..0A
CH 02	. ..08		...10	. ..09		...12
CH03	. ..0c		...18	...0D		. ..1A
CH04	...10		. ..20	...11		. ..22
CH05	. ..14		. ..28	...15		...2A
CH06	. ..18		. ..30	...19		. ..32
CH07	...1C		. ..38	...1D		. ..3A
CH08	. ..20		. ..40	. ..21		. ..42
CH 09	. ..24		. ..48	. ..25		. ..4A
CH 10	. ..28		. ..50	. ..29		. ..52
CH 11	...2C		. ..58	...2D		...5A
CH 12	. ..30		. ..60	. ..31		. ..62
CH13	. ..34		. ..68	. ..35		. ..6A
CH14	. ..38		. ..70	. ..39		. ..72
CH 15	...3C		. ..78	...3D		. ..7A
CH16	. ..40		. ..80	. ..41		. ..82
CH17	. ..44		. ..88	. ..45		. ..8A
CH 18	. ..48		. ..90	. ..49		. ..92
CH 19	...4C		. ..98	...4D		. ..9A
CH20	. ..50		...A0	. ..51		. ..A2
CH 21	. ..54		. ..A8	. ..55		...AA
CH22	. ..58		...B0	. ..59		...B2
CH23	...5C		...B8	...5D		...BA

Table 6.1 Memory Cross-Reference (Continued)
FUJITSU GTE OMNI SI: Expansion File
Channel Memory to PCMN Network Memory Cross-Reference

	GROUP 4 SLOTS CI - C6				GROUP 5 SLOTS C7 - CI1			
	CHAN MEM	PCMN NET MEMORY			CHAN MEM	PCMN NET MEMORY		
	02...	CMA 08...	CMB 0A...	PAD 0C...	02...	CMA 08...	CMB 0A...	PAD 0C...
CH 00	...00		...01		..01		...03	
CH 01	...04		...09		...05		...0B	
CH02	...08		...11		...09		...13	
CH03	...0C		...19		..0D		...1B	
CH04	...10		...21		...11		...23	
CH 05	...14		...29		...15		..2B	
CH06	..18		...31		...19		...33	
CH07	...1C		...39		...1D		..3B	
CH08	...20		...41		...21		...43	
CH 09	...24		...49		...25		..4B	
CH 10	...28		...51		...29		...53	
CH 11	...2C		...59		..2D		...5B	
CH12	...30		...61		...31		...63	
CH13	...34		...69		...35		..6B	
CH14	...38		...71		...39		...73	
CH15	...3C		...79		...3D		...7B	
CH16	...40		...81		...41		...83	
CH17	...44		...89		...45		..8B	
CH18	...48		...91		...49		...93	
CH 19	...4C		...99		..4D		...9B	
CH20	...50		...A1		...51		...A3	
CH21	...54		...A9		...55		..AB	
CH22	...58		...B1		...59		...B3	
CH23	..5C		...B9		..5D		...BB	

Table 6.1 Memory Cross-Reference (Continued)
FUJITSU GTE OMNI SI: Expansion File
Channel Memory to PCMN Network Memory Cross-Reference

	GROUP 6 SLOTS DO - D5			GROUP 7 SLOTS D6 - D11		
	CHAN MEM	PCMN NET MEMORY		CHAN MEM	PCMN NET MEMORY	
	02...	C M A 08...	C M B OA...	PAD OC...	02...	C M A 08...	C M B OA...	PAD OC...
CH 00	...02	...05		...03	...07	
CH 01	...06	...0D		...07	...0F	
CH 02	...0A	...15		...0B	...17	
CH 03	...0E	...1D		...0F	...1F	
CH 04	...12	...25		...13	...27	
CH 05	...16	...2D		...17	...2F	
CH 06	...1A	...35		...1B	...37	
CH 07	...1E	...3D		...1F	...3F	
CH 08	...22	...45		...23	...47	
CH 09	...26	...4D		...27	...4F	
CH 10	...2A	...55		...2B	...57	
CH 11	...2E	...5D		...2F	...5F	
CH 12	...32	...65		...33	...67	
CH 13	...36	...6D		...37	...6F	
CH 14	...3A	...75		...3B	...77	
CH 15	...3E	...7D		...3F	...7F	
CH 16	...42	...85		...43	...87	
CH 17	...46	...8D		...47	...8F	
CH 18	...4A	...95		...4B	...97	
CH 19	...4E	...9D		...4F	...9F	
CH 20	...52	...A5		...53	...A7	
CH 21	...56	...AD		...57	...AF	
CH 22	...5A	...B5		...5B	...B7	
CH 23	...5E	...BD		...5F	...BF	

At the same time, the system assigns channel 18 in control memory A. channel memory and control memory A are connected by channel 18.

4. By looking at the Control Memory address of Channel 18 (address 0892), the system knows that Directory Number 2083 is calling directory number 2055. Control memory address 0892 (80 hex) is pointing to 0880 (92 hex). See Figure 6.2.

Figure 6.2 Time-Switch Memory Setup (Channel 16)

5. Once the connection is complete, the system scans each channel. For each channel in use, the system takes a data sample and writes that sample into the matching channel in the Information memory. After taking data samples from directory number 2083 (channel 18), the system goes to the directory number 2055 (channel 16) in control memory A. The system goes to channel 16 in the information memory to retrieve data which is sent to 2083.

Call tracing involves looking at the samples passing from one memory location to another and analyzing the samples for contents and/or errors.

Memory Dumps   **6.1** Call tracing involves analyzing the address contents of channel memory, control memories A and B, and pad memory. Memory dumps, or printouts of memory contents, are made by entering General Read (GR) commands at the terminal keyboard (see Section 2.0, Maintenance Commands).

The GR commands for control memory A and B and pad memory dumps are listed in Table 6.2. Examples of Channel Memory dumps and a Pad Memory dump are also listed.

Table 6.2   Memory Dump General Read Commands

Maintenance Commands	Dump Memory of:
GR DO 800 8BF	Control Memory A for both the Get Started and Expansion Files
GR DO A00 ABF	Control Memory B for both the Get Started and Expansion Files
GR DO COO CBF	Pad Memory for both the Get Started and Expansion Files

Memory Dump   6.2 Memory dumps contain information about data contents and
Contents   traffic patterns. The following facts apply to information displayed in a memory dump:

1. Channel Memory:

- The dedicated time slot assigned to the DTMF receiver is AO. It appears in every channel memory dump.
- Channel assignments (time slots) appear with the highest number listed first.
- Memory address data includes the Hardware Identification Number (HID).

2. Control Memories:

- When a memory dump occurs, random data appears at various addresses.
- Control memories A and B are used for three-way conversations. The address data in control memory A is the same as that in control memory B for two-party connections.

Call Tracing Examples

6.3 Assume that the OMNI SI in the following examples has an Expansion File. The attendant line circuit is located in the Expansion File, group C, universal card slot 1, Circuit 4.

These examples use the Hardware Identification Number (HID) only. Final determination of the connection requires the data base listing or use of Recent Change. It is assumed that references are made to the memory cross-reference tables (see Table 6.1). Only the addresses are identified since absolute addresses are used for all Control and Pad Memory tables (see Section 2.0, Maintenance Commands - Hardware Write Commands for addressing procedures).

Two-Party Connection

6.3.1 Trace connection between two parties:

1. See channel memory Expansion File dump in Table 6.4. Address 025C has HID data 16.

2. See control memory A dump in Table 6.5 and control memory B dump in Table 6.6 to see that addresses 0889 and 0AB9 both have data 92.

3. Address 0892 shows interchange data B9 confirms two-way connection.

4. See channel memory Get Started File in Table 6.3. Address shows location to be file Y, universal card slot 3, circuit 7 at address 0449.

Three-Party Connection

6.3.2 An unknown trunk is connected to line 2281.

1. Find the HID of line 2281 using the site-dependent data base printout or Recent Change. Line 2281 is in Get Started File Y, universal card slot 4 (file slot 21), circuit 6.

2. See Channel Memory Get Started File dump in Table 6.3. Scan the two group 0 columns (first and fifth two-character address data columns) to locate data 11. Look to address column and see that 0448 contains data 11 and look to channel number column to see that channel 18 is used (use information from memory dump or check memory cross-reference table).

3. See CEC control memory A dump in Table 6.5. Locate channel number 18 and group 0 to get address coordinates (memory cross-reference table shows address 0890 contains data B2). Data B2 shows the second two characters of a control memory address that line 2281 is listening to (data in information memory or interchange data). Checking address 08B2 fails to locate the corresponding interchange data (90), so this could be a three-way call.

4. See CEC control memory B dump in Table 6.6. Locate address for channel number 18 and group 0. Data BA is different from that in control memory A (B2) which shows that this is a three party connection.

5. See pad memory dump in Table 6.7. Locate address by channel number 18 and group 0 (also use memory cross-reference table). Address 0C90 contains data 17 which means that Bit 7 (CMM A) of the pad memory control word is set to 1. This indicates that interconnect memory is in use. Refer to Pad Memory Word Layout.

6. PEC 0 Channel Memory addresses 0459 and 045D are found using memory cross-reference. These two addresses show
. the location is file B, HID ▪ 91 and 24.

Connection to a TCR
6.3.3 Trace connection to a TCR with dial tone present.

1. See channel memory Expansion File dump in Table 6.4. Address 025F has HID data 14.

2. See control memory A dump in Table 6.5. Address 08BF has data CO (dial tone)

3. Identify locations of TCRs using data base information.

4. TCR could be found in (a) the same file as HID receiving dial tone, (b) the same group combination, or (c) the interconnected group. In Table 6.5, group 6 column (08A5, AB, B4, and BD) shows interchange data BF in address 08BD relates to step 2 statement. Address OCBD shows that interconnect memory is not used.

Dedicated Time Slot
6.3.4 Trace dedicated time slot.

1. See channel memory Get Started File dump in Table 6.3. Address 044C has data 14 indicating file X, universal card slot 1, circuit 4 with time slot allocated.

2. See Control Memory A dump in Table 6.5 and control memory B dump in Table 6.6 to check that addresses 0898 and OA98 both have D8 (quiet code).

3. Inter-digit quiet could be taking place but interchange data (98) is not found with a TCR associated address. Data base shows this is the attendant's line circuit, a dedicated time slot, and that the attendant was idle at the time of the dump.

Connection Between Files

6.3.5 Trace connection between files.

1. See channel memory Expansion File dump in Table 6.4. Address 025C has HID data 16.

2. See control memory A dump in Table 6.5 and Control Memory B dump in Table 6.6 to see that addresses 0889 and 0AB9 both have data 92.

3. Address 0892 shows interchange data B9 confirms connection.

4. See channel memory Get Started File in Table 6.3. Address shows location to be file Y, universal card slot 3, circuit 7 (a line) at address 0449.

Table 6.3   Channel Memory Get Started File

	EVEN CHANNEL GROUPS				ODD CHANNEL GROUPS				CHANNEL NUMBERS
0400	FO	FO	▪	▪	FO	FO	▪	▪	00 and 01
0408	FO	FO	▪	▪	FO	FO	▪	▪	02 and 03
0410	FO	FO	▪	▪	FO	FO	-	▪	04 and 05
0418	FO	FO	▪	▪	FO	FO	▪	▪	06 and 07
0420	FO	FO	▪	▪	FO	FO	▪	▪	08 and 09
0428	FO	FO	▪	▪	FO	FO	▪	▪	10 and 11
0430	FO	FO	▪	▪	FO	FO	▪	▪	12 and 13
0438 ·	FO	FO	▪	▪	FO	FO	▪	▪	14 and 15
0440	FO	46	-·	▪	FO	FO	▪	▪	16 and 17
0448	11	37	▪	▪	14	FO	▪	▪	18 and 19
0450	03	FF	▪	▪	02	FO	▪	▪	20 and 21
0458	01	91	▪	▪	00	24	▪	▪	22 and 23
	0	1	▪	▪	0	1	▪	▪	

Table 6.4   Channel Memory Expansion File

	EVEN CHANNEL GROUPS				ODD CHANNEL GROUPS				CHANNEL NUMBERS
0200	FO	FO	FO	FO	FO	FO	FO	FO	00 and 01
0208	FO	FO	FO	FO	FO	FO	FO	FO	02 and 03
0210	FO	FO	FO	FO	FO	FO	FO	FO	04 and 05
0218	FO	FO	FO	FO	FO	FO	FO	FO	06 and 07
0220	FO	FO	FO	FO	FO	FO	FO	FO	08 and 09
0228	FO	FO	FO	FO	FO	FO	FO	FO	10 and 11
0230	FO	FO	FO	FO	FO	FO	FO	FO	12 and 13
0238	FO	FO	FO	FO	FO	FO	FO	FO	14 and 15
0240	FO	FO	FO	FO	FO	FO	FO	FO	16 and 17
0248	FO	FO	FO	FO	FO	FO	FO	FO	18 and 19
0250	FO	FO	03	FO	FO	FO	02	FO	20 and 21
0258	FO	FO	01	FO	16	FO	00	14	22 and 23
	4	5	6	7	4	5	6	7	

Table 5.5 Control Memory A

GR DO 800 **8BF**
PAGE DO

PAGE DO	GRP 0	GRP 4	GRP 1	GRP 5	GRP	GRP 6	GRP	GRP 7	CHANNEL NUMBER
0800	D 8	D 8	D 8	D 8		D 8		D 8	**00**
0808	D8	D 8	D 8	D 8		D8		D 8	01
0810	D 8	D 8	D 8	D 8		D 8		D 8	02
0818	D 8	D 8	D 8	D 8		D 8		D 8	03
0820	D 8	D8	D 8	D 8		D8		D 8	04
0328	D 8	D 8	D8	D 8		D 8		D 8	05
0830	D 8	D8	D 8	D 8		D 8		D 8	06
0838	D 8	D 8	D 8	D 8		D 8		D 8	07
0840	D8	D 8	D 8	D 8		D8		D 8	08
0848	D 8	D8	D 8	D 8		D 8		D8	09
0850	D 8	D8	D 8	D 8		D 8		D 8	10
0858	D 8	D 8	D 8	D 8		D 8		D 8	11
0860	D 8	D 8	D 8	D8		D 8		D 8	12
0868	D 8	D 8	D 8	D 8		D 8		D 8	13
0870	D 8	D 8	D 8	D 8		D8		D 8	14
0878	D 8	D8	D 8	D 8		D 8		D 8	15
0880	D8	D 8	76	D 8		D8		D 8	16
0888	D 8	D 8	D 8	D 8		D 8		D 8	17
0890	B 2	D 8	B9	D 8		D 8		D 8	18
0898	D 8	D 8	D 8	D 8		D 8		D 8	19
08A0	D 8	D 8	D8	D 8		D 8		D 8	20
08A8	D8	D8	D 8	D 8		D 8		D 8	21
0880	D 8	D 8	BA	D8		D 8		D 8	22
08B8	D 8	92	B2	D 8		BF		co	23

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Table 6.6 Control Memory B

GR DO **A00** ABF

PAGE DO

	GRP 0	GRP 4	GRP 1	GRP 5	GRP	GRP 6	GRP	GRP 7	CHANNEL NUMBER
0A00	D8	D8	D8	D8		D8		D8	00
OA08	D8	D8	D8	D8		D8		D8	01
0A10	D8	D8	D8	D8		D8		D8	02
OA18	D8	D8	D8	D8		D8		D8	03
OA20	D8	D8	D8	D8		D8		D8	04
OA28	D8	D8	D8	D8		D8		D8	05
OA30	D8	D8	D8	D8		D8		D8	06
OA38	D8	D8	D8	D8		D8		D8	07
OA40	D8	D8	D8	D8		D8		D8	08
OA48	D8	D8	D8	D8		D8		D8	09
OA50	D8	D8	D8	D8		D8		D8	10
OA58	D8	D8	D8	D8		D8		D8	11
OA60	D8	D8	D8	D8		D8		D8	12
0A68	D8	D8	D8	D8		D8		D8	13
OA70	D8	D8	D8	D8		D8		D8	14
OA78	D8	D8	D8	D8		D8		D8	15
OA80	D8	D8	76	D8		D8		D8	16
OA88	D8	D8	D8	D8		D8		D8	17
0A90	BA	D8	B9	D8		D8		D8	18
OA98	D8	D8	D8	D8		D8		D8	19
0AA0	D8	D8	D8	D8		D8		D8	20
OAA8	D8	D8	D8	D8		D8		D8	21
OABO	D8	D8	90	D8		D8		D8	22
OAB8	D8	92	90	D8		D8		D8	23

Table 6.7 Pad Memory

GR DO COO CBF

PAGE DO

PAGE DO	GRP 0	GRP 4	GRP 1	GRP 5	GRP	GRP 6	GRP	GRP 7	CHANNEL NUMBER
0C00	07	07	07	07	-	07		07	00
OC08	07	07	07	07	-	07		07	01
0C10	07	07	07	07	-	07		07	02
0C18	07	07	07	07		07		07	03
0C20	07	07	07	07	-	07		07	04
0C28	07	07	07	07		07		07	05
0C30	07	07	07	07		07		07	06
OC38	07	07	07	07	-	07		07	07
0C40	07	07	07	07	-	07		07	08
OC48	07	07	07	07	-	07		07	09
0C50	07	07	07	07	-	07		07	10
0C58	07	07	07	07	-	07		07	11
0C60	07	07	07	07	-	07		07	12
0C68	07	07	07	07	-	07		07	13
0C70	07	07	07	07	-	07		07	14
0C78	07	07	07	07	-	07		07	15
0C80	07	07	07	07	-	07		07	16
0C88	07	07	07	07	-	07		07	17
0C90	17	07	37	07	-	07		07	18
0C98	07	07	07	07	-	07		07	19
OCAO	07	07	07	07	-	07		07	20
OCA8	07	07	07	07	-	07		07	21
OCBO	07	07	17	07	-	07		07	22
OCB8	07	37	17	07		07		07	23

PAD MEMORY WORD LAYOUT							
CMM A	CMM B	PAD 1	PAD 0	PAD 2	***	***	***

BITS 7, 6: interconnect memory steering bits.

Bits 5, 4, 3: pad Information bits as follows:

BITS	5	4	DB loss
	0	0	0.0
	0	1	2.0
	1	0	3.0
	1	1	5.0

NOTE: CMMA and CMMB are the ninth bit for control memory A and control memory B, respectively. Either bit set to true (1) indicates that the sample will be taken from the Interconnect memory; a bit set to false (0) indicates that the sample will be taken from the network information memory.

BITS	7	6	5	4	3	2	1	0
	THE UNIVERSAL CARD SLOT				***	CIRCUIT NUMBER ON CARD		

NOTE: Card slots are identified as follows:

HEX	BINARY	UNIVERSAL POSITION	HEX	BINARY UNIVERSAL	POSITION
(1)	0001	1	(7)	0111	7
(2)	0010	2	(8)	1000	8
(3)	0011	3	(9)	1001	9
(4)	0100	4	(A)	1010	10
			(G)	1011	11
(5)	0101	5	(F)	1111	INDICATES SPECIAL ASSIGNMENT
(6)	0110	6			

Word content FO indicates an idle channel, and FF indicates a
network test).

CONTROL MEMORY DATA DEFINITIONS

ADDRESS	DATA DEFINITIONS
00 BF	Hex data indicates the last two digits of the PCMN Memory address (connected party voice) being listened to, and is also the last two digits of the Control Memory address assigned to that time slot.
c o	Hex data indicates the last two digits of PCMN Memory address (system generated tones) being listened to.
FF	Refer to Channel Memory Get Started File

Table 6.8 Get Started File

CARD SLOT	CKT	ADDRESS	CARD SLOT	CKT	ADDRESS
A0	0	**0500**	B0	0	0504
A0	1	0501	B0	1	0505
A0	2	0502	B0	2	0506
A0	3	0503	B0	3	0507
A2	0	0520	B2	0	0524
A2	1	0521	B2	1	0525
A2	2	0522	B2	2	0526
A2	3	0523	B2	3	0527
A4	0	0540	B3	0	0534
A4	1	0541	B3	1	0535
A4	2	0542	B3	2	0536
A4	3	0543	B3	3	0537
A5	0	0550	B5	0	0554
A5	1	0551	B5	1	0555
A5	2	0552	B5	2	0556
A5	3	0553	B5 ,	3	0557
A7	0	0570	B6	0	0564
A7	1	0571	B6	1	0565
A7	2	0572	B6	2	0566
A7	3	0573	B6	3	0567
A8	0	0580	B7	0	0574
A8	1	0581	B7	1	0575
A8	2	0582	B7	2	0576
A8	3	0583	B7	3	0577
A9	0	0590	B8	0	0584
A9	1	0591	B8	1	0585
A9	2	0592	B8	2	0586
A9	3	0593	B8	3	0587
A10	0	05A0	B9	0	0594
A10	1	05A1	B9	1	0595
A10	2	05A2	B9	2	0596
A10	3	05A3	B9	3	0597
A I I	0	05B0	B11	0	0584
A I I	1	05B1	B11	1	0586
A I I	2	05B2	B11	2	05B7
A I I	3	05B3	B11	3	0588

Table 6.9 Expansion File

Card Slot	ckt	Addr	Card Slot	ckt	Addr	Card Slot	Ckt	Addr	Card Slot	ckt	Addr
CI	0	0518	c7	0	0578	D 0	0	050C	D 6	0	056C
CI	1	0519	c7	1	0579	D 0	1	050D	D 6	1	056D
CI	2	051A	c7	2	057A	D 0	2	050E	D 6	2	056E
CI	3	0516	c7	3	057B	D 0	3	050F	D 6	3	056F
c2	0	0528	C8	0	0588	DI	0	051 c	D 7	0	057C
c2	1	0529	C 8	1	0589	D1	1	051 D	D 7	1	057D
c2	2	052A	C 8	2	058A	D1	2	051 E	D 7	2	057E
c2	3	052B	C 8	3	058B	D1	3	051 F	D 7	3	057F
c3	0	0538	C9	0	0598	D 2	0	052C	D 8	0	058C
c3	1	0539	C9	1	0599	D 2	1	052D	D 8	1	058D
c3	2	053A	C9	2	059A	D 2	2	052E	D 8	2	058E
c3	3	0538	C9	3	059B	D 2	3	052F	D 8	3	058F
c 4	0	0548	CI0	0	05A8	D 3	0	053C	D9	0	059C
c 4	1	0549	CI0	1	05A9	D3	1	053D	D9	1	059D
c 4	2	054A	CI0	2	05AA	D 3	2	053E	D9	2	059E
c 4	3	054B	CI0	3	05AB	D 3	3	053F	D9	3	059F
c5	0	0558	CI1	0	05B8	D4	0	054C	D10	0	05AC
c5	1	0559	CI1	1	0589	D4	1	054D	D10	1	05AD
c5	2	055A	CI1	2	05BA	D 4	2	054E	D10	2	05AE
c5	3	055B	CI1	3	05BB	D 4	3	054F	D10	3	05AF
C 6	0	0568				D 5	0	055C	D11	0	05BC
C 6	1	0569				D 5	1	055D	D11	1	05BD
C 6	2	056A				D 5	2	055E	D11	2	05BE
C 6	3	056B				D 5	3	055F	D11	3	05BF

The information in Figures 6.3 through 6.6 is provided for maintenance personnel thoroughly trained in system operation, and provides very specialized troubleshooting data.

STATE 00   1 -WAY

C/S

C	A
T	(X)

NETWORK

(A) ——————— TONE

X = PREVIOUS TE-RM
      PORTS FOR DIVERTS
D/S IS OPTIONAL

STATE 01   2-WAY TERM

C/S

C	A
T	B

NETWORK

(A) ———┐
      D/S
(B) ———┘

STATE 02   2 -WAY

C/S

0	A
T	B

NETWORK

(A) ———┐
      D/S
(B) ———┘

STATE 03   2-WAY SPLIT

C/S

C	A
0	B

NETWORK

(A) ——————— TONE
      D/S
(B) ——————— TONE

STATE 04   3-WAY TERM

US

C	A
0	B
T	C

NETWORK

(A) ———┐
         ┘
(B) ———┘

(C) ——————— TONE

D/S IS OPTIONAL

STATE 05   3-WAY SPLIT

C/S

C	A
0	B
T	C

NETWORK

(A) ———┐
      D/S
(B) ———┘

(C) ——————— TONE

STATE 06   3-WAY

C/S

C	A
0	B
T	C

NETWORK

(A) ———┐

(B) ———┤

(C) ———┘

STATE 07   0. G. SERIES

C/S

NETWORK

NOTE:
    THIS CS STATE CONTAINS
    NO ACTIVE PORTS

STATE 08   3-WAY DOUBLE TERM

C/S

C	A
T	B
O	C

NETWORK

(A) ———┐

(B) ———┤

(C) ———┘

B = RINGING LINE
C = RINGING RELEASE LINK TRUNK
NOTE: CAS BRANCH ONLY

STATE 09   2-WAY BUSY

C/S

C	A
T	B

NETWORK

(A) ——————— TONE

B = BUSY LINE

Figure 6.3   Call State Definitions (Sheet 1 of 2)

Figure 6.3   Call State Definitions (Sheet 2 of 2)

Digit Store   6.4 The Digit Store is used to store temporary call processing information. This type of data is used by the system to analyze dialed digits and initiate the proper telephone connection(s) as follows:

	BIT 7	BIT 6	BIT 5	BIT4	BIT 3	BIT 2	BIT 1	BIT 0	
DDFP1 0			Q - FORWARD POINTER (LOW ORDER ADDRESS)						0
DDFP2 1			Q - FORWARD POINTER (HIGH ORDER ADDRESS)						1
DDBP1 2			Q - BACKWARD POINTER (LOW ORDER ADDRESS)						2
DDBP2 3			Q - BACKWARD POINTER (HIGH ORDER ADDRESS)						3
DDTRP 4			Q -RETURN INDEX						4
DDTIM 5			4 -RETURN TIMEOUT VALUE						5
DDCSN 6			CALL STORE NUMBER (HIGH ORDER ADDRESS)						6
DDCSN 7			CALL STORE NUMBER (LOW ORDER ADDRESS)						7
DDTCR 8			TOUCH-CALLING RECEIVER EQUIPMENT NUMBER						8
DDTCT 3			TCR - TIME SLOT						3
DDSCS 10			DIGIT STORE CONTROL STATE						10

Figure 6.4   Digit Store Layout (Sheet 1 of 7)

DDDCX 11	CONSOLE HAND OFF	TRUNK	SENDER	TCR	TGA NO CHECK	IGNORE RCV'D DIGITS	11

DEVICE STATE

| DDRCM 12 | CONSOLE RELEASE | CONSOLE | TRUNK | LINE | DDT | RDT | DP | TCMF | 12 |

TYPE OF EQUIPMENT ORIGINATED — DIAL TONE INDICATOR — RECEIVING MODE

| DDDG1 13 | NUMBER OF DIGIT ACCUMULATED COUNT | 13 |

| DDDG2 14 | NUMBER OF DIGIT EXPECTED COUNT | 14 |

| DDSNF 15 | SND | BDT | AIODS | SDC | MF | RDT | DP | TCMF | 15 |

SENDER FLAGS

| DDSNP 16 | SENDER SEND DIGIT CONTROL | 16 |

| DDSSS 17 | SENDERSEND SEQUENCE STATE | 17 |

| DDSI1 18 | SKIP | PREFIX INDEX | PAUSE | 10 |

| DDSI2 19 | DELETE | PREFIX | 19 |

| DDSI3 20 | SNI | RPT | 20 |

| DDPTG 21 | PAUSE FLAG | DESTINATION TYPE | DESTINATION SELECTION COUNT | 21 |

| DDTK1 22 | PEC NUMBER OF TERMINATING SID | 22 |

| DDTRK 23 | TERMINATING EQUIPMENT SID | 23 |

| DDTOL 24 | DC | CUT IN | NO CHECK | CAMA AIOD TOLL REST. EXPANDTOLL | TOLL | 24 |

OUT-GOING TRUNK — TOLL — INFORMATION

| DDTLA 25 | CODE TYPE FROM TRANSLATION | 25 |

| DDTLB 26 | CODE TYPE IDENTIFIER. FROM TRANSLATION | 26 |

| DDTKI 27 | INCOMING TRUNK GROUP NUMBER ORTG REST. INDEX | 27 |

| DDEQ1 28 | PEC NUMBER OF ORIGINATING SID | 20 |

| DDEQN 29 | ORIGINATING EQUIPENT SOFTWARE ID | 29 |

| DDRCO 0 | DS · INFORMATION TRANSFER BUFFER Q-FORWARD POINTER (LOW ORDER ADDRESS) | 30 |

| 1 | Q · FORWARD POINTER (HIGH ORDER ADDRESS) | 31 |

| 2 | Q · BACKWARD POINTER (LOW ORDER ADDRESS) | 32 |

| 3 | Q-BACKWARD POINTER (HIGH ORDER ADDRESS) | 33 |

| 4 | | 34 |

Figure 6.4   Digit Store Layout (Sheet 2 of 7)

5			35
6			36
7			37
8			38
DDSN0 0	━━━━━━━━━━ SENDER ━━━━━━━━━━ Q -FORWARD POINTER (LOW ORDER ADDRESS)		39
DDSN1 1	Q · FORWARD POINTER (HIGH ORDER ADDRESS)		40
DDSN2 2	Q · BACKWARD POINTER (LOW ORDER ADDRESS)		41
DDSN3 3	Q · BACKWARD POINTER (HIGH ORDERADDRESS)		42
DDSNC 4	SENDER CONTROL STATE OR DIGIT STORE NUMBER	IDT	43
DDSNT 5	INTERDIGITAL TIMER OR MF PULSING COUNT		44
DDSND 6	PULSE SEND COUNTER		45
DDSNE 7	TRUNK HARDWARE ID		46
DDSNM 8	TRUNK HIGH ORDERADDRESS OR PORT NUMBER WHERE TRUNK IS LOCATED IN CS		47
EDDGB 0	━━━━━━━━ DIGIT STORE DIGIT BUFFER - - - - - - - CALLED NUMBER D0	CALLED NUMBER DI	48
1	CALLED NUMBER D2	CALLED NUMBER D3	49
2	CALLED NUMBER D4	CALLED NUMBER D5	50
3	CALLED NUMBER D6	CALLED NUMBER D7	51
4	CALLED NUMBER D B	CALLED NUMBER D9	52
5	CALLED NUMBER D10	CALLED NUMBER D11	53
6	CALLED NUMBER D12	CALLED NUMBER D13	54
7	CALLED NUMBER D14	CALLED NUMBER D15	55
DDDGN 0	CALLING NUMBER N4	CALLING NUMBER N5	56
1	CALLING NUMBER N6	CALLING NUMBER N7	57
DDAC1	ACCESS CODE FLAG	NUMBER OF ACCOUNT CODE DIGITS	NUMBER OF ACCESS CODE DIGITS	58

Figure 6.4   Digit Store Layout (Sheet 3 of 7)

DDAC2	ACCOUNT CODE D0		ACCOUNT CODE D1		59
DDAC3	ACCOUNT CODE D2		ACCOUNT CODE D3		60
DDAC4	ACCOUNT CODE D4		ACCOUNT CODE D5		61
DDAC5	ACCOUNT CODE D6		ACCOUNT CODE D7		62
DDAS1	ACCESS CODE D0		ACCESS CODE D1		63
DDAS2	ACCESS CODE D2		MERS 0 DIAL / MERS EXP ROUTE / ROOM XLATING FLAG / MERS 1+ DIAL		64
DDAS3	SPECIAL FEATURE FLAGS: SPEED CG / MERS / TRK CL Q / RA		TCQ INC TRUNK TYPE: DS RLS / RING DOWN / TIE / DID		65
DDSCA	SCC CALL STATE	MERS SCC CALL	SCC CALL	SCC IDENTITY	66
DDAS5	FRL - FACILITY RESTRICTION LEVEL		NUMBER OF FRL AC DIGITS		67
DDAS6	FRL AUTHORIZATION D0		CODE DIGITS D1		68
DDAS7	D2		D3		69
DDAS8	D4		D5		70
DDAS9	D6				71
DDA72	TCQ BUFFER ADDR (LOW ORDER ADDRESS)				72
DDA73	TCQ BUFFER ADDR (HIGH ORDER ADDRESS)				73
DDA74	TRK FAIL RETRY / CALL FWD VMX / CALL FWD EXT / FRL AUTH RQUST		TCM SENT FLAG / I/O PROC FLAG / TCM RECV'D FLAG / FRL STOP FLAG		74
DDA75	MERS SCC FLAG: TGA / TR	TD ALLOC	TONE DETECTOR EQUIPMENT NUMBER 0-31		75
DDA76	SVR 8211 SPEED CALL LIST # LOW BYTE				76
DDA77					77

Figure 6.4   Digit Store Layout (Sheet 4 of 7)

SPEED CALL USAGE OF THE INFORMATION TRANSFER BUFFER

ODDPO 0	DS - INFORMATION TRANSFER BUFFER Q - FORWARD POINTER (LOW ORDER ADDRESS)	30
DDDPI 1	Q - FORWARD POINTER (HIGH ORDER ADDRESS)	31
DDDP2 2	Q - BACKWARD POINTER (LOW ORDER ADDRESS)	32
DDDP3 3	Q - BACKWARD POINTER (HIGH ORDER ADDRESS)	33
DDDPC 4	Q - RETURN INDEX	34
DDDPT 5	Q - TIMEOUT VALUE	35
DDDPD 6	DIGIT STORE #	36
DDDPE 7	SPEED CALL STATE (3 BITS)	ACCUMULATED DIGIT COUNT (5 BITS)	37
DDDPM 8	SPEED CALL TYPE		SPEED CALL # HIGH BYTE (3 BITS)	38

FRL AC TCM USAGE OF THE INFORMATION TRANSFER BUFFER

DDDPO 0	DS - INFORMATION TRANSFER BUFFER FRL DISK RECORD BUFFER	30
DDDPI 1	FRL DISK RECORD BUFFER	31
DDDP2 2	FRL DISK RECORD BUFFER	32
DDDP3 3	FRL DISK RECORD BUFFER	33
DDDPC 4	FRL DISK RECORD BUFFER	34
DDDPT 5	FRL DISK RECORD BUFFER	35
DDDPD 6	FRL DISK RECORD BUFFER	36
DDDPE 7	FRL DISK RECORD BUFFER	37
DDDPM 8		38

Figure 6.4   Digit Store Layout (Sheet 5 of 7)

VMX USAGE OF THE INFORMATION TRANSFER BUFFER

DDDPO 0	─────────── DS - INFORMATION TRANSFER BUFFER ─────────── COMMAND CODE	30
DDDP1 1		31
DDDP2 2		32
DDDP3 3		33
DDDPC 4		34
DDDPT 5		35
DDDPD 6		36
DDDPE 7		37
DDDPM 8		38

THE SENDER IS ALSO USED FOR CODE CALL SENDING, THE FIRST FOUR WORDS IS USED FOR Q ADDRESSES, AND THE FOLLOWING WORDS ARE DEFINED AS:

    DDSNC = Q-RETURN INDEX
    DDSNT = 500 MS TIME OUT VALUE
    DDSND = CODE CALL SENDING CONTROL STATE
    DDSNE = SEND CYCLE AND DIGIT OUTPULSE COUNT
    DDSNM = DIGIT OUT AND ACCESS COUNT FROM DS

DDSCS-DIGIT STORE CONTROL STATE. IT IS DEFINED IN FP-413346

ODDCX-DEVICE STATE
    00 = DEVICE NOT ASSIGNED
    01 = DEVICE IS ASSIGNED
    TGA NO CHECK
    00 = TRUNK GROUP ACCESS RESTRICTIONS CHECKED
    01 = TRUNK GROUP ACCESS RESTRICTION CHECKS BYPASSED
    IGNORE RECEIVED DIGITS
    00 = DO NOT IGNORE DIGITS WHICH ARE RECEIVED
    01 = IGNORE DIGITS WHICH ARE RECEIVED

DDRCM-RECEIVING MODE-P. '1' MEANS THAT FIELD IS TRUE
    RDT = RETURN REGULAR DIAL TONE
    DDT = RETURN DISTINCT DIAL TONE

DDSNF-SENDER FLAGS-A '1' MEANS THAT FIELD IS TRUE
    RDT   = REGULAR DIAL TONE IS EXPECTED FROM   DISTANT OFFICE
    MF, DP, TCMF = MODE OF OUTPULSING
    SND   = SENDER NEEDS DIGIT
    SDC   = 1 FOR SPEED CALLING (BTP-BLOCK TRANSMISSION FLAG)
    AIODS   = AIOD SEND COMPLETED
    BDT   = 300 MS BURST OF DIAL TONE SENT ON MERS DDD ROUTE

DDSI1-DDSI2 SENDER SEND INSTRUCTIONS,
    SKIP, PAUSE, DELETE, AND PREFIX ARE DEFINED IN FL1 1413631

DDSI3-TABLE NO. FOR MERS ROUTING
    SNI = SENDER INSTRUCTION TABLE NO.
    RPT= ROUTING TABLE NO

DDTOL-OUTGOING TRUNK TOLL INFORMATION
    TOLL, EXPANDED TOLL, CAMA. AIOD ARE MARKS EXTRACTED FROM TRUNK GROUP
    CLASSMARK TABLE   TOLL RESTRICTION IS EXTRACTED FROM LINE CLASSMARK TABLE
    NO CHECK IS A FUNCTION OF SPEED CALLING TABLE, THE SCC ACCESS FEATURE, AND THE
    MERS-SCC FEATURE
        0 = TOLL ACCESS RESTRICTIONS ARE CHECKED
        1 = TOLL ACCESS RESTRICTIONS ARE BYPASSED
    CUT-IN IS A FUNCTION OF DIGIT ANALYSIS
    A '1' MEANS THAT FIELD IS TRUE
    DC = DIALING COMPLETE

Figure   6.4   Digit Store Layout (Sheet 6 of 7).

DDTLA, DDTLB . CODE TYPE AND CODE TYPE IDENTIFIER
    THE CODE TYPE IS DEFINED IN FP-413622.
    THE CODE TYPE IDENTIFIER REPRESENTS A DIGIT, A LINE, TRUNK, TURRET, OR TRUNK GROUP
    NUMBER. IT MAY CONTAIN A INTERCEPT CODE NUMBER AS DEFINED IN FP-413846, OR IT IS
    NOT USED.
    THIS INFORMATION IS DERIVED FROM DIGIT ANALYSIS

DDSNC . SENDER CONTROL FLAG
    IDT = INTERDIGITAL TIME FLAG

DDDP7-SPEED CALLING STATE FIELD
    0 = SPEED CALLING UPDATES ARE NOT IN PROGRESS
    1 = GROUP SPEED CALLING LIST # OBTAINED READY TO RECEIVE SPEED CALLING FLAG DATA
    2 = GROUP SPEED CALLING FLAG DATA OBTAINED READY TO RECEIVE SPEED CALLING ENTRY
DATA
    3 = RECEIVE SPECIAL ENTRIES (#,* OR DELAYS) FOR GROUP INPUT
    4 = INDIVIDUAL SPEED CALLING LIST # OBTAINED READY TO RECEIVE INDIVIDUAL SPEED
CALLING ENTRY
        DATA
    5 = RECEIVE SPECIAL ENTRIES (#,* OR DELAYS) FOR INDIVIDUAL

DDDP8 - SPEED CALL TYPE FLAG
    0 = GROUP SPEED CALLING
    1 = SCC ACCESS

DDA75-MISC. MERS-SCC INFORMATION

    TONE DETECTOR NUMBER (0 TO 31)

    TGA FLAG-TRUNK GROUP ACCESS RESTRICTION BYPASS

        0 = TRUNK GROUP ACCESS RESTRICTIONS CHECKED

        1 = TRUNK GROUP ACCESS RESTRICTION CHECKS BYPASSED

    TOLL RESTRICTION BYPASS

            0 = TOLL ACCESS RESTRICTIONS ARE CHECKED

            1 = TOLL ACCESS RESTRICTIONS ARE BYPASSED

Call Store   6.5 The call store is used to temporarily store information used by call processing to establish and break telephone communications.

	BIT 7	BIT 6	BIT 5	BIT 4	BIT 3	BIT 2	BIT 1	BIT 0
				COMMON AREA				

WORD 00	FORWARD	LINK		LOW	ORDER	BYTE		
WORD 01	FORWARD	LINK		HIGH	ORDER	BYTE		
WORD 02	BACKWARD	LINK		LOW	ORDER	BYTE		
WORD 03	BACKWARD	LINK		HIGH	ORDER	BYTE		
WORD 04	QUEUE RETURN POINTER							
WORD 05	TIMER							
WORD 06	CALL STORE NUMBER LOW ORDER BITS							
WORD 07	CALL STORE NUMBER (HIGH ORDER BITS) (CALL STORE NUMBER IS A 9 BIT NUMBER FOR 8110)							
WORD OB	ATTEMPTS				PRTY CALL	CAS MAIN QUEUE	ACD RECORD ANN	ACD PRESS IND
WORD 09	TERM PORT		DATA PRCT	CALL TYPE				
WORD 10	CONT PORT		CLRF	RTF	DIGIT 4			
WORD 11	ORIG PORT		CALL FORWARDING LEVEL COUNT		DIGIT 5			
WORD 12	QUEUE PORT		DID TRUNK FLAG	DG	DIGIT 6			
WORD 13	BREAK IN PORT		DS (SEE NOTE 3)	TC	DIGIT 7			
WORD 14	DIGIT STORE LINK (CALL STORE HAS BEEN REMOVED FROM THIS FIELD 8110)							
WORD 15	CALL STORE NUMBER LINK HIGH ORDER BITS (CALL STORE NUMBER LINK HAS IT OWNS BYTES FOR 8110)							
WORD 16	CALL STORE NUMBER LINK LOW ORDER BITS							
WORD 17	ATTENDANT CONSOLE							
WORD 18	CALL STATE							
	PORT 1 AREA							
WORD 19	FLAGS (SEE NOTE 1)			FORT TYPE				
WORD 22				(PEC SEE NOTE #2)				
WORD 25	EQUIPMENT NUMBER							
WORD 28	TIME SLOT							

Figure 6.5 Call Store Layout

	BIT 7	BIT 6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT 0

WORD 31	OA	OB	TONE NUMBER

WORD 34	PORT CALL STORE NUMBER LINK HIGH ORDER BITS

WORD 35	PORT CALL STORE NUMBER LINK LOW ORDER BITS (USED ALSO FOR SID STORAGE FOR CALL WAITING)

WORDS 20 AND 21 ARE THE SAME AS WORD 19, WORD5 23 AND 24 ARE THE SAME AS WORD 22, ETC., WORD 36 AND 37 ARE THE SAME AS WORD 34, WORD 35.

COMMON AREA

WORD 40	DIVERT OVERRIDE D4	DIVERT OVERRIDE D5
WORD 41	DIVERT OVERRIDE D6	DIVERT OVERRIDE D7

WORD 42	FEATUREPHONE CLIENT ID	FEATUREPHONE CALL TYPE

WORD 43	FP NON-WAIT CALL	HUNT GROUP FLAG	MON ACTIVE	MONITOR #		FP TER IN PROG	NON-FWD BL CALL
WORD 43	MUTUAL HOLD			PMS PORT SWAP	PORT 3 PMS CLD #	PORT 2 PMS CLD #	PORT 1 PMS CLD #

NOTES: 1 THE FLAG IS PORT TYPE DEPENDENT:

LINE	REMOTE ACCESS	CALL WAIT	PROG CONF CONT	END CW CHAIN
TRUNK	REMOTE ACCESS	SINGLE TRUNK	OTG TRUNK	SERIES TRUNK
CONSOLE	****** ****** ******	****** ****** ******	****** ****** ******	****** ****** ******
OTHER	****** ****** ******	****** ****** ******	****** ****** ******	****** ****** ******

2 THE PEC # FIELD IS NOT USED FOR PORT TYPES OF TURRET AND CONFERENCE

3 IF THIS BIT IS SET IT COULD MEAN EITHER DIGIT STORE LINK FIELD OR CALL STORE LINK FIELD SHOULD BE USED.

Figure 6.5 Call Store Layout (Continued)

To view the following information, enter the DISPLAY command on the system maintenance terminal. See paragraph 2.1.7 for the DISPLAY command format.

- Line Call Store Link Addresses (T4160) (data page 5)

- Trunk Call Store Addresses (T8944) With Hex Addresses (data page 2)

- CEC Trunk State Addresses (T8941) (data page 2)

- CEC Line State Address (T4170) (data page 2)

- Call Store (T139) (data page 0)

FB-17208
ATTI2 *
CIRCUIT 0 OR 2

	BIT7	BIT6	BIT 5	BIT4	BIT3	BIT2	BIT 1	BIT 0
SENSE/READ	DATA	DATA	DATA	DATA	DATA	DATA	DATA	DATA
CONTROL/WRITE	DATA	DATA	DATA	DATA	DATA	DATA	DATA	DATA

CIRCUITS 1 AND 3

	BIT7	BIT 6	BIT5	BIT4	BIT 3	BIT2	BIT1	BIT 0
SENSE/READ	ALARM1	ALARM2	XMITTED REGISTER EMPTY	REMAINING ERROR	OVERFLOW ERROR	PARITY ERROR	TXBUFFER REGISTER EMPTY	DATA READY
CONTROL/WRITE	RELAY5 (CIRCUIT ONLY)	RELAY4 (CIRCUIT ONLY)	RELAY3 (CIRCUIT ONLY)	RELAY2 (CIRCUIT ONLY)	RELAY1 (CIRCUIT ONLY)		RESET	LOAD

FB-17209
SIDML
CIRCUIT 0 OR 2

	BIT7	BIT6	BIT5	BIT4	BIT 3	BIT2	BIT1	BIT 0
SENSE/READ	DATA	DATA	DATA	DATA	DATA	DATA	DATA	DATA
CONTROL/WRITE	DATA	DATA	DATA	DATA	DATA	DATA	DATA	DATA

CIRCUITS 1 AND 3

	BIT 7	BIT6	BIT 5	BIT 4	BIT3	BIT2	BIT 1	BIT 0
SENSE/READ	ALARM 1	ALARM2	XMITTED REGISTER EMPTY	REMAINING ERROR	OVERFLOW ERROR	PARITY ERROR	TX BUFFER REGISTER EMPTY	DATA READY
CONTROL/WRITE	NUMBER OR STOP BITS	WORD SIXE (7 OR 8)	LOOP OR RISK	1200-HI OR LOW RATE	ODD/EVEN PARITY	PARITY INHIBIT	MASTER RESET	CONTROL REGISTER LOAD

FB-1 7203
FDTMF

	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT 0
SENSE/READ	CLOCKED& LATCHED	HEX (8)	HEX (4)	HEX (2)	HEX (1)	ALWAYS 0	ALWAYS 0	TPPF LATCHED

NOTE: * = RESPONSE FROM SELECTED CIRCUIT (UP TO 4 MAXIMUM)

Figure 6.6   Sense and Control Address Words (Sheet 1 of 4)

DIGITAL (T1) TRUNK

	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT 0
SENSE FX TRUNK	GROUND DETECTED	INCOMING SEIZURE	CURRENT FLOW	REVERSE BATTERY				
SENSE E&M TRUNK		INCOMING SEIZURE						
CONTROL FX TRUNK	GROUND START	CLOSE LOOP						
CONTROL E&M TRUNK		CLOSE LOOP						

2-WAY LOOP TRUNK.
FB-I 7202 OR FB-17202-80

	BIT7	BIT6	BIT 5	BIT4	BIT3	BIT2	BIT 1	BIT 0
SENSE	GROUND DETECTED	INCOMING SEIZURE	CURRENT FLOW	REVERSE BATTERY				
CONTROL	OUTGOING SEIZURE	CLOSE LOOP						

2-WIRE E&M TRUNK
FB-1 7201

	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT 1	BIT 0
SENSE		E-LEAD INCOMING SEIZURE						
CONTROL		M-LEAD OFF-HOOK CONTROL		SML				

4-WIRE E&M TRUNK
FB-51 267

	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT 0
SENSE		E-LEAD INCOMING SEIZURE						
CONTROL		M-LEAD OFF-HOOK CONTROL						

1-WAY INCOMING TRUNK
FB-51280 OR FB-51280-80

	BIT7	BIT6	BIT 5	BIT 4	BIT3	BIT2	BIT 1	BIT 0
SENSE		INCOMING SEIZURE						
CONTROL	REVEERSE BATTERY SUPVRY.					3-WIRE "C" LEAD CONTROL		

Figure 6.6   Sense and Control Address Words (Sheet 2 of 4)

LINE CIRCUITCARD
FB-17254 OR FB-17254-I

	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT 0
SENSE	LOOP 8	LOOP7	LOOP6	LOOPS	LOOP4	LOOP3	LOOP2	LOOP 1
CONTROL	RING	RING	RING	RING	RING	RING	RING	RING

RLT TRUNK
FB-17251

	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT 0
SENSE			RINGTRIP DISCONN.					
CONTROL	RINGING	CLOSE LOOP						

FB-17210
PADIC

MSB   LSB

	BIT7	BIT6	BIT5	BIT 4	BIT3	BIT2	BIT 1	BIT 0
SENSE		DICTATION BUSY *						
CONTROL		DICTATION BUSY *			PAGE ZONE 4	PAGE ZONE 3	PAGE ZONE	PAGE ZONE

	BIT7	BIT 6	BIT5	BIT4	BIT3	BIT2	BIT 1	BIT 0
COMMAND REGISTER				SEE NOTE 3				
CIP PORT STATUS/; COMMAND REGISTER				SEE NOTE 1				
CIP READ/WRITE				BYTE OF DATA				
CIP STATUS REGISTER			NOT USED	SEE NOTE 2 NOT USED	NOT USED			

Figure 6.6   Sense and Control Address Words (Sheet 3 of 4)

NOTE: 1

CIP PORT STATUS REGISTER

07	06	05	04	03	02	01	00
*	*	*	*	*	*	*	*

07 = PS7   M PRTM PORT 7 STATUS

06 = PS6   M PRTM PORT 6 STATUS

05 = PS5   M PRTM PORT 5 STATUS

04 = PS4   M PRTM PORT 4 STATUS

03 = PS3   M PRTM-PORT 3 STATUS

02 = PS2   M PRTM PORT 2 STATUS

01 = PS1   M PRTM PORT 1 STATUS

00 = PS0   M PRTM PORT 0 STATUS

   * 0 = Buffer not full
     1 = Buffer full

NOTE: 2

CIP STATUS REGISTER

07	06	05	04	03	02	01	00
*	*	*	*	*	*	*	*

07 - CIP OUTPUT BUFFER FULL

06 - CIP - > PEC SEND DATA

05 - Not Used

04 - Not Used

03 - Not Used

02 - PEC - CIP SEND COMMAND

01 - PEC - CIP XMIT ERROR

00 - PEC - CIP SEND DATA

   * 0 = False (reset)
     1 = True (set)

NOTE: 3

CIP COMMAND REGISTER

07	06	05	04	03	02	01	00
*	*	*	*	*	*	*	*

07-00 = Command indexnumber

COMMAND	DEFINITION
c o	Disable Port 0 and clear associated buffer /counts
01	Disable Port 1 and clear associated buffer /counts
02	Disable Port 2 and clear associated buffer /counts
03	Disable Port 3 and clear associated buffer/counts
04	Disable Port 4 and clear associated buffer/counts
05	Disable Port 5 and clear associated buffer/counts
06	Disable Port 6and clear associated buffer/counts
07	Disable Port 7and clear associated buffer/counts
08	Enable Port0
09	Enable Port 1
OA	Enable Port 2
0B	Enable Port 3
OC	Enable Port4
OD	Enable Port 5
0E	Enable Port 6
0F	Enable Port 7
10	Clear CIP

Figure 6.6   Sense and Control Address Words (Sheet 4 of 4)

Tables 6.10 through 6.14 are provided for maintenance personnel thoroughly trained in system operation, and provides very specialized troubleshooting data.

Table 6.10 Call-Type Codes

CODE	CALL TYPE
00	Local
01	Foreign Exchange (FX)
02	WATS
03	Tie line
04	Still busy
05	No answer
06	Information
07	Intercept
08	Long-distance restriction
09	Transfer
0A	Series
0B	Special
0C	Attendant originating

Table 6.11 Pot-t-Type Codes

CODE	CALL TYPE
00	Idle
01	Line
02	Trunk (CO)
03	Trunk (Tie)
04	Console
05	Conference
06	Paging
07	Page queue
08	Code call
09	Recorded announcement
0A	Dictation trunk
0B	Hold queue
0C	RLT

Table 6.12 CEC Trunk State Codes.

CODE	TRUNK STATE
01	Incoming pre-seized trunk
02	Incoming mishandled trunk
03	Incoming FX trunk wait for resources
04	Incoming, not answered (idle)
05	Incoming loop, not answered (idle)
06	Incoming busy (idle)
07	Incoming signaling A
08	Incoming signaling B
09	Incoming dialing (idle)
OA	Incoming delay dial wait
0B	Outgoing start dial wait
oc	Outgoing wink start wait
0D	Outgoing busy (idle)
0E	Outgoing guard after release
0F	Outgoing immediate dial
10	Outgoing glare check
11	Recorder-Announcer message interval
12	Incoming seizure stall
13	System out of service (PEF out of service)
14	Outgoing wait for disconnect, PBX release first
15	Retry, put in service
16	Outgoing pre-seized
17	Spare
18	Outgoing dialing
19	Outgoing busy (busy)
1A	Outgoing not answered
1B	Outgoing wink start time
1C	Panel maintenance busy
1D	Not busy (idle)
1E	Maintenance busy
1F	System busy
20	Incoming, not answered (busy)
21	Incoming loop, not answered (busy)
22	Incoming busy (busy)
23	Incoming dialing
24	Incoming dialing (busy)
25	Recorder-Announcer start
26	Recorder-Announcer message cycle
27	Call recovery trunk off-hook
28	CAS Main ACD recorded announcement start
29	CAS Main ACD recorded message cycle
2A	Nailed connection

Table 6.13   CEC Line State Codes

CODE	LINE STATE
00	Line idle
01	Line ringing
02	Line busy
03	Line digit collection
04	Call-back in progress
05	Call-back ringing
06	Line locked out
07	Line maintenance busy
08	Staff for call-store assignment
09	Line stall (idle)
OA	Line stall (off-hook)
OB	Line off-hook recovery

Table 6.14   Call State Codes

CODE	CALL STATE	CODE	CALL STATE
00	One-way	09	Two-way busy
01	Two-way terminating	OA	Hold one party
02	Two-way	OB	Two-way busy after flash
03	Two-way split	OC	Three-way busy
04	Three-way terminating	OD	Hold two party
05	Three-way split	OE	Three-way busy after include source
06	Three-way	OF	Three-way split term
07	Idle	IO	One-way after ATB
08	Three-way double team	11	One-way after ATB (Flash)

**PD-200
Maintenance**

7.0 This section describes the maintenance and administration facilities which are available within the OMNI SI PABX for the PD-200 Data System. Maintenance personnel normally communicate with the OMNI SI via the system maintenance terminal. The terminal connects to the CEC card 'and is used for entering system commands or receiving system-related reports. The terminal is the source of input/output interfaces with the PABX for maintenance and diagnostic initialization. Commands are entered on the terminal and are analyzed by the CEC to determine syntax correctness. Syntactically correct messages are sent directly to the ADMP for processing. They are then analyzed by the ADMP to determine which function is being requested. That specific function is executed and the results are reported back to the the maintenance terminal.

The maintenance terminal provides access to the following system functions:

- Maintenance commands and displays
- On-line maintenance program
- Recent Change program

Before accessing system maintenance, the security lock must be opened by using the security lock command (SL) and a password. Once a valid password is entered, the system responds with the message OPEN AT X, where X is the security level.

Unauthorized access to the OMNI SI software will result in the following prompt:

"INVALID SECURITY ACCESS"

These programs are operational only when an OMNI system is operating on system software. To diagnose an off-line system, independent of system software, an off-line maintenance program is provided. This program is available on floppy disk.

In a typical, integrated voice/data OMNI SI system, two terminals are installed for maintenance and administrative functions. They are:

- An input/output maintenance terminal (normally used for the voice only part of the OMNI switch).

- An input/output maintenance terminal for the PD-200 Data System.

The data-only maintenance terminal is required for the integrated voice/data system. The option "s" of connecting a data-only terminal to the RS-232C port of the ADMP is available. This enables the user to do administrative functions for the data switch even if the voice switch becomes disabled.

When the PD-200 Data System is administered from the data-only maintenance terminal, this terminal is referred to as the ADMP console. Since the ADMP console software provides full screen editing capabilities, it is required to be a VT-101 console or its equivalent-type video terminal.

NOTE: A separate data console is recommended.

Data System Administrative and Maintenance Features

7.1 Assuming that the proper password is entered, the user may access one of the following functions which pertain to the data switch.

- Table Editor (TED). The data system relies on disk and memory-resident data tables to perform its functions. The table-editing (Recent Change) function of the ADMP allows users to interactively view and alter the tables. All table accesses are provided by the ADMP table editor. Detailed TED command information is provided in Section 278-921-180, Appendix 1.

- Maintenance and Interactive Diagnostics (MAID). The ADMP maintenance functions provide a limited set of maintenance diagnostic commands via the MAID program menus. The user interactively monitors and/or changes the status of the entire data system (while on-line). The MAID allows the user to:

  - Place X.25 calls
  - Read device data signals
  - Set device data signals
  - Check communication between ADMP and device
  - Restart device
  - Display device status
  - Display network status

- ADMP File Utility (FUTIL). The ADMP disk file maintenance capability allows the user to create, delete, copy, dump, or rename files.

Accounting Reports

7.2 Data and voice call-processing accounting is stored and forwarded by the ADMP. The ADMP can be configured to report accounting records to any data device in either ASCII or binary form. The ADMP either makes a data call to the device or accepts an incoming data call. A printer, host, or other terminal can be the recipient of these accounting records.

Event Reports

7.3 An event is an occurrence in the data system which is of some significance. It is usually a report about an error or malfunction. Events are stored and forwarded by the ADMP in much the same manner as accounting records, and they can be reported to any device by either incoming or outgoing data calls. Event reports can also be sent to the CEC and/or combined with accounting reports to the same end-point. This is done by configuring the ADMP tables (using TED). Thus, a single device can be the recipient of account reports, event reports, or both.

Maintenance Commands
· and Displays

7.4 Maintenance support is similar to Recent-Change support in that any maintenance function resulting in a change to the data system is reported by the CEC to the ADMP. Commands such as putting a data device out of service, reloading a device, or forcing a device in service or out of service are performed via the maintenance terminal. The CEC request to the ADMP is acknowledged or rejected, and the results are sent to the CEC. The following data-related maintenance functions are performed via the maintenance terminal:

- Put a data device out of service
- Force a data device out of service
- Reload a data device
- Put a data device in service
- Force a data device in service
- Display the software version of a device
- Read the memory of a device

The system allows loading of specific data components while the system is operational. The purpose is to permit reloading of devices which may be malfunctioning but are still in service. A device must be in service in order to load it with operational code.

Devices in the data system which are ROM or hardware based, can only be FORCED out of service. However, loadable devices can be PUT or FORCED out of service. The DFP/APM is treated as two devices having the same physical location whether in service or out of service.

Forcing a device out of service accomplishes taking the device down unconditionally. Putting the device out of service causes the system to wait until the device is not active before it is taken down

Forcing **a** device in service causes the device to come up. When this happens, it is loaded, if loadable, or restarted if it is a ROM-based device.

Backing up and reformatting system disks is accomplished via the system on-line maintenance facilities. These facilities are described in TL-130300-1001. Access to on-line maintenance is via the maintenance terminal.

Data **System Troubleshooting**

7.5 The operational status of the data sub-system can be determined by looking at the Expanded System Status Display (ESSD) card indicator lamps in the CEC. The ESSD card provides a DTC lamp which represents the data option of the OMNI SI system. This lamp indicates whether the ADMP is communicating with the voice switch (light is on) or not communicating with the voice switch (light is off). This lamp is controlled by the CEC.

The status of the lamp is received from event messages generated by the data switch. Each minute an assurance request message is sent by the ADMP to the PEC, and the PEC responds with an assurance response message. If the PEC does not respond to the ADMP's message, the data switch knows that a problem exists with the voice switch. Every 5 minutes, the PEC checks that at least one assurance message has been received since the last check. If the PEC does not receive the ADMP message, the PEC sends an event message to the CEC that is interpreted as a request to set the ADMP out of service. The data switch may still be working even though the voice switch and the ADMP are not communicating.

Additionally, the PEC periodically reads register 3 of all resident PRs and tests for a non-zero condition which is an error condition. Should the error be detected, the PEC generates a PR event message for the ADMP. If the CEC, PEC, and/or disk has switched over, it will send a switch-over message to- the ADMP.

The status of all line cards in the integrated switch can be displayed via the on-line Maintenance Option Menu, Program 28. The Recent-Change data link displays will indicate the in-service/out-of-service status of equipped data cards and remote processors.

The displays will appear in the following formats:

```
          DATA  SWITCH  DEVICE  STATUS  DISPLAY

A)  PACKET  LINE  CARDS  STATUS
B)  REMOTE  PROCESSORS  STATUS
C)  EXIT

TYPE THE LETTER OF THE DESIRED TOPIC >

(followed by)

TYPE "S" FOR SYSTEM DISPLAY OR 0 TO 7 FOR PEC # >
```

```
┌─────────────────────────────────────────────────────────────────────┐
│                    PACKET  LINE  CARD  STATUS                         │
│                                                                       │
│  CARD                              UNIV                               │
│  TYPE          PEC         GRP     SLOT          STATUS               │
│                                                                       │
│  ADMP          0           A       2             INS                  │
│  DCP           0           B       2             INS                  │
│  VPLC          0           C       5             0 0 s                │
│  PR            0           A       0             INS                  │
│  BT            0           A       1 0           INS                  │
│  BT            0           B       11            INS                  │
│  PBE           0           B       0             INS                  │
│  NIC           0           B       5             INS                  │
│                                                                       │
│                                                                       │
│  Do you wish to see more (Y/N) >                                      │
│  Do you wish to repeat this function (Y/N) >                          │
│                                                                       │
└─────────────────────────────────────────────────────────────────────┘
```

```
┌─────────────────────────────────────────────────────────────────────┐
│                    REMOTE  PROCESSORS  STATUS                         │
│                                                                       │
│  CARD                              UNIV                               │
│  TYPE          PEC         GRP     SLOT      CKT        STATUS         │
│                                                                       │
│  DFPAPM        0           C       3         0          INS           │
│  APM          - 0          C       5         1          INS           │
│  SPM           0           C       5         6          INS           │
│                                                                       │
│  Do you wish to see more (Y/N) >                                      │
│  Do you wish to repeat this function (Y/N) >                          │
│                                                                       │
└─────────────────────────────────────────────────────────────────────┘
```

PD-200 Data
System Devices

7.6 To force PD-200 Data System devices in service or out of service, use the following command:

```
┌──────────────────────────────────────────────────────────────────┐
│        FORCE device <pec> <grp> <slot> <ckt>      IS.            │
│                                                   OS.            │
│   where                                                          │
│   device = DCP, PR, VPLC, NIC, SPN, APM, , DFPAPM                │
│                                                                  │
│                              or                                  │
│                                                                  │
│       FORCE device <pec> <grp> <slot> <ckt>     IS.             │
│                                                                  │
│ where                                                            │
│   device = ADPM                                                  │
└──────────────────────────────────────────────────────────────────┘
```

Table 7.1 below shows the responses for the various source commands at the maintenance terminal.

Table 7.1   Responses for Force Commands at Terminal

INPUT	RESPONSE
If device is VPLC2 with both voice and data circuits equipped,	First response is for the voice card/circuit. The second response is for the data card/circuit.
If the voice device is already IS/OS,	A message prints: CARD/PORT IS IS/OS
If the PEC is not able to force the voice device IS/OS,	A message prints: COMMAND FAILED, indicating unsuccessful completion.
If everything is all right with the voice device and FORCE INS/OOS,	A message prints: IN PROGRESS. When the request is completed, the following message is printed: COMMAND COMPLETED, indicating successful completion. The voice device will be IS and ready to test or OS.
If the ADMP is not able to force the data device IS/OS,	A message is sent from the ADMP which explains the situation.

Table 9.1   Responses for Force Commands at Terminal (Continued)

INPUT	RESPONSE
If everything is all right with the ADMP, but the data device cannot be accessed,	A message prints: IN PROGRESS. When the request is completed, the following message is printed: COMMAND FAILED, inicicating unsuccessful completion. The data device will be IS or OS.
If everything is all right with the ADMP, and FORCE IS/OS is successful,	A message prints: IN PROGRESS. When the request is completed, the following message is printed: COMMAND COMPLETED, indicating successful completion. The data device will be IS or OS.
If something is wrong with the ADMP, or the ADMP takes too long (more than a predefined time) to respond,	A message prints: MR TIMED OUT.
If the device is not at the given PEC group slot circuit address,	A message prints: ADDRESS DOES NOT MATCH DEVICE TYPE.

Display Software Version Command

7.7 The Display Software Version (DSPSV) command displays the software version for the data hardware or data device at the location defined. The command is as follows:

```
DSPSW <device> <pec> < grp> <slot> <ckt>.

where

 <device> = ADMP, DCP, VPLC, SPM, APM, DFPAPM, or NIC
 <pec> = 0
 <grp> = A to D
 . . . . . = 0 to 11
 <ckt> = 0 to 7
```

The system prints the following on the maintenance terminal:

```
SYNTAX ERROR#N = an error was found in the input message
        or
COMMAND FAILED = the request was not processed successfully
        or
DEVICE#n aa.bb.cc

    where

    #n = the following types:
        09 = ADMP
      . OA = DCP
        OE = SPM
        OF = APM
        12 = DFPAPM
        13 = NIC

    and where
        aa.bb.cc. = the version of the software loaded in the device
```

Force In Service/Out of Service Command

7.8 The FORCE command can be used to force devices and or circuits into the maintenance busy state when not idle. Removing a device from service using the FORCE command takes the device down unconditionally.

Featurephones

7.8.1 To force an Analog or Digital Featurephone connected to a CIP, DCIP, or DVCIP port in service or out of service, enter the following:

```
        FORCE CIP DN <directory-no. >              IS.
                                                   OS.

                    or

        FORCE CIP PORT < pec > <port -no. >        IS.
                                                   OS.

where
 <directory-no. >  = three- or four-digit directory number of a
 Featurephone
 <pec> = 0
 <port-no.> = 0 to 127
```

NOTES:

1. Port number is derived by relative CIP card number times 8 plus circuit number on the card. The relative CIP card number is determined by the card's position on the Featurephone Data Link Information Table T7053-0.

2. For the DVCIP card, circuit numbers are defined:

Voice	Data
0	1
2	3
4	5
6	7

Line Cards with Featurephopnes   7.8.2 To force a CIP, VCIP, or DVCIP interface card in service or out of service, enter the following:

```
'FORCE CIP CARD <pec> <card-no. >                    IS>
                                                      OS>

 where

 <pec> = 0
 <card-no. > = 0 to 15
```

Trunks   7.8.3 To force a trunk circuit from active to maintenance busy using the physical location, enter the following:

```
FORCE TRUNK CIRCUIT <pec> <group > <slot > <circuit > OS.

where

<pec> = 0
<group> = A to D
<slot> = 0 to 11
<circuit> = 0 to 3
```

To force a Digital Featurephone connected to VPLC2 (type VP20) voice port out of service, enter the command given below

```
FORCE DN < directory-no. >                    IS.
                                                OS.

                        or

FORCE DIFP <pec> <grp> <slot> <ckt>      IS.
                                          OS.

where .

 <directory-no. > = three- or four-digit directory number of a
 Featurephone
 <pec> = 0
 <grp> = A to D
 <slot> = 0 to 11
 <ckt> = 0 to 7
```

To force a Digital Featurephone with the data option connected to a VPLC2 (type VP20) voice and data combination port out of service, enter the command given below:

```
FORCE DN <directory-no. >                    IS.
                                               OS.

                        or

FORCE DFPAPM <pec> <grp> <slot> <ckt>              IS.
                                          OS.

 where

 <directory-no. > = three- or four-digit directory number of a
 Featurephone
 <pec> = 0
 <grp> = A to D
 <slot> = 0 to 11
 <ckt> = 0 to 7
```

To force a trunk circuit from active to maintenance busy using the SID, enter the following:

```
FORCE TRUNK SID <pec> <sid> OS>

where

<pec> = 0
<sid> = Trunk circuit SID relative to the PEC; 0 to 63
```

Load Commands   7.9 LOAD commands are used only in data applications The purpose of the load commands are to permit reloading of devices which may be malfunctioning but are still in service. A device must be in service to load it with operational code.

Load DIFP All. To perform a load DIFP for all applicable Featurephones in PEC 0, use the ALL form of the following command:

```
                              ALL
        LOAD DIFP
                              STOP
```

If LOAD DIFP ALL is typed, a request is sent to download all Featurephones in the PEC. No request is sent to the data switch. Messages are printed for the PEC download response, e.g., IN PROGRESS PO> As each voice circuit is downloaded, a message, RESPONSE 11, which indicates successful completion, is printed.

If LOAD DIFP STOP is typed, a request is sent to stop download of all Featurephones in the PEC. No request is sent to the data switch. Messages are printed for each PEC STOP response, e.g., IN PROGRESS PO. The PEC stops the downloading Featurephones.

If LOAD DEVICE SPECIFIC is typed, the device indicated is reset and reloaded. Any call up on the device is lost.

```
LOAD DEVICE- TYPE PEC GROUP SLOT CIRCUIT OP
 or
 LOAD DEVICE- TYPE ALL
 or
 LOAD DATA

 where

/DEVICE TYPE = ADMP, DCP, SPM, APM, OR DATA (Option ADMP
             reloads ADMP only. Option Data reinitializes the entire network.)

 PEC = PECnumber
 GROUP = file group
 SLOT = physical slot within a group
 CIRCUIT = circuit on a given card
 OP = load operational load
 DATA = reload the data switch
 ALL = load all specified device types with operational load
```

Other ALL commands. Other load command versions may be used in bulk form in a similar manner to that of the LOAD DIFP ALL command. The general form of this command is as follows:

```
LOAD <device > ALL.

where

<device> = NIC, DCP, SPM, APM, DIFP, DFPAPM
```

Load Data. The following is a bulk load command which can be used to download all PD-200 cards and devices:

```
                    LOAD DATA.
```

Table 7.2 shows the responses for the various **load** data commands seen at the maintenance terminal.

Table 7.2   Responses for Load Data Commands at Terminal

INPUT	RESPONSE
Type in LOAD DATA when the data switch cannot be loaded.	A message prints: COMMAND FAILED, followed by an explanation given by the ADMP.
Type in LOAD DATA when the data switch can be loaded.	The data switch will be loaded and a message will print: IN PROGRESS When the load is complete, a message indicating the status of the data switch is printed.

Load Command **7.9.1** Table 7.3 shows the responses for the various load
Responses commands at the maintenance terminal.

Table 7.3 Responses for Load Commands at Terminal

INPUT	RESPONSE
If the device input is VPLC2, and the device is VPLC2 with both voice and data circuits equipped,	First response is for the voice card/circuit. Second response is for the data card/circuit.
If the PEC is not able to do a download on the voice device,	A message prints: COMMAND FAILED
If-everything is all right in the PEC, and the voice circuits start downloading,	A message prints: NOT A FEATUREPHONE
If the ADMP is not able to do an operational load on the data device,	A message prints:COMMAND FAILED, followed by an explanation given by the ADMP.
If everything is all right with the data device,	The device is loaded with the operational load and a message prints: COMMAND COMPLETE
If something is wrong with the ADMP or the ADMP takes too long (more than a predefined time) to respond,	A message prints: MR TIMED OUT
If the device is not at the given PEC group slot address,	A message prints: ADDRESS DOES NOT MATCH DEVICE TYPE
If the device is VPLC and it is a data only card,	A message prints: INVALID COMMAND FOR DATA ONLY CARD
For devices ADMP, DCP, SPM, APM, DIFP, or DFPAPM,	A load request is sent to the ADMP. A load request is not sent to the switch.
If the ADMP is not able to do a load for all devices at this time,	A message prints: COMMAND FAILED, followed by an explanation message from the ADMP.
If the ADMP is able to load the devices with operational load,	A message prints: IN PROGRESS, followed by a message indicating the success or failure of operational load for each device. When all devices are finished with the load process, a COMMAND COMPLETE is printed.

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PD-200 Maintenance Tools and Fault Isolation   **7.10** This section contains information related to maintenance tools and fault isolation.

Maintenance Tools   7.10.1 This paragraph covers information on visual fault/lamp indicators and peripheral devices, maintenance commands, and on-line diagnostics. Maintenance personnel will be able to do the following:

- Identify and interpret data terminal tests and parameters
- Identify and interpret ADMP terminal commands and menus
- Classify fault code responses into functional categories of maintenance

Figure.7.1   Visual Fault Indicator - VPLC (INS/OOS LED)

LAMP	ON	OFF
Red indicator	This VPLC is in service.	This VPLC is out of service.

Figure 7.2 Visual Fault Indicator - ADMP-A (INS/OOS LED and RESET BUTTON)

Red indicator lamp

Reset button

ADMP terminal cable connection

50-pin male ribbon connector
3m/part no. 3433

LAMP	ON STEADY	FLASHING (60 IPM)	FLASHING (120 IPM)
Red indicator	This ADMP is in service.	This ADMP is out of service while attempting to load (requests loading). Passed ROM memory self-test.	Failed ROM memory self-tests.

Figure 7.3   Visual Fault Indicator - UCB (DCP) (INS/OOS LED and RESET BUTTON)

Red Indicator Lamp

F
B
-
1
7
2
3
1

Reset button

Reset Button: Initializes DCP by accessing hard disk files via ADPM for loading DCP memory

LAMP	ON STEADY	FLASHING (60 IPM)	FLASHING (120 IPM)
Red indicator	This ADMP is in service.	This ADMP is out of service while attempting to load (requests loading). Passed ROM memory self-test.	Failed ROM memory self-tests DCP cannot communicate with PR.

Figure 7.4   Visual Lamp Indicators and Switches ▪ Asynchronous Packet Manager (APM)

LAMP	ON STEADY	FLASHING (60 IPM)	FLASHING (120 IPM)
Link	This APM is in service (loaded).	This APM is out of service while attempting to load (Requests down loading). Passed ROM memory self-test.	Failed ROM memory self-tests. APM DTE/DCE switch is in the wrong position.
LAMP	**ON STEADY**	**OFF**	
Call	Terminal busy (connected to another terminal).	Terminal idle (no connection).	

Figure 7.4   Visual Lamp Indicators and Switches - Asynchronous Packet Manager (APM)
(Continued)

VIEW SHOWING LAMPS

CALL

LINK

LAMP	ON STEADY	FLASHING (60 IPM)	FLASHING (120 IPM)
Red indicator lit	This APM is in service (loaded).	This APM is out of service while attempting to load (Requests down loading). Passed ROM memory self-test.	Failed ROM memory self-tests. APM DTEIDCE switch is in the wrong position.
LAMP	**ON STEADY**	**OFF**	
Call	Terminal busy (connected to another terminal	Terminal idle (no connection).	

Figure 7.4 Visual Lamp Indicators and Switches - Asynchronous Packet Manager (APM) (Continued

VIEW SHOWING BUTTONS

BUTTON FUNCTIONS

BUTTON	FUNCTION
Test	Causes test message to appear on ADMP terminal screen - ERMA CH(2).
Reset	Interrupts any data call and resets APM; requests reload from ADMP.
DTE/DCE	Selects DTE or DCE mode of operation.

Figure 7.5   Visual Lamp indicators and Switches • Synchronous Packet Manager (SPM)

LAMP	ON STEADY	OFF
X.25 Test Active	During a link X.25 test (X.25 test button pressed)	During an idle state (no link connection)
LAMP	ON STEADY	OFF
X.25	During a link X.25 host	During an idle state (no link connection)

LAMP	ON STEADY	FLASHING (60 IPM)	FLASHING (120 PM)
Switch Link	This SPM is in service (loaded).	This SPM is out of service while attempting to load (requests downloading). Passed ROM memory self-test.	Failed ROM memory self-test.

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Maintenance Terminal
Fault Code Listings

Table 7.4 is a listing of the maintenance terminal fault codes and their functions.

Table 7.4   Fault Code Listings

CODE	FUNCTIONS
00	CEC BLOCK PARITY
01	CEC DYNAMIC RAM MEMORY FAILURE
02	CEC-PEC CONTROL MEMORY READ-AFTER-WRITE FAILURE
0 3	CEC-PEC COMMON MEMORY READ-AFTER-WRITE FAILURE
0 4	CEC-TO-CEC TOTAL COMMUNICATION LINK FAILURE
0 5	CEC-CEC SINGLE COMMUNICATION LINK FAILURE
06	CEC SYSTEM NETWORK TEST FAILURE
07	CEC LOADING MALFUNCTION
0 8	PEC NETWORK TEST MALFUNCTION
09	PEC DIRECTIVE TEST MALFUNCTION
10	PEC DIRECTIVE HOPPER FULL MALFUNCTION
11	PEC ILLEGAL EVENT ERROR MALFUNCTION
12	PEC READ-AFTER-WRITE FAILURE IN CHANNEL MEMORY
13	PEC SELF-TEST ERRORS MALFUNCTION
14	PEC 10 MS MALFUNCTION
15	T1 SUPERVISOR GENERAL ALARM
16	CEC 1 MS STOPPED-FAILURE
17	CEC ALARM
18	COMMON MEMORY BLOCK PARITY ERROR FAILURE
19	PRE-LOADING MEMORY TEST FAILURE
20	PERIPHERAL EQUIPMENT DATA (PED) EVENT HOPPER FAILURE
21	PERIPHERAL EQUIPMENT DATA (PED) DIRECTIVE HOPPER FAILURE

Table 7.4   Fault Code Listings (Continued)

CODE	FUNCTIONS
22	MDR OUTPUT CONTROL FAULT
23	FUTURE
24	FUTURE
25	REAL- TIME CLOCK FAILURE
26	POWER FAILURE
27	HOTEUHEALTH CARE DISK BACK-UP FAILURE
28	CAS MAIN/ACD AGENT INSTRUMENT DATA LINK ERROR
29	CAS MAIN/ACD MESSAGE QUEUE ERROR
30	ATTENDANT CONSOLE DATA CHECK ERROR
31	PEC ODDB BACK-UP FAILURE
32	CIP/VCIP CARD FAILURE
33	CIPNCIP PORT FAILURE
34	REMOTE FADS REPORTING ERROR
35	REMOTE FADS REPORTING ERROR
36	SYSTEM RESET
37	FUTURE
38	CEC-PEC COMMON MEMORY READ ERROR
39	ADMP INITIALIZATION RELATED ERRORS
40	DISK FILES GVTX009 AND' GVTX010 (TCM/FRL) I/O ERRORS
41	DISK I/O ERRORS

ADMP Terminal and
User Prerequisites

- Terminal Prerequisites

  - Must be a DEC VT-l 00, VT-l 01, or equivalent type video terminal

  - Baud rate set to 1200

  - Secondary keypad requires key function overlay as shown in VT-l 01 Secondary Keypad Overlay

NOTE: Must have full cursor flow control.

VT-1 01 Secondary Keypad Overlay

GET MEM	PUT MEM	SEARCH MEM	
GET PROD	PUT PROD	SEARCH PROD	EXIT
GET OTHER	PUT OTHER	SEARCH OTHER	
FIELD DEFAULT	RECORD DEFAULT		
	HELP	REFRESH SCREEN	E N T E R

- User Prerequisites

  - Level 0 password required to view most menus
  - Level 5 password required to perform all procedures in ADMP User's Guide

ADMP Terminal
Special Keys

- Exit Key: The Exit (EXIT) key on the VT-101 is the dash (-) key on the numerical keypad. Use this key to exit a menu or screen. Continue to depress the (EXIT) key until the desired screen is reached.

- Numerical Keypad: The numerical keypad on the right side of the VT-101 keyboard has special functions as defined in the Data Table Options section. All numbers must be typed using the keys across the top of the keyboard.

- Caps Lock Key: The UIPKG does not differentiate between upper- and lower-case letters. Therefore, the (CAPS LOCK) should generally be left in the up position to facilitate use of the number keys.

● Enter Key: The (ENTER) key is the large key at the bottom
right corner of the numerical keypad to the right of the
keyboard.

ADMP Terminal Cursor
Positioning

● During the first screen display, the cursor is positioned at the
first changeable field.

● To move forward to the next field, depress (tab), (return), or
(right arrow) keys.

● To move backward to the previous field, depress (left arrow)
key

NOTES:

1. Forward means a field to the right or below the current
cursor position.
2. Backward means a field to the left or above the current
cursor position.

● If the cursor is positioned at the first field and the (left) arrow is
depressed, the cursor will wrap around to the last field of the
screen.

● If the cursor is positioned at the last field and the (right) arrow,
(tab), or (return) key is depressed, the cursor will wrap around
the first field on the screen.

● The (up) and (down) arrows can be used to position to the first
or last input field (respectively) currently on the screen.

For the function keys on the ADMP terminal:

● MEM refers to the live memory of the system.
● PROD refers to actual files on hard disk.
● OTHER is not operational at this time.

Function Keys

● GET command ▪ to produce a record from a MEM or PROD.

● PUT command ▪ to write/modify a record from MEM or
PROD.

● SEARCH command ▪ to locate an unknown record by
entering the content of a particular field within that record.

● FIELD DEFAULT ▪ changes the values of a particular field to
the program default values of that field.

● RECORD DEFAULT ▪ changes the values of a complete
record to the program default values of that record.

● REFRESH key ▪ On occasion, because of network or line
problems, a garbled character may appear on the user's
screen. The (REFRESH) command may be used to clear and

Active DCPs 0600
1 1/21/86 13:32:34
(**Uptime 1** 21:01:14)

2. ENTER PASSWORD

SYSTEM LEVEL: @.

ADMIN OPTIONS

Select the ADMIN option you choose to work
with

1. Data Base Editor

2. Maintenance and Administration

3. Run ADMP A-side test code

4. Reload the ADMP

ENTER the number of your choice: 1

Press RETURN

Enter 1 to 5

NOTES:

1. The system will allow three chances for correct password and
   then return to NETPKG.
2. User Guide is written for level 5 passwords.

Fault Resolution **7.10.2** This paragraph focuses on the use of maintenance tools to resolve faults, and, in addition, on the interpretation and application of feedback from the ADPM maintenance terminal .

PCB Removal **and Replacement** **NOTE:** The following cards cannot be removed and replaced without placing them OOS.

MNEMONIC	FBNUMBER	DESCRIPTION
VPLC	FB-17226-A	Voice Packet Line Card (8 circuits)
PBE/T	FB-17227-A	Packet Bus Extender/Terminator Card (See Note)
P R	FB-17228-A	Packet Router (See Note)
ADMP-A	FB-17229-A	Administrative Maintenance Processor (See Note)
ADMP-B	FB-17230-A	Administrative Maintenance Processor
CB (DCB = P)	FB-17231 -A	Universal Control Board (Data Control Processor)

NOTE: Disconnect the cables from the front of these cards before removing or replacing them.

Fault Code 39
ADMP Initialization
Related Errors

Description:
This fault indicates errors in the ADMP-PEC interface. The PEC, which has the ADMP in it, has some problems (e. g., PEC OOS, PEC has lost communication with the ADMP). This fault may also indicate inconsistency in data switch related data base.

Register Data As System Prints:

, CECX ,	CECX	Fault 39	B	C	D	E	H	L
Online CEC	Reporting CEC		Error Types					

01 = Cannot enable ADMP
      or no buffer available

02 = Host PEC/ADMP OOS   00 = PEC OOS
                          01 = ADMP

03 = Duplicate initialization
      request

04 = Configuration   Device Type   Device No. 1   Device No. 2   Parameter 1   Parameter 2
      data error

05 = Packet router   PEC 0   Group number   Card slot
      does not match

06 = No response on   Parameter 1   Parameter 2   Parameter 3
      configuration data

07 = Undefined Status   status

08 = No associated voice   Parameter 1 = P   rameter 2 =   Parameter 3 =
      call processing (VW)   device type   PEC 0 SID

09 = Device type   Device type'
      not implemented

NOTE; See Fault Log, Section 2.0.

Fault Resolution Steps:

● If B register value is 01 or 02, complete the following steps:

  - Ensure host PEC is in service.- MR 50 thru MR 57.
  - Ensure ADMP card is seated properly.
  - Ensure ADMP is loaded and in service.

● If B register value is 03 thru 09, this indicates an internal data base problem and the technician should call for assistance.

Fault Code 41
Disk I/O Errors

FAULT CODE - 41

```
                    ┌─────────────────────┐
                    │   FAULT CODE 41     │
                    └─────────────────────┘
                              │
                              ▼
                    ┌─────────────────────┐
                    │   REPEAT TASK       │
                    │  JUST PERFORMED     │
                    └─────────────────────┘
                              │
                              ▼
                         ╱─────────╲
                        ╱ FAULT 41  ╲      NO
                        ╲ RECURS?    ╱───────────────┐
                         ╲─────────╱                 │
                              │                       │
                         YESC=FF                      │
                              ▼                       │
                    ┌─────────────────────┐           │
                    │   POWER DOWN        │           │
                    │   SYSTEM            │           │
                    └─────────────────────┘           │
                              │                       │
                              ▼                       │
                    ┌─────────────────────┐           │
                    │   R&R FMSD,         │           │
                    │  FB-17220 IN Y/07   │           │
                    │  (Check Strapping)  │           │
                    └─────────────────────┘           │
                              │                       │
                              ▼                       │
                    ┌─────────────────────┐           │
                    │   POWER UP          │           │
                    │   SYSTEM            │           │
                    └─────────────────────┘           │
                              │                       │
                              ▼                       │
                    ┌─────────────────────┐           │
                    │   MONITOR           │           │
                    │   PSUPY FOR         │           │
                    │  "ASW" TO LIGHT     │           │
                    └─────────────────────┘           │
                              │                       │
                              ▼                       │
                         ╱─────────╲                  │
                        ╱ FAULT 41  ╲      NO          │
                        ╲ RECURS?    ╱─────────────────┤
                         ╲─────────╱                   │
                              │                        │
                            YES                        │
                              ▼                        ▼
                    ┌──────────────────┐      ┌──────────────┐
                    │  R&R FLOPPY      │────▶ │    END       │
                    │  DISK DRIVE      │      │              │
                    └──────────────────┘      └──────────────┘
```

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RECENT CHANGE   **8.0** The Recent Change feature is part of the primary system software. Plain language entries are used to display, or change data base information. The SHOW, LIST, or DISPLAY functions display data base information, while ADD, CHANGE, or DELETE functions are used to change data base information.

Recent Change allows the user to modify the data base in order to satisfy voice communications and data processing requirements. Recent Change is also used to keep up with hardware changes in the system. As hardware is upgraded, Recent Change is used to make necessary changes in system software.

Access Recent Change   8.1 The correct Security Code must be entered in order to access Recent Change (see paragraphs 1.2 and 1.3). A Security Level 4 is required to complete most Recent Change transactions.

The System Recent Change Primary Options Menu, On-Line Maintenance, and the CAS Main/ACD Supervisor Options are found in the Systems Option Menu. Use the following steps to access the Systems Options Menu:

NOTE: All entries made in recent change transactions end with a period. Type the (.) Period.

1. Type SL OL. (period)

   The system responds: SECURITY CODE >

2. Type four-character Security Code XXXX. (period)

NOTE: A Security Level of four or higher must be entered to work with Recent Change.

   The system responds: OPEN AT LEVEL 4

3. TYPE RC.   (Recent Change period)

   The system responds:

```
┌────────────────────────────────────────────┐
│                                        0    │
│            SYSTEM  OPTIONS  MENU            │
│                                             │
│   1) SYSTEM RECENT CHANGE PRIMARY MENU      │
│   28) MAINTENANCE                           │
│   83) CAS MAIN/ACD SUPERVISOR  OPTIONS      │
│   89) SAVE DATA BASE                        │
│   X) END  RECENT  CHANGE                    │
│                                             │
│  ENTER TRANSACTION NUMBER -- >              │
└────────────────────────────────────────────┘
```

- Detailed descriptions and applications of System Recent Change transactions are covered in the OMNI SI Recent Change Manual S.V.R. 5.2.1.0. The Recent Change Manual includes the following information:

  - List of Recent Change Transactions
  - Recent Change Menu Options
  - Manual Recent Change
  - Recent Change Transaction Sequences

- On-Line Maintenance appears in part three of this section, while CAS Main/ACD Supervisor Options coverage follows here in paragraph 4.2

- The Recent Change transaction, <u>Save Data Base</u> transaction number 89, is accessed from the <u>System Options Menu</u>. The minimum security level required is data base programmable in data base table T6071, system feature table, byte 7, bits 5-7. This transaction writes the office dependent base from memory to the hard disk.

CAS Main/ACD Supervisor Options

8.2 The CAS Main/ACD Supervisor Options allow the user to display or change data base information for Centralized Attendant Service (CAS) Main, or Automatic Call Distribution (ACD) system operations. This option is accessed in the following manner:

1. From the Systems Options Menu select transaction 83.

   The system responds:

```
-------------------------------------------------------------------
|                                                              83   |
|              CAS MAIN/ACD SUPERVISOR OPTIONS                      |
|                                                                  |
|    90) FADS DISPLAY                                              |
|    38) CAS MAIN/ACD SUPERVISORY RECENT CHANGE MENU              |
|    85) SUPERVISOR MESSAGE HANDLER                               |
|     0) GO TO SYSTEM OPTIONS MENU                               |
|                                                                  |
| ENTER TRANSACTION NUMBER -- >                                    |
-------------------------------------------------------------------
```

2. When an item is selected from the CAS Main/ACD Supervisor Menu (a primary menu), the transaction is loaded into system memory and executed. After that particular change or display transaction is completed, the system responds:

   ENTER END (E), REPEAT (R) OR TRANSACTION NUMBER (0 - 224) >

With this prompt the user ends the exercise (type E period), repeats the same transaction (type R period), or proceeds to another transaction (type another transaction number from zero to 224 period).

If the user enters E, the Recent Change Options Menu appears:

```
+-------------------------------------------------------+
|              RECENT  CHANGE  OPTIONS                  |
|           A) BEGIN                                    |
|           B) SAME  ONE                                |
|           C) BACK  ONE                                |
|           D) HELP                                     |
|           E)  ERROR  EXPLANATION                      |
|           F) SYSTEM  OPTIONS  MENU                    |
|           X) END  RECENT  CHANGE                      |
|      ENTER THE LETTER OF YOUR CHOICE HERE >           |
+-------------------------------------------------------+
```

The following explanations apply to the Recent Change Options menu displayed after every CAS Main/ACD Supervisor Option transaction. This menu allows the user to select the next transaction.

A) BEGIN - Show the Recent Change System Options Menu
B) SAME ONE - Show the same menu just displayed
C) BACK ONE - Show the menu before the one just displayed
D) HELP - Show the Help Menu
E) ERROR EXPLANATION - Show the Error Explanation Menu
F) SYSTEM OPTIONS MENU - Show the Systems Option Menu
X) END RECENT CHANGE - End CAS Main/ACD Supervisor
   Option

CAS Main/ACD Help   **8.2.1** HELP (Option D) and ERROR EXPLANATION (Option E) assist the user in selecting additional transactions.

When working in CAS Main/ACD, or FADS, Help Menus for most transactions are accessed by entering CONTROL H (press the CNTRL and H keys at the same time). The System will respond :

```
HOW TO USE THE HELP MENUS

   MOST OF THE SUPERVISORY RECENT CHANGE AND FAD DISPLAYS
HAVE A HELP MENU ASSOCIATED WITH THEM. EACH HELP MENU GIVES
   A DESCRIPTION, PURPOSE AND USE OF ITS ASSOCIATED RECENT
CHANGE OR FAD DISPLAY.THE HELP MENUS CAN BE VIEWED BY ENTERING A
CNTRL-H WHILE IN THE DISPLAY FOR WHICH THE USER WISHES TO SEE THE HELP
MENU. ONCE THE USER HAS COMPLETED VIEWING THE HELP MENU, A RESPONSE OF
N TO THE PROMPT AT THE BOTTOM WILL RETURN THE USER TO THE START OF THE
                              DISPLAY
              IN WHICH A CNTRL · H WAS ENTERED.


    ENTER END (E), REPEAT (R) OR TRANSACTION NUMBER (0 · 224) >
```

1. If no help menu exists for that transaction, the system responds:

   HELP NOT AVAILABLE > INVALID INPUT

2. Help is provided for a single transaction, or the help message will affect two or three related transactions.

3. Help consists of a description of the transaction, how the transaction impacts software, and how the information displayed is used in CAS Main/ACD, or FADS system operation.

An experienced user can omit the step of selecting transactions from a menu by simply typing the correct transaction number. Both the System Options Menu and the CAS Main/ACD Supervisor Options Menu offer a prompt which allows the user to directly input transaction numbers. In this case, the following prompt will appear:

    ENTER TRANSACTION NUMBER -- >

FADS, CAS Main/ACD Transactions

8.2.2 Once the user accesses the CAS Main/ACD Supervisor Options Menu (transaction 83), additional menus and sub-menus are available by entering the correct transaction number. These transactions, along with required Security Level, are listed below.

FADS, CAS Main/ACD Recent Change Transactions

CATEGORY	SECURITY LEVEL A - C - D - S	TRANS-ACTION #	TRANSACTION
FADS	. . -1	91	Real-Time Agent Status Display
	. - -1	92	Real-Time System Status Display
	. - -1	95	System Status Report
	. - -1	96	CAS Main/ACD Source Group Report
	. - -1	93	Agent Status Report
	. - -1	98	Trend Report
	. . -1	94	CAS Main/ACD Source Group Calls Report
	. - -1	77	Display All FADS Options
	-2- --	78	Change FADS Collection Period
	-2- __	79	Change FADS Automatic Dump Period
	-2- .	72	Change FADS Automatic Dump Selections
	-2- --	74	Change FADS Data Collection Start Time
	. - -2	75	Initiate a Trend Report
	. . -2	76	Cancel a Trend Report
CAS Main/ACD Supervisory Recent Change			
	. - -1	48	Display Status of Agent Positions
	. - -1	41	Display Status of Agent Positions by Agent Group
	. . -1	42	Display Night Destination of Agent Groups
	-2- --	43	Change the Group/Supervisor of an Agent Position
	-2- --	44	Change the State of an Agent Position
	-2- .	45	Change the Night Destination of an Agent Group
	2- . .	46	Add an Agent Group
	. -2--	47	Delete an Agent Group
	-1- .	71	Display/Change FADS Delay Timing
	. . -1	55	Display Breakdown of all CAS Main/ ACD Trunks by Trunk Numbers
	. - -1	56	Display Breakdown of all CAS Main/ ACD Trunks by Agent Group

FADS, CAS Main/ACD Recent Change **Transactions**
(Continued)

CATEGORY	SECURITY LEVEL A - C - D - S	TRANS-ACTION #	TRANSACTION
	▪ ▪ ·1	**51**	Display all CAS Main/ACD trunks with a Specific Source
	-2- ·	5 2	Change IS/OS state of a CAS Main/ACD Trunk
	-2- ·	5 3	Change Source Group of a CAS Main/ACD Trunk
	-2- ·	5 4	Change Primary Destination for a Trunk Group
	▪ - ·1	5 8	Display Source Messages
	-2- ·	5 9	Change a Specific Source Message
	▪ - ·1	6 7	Display Trunk Number and Status of all CAS Main/ACD R/A
	▪ - ·1	6 8	Display Delay Routing of all Agent Groups
	▪ - ·1	6 9	Display Call Waiting Levels of all Agent Groups
	-2- ·	6 2	First Recorded 'Announcement
	-2--	6 3	Second Recorded Announcement
	-2- ▪	6 4	Delay or Repetition Timing
	-2- ▪	6 5	Change Alternate Routing of an Agent Group
	-2- ▪	6 6	Change Call Waiting Levels for an Agent Group.
	▪ - ·1	8 1	Display a Repertory Dial Key Set
	-2- ·	8 2	Change a Repertory Dial Key Set
	▪ - ·1	8 6	Display Day/Night Mode
	-2- ·	8 7	Change Day/Night Mode of an Agent Group
	▪ - -2	4 9	Send Special Message
	▪ ▪- 2	9 7	Send Unique Message
	▪ - ·1	8 4	Display Special Message
	-2- ▪	8 8	Change a Special Message

FADS Recent Change   8.3 The Force Administration Data System (FADS) collects and stores information for CAS Main and ACD agents, agent groups,or the overall CAS Main/ACD system. Information is stored in the form of reports which can be accessed through FADS Recent Change transactions

The results of two of these reports ▪ Real Time Agent Status Display (transaction 91) and Real Time System Status Display (transaction 92) ▪ occur on a real-time basis. This means that information displayed exists at the present time and is continuously updated. Other reports contain information collected over a specified time period. Periodic intervals are selected by the user and range from 15, 30, 45, or 60 minutes. Daily intervals are also selected by the user and range from 1, 4, 8, 12, or, 24 hours. A periodic report and a daily report can run at the same time.

FADS Display Options
Menu

8.4 The FADS Display Options Menu is accessed through the CAS Main/ACD Supervisor Options Menu. The following steps are used to access the menu:

1. Select transaction 90 from the CAS Main/ACD Supervisor Options Menu.

The system responds:

```
+-------------------------------------------------------------------+
|              FADS  DISPLAY  OPTIONS                         90     |
|   91)  REAL TIME AGENT STATUS DISPLAY                             |
|   92)  REAL TIME SYSTEM STATUS DISPLAY                            |
|   95)  SYSTEM STATUS REPORT                                       |
|   96)  CAS MAIN/ACD SOURCE GROUP REPORT                           |
|   93)  AGENT STATUS REPORT                                        |
|   98)  TREND REPORT                                               |
|   94)  CAS MAIN/ACD SOURCE GROUP CALLS                           |
|   63)  GO TO CAS MAIN/ACD SUPERVISOR OPTIONS MENU                 |
|   ENTER  TRANSACTION  NUMBER-->                                   |
+-------------------------------------------------------------------+
```

2. Select the correct transaction or sub-menu.

FADS Display Transactions 8.5 The following paragraphs describe transactions listed in the FADS Display Options Menu. The transactions listed here are used to display FADS data for information purposes only.

Real-Time Agent Status Display **8.51** Real-Time Agent Status Display (transaction 91) lists call-handling information for agents in agent groups at the time of the display. Agents are identified by their agent position number. The header remains the same while contents is updated to show the status of each agent during normal operations. A CRT is required to display this transaction.

```
r----------------------------------------------------------------------------1
|                        REAL TIME AGENT STATUS                        91     |
|                           12:02 08/29/79                                    |
|               POSITION#/STATE                                              |
|GRPO   000/B   001/A   002/B   003/A   004/B   005/B   006/U 007/B 008/A    |
|       009/B   010/B   011/B                                                |
|GRP1   012/B   013/B   014/B   015/B   016/A   017/B   018/U               |
|GRP2   019/B   020/A   021/W   022/B   023/A   024/W                        |
|GRP3   025/B   026/O   027/W   028/A   029/B   030/A                        |
|GRP4   100/B   101/A   102/B   103/A   104/B   105/P   106/P 107/B 108/A    |
|       109/B   110/B   111/P                                                |
|GRP5   112/B   113/A   114/B   115/B   116/A   117/B   118/U               |
|GRP6   119/B   120/A   121/W   122/B   123/A   124/W                        |
|GRP 7  125/B   126/O   127/W   128/A   129/B   131/A                        |
| where                                                                      |
| A Position is available for calls                                          |
| B Agent is busy with an incoming call                                      |
| O Position is out of service                                               |
| U Position is un-staffed                                                    |
| W Agent is in an after call work state                                     |
| I PACET is being initialized                                               |
| P Agent is using outgoing PABX service                                     |
L----------------------------------------------------------------------------J
```

Real-Time System Status Display

8.5.2 Real-Time System Status Display (transaction 92) lists the amount of activity in each agent group at the time of the display. The header remains the same while contents is updated to show system status during normal operations. A CRT is required to display this transaction.

```
REAL TIME SYSTEM STATUS                                        92
                        12:02    08/29/79

  #AGT         #      #    #     #    DEL  TOTAL MAX DELAY
GRP     STF  BUSY  WORK  AVL    OTG    #2      WAIT     MIN--SEC MODE
  0  -  12    8    4    0     0    2    2   1--02              D
  1 -  7  .   4    0    3     0    0    0   0--00              D
    2   7    3    0    3     1    0    0   0--00              D
    3   8    3    3    0     2    4    6   I--I 5             D
    4   12   8    4    0     0    2    2   1--02              D
    5   7    4    0    3     0    0    0   0--00              D
    6   7    3    0    3     1    0    0   0--00              D
    7   6    3    3    0     0    4    6   I--I 5             D
TOTAL  66   32   14   6     4   12   16
```

where

GRP = Agent group number
# AGT STF = Number of agent positions staffed
# BUSY = Number of busy agents
# WORK = Number of agents in work state
# OTG = Number of agents in outgoing state
# AVL = Number of available agents
MAX DELAY = Longest delayed call per agent group
DEL #2 = Number of calls waiting for or received R/A #2
TOTAL WAIT = Total number of calls waiting
MODE = System mode, day or night

System Status **Report**

8.5.3 System Status Report (transaction 95) lists the amount of incoming and outgoing calls on all CAS Main and ACD agent groups over a period of time selected by the user. Before information is displayed, the user selects Periodic Report with collection periods of 15, 30, 45, or 60 minutes, or Daily Report with collection periods of 1, 4, 8, 12, or 24 hours.

```
                    SYSTEM STATUS REPORT                    95

                    A)PERIODIC REPORT
                    B)DAILY REPORT
ENTER THE LETTER OF THE DESIRED REPORT >A.
```

See Change FADS Periodic Data Report Collection Period
(transaction 78) to change time of Periodic Report, and Change
FADS Automatic Dump Period (transaction 79) to change time of
Daily Report.

```
PERIOD 11:30/12:00   10/10/79

                    SYSTEM  STATUS  REPORT
                       12:02    10/10/79

        AVG    #     #      #    #    #      #   AUG  AUG  AUG
  GRP  POS CALL CALL  CALL 2ND CALL CALL AUL  ANS  HNLD SUL
        OFRD ANS ANS  DEL ABAN OUFL TIME TIME TIME

    0   11  112  111   12   7    1    1    11    7   15   86
    1    6   86   86    9   7    0    0    12    6   14   82
    2    5   56   54    8   3    2    0    19   13   17   67
    3    4   40   39    5        2    0    14   15   15   71
    6   11  112  111   12   7    1    1    11    7   15   86
    7    4   40   39    5   3    2    0    14   15   15   71
 TOT   52  588  580  688  42   10    2    15   12   15   76

 ENTER  END  (E), REPEAT  (R) OR TRANSACTION  NUMBER  (O-224) >

 where

 GRP ‒ Agent group numbers
 AUG POS STF ‒ Average positions staffed
 # CALL OFRD ‒ Number of calls offered
 # CALLS ANS = Number of calls answered
 # CALL DEL = Number of calls delayed > "X" seconds
 # 2ND DEL = Number of calls receiving second announcement
 # CALL ABAN = Number of calls abandoned
 # CALL OUFL = # of calls overflowed to an alternate group
 AUG AUL TIME = Average time available
 AUG ANS TIME = Average answer time per call
 AUG HNLD TIME = Average handle time per call
 SVL = Service  level
```

CAS/ACD Source Group Report

8.5.4 The CAS/ACD Source Group Report (transaction 96) lists the amount of incoming trunk traffic from each source group servicing agent groups over a period of time selected by the user. Before information is displayed, the user selects Periodic Reports with collection periods of 15, 30, 45, or 60 minutes, or Daily Report with collection periods of 1, 4, 8, 12, or 24 hours.

```
CAS/ACD  SOURCE  GROUP  REPORT                    96

A) PERIODIC  REPORT

B) DAILY  REPORT

ENTER  THE  LETTER  OF  THE  DESIRED  REPORT  >A.
```

```
PERIOD 11:30/1 2:00    10/10/79                         PAGE 1
                  CAS/ACD  SOURCE  GROUP  REPORT
                        12:02    10/10/79
```

SOURCE GRP # / ID	#CALL OFRD	#CALL ABAN	#CALL ANS	#CALL DEL	% TIME BUSY	% TIME ATB
○○ / CHICAGO	115	5	110	12	65	4
01 / ELMHURST	82	1	81	8	58	1
02 / ELGIN	60	0	60	4	49	
03 / DES PLAINES	38	1	37	3	38	0
.	.	.	.	.		
.	.	.	.	.	.	.
.					.	.
16 . OAK PARK	34	1	33	4	40	0

```
DO  YOU  WISH  TO  CONTINUE  THIS  DISPLAY  >  Y.

where

# CALL OFRD = Number of calls offered to the system
# CALL ABAN = Number of calls abandoned
# CALL ANS = Number of calls answered
# CALL DEL = Number of calls delayed
% TIME BUSY = Percentage that a trunk is busy
% TIME ATB = Percentage that all trunks are busy
```

```
+-----------------------------------------------------------------------+
| PERIOD 11:30/12:00    10/10/79                          PAGE 2        |
|                  CAS/ACD  SOURCE  GROUP  REPORT                        |
|                       12:02    10/10/79                               |
|        SOURCE  GRP      #CALL  #CALL    #CALL #CALL  %TIME  %TIME      |
|          #  /      ID    OFRD  ABAN      ANS         DEL    BUSY       |
|                                                                       |
|        17 /   CALUMET    112     2      110    12     65     4         |
|        18 /   EVANSTON    86     1       85     8     58     1         |
|        19 /   GARY        56     0       56     4     49     1         |
|        20 /   HAMMOND     38     1       37     3     38     0         |
|                                         .      .      .     .         |
|                                         .      .      .     .         |
|                                                                       |
|        31 / MT PROSPECT  34      1      33      4     40     0         |
|              TOTAL      846     25      821    91     51    02         |
| ENTER  END  (E), REPEAT  (R)  OR  TRANSACTION  NUMBER  (O-224) >      |
+-----------------------------------------------------------------------+
```

Agent Status Report   8.5.5 The Agent Status **Report** (transaction 93). lists call handling information for individual agents in an agent group collected over a period of time selected by the user.

```
PERIOD   11/30/12:00    1 0/10/79

                        AGENT  STATUS  REPORT              9 3
                        12:02      1 O/l0/79

AGENT AGT # CALL AVG HNLD       AVG BUSY AVG WORK AVG OTG
     %TIME
GROUP POS   HNLD           TIME    TIME      TIME     TIME
AVL
```

AGENT GROUP	AGT POS	# CALL HNLD	AVG HNLD TIME	AVG BUSY TIME	AVG WORK TIME	AVG OTG TIME	% TIME AVL
0	1	56	12	8	4	2	65
	2	34	17	12	5	1	45
	3	45	14	8	6	3	56
	4	41	13	9	4	4	50
	5	45	15	10	5	3	48
	6	59	11	6	5	0	64
	7	60	10	7	3	3	58
	8*	50	12	8	4	1	47
	9	41	16	10	6	2	46
	10	34	19	11	8	5	35
1	12	71	9	7	2	2	47
	13	62	13	8	5	1	43
	14	63	12	6	6	3	45
	15	45	15	9	6	1	56
6	117	23	18	12	6	6	78
	118	39	17	13	4	3	56
	119	61	12	8	4	4	60
	120*	45	14	9	5	1	54
7	121"	70	10	5	5	2	63
	122*	51	14	8	6	4	45
	123"	62	12	6	6	3	43
	124*	46	16	11	5	1	57

```
          *AGENT(S) NOT STAFFED FOR ENTIRE COLLECTION PERIOD

ENTER END (E), REPEAT (R) OR TRANSACTION NUMBER (O-224)  >

where

AGT POS = Agent position
# CALL HNLD = Number of calls handled
AVG HNLD TIME  = Average handle time for position
AVG BUSY TIME  = Average busy time for position
AVG WORK TIME  = Average work time for position
AVG OTG TIME = Average outgoing time for position
% TIME AVL  = Percentage of time position is available
```

Trend Report   8.5.6 The Trend Report (transaction 98) lists incoming call information over a period of time by agent group to identify possible call-handling trends. Collection periods are limited to 24 hours each, but these may be collected for up to seven days.

```
-------------------------------------------------------------------
|                    TREND  REPORT                         98       |
|                   12:02   08/29/79                               |
|    GROUP #1    START 08:00 08/28/79        END:   07:30  08/29/79 |
|  TIME  AVG POS #  CALL  #CALL  #CALL  #CALL MAX  DELAY SVL        |
|  PERIOD   STF     OFRD   DEL   ABAN    OVFL    MIN--SEC           |
| 08:00     23      102     9     2      1     oo--54    87         |
| 08:30     24       89     6     1      0     00--27    78         |
| 09:00     26       78     3     0      0     oo--37    90         |
| 09:30     29      100     5     1      0     00--23    91         |
| 10:00     28      123     8     2      0     01--16    89         |
| 10:30     28      126     5     0      1     00--24    94         |
| 11:00     29      131     3     0      0     00--10    98         |
| 11:30     26      142     2     0      0     00--09    98         |
| 12:oo     27      120     8     1      0     oo--47    92         |
| 12:30     26       78     2     0      0     oo--07    90         |
| 13:oo     28       99     1     0      0     oo--04    99         |
| 13:30     26      107     4     1      0     00--14    89         |
| 14:oo     25      110     2     0      0     00--08    97         |
| 14:30     26      105     4     0      0     00--26    90         |
| 15:00     25       94     1     0      0     00--11    97         |
|                                 .                                 |
|                                          .                        |
|    .                    .        .       .             .          |
| 07:00     Ib       45     0     0      0     oo--oo   100         |
| 07:30     23       78     0     0      0     oo--00   100         |
| ENTER END (E), REPEAT (R) OR TRANSACTION NUMBER (O-224)  >        |
| where                                                             |
| AVG POS STF = Average  positions  staffed                         |
| #CALL OFRD  = Number of calls received                            |
| # CALL DEL =  Number  of  calls  delayed                          |
| # CALL ABAN  = Number of calls abandoned                          |
| # CALL OVFL   = Number of calls overflowed to an alternate        |
| MAX DEL = Longest  answer  time                                   |
| SVL  = Service level                                              |
-------------------------------------------------------------------
```

CAS MAIN/ACD Source 8.5.7 CAS Main/ACD Source Group **Calls** (transaction 94) lists the number of incoming calls per trunk in the source group.

```
ENTER A SOURCE GROUP # (0-->31)  >10.
```

```
PERIOD 11:30/1 2:00   1 O/I 0/79

             SOURCE GROUP # 10 CALLS                     94
                 12:02   10/10/79

TRUNK  #   TOTAL  TRUNK #   TOTAL  TRUNK#    TOTAL
   20  --->    175     21  __>    6 9      22  --->    145

   23  --->    156     24  --->   198      25  --->    201
   3 4 --->    144     35  --->   167      36  --->    189
   37  --->    109     38  --->   9 9      39  --->    100
   4 0   __>   125

ENTER END (E), REPEAT (R) OR TRANSACTION NUMBER (O-224) >
```

FADS Control Data Menu 8.5.8 The FADS Control Data Menu is accessed through CAS Main/ACD Supervisory Recent Change. The following steps are used to access the menu:

1. Select transaction 70 from CAS Main/ACD Supervisory Recent Change .

The system responds:

```
                 FADS CONTROL DATA                      70
77) DISPLAY ALL FADS OPTIONS
78) CHANGE FADS COLLECTION PERIOD
79) CHANGE FADS AUTOMATIC DUMP PERIOD
72) CHANGE FADS AUTOMATIC DUMP SELECTIONS
74) CHANGE FADS DATA COLLECTION START TIME
75) INITIATE A TREND REPORT
76) CANCEL A TREND REPORT
39) GO TO CAS MAIN/ACD SUPERVISORY RECENT CHANGE MENU
      ENTER TRANSACTION NUMBER -- >
```

2. Select the correct transaction.

FADSControl Transactions   8.6 The following paragraphs describe transactions listed in the FADS Control Data Menu. The transactions listed here are used to change or initiate FADS Control Data information.

Display All FADS Options   **8.6.1** Display All FADS Options (transaction 77) **allows** the user to see all FADS options currently in use.

```
┌─────────────────────────────────────────────────────────────────┐
│               FADS  OPTIONS  DISPLAY                      77      │
│  PERIODIC  DATA  COLLECTION  PERIOD: 15  MINUTES                  │
│  TRENT  REPORT  DATA  COLLECTION  PERIOD: 15  MINUTES             │
│  TRENT  REPORT  AGENT  GROUP : 0                                  │
│  AUTOMATIC  DUMP  PERIOD: 8  HOURS                                │
│  AUTOMATIC  DUMPS  IN  EFFECT:                                    │
│  SYSTEM  STATUS  REPORT                                           │
│  SOURCE  GROUP  REPORT                                            │
│  ENTER  END  (E),  REPEAT  (R)  OR  TRANSACTION  NUMBER  (O-224) >│
└─────────────────────────────────────────────────────────────────┘
```

Change FADS Periodic Data Collection Period   8.6.2 Change FADS Periodic Data Collection Period (transaction 78) allows the user to change the time period for FADS reports. This time period can range from 15, 30, 45, or 60 minutes.

```
┌─────────────────────────────────────────────────────────────────┐
│        CHANGE  FADS  PERIODIC  DATA  COLLECTION  PERIOD     78    │
│  CURRENT  FADS  COLLECTION  PERIOD: 15  MINUTES                   │
│  NEW  FADS  COLLECTION  PERIOD:                                   │
│         A)    DISABLE                                             │
│         B)    15  MINUTES                                         │
│         C)    30  MINUTES                                         │
│         D)    45  MINUTES                                         │
│         E)    60  MINUTES                                         │
│         ENTER  THE  LETTER  OF  THE  DESIRED  PERIOD  > C.        │
│  DO  YOU  WANT  TO  EXECUTE  THIS  CHANGE  (Y/N)  > Y.            │
│  ENTER  END  (E),  REPEAT  (R)  OR  TRANSACTION  NUMBER  (O-224) >│
└─────────────────────────────────────────────────────────────────┘
```

Change FADS Automatic Dump Period

8.6.3 Change FADS Automatic Dump Period (transaction 79) **allows** the user to change the timing of automatic dumps. Dump periods can range from one-half hour, one hour, four hours, eight hours, twelve hours, or twenty-four hours.

```
┌─────────────────────────────────────────────────────────────────┐
│        CHANGE  FADS  AUTOMATIC  DUMP  PERIOD              79       │
│                                                                   │
│   CURRENT  AUTOMATIC  DUMP  PERIOD: 8  HOURS                      │
│                                                                   │
│   NEW  AUTOMATIC  DUMP  PERIOD:                                   │
│          A)    DISABLE   DUMP                                     │
│          B)    1/2  HOUR                                          │
│          C)    1 HOUR                                             │
│          D)    4HOURS                                             │
│          E)    8  HOURS                                           │
│          F)    12  HOURS                                          │
│          G)    24  HOURS                                          │
│                                                                   │
│          ENTER  THE  LETTER  OF  THE  DESIRED  PERIOD  > F.       │
│                                                                   │
│   DO  YOU  WANT  TO  EXECUTE  THIS  CHANGE  (Y/N)  > Y.           │
│                                                                   │
│   ENTER  END  (E),  REPEAT  (R),  OR  TRANSACTION  NUMBER  (O-224) │
└─────────────────────────────────────────────────────────────────┘
```

Change the FADS Automatic Dump Selections

8.6.4 Change the FADS Automatic Dump Selections (transaction 72) allows the user to select which reports are dumped automatically by FADS. The System Status Report and the Source Group Report are affected by this transaction.

```
┌─────────────────────────────────────────────────────────────────┐
│        CHANGE  THE  FADS  AUTOMATIC  DUMP  SELECTIONS       72     │
│                                                                   │
│   CURRENT  FADS  REPORTS  AUTOMATICALLY  DUMPED:                  │
│          SYSTEM  STATUS  REPORT                                   │
│          SOURCE  GROUP  REPORT                                    │
│                                                                   │
│   DUMP  THE  SYSTEM  STATUS  REPORT  AUTOMATICALLY?  N.           │
│                                                                   │
│   DUMP  THE  SOURCE  GROUP  REPORT  AUTOMATICALLY?  Y.            │
│                                                                   │
│   DO  YOU  WISH  THE  REPORT  TO  BE  DUMPED  TO  THIS  TERMINAL?  Y. │
│                                                                   │
│   DO  YOU  WANT  TO  EXECUTE  THIS  CHANGE  (Y/N)  > Y.           │
│                                                                   │
│   ENTER  END  (E),  REPEAT  (R),  OR  TRANSACTION  NUMBER  (O-224) │
└─────────────────────────────────────────────────────────────────┘
```

Change FADS Data Collection Start Time

8.6.5 Change FADS Data Collection Start Time (transaction 74) allows the user to change the start time and start date for FADS data collection. The time and date entered shows when data will be collected for daily FADS reports.

```
CHANGE FADS DATA COLLECTION START TIME          74

    CURRENT FADS DATA COLLECTION START TIME :  12:00

   ENTER A NEW FADS DATA COLLECTION START TIME -
            HOURS (00 ---    >23) >8
         MINUTES  (00---     >59) >0.

    START ON CURRENT DATE (Y/N) > N.

  -ENTER STARTING DATE - MONTH      (1-12) >1.
                         DAY        (1-31) >18.
                         YEAR       (00-99) > 84.

    DO YOU WANT TO EXECUTE THIS CHANGE (Y/N) >Y.

    ENTER END (E), REPEAT (R), OR TRANSACTION NUMBER (0-224)>
```

Initiate a Trend Report

8.6.6 Initiate a Trend Report (transaction 75) allows the user to initiate a trend report starting at a time and date, and lasting for a specified period of time.

```
INITIATE A TREND REPORT                        75

 ENTER AN AGENT GROUP # (0 --- > 7) >1.
 ENTER A STARTING HOUR    (00 - > 23) > 8. MINUTES (00- > 59) > 0.

 START ON CURRENT DATE? (Y/N) > N.
 ENTER STARTING DATE - MONTH      (1--12) >7.
                       DAY        (1--31) > 18.
                       YEAR       (00-99) > 82.

 COLLECTION  PERIOD:

      A)    15 MINUTES
      B)    30 MINUTES
      C)    45 MINUTES
      D)    60 MINUTES

 ENTER LETTER OF COLLECTION PERIOD >A.

 ENTER THE NUMBER OF PERIODS (1--48) >48

 A TREND REPORT FOR GROUP # 1 WILL START AT 08:00 on 7/18/82.
 IT WILL BE COLLECTED EVERY 15 MINUTES FOR 48 PERIODS.

 DO YOU WANT TO EXECUTE THIS CHANGE (Y/N) >Y.

 ENTER END (E), REPEAT (R), OR TRANSACTION NUMBER (0-224)>
```

Cancel a Trend Report   8.6.7 Cancel a Trend Report (transaction 76) allows the user to cancel a trend report,

```
+---------------------------------------------------------------------+
|                CANCEL  A  TREND  REPORT                     76      |
|   AGENT  GROUP: 1                                                   |
|   CURRENT  START  TIME:    8:00 ON 7/18/82                          |
|   CANCEL? > Y.                                                      |
|   ENTER END (E), REPEAT (R), OR TRANSACTION NUMBER (O-224)  >       |
+---------------------------------------------------------------------+
```

CAS Main/ACD
Supervisory
Recent Change

8.6.8 CAS Main/ACD Supervisory Recent Change (transaction 38) is a primary menu consisting of a list of sub-menus. Each transaction listed will lead the user to a subgroup of transactions whose purpose is to display or change CAS Main/ACD data information. This process was shown above with FADS Control Data (transaction 70). The remaining transactions will be covered here.

```
+---------------------------------------------------------------------+
|           CAS  MAIN/ACD  SUPERVISORY  RECENT  CHANGE        38      |
|     40)  AGENT  DATA                                                |
|     50)  CAS  MAIN/ACD  TRUNK  DATA                                 |
|     57)  SOURCE  MESSAGES                                           |
|     60)  CALL  WAITING  DATA                                        |
|     70)  FADS  CONTROL  DATA                                        |
|     80)  CAS  MAIN/ACD  INSTRUMENT  CONTROL  DATA                   |
|     39)  DAY/NIGHT  MODE  DATA'                                     |
|     83)  GO  TO  CAS  MAIN/ACD  SUPERVISOR  OPTIONS  MENU           |
| ENTER TRANSACTION NUMBER -- >                                       |
+---------------------------------------------------------------------+
```

Agent Data Displays and Changes

8.7 The Agent Data Menu (transaction 40) allows the user to display or change information related to agents or agent groups.

```
┌─────────────────────────────────────────────────────────────────────┐
│         AGENT  DATA                                          40       │
│                                                                       │
│   48)    DISPLAY  STATUS  OF  AGENT  POSITIONS                        │
│   41)  DISPLAY  STATUS  OF  AGENT  POSITIONS  BY  AGENT  GROUP        │
│   42)    DISPLAY  NIGHT  DESTINATION  OF  AGENT  GROUPS               │
│   43)  CHANGE  THE  GROUP/SUPERVISOR  OF  AN  AGENT  POSITION         │
│   44)    CHANGE  THE  STATE  OF  AN  AGENT  POSITION                  │
│   45)    CHANGE  THE  NIGHT  DESTINATION  OF  AN  AGENT  GROUP        │
│   46)    ADD  AN  AGENT  GROUP                                        │
│   47)    DELETE  AN  AGENT  GROUP                                     │
│   71)    DISPLAY/CHANGE  FADS  DELAY  TIMING                          │
│   38)    GO  TO  CAS  MAIN/ACD  SUPERVISORY  RECENT  CHANGE  MENU     │
│                                                                       │
│ ENTER  TRANSACTION  NUMBER  --  >                                     │
└─────────────────────────────────────────────────────────────────────┘
```

Agent Position Status Display

8.7.1 Agent Position Status Display (transaction 48) shows all agents in the system, supervisor, agent group, and in-service or out-of-service state.

NOTE: Only equipped agent groups are displayed.

```
┌─────────────────────────────────────────────────────────────────────┐
│                  AGENT  POSITION  STATUS                      48      │
│ POS  SUP  GRP  STATE  POS  SUP  GRP  STATE  POS  SUP  GRP  STATE      │
│ 000   1    3   INS    001   2    0   INS    002   2    0   INS        │
│ 003   3    7   INS    004   2    0   INS    005   2    0   INS        │
│(006   2    0   INS    007   2    6  'INS    008   2    1   INS        │
│ 009   2    1   INS    010   1    3   INS    011   1    3   INS        │
│ 012   1    3   INS    013   1    3   INS    014   2    0   INS        │
│ 014   2    0   INS    015   8    5   INS    016   8    4   INS        │
│ 017   2    0   INS    018   2    0   INS    019   8    4   INS        │
│ 120   7    2   INS    121   7    2   INS    122   7    2   INS        │
│ 123   7    2   INS    124   7    2   OOS    125   7    2   0 0 s      │
│ 126   7    2   OOS    127   7    2   0 0 s  128   7    2   0 0 s      │
│ 129   7    2   0 0 s  130   7    2   0 0 s  131   2    0   0 0 s      │
│ 132   2    1   0 0 s  133   2    1   0 0 s  134   2    1   0 0 s      │
│ 135   2    1   0 0 s                                                  │
│                                                                       │
│ ENTER  (E),  REPEAT  (R)  OR  TRANSACTION  NUMBER  (O-224)  >         │
│                                                                       │
│ where                                                                 │
│  POS  =  Agent  position  (O---   191)                                │
│ SUP  =  Supervisor  (1-- 8)                                           │
│ GRP  =  CAS  MAIN/ACD  agent  group  number  (0--- 7)                 │
│  STATE  =  In-service/out-of-service  state                           │
└─────────────────────────────────────────────────────────────────────┘
```

Agent Status   The state of an agent position is described as follows:

- INS (In Service). Agent has control of the instrument. The agent can LOG ON or LOG OFF, and accept or extend CAS Main/ACD calls.

- OOS (Out-Of-Service). Agent has no control over the instrument. Initially, instrument was fully loaded and identified, but in this state system will not direct calls to the instrument, or recognize any command from it. This status is similar to a Maintenance Busy State.

   Note: The system data base will consider this line to be in service, but the agent can be initialized to an Out-Of-Service state by making bit 5, byte zero of the Agent Data Base table equal to zero.

- UNE (Unequipped) Agent has no control over the instrument. The instrument was never loaded since the data base makes no provisions as to where the position's line 1 circuit or the data link circuit are located.

   In order to place an unequipped position into service, the technician must supply (using Recent Change) all data concerning the physical location of the position's line 1 circuit and, if a PACET, the position's data link circuit. Once the system has received and verified this information, the instrument is loaded. When completed successfully, the instrument is placed into service with control given to the agent.

Agent Group Status Display

8.7.2 Agent Group Status Display (transaction 41) **allows the** user to display an organizational summary of each agent group. This summary includes agent position, and in-service or out-of-service state of each position.

NOTE: Only equipped agent groups are displayed.

```
+---------------------------------------------------------------+
|   ..              AGENT  GROUP  STATUS                    41   |
|..                                                             |
|        POS   STATE POS    STATE POS    STATE POS    STATE     |
| GROUP 0 000   INS   001    INS   002    INS   003    INS       |
|         004   INS   006    INS   014    INS   015    INS       |
|         016   INS   017    INS   018    INS   019    INS       |
|         031   00s   050    INS                                |
|                                                               |
| GROUP 1 005   INS   007    INS   008    INS   009    INS       |
|         032   00s   033    00s   034    00s   035    00s       |
|                                                               |
| GROUP 2 120   INS   121    INS   122    INS   123    INS       |
|         124   00s   125    OOS   126    OOS   127    00s       |
|         128   00s   129    00s   130    00s                   |
|                                                               |
| GROUP 3 010   INS   011    INS   112    INS   113    INS       |
|                                                               |
| GROUP 4 020   INS   021    INS   022    INS   023    INS       |
|         024   00s   025    OOS   026    OOS   027    00s       |
|                                                               |
| GROUP 5 170   INS   171    INS   172    INS   173    INS       |
|         174   00s   175    OOS   176    00s   177    00s       |
|                                                               |
| GROUP 6 070   INS   071    INS   072    INS   073    INS       |
|         074   00s   075    OOS   076    00s   077    00s       |
|                                                               |
| GROUP 7 080   INS   081    INS   082    INS   083    INS       |
|         184   OOS   185    00s   186    OOS   187    00s       |
| ENTER (E), REPEAT (R), OR TRANSACTION NUMBER (O-224)    >      |
| where                                                         |
| POS  = Agent position (O---  191)                             |
|  STATE  = In-service/out-of-service  state                    |
+---------------------------------------------------------------+
```

Night Destination of All Agent Groups

8.7.3 'Night Destination of All Agent Groups (transaction 42) **allows** the user to see night destinations for all agent groups. Night destinations include the following:

- Another agent group
- A directory number
- An attendant
- A trunk group
- Third recorded announcement
- No destination

Night Destination

The night destination of an agent group can be changed to a trunk group if the following conditions are met:

1. All CAS trunk groups assigned to the agent group whose night destination is being changed must have disconnect supervisor in either an incoming or two-way state

2. The trunk group used for the new night destination must have its trunk direction in either an outgoing or two-way state.

3. The destination trunk group must be one of the following:

   - Central Office (CO)

   - Foreign Exchange (FX)

   - TIE

   - WATS

4. If CAS trunk groups assigned to the agent group whose night destination is being changed does not have disconnect supervisor in either an incoming or two-way state, this agent's group night destination cannot be changed to a trunk group.

5. If the trunk group used for the new night destination does not have its trunk direction in either an outgoing or two-way state, or if the destination trunk group is not one of those four listed above, the trunk group that was to be used for the agent group's night destination cannot be used.

**Change the
Group/Supervisor
of an Agent Position**

8.7.4 Change the Group/Supervisor of an Agent Position (transaction 43) allows the user to change the agent group and/or supervisor of a specified agent position.

**Change the State
of an Agent Position**

8.7.5 Change the State of an Agent Position (transaction 44) allows the user to place an agent position in-service, or take a position out of service. Validity checks only the position number. If the supervisor attempts to place an in-service position into an out-of-service state while it is handling a call, the following events will occur:

1.. The position is removed from the active agent group.

2. The supervisor receives a delayed message when the position is actually placed out-of-service.

These events cause a warning message if the last in-service position in an agent group is placed out-of-service, or if the new state is the same as the existing state. If the new state is the same as the existing state, the change is not processed. If a position is placed out-of-service while an agent is still logged on, a log off function is performed by the agent.

```
CHANGE THE GROUP/SUPERVISOR OF AN AGENT POSITION 43
AGENT POSITION (0--- > 191)  > 20.
CURRENT AGENT GROUP IS 5, CURRENT SUPERVISOR IS 3
NEW  AGENT  GROUP  (0--->7) >4.
SUPERVISOR  (1--- > 8)  > 8.
DO  YOU  WANT  TO  EXECUTE  THIS  CHANGE  (Y/N) > Y.
ENTER END (E), REPEAT (R), OR TRANSACTION NUMBER (O-224) >
```

```
CHANGE  THE  STATE  OF  AN  AGENT  POSITION                    44
AGENT  POSITION  (0--- > 191)  > 11.
AGENT POSITION 01 1 HAS A CURRENT STATUS OF: INS
NEW  POSITION  STATUS  (INS/OOS) > OOS.
DO  YOU  WANT  TO  EXECUTE  THIS  CHANGE  (Y/N) > Y.
ENTER  END (E),  REPEAT (R),  OR TRANSACTION NUMBER (O-224) >
```

Change Night Destination of an Agent Group

8.7.6 Change Night Destination of an Agent Group (transaction 45) allows the user to change the night destination of any agent group.

```
CHANGE NIGHT DESTINATION OF AN AGENT GROUP          45

AGENT GROUP NUMBER  (0--->7) >0.

CURRENT NIGHT DESTINATION: DIRECTORY NUMBER 5678
NEW DESTINATION TYPE:
        A)    DIRECTORY   NUMBER
        B)    ATTENDANT(S)
        C)    AGENT   GROUP
        D)    TRUNK   GROUP
        E)    THIRD   RECORDED   ANNOUNCEMENT
        F)    NONE

ENTER LETTER OF NEW DESTINATION TYPE >A.

DIRECTORY NUMBER > 1234.

DO YOU WANT TO EXECUTE THIS CHANGE (Y/N) >Y.

ENTER END (E), REPEAT (R) OR TRANSACTION NUMBER (0-224) >
```

A. DIRECTORY NUMBER
Prompt entries include the following:
B.ATTENDANT - NONE
C.AGENT GROUP - ENTER AGENT GROUP (0-- > 7) >
D.TRUNK GROUP - ENTER TRUNK GROUP (0-->63) >
E.THIRD RECORDED ANNOUNCEMENT - NONE
F. NONE - NONE

Add a CAS Main/ACD Agent Group

8.7.7 Add A CAS Main/ACD Agent Group (transaction 46) allows the user to add a CAS Main/ACD agent group.

```
            ADD A CAS MAIN/ACD AGENT GROUP          46

AGENT GROUP NUMBER (0---> 7)  >0.

AGENT GROUP FUNCTION (CAS/ACD) >ACD.

MUSIC TO BE PLAYED WHILE ON HOLD (Y/N) >Y.

REPERTORY DIAL KEY SET (0--->3) >3.

MONITOR WARNING TONE (Y/N) >Y.

FADS CALL DELAY TIME (0--- > 255) SEC > 120.

HANDS-FREE OPERATION (Y/N) > Y.

TIME IN WORK STATE (0--- > 254,I) SEC > 60.

ATTENDANT/LINE TO AGENT TRANSFER ALLOWED (Y/N) >Y.

DO YOU WANT TO EXECUTE THIS CHANGE (Y/N) >Y.

ENTER END (E), REPEAT (R) OR TRANSACTION NUMBER p-224) >  a
```

Delete a CAS Main/ACD 8.7.8 Delete a CAS Main/ACD Agent Group (transaction 47) allows the user to delete an agent group having no agents.

```
-------------------------------------------------------------------
|            DELETE  A  CAS  MAIN/ACD  AGENT  GROUP          47    |
|   AGENT  GROUP  TO  BE  DELETED  (0--->7)  >0.                   |
|   DO  YOU  WANT  TO  EXECUTE  THIS  CHANGE  (Y/N)  >Y.           |
|   ENTER  END  (E),  REPEAT  (R),  OR  TRANSACTION  NUMBER  (O-224)  >  |
-------------------------------------------------------------------
```

Display/Change FADS Delay Timing 8.7.9 Display/Change FADS Delay Timing (transaction 71) allows the user to display or change FADS delay timing. The delay timing value defines the point at which an incoming CAS Main/ACD call is considered as delayed. The delay timing value is applied only if there is no agent available when a call enters the system.

```
-------------------------------------------------------------------
|            DISPLAY/CHANGE  FADS  DELAY  TIMING            71     |
|   AGENTGROUP     0    1    2    3    4    5    6    7            |
|   DELAY  TIME   120  030  060  045  090  150  240  180          |
|   AGENT  GROUP  TO  CHANGE  (0)--- > 7)  OR  E  TO  EXIT  > 7.   |
|   FADS  DELAY  TIME  (0--- > 255)  SECONDS  > 120.              |
|   DO  YOU  WANT  TO  EXECUTE  THIS  CHANGE  (Y/N)  >Y.           |
|   ENTER  END  (E),  REPEAT  (R),  OR  TRANSACTION  NUMBER  (O-224)  >  |
-------------------------------------------------------------------
```

CAS Main/ACD Trunk Data Menu 8.7.10 The CAS Main/ACD Trunk Data Menu is accessed through CAS Main/ACD Supervisory Recent Change. The

1. Select transaction 50 from CAS Main/ACD Supervisory Recent Change.

   The system responds:

```
r------------------------------------------------------------------------
|              CAS MAIN/ACD  TRUNK  DATA                    50
|  55) DISPLAY  BREAKDOWN  OF  ALL  CAS  MAIN/ACD  TRUNKS  BY  TRUNK  #
|  56) DISPLAY  BREAKDOWN  OF  ALL  CAS  MAIN/ACD  TRUNKS  BY  AGENT  GROUP
|  51) DISPLAY  ALL  CAS  MAIN/ACD  TRUNKS  WITH  A  SPECIFIC  SOURCE
|  52) CHANGE  IN-SERVICE/OUT-OF-SERVICE  STATE  OF  A  CAS  MAIN/ACD  TRUNK
|  53) CHANGE  SOURCE  GROUP  OF  A  CAS  MAIN/ACD  TRUNK
|  54) CHANGE  PRIMARY  DESTINATION  FOR  TRUNK  GROUP
|  38) GO  TO  CAS  MAIN/ACD  SUPERVISORY  RECENT  CHANGE  MENU
|
|  ENTER  TRANSACTION  NUMBER--  >
|
L------------------------------------------------------------------------
```

2. Select the correct transaction.

**CAS Main/ACD Trunk
Data Transactions**

8.8 The following paragraphs describe transactions listed in the
CAS Main/ACD Trunk Data Menu. The transactions listed here
are used to display or change trunk data.

**Display Trunks by Trunk
Number**

8.8.1 Display Trunks by Trunk Number (transaction 55) allows
the user to see all CAS Main/ACD trunks listed according to
system trunk number.

```
r------------------------------------------------------------------------
|          CAS  MAIN/ACD  TRUNK  BREAKDOWN  BY  TRUNK  NUMBER
| 55
|
|       AGT                              AGT
| TRK#  GRP  STA  SOURCE          TRK#  GRP  STA  SOURCE
|  -    -    -    _____        -    -    -    _____
|  16   4  INS  PARK FOREST         17   1   I N  S   HOMEWOOD
|  19   0  INS  PARKFOREST          20   2   OOS PARK FOREST
|  34   6  INS  PARK FOREST         37   3   INS  CENTRAL
|                                             OFFICE
|  38   3  INS  "BLANK-             39   0   OOS FLOSSMOOR
|  40   0  OOS  "BLANK-             41   0   OOS "BLANK-
|  45   1   INS  WOODFIELD          46   1   INS  WOODFIELD
|  47   1   INS  WOODFIELD          48   1   INS  WOODFIELD
|  49   0  INS CHICAGO HEIGHTS      50   7   INS  CHICAGO
|                                             HEIGHTS
|  51   5  I N S  DESPLAINES        52   0   INS DES PLAINES
|  53   6  INS PARK FOREST          54   2   I N  S   HOMEWOOD
|  55   2  I N S HOMEWOOD           56   2   I N  S   HOMEWOOD
|  57   3  INS SECURITY             58   2   INS  SECURITY
L------------------------------------------------------------------------
```

Display CAS Main/ACD Trunks by Agent Group Number

8.8.2 Display CAS Main/ACD Trunks by Agent Group Number (transaction 56) allows the user to see all CAS Main/ACD trunks listed by trunk number, in addition to the service state and source message.

```
┌─────────────────────────────────────────────────────────────────────────┐
│        CAS MAIN/ACD TRUNKS BY AGENT GROUP NUMBER 56                      │
│      TRK#   STA SOURCE              TRK# STA SOURCE                      │
│       -      -  _____             -   -  _____                     │
│                                                                         │
│ --GROUP #0 16  INS   PARK FOREST     19   INS  HOMEWOOD                  │
│            34  INS   PARK FOREST     39   OOS  FLOSSMOOR                 │
│          4 0   OOS   "BLANK-         41   00s  "BLANK-                   │
│           49   INS   CHICAGO HEIGHTS 50   INS  CHICAGO                   │
│                                            HEIGHTS                       │
│                                                                         │
│  GROUP #1 17   INS   HOMEWOOD        45   INS  WOODFIELD                 │
│           46   INS   WOODFIELD       47   INS  WOODFIELD                 │
│           48   INS   WOODFIELD       51   INS  OAK FOREST                │
│           52   00s   "BLANK"""       53   INS  EVANSTON                  │
│                                                                         │
│  GROUP #2 20   OOS   PARK FOREST     54   INS  HOMEWOOD                  │
│           55   INS   HOMEWOOD        56   INS  HOMEWOOD                  │
│                                                                         │
│  GROUP #3 37   INS   CENTRAL OFFICE  38   INS  "BLANK-                   │
│           61   INS   SECURITY        62   INS  SECURITY                  │
│                                                                         │
│  GROUP #4 21   OOS   PARK FOREST     22   INS  HOMEWOOD                  │
│           23   INS   HOMEWOOD        24   INS  HOMEWOOD                  │
│                                                                         │
│  GROUP #5 30   OOS   PARK FOREST     32   INS  HOMEWOOD                  │
│           33   INS   HOMEWOOD        35   INS  HOMEWOOD                  │
│                                                                         │
│  GROUP #7 15   INS   CENTRAL OFFICE  19   INS  "BLANK-                   │
│           58   INS   SECURITY        59   INS  SECURITY                  │
│    ENTER END (E), REPEAT (R), OR TRANSACTION NUMBER (O-224) >            │
└─────────────────────────────────────────────────────────────────────────┘
```

where

TRK# = System trunk number
STA = In-service/out-of-service   state
SOURCE = Source   message

Display Trunks with a Specific Source Group

8.8.3 Display Trunks With a Specific Source Group (transaction 51) allows the user to see trunks in specific source group. Trunks are displayed by trunk number, service state, trunk group, and agent group.

```
,-------------------------------------------------------------------.
|               TRUNKS  IN  A  SPECIFIED  SOURCE  GROUP          51  |
|  SOURCE  GROUP  NUMBER  (0--->31) >8.                             |
|  SOURCE  MESSAGE:  WOODFIELD                                      |
|      TRUNK #          STATE       TRUNK  GROUP      AGENT  GROUP   |
|      -    -           ____        _____       _____   |
|        45             INS              2                 7         |
|        46             INS              2                 1         |
|        47             INS              2                 1         |
|        48             INS             31                 3         |
|    ENTER  END  (E),  REPEAT  (R),  OR  TRANSACTION  NUMBER  (O-224) |
`-------------------------------------------------------------------'
```

Change the State of a CAS Main/ACD Trunk

8.8.4 Change the State of a CAS Main/ACD Trunk (transaction 52) allows the user to change the service state of CAS Main/ACD trunks.

```
,-------------------------------------------------------------------.
|          CHANGE  THE  STATE  OF  A  CAS  MAIN/ACD  TRUNK       52  |
|  TRUNK  NUMBER  (0--- > 63)  > 20.                               |
|  CURRENT  STATE:  OOS                                            |
|  NEW  STATE  (INS/OOS) > INS.                                    |
|  DO  YOU  WANT  TO  EXECUTE  THIS  CHANGE  (Y/N) >Y.             |
|  ENTER  END  (E),  REPEAT  (R),  OR  TRANSACTION  NUMBER  (O-224) |
`-------------------------------------------------------------------'
```

Change the Source Group of a Trunk

8.8.5 Change the Source Group of a Trunk (transaction 53) allows the user to change the source group associated with a system trunk.

```
┌──────────────────────────────────────────────────────────────────┐
│           CHANGE  SOURCE  GROUP  OF  A  TRUNK              53       │
│                                                                    │
│   TRUNK  NUMBER  (0--->63)  >38.                                   │
│   CURRENT  SOURCE  GROUP  NUMBER:  3                               │
│   CURRENT  SOURCE  MESSAGE:  *** BLANK ***                         │
│   NEW  SOURCE  GROUP  NUMBER  (00--->31)  >13.                     │
│   NEW  SOURCE  MESSAGE  > MELROSE  PARK.                           │
│   DO  YOU  WANT  TO  EXECUTE  THIS  CHANGE  (Y/N)  >Y.             │
│   ENTER  END  (E),  REPEAT  (R),  OR  TRANSACTION  NUMBER  (O-224) │
└──────────────────────────────────────────────────────────────────┘
```

Change the Primary Destination of a Trunk Group

8.8.6 Change the Primary Destination of a Trunk Group (transaction 54) allows the user to change the primary destination of a trunk group. This transaction checks the trunk group application to ensure that only CAS Main/ACD trunk groups are changed.

```
┌──────────────────────────────────────────────────────────────────┐
│       CHANGE  PRIMARY  DESTINATION  FOR  A  TRUNK  GROUP    54      │
│                                                                    │
│   TRUNK  GROUP  NUMBER  (0--->63)  >10.                            │
│   PRIMARY  DESTINATION  AGENT  GROUP  3                            │
│   ENTER  NEW  DESTINATION  AGENT  GROUP  (0--->7)   >0.            │
│   DO  YOU  WANT  TO  EXECUTE  THIS  CHANGE  (Y/N)  >Y.             │
│   ENTER  END  (E),  REPEAT  (R),  OR  TRANSACTION  NUMBER  (O-224) │
└──────────────────────────────────────────────────────────────────┘
```

Source Message Data
Menu

8.9 Source Message Data Menu (transaction 57) is a sub-menu of CAS Main/ACD Supervisory Recent Change. Transactions in this sub-menu allow the user to select source message information to be displayed or changed.

```
+--------------------------------------------------------------------+
|              SOURCE  MESSAGE  DATA                      57          |
|                                                                    |
| 58)  DISPLAY  SOURCE  MESSAGES                                      |
| 59)   CHANGE  A  SPECIFIC  SOURCE  MESSAGE                          |
| 38)   GO  TO  CAS  MAIN/ACD  SUPERVISORY  RECENT  CHANGE  MENU      |
|                                                                    |
| ENTER   TRANSACTION   NUMBER-->                                     |
+--------------------------------------------------------------------+
```

Source Message Display

8.9.1 Source Message Display (transaction 58) allows the user to examine source message displays.

```
+--------------------------------------------------------------------+
|                  SOURCE  MESSAGE  DISPLAY            58             |
|                                                                    |
|   SRC                             SRC                               |
|   GRP #     MESSAGE               GRP #     MESSAGE                 |
|   ─────     ───────               ─────     ───────                |
|                                                                    |
|     0       PARK  FOREST            1       FLOSSMOOR               |
|     2       CHICAGO   HEIGHTS       3       HOMEWOOD                |
|     4       OAK  FOREST             5       "BLANK-                 |
|     6       "BLANK-                 7       "BLANK-                 |
|     9       WOODFIELD               9       WHEATON                 |
|    10       MAYWOOD                11       ELMHURST                |
|    12       EVANSTON              13       MELROSE  P A R K         |
|    14       NORTHLAKE             15       DES PLAINES             |
|    16       "BLANK-              17       "BLANK-                  |
|    18       "BLANK-              19       "BLANK-                  |
|    20       "BLANK-              21       CENTRAL  OFFICE          |
|    22       "BLANK-              23       SECURITY                 |
|    24       "BLANK-              25       ADVERTISING              |
|    26       "BLANK-              27       ***BLANK***              |
|    28       GARY                 29       "BLANK-                  |
|    30       HAMMOND              31       "BLANK-                  |
|  ENTER  END  (E),  REPEAT  (R),  OR  TRANSACTION  NUMBER  (O-224) >  |
+--------------------------------------------------------------------+
```

where

SRC GRP# = Source group number

Change a Source Message

8.9.2 Change A Source Message (transaction 59) allows the user to change a specific source' message. Every agent instrument is updated when the change is executed. The new source message is always justified left. No periods may be entered since the system sees them as "END OF INPUT."

```
------------------------------------------------------------------
|              CHANGE  A  SOURCE  MESSAGE                    59    |
|                                                                 |
|   SOURCE  GROUP  NUMBER  (0--->31)   >31.                        |
|   CURRENT  MESSAGE: "BLANK-                                      |
|  NEW  MESSAGE  (16  CHARACTERS  MAXIMUM)                         |
|   ENTER  MESSAGE  IN  DOUBLE  QUOTES  >  "PARK  RIDGE".          |
|   DO  YOU  WANT  TO  EXECUTE  THIS  CHANGE  (Y/N)    >Y.         |
|   ENTER  END  (E),  REPEAT  (R),  OR  TRANSACTION  NUMBER  (O-224) |
------------------------------------------------------------------
```

CallWaiting Data Menu Access

8.10 The Call Waiting Data Menu is accessed through CAS Main/ACD Supervisory Recent Change. The following steps are used to access the menu:

1. Select transaction 60 from CAS Main/ACD Supervisory Recent Change.

The system responds:

```
r----------------------------------------------------------------------
|                      CALL  WAITING  DATA                        6 0   |
|                                                                       |
|67)   DISPLAY TRUNK NUMBER AND STATUS OF ALL CAS MAIN/ACD R/A          |
|68)   DISPLAY DELAY ROUTING OF ALL AGENT GROUPS                        |
|69)   DISPLAY CALL WAITING LEVELS OF ALL AGENT GROUPS                  |
|61)   CHANGE DELAY ROUTING OF AN AGENT GROUP                           |
|65)   CHANGE ALTERNATE ROUTING OF AN AGENT GROUP                       |
|66)   CHANGE CALL WAITING LEVELS FOR AN AGENT GROUP                    |
|38)   GO TO CAS MAIN/ACD SUPERVISORY RECENT CHANGE MENU                |
|                                                                       |
|  ENTER  TRANSACTION  NUMBER-- >                                       |
|                                                                       |
L----------------------------------------------------------------------
```

2. Select the correct transaction.

CallWaiting Data Menu

8.10.1 The following paragraphs describe transactions listed in the Call Waiting Data Menu. The transactions listed here are used to display or change call waiting data.

Display R/A Trunk Number and State

8.10.2 Display Recorded Announcement Trunk Number and State (transaction 67) allows the user to display the trunk number of each CAS Main/ACD recorded announcement, and the service state of each trunk.

```
r----------------------------------------------------------------------
|    DISPLAY  RECORDED  ANNOUNCEMENT  TRUNK  NUMBER  AND  STATE         |
|67                                                                     |
|                                                                       |
|                      TRUNK  NUMBER      STATE                         |
|                      ------------       -----                         |
|          R/A #1           5 9           INS                           |
|    ALT  R/A #1            6 0           INS                           |
|          R/A #2           6 1           INS                           |
|    ALT  R/A #2            6 2           INS                           |
|          R/A #3           6 3           INS                           |
|    ENTER  END  (E), REPEAT (R), OR TRANSACTION NUMBER (O-224) >       |
L----------------------------------------------------------------------
```

where

R/A = Recorded Announcement
ALT = Alternate

Agent Group Delay
Routing Display

8.10.3 Agent Group Delay Routing Display (transaction 68) allows the user to examine the routing of agent groups. Routing information includes R/A display options, delay repetition timing, alternate destinations, and alternate route timing. Delay time is the time span between the first announcement and the second announcement. Repetition time is the time span between repeats of the second announcement.

```
-----------------------------------------------------------------------------
|                    AGENT GROUP DELAY ROUTING              68               |
|     REC     REC      REC REPT          REC                ALT              |
| AGT ANN#1 ANN DELAY ANN REC REPT ANN ALTERNATE            RTE              |
|  GRP ALWAYS#1 TIME #2 ANN#2 TIME #3   DESTINATION         TIME             |
|  0  YES     1  120  2    YES 090   YES DIR NUM 4513          240           |
|  1  NO      A  060  2    NO  ------    NO    TRUNK GROUP 12    120          |
|  2  YES     A  180  A    YES 030   YES AGENTGROUP 7       180              |
|  3          ------  A    120           2YES060                  NO         |
|                                              R/A · TRUNK 62        200     |
|  4  YES     1  045  A    NO  ------    NO    PABX ATTENDANT 220            |
|  5  YES                                                                    |
|  6  NO      1  030  2    YES 090 NONE                           255        |
|  7  YES     A  -----    -----   -----    NONE                   255        |
|                                                                            |
| ENTER END (E), REPEAT (R), OR TRANSACTION NUMBER  (0-224) >                |
-----------------------------------------------------------------------------
```

where

REC ANN = Recorded announcement
ALT = Alternate
1st = First recorded announcement
2nd = Second recorded announcement
AGT GRP = Agent group
REPT Time = Reporting time
ALT RTE TIME = Alternate route timing value

Agent Group Call
Waiting Levels

8.10.4   Agent Group Call Waiting Levels (transaction 69) allows the user to examine call waiting levels for every agent group.

```
┌─────────────────────────────────────────────────────────────────────────┐
│                                                                           │
│              AGENT  GROUP  CALL  WAITING  LEVELS              6 9          │
│                                                                           │
│      AGENT                                                                │
│      GROUP          LEVEL 1          LEVEL 2          LEVEL 3              │
│                                                                           │
│        0            001              002              003                 │
│        1            001              002              003                 │
│        2            001              002              003                 │
│        3            001              002              003                 │
│        4            UNE                                                    │
│        5            UNE                                                    │
│        6            UNE                                                    │
│        7            UNE                                                    │
│                                                                           │
│   ENTER  END  (E),  REPEAT  (R),  OR  TRANSACTION  NUMBER  (O-224)  >      │
│                                                                           │
└─────────────────────────────────────────────────────────────────────────┘
```

where

UNE = Agent group not implemented

Change Delay Routing
of an Agent Group

8.10.5 Change Delay Routing of an Agent Group (transaction 61) allows the user to change the routing data of an agent group. Displayed information includes recorder announcement options, and delay or repetition timing.

```
┌─────────────────────────────────────────────────────────────────────────┐
│                                                                           │
│         CHANGE  DELAY  ROUTING  OF  AN  AGENT  GROUP           61          │
│                                                                           │
│    62) FIRST  RECORDED  ANNOUNCEMENT                                       │
│    63) SECOND  RECORDED  ANNOUNCEMENT                                      │
│    64)    DELAY  OR  REPETITION  TIMING                                    │
│    60)    GO  TO  CALL  WAITING  DATA  MENU                                │
│  ENTER  TRANSACTION  NUMBER  -- >  62.                                     │
│                                                                           │
└─────────────────────────────────────────────────────────────────────────┘
```

Change First Recorded Announcement

8.10.6 Change First Recorded Announcement (transaction 62) allows the user to change the first recorded announcement for a specific agent group.

```
         CHANGE  FIRST  RECORDED  ANNOUNCEMENT           62

   AGENT GROUP (0--- > 7)  > 0.

   CURRENTLY  RECORDED  ANNOUNCEMENT  #  1  IS  PLAYED
   DO YOU  WANT  RECORDED  ANNOUNCEMENT  #1  TO  PLAY  (Y/N)  > Y.

   CURRENTLY  ALTERNATE  RECORDED  ANNOUNCEMENT  #1  IS  NOT  PLAYED
   DO  YOU  WANT  ALTERNATE  RECORDED  ANNOUNCEMENT  #1  TO  PLAY  (Y.N)  > N.

   CURRENTLY  RECORDED  ANNOUNCEMENT  #1  IS  ALWAYS  PLAYED
             BEFORE  ROUTING  TO  AN  AGENT  GROUP  IS  TRUE
   DO  YOU  WANT  TO  ALWAYS  PLAY  RECORDED  ANNOUNCEMENT  #1
             BEFORE  ROUTING  TO  AN  AGENT  GROUP  (Y/N) .  > Y.
 DO  YOU  WANT  TO  EXECUTE  THIS  CHANGE  (Y.N)  > Y.


     DO  YOU  WANT  TO  CHANGE  REC-ANN  #2  FOR  THIS  AGENT  GROUP  (Y/N)  > .
```

Change Second Recorded Announcement

8.10.7 Change Second Recorded Announcement (transaction 63) allows the user to change the second recorded announcement for a specific agent group. Enter a period to retain old value.

```
         CHANGESECONDRECORDEDANNOUNCEMENT           63

   AGENTGROUP  =  1

   CURRENTLY  RECORDED  ANNOUNCEMENT  #2  IS  PLAYED
   DO  YOU  WANT  RECORDED  ANNOUNCEMENT  #2  TO  PLAY  (Y/N)  > Y.

   CURRENTLY  ALTERNATE  RECORDED  ANNOUNCEMENT  #2  IS  PLAYED
   DO  YOU  WANT  ALTERNATE  RECORDED  ANNOUNCEMENT  #2  TO  PLAY  (Y.N)  > N

   CURRENTLY  RECORDED  ANNOUNCEMENT  #2  IS  REPEATED
   DO  YOU  WANT  RECORDED  ANNOUNCEMENT  #2  REPEATED  (Y/N)  > Y.
 DO  YOU  WANT  TO  EXECUTE  THIS  CHANGE  (YIN)  > Y.

     DO  YOU  WANT  TO  CHANGE  DELAY  TIMING  FOR  THIS  AGENT  GROUP  (Y/N)  > Y.
```

**Change Recorded
Announcement Delay
or Repetition Timing**

8.10.8 Change Recorded Announcement Delay or Repetition Timing (transaction 64) allows the user to change the recorded announcement delay, or repetition timing for a specific agent group.

```
CHANGE RECORDED ANNOUNCEMENT DELAY OR REPETITION TIMING    64

   AGENT GROUP = 1

 DELAY  TIMING
      OLD  VALUE: 030          NEW  VALUE  (1--->255) >15.

   REPETI-TION  TIMING
      OLD  VALUE: 045          NEW VALUE (1--- > 255)  > 30.

   DO  YOU  WANT  TO  EXECUTE  THIS  CHANGE  (Y.N) > Y.

   ENTER  END (E), REPEAT (R) OR TRANSACTION NUMBER (O-224)
```

**Change Alternate
Destination of an
Agent Group**

8.10.9 Change Alternate Destination of an Agent Group (transaction 65) allows the user to change the alternate routing destination for a specific agent group.

```
CHANGE  ALTERNATE  DESTINATION  OF  AN  AGENT  GROUP     65

AGENT  GROUP  NUMBER  (0---> 7) > 1.

CURRENT  ALTERNATE  DESTINATION: AGENT  GROUP  0
CURRENT  ALTERNATE  ROUTE  TIMING: 120  SECONDS

NEW  DESTINATION  TYPE:

   A)  DIRECTORY  NUMBER
   B)  ATTENDANT
   C)  AGENT  GROUP
   D)  TRUNK  GROUP
   E)  SYSTEM  RECORDED  ANNOUNCEMENT
   F)  NONE

ENTER  LETTER  OF  NEW  DESTINATION > A.

DIRECTORY  NUMBER  (000---> 9999) > 4567.

NEW  ALTERNATE  ROUTE  TIMING (O-225) SECONDS > 90.

DO  YOU  WANT  TO  EXECUTE  THIS  CHANGE  (Y/N) > Y.

ENTER  END (E), REPEAT (R) OR TRANSACTION NUMBER (O-224)
```

Change Call Waiting indicator Levels   8.10.10 Change Call Waiting indicator Levels (transaction 66) **allows** the user to change the calf waiting indicator level for a specific agent group.

```
+----------------------------------------------------------------------+
|            CHANGE  CALL  WAITING  INDICATOR  LEVELS              64   |
|                                                                      |
|   AGENT GROUP  (0--- > 7)  > 2.                                      |
|                                                                      |
|   FIRST CALL WAITING LEVEL                                           |
|        OLD VALUE: 001            NEW VALUE (0--- > 255) > 5.         |
|                                                                      |
|   SECOND CALL WAITING LEVEL                                          |
|        OLD VALUE: 002            NEW VALUE (0--- > 255) > 8.         |
|                                                                      |
|   THIRD CALL WAITING LEVEL                                           |
|        OLD VALUE: 003            NEW VALUE (0--- > 255) > 11.        |
|                                                                      |
|   DO YOU WANT TO EXECUTE THIS CHANGE (Y.N) > Y.                      |
|                                                                      |
|   ENTER END (E), REPEAT (R), OR TRANSACTION NUMBER (O-224)           |
+----------------------------------------------------------------------+
```

CAS Main/ACD Data Menu Instrument Control   8.11 The CAS Main/ACD Instrument Control Data Menu is **accessed** through CAS Main/ACD Supervisory Recent Change. The following steps are used to access the menu:

1. Select transaction 80 from CAS Main/ACD Supervisory Recent Change.

   The system responds:

```
+----------------------------------------------------------------------+
|            CAS MAIN/ACD  INSTRUMENT  CONTROL  DATA              80   |
|                                                                      |
|   81)    DISPLAY A REPERTORY DIAL KEY SET                            |
|   82)    CHANGE A REPERTORY DIAL KEY SET                             |
|   38)    GO TO CAS MAIN/ACD SUPERVISORY RECENT CHANGE MENU           |
|                                                                      |
|   ENTER TRANSACTION NUMBER ---- >                                    |
+----------------------------------------------------------------------+
```

2. Select the correct transaction.

Display a Repertory
Dial Key Set

8.11.1 Display a Repertory Dial Key Set (transaction 81) allows the user to examine the repertory dial numbers in a specific key set along with agent groups using the key set. A CAS group has seventeen repertory dial keys (0 --- > 16). An ACD group has sixteen repertory dial keys (0 --- > 15). Each repertory dial number may have a maximum of 16 characters.

```
┌──────────────────────────────────────────────────────────────────┐
│        DISPLAY A REPERTORY DIAL KEY SET                    81      │
│   ENTER REP DIAL KEY SET (0--- > 3) > 1.                           │
│   KEY SET 1 IS SHARED BY AGENT GP: 1/A 2/A 3/C 4/C                 │
│      KEY    REP DIAL NUMBER         KEY    REP DIAL NUMBER          │
│                                                                    │
│      00     fp200 AUTO              01     fp205  HARDWARE          │
│      02     fp208 TOYS              03     fp209  FURNITURE         │
│      04     fp212  MENSWEAR         05     fp213 LADIES             │
│      06     fp240 SHOES             07     fp241  HOUSEHOLD         │
│      10     fp245 CATALOG           11                             │
│      08     fp242  MANAGER          09     fp244 WILL CALL          │
│      12                             13                             │
│      14     bfp9p8972222POLI        15     bf9p8972288FIRE          │
│      16                                                            │
│   ENTER END (E), REPEAT (R), OR TRANSACTION NUMBER (O-224) >       │
└──────────────────────────────────────────────────────────────────┘
```

where

A = ACD group
B = CAS group

f = Flash
p = Pause for dial tone
a = Key will auto-correct on line 1
b = Key will auto-correct on line 2
r = Release

c. = Key will function on line 1 only

d. = Key will function on line 2 only

Change a Repertory
Dial Key Set

8.11.2 Change Repertory Dial Key Set (transaction 82) allows the user to change a repertory dial number in a specific key set. Changes are applied to all instruments and agent groups using that key set. In the display, enter new repertory dial numbers between double quotation marks (" ").

```
┌──────────────────────────────────────────────────────────────────┐
│            CHANGE  A  REPERTORY  DIAL  KEY  SET            82       │
│   ENTER REP DIAL KEY SET (0---> 3) > 1.                            │
│   KEY SET 1 IS SHARED BY AGENT GP: I/A 2/A 3/C 4/C                 │
│   ENTER REP DIAL KEY # (0---> 46) > 5.                             │
│   CURRENT REP DIAL NUMBER: XXXXXXXXXX.                             │
│   NEW REP DIAL NUMBER(16 CHARACTERS MAX) IN DOUBLE QUOTES          │
│   "95551212".                                                      │
│   DO YOU WANT TO EXECUTE THIS CHANGE (Y/N) > Y.                    │
│   ENTER END-(E), REPEAT (R), OR TRANSACTION NUMBER (O-224) >       │
└──────────────────────────────────────────────────────────────────┘
```

where

A = ACD group
B = CAS group
f = Flash
p = Pause for dial tone
a = Key will auto-correct on line 1
b = Key will auto-correct on line 2
r = Release

c. = Key will function on line 1 only

d. = Key will function on line 2 only

2. Select the correct transaction,

NOTE: a, b, c, and d are mutually exclusive, and, if used, must appear in the first position:

VALID	INVALID
A 4566	**4566** or 4567

Day/Night Mode Data Menu 8.12 Day/Night Mode Data Menu is accessed through CAS Main/ACD Supervisory Recent Change. The following steps are used to access the menu:

1 .Select transaction 39 from CAS Main/ACD Supervisory Recent Change.

The system responds:

```
┌──────────────────────────────────────────────────────────────────┐
│              DAY/NIGHT  MODE  DATA                      39         │
│   86)  DISPLAY  DAY/NIGHT  MODE                                    │
│   87)   CHANGE  DAY/NIGHT  MODE  OF  AGENT  GROUP                  │
│   38)    GO  TO  CAS  MAIN/ACD  SUPERVISORY  RECENT  CHANGE  MENU  │
│   ENTER  TRANSACTION  NUMBER-->                                    │
└──────────────────────────────────────────────────────────────────┘
```

Display Day/Night Mode (86) **812.1** This display allows the supervisor to see all agent groups' day/night mode. An example of this display is as follows:

```
+---------------------------------------------------------------+
| DISPLAY  DAY/NIGHT  MODE                                 86   |
|          AGENT  GROUP #     DAY/NIGHT  MODE                    |
|                 0                 DAY                          |
|                 1                 NIGHT                        |
|                 2                 NIGHT                        |
|                 3                 DAY                          |
|                 4                 NIGHT                        |
|                 5                 DAY                          |
|                 6                 NIGHT                        |
|                 7                 DAY                          |
| ENTER END (E), REPEAT (R), OR TRANSACTION NUMBER (O-224) >     |
+---------------------------------------------------------------+
```

Change Day/Night Mode (87) **8.12.2** This display allows the supervisor to change the agent groups' day/night mode.

```
+---------------------------------------------------------------+
| CHANGE  DAY/NIGHT  MODE                                  87   |
| AGENT GROUP # (0---> 7) > 0.                                   |
| CURRENT  MODE:  DAY                                            |
| NEW  MODE  (DAY/NIGHT) > NIGHT.                                |
| DO  YOU  WANT  TO  EXECUTE  THIS  CHANGE  (Y/N) > Y.           |
| ENTER END (E), REPEAT (R), OR TRANSACTION NUMBER (O-224) >     |
+---------------------------------------------------------------+
```

Supervisor Message Handler **8.13** This display allows the supervisor to see all agent groups. The Supervisor Message Handler allows the supervisor to send three different types of communication-directed messages to the agents' instruments:

- Broadcast Message. A broadcast message is sent to all equipped agent positions.

- Agent Group Message. This message is sent to all equipped agent positions in the agent group(s).

- Agent Message. This message is sent to the agent position(s) specified.

The supervisor may store messages that are frequently sent in the SPECIAL MESSAGE TABLE. A total of eight stored messages is allowed. Additional unique messages are sent by choosing the appropriate menu.

**Supervisor Message
Options Menu (85)**   **8.13.1** This menu lists the types of message options the
supervisor can send or update.

```
+---------------------------------------------------------------------+
|        SUPERVISOR   MESSAGE   OPTIONS                          85    |
|    49) SEND SPECIAL MESSAGE                                          |
|    97) SEND UNIQUE MESSAGE                                           |
|    84)  DISPLAY  SPECIAL  MESSAGES                                   |
|    88)  CHANGE  A  SPECIAL  MESSAGE                                  |
|    83)   GO  TO  CAS  MAIN/ACD  SUPERVISOR  OPTIONS  MENU            |
|    ENTER   TRANSACTION   NUMBER-->                                   |
+---------------------------------------------------------------------+
```

Send a Special   **8.13.2** This menu describes the actions required to send a
Message (49)   special message.

```
+---------------------------------------------------------------------+
|        SEND  SPECIAL  MESSAGE                                  49    |
|    SPECIAL  MESSAGE  NUMBER  (0--- > 7)  > 2.                        |
|    MESSAGE:  CHANGE  GROUP                                           |
|    TYPE  OF  MESSAGE                                                 |
|       A)  BROADCAST                                                  |
|       B) AGENT  GROUP(S)                                             |
|       C)  AGENT   POSITION(S)                                        |
|       D) NONE                                                        |
|    ENTER  THE  LETTER  OF  THE  DESIRED  MESSAGE  TYPE  > B.         |
|    ENTER  AGENT  GROUP  NUMBER(S)  (0--- > 7)  > 0 6 7.              |
|    ENTER  END  (E),  REPEAT  (R),  OR  TRANSACTION  NUMBER  (O-224) >|
+---------------------------------------------------------------------+
```

Another possible prompt is as follows:

C) AGENT POSITION(S) ▪ ENTER AGENT POSITIONS
(up to 16) (0--- >63) >

Send a Unique Message (97) 8.13.3 This menu describes the actions required to send a unique message.

```
------------------------------------------------------------------
  SEND  UNIQUE  MESSAGE                                      97
ENTER MESSAGE (UP TO 16 CHARACTERS) IN DOUBLE QUOTES > "message".
TYPES OF MESSAGE
    A)  BROADCAST
    B)  AGENT GROUP(S)
    C)  AGENT  POSITION(S)
    D)  NONE
ENTER THE LETTER OF THE DESIRED MESSAGE TYPE > C.
ENTER AGENT POSITIONS (UP TO 16) (0--- >63) > 5 7 20 63.
ENTER END (E), REPEAT (R), OR TRANSACTION NUMBER (O-224) >
------------------------------------------------------------------
```

Special Message Display (84) 8.13.4 The display allows the supervisor to display all special messages stored in the agent instruments.

```
------------------------------------------------------------------
    SPECIAL  MESSAGE  DISPLAY                                84
  MSG #        MESSAGE           MSG #        MESSAGE

    0        COFFEE  BREAK  1              LUNCH
    2        END OF SHIFT      3           CHANGE  GROUP
    4        NEW NUMBER        5           HARDWARE  316
    6        *** BLANK ***     7           *** BLANK ***

  ENTER END (E), REPEAT (R), OR TRANSACTION NUMBER (O-224) >
------------------------------------------------------------------
```

Change Special Message (88) **8.13.5** This transaction allows the supervisor to change the special message of a specific agent group.

```
----------------------------------------------------------------
|      CHANGE  A  SPECIAL  MESSAGE                      8 8      |
|   SPECIAL MESSAGE NUMBER (0--- > 7) > 6.                       |
|   CURRENT  MESSAGE:  COFFEE  BREAK                             |
|   NEW  MESSAGE  (16  CHARACTERS  MAXIMUM)                      |
|   ENTER  MESSAGE  IN  DOUBLE  QUOTES  >  "LUNCH  BREAK"        |
|   IS THIS THE SPECIAL MESSAGE FOR LINE TO AGENT GROUP CALLS    |
|   > Y .                                                        |
|   DO  YOU  WANT  TO  EXECUTE  THIS  CHANGE  (Y/N)  >  Y.       |
|   CHG  SETTING  AGT  GRP  LINE  TO  SPECIAL  MSG  NOW          |
|   DO  YOU  WANT  TO  EXECUTE  THIS  CHANGE  (Y/N)  >  Y.       |
|   ENTER  END  (E),  REPEAT  (R),  OR  TRANSACTION NUMBER (O-224) >  |
----------------------------------------------------------------
```

Manual Changes and Recent Change Summary (Voice Configuration) **8.14** All data base changes should be made using the TTY and the English language recent change feature. Only if the recent change feature is not available should manual data base changes be performed. Following are a list of functions and the Recent Change transactions required for each function. For cases where Recent Change cannot provide the entire function, data base tables which must be manually updated and a brief description of their contents are listed. If a feature or service is to be added, changed, or deleted, each associated function must be reviewed for updating requirements. The data base table layout and list of possible entries are given in the header of each table in the hard copy printout of the office-dependent data base. The manual data base changes are made by using the General Write (GW) or Bulk Input (BI) commands.

Manual Recent Change (Sheet 1 of 9)

CATEGORY	TABLE NO.	NAME
Access Codes	T6241	Digit analysis for first digit
	T6251	Digit analysis second digit access code
ACD- Feature Data	T608D	Time-out option table 2
	T6391	ACD features table
Agent Groups		Add agent group (46)
		Change delay routing (61)
		Change alternate routing of an agent group (65)
		Change call waiting indicator levels (66)
		Change night destination of an agent group (45)
		ADD/DEL/SHOW miscellaneous directory number (218)
Agent Position Data		CHG/SHOW agent supervisor data (142)
Attendant Console		ADD/CHG/DEL/SHOW instrument data (directory number) (117)
		Add Attendant console (181)
		Change attendant calling number for billing (188)
		ADD/CHG/DEL/DIS BLDU (190)
	T5961	Console MERS time, change restriction
	T5962	Console ward time change restriction
Attendant Miscellaneous Features	T5931	Miscellaneous attendant system features
Audit Record Control	T6512	Audit record control table
Busy Lamp Display Data		ADD/CHG/DEL/SHOW BLDU circuit (189)
Busy Lamp Key Data		ADD/CHG/DEL/DIS BLDU (190)
Call Code Data	T6371	Paging and code call

Manual Recent Change (Sheet 2 of 9)

CATEGORY	TABLE NO.	NAME
CAS Branch Features	T636l T6381	RLT class of service Camp on recorder-announcer table
CAS Branch Secondary		ADD/DEL/SHOW miscellaneous directory number (218)
Change Feature by Access Code	T639D	Change/restore feature primary/secondary access code type table
Class of Call Control Routing Data	T6461	Class of call controlled routing
Code Blocking Numbers		ADD/CHG/DEL/SHOW MERS Code Blocking (199)
Code Restriction Numbers	T6271	Digit analysis code restriction
Common Attendant Data		Change common attendant data (186) Change night answer for the attendant (187) Change attendant features (185)
	T6521	Attendant assignment for room-to-room blocking
Common Attendant/ Attendant Line Number		ADD/DEL/SHOW miscellaneous directory number (218)
Customer-Defined Terminal Data	T605F	Customer-defined terminal characteristics
D1 /D2 Translation Data	T5981	D1 and D2 translation table
Displayable Class of Service		CHG/SHOW displayable class of service 1 (211) CHG/SHOW displayable class of service 2 (213)

Manual Recent Change (Sheet 3 of 9)

DTMF Receiver Data	T6121	ADD/DEL/SHOW cards (221) DTMF receiver in service/out of service
Expanded or Conflict-ing Code Check Tables	T6261	Digit analysis expanded/conflict-ing code
FRL Authorization Codes		ADD/CHG/DEL/SHOW FRL authorization/destination code (215)
Frame Image Card Data		ADD/DEL/SHOW card (221)
Group Speed Calling		ADD/DEL/SHOW group speed calling group (207) ADD/ CHG /DEL SHOW /SHOW - WHERE line features 1 (113) ADD/CHG/DEL/SHOW group speed calling list entry (202)
Hotel/Health Care Miscellaneous Data	T6471	Hotel/Motel miscellaneous data Change intercept routing destina-tions (206)
Hotel/Health Care Printer Assignment	T6501 T3202 T3202	Printer assignment number table Printer address (PEC 0) Printer baud rate and parity (PEC 0)
Hundreds Data	T6421	D1/D2 line (room) number table
Hunt Group Data		Add hunt group pilot numbers (127)
Hunt Group Member Data		ADD/DEL/SHOW hunt group mem-ber (126)
Intercept Routing Numbers		Change intercept routing destina-tions (206)
International Counting	T63W1	IDDD First Digit Check
Code Data	T63W2	IDDD First Two Digit Check
	T63W3	IDDD First Three Digit Check
KEDU Assignment Data	T6482 T3201 T6551	KEDU assignment KEDU address (PEC 0) KEDU function inhibit

Manual Recent Change (Sheet 4 of 9)

CATEGORY	TABLE NO.	NAME
KEDU Special Function Access Data	T5441	KEDU special function access
Line Appearance		ADD/DEL/SHOW lines on a Featurephone
Line Data		ADD/CHG/DEL/SHOW instrument data (agent position) (111)
		ADD/CHG/DEL/SHOW instrument data (line circuit) (146)
		ADD/CHG/DEL/SHOW/SHOW-WHERE line features 1 (directory number) (113)
		ADD/CHG/DEL/SHOW/SHOW-WHERE line features 1 (agent position) (115)
		ADD/CHG/DEL/SHOW/SHOW-WHERE line features 1 (line circuit) (147)
		ADD/CHG/DEL/SHOW line features 2 (directory number) (121)
		ADD/CHG/DEL/SHOW line features 2 (agent position) (122)
		ADD/CHG/DEL/SHOW line features 2 (line circuit) (123)
Master KEDU Data	T6481	Master KEDU number
	T6491	Master KEDU security code table 1
	T6492	Master KEDU security code table 2
	T6552	Master KEDU function inhibit table
MDR Port Data	T4451	MDR SDC control options
MDR Screening Options 1	T4472	MDR terminal billing options table 2
	T4482	MDR cartridge billing options table 2
MDR Screening Options 2	T4473	MDR terminal billing options table 3
	T4474	MDR terminal billing options table 4
	T4483	MDR cartridge billing options table 3
	T4484	MDR cartridge billing options table 4

Manual Recent Change (Sheet 5 of 9)

CATEGORY	TABLE NO.	NAME
MERS On-Net station Number		Digit analysis on-net reserved station number table
MERS NPA/ABC Translation Data	T6291	Digit analysis MERS NPA/ABC · translation
	T5951	MERS time period routing combination
MERS Routing Line	T5481	Digit analysis MERS trunk routing bits
	T6301	Digit analysis MERS routing list
MERS Sending	T6311	Digit analysis MERS sending instruction
	T63Y1	MERS FRULDN Indexes
MERS Six-Digit Translated NPA Data	T6281	Digit analysis MERS NPA index
MERS Three-Digit Translated NPA Data	T6291	Digit analysis MERS NPA/ABC translation
	T5951	MERS time period routing combination
MERS Time Period Data	T5941	MERS time period data
Message Detail Recorder Data	T4441	MDR output device type
	T4461	MDR call answer time-out
	T4471	MDR terminal billing options table 1
	T448 1	MDR cartridge billing options table 1
	T6151	Cabinet IS/OS table
Nailed Trunk Connection		ADD/CHG/DEL/SHOW nailed trunk connection (166)
N Displayable Class of Service		CHG/SHOW N displayable class of service 1 (212)
		CHG/SHOW N displayable class of service 2 (214)

Manual Recent Change (Sheet 6 of 9)

CATEGORY	TABLE NO.	NAME
NPA and Office Code Translation Data	15971	NPA and office code translation
Office Equipment	T6231	Digit analysis office code for billing
	T6401	System configuration table
	T6071	Office features table
	T6151	Cabinet IS/OS table
	T7059	PEC number table (PEC 0)
	T705B	PEC type table (PEC 0)
	T4441	MDR output device type table
	T5291	NCC interface table
Office Features		CHGSHOW office features (209)
		CHGSHOW system FRL data (219)
	T5572	MERS FRL default table
	T639A	Hookswitch flash timing table
	T5311	Digit analysis public network authorization digit table
	T6071	System feature table
	T5346	CAS Main/ACD miscellaneous data
Office Features Circuits	T2541	Line Card Address Table (PECO)
	T6111	Miscellaneous circuits in service/out of service
	T6134	Music-on-hold interface
	T5401	Line signaling mode and in service/out of service
Office Time-Out Values		CHGSHOW timeout values (201)
	T639A	Hookswitch flash timing values
Office Timing Values		CHGSHOW timeout values (201)
	T608M	Time-Out option space
Other Directory Numbers		ADD/DEL/SHOW miscellaneous directory numbers (218)
Paging Zone	T6061	Paging and code call zones
	T6371	Paging and code call
Prefix Code Digits	T5321	System prefix digit table
Prefix Code Digits & LDN	T63Z1	MERS LDN Prefix Digits

Manual Recent Change (Sheet 7 of 9)

CATEGORY	TABLENO.	NAME
Predetermined Night Answer Pilot number		Change predetermined night answer (203)
Recorder Announcer		Change recorder announcer (204)
Remote Access exchange Authorization	T6531	Remote access class mark
Repertory Dial Key Code		Change repertory dial key code (82)
RLT Circuit Data		ADD/DE&HOW cards (221)
	T6351	RLT equipped status and PEC
	T3121	RLT card address (PEC 0)
	T3161	RLT trunk type (PEC 0)
	T6431	D3/D4 line (room) number
	T6441	Line (room) number translation
Room Number First Digit	T6451	Room number first digit table
SCC Authorization Codes		ADD/CHG/DEL/SHOW MERS SCC ▪ authorization code (216) ADD/CHG/DEL/SHOW MERS SCC authorization code assignment (217)
Security Lock Character Data	TX003 T6055	System access password table Security lock
Serial Device Data		CHG/SHOW terminal data (221)
	T6051	Serial device controller option
Service Code MERS Translation	T5571	Service code for MERS translation
Service Codes	T5661	Trunk group restrictions table
	T5691	Trunk group 11 N service code
	T5701	Trunk group N11 service code
Source Message		Change source messages (59)
Special Messages		Change a special message (88)

Manual Recent Change (Sheet 8 of 9)

CATEGORY	TABLE NO.	NAME
Specialized Common Carrier Data	T6001	Specialized common carrier digit sizing length
	T6012	Specialized common carrier access digits
	T5080	Specialized common carrier timing
Supervisor Talk / Monitor Repertory Dial Key Code	T5336	Supervisor talk/monitor repertory dial key code
	T5349	Supervisor silent monitor repertory dial key code
Tone Detector Data		ADD/DEL/SHOW card (221)
Traffic Data Facilities	T6041	Traffic data option
Transaction Record Control	T6511	Transaction record control
Trunk Circuit Data		Add a trunk (153)
		Change trunk characteristics (158)
		Change source group of a trunk (53)
	T6321	T1 trunk in service/out of service table
	T6331	T1 trunk map
	T5541	Trunk AIOD trunk number table
	T5471	Trunk to CO line table
Trunk Group Data		Add a trunk (153)
		ADD/CHG trunk group characteristics 1 (161)
		ADD/CHG/SHOW trunk group characteristics 2 (169)
	T5641	Trunk group direction, disconnect supervisor application
	T5661	Trunk group restrictions
	15711	Trunk group ACD pilot number
	T5721	Trunk group calling number for billing
	T5741	Trunk group missing digits on DID
	T5751	Trunk group AIOD channel and reverse battery check
	T5771	Trunk group 1 + toll restriction index
	T5991	Trunk group delete digit on DID
	T6341	Trunk group miscellaneous flags

Manual Recent Change (Sheet 9 of 9)

CATEGORY	TABLE NO.	NAME
Trunk Group Data 2		ADD/CHG trunk group characteristics 1 (161)
		ADDICHGISHOW trunk group characteristics 2 (169)
	T5661	Trunk group restrictions
	T5671	Trunk group first toll access code
	15681	Trunk group second toll access code
	T5751	Trunk group AIOD channel and reverse battery check
	T5761	Trunk group toll restriction index
	T5771	Trunk group 1 + toll restriction index
	T5791	Trunk group MERS escape digit
	T5801	Trunk group MERS pausing value after seizure
	T5811	Trunk group MERS pausing value after escape digit
	T5821	Trunk group MERS Pausing after toll barrier code
	T5831	Trunk group trunk momentary open
	T5841	Trunk group outpulsing delay
	T6341	Trunk group miscellaneous flag
	T6541	Trunk group message peg indicator
Trunk Group Digit Absorption Data	T5781	Trunk group digit absorption table
Ward Control Data	T5944	Ward DND time period data
	T6195	Ward control activation/deactivation

Typical Recent Change Sequences **8.15** Typical recent change functions are listed below along with a sequence of transactions needed to complete the function.

Table 8.1   Recent Change Sequences

FUNCTION	TRANSACTION NUMBER	COMMENTS
Display several lines (or all agents).	117 (or 111,146) 113 (or 115,147) and 121 (or 122,123)	Three transactions are needed to display all data items for a line or sequence of lines.
Add a POTS phone with default value.	**117**	Add instrument data
Add Digital Integrated Featurephone (DIFP).	117, 113. 118	Same transactions as for POTS phones. Add more line appearances if necessary
Add another line appearance to an existing DIFP.	118	The line must already have been defined CPG or 113.
Add a non-primary control line.	113	Add line data.
Delete a POTS phone.	113, 117, (or 121)	Delete all data associated with the line by line circuit.
Delete a DIFP.	(a) 118, 113, 117 or (b) 118, 146, 147 or 123	Delete all data associated with the line. First, delete all line appearances. Then, delete phone as for POTS.
Delete a non-primary control line.	113 or 121	
Delete a line appearance.	118	Remove the appearance.
Add a switch direct line (hot line).	117 (or 146) 113 (or 147), 211	Add a line which is set to always divert to another station. Class of service must be properly set.
Delete a switch direct line (hot line).	(a) 113, 117, or 121 (b) 146, 147, or 123	Delete all line data by directory number. Delete all line data by line circuit.

r

Table 8.1 Recent Change Sequences (Continued)

FUNCTION	TRANSACTION NUMBER	COMMENTS
Show CIP card location **and** assigned ports.	221,146	Show CIP card location
Show VCIP or DVCIP **card** location and assigned ports.	221 146	Show VCIP or DVCIP card location. Show lines on a VCIP or DVCIP card.
Add a CAS Main or ACD agent.	111 115 43 142	Add instrument data. Add line feature data. Add agent group Change supervisor status association.
Delete a CAS Main or ACD agent.	115 (or 111)	Delete phone.
Add Asynchronous Packet Manager (APM) or Synchronous Packet Manager (SPM).	146	Add data device.
Delete APM or SPM.	146	Delete data device.
Add a NIC	221, 161 153,168	Add a trunk to a NIC trunk group Add a trunk to a NIC trunk group and set up a nailed connection.

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**OFF-LINE
DIAGNOSTICS**

9.0 The off-line maintenance disk contains the software for conducting off-line diagnostic testing. Diagnostic tests are only performed on off-line equipment because the generic and data base software are voided when the maintenance disk is is loaded into the system.

The following tests are conducted using the Off-Line Diagnostics Testing Program:

- Line Cards and Direct-Inward-Dialing (DID) Trunk Cards

- System Memory

- o Channel Memory

- Network

- o Disk Drive

- Page, Tone, and ATTI2 Cards

- Touch-Calling Receivers

Physical Locations

9.1 During off-line diagnostic testing, the technician must, at times, enter physical locations according to file, group and card slot number. The OMNI SI universal card slots are organized according to PCMUS Group (letters A, B, C and D) and card slot number (numbers 0 thru 11). The universal line/trunk slots are labeled as follows:

C6 C5 C4 C3 C2 CI   C7 C8 C9 CI0 C11   DOD1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11

EXPANSION   FILE

A0 A2 A4 A7 A8 A9 A10 AII   BO B2 B3 B5 B7 B8 B9 B11

GET STARTED FILE

Test Options Menu

9.2 Menu numbers are assigned to each test option. In order to run a certain test, the technician types in the menu number on the maintenance terminal and follows the program prompts. The menu of test options for off-line diagnostic testing appears in Table 9.1.

Table 9.1   Menu of Test Options

Menu No.	Test Option
0	SYSTEM MEMORY TEST
1	CHANNEL MEMORY TEST
2	PAGING CARD TEST
3	NETWORK TEST
4	DISK DEVICE TEST
5	SERIAL DEVICE CONTROLLER TEST
6	TONE CARD TEST
7	ATT12 CARD TEST
8	LINES/TRUNKS TEST
9	TOUCH CALLING RECEIVER TEST

Loading the Program

9.3 The following steps load the Off-Line Maintenance Program:

1. Place the program disk into the disk drive.

2. Connect the maintenance terminal to the NSDC card (FB-20992-A), port 0.

3. Press the reset button on the PSUPY card (FB-17197-A) located in slot P1 of the cabinet power file.

   - Flashing red LED on the disk drive indicates the program is loading into the system.

4. Program loads into system memory on instruction page 1.

5. When the program has been loaded, set the baud rate at 300, or 1200. Press the return key to lock in the baud rate.

6. The terminal display appears:

   THE GTE OMNI SI DIAGNOSTIC DISK
   DOES THIS SYSTEM HAVE AN EXPANSION FILE?
   IF YES, TYPE "Y", IF NOT TYPE "N".

7. Answer the prompt by typing "Y," or "N. " The Menu of Test Options appears on the terminal display screen. Choose the test and type the menu number.

8. The test selected runs with the results shown on the terminal screen

NOTES:

1. Type "CONTROL-C " to abort a test. The Menu of Test Options appears on the terminal screen.

2. Type "CONTROL-X" to restart a System Memory or Channel Memory test. This entry also aborts other diagnostic tests.

3. Except for the System Memory test, any test can be immediately repeated. After completing one test, the user can select another from the menu list when it appears on the screen.

Manual Testing

9.4 Memory tests identify failures in cards. The programs work by writing various test patterns into memory and reading them back after a default or user-specified delay. Memory testing is entirely automatic or partially manual/partially automatic. If entirely automatic, defaulted or modified time delays are used.

Manual testing detects soft memory faults in which CPU operation is interrupted for a time period set by the user. Manual testing consists of the first two of a set of four tests used in memory testing. The first two tests write data patterns "00" and "FF" throughout the entire memory range with a user specified delay between the write and read. Manual testing runs with all pages or just one page, and with all ranges or just one range.

Testing Procedures

The following events occur as part of manual testing:

1. Type in first test pattern "00"

2. Terminal indicates that CPU is in waiting state.

3. Wait for desired amount of time delay between write and read functions. Type "$" to begin read-back portion of test.

- Card is tested for memory storage ability. Test results are displayed on the terminal screen.

4. WAIT message reappears on terminal screen. Repeat process by typing in second test pattern "FF. "

5. Wait for desired amount of time delay between read and write functions. Type "$" to begin read-back portion of the test. Results are displayed on the terminal screen.

Automatic Testing

9.5 After all manual tests are completed, the program changes over to automatic testing with test results displayed as before.

Automatic testing repeats tests one and two under CPU control with a one-second delay between write and read. Test three writes all possible data patterns into each address location with data in the adjacent address location incremented by one.

Example:

If address A000 contained a data pattern of "01 ", successive address locations in test three appear as follows:

Address	Pass #1 Data	Pass #2 Data	Pass #255 Data	Pass #256 Data
A000	01	02	FF	00
A001	02	03	00	01
A002	03	04	01	02
A003	04	05	02	03
A004	05	06	03	04

Every address location is tested with every data pattern. Tests are also conducted for internal memory chip errors such as multiple address activation, adjacent memory cell interaction, and data bridging. All 256 individual write/read trials are performed in test three with the data base pattern "01" through "00" displayed during each testing sequence.

Test four increments the data written into each block of one hundred hexadecimal addresses. Checks are made for address decoding errors, multiple memory chip activations, and memory location with all possible data pattern combinations. As with test three, 256 individual trials are performed with the data base pattern displayed during each sequence. Test results are displayed at the end of the trial sequence following test three and test four.

The delays for all tests can change to meet certain conditions. Tests one and two default to one second between write and read. Tests three and four are set not to delay because of the time involved in writing all possible combinations in all memory locations. If the delays are changed in tests three and four, the time it would take to run these tests could be extremely long.

Fast Test Option

9.6 Fast test option reduces the amount of time spent running memory tests. This is done by using a shorter data pattern which reduces the number of patterns written to memory in tests three and four.

Retest Option

9.7 Automatic testing restarts the retest option if no failures have occurred. If a failure does occur, testing stops and the results of all ranges are displayed in circular order.

System Memory Test

9.8 This test checks the ability of system memory to store information on the One Megabyte Memory card (FB-17314-A -IA) and the Multiprocessor Buffer 8085 card (FB-17215-A). One memory page, or part of a memory page, can be selected for testing. The "all or one page" option selects the number of pages. The "page set" option selects the exact page.

The amount of memory tested is defined by range numbers. System memory is divided into blocks of memory addresses called ranges with each assigned a number used for memory testing purposes only. The blocks of memory addresses and range number assignments appear in Table 9.2.

There is a relationship between range numbers and their physical location on a circuit card. Excluding part of the memory from testing limits the amount of information about the card. Full memory tests should be run in order to obtain as much information about the card as possible.

The System Memory Test cannot be repeated without loading the maintenance disk into memory. The memory content is the last test pattern used in the actual test when the System Memory Test is completed.

Table 9.2 System Memory Test Card and Address Range Correlation

Address Range	I0-17 DI-D7 Range No.	D0 (2,3) Range No.	Card Slot	Function
0200 to IFFF	1 (1)	-	Y1	-
0800 to 08BF	-	A	Y9	Control Memory A (both files)
OAOO to OABF	-	B	Y9	Control Memory B both files
0C00 to 0CBF		P	Y9	Pad Memory (both files)
1000 to 13FF		C0	Y5	Common Memory Get Started File
1400 to 17FF		C I	Y4	Common Memory Expansion Fife
2050 to 3FFF		2	Y1	
2000 to 3FFF	2		Y1	
4000 to 5FFF	3		Y1	
6000 to 7FFF	4		Y1	
8000 to 9FFF	5		Y1	
A000 to BFFF	6	-	Y1	-
C000 to DFFF	7	-	Y1	-
EOOO to FFFF	8	-	Y1	-

NOTES:

1. Range 1 does not exist for II. I1 contains the Off-Line Diagnostic Program at range 1 during the test.

2. Ranges A, B, and P will always be tested.

3. Ranges CO and CI are tested only if data page 0 is tested. Range 0 is tested if common memory tests were specified. Range CI is tested if both common memory tests were specified and the Expansion File was specified in the system's configuration when testing was started.

**System Memory
Testing Procedures**

9.8.1 Use the following steps to conduct the System Memory Test:

1. Select option "0" from the Menu of Test Options. The system responds:

   Fujitsu GTE OMNI SI SYSTEM MEMORY TEST
   TO DEFAULT ALL VALUES TYPE 0 OTHERWISE TYPE 1

2. If all values are to stay at their default values type "0" If not, **type** "1." If **a** "0" value was typed, the test begins. If a "1" was typed, the system responds:

   ALL PAGES TYPE 0; OTHERWISE TYPE 1

3. If all data and instruction pages are tested, type a "0"; otherwise, type "1" If "0" was typed, go to step 5; otherwise, the system responds:

   ```
   TO TEST A SINGEL PAGE, TYPE PAGE #
   (0-INST 0/1-INST 1/2-DATA 0/3-DATA 1)
   (4-INST2/5-INST3/6-DATA 2/7-DATA 3)
   (8-INST 4/9 INST 5/10 DATA 4/14 -DATA 5)
   (12-INST-6/13-INST 7/14-DATA 6/15-DATA 7)
   ```

4. Type the number that matches the page tested. The system responds:

   FOR COMMON MEMORY TEST TYPE 0 /NO TEST TYPE 1

5. If common memory is tested, type "0"; otherwise, type "1" The system responds:

   FOR RETEST TYPE 0/ SINGLE TYPE 1

6. If testing is to continue after a complete pass on all pages and ranges selected, type "0." If only one pass is desired, type "1". The system responds:

   TO RUN FAST TEST TYPE 0 LONG TEST TYPE 1

7. If the short memory test is used, type "0." The short test does not do any of the extensive address checking, nor does it have a delay between the write and read of a memory location. The short memory test detects all hard errors and some soft errors. If the normal test is desired, type "1". The system responds;

   AUTO TEST TYPE 0/ MANUAL TYPE 1

8. If automatic delay (under system control) is used, type "0". For manual time delay, type "1 ". The system will respond:

   TO DEFAULT INTER TEST TIME DELAY TYPE 0,
   OTHERWISE TYPE 1

9. If default values are used, type "0" and tests begin. If other time values are used, type " 1." The system responds:

   FOR EACH TEST'S DELAY TIME, TYPE TWO DIGITS:
   XX - FOR # OF SECONDS DELAY IN TEST 1 & 2

10. Enter values from "00" to "FF" for the time delay on tests 1 and 2 ("00" means no time delay, "FF" means 255 seconds). The system responds:

   XX - FOR # OF SECONDS DELAY IN TEST 3

11. Enter values from "00" to "FF" for the time delay on test 3. The system responds:

   XX - FOR # OF SECONDS DELAY IN TEST 4

12. Enter values from "00 " to "FF " for the time delay on test 4.

Test Results 9.8.2 All of the test results described may not appear since they depend on how the System Memory Test was set up. A response should appear for each range tested.

1. Page location and range number are printed as each range passes test 1, 2, 3, and 4. The pages appear as follows:

   - For Instruction Page 0, a "CO" precedes the range #
   - For Instruction Page 1, a "CI " precedes the range #
   - For Instruction Page 2, a "C2 " precedes the range #
   - For Instruction Page 3, a "C3 " precedes the range #
   - For Instruction Page 4, a "C4" precedes the range #
   - For Instruction Page 5, a "C5 " precedes the range #
   - For Instruction Page 6, a "C6" precedes the range #
   - For Instruction Page 7, a "C7" precedes the range #

   - For Data Page 0, a "DO" precedes the range #
   - For Data Page 1, a "D1 " precedes the range #
   - For Data Page 2, a "D2 " precedes the range #
   - For Data Page 3, a "D3 " precedes the range #
   - For Data Page 4, a "D4 " precedes the range #
   - For Data Page 5, a "D5 " precedes the range #
   - For Data Page 6, a " D6" precedes the range #
   - For Data Page 7, a " D7" precedes the range #

2. If a failure does occur, the following sample message appears on the terminal screen:

INST PAGE 0 RANGE 01 TEST #3
MEMORY FAILURE LOCATION IS: 5FE0
DATA: WRITTEN FO READ F1

3. A pass count occurs after all ranges selected for testing are completed and a retest requested. The count appears in decimal, runs from "00" to "99", and repeats beginning at "00."

4. Testing stops on the range for that pass only when a failure occurs. At the start of each pass, all ranges selected for testing are retested if the retest option was selected.

5. If a failure occurs on ranges CO and CI, replace the MPB85 card (FB-17215-A) and cable in the OMNI SI Get Started File and then the Expansion File. Reinstall the original card if the replacement does not fix the problem.

Channel Memory Test　　9.9 This test checks the ability of the channel memory to store information on the Channel Memory 8085 card (FB-17218-A). None, one, or both channel memories can be tested. In order to test both channels memories, an Expansion File is needed.

Table 9.3　Channel Memory Test · Card and Address Range Correlation

Card Slot	Address Range on Data Page 0	Function
Y15	0400 to 045F	Channel Memory · Get Started File
x01	0200 to 025F	Channel Memory · Expansion File

Channel Memory Testing Procedures　　**9.9.1** Use the following steps to conduct the Channel Memory Test:

1. Select option "1" from the Menu of Test Options. The system responds:

CHANNEL MEMORY TEST
ENTER EACH FILE (0 · GET STARTED / 1 · EXPANSION)
THAT IS TO BE TESTED, THEN A (CR)

2. Enter a "0" if the Get Started File is tested and/or a "1" if the Expansion File is tested, followed by a (CR). If both files' channel memories are tested, type "01". If all files are selected, then a (CR) is not needed. The system responds:

FOR RETEST TYPE 0; OTHERWISE TYPE 1

3. Now refer to step five of the System Memory Test procedures and continue (paragraph 96.1).

Test Results 9.9.2 All of the test results described may not appear since they depend on how the Channel Memory Test was set up.

1 . As each file is finished with a pass, the message "PASS" along with the pass number is displayed under each file's header. The pass number is incremented by one with each pass. The count is reset to 00 after reaching 99 if multiple tests are requested.

EXAMPLE:
A successful single test for both files causes the following message to be displayed:

FILES: GET STARTED   EXPANSION

                      PASS 00   PASS 00

2. An error message giving the file and test which failed, the locations where the failure was detected, and the data written versus the data read is displayed on finding a failure. The error message appears as follows:

GET STARTED FILE
TEST #1
MEMORY FAILURE LOCATION: 0400
DATA: WRITTEN AA
READ FF

3. The entire range(s) are tested.

Paging Card Test **9.10** This test checks the Memory Paging 16 Page card (FB-17213-BOA) for wrong settings or multiple writes. One memory location for each range on a page is checked. Memory addresses are initialized to "FF" and then the page number of that particular page is written. The memory is checked for proper numbering and cross-checked for duplicate writes. All memory pages are thus checked for no writes or duplicate writes.

Paging Card Testing Procedures **8.10.1** The following action begins the Paging Card Test:

Select option "2" from the Menu of Test Options and follow the procedures.

Test Results 9.10.2 After completion of the Paging Card Test, the system responds with the following :

1. With successful completion of the test the system responds:

    PAGING CARD PASSES TEST

2. Memory read-after-write error on instruction page 0, memory address 1100. The system responds:

    MEMORY WRITE FAILURE ON PAGING TEST
    PAGE 00
    MEMORY FAILURE LOCATION IS: 1100

3. Paging failure in which page write went to Instruction Page 1 instead of instruction page 0 writing to range #1. The system responds:

    PAGING CARD FAILURE
    CORRECT PAGE # 00 INCORRECT PAGE # 01 RANGE #1
    MEMORY FAILURE LOCATION IS: 1100

Network Test 9.11 This test checks the networking capability of the Channel Memory 8085 card (FB-17218-A). The card test follows:

1. Control memories for a time slot are written to return a PCM sample.

2. "FF" is written into channel memory for that time slot. When it recognizes the "FF", the card sends the test "10101010" ,or its inverse to the network and expects the same thing back during the time slot. The pattern is inverted for the next frame. A failure latch is set if the test pattern is not returned correctly.

Network Testing Procedures 9.11.1 Use the following steps to conduct the Network Test:

1. Select Option " 3" from the Menu of Test Options. The system responds:

    NETWORK TEST

2. The system runs the Network Test.

Test Results 9.11.2 Depending on the results, the system responds in the following manner:

1. If the network test was successful, the system responds:

    NETWORK PASSES TEST

2. If the channel memory was not initialized, the system responds:

   NETWORK FAILURE: CAN'T WRITE TO CHANNEL
   MEMORY
   TESTING STOPPED DUE TO THE ABOVE ERRORS

3. If control memories A or B were not initialized, the system
   responds:

   NETWORK FAILURE: CAN'T WRITE TO CONTROL <A OR
   B>
   TESTING STOPPED DUE TO THE ABOVE ERRORS

4. If pad memory was not initialized, the system responds:

   NETWORK FAILURE: CAN'T WRITE TO PAD MEMORY
   TESTING STOPPED DUE TO ABOVE ERRORS

5. If channel, control, or pad memory was not read, testing ends
   and the system responds:

   READ AFTER WRITE FAILURE
   MEMORY FAILURE LOCATION IS: XXXX

6. If network failure occurs three times, the system responds:

   NETWORK FAILURE: ADDRESS = XXXX

   XXXX is the memory address at which the fault is located.
   Use the following table to determine which card caused the
   failure:

Memory Address	Problem Area
0200 to 025F	Expansion File Channel Memory
0400 to 045F	Get Started File Channel Memory
0800 to 08BF	Control Memory A
OAOO to OABF	Control Memory B
OCOO to OCBF	Pad Memory

NOTE: A network failure occurs if there is a problem writing to
channel, control, or pad memory, or if the latch bit returned
during the test indicates failure.

Fault Correction   **9.11.3** The following steps correct faults detected by the Network Test:

1. If the problem was found to be initializing or writing to channel, control, or pad memory, replace the Channel Memory 8085 card (FB-17218-A). Reinstall the original card if the problem continues after replacement.

2. Repeat the Network Test.

3. If the failure continues, check all cabinet cables for short circuits. If an open is found, replace the faulty cable and rerun the Network Test.

NOTE: Steps 4, 5, and 6 are used if there was no initialization or write check error.

4. Replace the Expandable Pulse Code Modulation Network card (FB-17217-A) and repeat the Network Test. Reinstall the original card if the problem continues after replacement,

5 Replace the Intermediate Network Clock card (FB-20771-1A) or Synchronized Intermediate Network Clock card (FB-20922-A) and repeat the Network Test. Reinstall the original card(s) if the problem continues after replacement.

6. Perform the System Memory Test.

Disk Device Tests   **9.12** These tests check the operation of the disk subsystem including the File Management System Data card (FB-17229-BOA), the disk drive, and the Administrative Maintenance Processor A (FB-17229-A) and B (FB-17230-BOA) cards.

Diagnostic tests of the disk subsystem sends sequences of command messages to the FMSD card. Status messages and other outputs returned by the File Management System measure the successful execution of each command. Because of the nature of these tests, successful completion means that the tested devices are fully operational.

Disk Device Testing Procedures   **9.12.1** Use the following steps to conduct Disk Device Tests :

1. Select option "4" from the Menu of Test Options. The system responds:

   DISK DEVICE TESTS

2. The system conducts a test of the File Management System (FMS) to CEC communications link. This enables further non-destructive testing. The system also conducts a check of the on-board FMS RAM, and an equipment status check for site configuration.

3. Verification of the FMS/disk communications link generates the following menu:

```
┌─────────────────────────────────────────────────────┐
│                                                       │
│  DISK DEVICE TEST SELECTION MENU                      │
│  0) REPEAT FMS TEST                                   │
│  1) TEST DEVICE #0 (10 MBYTE FIXED)                   │
│  2) TEST DEVICE #2 (800 KBYTE)                        │
│   X) RETURN TO MAIN OFF LINE DIAGNOSTICS MENU         │
│   ENTER SELECTION - > >                               │
│                                                       │
│  │                                                    │
└─────────────────────────────────────────────────────┘
```

- Selection of option "0" repeats the FMS test (on-line)
- Selection of option "1" repeats the FMS test (on-line) .
- Selection of option "2" executes tests of the 800 Kbyte floppy disk (on-line)

- Selection of Option "X" returns the user to the Main Off-Line Diagnostics Menu

Repeat FMS Test **9.12.2** Repeat FMS Test (Option 0) instructs the system to repeat the following tests:

● FMS to CEC communications test
● FMS RAM test
● Poll for FMS disk configuration

1. Progress of the test appears on the terminal screen as the system completes each step:

   FMS TEST IN PROGRESS....
   PERFORMING FMS COMMUNICATION TEST
   PERFORMING FMS RAM TEST
   POLLING FMS FOR DISK CONFIGURATION

   FMS TEST SUCCESSFULLY COMPLETE The system then displays the "DISK DEVICE TEST SELECTION MENU" prompt.

2. An error detected in any part of the FMS Test results in the following:

● Display of an error message
● Termination of FMS Test
● Display of "DISK DEVICE TEST SELECTION MENU" without option 1.

3. Examples of FMS Test error messages include:

. FMS COMMUNICATIONS ERROR

PERFORMING FMS COMMUNICATION TEST
ERROR DETECTED WHILE PERFORMING FMS
COMMUNICATION TEST
FMS TEST ENDED

● FMS RAM ERROR

PERFORMING FMS RAM TEST
ERROR DETECTED WHILE PERFORMING FMS RAM TEST
FMS TEST ENDED

● FMS CONFIGURATION ERROR

POLLING FMS FOR DISK CONFIGURATION
ERROR DETECTED WHILE POLLING FMS FOR DISK
CONFIGURATION
FMS TEST ENDED

● DISK TEST MENU WHEN FMS TEST FAILS

DISK DEVICE TEST SELECTION MENU
0) REPEAT FMS TEST
X) RETURN TO MAIN OFF-LINE DIAGNOSTIC MENU
ENTER SELECTION > >

Test Device #0   **9.12.3** Test device #0 (option 1) instructs the system to perform
a read/write verification for the FMS and the hard disk (10MBYTE
Fixed Disk). The hard disk must be verified prior to starting the
test. If the test is performed on a drive which is not formatted, the
test will fail.

Testing fixed disk devices begins with a request to the controller
board to execute its on-board diagnostic programs. These
programs test the disk drive controller, its on-board RAM
memory, and the disk drive. Successful completion of these
tests ensures that the controller is communicating with File
Management Systems (FMS) and that the disk is properly
formatted.

Following the successful completion of the controller's on-board
diagnostic programs, a test file containing up to 2,500 records is
created. Data is written to the disk and then read back to prove
the disk's rear and write capabilities. After reading all records
from disk, the ꝫst file is deleted and the fixed disk test
terminated.

The above steps generate the following messages as the system
completes each operation:

```
FIXED  DISK  DEVICE  TEST  IN  PROGRESS....
 PERFORMING  DISK  CONTROLLER  DIAGNOSTICS
I   · STILL  PERFORMING  DISK  CONTROLLER  DIAGNOSTICS
DELETE TEST FILE
DETERMINING DISK FREE SPACE
I    CREATING  TEST  FILE
 WRITING  TO  TEST  FILE
     STILLWRITING TO  TEST  FILE
     STILLWRITING  TO  TEST  FILE
     STILLWRITING  TO  TEST  FILE
     STILLWRITING  TO  TEST  FILE
     STILLWRITING TO  TEST  FILE
     STILLWRITING  TO  TEST  FILE
     STILLWRITING  TO  TEST  FILE
     STILLWRITING  TO  TEST  FILE
     STILLWRITING  TO  TEST  FILE
 CLOSING  TEST  FILE
 OPENIONG TEST  FILE
 READING  TEST  FILE
     STILL  READING  TO  TEST  FILE
     STILL  READING  TO  TEST  FILE
     STILL  READING  TO  TEST  FILE
     STILL  READING  TO  TEST  FILE
     STILL  READING  TO  TEST  FILE
     STILL  READING  TO  TEST  FILE
     STILL  READING  TO  TEST  FILE
     STILL  READING  TO  TEST  FILE
 CLOSING  TEST  FILE
 DELETING  TEST  FILE
```

in addition, three diagnostic tests performed by the disk drive
controller are executed before creating the test file. These
diagnostic programs test the disk drive controller, the disk drive
controller buffer RAM, and the disk drive itself. Successful
completion of these tests ensures communication between the
controller and host, verifies that the disk has been formatted, and
guarantees that the first field ID of each track is good. if any
errors are found, ail, except three, will be reported to the user
and will result in termination of the test. if the diagnostics are
successful, a test file will be created and a read/write identical to
that performed for the floppy disk will be executed. Successful
completion of the Fixed Device Test is shown in the prompt
below.

```
┌─────────────────────────────────────────────────────┐
│ FIXED  DEVICE  TEST  SUCCESSFULLY  COMPLETED │
└─────────────────────────────────────────────────────┘
```

The system displays the "DISK DEVICE TEST SELECTION
MENU" on completion of this test.

Test Device #2 **9.12.4** Test Device #1 (option 2) instructs the system to perform
a read/write verification for the FMS and a floppy disk in the disk
drive. The following prompts appear:

> INSERT A SPARE FLOPPY DISK IN DISK DRIVE
> NOTE: ANY DATA ON DISK WILL BE OVERWRITTEN BY
> THIS TEST
> PRESSANYCHARACTERTOSTARTTEST > >

The following caution appears on the terminal screen:

> **CAUTION**
> ANY DATA ON THE FLOPPY DISK WILL BE
> DESTROYED BY THIS TEST. DO NOT USE CURRENT
> GENERIC, DATA BASE, OR OFF-LINE DIAGNOSTIC
> DIS

1. When the user inserts a floppy disk into the disk drive and
   types any character, the test tells the system to do the
   following:

   a. Format the floppy disk.

   b. Determine the number of records available on the floppy
      disk (675 maximum).

   c. Create a file with maximum number of records.

   d. Write all records of the file.

   e. Read and verify all records of the file.

   f. Delete the file.

2. The steps listed above generate the following messages as the
   system completes each operation:

   > FLOPPY DISK DEVICE TEST IN PROGRESS
   > DISMOUNTING FLOPPY DISK
   > FORMATTING FLOPPY DISK
   > STILL FORMATTING FLOPPY DISK

```
              STILL  FORMATTING  FLOPPY  DISK
          MOUNTING  FLOPPY  DISK
          DETERMINING  DISK  FREE  SPACE
          CREATING  TEST  FILE
          WRITING  TO  TEST  FILE
             STILL  WRITING  TO  TEST  FILE


             STILL  WRITING  TO  TEST  FILE
          CLOSING  TEST  FILE
          OPENING  TEST  FILE
          READING  TEST  FILE
             STILL  READING  TEST  FILE

             STILL  READING  TEST  FILE
          CLOSING  TEST  FILE
          DELETING  TEST  FILE

          FLOPPY  DISK  DEVICE  TEST
          SUCCESSFULLY    COMPLETED
```

The system displays the "DISK DEVICE TEST SELECTION MENU" on completion of this test.

Return to Main Menu   **9.12.5** Return to Main Menu (Option X) instructions the system to display the Off-Line Diagnostic Menu. The following prompt appears:

```
          DISK  DEVICE  TESTS  ENDED
```

The system then displays the Menu of Test Options.

Serial Device Controller Test   **9.13** This test checks the terminal and Narrow Serial Device Controller card (FB-20992-A) for correct key recognition.

**Serial Device Controller
Testing Procedures**

9.13.1 Use the following steps to conduct the Serial Device Controller Test:

1. Select Option "5" from the Menu of Test Options. The system responds:

   TYPE THE SDC PORT # YOU WISH TO TEST (0 OR 1) >>

2. If Off-Line Diagnostics is not running on this port go to step 4. Otherwise, the system responds:

   TYPE ANY CHARACTER AND IT WILL BE ECHOED ON THE TERMINAL.

   TYPE CONTROL-K TO EXIT FROM THIS TEST

3. Any character key typed on the terminal keyboard will be echoed at the terminal.

4. If the user selects "O", the system responds:

   THE BAUD RATE IS REQUIRED FOR PORT 1
   TYPE THE LETTER OF THE APPROPRIATE BAUD RATE:

   A. 110 BAUD
   B. 150 BAUD
   C. 300 BAUD
   D. 600 BAUD
   E. 1200 BAUD
   F. 2400 BAUD
   G. 4800 BAUD
   H. 9600 BAUD

5. Enter the correct letter and the system responds:

   ATTENTION SHOULD NOW BE DIRECTED TO THE PORT 1 DEVICE

6. To end the test, type CONTROL-K on the tested terminal. The system responds:

   SERIAL DEVICE CONTROLLER TEST OVER

Fault Correction

9.13.2 Replace the NSDC card (FB-20992-A). If the wrong character echoes on the terminal, reload the system and repeat the test.

Tone Test

9.14 This test checks the tone output of the System Pulse Code Modulation card (FB-20974-A). The test begins with a tone time slot number written into the control memory of the network. The user audibly and visually verifies each tone by listening and following the terminal display.

**Tone Test
Testing Procedures**

9.14.1 Use the following steps to conduct the Tone Test:

1. Select option "6" from the Menu of Test Options. The system responds:

   TONE CARD TEST
   PICK A CONVENIENT PHONE WITH WHICH TO LISTEN
   TO THE TONES. ENTER THE PHYSICAL LOCATION OF
   THIS PHONE.
   FILE NUMBER (A -- > D) > > . .

2. Type the correct file letter. The system responds:

   SLOT NUMBER (0 -- > 11) > > . .

3. Type the correct universal card slot number. The system responds:

   CIRCUIT NUMBER (0 -- > 7) > > . .

4. Type the correct circuit number.

Test Results

9.14.2 The following Tone Test results may appear:

1. When the Tone Test is successfully completed, the system immediately connects the phone to the first system tone and prints the tone description. Tone Test outputs appear in Table 9.4.

   Type "G" to listen to the next tone.
   With the connection of the last tone, the system responds:

   END OF TONE TEST

2. If channel memory does not initialize, the system responds:

   NETWORK FAILURE: CAN'T WRITE TO CHANNEL
   MEMORY
   TESTING ENDED DUE TO ABOVE ERRORS

3. If control memory A or B is not initialized, the system responds:

   NETWORK FAILURE: CAN'T WRITE TO CONTROL
   MEMORY < A OR B >
   TESTING ENDED DUE TO ABOVE ERRORS

Table 9.4 Tone Test Outputs

No.	Terminal Output
1	Break-In, Conferencing
2	Distinctive Dial Tone
3	Quiet Code
4	Busy Tone, Feature Confirmation Tone
5	Reorder, Camp on Call-Waiting Tone
6	Tick Tone
7	Test Tone (1004 Hz, 1 Milliwatt)
8	Ringback Tone
9	Dial Tone
10	DTMF "1"
11	DTMF "2"
12	DTMF "3"
13	DTMF "4"
14	DTMF "5"
15	DTMF "6"
16	DTMF "7"
17	DTMF "8"
18	DTMF "9"
19	DTMF "0"
20	DTMF "*"
21	DTMF "#"
22	MF "KP"
23	MF "1"
24	MF "2"
25	MF "3"

Table 9.4 Tone Test Outputs (Continued)

No.	Terminal Output
2 6	M F "4"
27	M F "5"
28	MF "6"
29	MF "7"
30	MF "8"
3 1	MF "9"
32	MF "0"
33	MF "ST"
34	MF "STP"
35	MF "ST2P"
36	MF "ST3P"
37	CAS Tone (440 Hz)
38	CAS Tone (480 Hz)
39	Confirmation Tone
40	Interrupted Dial Tone
41	CAS Tone (620 Hz)
42	Dial Tone at - 19 DBM

4. If Pad memory not initialized, the system responds:
   NETWORK FAILURE: CAN'T WRITE TO PAD MEMORY
   TESTING ENDED DUE TO ABOVE ERRORS

5. If, during test, channel, control, or pad memory cannot be read, the system responds:

   READ AFTER WRITE FAILURE
   MEMORY FAILURE LOCATION IS: XXXX
   TESTING ENDED DUE TO ABOVE ERRORS

NOTE: See Network Test Results (Paragraph 8.11) to memory address of the card causing the problem.

6. The system will continue sending the same tone if a "G" is not entered to send the next tone.

7. If the phone tested in steps 1 through 4 does not actually exist, the system responds:

   PHONE HARDWARE NOT AVAILABLE

Fault Correction   **9.14.3** The following steps correct faults detected by the Tone Test:

1. If the problem is found to be initializing or writing to channel, control, or pad memory, replace the Channel Memory 8085 card (FB-17218-A). Reinstall the original card if the problem continues after replacement.

2. Replace the System Pulse Code Modulation card (FB-20974-B0A) if tones do not work. Initialize the new card by writing "FF" into address 08FF on memory page DO.

3. Repeat the Tone Test.

4. Reinstall and initiate the original card. Conduct the Network Test and/or the Line/Trunk Test on the circuit if the tones still do not work.

5. Check the data base for a different phone and repeat the Tone Test, if the original phone hardware was not available.

Attendant Interface Card   9.15 This test checks for transmission errors on the Attendant Interface Number 2 (ATT12) card (FB-17208-A). The test consists of sending a data pattern out of the card and looping it back to the input. The two data patterns are compared to see if the data pattern received is exactly the same as the data pattern sent. The test flags an error if the two data patterns somehow are different.

Temporary wiring changes are required to conduct this test. Exercise extreme care when making these wiring changes.

Attendant Interface
Card Test
Testing Procedures

9.15.1 Use the following steps to conduct the Attendant Interface Card test:

1. Remove the Attendant Interface card (FB-17208-A) from the cabinet. Make sure that all four dip-toggle switches are in the off position. Reinstall the card into the cabinet.

2. Disconnect the cable for the Attendant/BLDU interface on the Attendant Interface card.

3. Strap together the transmit (TRAN) and receive (REC) leads on the Attendant Interface card (FB-17208-A). Pin 93 is strapped to pin 95 for Port 0 while pin 56 is strapped to pin 58 for Port 1.

4. Select Option "7" from the Menu of Test Options. The system responds:

   ATTI2 CARD TEST
   ENTER THE LOCATION OF THE ATTI2 CARD
   FILE NUMBER (A -- >) > >..

5. Type the correct file letter. The system responds:

   SLOT NUMBER (0 -- > 11) > >

6. Type the correct universal card slot number. The system responds:

   CIRCUIT NUMBER (0 OR 1) > >

7. Type the correct circuit number (port) to test.

Test Results

9.15.2 The following Attendant Interface Card Test results may appear:

1. If the ATTI2 card passes the test, the system responds:

   ATTI2 CARD PASSES TEST

2. If the ATTI2 card fails the test, the system responds:

   ATT12 CARD FAILURE, DATA = XX
   (XX = data pattern which caused failure)

3. If test could not start due to the lack of a steady signal, the system responds:

   NO READY SIGNAL FROM ATTI2 CARD

4. If no phone hardware exists, the system responds:

   PHONE HARDWARE NOT AVAILABLE

Fault Correction **9.15.3** The following steps correct faults detected by the Attendant Interface Card Test:

1. Check the transmit and receive strapping if a "NO READY " signal error occurs. Also, remove the AMP connector from the ATT12 card slot and repeat the test. Replace the ATT12 card if the "NO READY" signal error appears again and repeat the test.

2. If the ATT12 card itself failed the test, replace the card, and repeat the test.

3. If the actual phone hardware was not available, check for a different instrument, and repeat the test.

Line/Trunk Test 9.16 This test checks the two-way connection between a specified phone and a test phone. Due to the lack of a central office response, only those trunk circuits found on the Direct-Inward-Dialing (DID) Trunk card (PILT, FB-51280-A) are tested. Line circuits found on PCM Off-Premises Station Line cards (POPS, FB-17250-A) and PCM Line Circuit cards (PLCC, FB-17254-1A) are also tested. Attach phones to the circuits at the CDF by referring to Table 9.5.an 9.6.

Table 9.5   Line/Trunk Pair to Point Conversion

Circuit No.	CDF Points
Line Circuit 0	Tip 1, Ring 1
Line Circuit 1	Tip 2, Ring 2
Line Circuit 2	Tip 3, Ring 3
Line Circuit 3	Tip 4, Ring 4
Line Circuit 4	Tip 5, Ring 5
Line Circuit 5	Tip 6, Ring 6
Line Circuit 6	Tip 7, Ring 7
Line Circuit 7	Tip 8, Ring 8

Table 9.6   Line/Trunk Pair to CDF Point Conversion

Circuit No.	CDF Points
Trunk Circuit 0	Tip 1, Ring 1
Trunk Circuit 1	Tip 2, Ring 2
Trunk Circuit 2	Tip 3, Ring 3
Trunk Circuit 3	Tip 4, Ring 4

Line/Trunk Test Testing Procedures

9.16.1 Use the following steps to conduct the Line/Trunk Test:

1. Select Option "8" from the Menu of Test Options. The system responds:

   LINE AND TRUNK TEST
   IS THE FIRST CIRCUIT ON A LINE CARD OR TRUNK CARD?
   TYPE "L" FOR LINES, TYPE "T" FOR TRUNKS > > ..

2. Type the correct response for the line or trunk circuit. The system responds:

   ENTER THE PHYSICAL LOCATION OF THIS PHONE
   FILE NUMBER (A -- > D) > > . .

3. Type the correct file letter for the circuit. The system responds:

   SLOT NUMBER (0 -- > 11) > > . .

4. Type the correct universal card slot number for the circuit. The system responds:

   CIRCUIT NUMBER (0 -- > X) > > . .
   where X = 3 for a trunk card
   and X = 7 for a line card

5. Type the correct circuit number for the line or trunk circuit. The system responds:

   IS SECOND CIRCUIT ON A LINE CARD OR ON A TRUNK CARD?
   TYPE "L" FOR LINES, TYPE "T" FOR TRUNKS > > . .

6. Type the correct response for the second line or trunk circuit. Repeat steps two through five for this circuit.

Test Results   **9.16.2** The following Line/Trunk Test results may appear:

1. With successful test completion the system responds:

   THE TWO SELECTED CIRCUITS NOW HAVE A TRANSMISSION PATH. WHEN YOU WISH TO EXIT FROM THIS TEST AND CLEAR THE NETWORK DEPRESS ANY CHARACTER > > . .

To end the test and break the transmission path, type any character.

2. If channel memory does not initialize, the system responds:

   NETWORK FAILURE: CAN'T WRITE TO CHANNEL MEMORY
       TESTING ENDED DUE TO ABOVE ERRORS

3. If control memory A or B is not initialized, the system responds:

   NETWORK FAILURE: CAN'T WRITE TO CONTROL MEMORY
   < A OR B >
   TESTING ENDED DUE TO ABOVE ERRORS

4. If pad memory is not initialized, the system responds:

   NETWORK FAILURE: CAN'T WRITE TO PAD MEMORY
   TESTING ENDED DUE TO ABOVE ERRORS

5. During test if it cannot read channel, control, or pad memory, the system responds:

   READ AFTER WRITE FAILURE
   MEMORY LOCATION IS: XXXX
   TESTING ENDED DUE TO ABOVE ERRORS

NOTE: See Network Test Results (Paragraph 9.11) to find memory address of the card causing the problem.

6. If the phones tested in steps one through five do not actually exist, the system responds:

   PHONE HARDWARE NOT AVAILABLE

Fault Correction **9.16.3** The following steps correct faults detected by the Line/ Trunk Test:

1. If the transmission path is distorted, replace the tested PILT card, POPS card, or PLCC card, and repeat the test.

2. If no transmission path was established, replace the tested PILT card, POPS card, or PLCC card, and repeat the test.

3. If replacement of the PILT, POPS, or PLCC card does not solve the problem, perform the Network Test (see paragraph 8.11).

4. If the Network Test passes, reinstall the original card and repeat the Network Test.

Touch Calling Receiver Test

9.17 This test checks a specified PCM Dual Tone Multiple Frequency receiver (PDTMF, FB-17203-A) for proper tone reception. The test may be conducted either automatically or manually. The automatic test procedure places a particular time slot (information memory location) into the control memory of the PDTMF. The microprocessor address of the Multi-Processor Buffer 8085 (MPB85, FB-17215-A) is monitored for correct tone translation. If the correct translation occurs, a new tone is tested. An error message is displayed if this translation is incorrect. The manual test links a specified touch calling phone to the PDTMF. As each number of the touch calling phone is depressed, a DTMF tone is sent to the PDTMF. A description of the DTMF tone is displayed as it is translated by the PDTMF.

Automatic Testing Procedures

9.17.1 Use the following steps to conduct the automatic Touch Calling Receiver Test:

1. Select option "9" from the Menu of Test Options. The system responds:

   TOUCH CALLING RECEIVER TEST
   DO YOU WISH TO USE THE TONE CARD?
   IF YES TYPE "Y", IF NO TYPE "N"

2. Type "Y" if there is a PDTMF card in the system. The system responds:

   ENTER THE LOCATION OF THE TCR TO BE TESTED
   FILE NUMBER (A -- > D) > > . .

3. Type the correct file letter of the TCR. The system responds:

   SLOT NUMBER (0 -- > 11) > >

4. Type the correct universal card slot number. The system responds:

   CIRCUIT NUMBER (0 -- > 3) > > . .

5. Type the correct circuit number. The test begins.

Automatic Test Results

9.17.2 The following automatic Touch Calling Receiver Test results may appear:

1. If the PDTMF passes the test, the system responds:

   TCR PASSES TEST

2. If the PDTMF fails the test, the system responds:

   TCR FAILED DIAGNOSTIC

Manual Testing Procedures

9.17.3 Use the following procedures to conduct the manual Touch Calling Receiver Test:

1. Select option "A" from the Touch Calling Receiver Test Option. The system responds:

   TOUCH CALLING RECEIVER TEST
   DO YOU WISH TO USE THE TONE CARD?
   IF YES TYPE "Y", IF NO TYPE "N"

2. Type "N ". The system responds:

   A TOUCH CALLING PHONE IS TO BE USED TO SEND TONES TO THE TCR RECEIVER. ENTER THE LOCATION OF THIS PHONE.
   FILE NUMBER (A -- > D) > > . .

3. Type the correct file letter. The system responds:

   SLOT NUMBER (0 -- > 11) > >..

4. Type the correct universal card slot number. The system responds:

   CIRCUIT NUMBER (0 -- > 7) > >..

5. Type the correct circuit number. The system responds:

   ENTER THE LOCATION OF THE TCR TO BE TESTED
   FILE NUMBER (A.-- > D) > >..

6. Type the correct file letter of the TCR. The system responds:

   SLOT NUMBER (0 -- > 11) > >..

7. Type the correct universal card slot number. The system responds:

   CIRCUIT NUMBER (0 -- > 3) > > . .

8. Type the correct circuit number. The system responds:

   ANY DIGIT WHICH IS DEPRESSED WILL BE ECHOED ON THE TELETYPE. WHEN YOU WISH TO EXIT FROM THIS TEST, TYPE ANY CHARACTER > >..

9. Depress any digit and monitor the terminal tone description.

10. After all digits are checked, type any character on the terminal to end the test.

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