PK013-000 6

COMDIAL

InnTouch

Communications System

INSTALLATION AND PROGRAMMING

MANUAL

This manual is applicable to the following systems:

- KH32X Mfg. Code 9xxB and later
- KH64X Mfg. Code 9xxC and later
- KH96X Mfg. Code 9xxC and later
- KH128 Mfg. Code 9xxC and later.

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CHAPTER 1
INTRODUCTION

MANUAL SCOPE

This publication contains installation, programming, and maintenance information for the InnTouch Communications System with a manufacturing code of 9xxA and later.

This system is fully protected, and therefore the installation does not require the services of an authorized agent. However, the installation procedures detailed in this manual should only be performed by individuals familiar with general telephone installation procedures.

The end user may perform routine maintenance procedures, such as the following listed ones, but all other servicing must be performed by factory authorized personnel.

- Place or replace any designation strips on the face of the telephone stations.
- Replace the line cord or handset coiled cord.
- Replace complete stations and station handsets. The handset is a special Comdial type. Other handset types will not work properly.
- Relocate the station when it is plugged into the proper system jacks.

RELATED INFORMATION

- IMI 01-005, Handling Of Electrostatically Sensitive Components
- GCA 70-175, Station User's Guide for Multiline Key Telephone
- GCA 40-028, General Information, Executech Hybrid System
- GCA 70-134, User's Guide for Multiline Key Telephone
- GCA 70-079, User's Guide for Single Line Key Telephone
- GCA 70-136, Attendant Guide, DSS/BLF Console
- GCA 70-106, Attendant Guide, InnTouch Communications System

/STEM TYPES

This system is available in several different models:

- Model KH64X - provides for 22 lines and 64 stations
- Model KH96X - provides for 22 lines and 96 stations
- Model KH128 - provides for 22 lines and 128 stations

STATION TYPES

The system supports the operation of the following ExecuTech station types:

- Multiline Hybrid/Key Telephones
- Single Line Keysets
- DSS/BLF Consoles

INSTALLER/USER INFORMATION REGARDING FCC RULES AND REGULATIONS

This telephone system complies with Federal Communications Commission (FCC) Rules, Part 68. The FCC registration label on the common equipment cabinet contains, among other things, the FCC registration number, the ringer equivalence number, the model number, and the serial number or production date of the system.

NOTIFICATION TO TELEPHONE COMPANY

Unless they install the system, the telephone operating company which provides the lines must be notified before a connection is made to them. They must be informed of the lines (telephone numbers) involved, the FCC registration number, and the ringer equivalence number as stated on the label attached to the common equipment.

The user/installer is required to notify the telephone company when final disconnection of this equipment from the telephone company line occurs.

DUAL REGISTRATION NOTIFICATION

When this equipment is installed and programmed as a hotel management system, it is automatically configured as a multifunction (hybrid) system and must be registered as such. If it is installed and programmed as a business system, it can be hardware configured by the installer/dealer as either a key system or as a multifunction (hybrid) system. Configuration procedures can be found in the installation section of this publication. Because of this versatility, the FCC has granted a dual registration to the system. The installer/dealer must notify the

this equipment is currently arranged to provide. The installer/dealer may be required to certify in writing to the telephone operating company how the system is configured. The telephone operating company may conduct an on-site inspection to verify the system configuration.

COMPATIBILITY WITH TELEPHONE NETWORK

When necessary, the telephone operating company provides information on the maximum number of telephones or ringers that can be connected to one line, as well as any other applicable technical information. The telephone operating company can temporarily discontinue service and make changes which could effect the operation of this equipment. They must, however, provide adequate notice, in writing, of any future equipment changes that would make the system incompatible.

Any problem with this equipment that causes improper operation of the telephone network may require the telephone company to discontinue service to the trouble site. If possible, advance notice of the disconnect will be given. If advance notice is not practical, notice will be given as soon as possible. The telephone company will inform the user of the right to file a complaint with the FCC.

INSTALLATION REQUIREMENTS

Connection of this system to the telephone lines must be through a universal service order code (USOC) outlet jack supplied by the telephone operating company. If the installation site does not have the proper outlet, ask the telephone company business office to install one. The correct outlet jack for this system is a type RJ21X.

PARTY LINES AND COIN LINES

Local telephone company regulations may not permit connections to party lines and coin lines by anyone except the telephone operating company.

TROUBLESHOOTING

If a service problem occurs, first try to determine if the trouble is in the on-site system or in the telephone company equipment. Disconnect all equipment not owned by the telephone company. If this corrects the problem, the faulty equipment must not be reconnected to the telephone line until the problem has been corrected.

REPAIR AUTHORIZATION

FCC regulations do not permit repair of customer owned equipment by anyone except the manufacturer, their authorized agent, or others who might be authorized by the FCC. However, routine repairs can be made according to the maintenance instructions in this publication, provided that all FCC restrictions are obeyed. Repair service is available for this system. Refer to Chapter 4 for complete details.

RADIO FREQUENCY INTERFERENCE

This system contains incidental radio frequency generating circuitry and, if not installed and used properly, may cause interference to radio and television reception. This equipment has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules. These limits are designed to provide reasonable protection against such interference when operated in a commercial environment.

Operation of this equipment in a residential area may cause interference to radio and television reception; in which case the user is encouraged to take whatever measures may be required to correct the interference.

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: Reorient the television or radio's receiving antenna, and/or relocate the common equipment, the individual telephone stations, and the radio or TV with respect to each other.

If necessary, the user should consult the manufacturer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the Government Printing Office, Washington D.C. 20402. Stock No. 004-000-00345-4.

RINGER EQUIVALENCE NUMBER

The ringer equivalence number (REN) is a measure of the load that a telephone device will place on the ringing generator of a central office telephone company line. In general, a REN of 1 is equivalent to the load provided by one standard telephone ringer. FCC rules state that the total REN load on a line shall not exceed five (5.0). When contacted, the telephone company will provide the maximum REN number for a particular calling area.

The REN of each line of the common equipment is 0.4B. The FCC requires the installer to determine the total REN for each line, and record it at the equipment.

CHAPTER 2
INSTALLATION

SECTION 1
STANDARD INSTALLATION DETAILS

MOUNTING CONSIDERATIONS (Models KH64X, KH96X, and KH128)

- The common equipment and power supply cabinets should be attached vertically to any sturdy, flat, surface. They may be vertically rack mounted if desired.
- The power supply cabinet can be mounted so that the power connector and fuses are facing either toward the right side or toward the left side of the mounting location.
- The power interconnection cable is four feet in length. Locate the cabinets with respect to each other so that this cable will reach between the cabinet connectors. Do not locate the cabinets closer than within six inches of each other.
- The power supply cabinet must be located within six (6) feet of a proper electrical outlet. The system requires a dedicated 117VAC 15 AMP circuit, with a third-wire ground, supplied to a standard electrical outlet (NEMA 5-15R).

  The distance between the common equipment and the TELCO/PBX jacks must be 25 feet or less as per FCC requirements. A nominal distance of 7 feet is recommended.
- The mounting location must be secure and dry and have adequate ventilation. The temperature range of the location must be within 32-122 degrees F (0-50 degrees C), and the relative humidity must be less than 90 percent non-condensing.
- If the mounting surface is damp or if it is concrete or masonry material, a backboard must be attached to the mounting surface to be used for common equipment mounting. Suitable mounting backboards are available commercially or can be constructed out of 1/2-inch plywood cut to size.

MOUNTING CONSIDERATIONS (Model 2232H)

- The common equipment cabinet should be attached vertically to any sturdy, flat, surface. It may be vertically rack mounted if desired.
- The cabinet must be located within six (6) feet of a proper electrical outlet. The system requires a dedicated 117VAC 15 AMP circuit, with a third-wire ground, supplied to a standard electrical outlet (NEMA 5-15R).
- The distance between the common equipment and the TELCO/PBX jacks must be 25 feet or less as per FCC requirements. A nominal distance of 7 feet is recommended.
- The mounting location must be secure and dry and have adequate ventilation. The temperature range of the location must be within 32-122 degrees Fahrenheit (0-50 degrees Centigrade), and the relative humidity must be less than 90 percent non-condensing.
- If the mounting surface is damp or if it is concrete or masonary mateial, a backboard must be attached to the mounting surface to be used for common equipment mounting. Suitable mounting backboards are available commercially or can be constructed out of 1/2-inch plywood cut to size.

TOOLS AND HARDWARE

- Tools and hardware required for mounting the common equipment cabinet include:
  - Fasteners - wood screws (1/4 x 1-inch round head), toggle bolts, or wall anchors
  - Screwdriver - to match fasteners
  - Electric drill - if prepared holes are required
  - Connecting tool - for fastening wires to a type-66 connector block.
  - Crimping tool - for 623-type modular plugs
  - Carpenter's level.

MOUNTING PROCEDURE (Models KH64X, KH96X, and KH128)

1. Unpack, and carefully inspect the common equipment, power supply, and stations for shipping damage. Notify the shipper immediately of any damages found. Verify that the packages contain all parts and accessories needed for proper installation and operation.
2. If a backboard is required at the mounting location, attach it securely to provide a stable mounting surface for the equipment.
3. A full scale mounting template is supplied. Hold or tape it to the mounting surface, and mark the location of the mounting holes on the mounting surface as they are located on the template. The mounting dimensions and general equipment locations are shown on **Figure 2-1**.
4. Drill holes in the mounting surface of a proper size to accommodate the hardware being used. If

necessary, prepare these holes with inserts, anchors or other attachment devices as dictated by the type of mounting surface.

5. Attach the common equipment and power supply cabinets to the mounting surface with four (4) screws installed through the common equipment mounting flange and into the mounting surface holes.

NOTE: The flange holes are elongated with an enlargement at one end. This feature allows the mounting screws to be partially installed in the mounting surface before the cabinets are hung on them. The flange holes on the power supply cabinet have an enlargement at the center of the elongated holes to allow the cabinet to be mounted with the power connector and fuses facing either toward the right side or toward the left side of the mounting location.

MOUNTING PROCEDURE (Model 2232H)

1. Unpack, and carefully inspect all equipment for shipping damage. Notify the shipper immediately of any damages found. Verify that the packages contain all parts and accessories needed for proper installation and operation.
2. If a backboard is required at the mounting location, attach it securely to provide a stable mounting surface for the equipment.
3. Refer to Figure 2-1 for the locating dimensions required for the three mounnting screws, and mark their locations on the mounting surface.

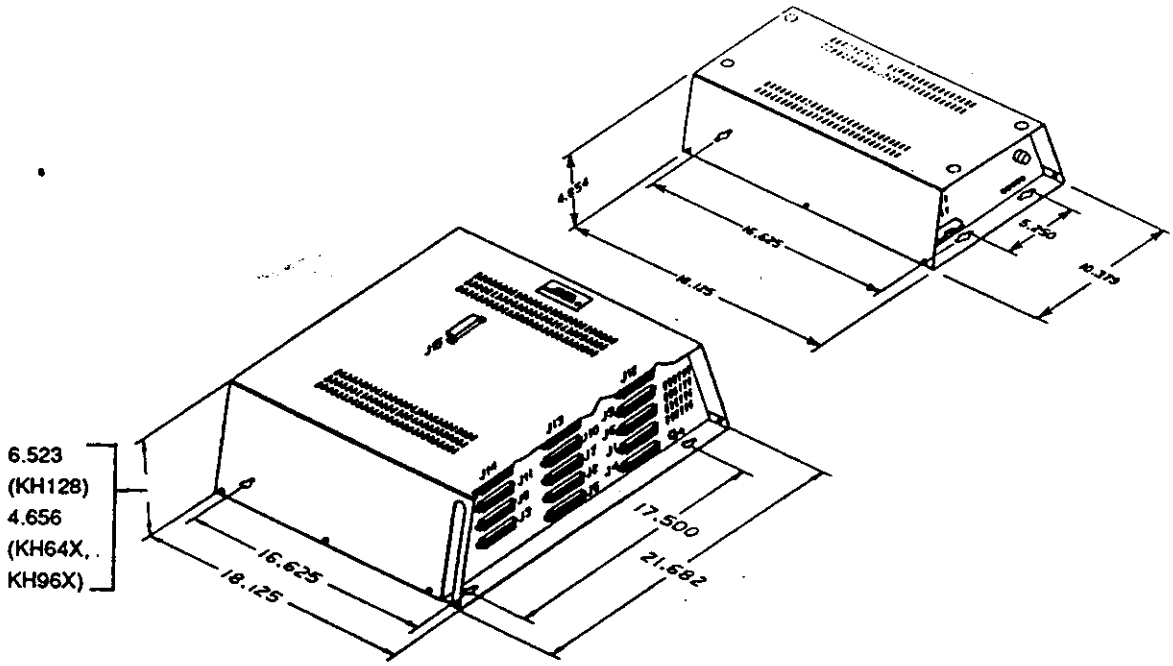
Locate one of the top two mounting screw locaLions.

Using that location as a measuring focal point, measure a distance of fourteen inches horizontally from it and mark that point. Use a carpenter's level to verify and adjust the vertical location of this mark.

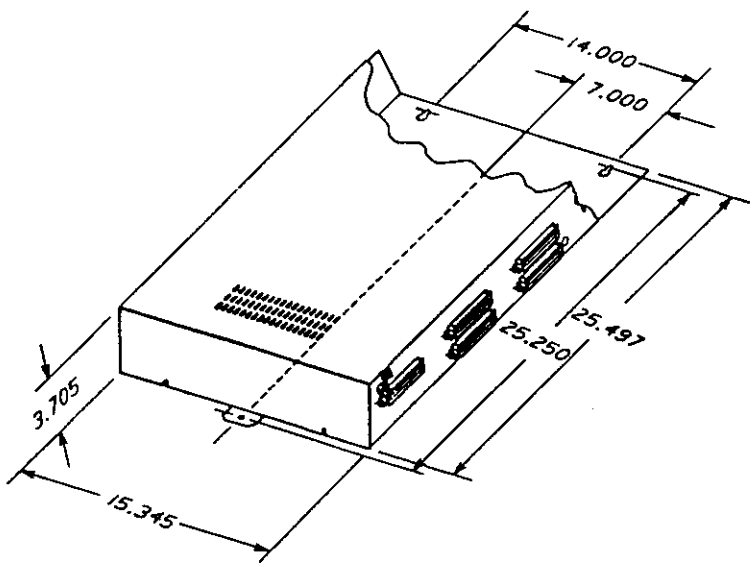
4. Drill holes in the mounting surface of a proper size to accommodate the hardware being used. If necessary, prepare these holes with inserts, anchors or other attachment devices as directed by the type of mounting surface.
5. Insert the two top screws into the mounting surface and tighten them to within approximately 3/16-inch of the surface.
6. Hang the cabinet on the top screws using the mounting holes located on the rear of the cabinet. Note that these holes are elongated with an enlargement at one end. This feature allows the cabinet to snap down on the screws to secure the mounting when the cabinet is hung on them.
7. Inser a third screw through the mounting tab located on the lower edge of the cabinet and into the mounting surface, and tighten it into place.

STATION PLACEMENT

Place the individual telephone stations as desired and in keeping with accepted industry and office standards. A telephone station can be wall mounted if necessary as they are desk/wall reversible. Refer to Chapter 4, Maintenance, for instructions in preparing a desk/wall reversible station for wall mounting.



Models KH64X, KH96X, and KH128



Model 2232H

Figure 2-1. Mounting Dimensions

SYSTEM WIRING

System cabling may be routed concealed or visible as the installation location requires. Good engineering practices must be observed and all applicable building codes must be adhered to. **Tables 2-1** through **2-11** detail the system wiring.

Cable Clips

Each cabinet-mounted 50-pin male connector is equipped with a retaining clip. This clip is designed to secure the mated connection once it is made. The clip does this by snapping into a slot on the cable-mounted connector when it is pressed together with the cabinet-mounted connector. This retaining clip must be pulled back slightly to un-snap it before the connectors can be separated.

LINE CONNECTIONS

The common equipment interface connection for the outside lines is a 50-pin, male connector. A 25-pair cable, properly terminated, must be connected from the common equipment connector to the demarcation point connector (typically a 66M-xx connector). **Figure 2-2a** illustrates typical line connection details.

Line Type

Installed CO lines should typically be TTTXA type lines or lines of a similar type. A TTTXA type line will notify the telephone company operator that an outgoing 0+ call is originating from a hotel. The operator will then only allow a credit card or collect call to be made.

Line Connection Precaution

To help insure that external overvoltage surges do not damage the system, verify that gas discharge tubes or similar primary protection devices are installed and properly grounded on all lines.

STATION CONNECTIONS

The system supports the operation of the following stations:

- ExecuTech Multiline Telephone
- LCD Speakerphone
- Single-line Keyset
- 32-Button Adjunct Feature Module
- 40-Key DSS/BLF Console
- 70-Key DSS/BLF Console

Connections between the common equipment and the stations are typically via type 66M-xx connector blocks which are cable connected to the common equipment 50-pin male connector. **Figure 2-2b** illustrates typical station connection details. The maximum distance allowed from the common equipment to the station when using #24 gauge, twisted-pair cable is:

- 1500 feet for multiline keysets
- 3000 feet for single-line keysets

If spare conductors exist in the cables that are run between the common equipment 66M-xx connector block and the station jacks, it is a good practice to connect them to earth ground. Doing this may help prevent them from inducing radio frequency and/or AC interference into the system.

CAUTION

The polarity between the individual wires in a particular voice or data pair is not critical; however, do not connect the voice circuits to the data circuits.

NOTE: Station ports are programmed for the type of equipment that is to be connected to them. An ExecuTech multiline telephone or LCD Speakerphone must be installed at station port 10 to serve as the attendant station.

The system defaults to the hotel management configuration; however, it can be installed as a hotel management system or as a business system and initialized as such by class of service programming. Station type capacities are dependent upon the installed configuration as per the chart on page 2-5:

HOTEL MANAGEMENT CONFIGURATIONS	SYSTEM MODELS			
	KH64X	KH96X	KH128	2232H
TOTAL NUMBER OF STATION PORTS AVAILABLE	64	96	128	32
MAXIMUM MULTILINE STATIONS ALLOWED PER SYSTEM*	16	16	16	16
SYSTEM DEFAULTED NUMBER OF MULTILINE STATIONS	8	8	8	8
MAXIMUM SINGLE LINE STATIONS ALLOWED PER SYSTEM*	63	95	127	31
SYSTEM DEFAULTED NUMBER OF SINGLE LINE STATIONS	56	88	120	24

BUSINESS SYSTEM CONFIGURATIONS	SYSTEM MODELS			
	KH64X	KH96X	KH128	2232H
TOTAL NUMBER OF STATION PORTS AVAILABLE	64	96	128	32
MAXIMUM MULTILINE STATIONS ALLOWED PER SYSTEM*	64	96	64	32
SYSTEM DEFAULTED NUMBER OF MULTILINE STATIONS	64	96	64	32
MAXIMUM SINGLE LINE STATIONS ALLOWED PER SYSTEM*	63	95	127	31
SYSTEM DEFAULTED NUMBER OF SINGLE LINE STATIONS	0	0	64	0

** NOTE: The maximum allowed number of each station port type cannot be assigned at the same time. The total number of assigned station port types cannot exceed the maximum number of station ports available.*

Paired Stations

Station ports 10 through 105 are paired for data and for overload protection as shown below. Adjunct ports 1 - 8 are data paired with each other but are not overload paired with any other port.

DATA PAIRING

10 - 11 52 - 53
CON 10a - 10b 54 - 55
12 - 13 56 - 57
CON 11a - 11b 58 - 59
14 - 15 60 - 61
16 - 17 62 - 63
18 - 19 64 - 65
20 - 21 66 - 67
22 - 23 68 - 69
24 - 25 70 - 71
26 - 27 72 - 73
28 - 29 74 - 75
30 - 31 76 - 77
32 - 33 78 - 79
34 - 35 80 - 81
36 - 37 82 - 83
38 - 39 84 - 85
40 - 41 86 - 87
42 - 43 88 - 89
CON 42a - 42b* 90 - 91
44 - 45 92 - 93
CON 43a - 43b* 94 - 95
46 - 47 96 - 97
48 - 49 98 - 99
50 - 51 100 - 101
102 - 103
104 - 105

* Business Systems only

OVERLOAD PAIRING

10 - 12 58 - 60
11 - 13 59 - 61
14 - 16 62 - 64
15 - 17 63 - 65
18 - 20 66 - 68
19 - 21 67 - 69
22 - 24 70 - 72
23 - 25 71 - 73
26 - 28 74 - 76
27 - 29 75 - 77
30 - 32 78 - 80
31 - 33 79 - 81
34 - 36 82 - 84
35 - 37 83 - 85
38 - 40 86 - 88
39 - 41 87 - 89
42 - 44 90 - 92
43 - 45 91 - 93
46 - 48 94 - 96
47 - 49 95 - 97
50 - 52 98 - 100
51 - 53 99 - 101
54 - 56 102 - 104
55 - 57 103 - 105
CONSOLE PORTS ARE NOT OVERLOAD PAIRED

Administration Stations

In hotel management systems, administration stations, OPX accessory units, and customer supplied telephony devices must only be installed at the first sixteen ports of the system (ports 010 through 026).

NOTE: *With the exception of station 10, which is the attendant station, all station ports can be room telephones if desired. The system defaults to administration stations for eight stations with the remainder default to room telephones.*

House Phone

A house phone can be installed at any station port other than station 10. A house phone will ring down to a predetermined station when the house phone handset is lifted. The house phone should be a single-line keyset (same type as a room telephone). The house phone function is programmed under COS programming.

DSS/BLF CONSOLE CONNECTIONS

Direct Station Select (DSS) allows the front desk attendant to directly call or transfer a call to a room telephone or administration telephone by pressing a single key. The Busy Lamp Field (BLF) gives status of each telephone (idle or busy). DSS/BLF consoles are available in 32-key or 70-key configurations.

The system provides for dedicated DSS/BLF Console ports. **Figure 2-2b** illustrates typical Console connection details. The console ports are associated with the companion station ports as follows:

- HOTEL AND BUSINESS SYSTEMS

CONSOLE PORT	STATION PORT
10a and 10b	10
11a and 11b	11

- BUSINESS SYSTEM ONLY (Models KH64X, KH96X, and KH128 only)

CONSOLE PORT	STATION PORT
42a and 42b	42
43a and 43b	43

NOTE: *In a fully equipped system, two 70-key consoles are required for complete system station coverage.*

EXECUTIVE CONSOLES

The 32-Button Adjunct Feature Module can be installed at any station port that is data-paired to any of the sixteen administration stations. The module provides DSS/BLF capability and off-hook voice announce (OHVA) capability to the companion station. The OHVA feature is not functional when the DSS/BLF console is installed at dedicated console port.

NOTE: *Port pairing for the system is discussed Chapter 4.*

Two different wiring methods can be employed.

1. As illustrated in **Figure 2-3a**, both the station and the data-paired console can be connected separately to the station connector block.
2. As illustrated in **Figure 2-3b**, common wiring for both the console and the companion station can be employed to effect a wire-savings. When employed, the following conditions must be considered:

If common wiring is employed for the entire distance between the station and the common equipment, the maximum wire length using #24 AWG, twisted-pair wire is limited to 1000 feet as opposed to the normal 1500 feet limitation for station wiring. However, if only 10 feet or less of common wiring is employed between the station and a wall jack, the normal 1500 feet limitation applies. When common wiring is employed, the auxiliary jack of the data-paired station cannot be used for any custom-wired purpose.

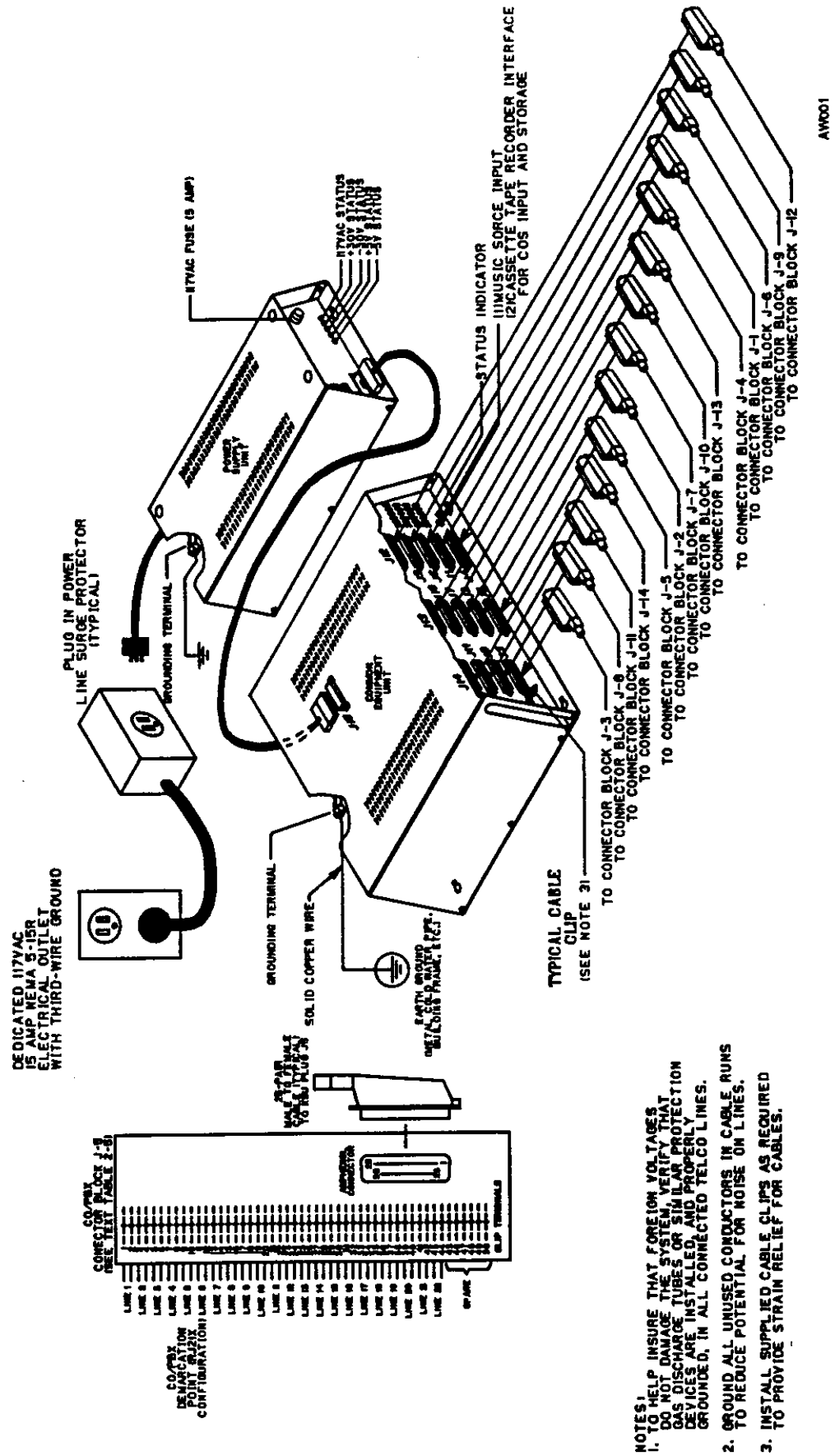
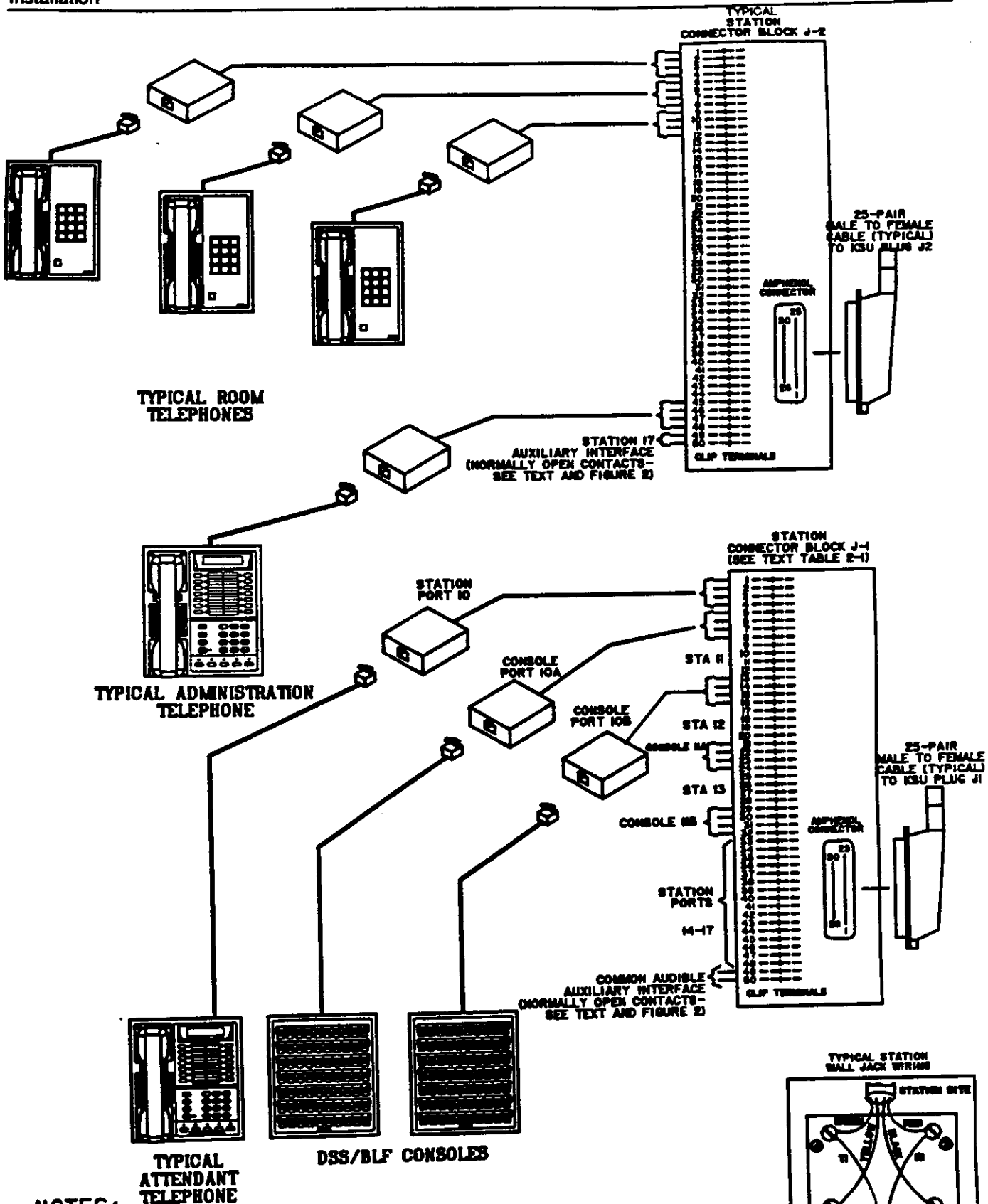


Figure 2-2a. Typical Common Equipment Line Connections (Model KH128 Shown - Other Models Similar. Model 2232H Does Not Require Separate Power Supply Cabinet)



NOTES:
1. TYPE 66M-XX CONNECTOR BLOCK SHOWN AS TYPICAL-OTHER TYPES MAY BE USED AS DESIRED.
2. ALL STATION CABLE IS TWISTED PAIR FROM STATION JACK TO CONNECTOR BLOCK.

AW002

Figure 2-2b. Typical Station and Console Connections

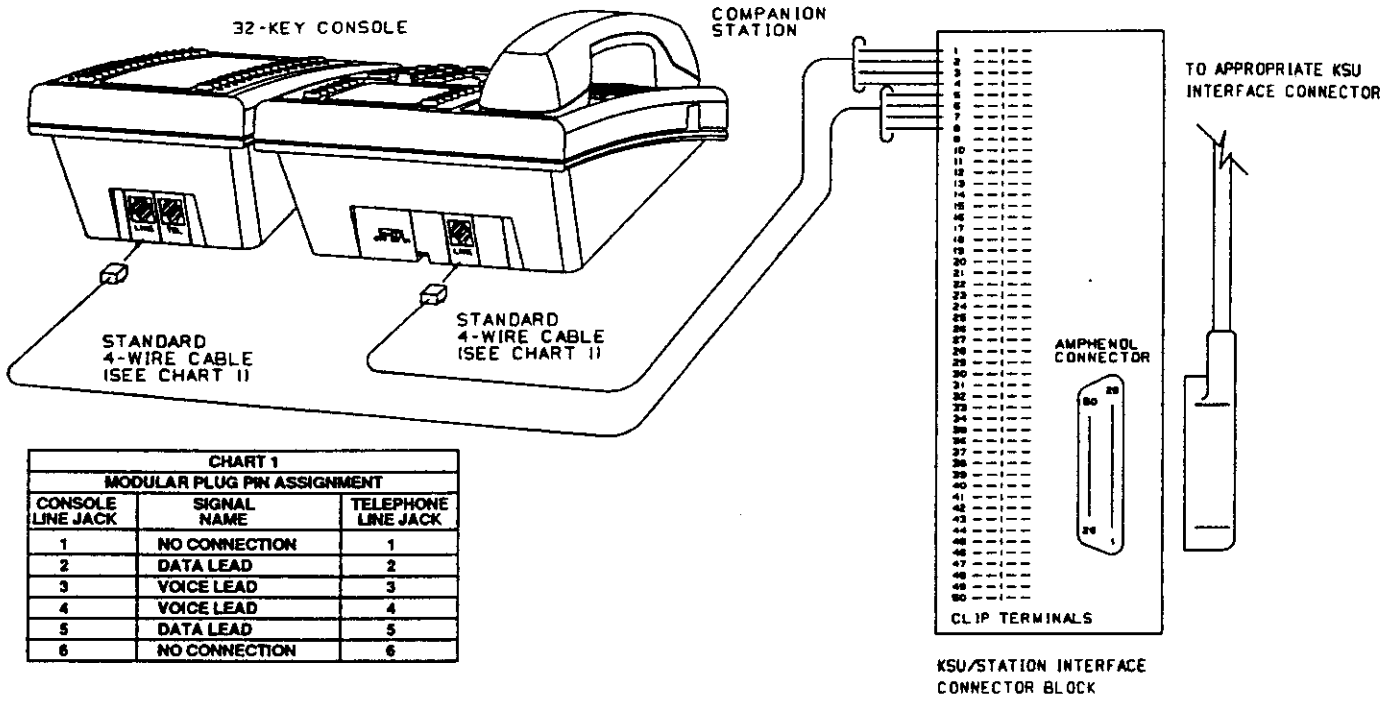


CHART 1 MODULAR PLUG PIN ASSIGNMENT		
CONSOLE LINE JACK	SIGNAL NAME	TELEPHONE LINE JACK
1	NO CONNECTION	1
2	DATA LEAD	2
3	VOICE LEAD	3
4	VOICE LEAD	4
5	DATA LEAD	5
6	NO CONNECTION	6

Figure 2-3a. 32-Button Adjunct Feature Module - Separate Wiring Method

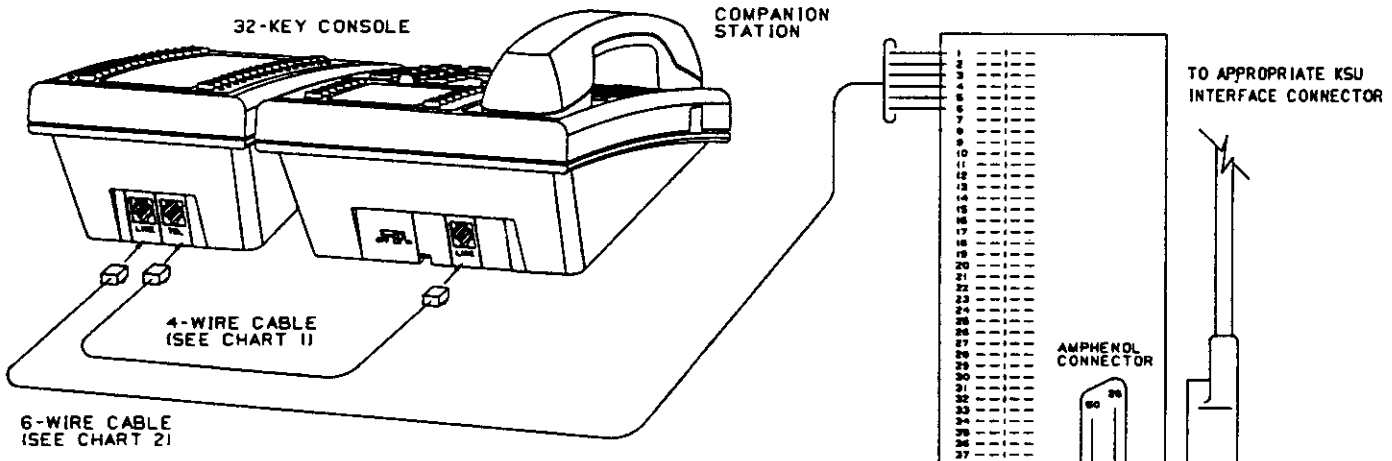


CHART 1 MODULAR PLUG PIN ASSIGNMENT		
CONSOLE LINE JACK	SIGNAL NAME	TELEPHONE LINE JACK
1	NO CONNECTION	1
2	DATA LEAD	2
3	VOICE LEAD	3
4	VOICE LEAD	4
5	DATA LEAD	5
6	NO CONNECTION	6

CHART 2 MODULAR PLUG PIN ASIGMENT		
CONSOLE LINE JACK	SIGNAL NAME	CONN. BLOCK
6	TELEPHONE VOICE LEAD	1
1	TELEPHONE VOICE LEAD	2
5	DATA LEAD	3
2	DATA LEAD	4
4	CONSOLE VOICE LEAD	5
3	CONSOLE VOICE LEAD	6

NOTE: If the console is removed, re-wire per Chart 1 to re-establish the voice path to the proper pins in the telephone line jack.

Figure 2-3b. 32-Button Adjunct Feature Module - Common Wiring method

VIDEO DISPLAY TERMINAL CONNECTIONS

The VDT22 video display terminal (VDT) is used for class of service programming and hotel management operations. Connect it to the **SERIAL PORT 1** of the common equipment. This port is available at clip terminals 39-46 on the J-4 connector block. For connection details, refer to the chart below and to **Table 2-4** and **Figure 2-4.**

A short interconnection cable (703033-924) is supplied with the system for VDT connection. Punch down the unterminated leads on the J-4 connector block clip terminals and plug the connector end into the VDT data connector. An extension cable can be acquired from a local computer or electronics store to extend the signals from the interconnection cable to the VDT location if the distance is greater than four feet.

The distance between the VDT and the common equipment can typically be up to 500 feet in a quiet electrical environment. Shielded cable may be required at some sites for long runs. For longer distances, a limited distance modem must be used to relay the data communications between the common equipment and the VDT.

The **SERIAL DATA 1** port supplies data in following format:

- 7-bit data, no parity bit, and two stop bits
- Baud rate of 9600 (The baud rate can be changed by class of service programming if necessary.)

NOTE: *When the system is programmed as a Business System, the **SERIAL DATA 1** port is also used as a printer port for SMDR and COS printout. When so configured, the port supplies 7-bit data at 1200 baud. (The baud rate can be changed by class of service programming if necessary.)The VDT must be configured per the manufacturer's instructions to match the parameters of the **SERIAL DATA 1** port. Additionally, it must further be configured as follows:*

- *Full duplex*
- *Function keys unprogrammed*
- ***RETURN** and **ENTER** keys must be carriage return only with no line feed*
- *Wyse 50 compatible*

VIDEO DISPLAY TERMINAL CONNECTIONS WITH CABLE ASSEMBLY 703033-924

VDT TERMINATIONS			WIRE COLOR	COMMON EQUIPMENT TERMINATIONS		
D CONN. PIN NO.	SIGNAL	NAME		J-4 CONN. BLOCK	SIGNAL	NAME
1	(PG)	Protective Ground	Blue/White	No. Conn.	—	—
11	(DTR)	Data Term. Ready	White/Green	No. Conn.	—	—
20	(CTS)	Clear To Send*	White/Orange	43	(RTS)	Request To Send*
7	(SG)	Signal Ground	White/Blue	42	(SG)	Signal Ground
3	(RD)	Receive Data	Green/White	41	(TD)	Transmit Data
2	(TD)	Transmit Data	Orange/White	39	(RD)	Receive Data

*The common equipment requires a positive voltage with respect to signal ground in order to send data.

VIDEO DISPLAY TERMINAL SETUP

Plug-in the AC power cord to a 117 VAC outlet and turn the power switch to the "ON" position. Connect the modular keyboard jack into the keyboard port (backside of the VDT). Press and hold the SHIFT key and press the SETUP key. The VDT screen will have a horizontal highlighted line on the top and bottom of the screen. The top line is unimportant at this time. Set up the VDT parameters at the bottom horizontal line. The following keyboard keys will be used to make changes. Left and right arrows move between parameters on the same line. Up and down arrows move between lines. The highlighted parameter is the parameter that is in line for change. Press the space bar to toggle through the parameter options stopping on the correct parameter. Set all parameters as shown below. When all parameters are correct, press SHIFT, SETUP. The highlighted horizontal line at the top of the screen begins to flash. Save for power up? Press Y for yes. The VDT is now capable of communicating with the KSU.

Bottom of Screen

Mode 1

HANDSHAKE = NONE | SCREEN = 80 | CURSOR = BLOCK | BLINK? = ON | MODE = FDX

Mode 2

DATA BIT = 7 | STOP BIT = 2 | PARITY BIT = NONE | MODEM PORT BAUD RATE = 9600

Mode 3

BLK END = US / CR | AUTO NL = OFF | CR = CR | AUTO SCROLL = N/A | AUX BAUD R = N/A

Mode 4

SCRL = JUMP | STATUS = N/A | S.SAVER = N/A | PROT = N/A | TEST = N/A

Mode 5

KEYS ? = US / UK | RET/ENTER = CR / CR | COMPATIBLE MODE = WY50 | ENHANCE = N/A

DATA PRINTER CONNECTIONS

When the system is programmed as a Hotel Management System, and a serial data printer is used for SMDR and COS printout, connect it to the SERIAL DATA 2 port of the common equipment. This port is available at terminal clips 31-36 on the J-4 station connector block. Refer to the chart below and to **Table 2-4** and **Figure 2-4** for connection details.

NOTE: *When the system is programmed as a Business System, the* **SERIAL DATA 2** *port is not available for use. In those installations, connect the data printer to the* **SERIAL DATA 1** *port after disconnecting the VDT used for programming.*

The distance between the data printer and the common equipment can be typically up to 500 feet in a quiet electrical environment. Shielded cable may be required at some sites for long runs. For longer distances, a limited distance modem must be used to relay the data communications between the common equipment and the data printer.

The **SERIAL DATA 2** port data is fixed to the following data format:

- 7-bit, two stop bits, and no parity
- Baud rate of 300

Configure the printer, per the manufacturer's instructions, to match this data format and baud rate. When preparing a cable for connection to a data printer, refer to the manufacturer's manual for the equipment being interfaced.

DATA PRINTER CONNECTIONS

PRINTER TERMINATIONS		COMMON EQUIPMENT TERMINATIONS		
			J4	
(RD)	Receive Data	(TD)	31	Transmit Data
(SG)	Signal Ground	(SG)	32	Signal Ground
(RTS)	Request To Send *	(CTS)	33	Clear To Send *
(DSR)	Data Set Ready	(RTS)	34	Request To Send
FRAME GROUND		(PG)	35	Protective Ground

* The common equipment requires a positive voltage with respect to signal ground in order to send data.

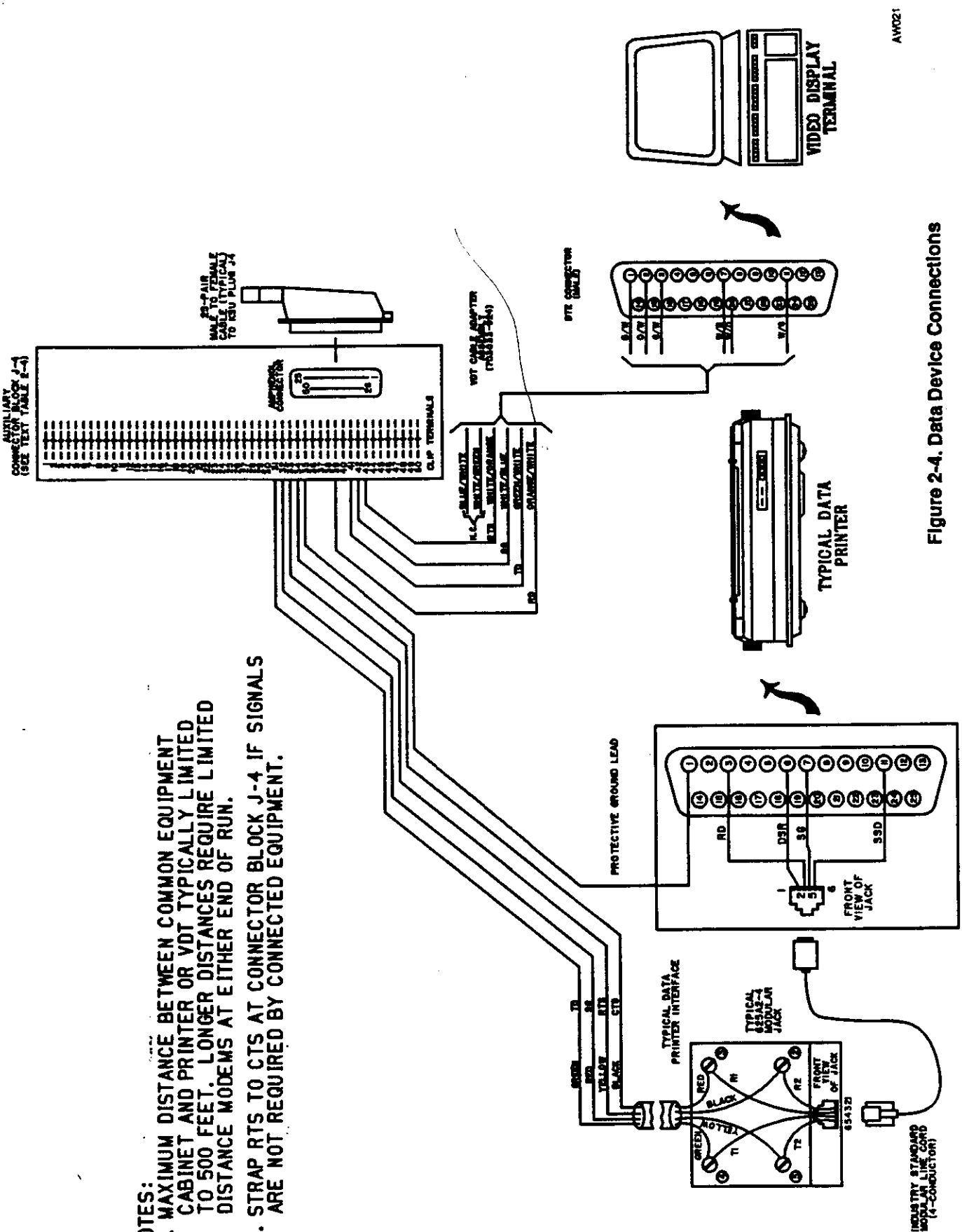


Figure 2-4. Data Device Connections

NOTES:
1. MAXIMUM DISTANCE BETWEEN COMMON EQUIPMENT CABINET AND PRINTER OR VDT TYPICALLY LIMITED TO 500 FEET. LONGER DISTANCES REQUIRE LIMITED DISTANCE MODEMS AT EITHER END OF RUN.
2. STRAP RTS TO CTS AT CONNECTOR BLOCK J-4 IF SIGNALS ARE NOT REQUIRED BY CONNECTED EQUIPMENT.

AC POWER CONNECTION AND SYSTEM GROUNDING

AC POWER CONNECTION

Before applying AC voltage to the power supply, install the power interconnect cable between the KSU and the power supply. The connectors at each end of the interconnect cable must be properly inserted. Check the connector labels for instructions. Do not connect or disconnect the interconnection cable while AC voltage is applied to the power supply.

To apply AC power to the power supply, connect the AC power cord to the electrical outlet which supplies the dedicated 117 VAC at 15 AMP electrical power.

AC Power Connection Precautions

- For AC power connections, empoy a dedicated 117VAC 15 AMP circuit, with a third wire ground, supplied to a standard electrical outlet (NEMA 5-15R). A dedicated AC outlet is one that has no other electrical equipment (copiers, facimile, air conditioners. etc.) sharing the circuit. When nhe electrical circuit is shared, fluctuations in voltage and current may exist which can be harmful to microprocessor driven equipment (such as this system).
- Although a dedicated AC circuit does not experience the frequent local power company. Therefore, install a power line surge/transient protection device between the AC voltage outlet and the common equipment. This device is designed to absorb voltage spikes and current surges that could eventually damage the system.
- On those models with a separate power supply, do not connect the AC power cord until the installation has been checked per the SYSTEM CHECKOUT instructions given in the installation manual.

SYSTEM GROUNDING

The common equipment has internal secondary surge protection on all line ports. In order for this protection to be effective, the common equipment cabinet and the power supply MUST be connected to a reliable earth ground such as a metal cold water pipe or a building frame ground. The grounding wire must be of #10 or #12 insulated, solid copper and separate from the three-wire AC line cord. A ground stud is located on the common equipment cabinet and the power supply cabinet for this purpose.

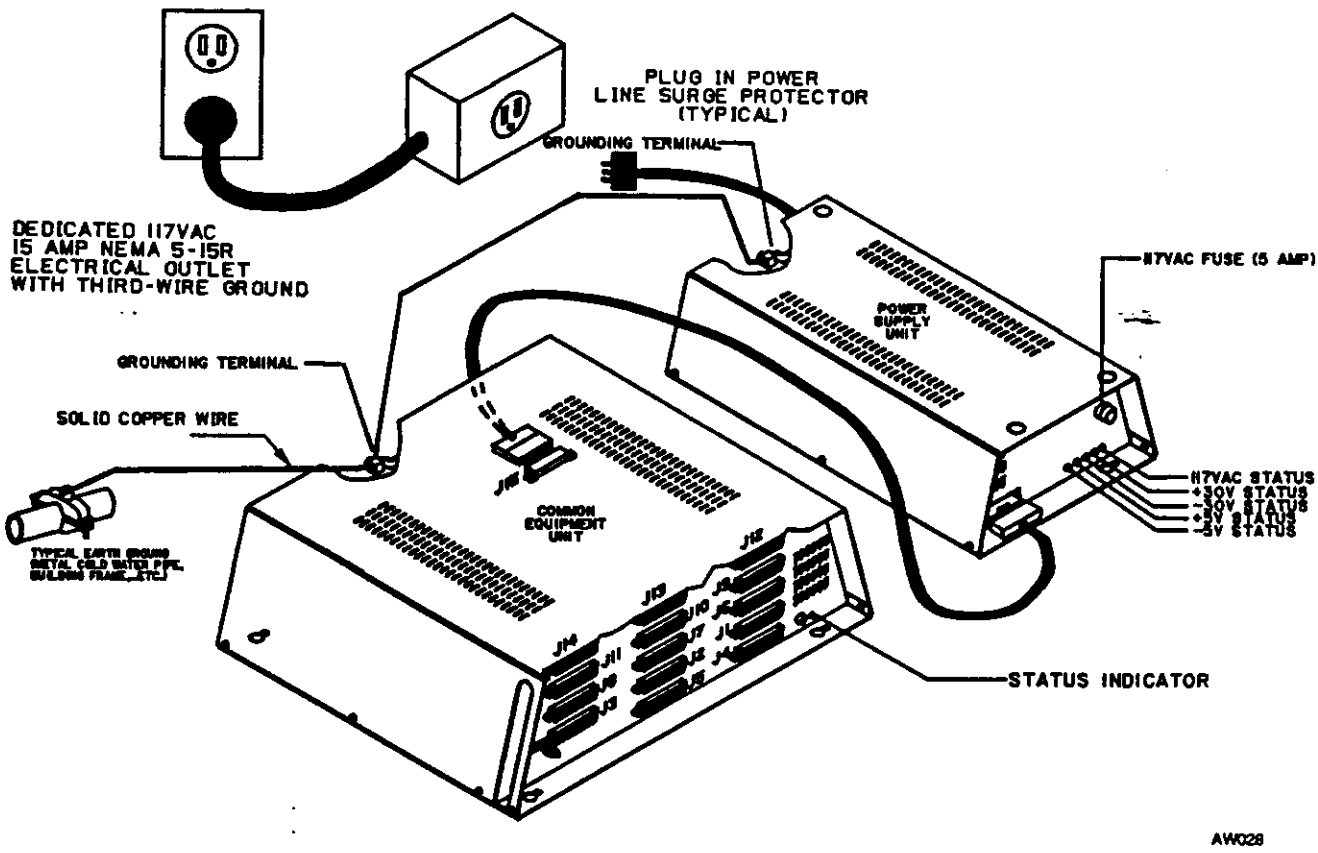


Figure 2-5. AC Power Connection and System Grounding (Model KH128 Shown - Other Models Similar. Model 2232H Does Not Require Separate Power Supply Cabinet.)

Table 2-1. Wiring For Station Connector Block J-1

SYSTEM INTERCONNECTION FOR KSU J-1								
KSU INTERFACE CONNECTOR WIRING			CONNECTION BLOCK WIRING				EXTENSION NUMBER DEFAULT	
25-PAIR CABLE CONNECTIONS			ASSIGNMENT		4-WIRE CABLE CONNECTIONS			
WIRE COLOR	PAIR	PIN NO.			COLOR	CLIP TERM.	HOTEL	BUSINESS
WHITE—BLUE	1	26	STATION PORT 10	VOICE	GREEN	1	310	110
BLUE—WHITE		1		PAIR	RED	2		
WHITE—ORANGE	2	27		DATA	YELLOW	3		
ORANGE—WHITE		2		PAIR	BLACK	4		
WHITE—GREEN	3	28	CONSOLE PORT 10a	POWER	GREEN	5	N/A	
GREEN—WHITE		3		PAIR	RED	6		
WHITE—BROWN	4	29		DATA	YELLOW	7		
BROWN—WHITE		4		PAIR	BLACK	8		
WHITE—SLATE	5	30	STATION PORT 11	VOICE	GREEN	9	311	111
SLATE—WHITE		5		PAIR	RED	10		
RED—BLUE	6	31		DATA	YELLOW	11		
BLUE—RED		6		PAIR	BLACK	12		
RED—ORANGE	7	32	CONSOLE PORT 10b	POWER	GREEN	13	N/A	
ORANGE—RED		7		PAIR	RED	14		
RED—GREEN	8	33		DATA	YELLOW	15		
GREEN—RED		8		PAIR	BLACK	16		
RED—BROWN	9	34	STATION PORT 12	VOICE	GREEN	17	312	112
BROWN—RED		9		PAIR	RED	18		
RED—SLATE	10	35		DATA	YELLOW	19		
SLATE—RED		10		PAIR	BLACK	20		
BLACK—BLUE	11	36	CONSOLE PORT 11a	POWER	GREEN	21	N/A	
BLUE—BLACK		11		PAIR	RED	22		
BLACK—ORANGE	12	37		DATA	YELLOW	23		
ORANGE—BLACK		12		PAIR	BLACK	24		
BLACK—GREEN	13	38	STATION PORT 13	VOICE	GREEN	25	313	113
GREEN—BLACK		13		PAIR	RED	26		
BLACK—BROWN	14	39		DATA	YELLOW	27		
BROWN—BLACK		14		PAIR	BLACK	28		
BLACK—SLATE	15	40	CONSOLE PORT 11b	POWER	GREEN	29	N/A	
SLATE—BLACK		15		PAIR	RED	30		
YELLOW—BLUE	16	41		DATA	YELLOW	31		
BLUE—YELLOW		16		PAIR	BLACK	32		
YELLOW—ORANGE	17	42	STATION PORT 14	VOICE	GREEN	33	314	114
ORANGE—YELLOW		17		PAIR	RED	34		
YELLOW—GREEN	18	43		DATA	YELLOW	35		
GREEN—YELLOW		18		PAIR	BLACK	36		
YELLOW—BROWN	19	44	STATION PORT 15	VOICE	GREEN	37	315	115
BROWN—YELLOW		19		PAIR	RED	38		
YELLOW—SLATE	20	45		DATA	YELLOW	39		
SLATE—YELLOW		20		PAIR	BLACK	40		
VIOLET—BLUE	21	46	STATION PORT 16	VOICE	GREEN	41	316	116
BLUE—VIOLET		21		PAIR	RED	42		
VIOLET—ORANGE	22	47		DATA	YELLOW	43		
ORANGE—VIOLET		22		PAIR	BLACK	44		
VIOLET—GREEN	23	48	STATION PORT 17	VOICE	GREEN	45	317	117
GREEN—VIOLET		23		PAIR	RED	46		
VIOLET—BROWN	24	49		DATA	YELLOW	47		
BROWN—VIOLET		24		PAIR	BLACK	48		
VIOLET—SLATE	25	50	COMMON AUDIBLE		GREEN	49	N/A	
SLATE—VIOLET		25			RED	50		

AW005

Table 2-2. Wiring For Station Connector Block J-2

SYSTEM INTERCONNECTION FOR KSU J-2								
KSU INTERFACE CONNECTOR WIRING			CONNECTION BLOCK WIRING				EXTENSION NUMBER DEFAULT	
25-PAIR CABLE CONNECTIONS			ASSIGNMENT		4-WIRE CABLE CONNECTIONS			
WIRE COLOR	PAIR	PIN NO.			COLOR	CLIP TERM.	HOTEL	BUSINESS
WHITE—BLUE	1	26	STATION PORT 18	VOICE PAIR	GREEN	1	100	118
BLUE—WHITE		1			RED	2		
WHITE—ORANGE	2	27		DATA PAIR	YELLOW	3		
ORANGE—WHITE		2			BLACK	4		
WHITE—GREEN	3	28	STATION PORT 19	VOICE PAIR	GREEN	5	101	119
GREEN—WHITE		3			RED	6		
WHITE—BROWN	4	29		DATA PAIR	YELLOW	7		
BROWN—WHITE		4			BLACK	8		
WHITE—SLATE	5	30	STATION PORT 20	VOICE PAIR	GREEN	9	102	120
SLATE—WHITE		5			RED	10		
RED—BLUE	6	31		DATA PAIR	YELLOW	11		
BLUE—RED		6			BLACK	12		
RED—ORANGE	7	32	STATION PORT 21	VOICE PAIR	GREEN	13	103	121
ORANGE—RED		7			RED	14		
RED—GREEN	8	33		DATA PAIR	YELLOW	15		
GREEN—RED		8			BLACK	16		
RED—BROWN	9	34	STATION PORT 22	VOICE PAIR	GREEN	17	104	122
BROWN—RED		9			RED	18		
RED—SLATE	10	35		DATA PAIR	YELLOW	19		
SLATE—RED		10			BLACK	20		
BLACK—BLUE	11	36	STATION PORT 23	VOICE PAIR	GREEN	21	105	123
BLUE—BLACK		11			RED	22		
BLACK—ORANGE	12	37		DATA PAIR	YELLOW	23		
ORANGE—BLACK		12			BLACK	24		
BLACK—GREEN	13	38	STATION PORT 24	VOICE PAIR	GREEN	25	106	124
GREEN—BLACK		13			RED	26		
BLACK—BROWN	14	39		DATA PAIR	YELLOW	27		
BROWN—BLACK		14			BLACK	28		
BLACK—SLATE	15	40	STATION PORT 25	VOICE PAIR	GREEN	29	107	125
SLATE—BLACK		15			RED	30		
YELLOW—BLUE	16	41		DATA PAIR	YELLOW	31		
BLUE—YELLOW		16			BLACK	32		
YELLOW—ORANGE	17	42	STATION PORT 26	VOICE PAIR	GREEN	33	108	126
ORANGE—YELLOW		17			RED	34		
YELLOW—GREEN	18	43		DATA PAIR	YELLOW	35		
GREEN—YELLOW		18			BLACK	36		
YELLOW—BROWN	19	44	STATION PORT 27	VOICE PAIR	GREEN	37	109	127
BROWN—YELLOW		19			RED	38		
YELLOW—SLATE	20	45		DATA PAIR	YELLOW	39		
SLATE—YELLOW		20			BLACK	40		
VIOLET—BLUE	21	46	STATION PORT 28	VOICE PAIR	GREEN	41	110	128
BLUE—VIOLET		21			RED	42		
VIOLET—ORANGE	22	47		DATA PAIR	YELLOW	43		
ORANGE—VIOLET		22			BLACK	44		
VIOLET—GREEN	23	48	STATION PORT 29	VOICE PAIR	GREEN	45	111	129
GREEN—VIOLET		23			RED	46		
VIOLET—BROWN	24	49		DATA PAIR	YELLOW	47		
BROWN—VIOLET		24			BLACK	48		
VIOLET—SLATE	25	50	STATION 17 AUXILIARY INTERFACE		GREEN	49	N/A	
SLATE—VIOLET		25			RED	50		

AW006

Station COS Sub-Menu 3 - Prime Line Automatic

```
PRIME LINE

1. ASSIGN A PRIME LINE
2. ASSIGN A PRIME LINE GROUP
3. ASSIGN INTERCOM AS PRIME
4. CLEAR PRIME ASSIGNMENT
5. RETURN TO PREVIOUS MENU

ENTER SELECTION:

ENTER STATION NUMBER:

ENTER LINE NUMBER:

ENTER LINE GROUP NUMBER:
```

If a station is programmed for prime line automatic, the designated line or group will be automatically selected when the station handset is taken off-hook.

The defaulted system disables prime line/group assignment.

- Line item 2 is reserved when programming basic key system configurations.

Station COS Sub-Menu 4 - Ringing Line Preference

```
RINGING LINE PREFERENCE

1. ENABLE RINGING LINE PREFERENCE
2. DISABLE RINGING LINE PREFERENCE
3. RETURN TO PREVIOUS MENU

ENTER SELECTION:

ENTER STATION NUMBER(S):
```

When ringing line preference is enabled for a station, lifting the station handset automatically answers any line that is ringing at the station.

The defaulted system disables ringing line preference.

- The station number response can be a delimited string to specify all stations assigned to the feature. Delimit the string with comma or space delimiters as described previously.

Station COS Sub-Menu 5 - Personalized Ringing Tone

```
RINGING SOUND (28 BUTTON STATION)

1. SOUND 1
2. SOUND 2
3. SOUND 3
4. SOUND 4
5. RETURN TO PREVIOUS MENU

ENTER SELECTION:

ENTER STATION NUMBER(S):
```

Multiline stations can be programmed by the following menu to ring with one of four different tones.

The defaulted system assigns ring sound 1.

- The station number response can be a delimited string to specify all stations assigned to the feature. Delimit the string with comma or space delimiters as described previously.

SOUND	FREQUENCY PAIR	WARBLE RATE
1	509/610 HZ	10 HZ
2	763/1016 HZ	10 HZ
3	509/610 HZ	19 HZ
4	763/1016 HZ	19 HZ

Station COS Sub-Menu 6 - Ringing Assignment

```
DIRECT / DELAYED RINGING

1. ENABLE DIRECT RINGING
2. DISABLE DIRECT RINGING
3. ENABLE DELAYED RINGING
4. DISABLE DELAYED RINGING
5. RETURN TO PREVIOUS MENU

ENTER SELECTION:

ENTER STATION NUMBER:

ENTER LINE NUMBER(S):
```

Ringing assignments are programmed on a per station/per line basis.

The defaulted ringing assignments are as follows:

- Hotel system: All lines ring on stations 10 and 17.
- Business system: All lines ring on stations 10, 17, 39, 41.
- No ringing is assigned at any other station.
- The line number response can be a delimited string to specify all lines of a particular station that are assigned to direct or delayed ringing. Delimit the string with comma or space delimiters as described previously.

Station COS Sub-Menu 7 - Toll Table Assignment

```
TOLL RESTRICTION TABLE ASSIGNMENTS

1. CLEAR STATION TOLL RESTRICTION TABLE
ASSIGNMENTS
2. ASSIGN STATION TO TOLL RESTRICTION TABLES
3. RETURN TO PREVIOUS MENU

ENTER SELECTION:

ENTER STATION NUMBER:

ENTER TOLL TABLE NUMBER(S):
```

Previously programmed toll restriction tables are assigned to individual stations per the following menu.

The defaulted system does not assign any toll tables to the stations.

- The toll table number response can be a delimited string to specify all tables assigned to a particular station. Delimit the string with comma or space delimiters as described previously.

NOTE: This program step only applies to administrative station sets. Room phone toll restriction is handled under call control tables in Hotel/Motel administrative programming.

Station COS Sub-Menu 8 - Access Denied

```
LINE ACCESS DENY

1. ENABLE ACCESS TO LINE
2. DISABLE ACCESS TO LINE
3. RETURN TO PREVIOUS MENU

ENTER SELECTION:

ENTER STATION NUMBER:

ENTER LINE NUMBER(S):
```

Access to particular lines can be denied to certain stations per the following menu. A station user cannot select a denied line for use.

Under system default conditions, all lines can be accessed by all stations.

- The line number response can be a delimited string to specify all lines of a particular station that access denied. Delimit the string with comma or space delimiters as described previously.

Station COS Sub-Menu 9 - Call Origination Denied

```
LINE ORIGINATION DENY

1. ENABLE ORIGINATION TO LINE
2. DISABLE ORIGINATION TO LINE
3. RETURN TO PREVIOUS MENU

ENTER SELECTION:

ENTER STATION NUMBER:

ENTER LINE NUMBER(S):
```

The ability to originate calls on certain lines can be denied at individual stations with the following menu.

This feature does not prevent incoming calls on these lines from being answered.

The defaulted system disables call origination on all lines.

- The line number response can be a delimited string to specify all lines on which call origination is denied or allowed at a particular station. Delimit the string with comma or space delimiters as described previously.

Station COS Sub-Menu 10 - Automatic Privacy Release

```
AUTOMATIC PRIVACY RELEASE

1. ENABLE PRIVACY RELEASE
2. DISABLE PRIVACY RELEASE
3. RETURN TO PREVIOUS MENU

ENTER SELECTION:

ENTER STATION NUMBER:

ENTER LINE NUMBER(S):
```

A line can be made non-private at a particular station while remaining private at other stations. With this arrangement, other stations can join that particular station whenever it is on the privacy released line.

The defaulted system disables privacy release.

- The line number response can be a delimited string to specify all lines on which automatic privacy release is denied or allowed at a particular station. Delimit the string with comma or space delimiters as described previously.

Station COS Sub-Menu 11 - Night Transfer (of ringing)

```
NIGHT RINGING

1. ENABLE NIGHT RINGING
2. DISABLE NIGHT RINGING
3. RETURN TO PREVIOUS MENU

ENTER SELECTION:

ENTER STATION NUMBER:

ENTER LINE NUMBER(S):
```

The attendant can transfer the ringing of incoming calls from the attendant station to other station or stations for answering. Program a station to receive night ringing for certain lines with the following menu.

The defaulted ringing assignments during night transfer of ringing are as follows:

- Hotel system: All lines ring on stations 10 and 17.
- Business system: All lines ring on stations 10, 17, 39, 41.
- No ringing is assigned at any other station.
- The line number response can be a delimited string to specify all lines which are assigned night ringing at a particular station. Delimit the string with comma or space delimiters as described previously.

Station COS Sub-Menu 12 - Idle Line Preference

```
IDLE LINE PREFERENCE

1. ENABLE IDLE LINE PREFERENCE
2. DISABLE IDLE LINE PREFERENCE
3. RETURN TO PREVIOUS MENU

ENTER SELECTION:

ENTER STATION NUMBER:

ENTER LINE NUMBER(S):
```

This menu is used to program a station to automatically pick an idle line for use when it is taken off-hook.

The defaulted system disables idle line preference.

- The line number response can be a delimited string to specify all lines which are set for idle line preference at a particular station. Delimit the string with comma or space delimiters as described previously.

Station COS Sub-Menu 13 - All-Call And Zone Paging

```
ALL-CALL / ZONE PAGING

1. CLEAR ASSIGNMENTS
2. ASSIGN RECEIVE ZONE
3. ASSIGN ORIGINATE ZONE
4. RETURN TO PREVIOUS MENU

ENTER SELECTION:

ENTER STATION NUMBER:

ENTER ZONE NUMBER(S):
```

A station can receive announcements through the speaker and originate them through the handset. Announcements can be made to and received by all stations in the system (all-call) or only those stations located in a certain area (zone paging).

The defaulted system enables all-call originate and receive at all multiline stations.

- The zone number response can be a delimited string to specify all zones to which zone paging is allowed from a particular station. Delimit the string with comma or space delimiters as described previously.

Zone entry numbers: 1 = zone A, 2 = zone B, 3 = zone C, and 4 = all-call

Station COS Sub-Menu 14 - Reserve Intercom Link

```
RESERVE INTERCOM LINK

1. CLEAR RESERVED LINK
2. RESERVE LINK
3. RETURN TO PREVIOUS MENU

ENTER SELECTION:

ENTER STATION NUMBER:

ENTER LINK NUMBER:
```

An intercom link can be reserved for exclusive use by a station thus providing that station with the ability to make an intercom call whenever necessary.

The defaulted system does not reserve an intercom link for a station.

Station COS Sub-Menu 15 - Block Voice Announced Intercom Call

```
BLOCK VOICE ANNOUNCE INTERCOM CALL

1. ENABLE VOICE BLOCK
2. DISABLE VOICE BLOCK
3. RETURN TO PREVIOUS MENU

ENTER SELECTION:

ENTER STATION NUMBER(S):
```

This feature, when enabled by the following menu, allows the user of the multiline station to block voice announced intercom signalling by dialing a special code.

The defaulted system disables voice announce intercom blocking.

- The station number response can be a delimited string to specify all stations at which intercom voice announce blocking is to occur. Delimit the string

Station COS Sub-Menu 16 - Automatic Hold

```
AUTO HOLD

1. ENABLE AUTO HOLD
2. DISABLE AUTO HOLD
3. RETURN TO PREVIOUS MENU

ENTER SELECTION:

ENTER STATION NUMBER(S):
```

When enabled by the following menu, pressing any other line key at a multiline station will automatically place an active line on hold. The user can move easily from line to line without pressing the **HOLD** key.

The defaulted system disables automatic hold.

- The station number response can be a delimited string to specify all stations at which automatic hold is desired. Delimit the string with comma or space delimiters as described previously.

Station COS Sub-Menu 17 - Message Wait Originate

```
MESSAGE WAIT ORIGINATE

1. ENABLE MESSAGE WAIT ORIGINATE
2. DISABLE MESSAGE WAIT ORIGINATE
3. RETURN TO PREVIOUS MENU

ENTER SELECTION:

ENTER STATION NUMBER(S):
```

A station set can be programmed to set message waiting lamps at other stations.

The defaulted system disables message wait originate.

- The station number response can be a delimited string to specify all stations at which message wait origination is allowed or denied. Delimit the string with comma or space delimiters as described previously.

Station COS Sub-Menu 18 - Flexible Key/Function Assignment

The function of the keys on a multiline station are programmable with the following menu.

The defaulted system maps the keys of multiline stations as follows:

KEYS:	A1	A2	A3	A4	A5	A6	A7	B7	B5	B3	B1
LINES:	21	19	17	15	13	11	9	7	5	3	1
KEYS:	A8	A9	A10	A11	A12	A13	A14	B8	B6	B4	B2
LINES:	22	20	18	16	14	12	10	8	6	4	2

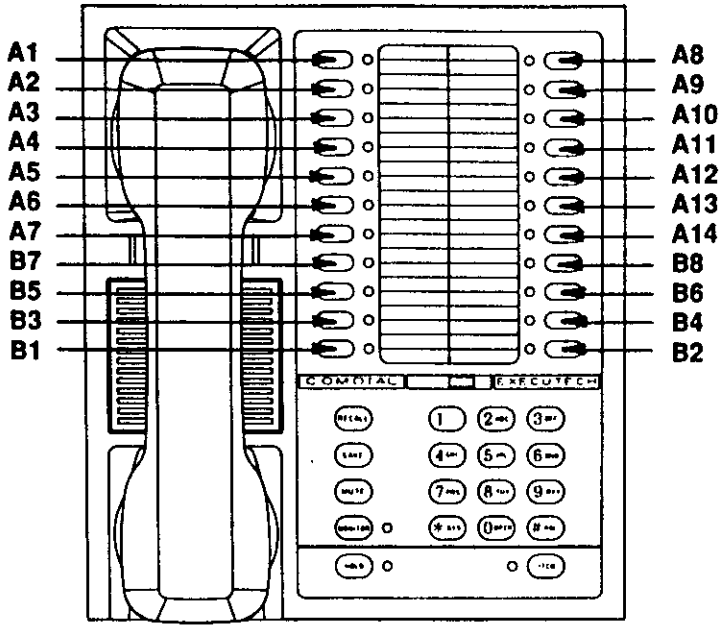
```
BUTTON MAPPING

1. PROGRAM 3/8 LINE STATION
2. PROGRAM 22 LINE/FEATURE OR LCD FEATURE
3. RETURN TO PREVIOUS MENU

ENTER SELECTION:

ENTER STATION NUMBER:

ENTER BUTTON NUMBER:

ENTER BUTTON FUNCTION:
```

- Station number entry: 10 ---- 105

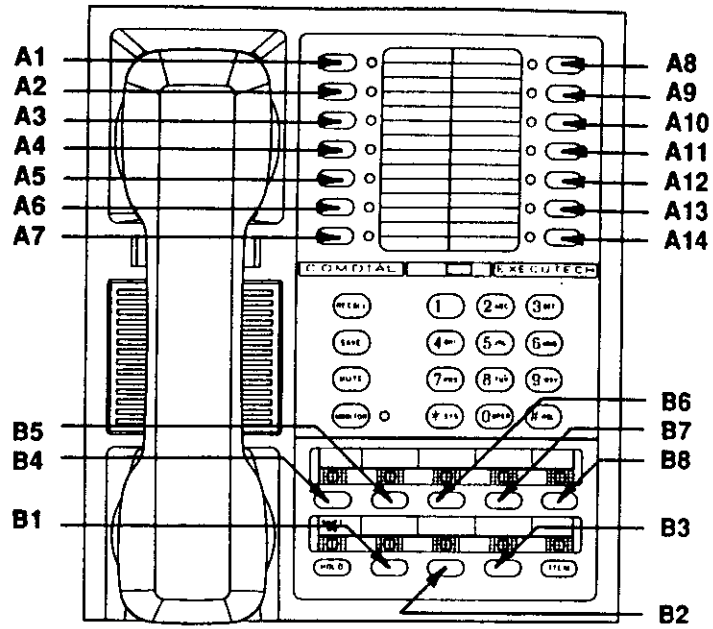
- Button number entry: A1 ---- A15
  (See Figure 3-3) B1 ---- B8

- Button function entry:
  L1 ---- L22 = lines 1 - 22
  S10 ---- S137 = DSS stations 10 - 137
  BL = blank function

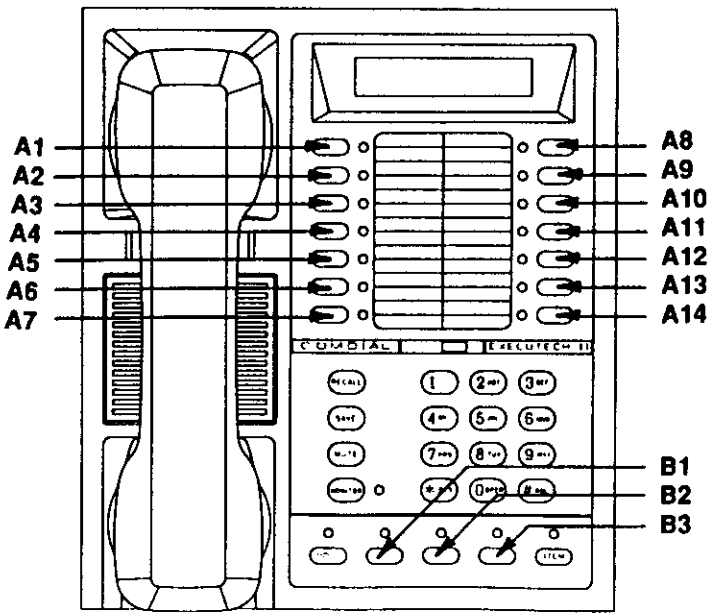
NOTE: *When keys B1, B2, and B3 are blanked, they become dynamic line keys. Other blank keys become available for auto dial number assignment. The system temporarily assigns a normally unassigned line to a dynamic line key for certain call handling operations.*



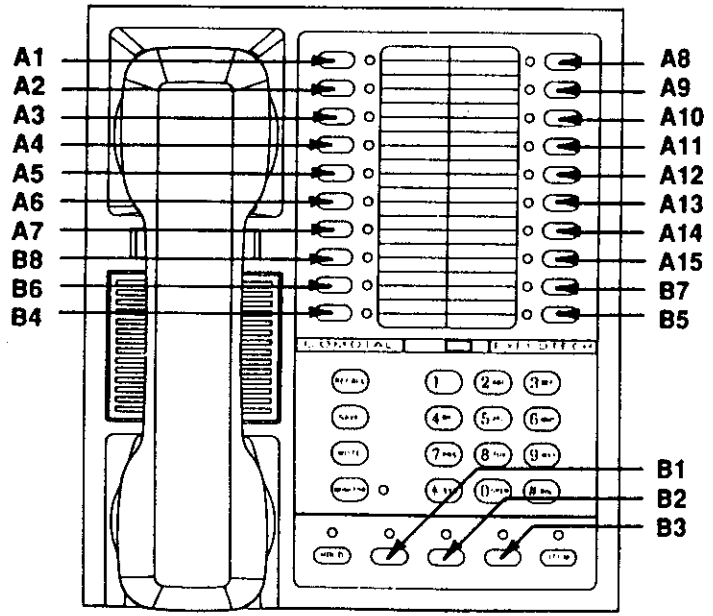
6622-xx



6614-xx



6600-xx



6620-xx

Figure 3-3. Location Of I ` On Telephone Faceplate

Station COS Sub-Menu 19 - System Speed Dial Toll Restriction

```
SYSTEM SPEED DIAL TOLL RESTRICTION

1. ENABLE TOLL RESTRICTION
2. DISABLE TOLL RESTRICTION
3. RETURN TO PREVIOUS MENU

ENTER SELECTION:

ENTER STATION NUMBER(S):
```

Previously programmed toll restriction tables are applied to system speed dial calls when the calls are made from stations programmed with the following menu.

The defaulted system disables toll restriction for system speed dial calls.

- The station number response can be a delimited string to specify all stations at which toll restriction tables will affect system speed dial numbers. Delimit the string with comma or space delimiters as described previously.

Station COS Sub-Menu 20 - Station Modeling

```
SET UP A STATION (USING A MODEL STATION)

ENTER MODEL STATION NUMBER:

ENTER PROGRAM STATION NUMBER(S):
```

A block of stations can be assigned the same class of service programming parameters as a particular model station.

- The program station number response can be a delimited string to specify all stations which are to match the model station in features. Delimit the string with comma or space delimiters as described previously.

Station COS Sub-Menu 21 - Thru Dialing/OPX

```
THRU DIALING / OPX

1. ENABLE THRU DIALING / OPX
2. DISABLE THRU DIALING / OPX
3. RETURN TO PREVIOUS MENU

ENTER SELECTION:

ENTER STATION NUMBER(S):
```

The above menu enables or disables an OPX port to serve telephony devices connected to the system through the Off Premise Extension (OPX) accessory unit. The port must first be programmed as a single line station using the System COS Sub-Menu 2 - Station Port Identification on page 4-6.

The enabled OPX port offers the following features:

- Call Transfer: Allows the device connected to the OPX accessory to transfer calls through the port using industry-standard hook-flash call transfer action.
- End-To-End Signalling: DTMF signalling tones are provided to the device connected to the OPX accessory when the port extension is dialed from an Executech station via the intercom line.
- Through-Dialing: Through-Dialing to the outside line by the device connected to the OPX accessory unit can be enabled or disabled.
  - When enabled, DTMF is generated by the OPX station instead of by the system. This setting should be used if the device attached to the OPX accessory unit (such as an industry-standard model 2500 telephone set) is capable of this function.
  - When disabled, the system is allowed to send DTMF tones on the CO line. This setting should be used if the device attached to the OPX accessory unit (such as a rotary dial telephone set) is not capable of this function.

The defaulted system disables the through dialing/OPX feature.

Station COS Sub-Menu 22 - Assign Hunt Group

Station ports can be assigned to intercom hunt groups with the following menu. When a station assigned to a hunt group is busy, a call to it will ring at the next idle station in the group. If all stations in a hunt group are busy, a busy tone is returned to the caller.

The defaulted system does not assign any hunt groups.

ASSIGN HUNT GROUP

1. ENABLE HUNT GROUP
2. DISABLE HUNT GROUP
3. RETURN TO PREVIOUS MENU

ENTER SELECTION:

ENTER STATION NUMBER:

ENTER HUNT GROUP STATION NUMBER:

Typical hunt group operation is as follows:

TERMINAL HUNTING

Assume that a hunt group is formed where station port 013 is linked to station port 014; station port 014 is linked to station port 015; and station port 015 is linked to station port 016. Further assume that station port 013 and 014 are busy when an intercom call is directed to station port 013. That intercom call will ring at station port 015 because it is the first idle port in the group. If port 015 is also busy, the call will ring at station port 016.

In the above example, the group is open-ended or terminal. A call will be routed down the group from the busy station port. If it reaches the end of the group without encountering an idle station, it will stop.

A particular station can be linked at the end of more than one hunt group so long as the sixteen station ports per group are not exceeded. For instance, a second typical hunt group could be formed to link station ports 020 to 021 to 022 to 016. Thus, station port 016 would serve in both terminal hunt groups although the groups are independent otherwise. Other terminal hunt groups could also be formed with station port 016 as the last station in the group.

CIRCULAR HUNTING

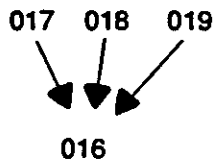
A hunt group can be made circular by linking the last port in the group with the first port in the group. In the first example given above, this would mean linking station port 016 to station port 013. In a circular hunt group, a call will search around the group until it encounters an idle station port or until all stations in the group, up to a maximum of sixteen, are searched.

HUNT GROUP GUIDE LINES

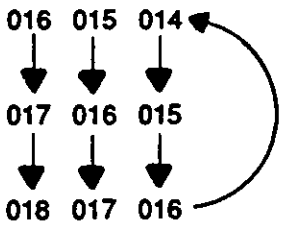
In forming intercom hunt groups, the following guidelines apply:

- A minimum of two stations ports can form one hunt group.
- A maximum of sixteen station ports can be placed in one hunt group.
- Multiple hunt groups can be formed.
- The call forwarding feature is disabled for all but the last station port assigned to a hunt group.
- The maximum number of hunt groups that can be formed is determined by the number of stations available and the sixteen station per group limitation.
- A station port can have only one other station port added to it but it can be added to the end of any number of station ports. In this case, it adds to the count in each hunt group that it is added to. See example 1.
- A station port can be the first or intermediate port in only one hunt group. See examples 2.

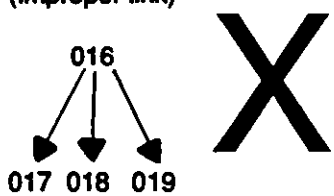
EXAMPLE 1
(proper link)



EXAMPLE 2
(proper links)



EXAMPLE 3
(improper link)



TOLL RESTRICTION CLASS OF SERVICE MENU (Applies To Administrative Stations Only)

Before programming the Toll Restriction class of service, enter the toll restriction requirements on the programming reference tables found at the end of this chapter.

In order for toll restriction to take effect, the following three-fold process must occur.

- One or more toll tables must be entered
- Toll tables must be assigned to all appropriate lines.
- Toll tables must be assigned to all appropriate stations.

After the toll tables are programmed using the Toll Restriction Table Administration menu, they must then be assigned to both a line and a station using that line before any programmed toll restriction will be activated at the station.

BUSINESS SYSTEM TOLL TABLE DEFAULT

When the system is configured for business system applications, two toll restriction tables are defaulted with pre-programmed values and are pre-assigned to the lines. They need only to be assigned to the stations to put them into effect.

The defaulted tables can be re-programmed with different information using the normal proogramming procedure. They also can be cleared from any desired line(s) using the normal Line COS programming procedure.

The pre-programmed values are as follows:

TABLE 1 (Deny)	TABLE 2 (Allow)
1 1	1 1800
2 976	2 911
3 411	3
4 0	4

TABLE ENTRY

1. Determine the types of dialing restrictions which must be imposed on the system. Typically, this includes access codes which result in toll charges, and certain local numbers as desired.
2. If the restricted dialing codes will be imposed consistently on most or all stations in the system, list them on one or two tables. If wide variation in the dialing restrictions is planned, spread the listing out across several tables.
3. Strategically group the listings on the tables so that a list of restrictions can be applied to a particular station or group of stations.
4. Designate each table as a DENY table or as an ALLOW table. The numbers entered in a DENY table are prevented from being dialed. ALLOW tables take precedence over DENY tables. Therefore, an entry in an allow table will provide an explicit exception to an entry in a DENY table. Note that the system always permits the dialing of any number not explicitly denied. Also, system speed dial numbers will not be toll restricted unless specified by station COS programming.

   Example A: Provide a simple and broad toll restriction format by creating a DENY table with two entries:

   ENTRY (1) = 1 ENTRY (2) = 0. This format prevents all long distance and operator calls.

   Example B: Prevent the dialing of all numbers within the (804) area code, while allowing the dialing of one specific number within that area code, by entering 1804 in a DENY table and 18049782200 in an ALLOW table.
5. Press the # key in place of a particular digit to condense a range of numbers into one entry. The # character is a "match-anything" digit, and can be included in an entry in either a DENY table or an ALLOW table.

   Example A: If 357, 377, 387, and 397 dialing is to be prohibited, list one entry of 3#7 on a DENY table to cover them all.

   Example B: Since area codes typically have a 1 or a 0 as a middle digit, prevent long distance calls to those area codes by entering 1#1# and 1#0# in a DENY table.
6. Since it is important that emergency numbers never be restricted, always create an allow table with entries of 911 and 1911 to override any DENY tables that have been created.
7. If the system is installed behind a PBX, include an access code as part of every table entry.
8. Once these tables are completely filled out, enter the restriction planning tables on the line, and station programming reference charts to record the planned toll restrictions for the system.

SYSTEM-WIDE DIAL 8 AND DIAL 9 CALL CONTROL (Room Telephones)

The Dial 8 and Dial 9 Call Control Tables for Room Telephone line access are established as follows:

1. List the numbers on the toll restriction tables which are to be denied to the Room Telephone via both Dial 8 and Dial 9 trunk calls.

   - Dial 9 Call Control Tables
     Using available Toll Restriction tables, group together, on one or more deny tables, all numbers which are to be denied to the Room Telephone when the user dials 9 to access a trunk. These numbers must always include:
     - 0
     - 1
     - Any local dialing prefixes that management wants restricted.

     Mark these deny tables as Dial 9 (Local) call control tables.

   - Dial 8 Call Control Tables
     Using available Toll Restriction Tables, group together, on one or more deny tables, all numbers which are to be denied to the Room Telephones when the user dials 8 to access a trunk. These numbers must always include:
     - All local dialing prefixes and long-distance area codes that the management wants restricted.

     Mark these deny tables as Dial 8 (Toll) call control tables.

2. Program the Dial 8 and Dial 9 call control tables using the Toll Restriction COS Sub-Menu 2 below.
3. Assign the Dial 8 and Dial 9 call control tables to all Room Telephones using the Hotel Administration Sub-Menu 5 on page 3-33.

NOTE: The tables are automatically assigned to every station port that was programmed as a single-line hotel station (room telephone) and to dial 9 and dial 8 line groups.

Refer to the information entered on the toll restriction reference tables during the following programming exercise.

```
TOLL RESTRICTION TABLE ADMINISTRATION

1. BUILD / MODIFY AN ALLOW TABLE
2. BUILD / MODIFY A DENY TABLE
3. CLEAR A TABLE / ENTRY
4. RETURN TO PREVIOUS MENU

ENTER SELECTION:
```

Toll Restriction COS Sub-Menu 1 - Create Or Modify An Allow Table

```
BUILD / MODIFY AN ALLOW TABLE

ENTER TOLL TABLE NUMBER:

ENTER ENTRY NUMBER:

ENTER DIGITS:
```

- Toll table number: 1 ---- 9 = tables 1 - 9
  A ---- G = tables 10 - 16
- Entry number: 1 ---- 4
- Digits: dialing number to be allowed (sixteen digits maximum)

Toll Restriction COS Sub-Menu 2 - Create Or Modify A Deny Table

```
BUILD / MODIFY AN DENY TABLE

ENTER TOLL TABLE NUMBER:

ENTER ENTRY NUMBER:

ENTER DIGITS:
```

- Toll table number: 1 ---- 9 = tables 1 - 9
  A ---- G = tables 10 - 16
- Entry number: 1 ---- 4
- Digits: dialing number to be denied (sixteen digits maximum)

Toll Restriction COS Sub-Menu 3 - Clear A Table / Entry

```
CLEAR A TABLE / ENTRY

1. CLEAR AN ENTRY
2. CLEAR A TABLE
3. RETURN TO PREVIOUS MENU

ENTER SELECTION:
```

```
CLEAR AN ENTRY
ENTER TOLL TABLE NUMBER:
ENTER ENTRY NUMBER:
```

```
CLEAR A TABLE
ENTER TOLL TABLE NUMBER:
```

HOTEL ADMINISTRATION CLASS OF SERVICE MENU

Hotel administration features are not available for selection if the system is programmed as a business system using the System COS Sub-Menu 1 - COS Default on page 3-5.

```
HOTEL DATA ADMINISTRATION

1. RESERVED
2. SMDR/SMDA ADMINISTRATION
3. INTERCOM SHORT TIMEOUT
4. ROOM MAPPING
5. ROOM HEADER DEFINITION
6. CALL CONTROL TABLES
7. SINGLE DIGIT DIALING
8. ROOM SYSTEM SPEED DIAL ACCESS
9. EXTERNAL SMDA UNIT ADMINISTRATION
10. REMOTE LINE PICKUP
11. ROOM TYPE DEFINITION
12. ROOM TYPE ASSIGNMENT
13. AUTO WAKEUP
14. DEAD PHONE ALARM
15. HOUSE PHONE ASSIGNMENT
16. EXTENDED LINE GROUPS
17. RETURN TO PREVIOUS MENU

ENTER SELECTION:
```

Hotel Administration Sub-Menu 2 - SMDA/SMDR Unit Administration

Line item 2 on the Hotel Administration Class Of Service Menu presents the following sub-menu for use. Use the choices from this sub-menu to administer **integrated call costing** (as described below) for the system.

The defaulted hotel system provides the following conditions:

- Exceptions = none
- Local Rate = no rate assigned
- Call Rate = no rate assigned
- Banding = no rate assigned
- Local Call Banding = disabled
- Answer Time Limit = 20 seconds
- Dial Time Limit = 0

```
SMDA/SMDR UNIT ADMINISTRATION

1. LOCAL RATE ADMINISTRATION
2. TOLL RATE ADMINISTRATION
3. CLEAR TOLL RATE TABLES
4. BANDING ADMINISTRATION
5. LOCAL CALL BANDING
6. EXCEPTION TABLES
7. SMDA/SMDR RECORD PRINT AND STORAGE
   ADMINISTRATION
8. ANSWER TIME LIMIT
9. DIAL TIME LIMIT
10. RETURN TO PREVIOUS MENU

ENTER SELECTION:
```

- Enter selection number and press RETURN. Prompting menu appears.
- Respond to each prompting menu line and press RETURN.
- Make next number choice from Hotel Administration Sub-Menu 2.

INTEGRATED CALL COSTING DESCRIPTION

Call costing, in general, provides a means of establishing costing to be applied to calls that are made from room telephones and from administration telephones. Call costing computes charges for a call after it is completed. It does not restrict dialing as toll restriction does. The system provides four ways of establishing call costing.

- Exception tables
- Area/Office code banding
- Call rate tables
- Local rate costing

Between the exception table, costing bands, and the call rate tables it is possible to apply reasonable rates for the entire country.

Call costing is applied to a dialed number as described below and detailed in Figure 3-4 on page 3-27.

- Dial 0 calls, Dial 8 trunk calls, and Dial 9 trunk calls when local toll is enabled, are all first compared to pre-programmed entries in the call exception tables to determine if a match can be made. The call exception tables are searched on a first match basis. This means that the first programmed entry that matches the call is the one that is used. Matched calls are routed to call rate tables specially programmed to cost them. Un-matched Dial 8 trunk

calls, and Dial 9 trunk calls when applied, are directed to band tables where a comparison for a match with pre-programmed entries occurs. Un-matched dial 0 calls are routed straight to call rate tables for comparison with those pre-programmed entries.

- After comparison with band table entries, dial 8 and dial 9 trunk calls that do not match are routed to call rate tables for comparison to those table entries. Once compared with entries in the call rate tables, matched calls are costed according to those programmed rates.
- Un-matched dial 0 and dial 8 trunk calls are costed at rates programmed into the general rate costing table (Rate Table 1).

CALL COSTING EXCEPTION TABLES

Four exception entries precedes the banding and costing tables as described below. These exception entries are assigned special costing rates and are searched first for a match before the band tables and call rate tables are searched. This allows for costing exceptions similar to the following example.

Example: When area code such as 804 is assigned to band table 1 costing, all calls made to area code 804 are costed per the band 1 rate. An exception can be made for a number such as 804-555-1212 if desired. To do this, program exception table 1 with the number 804-555-1212. Since exception table entries take precedence over banding, the special costing rate assigned to exception table 1 will be applied to all 804-555-1212 calls.

AREA/OFFICE CODE BANDING

Area/Office code banding provides a means of assigning area codes 200 - 999 and local office codes into different groups, or bands, and applying a separate call costing rate table to each band.

- Any or all area/office codes nnn (200-999) can be assigned to one of seven different bands. Each band, in turn, is associated automatically by the system to a rate table. (Bands 1-7 are associated with rate tables 11-17, respectively.)
- Bands are normally constructed to group area codes with similar costing. Bands may also be used to group local office codes by cost.
- Once assigned, the band cost rate is applied to any number that matches either nnn or 1+nnn.
- Dial 0 calls whether placed through the dial 8 trunk group or the dial 9 trunk group are always costed by the call rate tables and never by the band tables. The table of last resort for dial 0 calls is call rate table 2. This means that if no call rate table is found to match the dial zero call, call rate table 2 is automatically used.

NOTE: *Typically, dial 0 calls are restricted by Toll Restriction class of service. When they are not restricted, they normally are costed by the long distance carrier or operator assistance provider.*

Installed CO lines should be TTTXA type lines. A TTTXA type line will notify the operator that a dial 0 call is originating from a hotel. The opertor will then only allow a credit card or collect call to be made.

- If bands are assigned, they will be automatically applied to calls that are made through the dial 8 trunk group. However, bands are not automatically applied to calls made through the dial 9 trunk group unless enabled by programming action. Use the Local Call Banding - prompting menu 5 from the SMDA/SMDR Administration menu on page 3-30 (Hotel Administration Sub-Menu 2) for this purpose.
- When local call banding is enabled to provide local toll calling of office codes, calls that are made through the dial 9 trunk group are costed through the same process as toll calls made through the dial 8 trunk group with one exception. When no match can be found by the system, the local rate costing administration will be used instead of the toll rate table of last resort (table 1).
- If no band has been assigned for a particular area/office code that is dialed, the system will then, in turn, sequentially search call rate tables 2 through 33 for the most complete match. When neither an assigned band nor a matching rate table can be found for the area/office code, the following action takes place:
  - Dial 8 trunk group calls are then costed by rate table 1. Rate table 1 is the table of last resort (general table) for costing non-matched calls made over the dial 8 trunk group.
  - Dial 9 trunk group calls are costed by rates set from the Local Rate Administration - prompting menu 1 from the SMDA/SMDR Administration menu on page 3-29 (Hotel Administration Sub-Menu 2).

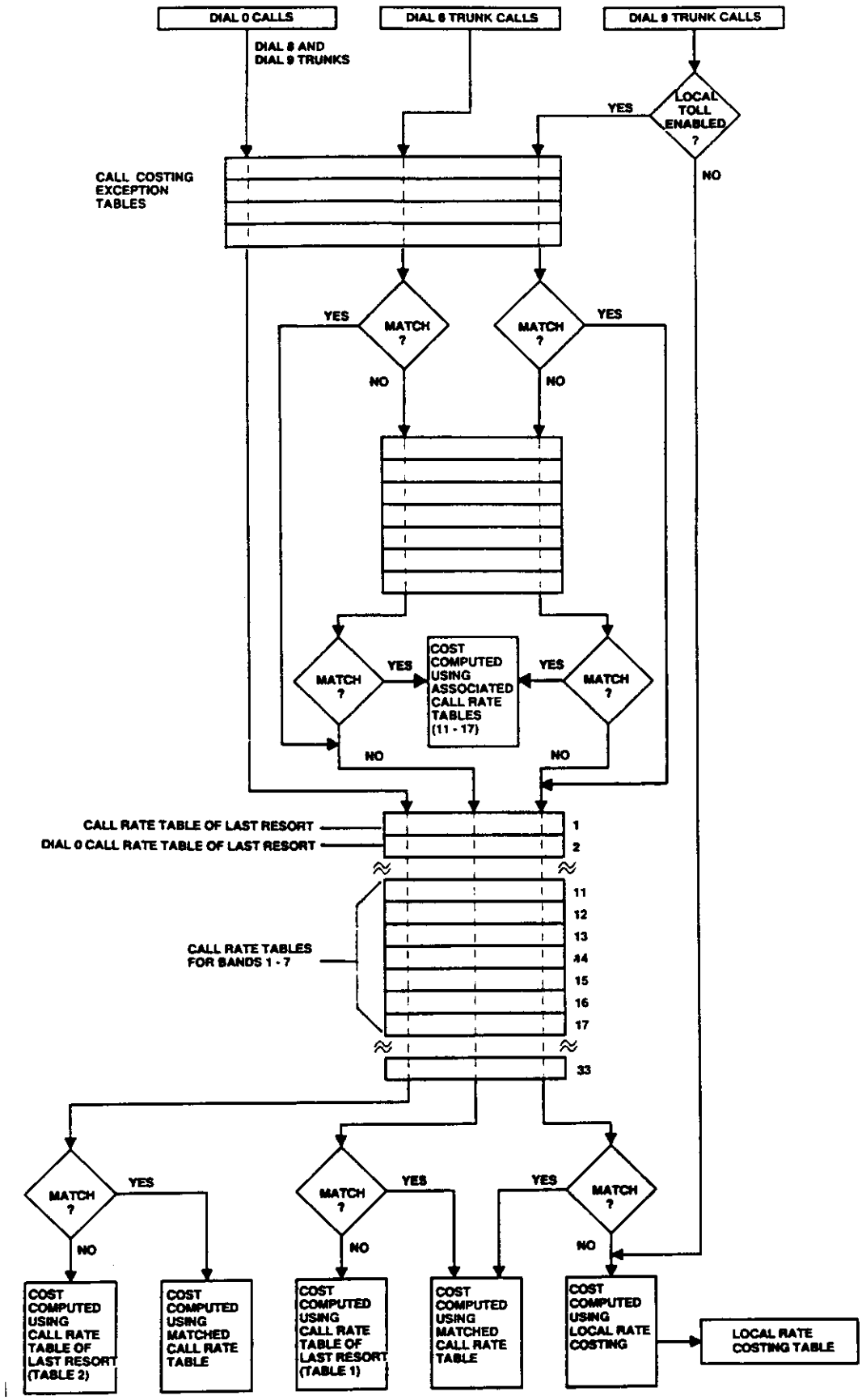


Figure 3-4. Integrated Call Costing Flow Diagram

CALL RATE TABLES

The call rate tables (2-33) have the third level of priority when call costing is applied by the system.

- Calls that are made through the dial 8 trunk group and that do not match any banded tables are costed by the remaining call rate tables.

NOTE: If they do not match any of these rate tables, they are costed with the rates in call rate table 1.

- International calls should normally be costed by the long distance carrier or operator assistance provider. Certain selected international calls could be costed by the rate tables if necessary.
- A maximum of thirty-two tables can be constructed (including both banding and non-banding tables).
  - Call rate table 1 is the table of last resort for costing all dial 8 trunk group toll calls if no other rate table is applicable to the call.
  - Call rate table 2 is the table of last resort for costing all dial 0 calls if no other rate table is applicable to the calls. Table 2 can be programmed to cost other dialed numbers if desired.
  - Call rate tables 11 through 17 must be used to apply rates to costing bands calls made to particular area or office codes.
    - Rates applied to tables 11-17 apply to bands 1-7 if assigned.
- Call rate tables 3 through 33 are used to cost exception tables and toll calls that have special or extraordinary rates, such as: 1-800-555-1212 or 1-900-976.
  - Each call rate table can be programmed with up to 16 digits.
  - Digits are selected so that a particular dialed number or number group will be matched to a particular rate table.
    - The table with the best match is used by the system to cost the call.
    - All digits programmed into a table must match a dialed number to be considered a match.
- The call rate table with the most matching digits is used to cost the call.
  - If a number does not match all of the digits programmed into any call rate table, the system costs the call in accordance with one of the call rate tables of last resort (table 1 or table 2).
    - Typical call rate table costing examples are as follows:

Examples	Rate Table 12 Digits As'gnd	Rate Table 15 Digits As'gnd	Dialed Number	Costing Table
Example 1	1900976	19009762	19009761212	12
Example 2	190097612	19009761212	19009761234	12
Example 3	190097612	1900976123	19009761234	15
Example 4	19009761234	19009761243	19009761244	1
Example 5	07035551234		7355512340	2

LOCAL RATE COSTING

- When local call banding is not programmed to provide local toll call costing of office codes, calls that are made through the dial 9 trunk group are costed with the local rate costing administration. This costing is also applied when no match can be found by the system when local call banding is enabled.

INTEGRATED CALL COSTING PROGRAMMING

Using the records tables found at the end of this chapter, plan the Exception tables, theArea/Office code banding tables, the call rate tables, and the local rate costing.

The defaulted hotel system provides the following conditions:

- Local Rate = no rate assigned
- Toll Rate = no rate assigned
- Banding = no rate assigned
- Local Call Banding = disabled

- Use a telephone company area code map to establish a maximum of seven calling bands based upon distances from the installation or use any available costing standard desired. Establish rates for local area office codes (if required) and determine if any exceptions are needed.

Local Rates Administration - prompting menu 1 (Hotel Administration Sub-Menu 2 - SMDA/SMDR Unit Administration)

To program local toll calling:

- From Main Menu, type 5 and **RETURN**.
- From Hotel Data Administration menu, type 2 and **RETURN**.
- From SMDA/SMDR Unit Administration menu, Type 1 and **RETURN**.
- Assign the local rate costing per the following prompting menu.

LOCAL RATES
ENTER LOCAL RATE IN CENTS:
ENTER SURCHARGE IN CENTS:

- Enter TELCO billed cost for local call in cents (25 cents = 25) or enter **0** for no cost and press **RETURN**.
- Enter hotel/motel cost for local calls and press **RETURN**.

Toll Rates Administration - prompting menu 2 (Hotel Administration Sub-Menu 2 - SMDA/SMDR Unit Administration)

To program call rate tables:

- From Main Menu, type 5 and **RETURN**.
- From Hotel Data Administration menu, type 2 and **RETURN**.
- From SMDA/SMDR Unit Administration menu type 2 and **RETURN**.
- Assign the call rate table costs per the following prompting menu:

TOLL RATES
ENTER RATE TABLE NUMBER:
ENTER TIER 1 TIME (IN TENTH OF MINUTES):
ENTER TIER 1 RATE IN CENTS:
ENTER TIER 2 RATE IN CENTS:
ENTER SURCHARGE IN CENTS:
ENTER DIGIT(S):

- Enter call rate table number (1 - 33).
- Enter time in tenths of minutes (1 = 6 seconds, 10 = 60 seconds).
- Enter rate cost in cents (25 cents = 25).
- Enter digits as a continuous string without spaces (18049782200).
- A call rate table number entry can include a # character as a "match anything" digit.
- Enter the # character in place of a group of digits to condense a range of numbers into one entry. For example, 1###5551212 will assign the table rates to all calls made to long distance directory assistance regardless of the area code dialed.
- Press RETURN.
- Programming example:

ENTER RATE TABLE NUMBER:	3
ENTER TIER 1 TIME (IN TENTH OF MINUTES):	30 (3 minutes)
ENTER TIER 1 RATE IN CENTS:	120 ($1.20)
ENTER TIER 2 RATE IN CENTS:	75 ($0.75)
ENTER SURCHARGE IN CENTS:	50 ($0.50)
ENTER DIGIT(S):	19009762525

In this example, a call to 1-900-976-2525 will be costed at:

- $1.20 per minute for the first 3 minutes
- $0.75 per minute for every minute thereafter.
- $0.50 surcharge is added to the call.

Clear a SMDA call rate table of all Information:

- From Hotel Administration Menu, press **2 RETURN**.
- From SMDA/SMDR Administration menu, Press **3 RETURN**.
- Respond to prompting lines to clear table.
- Press **RETURN**.

Banding Administration - prompting menu 4
(Hotel Administration Sub-Menu 2 - SMDA/SMDR Unit Administration)

COSTING BAND ASSIGNMENT

To assign costing bands for dial 8 trunk group area codes and dial 9 trunk group office codes,

- Program SMDA call rate tables (11-17) to establish costs for bands (1-7) using the procedure as detailed above.
- Program the band number/area code assignment as follows:
  - From Hotel Data Administration menu, type 2 and **RETURN**.
  - From SMDA/SMDR Unit Administration menu type 4 and **RETURN**.
  - Assign area/office codes to band tables per the following menu:

```
BANDING ADMINISTRATION
ENTER BAND NUMBER:
ENTER AREA/OFFICE CODE NUMBER(S):
```

- Enter band number 1-7 and press **RETURN**.
- Enter area code or office code number to be costed per selected band and press **RETURN**.
  - Entry can be a delimited string of all codes applicable to a particular costing band as follows: nnn,nnn,nnn,nnn. A maximum of fifty (50) 3-digit delimited codes can be entered on one prompt line.
- Repeat for next band number or enter same band number if it is to be assigned to more than fifty different area or office codes.
- Press **RETURN**.

NOTE: The system automatically applies the call rate tables to the proper bands when the band assignments are made.

Local Call Banding - prompting menu 5
(Hotel Administration Sub-Menu 2 - SMDA/SMDR Unit Administration)

LOCAL RATE ASSIGNMENT

To assign costing for local toll calling (dial 9 trunk group calls),

- Establish costs for local calls using the local rate costing procedure or rate table costing procedure as detailed above.
- Turn on or turn off band costing for local toll calling:
  - From Hotel Data Administration menu, type 2 and **RETURN**.
  - From SMDA/SMDR Unit Administration menu type 5 and **RETURN**.
- Enable either local toll call costing or local call banding per the following menu:

```
ENTER 1 FOR LOCAL BANDING 0 FOR NO LOCAL
BANDING:
```

- Enter 1 and press **RETURN** to apply band costing to local area code calls.
- Enter 0 and press **RETURN** if local area code calls are to be costed per the local rate administration.
- Press **RETURN**.

Exception Tables - prompting menu 6
(Hotel Administration Sub-Menu 2 - SMDA/SMDR Unit Administration)

To program call costing exceptions tables:

- From the Main Menu, type 5 and RETURN.
- From the Hotel Administration Menu, type 2 and RETURN.
- From the SMDA/SMDR Administration Menu, type 6 and RETURN
- Assign exception tables per the following menu:

```
ENTER EXCEPTION ENTRY:
ENTER DIGITS:
ENTER RATE TABLE NUMBER
```

- Type entry number: 1 - 4 and RETURN.
- Type exeption number digits:
  - Sixteen digits maximum with # = "match anything digit.
- Type rate table number: 1 - 33 and RETURN.

- Repeat as necessary to enter all required exceptions.
- Press RETURN.

SMDA/SMDR APPLICATION PARAMETERS

RECORD, PRINT, AND STORAGE ADMINISTRATION

Determine the record, print and storage administration needs for SMDA/SMDR and program them with the following menu.

The defaulted hotel system provides the following conditions:

- Do not store SMDA records for administration phones
- Print SMDR records without cost for administration phones
- Allow call from administration phone on SMDA record congestion
- Do not store SMDA records for room phones
- Print SMDR records without cost for room phones
- Allow call from room phone on SMDA record congestion
- Credit card number blankout for SMDA/SMDR report

SMDA/SMDR Record Print And Storage Administration-prompting menu 7 (Hotel Administration Sub-Menu 2 - SMDA/SMDR Unit Administration)

```
SMDA/SMDR RECORD PRINT
AND STORAGE ADMINISTRATION
 1. STORE SMDA RECORDS FOR ADMINISTRATION PHONES
 2. DO NOT STORE SMDA RECORDS FOR ADMINISTRATION PHONES
 3. DO NOT PRINT SMDR RECORDS FOR ADMINISTRATION PHONES
 4. PRINT SMDR RECORDS WITH COST FOR ADMINISTRATION PHONES
 5. PRINT SMDR RECORDS WITHOUT COST FOR ADMINISTRATION PHONES
 6. ALLOW CALL FROM ADMINISTRATION PHONE ON SMDA RECORD CONGESTION
 7. DENY CALL FROM ADMINISTRATION PHONE ON SMDA RECORD CONGESTION
 8. STORE SMDA RECORDS FOR ROOM PHONES
 9. DO NOT STORE SMDA RECORDS FOR ROOM PHONES
10. DO NOT PRINT SMDR RECORDS FOR ROOM PHONES
11. PRINT SMDR RECORDS WITH COST FOR ROOM PHONES
12. PRINT SMDR RECORDS WITHOUT COST FOR ROOM PHONES
13. ALLOW CALL FROM ROOM PHONE ON SMDA RECORD CONGESTION
14. DENY CALL FROM ROOM PHONE ON SMDA RECORD CONGESTION
15. CREDIT CARD NUMBER BLANKOUT FOR SMDA/SMDR REPORT
16. NO CREDIT CARD NUMBER BLANKOUT FOR SMDA/SMDR REPORT
17. RETURN TO PREVIOUS MENU

ENTER SELECTION:
```

- Enter one selection at a time followed by a RETURN.
  - Enter **1** or **2**. Press **RETURN**
  - Enter **3**, **4**, or **5**. Press **RETURN**
  - Enter **6** or **7**. Press **RETURN**
  - Enter **8** or **9**. Press **RETURN**
  - Enter **10**, **11**, or **12**. Press **RETURN**
  - Enter **13** or **14**. Press **RETURN**
  - Enter **15** or **16**. Press **RETURN**
  - Enter **17**. Press **RETURN**
- Make next number choice from Hotel Administration Sub-Menu 2.

EXAMPLE: To program for the following parameters,

- Do not store SMDA records for administration telephones
  - Press **2** then press **RETURN**.
- Print SMDR records with cost for administration telephones
  - Press **4** then press **RETURN**.
- Allow call from administration telephone on SMDA record congestion
  - Press **6** then press **RETURN**.
- Store SMDA records for room telephones
  - Press **8** then press **RETURN**.
- Do not print SMDR records for room telephones
  - Press **10** then press **RETURN**.
- Deny call from room telephones on SMDA record congestion
  - Press **14** then press **RETURN**.
- Blank out credit card number on SMDR printout reports
  - Press **15** then press **RETURN**.

Answer Time Limit - prompting menu 8 (Hotel Administration Sub-Menu 2 - SMDA/SMDR Unit Administration)

The system can be programmed to wait for a period of time before beginning call cost recording on a call per the following menu.

The defaulted hotel system provides an answer time limit of 20 seconds.

ANSWER TIME LIMIT

ENTER TIME LIMIT (IN TENTHS OF MINUTES)

- Enter time and press RETURN. Enter time in tenths of minute (6 seconds = 1, 60 seconds = 10).
- Make next number choice from Hotel Administration Sub-Menu 2.

Dial Time Limit- prompting menu 9 (Hotel Administration Sub-Menu 2 - SMDA/SMDR Unit Administration)

Dialing time is not costed when the system records costing time of a call. The amount of time that the system ignores for dialing purposes is programmable from the following menu.

The defaulted hotel system provides a dial time limit of 0.

DIAL TIME LIMIT

ENTER DIAL TIME LIMIT (IN TENTHS OF MINUTES)

- Enter time and press RETURN. Enter time in tenths of minute (6 seconds = 1, 60 seconds = 10).
- Make next number choice from Hotel Administration Sub-Menu 2.

Hotel Administration Sub-Menu 3 - Intercom Short Timeout

Should the intercom line be selected with no dialing or other action taking place, the intercom will timeout after a programmed length of time, and return to an idle state. The following menu is used to program the timeout period.

The defaulted hotel system provides a timeout of 15 seconds.

INTERCOM SHORT TIMEOUT

1. 15 SEC.
2. 30 SEC.
3. 45 SEC.
4. 60 SEC.
5. 90 SEC
6. RETURN TO PREVIOUS MENU

ENTER SELECTION:

Hotel Administration Sub-Menu 4 - Room Mapping

The room map determines the format of the screens that are displayed during the day-to-day system management operations performed by the front desk. The room map is made up of 13 groups of 10 rooms per group. This arrangement permits the entire system complement of rooms to be presented on one display.

The defaulted hotel system provides the following mapping assignment:

- Groups 1-13 = rooms 100-220 by tens.

ROOM MAPPING

ENTER ROOM GROUP NUMBER:

ENTER EXTENSION NUMBER OF FIRST STATION IN GROUP:

Room map programming is used to declare the first extension number in each group of room telephones. Programming the extension number of the first room in a group will automatically map the remainder of the group. For example, entering 100 automatically maps 101 through 109.

IMPORTANT NOTE: *Room mapping does not assign extension numbers to station ports. All station port/room number, and station port/extension number programming should be performed before room mapping is programmed (see System COS Sub-menu 12 - Assign Extension Number To Port on page 3-9). In typical hotel applications, a room number and the associated extension number are normally the same number (i.e.; dialing extension number 100 calls the telephone in room 100).*

- It is recommended that all groups start on even numbers of 10.

A typical room map format is as follows:

TYPICAL ROOM MAP FORMAT

GROUP	LOWEST EXTENSION IN GROUP	EXTENSION NUMBERS OF TELEPHONES IN GROUP 0 1 2 3 4 5 6 7 8 9
1	100	
2	110	
3	120	
4	130	
5	140	
6	150	
7	160	
8	170	
9	180	
10	190	
11	200	
12	210	
13	220	

Hotel Administration Sub-Menu 5 - Room Header Definition

The front desk screens identify each room at specific locations on the screen. A vertical header on the left side of the screen was defined under room mapping (Hotel Administration Sub-menu 4). In this menu (Hotel Administration Sub-menu 5) the horizontal header across the top of the screen is defined. The system defaults with the horizontal header as 0 through 9. If the room telephone blocks do not match this pattern, modify the header using this menu procedure.

ROOM HEADER DEFINITION

ENTER FIRST NUMBER IN ROOM GROUP NUMBER:

NOTE: If the leading extension in the room map group (displayed in vertical column) ends in 0 the first number in room group number must be 0

Example:

Room Map Group	100 - First Number in Room Group	0
Room Map Group	101 - First Number in Room Group	1
Room Map Group	102 - First Number in Room Group	2
Room Map Group	200 - First Number in Room Group	0

Hotel Administration Sub-Menu 6 - Call Control Tables

This menu is used to assign the toll restriction tables that are used to control dial 8 and dial 9 calling restrictions on the room telephones. Control tables are created using the Toll Restriction Class Of Service Menu on page 3-22. Refer to the paragraph headed *System-wide Dial 8 And Dial 9 Call Control* on page 3-23 provided under the Toll Restriction discussion. That paragraph provides instructions on creating the specific toll restriction tables for dial 8 and dial 9 access.

The defaulted hotel system does not assign any toll restriction tables.

```
CALL CONTROL TABLES

1. CLEAR LOCAL RESTRICTION TABLES
2. ASSIGN LOCAL RESTRICTION TABLES
3. CLEAR TOLL RESTRICTION TABLES
4. ASSIGN TOLL RESTRICTION TABLES
5. RETURN TO PREVIOUS MENU

ENTER SELECTION:
```

- Selection 2 assigns any toll restriction tables that are created to restrict dial 9 access numbers.
- Selection 4 assigns any toll restriction tables that are created to restrict dial 8 access numbers.

NOTE: This feature is not meant to deny guest calling, but to make sure local calls are made over local lines and toll calls are made over toll lines.

Hotel Administration Sub-Menu 7 - Single Digit Dialing

This feature provides room telephones with single-digit access to certain hotel services. Up to four extension numbers can be made available to the Room Telephone for single-digit access (4-7) per the following menu.

The defaulted hotel system assigns access digits 4-7 to extension number 310.

```
SINGLE DIGIT DIALING

ENTER ACCESS DIGIT:          (4 TO 7)

ENTER EXTENSION NUMBER THAT DIGIT WILL ACCESS:
```

- Enter any valid extension number for access digits 4 through 7.

Speed dial numbers can be provided for room telephone use. When provided, they are normally accessed by dialing 7 plus the speed dial code.

To prevent a dialing conflict with the 7 digit when both single-digit dialing and speed dial access is desired, either:

- Store extension number 0 for access digit 7 during single-digit dialing (thus disabling it for single-digit access).

-OR-

- Reprogram the speed dial access digit from a 7 to a * using the following Hotel Administration Sub-Menu 7 for this purpose.

Hotel Administration Sub-Menu 8 - Room System Speed Dial Access

The defaulted hotel system provides 7 as the access digit.

```
ROOM SYSTEM SPEED DIAL ACCESS DIGIT

ENTER 1 FOR * AS ACCESS DIGIT OR 0 FOR 7 AS
ACCESS DIGIT:
```

- Enter 1 to change access digit to *.
- Enter 0 to change access digit to 7.

Change to * for single-digit access to an extension number (see Hotel Administration Sub-Menu 6) or if the digit 7 is needed for extension number assignments (see System COS Sub-Menu 12 on page 3-9).

Hotel Administration Sub-Menu 9 - External SMDA Unit Administration

This menu action is required if an external SMDA device is to be used as part of the site installation.

The defaulted hotel system disables this feature.

```
EXTERNAL SMDA UNIT ADMINISTRATION

1. EXTERNAL SMDA UNIT EQUIPPED
2. EXTERNAL SMDA UNIT UNEQUIPPED
3. RETURN TO PREVIOUS MENU

ENTER SELECTION:
```

Hotel Administration Sub-Menu 10 - Remote Line Pickup

The feature that allows an attendant to enable or disable remote pickup of calls that ring at the attendant station is turned on by the following menu.

The defaulted hotel system enables this feature.

```
ENTER 1 FOR REMOTE OR 0 FOR NO REMOTE:
```

Hotel Administration Sub-Menu 11 - Room Type Definition

Up to eight different room types can be indexed and defined using the following menu.

The defaulted hotel system assigns --x-- to all ports.

```
ENTER ROOM TYPE INDEX:

ENTER ROOM TYPE:
```

- Enter 1-8 for the index number.
- Enter any 5-character alpha and/or numeric code to define room type.

Examples are: SINGL, DOUBL, SUITE, POOL, KING, PENT1, etc.

Hotel Administration Sub-Menu 12 - Room Type Assignment

Assign room types, defined with Hotel Administration Sub-Menu 10 above, to specific station ports (Room Telephone locations) with the following menu.

```
ENTER ROOM TYPE INDEX:

ENTER STATION NUMBER(S):
```

- Enter the room type index number as defined in Hotel Administration Sub-Menu 10.
- Enter station port number(s) of Room Telephone location(s). Entry can be a delimited string of all ports for a particular index such as: nnn,nnn,nnn,nnn,nnn, etc.

Hotel Administration Sub-Menu 13 - Auto Wakeup

The feature which allows the Attendant to set wakeup calls at Room Telephones is enabled or disabled from the following menu.

The defaulted hotel system enables this feature.

```
ENTER 1 FOR WAKEUP ENABLED 0 FOR WAKEUP
DISABLED:
```

Hotel Administration Sub-Menu 14 - Dead Phone Alarm (Room Telephone Security)

An alarm (dead telephone alarm) can be enabled with the following menu to provide both a visual and an audible warning that a room telephone has been disconnected.

- Every menu screen on the attendant's VDT will show a flashing ALARM message in place of the normally displayed date and time line.
- A re-occurring tone will sound at the Attendant's VDT.
- The visual and audible warnings continue until the system attendant acknowledges them from the Room Telephone Status Menu.

The defaulted hotel system disables this feature.

```
ENTER 1 FOR DEAD PHONE ALARM ENABLED 0 FOR
DEAD PHONE ALARM DISABLED:
```

Hotel Administration Sub-Menu 15 - House Telephone

A station port can be programmed as a house telephone port. A telephone connected to this port will automatically call a pre-programmed station whenever it is taken off hook.

A house telephone port is the same type of port as a single-line administration telephone port. A multiline station cannot be used as a house telephone.

The defaulted hotel system disables this feature.

```
ENTER HOUSE PHONE STATION:

ENTER STATION NUMBER:
```

To un-assign a house telephone, enter a 0 instead of a port number as a response to the "Enter Station Number" prompt line.

Hotel Administration Sub-Menu 16 - Extended Line Groups

Under default, the room telephones have access to dial 9 and dial 8 (Line Groups 1 and 2, respectively). If access to Line Groups 3 and 4 by room telephones is desired, enable it with this programming step.

```
ENTER 1 TO ALLOW ROOM PHONE ACCESS TO LINE GROUPS 3/4, 0 TO DENY
```

CLASS OF SERVICE DEFAULT CONDITIONS

SYSTEM DEFAULTS

- Port Assignments per chart

STATION TYPE	SYSTEM TYPE		PORT ASSIGNMENT	
	HOTEL	BUSINESS	HOTEL	BUSINESS
Multiline	8	64	010-017	010-073
Single Line	120	64	018-137	074-137

Console port 10a = 70-Key console
Console port 10b = 32-Key console
All other console ports = 40-Key consoles

- Baud rate of data printout
  - Serial data port 1 = 9600 baud (Hotel System)
    - OR-
    = 1200 baud (Business System)
    at 7-bit data, no parity, 2 stop bits
  - Serial data port 2 = 300 baud, 7-bit data

NOTE: *Serial data port 1 is printer port for Business System and VDT port for Hotel System). Serial data port 2 is printer port for Hotel System only. This port not available on Business System.*

- Intercom signalling = voice first
- Recall/flash time = 2 seconds
- Pause time = 1 second
- Timed Hold recall time = 60 seconds
- Central message desk = not assigned
- Extension number assignment (hotel system):
  - 010-017 = 310-317
  - 018-137 = 100-219
- Extension number assignment (business system):
  - 010-099 = 110-199
  - 100-135 = 200-237
- Dialing code assignments
  - 9, 42-56, 61-64, 66-69, 71-74, 77, 82-84, 86-88
- Print length = 80 Column
- Unanswered call transfer recall time = 20 seconds
- Tape baud rate = 100

LINE DEFAULTS

- Line type = TELCO
- Line groups = none assigned
- Dial Mode = DTMF
- Privacy status = private
- Abandoned Hold Timeout = 50 msec.
- Toll Tables
  - Hotel System = none assigned
  - Business System = Tables 1 and 2 with typical 1/0 fixed pattern.

STATION DEFAULTS

- PA port = disabled
- Executive override = disabled
- Prime line/group = none assigned
- Ringing line preference =disabled
- Personal ringing tone = sound 1
- Ringing assignment = all lines ring on stations 10 & 17 in hotel system (also 39 & 41 in business system)
- Toll tables = none assigned
- Line access denied = enabled
- Origination denied = enabled
- Privacy status = private
- Night transfer = all lines ring on stations 10 & 17 in hotel system (also on stations 39 & 41 in business system)
- Idle line preference = disabled
- All-call receive = enabled

- All-call originate = enabled
- Zone page receive = disabled
- Zone page originate = disabled
- Reserved intercom link = none reserved
- Voice announce block = disabled
- Automatic hold = disabled
- Message originate = disabled
- Line/Key assignment = per chart

LINE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
KEY	B1	B2	B3	B4	B5	B6	B7	B8	A7	A14	A6	A13	A5	A12	A4	A11	A3	A10	A2	A9	A1	A8

- System speed dial toll restriction = disabled
- Thru dialing/OPX port = disabled
- Hunt groups = none assigned
- Single Line Keyset accesses intercom line

HOTEL ADMINISTRATION DEFAULTS

- SMDR/SMDA Administration
  - Exceptions = none
  - Local rate = no rate assigned
  - Toll rate = no rate assigned
  - Banding = no rate assigned
  - Local call banding = disabled
  - Answer time limit = 20 seconds
  - Dial time limit = 0
- Intercom short timeout = 15 seconds
- Room mapping = Group 1-13 = Rooms 100-220 by tens
- Call control tables = none assigned
- Single digit dialing = Access digits 4-7 call extension 310
- Room system speed dial access = 7
- External SMDA unit administration = none assigned
- Remote line pickup = enabled
- Room type definition = --X--
- Room type assignment = index type 1
- Auto wakeup = enabled
- Dead phone alarm = disabled
- House phone = none assigned
- SMDA/SMDR record print and storage administration
  - Do not store SMDA records for administration phones
  - Print SMDR records without cost for administration phones
  - Allow call from administration phone on SMDA record congestion
  - Do not store SMDA records for room phones
  - Print SMDR records without cost for room phones
  - Allow call from room phone on SMDA record congestion
  - Credit card number blankout for SMDA/SMDR report

SECTION 3
SYSTEM SPEED DIAL PROGRAMMING

Fifty (50) system speed dial numbers can be stored from station port 10 or 11 for use at all stations in the system. System speed dial numbers will not be toll restricted unless specified by station COS programming.

- Press **ITCM**.
- Press ✳ **SAVE**.
- Dial storage location (**10 - 59**).
- Choose line or group preselection (multifunction (hybrid) system only).
- Dial **1 - 4** for group.
  -OR-
  Pess a line key for line.
  -OR
  Dial **0** for no group or line preselection-

NOTE: *Key-to-line assignment per programming arrangement. Refer to station COS programming reference chart for station port 10 key-to-line assignments.*

Dial speed dial number (up to 32 digits).
- Dial **1 - 0**, **#**, and ✳.
- Press **HOLD** to store pause if required.
- Press **RECALL** to store flash if required.

- Press **SAVE** and repeat procedure for each number.
- Press **MONITOR** to end procedure.

Room telephones have access to ten speed dial locations (50 through 59). Each number that is stored at these locations must include the appropriate trunk group prefix (8 or 9) to insure proper recording and costing of the call. When a Comdial model 6709A-xx telephone is used as a room telephone, it provides 12 buttons which access system speed dial locations 38 - 49. These numbers are available in addition to those available at locations 50 - 59.

Calls made with these system speed dial numbers are not toll restricted unless toll restriction has been enabled from Station COS Sub-Menu 19 - System Speed Dial Toll Restriction.

SYSTEM SPEED DIAL INDEX

10		27		45	
11		28		46	
12		29		47	
13		30		48	
14		31		49	
15		32		50	
16		33		51	
17		34		52	
18		35		53	
19		36		54	
20		37		55	
21		38		56	
22		39		57	
23		40		58	
24		41		59	
25		43			
26		44			

- Enter CONTROL SHIFT I ✳ 7 4 6 ✳
- From main menu, enter: 1 RETURN
- From system COS menu, enter selection number plus RETURN

COS DEFAULTS	
REF: SYSTEM COS SUB-MENU 1	
ENTRY NO.	SELECTION
1	SYSTEM
2	LINE
3	STATION
4	PULSE DIAL ON ALL LINES
5	TONE DIAL ON ALL LINES
6	KEY ASSIGNMENT TO LINES
7	MASTER CLEAR
8	HOTEL SYSTEM
9	BUSINESS SYSTEM

PRINTER PORT BAUD RATE		
REF: SYSTEM COS SUB-MENU 4		
ENTRY NO.	DATA SPEED	
1	110 BAUD, 7 BITS	
2	150 BAUD, 7 BITS	
3	300 BAUD, 7 BITS	
4	600 BAUD, 7 BITS	
5	1200 BAUD, 7 BITS	
6	2400 BAUD, 7 BITS	
7	3600 BAUD, 7 BITS	
8	4800 BAUD, 7 BITS	
9	9600 BAUD, 7 BITS	
0	19200 BAUD, 7 BITS	

VOICE/TONE ANNOUNCE FIRST ON INTERCOM		
REF: SYSTEM COS SUB-MENU 6		
ENTRY NO.	SELECTION	
1	VOICE	
2	TONE	

RECALL/FLASH TIME		
REF: SYSTEM COS SUB-MENU 7		
ENTRY NO.	TIME	
1	80 MSEC.	
2	300 MSEC.	
3	500 MSEC.	
4	600 MSEC.	
5	750 MSEC.	
6	875 MSEC.	
7	1.0 SEC.	
8	1.5 SEC.	
9	2.0 SEC.	
0	3.0 SEC.	

PAUSE TIME		
REF: SYSTEM COS SUB-MENU 8		
ENTRY NO.	TIME	
1	.5 SEC.	
2	1.0 SEC.	
3	1.5 SEC.	
4	2.0 SEC.	
5	3.0 SEC.	
6	5.0 SEC.	
7	7.5 SEC.	
8	10.0 SEC.	
9	15.0 SEC.	
0	20.0 SEC.	

TIMED HOLD RECALL TIME		
REF: SYSTEM COS SUB-MENU 9		
ENTRY NO.	TIME	
1	30 SEC.	
2	60 SEC.	
3	90 SEC.	
4	120 SEC.	
5	180 SEC.	
6	240 SEC.	
7	300 SEC.	
8	360 SEC.	
9	420 SEC.	
0	DISABLED	

Note: 0 program selection (disabled) enables exclusive hold condition (when set at station) to place line on hold that cannot be released at any other station.

CENTRAL MESSAGE DESK		
REF: SYSTEM COS SUB-MENU 10		
ENTRY NO.	SELECTION	
1	NONE ASSIGNED	
2	STATION PORT ASSIGNED	

SMDR PRINT WIDTH		
REF: SYSTEM COS SUB-MENU 13		
ENTRY NO.	SELECTION	
1	40 COLUMN 2 LINES	
2	80 COLUMN 1 LINE	

SMDR PRINT WIDTH		
REF: SYSTEM COS SUB-MENU 14		
ENTRY NO.	SELECTION	
1	40 COLUMN 2 LINES	
2	80 COLUMN 1 LINE	

UNANSWERED CALL TRANSFER RECALL TIME		
REF: SYSTEM COS SUB-MENU 15		
ENTRY NO.	TIME	
1	10 SEC.	
2	20 SEC.	
3	25 SEC.	
4	30 SEC.	
5	45 SEC.	
6	60 SEC.	
7	90 SEC.	
8	120 SEC.	
9	180 SEC.	
0	240 SEC.	

COS TAPE DATA RATE		
REF: SYSTEM COS SUB-MENU 16		
ENTRY NO.	SELECTION	
1	50 BAUD	
2	100 BAUD	

System COS Programming Reference Table (Continued)

PORT ID (EXTENSION ASSIGNMENT/STAION TYPE)					
REF: SYSTEM COS SUB-MENUS 2 AND 12					
PORT ID	DIALING EXTENSION			PHONE TYPE	LOCATION
	DEFAULT		ASSIGNED		
	HOTEL	BUS.			
010	310	110			
011	311	111			
012	312	112			
013	313	113			
014	314	114			
015	315	115			
016	316	116			
017	317	117			
018	318	118			
019	319	119			
020	320	120			
021	321	121			
022	322	122			
023	323	123			
024	324	124			
025	325	125			
026	326	126			
027	327	127			
028	328	128			
029	329	129			
030	330	130			
031	331	131			
032	332	132			
033	334	133			
034	335	134			
035	336	135			
036	337	136			
037	338	137			
038	339	138			
039	340	139			
040	341	140			
041	342	141			
042	343	142			
043	344	143			
044	345	144			
045	346	145			
046	347	146			
047	348	147			
048	349	148			
049	350	149			
050	351	150			
051	352	151			
052	353	152			
053	354	153			
054	355	154			
055	356	155			
056	357	156			
057	358	157			
058	359	158			
059	360	159			
060	361	160			
061	362	161			
062	363	162			
063	364	163			
064	365	164			
065	366	165			
066	367	166			
067	368	167			
068	369	168			
069	370	169			
070	371	170			
071	372	171			
072	373	172			
073	374	173			

System COS Programming Reference Table (Continued)

PORT ID (EXTENSION ASSIGNMENT/STAION TYPE)					
REF: SYSTEM COS SUB-MENUS 2 AND 12					
PORT ID	DIALING EXTENSION DEFAULT HOTEL	DIALING EXTENSION DEFAULT BUS.	DIALING EXTENSION ASSIGNED	PHONE TYPE	LOCATION
074	156	174			
075	157	175			
076	158	176			
077	159	177			
078	160	178			
079	161	179			
080	162	180			
081	163	181			
082	164	182			
083	165	183			
084	166	184			
085	167	185			
086	168	186			
087	169	187			
088	170	188			
089	171	189			
090	172	190			
091	173	191			
092	174	192			
093	175	193			
094	176	194			
095	177	195			
096	178	196			
097	179	197			
098	180	198			
099	181	199			
100	182	200			
101	183	201			
102	184	202			
103	185	203			
104	186	204			
105	187	205			
106	188	206			
107	189	207			
108	190	208			
109	191	209			
110	192	210			
111	193	211			
112	194	212			
113	195	213			
114	196	214			
115	197	215			
116	198	216			
117	199	217			
118	200	218			
119	201	219			
120	202	220			
121	203	221			
122	204	222			
123	205	223			
124	206	224			
125	207	225			
126	208	226			
127	209	227			
128	210	228			
129	211	229			
130	212	230			
131	213	231			
132	214	232			
133	215	233			
134	216	234			
135	217	235			
136	218	236			
137	219	237			

Line COS Programming Reference Table

- Enter CONTROL SHIFT **I * 7 4 6 ***
- From main menu enter **2 RETURN**
- from line class of service menu enter selection plus **RETURN**

REF.	LINE COS SUB-MENU DESCRIPTION	ENTRY NO.	LINE	1 *	2 *	3 *	4 *	5	6	7	8	9	10	11	12	13 **	14 **	15 **	16 **	17	18	19	20	21	22
1	LINE TYPE	1	DISABLED																						
		2	AUXILIARY																						
		3	CO/PBX																						
2	LINE GROUP ASSIGNMENT	1	GROUP 1																						
		2	GROUP 2																						
		3	GROUP 3																						
		4	GROUP 4																						
		5	NONE ASSIGNED																						
3	DIALING MODE	1	PULSE/TONE																						
		2	TONE ONLY																						
4	PRIVACY MODE	2	NON-PRIVATE																						
		1	PRIVATE																						
5	TOLL RESTRICTION TABLE ASSIGNMENT		1																						
			2																						
			3																						
			4																						
			5																						
			6																						
			7																						
			8																						
			9																						
			10																						
			11																						
			12																						
			13																						
			14																						
			15																						
			16																						
		1	NONE																						
6	ABANDONED HOLD TIMEOUT		300 MSEC																						
			50 MSEC																						

CO/PBX NUMBERS (AND STATION ASSIGNMENTS IF APPLICABLE)

*Power Fail Lines (1, 2, 3, and 4)
**A-Lead Control Lines (13, 14, 15, and 16)

AW026

Station COS Programming Reference Table

- Enter CONTROL SHIFT I * 7 4 6 *
- From main menu enter **3 RETURN**
- From station class of service menu enter selection plus **RETURN**.

STATION ID (REF. SYSTEM COS CHART)	
PORT	
STA TYPE	
EXTENSION	
LOCATION	

ENABLE PA PORT	
REF: STATION COS SUB-MENU 1	
ENTRY NO.	CONDITION
1	CLEAR PA PORT
2	ASSIGN PA PORT

REF: STATION COS SUB-MENU	FEATURE	ENTRY NO./CONDITION 1) ENABLE	2) DISABLE
2	EXECUTIVE OVERRIDE		
4	RINGING LINE PREFERENCE		
15	VOICE BLOCK		
16	AUTOMATIC HOLD		
17	MESSAGE WAIT-ORIGINATE		
19	SYSTEM SPEED DIAL TOLL RESTRICTION		

REF: STATION COS SUB-MENU 5	
PERSONAL RINGING TONES	
ENTRY NO.	CONDITION
1	SOUND 1
2	SOUND 2
3	SOUND 3
4	SOUND 4

REF: STATION COS SUB-MENU	ENTRY NO.	FEATURE	LINE ASSIGNMENT 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	ITCM	1	2	3	4
3	1	PRIME LINE AUTOMATIC																											
	2	PRIME GROUP AUTOMATIC																											
	3	INTERCOM AS PRIME LINE																											
	4	NONE																											
6	1	ENABLE RINGING																											
	2	DISABLE RINGING																											
	3	ENABLE DELAYED RINGING																											
	4	DISABLE DELAYED RINGING																											
		DEFAULTS TO RINGING ON ALL LINES FOR STATION 10 & 17 (ALSO 39 & 41 FOR BUSINESS SYSTEMS)																											
8	1	ENABLE ACCESS TO LINE																											
	2	DISABLE ACCESS TO LINE																											
9	1	ENABLE ORIGINATION TO LINE																											
	2	DISABLE ORIGINATION TO LINE																											
10	1	ENABLE PRIVACY RELEASE																											
	2	DISABLE PRIVACY RELEASE																											
11	1	ENABLE NIGHT RINGING																											
	2	DISABLE NIGHT RINGING																											
12	1	ENABLE IDLE LINE PREFERENCE																											
	2	DISABLE IDLE LINE PREFERENCE																											

TOLL TABLE ASSIGNMENT																	
REF: STATION COS SUB-MENU 7																	
ENTRY NO.	CONDITION																
1	NONE																
2	TABLE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

STATION MODELING	
REF: STATION COS SUB-MENU 20	
MODEL PORT	
FIRST PORT	
LAST PORT	

ALL-CALL AND ZONE PAGING					
REF: STATION COS SUB-MENU 13					
ENTRY NO.	CONDITION	ZONE 1	ZONE 2	ZONE 3	ALL-CALL
1	CLEAR PAGING ASSIGNMENTS				
2	RECEIVE PAGING				
3	ORIGINATE PAGING				

THROUGH DIALING/OPX		
REF: STATION COS SUB-MENU 21		
THROUGH DIALING/OPX PORT	ENABLED	DISABLED

RESERVE INTERCOM LINK								
REF: STATION COS SUB-MENU 14								
ENTRY NO.	CONDITION							
1	CLEAR RESERVED LINKS							
2	RESERVE LINK	1	2	3	4	5	6	7

ASSIGN HUNT GROUPS																
REF: STATION COS SUB-MENU 22																
	PORT 010-105															
GROUP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																
5																
X																
X																
X																
X																
X																
NONE																

KEY MAPPING																											
REF: STATION COS SUB-MENU 18																											
ENTRY NO. 2 — MULTILINE KEY HYBRID TELEPHONES																											
LINE/KEY ASSIGNMENT (ENTER LINE, DSS STA., AUTO DIAL, UNASSIGNED, OR DYNAMIC LOOP)	KEY	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	B1	B2	B3	B4	B5	B6	B7	B8
	LINE																						
	DSS STATION																						
	AUTO DIAL																						
	UNASSIGNED																						
	DYNAMIC LINE																						

TOLL RESTRICTION TABLES

NOTE: *Business system configuration provides two pre-programmed toll restriction tables as a default. These tables are assigned to all lines.*

RESTRICTION TABLE 1

TYPE: ALLOW _____ DENY X

ENTRY	ENTRY NUMBER (16 MAXIMUM)															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1															
2	9	7	6													
3	4	1	1													
4	0															

TABLE ASSIGNMENT: LINES ALL STATIONS _____

RESTRICTION TABLE 2

TYPE: ALLOW X DENY _____

ENTRY	ENTRY NUMBER (16 MAXIMUM)															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	8	0	0												
2	9	1	1													
3																
4																

TABLE ASSIGNMENT: LINES ALL STATIONS _____

RESTRICTION TABLE 3

TYPE: ALLOW _____ DENY _____

ENTRY	ENTRY NUMBER (16 MAXIMUM)															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																

TABLE ASSIGNMENT: LINES _____ STATIONS _____

RESTRICTION TABLE 4

TYPE: ALLOW _____ DENY _____

ENTRY	ENTRY NUMBER (16 MAXIMUM)															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																

TABLE ASSIGNMENT: LINES _____ STATIONS _____

RESTRICTION TABLE 5

TYPE: ALLOW _____ DENY _____

ENTRY	ENTRY NUMBER (16 MAXIMUM)															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																

TABLE ASSIGNMENT: LINES _____ STATIONS _____

RESTRICTION TABLE 6

TYPE: ALLOW _____ DENY _____

ENTRY	ENTRY NUMBER (16 MAXIMUM)															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																

TABLE ASSIGNMENT: LINES _____ STATIONS _____

Toll Restriction Tables (Continued)

RESTRICTION TABLE 7

TYPE: ALLOW _____ DENY _____

ENTRY	ENTRY NUMBER (16 MAXIMUM)															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																

TABLE ASSIGNMENT: LINES _____ STATIONS _____

RESTRICTION TABLE 8

TYPE: ALLOW _____ DENY _____

ENTRY	ENTRY NUMBER (16 MAXIMUM)															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																

TABLE ASSIGNMENT: LINES _____ STATIONS _____

RESTRICTION TABLE 9

TYPE: ALLOW _____ DENY _____

ENTRY	ENTRY NUMBER (16 MAXIMUM)															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																

TABLE ASSIGNMENT: LINES _____ STATIONS _____

RESTRICTION TABLE 10

TYPE: ALLOW _____ DENY _____

ENTRY	ENTRY NUMBER (16 MAXIMUM)															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																

TABLE ASSIGNMENT: LINES _____ STATIONS _____

RESTRICTION TABLE 11

TYPE: ALLOW _____ DENY _____

ENTRY	ENTRY NUMBER (16 MAXIMUM)															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																

TABLE ASSIGNMENT: LINES _____ STATIONS _____

RESTRICTION TABLE 12

TYPE: ALLOW _____ DENY _____

ENTRY	ENTRY NUMBER (16 MAXIMUM)															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																

TABLE ASSIGNMENT: LINES _____ STATIONS _____

RESTRICTION TABLE 13

TYPE: ALLOW _____ DENY _____

ENTRY	ENTRY NUMBER (16 MAXIMUM)															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																

TABLE ASSIGNMENT: LINES _____ STATIONS _____

RESTRICTION TABLE 14

TYPE: ALLOW _____ DENY _____

ENTRY	ENTRY NUMBER (16 MAXIMUM)															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																

TABLE ASSIGNMENT: LINES _____ STATIONS _____

RESTRICTION TABLE 15

TYPE: ALLOW _____ DENY _____

ENTRY	ENTRY NUMBER (16 MAXIMUM)															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																

TABLE ASSIGNMENT: LINES _____ STATIONS _____

RESTRICTION TABLE 16

TYPE: ALLOW _____ DENY _____

ENTRY	ENTRY NUMBER (16 MAXIMUM)															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																

TABLE ASSIGNMENT: LINES _____ STATIONS _____

Hotel Administration COS Programming Reference Table

- Enter CONTROL SHIFT I * 7 4 6 *
- From main menu, enter: **5 RETURN**
- From hotel data administration menu, enter selection number plus **RETURN.**

SMDA/SMD UNIT ADMINISTRATION REF: HOTEL ADMINISTRATION COS SUB-MENU 2 (prompt 1 - Local Rates)		
LOCAL RATE	0.00	
SURCHARGE RATE	0.00	

SMDA/SMDR UNIT ADMINISTRATION REF: HOTEL ADMINISTRAION COS SUB-MENU 2 (prompt 5 - Local Call Banding)		
LOCAL BANDING	YES	NO

SMDA/SMDR UNIT ADMINISTRATION REF: HOTEL ADMINISTRATION COS SUB-MENU 2 (prompt 4 - Banding)	
RATE TABLE	AREA CODES ASSIGNED
1	
2	
3	
4	
5	
6	
7	
DEFAULT	NONE

SMDA/SMDR UNIT ADMINISTRATION REF: HOTEL ADMINISTRATION COS SUB-MENU 6 (prompt 6 - Exception Tables)																
ENTRY TABLE	DIGITS															CALL CONTROL TABLE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1																	
2																	
3																	
4																	
DEFAULT	NONE																

SMDA/SMDR UNIT ADMINISTRATION REF: HOTEL ADMINISTRATION COS SUB-MENU 2 (Prompt 8 and 9)		
ANSWER TIME LIMIT*		DEFAULT = 30
DIAL TIME LIMIT*		DEFAULT = 30
* IN TENTHS OF MINUTE (1 TENTH = 6 SEC.)		

SMDA/SMDR UNIT ADMINISTRATION REF: HOTEL ADMINISTRATION COS SUB-MENU 2 (prompt 2 - Rate Tables 1- 33 for Integrated Call Costing)
DEFAULT = NONE

SMDA CALL RATE TABLE 1	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
No number assigned	

SMDA CALL RATE TABLE 2	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 3	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 4	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 5	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 6	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 7	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 8	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 9	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 10	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 11	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 12	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 13	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 14	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 15	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 16	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 17	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 18	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 19	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 20	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 21	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 22	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 23	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 24	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 25	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 26	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 27	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 28	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 29	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 30	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 31	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 32	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

SMDA CALL RATE TABLE 33	
TIER 1 TIME	
TIER 1 RATE	
TIER 2 RATE	
SURCHARGE	
ENTER DIGITS	

INTERCOM SHORT TIMEOUT (Seconds)				
REF: HOTEL ADMINISTRATION COS SUB-MENU 3				
15	30	45	60	90

ROOM MAPPING		
REF: HOTEL ADMINISTRATION COS SUB-MENU 4		
GROUP	DEFAULT	ASSIGNED
1	100	
2	110	
3	120	
4	130	
5	140	
6	150	
7	160	
8	170	
9	180	
10	190	
11	200	
12	210	
13	220	

CALL CONTROL TABLES								
REF: HOTEL ADMINISTRATION COS SUB-MENU 5								
LOCAL (DIAL 9) TABLE NUMBER								
TOLL (DIAL 8) TABLE NUMBER								

SINGLE DIGIT DIALING		
REF: HOTEL ADMINISTRATION COS SUB-MENU 6		
ACCESS DIGIT	ASSIGNED EXTENSION	DEFAULT EXTENSION
4		310
5		310
6		310
7		310

ROOM SPEED DIAL ACCESS		
REF: HOTEL ADMINISTRATION SUB-MENU 7		
ACCESS DIGIT	[illegible]	*

EXTERNAL SMDA UNIT ADMINISTRATION		
REF: HOTEL ADMINISTRATION COS SUB-MENU 8		
EXTERNAL SMDA EQUIPPED	YES	NO

REMOTE LINE PICKUP	
REF: HOTEL ADMINISTRATION SUB-MENU 9	
ENABLED	DISABLED

ROOM TYPE DEFINITION AND ASSIGNMENT						
REF: HOTEL ADMINISTRATION SUB-MENU 10, 11						
INDEX NO.	INDEX TYPE (5 Char.)					STATION PORT NUMBERS ASSIGNED
1						
2						
3						
4						
5						
6						
7						
8						
DEFAULT = -X- FOR ALL PORTS						

AUTO WAKEUP	
REF: HOTEL ADMINISTRATION SUB-MENU 12	
ENABLED	DISABLED

DEAD PHONE ALARM	
REF: HOTEL ADMINISTRATION SUB-MENU 13	
ENABLED	DISABLED

HOUSE PHONE	
REF: HOTEL ADMINISTRATION SUB-MENU 14	
ENABLED	DISABLED
STATION ASSIGNED	

CHAPTER 4
MAINTENANCE

TECHNICAL ASSISTANCE AND REPAIR SERVICE

TECHNICAL ASSISTANCE

Should you experience difficulty with installation, checkout, or programming, and have made an attempt to isolate the problem using information provided herein; or should you encounter problems at a later date which cannot be resolved by referring to this manual, call the **Comdial Technical Service** staff. They can be reached at **1-800-366-8224** between the hours of 8:00 AM and 8:00 PM Eastern time, Monday through Friday.

When calling for technical assistance, you should be at the job site and you should have in your possession, as a minimum, an accurate volt-ohm meter and a copy of this manual.

REPAIR SERVICE

If your common equipment cabinet or an individual station needs repair, it may be returned to Comdial. Comdial will, at their option, either repair the defective equipment or replace it with a remanufactured unit. This repair will be done for a fixed charge. For information on this charge, please call or write to the address given below.

Comdial
P.O. Box 7266
Charlottesville, VA 22906
Attention: Repair Department
Telephone: (804) 978-2400
1-800-877-4448

When returning equipment for repair, pack it carefully to prevent damage. Any damages during shipment will be the responsibility of the purchaser. The equipment should be shipped freight or postage prepaid. The shipping address is:

Comdial
1180 Seminole Trail
Charlottesville, VA 22901
Attention: Repair Department

FUSE LOCATION

The system is protected against short circuit damage by fuses located on the power supply chassis. Fuse location and values are as shown in **Figure 4-1.** Always replace a fuse with one of the same value and type, otherwise, equipment damage could result.

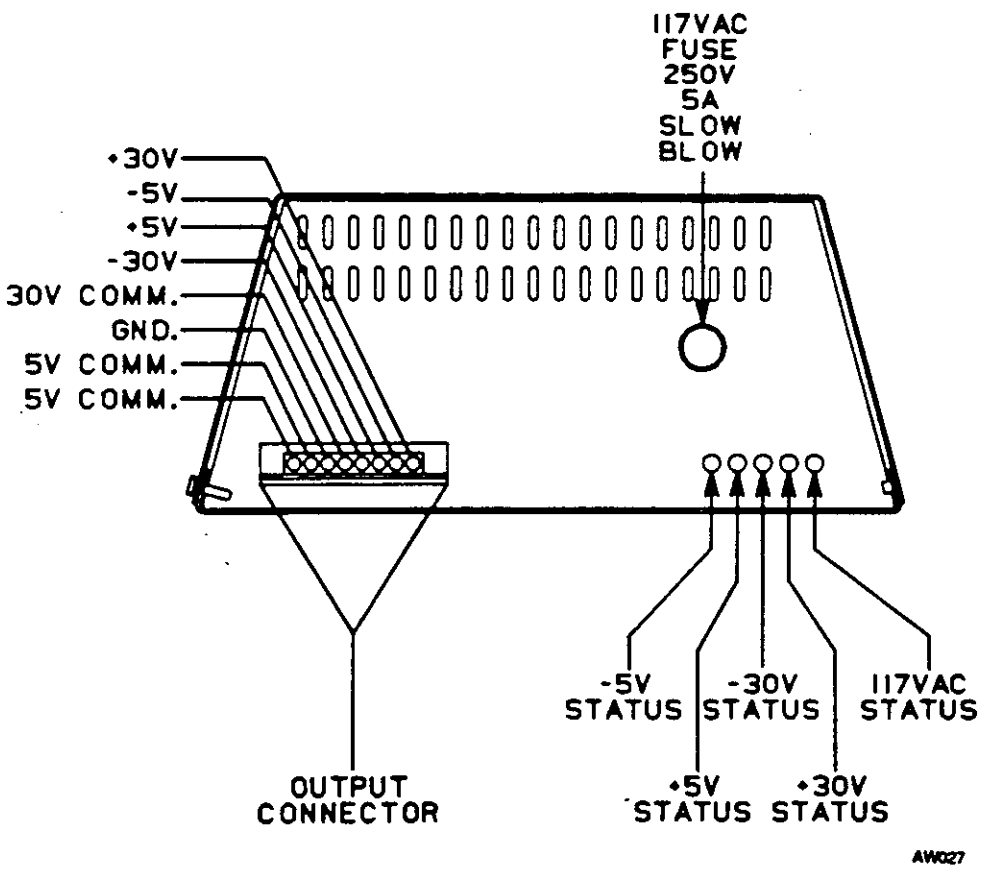


Figure 4-1. Fuse Locations And Value

FAILURE ANALYSIS

Figure 4-2 details a failure analysis flow chart to assist a service technician in isolating a failure in a defective system. One way to isolate a failure is to substitute a known good assembly for a suspected one. This is the recommended failure isolation method to use with the system.

Connecting and disconnecting stations to the system does not affect the stored station auto/speed dial memory data. This data is stored in the common equipment memory and not at the individual stations. Replacing the common equipment, however, causes all stored memory to be lost. This includes all memory dialing numbers as well as all COS programming data.

DESK/WALL REVERSAL AND WALL MOUNTING

Conversion

To convert a station from a standard desk model to one which can be hung on the wall, follow the procedure outlined below.

1. Remove and discard the pull out directory (Multiline Hybrid/Key Telephone)
2. Remove the lower housing of the station, and rotate it 180 degrees.

CAUTION

The PWB contains circuitry which is sensitive to static electricity discharge. Be sure that your body and the workplace are properly grounded to avoid any static electricity discharge while performing the desk/wall reversal.

3. Remove the knockouts from the desired mounting holes as illustrated in **Figure 4-3**.
4. Replace the lower housing. Make sure that all wires are clear.

Wall Mounting

Mount the station directly on the wall using two, #10, panhead screws (obtained locally), or mount it on a wall jack cover plate. If mounted using a wall jack cover plate, an AT&T type 630B wall plate is recommended for best results.

1. If #10 screws are used, thread them into the wall within 1/8-inch of the surface. Refer to **Figure 4-3** for the spacing dimensions.
2. Insure that the housing is converted properly for a wall mounting installation (see above instructions).
3. Pull out the latching lever.
   NOTE: *The latching lever is not present on all ExecuTech telephone models.*
4. Position the keyhole shaped holes in the bottom of the station over the #10 screws or the cover plate studs. Slide the station down until a slight click is felt.
5. Push the latching lever in to lock the station in place.
6. To remove the station, pull out the latching lever, lift to unsnap both screws or studs from the bottom housing, and lift the station away from the wall.

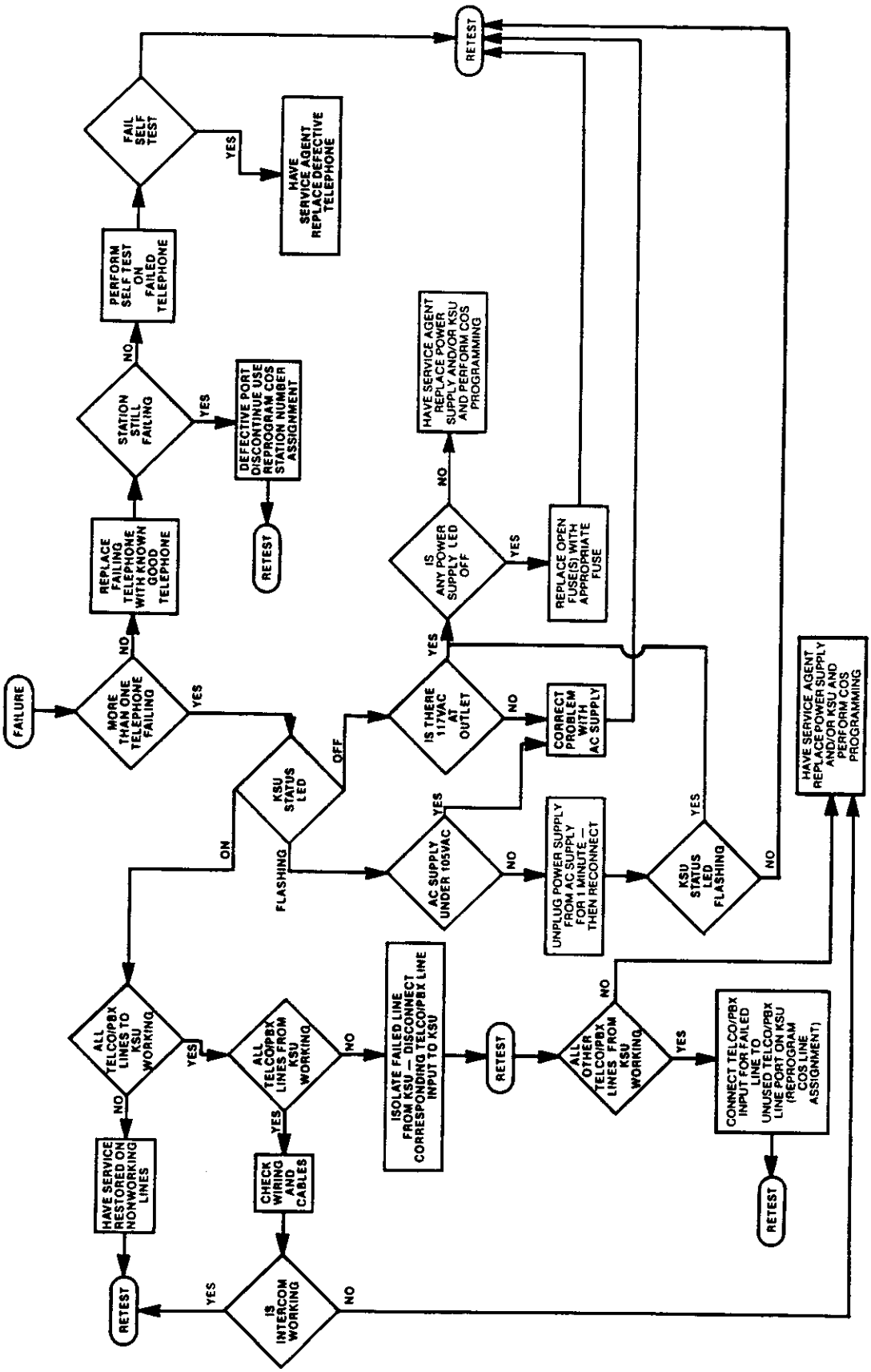


Figure 4-2. Failure Analysis Flow Chart

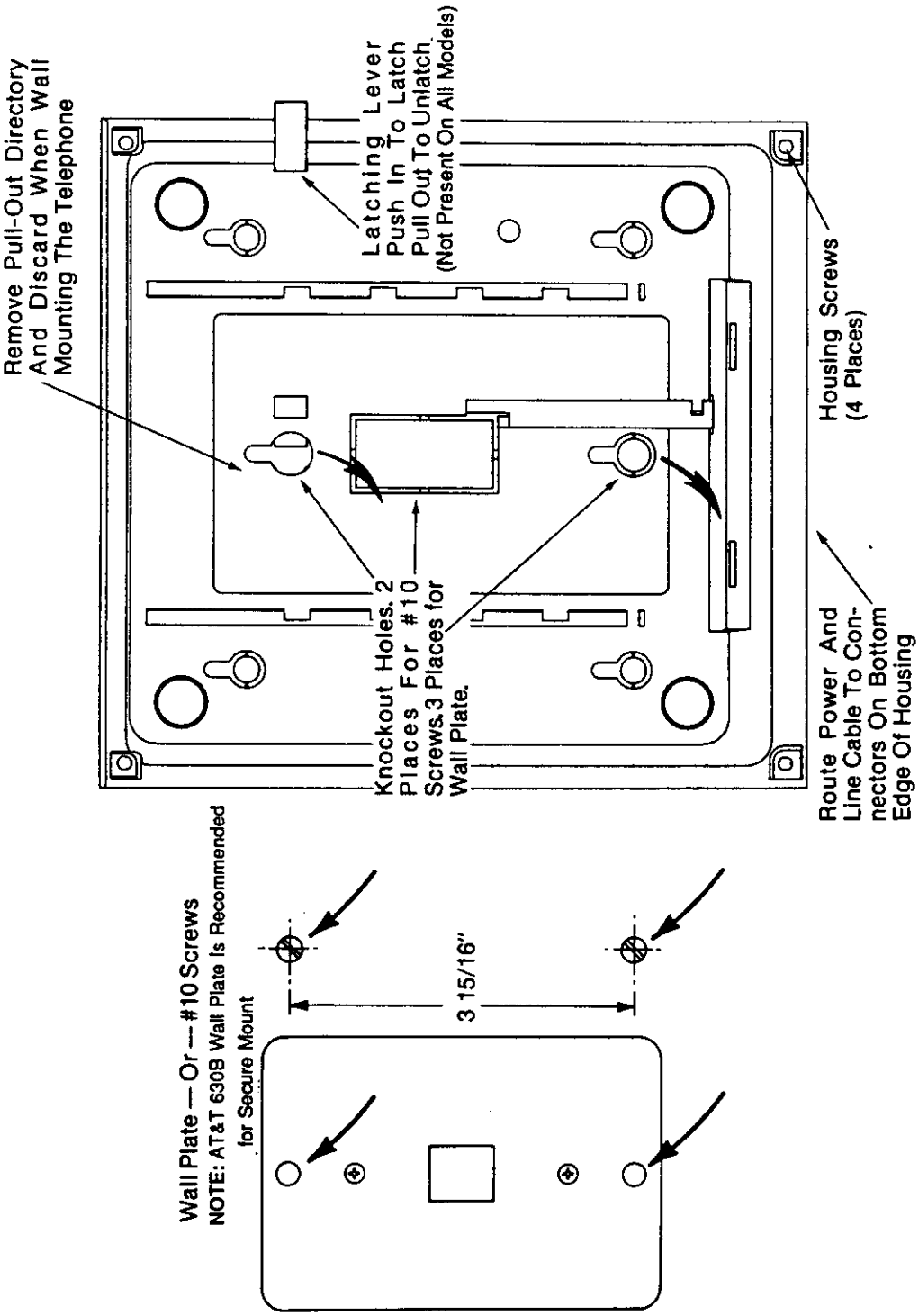


Figure 4-3. Station Wall Mounting Details
(Multiline Hybrid/Key Telephone shown - Single-Line Keyset similar)

GLOSSARY OF TERMS

All-call and zone paging: Multiline station can receive voice announcements through the telephone speaker.

Area paging: Dialing an access code or pressing dedicated line key can provide access to an external paging amplifier.

Automatic call-back: System will ring a calling telephone when a busy called telephone becomes idle.

Automatic dialing: Memory keys can be programmed to store numbers for automatic dialing purposes.

Automatic hold: Automatically holds line calls when moving from line to line without pressing hold key.

Automatic redial: The last number previously dialed can be automatically redialed by the telephone. Redial occurs once a minute for ten minutes or until answered.

Automatic wake-up service: Attendant can enter the time of day that a given station should be automatically dialed for a wake-up call. The dialed station will ring in a unique manner for a certain period of time when called.

Background music: System provided background music can be turned on and off at individual multiline telephones.

Call forward: User can designate another telephone to receive intercom calls normally directed to the user's telephone.

Call messaging display: Standard and special purpose messages can be set for display on a calling LCD Speakerphone.

Call messaging light: The busy lamp field light for a calling telephone can be turned on at a called telephone to serve as a call-back signal.

Call park: An active call at a particular telephone can be placed in system storage and retrieved by any telephone.

Call pickup: A call can be answered at one telephone when it is ringing at another telephone.

Call waiting tones: A signal can be sent to a busy telephone indicating that a call is waiting.

Central message desk: One station can be arranged for exclusive messaging waiting control. This station can control message waiting lights and deliver messages to and from all other stations in the systm.

Dead phone alarm (Room telephone security): A visual and audible alarm to alert the attendant if a room telephone is disconnected can be enabled through programming.

Direct telephone selection/busy lamp field: One-key intercom calling with visual indication of telephone status.

Do not disturb: Incoming call ringing and intercom calling are disabled.

Dynamic line key: System temporarily assigns a normally unassigned line to an idle line key for certain call handling operations.

Exclusive hold: Only the telephone placing call on hold can retrieve it.

Executive override: A calling telephone can break into a conversation at a busy called telephone.

Idle line preference: With this feature, going off-hook automatically selects an idle line for use.

Last number redial: The last number previously dialed can be automatically redialed.

Line groups: System arrangement which groups certain lines together in up to four different groups. This feature allows lines to be accessed by dialing line group codes.

Line monitoring: Monitoring of dialing and call progress with the handset on-hook.

Line queuing: A telephone can be placed in a condition where it awaits the availability of a line or line group.

Message waiting: A light can be activated at a telephone by a central message desk telephone to indicate that a message awaits pick-up.

Maid status: Special codes can be dialed from a room telephone which will convey housekeeping facts concerning the room to the attendant station.

Mute: A user's voice can be blocked to the distant party during a call.

Outgoing call control: Trunk access to room telephones can be denied.

Personal ringing tones: A multiline station can be arranged to ring in one of four distinctive tones.

Prime line: A line designated to a particular telephone and automatically selected when that telephone is taken off-hook.

Pulse/Tone switching: A switch between pulse (rotary dial signals) and tone (dual tone multiple frequency signals) signalling can be effected.

Recall/flash: Either a recall (line disconnect or hang-up) or flash (PBX feature select signal) can be generated.

Remote answering (Remote line pickup): Calls ringing at the attendant station can be answered at a room telephone if special codes are first dialed.

Saved Number Redial: The last number previously dialed can be saved and automatically redialed later.

Screened transfer: Transferred call is identified before transfer is made.

Single-digit dialing: Up to four extension numbers can be dialed with a single digit from a room telphone.

Station message detail accounting: The system can collect station messaging details and calculate call costing data based upon information stored into rate tables.

Station speed dialing: A personal list of numbers can be programmed for automatic dialing by a user.

Station-to-station restriction: Intercom calls between room telephones can be disabled, and all room-to-room calls handled by the attendant.

System speed dialing: A special system-wide list of numbers are available for automatic dialing by all users.

Unscreened transfer: Call is transferred to another telephone without first being identified to it.

Voice signal blocking: A multiline station can be set to block voice calls sent to it over the speaker.

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Cut along Line

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