TABLE OF CONTENTS

TELECOM IV WARRANTY

RLM TELECOM , INC
1400 East 29th Street
Signal Hill, CA 90806

(213) 424-6669

RLM TELECOM, INC. will correct, at no charge, any program errors reported within 1 year of purchase.

RLM TELECOM, INC will answer by telephone a reasonable number of application   questions at no charge within 60 days of purchase. After 60 days, all application   support will be charged at current rates.

SERIAL NUMBER:

===
Please tear off and return this portion

WARRANTY CARD

CONTACT NAME...

COMPANY..

ADDRESS..

CITY,STATE,ZIP...

TELEPHONE NUMBER (   ) ....

DATE PURCHASED .... SERIAL NUMBER................

MAKE/MODEL OF COMPUTER ....

TELEPHONE SYSTEM ....

TYPE OF BUSINESS ....

<u>PROGRAM LICENSE AGREEMENT</u>

RLM TELECOM, INC., Torrance, California 90502

TELECOM IV Documentation and Administration Notebook and Computer programs are provided only on the condition that the purchaser ("customer") agrees to the following license. Read this license carefully.

1. <u>LICENSE</u>

Each program license granted under this Agreement authorizes the Customer to use a single copy of a Licensed Program, as furnished, on a single computer system at the Customer's permanent location. A separate license is required for each additional copy for use of TELECOM IV Programs at a Customer's additional locations.

Licensed Programs are furnished for the sole use of Customer and its employees and agents. Customer agrees not to loan or otherwise make available any Licensed Program to any person other than Customer's employees or agents without prior written consent of RLM TELECOM, INC.

This Agreement and any of the Licenses, programs, or materials to which it applies may not be assigned, sublicensed, or otherwise transferred by the Customer without prior written consent from RLM TELECOM, INC.

No right to print or copy, in whole or in part, the Licensed Programs is granted except as expressly provided as follows.

2. <u>PERMISSION TO COPY LICENSED MATERIALS</u>

Customer may make copies of RLM TELECOM, INC. furnished worksheets, identified as such, solely for Customer's use. Customer shall NOT otherwise copy, in whole or in part, any manuals or other documentation provided by RLM TELECOM, INC. in printed form under this Agreement. Additional copies of printed materials may be acquired from RLM TELECOM, INC.

Licensed Programs provided by RLM TELECOM, INC. in machine readable form may not be copied except for the sole purpose of backup.

3. <u>TERM</u>

This Agreement is effective from the date of receipt by the Customer of the above Documentation and Licensed Program and shall remain in force until terminated by the Customer upon one (1) month's prior written notice. RLM TELECOM, INC. may discontinue any license or terminate this Agreement upon written notice to the Customer if the Customer fails to comply with any of the terms and conditions of the Agreement. Upon termination, Customer will promptly return or certify destruction of materials furnished under this license.

4. LIMITED WARRANTY

RLM TELECOM,INC. warrants the physical diskette(s) furnished by RLM TELECOM,INC. to be free from defects in materials and workmanship under normal use for a period of thirty (30) days from the date of delivery to Customer as evidenced by a copy of the purchase receipt.   RLM TELECOM,INC. will replace any such defective diskette which is promptly returned to RLM TELECOM,INC. free of charge.

RLM TELECOM,INC. does not warrant that the functions contained in any Licensed Program will meet Customer requirements or that operation of any program will be uninterrupted or error-free.

5. LIMITATION OF LIABILITY

The foregoing warranty is in lieu of all other warranties, expressed or implied, including, but not limited to, the implied warranties or merchantability and fitness for a particular purpose.

In no event will RLM TELECOM,INC. be liable to the Customer for any damages including any lost profits, lost savings or other incidental or consequential damages arising out of the use or inability to use such Licensed Program even if RLM TELECOM,INC. has been advised of the possibility of such damages or any claim by any other party.

6. GENERAL

This Agreement shall be governed by the laws of the State of California.

If any of the provisions, or portions thereof, of this Agreement are invalid under any applicable statute of rule of the Law, they are to that extent to be deemed omitted.

The Customer acknowledges that he has read this Agreement and understands it and agrees to be bound by its terms and conditions.   The Customer further agrees that it is the complete and exlusive statement of the agreements between RLM TELECOM,INC. and Customer which supersedes any proposal or prior written agreement, oral or written, and any other communications between RLM TELECOM,INC. and Customer relating to the subject matter of this Agreement.

PROGRAM DESCRIPTION

TELECOM IV has been designed to assist you with the task of bringing your company's telephone communication under proper managment control.

TELECOM IV software runs on IBM micro computers and 100 % compatibles, and works in conjunction with many telephone systems which feature Station Message Detail Recording (SMDR).

TELECOM IV will collect the information put out by your telephone system, cost each call, organize the information, and provide you with a series of management reports which you can use to assist you in your efforts to:

    *   Audit your Telephone Bills
    *   Deter Telephone Abuse
    *   Allocate Telephone Costs
    *   Charge back Telephone Charges to Clients

You will receive information concerning :
    *Date, Time, and Duration of Call
    *Call Cost
    *Extension Making or Receiving each Call
    *Number Dialed
    *Trunk Group Used
    *Account or Client Codes (Optional)

In addition, you have the option of applying cost multipliers to the actual cost.

You can use your micro computer for other functions besides telephone call monitoring, because TELECOM IV makes use of a buffer device between the telephone system and your computer. The buffer collects call data as it is transmitted by the telephone system. Generally the buffer is "read" once or twice a day, and this process takes only a few minutes. Reports are usually generated monthly, although reports of special interest may be generated more frequently.

TELECOM IV is fully documented and completely menu driven. A
sample of the Main Menu is shown below.

                        TELECOM IV MENU

            1.   READ CALLS
            2.   COST CALLS
            3.   SORT CALLS
            4.   PRINT STANDARD REPORTS
            5.   PRINT SPECIAL REPORTS
            6.   PRINT CALL FILES
            7.   RENAME CALL FILES
            8.   ERASE CALL FILES
            9.   LIST CALL FILENAMES
            10.   LAST DATE OR CUTOFF DATE
            11.   SETUP OR MAINTAIN FILES
            12.   END TELECOM IV

REQUIRED HARDWARE

COMPUTER

IBM PC, IBM PC-XT, IBM PC-AT or 100% Compatibles

   Minimum of 256K RAM

   At least 1 Hard Disk Drive or 2 Floppy Drives

   Asynchronous Communication Board

   DOS

MAXIMUM CALL PROCESSING GUIDE

   2 Floppy Disk Drives   8,000 to 11,000 Calls

   Hard Disk System   30,000 Calls

   Hard Disk Storage Requirements   Up to 2.5 Megabytes

PRINTER

Minimum of 80 Columns

TELEPHONE SYSTEM

The telephone system must be capable of:

   Generating Station Message Detail Recording (SMDR) data in
   ASCII format.

BUFFER

A Serial Data Buffer equipped with a minimum of 64K RAM. Many
buffers have volatile RAM . If you lose power, you lose data.
Battery Back-up is available.

COSTING METHODOLOGY

TELECOM IV will cost calls in one of three ways:

1. By the Minute
2. According to Rates which are based on Mileage
    Distances within a particular Calling Area.
3. At a Flat Charge per Call

To allow you to keep pace with changing conditions, TELECOM IV
provides you with the capability to manually update cost
related files.

INCOMING CALLS can only be costed by the minute. This cost per
minute is determined by you, and is entered by you during the
Trunk File portion of Software Set-up. If no cost is entered,
TELECOM IV will not cost any INCOMING CALLS.

DIRECTORY ASSISTANCE will be costed at a flat charge per call.
These Directory Assistance rates are entered by you during the
Rate Table Portion of Software Set-up.

OUTGOING INTERNATIONAL CALLS can either be costed by the
minute, or according to an initial period charge and an
additional period charge as specified in the rate table.
Again , this cost is determined and entered by you during
Software Set-up. If no cost is entered, TELECOM IV will cost
these calls at $1.00 per minute.

OUTGOING LOCAL and LONG DISTANCE CALLS (made via your local
telephone company or your primary long distance carrier) can
be costed either by the minute or by mileage steps within a
particular Rate Area.

    If, during Software Set-up, you specified a Cost Per
    Minute, this will be the figure used.

    If you did not specify a Cost per Minute, TELECOM IV will
    cost the call based on mileage from your location to where
    you placed the call. This mileage is determined during the
    Cost Files portion of Software Set-up utilizing V & H
    Coordinates to determine mileage between points. In most
    cases, this mileage will be between the center of area
    codes. However, in the local service area, if you set up
    Exchange Code Files, this mileage will be between
    exchanges.

Appropriate rate discounts are given for time of day, day
of week , and rate holidays. Information for applying
these discounts is entered during the Calendar and Rate
Table Portions of Software Set-up. If discount information
is not found, TELECOM IV will cost the call at full rate.

If Software Set-up is done inproperly and neither Cost per
Minute nor Mileage information can be found, TELECOM IV
will cost LOCAL calls at $0.10 per minute, and LONG
DISTANCE calls at $0.50 per minute.

OUTGOING LOCAL and LONG DISTANCE CALLS (made via a DIAL-UP
SERVICE) are costed according to a multiplier of the rate
table cost.   This cost, together with digits which identify
these Dial-Up Services, are entered during the General
Information portion of Software Set-up. Provisions are made
for two Dial-up Services. If the identifier is incorrect,
these calls will be costed at $0.50 per minute.

INVALID CALLS are defined by TELECOM IV as :
    Invalid Format
        Too few or too many digits dialed

    Invalid Calls are given a Flagged Cost Code of $99.99 and
    are excluded from all reports and totals unless
    specifically requested in the Report Writer Program.

HARDWARE INSTALLATION GUIDE

HARDWARE

The following hardware installation tasks must be performed.
See Section 3 for details.

... 1.   Program the telephone system for SMDR output with
         correct BAUD, Parity, Data Bits, and Stop Bit
         Settings.   This is the responsibility of your
         telephone equipment service company. However, you
         should verify that they have done this correctly.

... 2.   Connect the cable from the telephone system to the
         Buffer.

... 3.   Verify that Call Data is being transmitted from the
         telephone system through the connecting cable to the
         Buffer. Normally, this is the responsibility of your
         telephone equipment service company.

... 4.   Verify that Dip Switches and Jumpers are set
         correctly inside the Buffer, and that the buffer has
         a 3.02X (Clear XOFF) PROM.

... 5.   Verify that the buffer is receiving data through its
         IN-PORT and is transmitting data to its OUT-PORT.
         This can be accomplished by utilizing the buffer's
         Set-up Mode.

... 6.   Verfiy that the Asynchronous Communications Board of
         your computer is working as either COM 1 or COM 2.

... 7.   Connect the cable from   the Buffer to the
         Asynchronous Board.

... 8.   Make certain that you have a printer in working
         order. Also have on hand at least one box of paper.

... 9.   Post the notices to Telephone Equipment Service
         Personnel and Telephone Attendants.

SOFTWARE INSTALLATION GUIDE

OPERATIONS GUIDE

DAILY

*   Verify that the date and time of your telephone system is
    correct.

*   READ CALLS.

*   Verify that the LAST DATE is correct.

*   Print EXCEPTION REPORT, and enter corrections. (Account
    Code Users Only)

MONTHLY

*   CHANGE CUTOFF DATE

*   RENAME CALLS

*   COST CALLS

*   SORT CALLS

*   PRINT STANDARD REPORTS

*   PRINT SPECIAL REPORTS

*   ERASE CALLS

YEARLY

*   Set up new Calendar.

AS NEEDED: UPDATE FILES

*   GENERAL INFORMATION   * DISCOUNT TABLES

*   EXTENSIONS   * TRUNK FILE

*   ACCOUNTS   * COST FILES

*   RATE TABLE

==
TO SUCCESSFULLY COMPLETE HARDWARE SET-UP YOU SHOULD FOLLOW THE
HARDWARE INSTALLATION GUIDE WHICH IS INCLUDED IN SECTION 2 OF
THIS DOCUMENTATION.
==

BUFFER SET-UP

PRACTICAL PERIPHERALS MICROBUFFER IN-LINE SERIAL BUFFER
==

1. Detach Buffer cover.

2. Locate Input/Output Configuration Blocks (H1 & H2)
    Each block is provided with 3 jumpers. The correct jumper
    positions are:
        OUTPUT CONNECTOR (H2) - BUFFER TO COMPUTER
            Pin 1, Pin 2, and Pin 8

        INPUT CONNECTOR (H1) - BUFFER TO TELEPHONE SYSTEM
            Pin 1, Pin 2, and Pin 8

3. Locate the Input/Output Baud Rate Configuration Blocks (H3,
    H4).   Each Block is provided with 1 Jumper. The correct
    Jumper position is:
        OUTPUT CONFIGURATION BLOCK (H4)- BUFFER TO COMPUTER
            Pin 6   (2400 Baud)

        INPUT CONFIGURATION BLOCK (H3)- BUFFER TO TELEPHONE
        SYSTEM
            Pin 3   (300 Baud)

4. Locate the 2 Dip Switches, SW1 and SW2
    Set the Dip Switches as follows:

	SW1	SW2
1	Open/Off **	Closed/On
2	Closed/On	Open/Off
3	Closed/On	Closed/On
4	Open/Off	Closed/On
5	Closed/On	Closed/On
6	Open/Off	Closed/On

        ** For SL/1 :Closed/On

----

5. Reinstall Buffer Cover

6. Install Cables: Two connections are necessary: **
        TELEPHONE SYSTEM to BUFFER INPUT CONNECTOR
        COMPUTER to BUFFER OUTPUT CONNECTOR

                    OMNITRONIX RAMJET BUFFER
                    =========================

1. Set dipswitches on underside of buffer as follows:

        FROM COMPUTER   TO PRINTER

            1   Off   1   On
            2   Off   2   Off
            3   On   3   Off
            4   Off   4   Off
            5   Off   5   Off
            6   On   6   On
            7   Off   7   Off
            8   On   8   On

2. Install cables: Telephone System "FROM COMPUTER" connector
                     Computer   "TO PRINTER" connector

3. Attach power cord.   Turn on buffer. If you have a battery
    back-up, also turn in on.

    ** BUFFER TO COMPUTER
        If you are connecting the buffer directly to the PC, you
        will need a six to eight foot cable, with a RS 232 C
        Male connector on one end and a Female RS 232 C
        connector on the other; with Pins 1 through 8 and 20
        wired.   If you are connecting the buffer to a switchbox,
        the connectors may be different.

    ** TELEPHONE SYSTEM TO BUFFER
        You will need cable of the appropriate length. An RS232
        C Male connector on the Buffer end, and the appropriate
        RS232 C connector on the telephone system end: with
        Pins 1 through 8 and 20 wired.

TELEPHONE SYSTEM SET-UP

The STATION MESSAGE DETAIL RECORDING output of your telephone
system should be programmed as follows:

    300 BAUD

    1 STOP BIT, 7 DATA BITS

    EVEN PARITY

    PARITY "ON" OR ENABLED

*MITEL SX100/200 users see next page for Scanner Card Settings.

PROGRAMMING REQUIREMENTS

1. Enable SMDR. As desired, program for Incoming/Outgoing Calls
    and Long Distance/Local Calls.

2. If you use Dial-Up Services in addition to your 1+ Carrier,
    decide which digits of either the local access number or
    account number will print in the number dialed field.
    Program the telephone system accordingly.

3. EXTENSION NUMBERS must be within the range of 1-9999.

4. Select TRUNK EQUIPMENT NUMBERS within the range of 1-250.

DATA TRANSMISSION TEST PROCEDURE

To verify that SMDR Data is being transmitted by the telephone
system, received by the Buffer, and transmitted by the Buffer to
the Computer, complete the following procedure:

PRACTICAL PERIPHERALS BUFFER

1. Hook up the Buffer's power cable and plug into an outlet.
    Make sure the Power Switch is OFF.

2. Plug the cable from the telephone system into the IN-PORT of
    the Buffer.

3. Plug in the cable from the computer into the OUT-PORT of the
    Buffer.

4. Press and hold the Buffer's PASS button. While holding down
    the PASS button, turn on Power to the Buffer. The Buffer is
    now in Set-up Mode. (Reference Buffer User Manual)

----

5. Be sure telephone calls are being made.

6. When the Buffer is receiving data from the telephone system,
    the CLEAR light will come on. As the buffer is sending this
    data to the computer, the PAUSE light will come on.

7. If the test has been successful, swithch Off the Buffer, then
    turn it back On. The PAUSE light will be ON, indicating that
    the Buffer is in the XOFF condition and is collecting data.

This completes the Test Procedure for the Practical Peripherals
Buffer.

OMNITRONIX RAMJET BUFFER

1. As calls are being transmitted from the telephone system to
    the buffer, the TD LIGHT beneath the "FROM COMPUTER"
    connector will turn on. Verify that this is taking place.

MITEL SX-100/SX-200

Set up for this system is accomplished by setting BAUD rate and
Dip switches which are located on the SCANNER CARD. These
settings are as follows:

    BAUD Rate Switch : Up Position for 300 BAUD

DIP SWITCHES   POSITION FUNCTION
        8   Open < Not used
        7   Open < Not used
        6   Open < Not used
        5   Open < Par enable
        4   Closed > Stop Bits
        3   Open < Char Length B
        2   Closed > Char Length A
        1   Open < Odd par

Reference: SUPERSWITCH, Volume II Document List
                Section MITL 9105/9110-
96-210-NA, System Programming, Page A5-30.
                Section   MITL9105/9110-096-210-NA,   System
                Programming , Page A5-30

SOFTWARE SET-UP

```
====================================================================
IN ORDER TO SUCCESSFULLY COMPLETE SOFTWARE SET-UP, YOU SHOULD
FOLLOW THE SOFTWARE INSTALLATION GUIDE WHICH IS PROVIDED IN
SECTION 2 OF THIS DOCUMENTATION.
====================================================================
```

SECTION OVERVIEW

In this section you will be accomplishing tasks in two major
areas: Disk Preparation, Call Translation and Data Entry.

DISK PREPARATION.   To prepare disks, you will be filling out
labels, formatting work disks, and transferring programs from
master disks to work disks.

CALL TRANSLATION & DATA ENTRY. Your telephone system outputs a
unique call record.   You will be pinpointing the locations in
the Call Record of critical pieces of information like the
Date, Time, Calling Party, Telephone Number.

You will be entering the following types of data: technical
information about your computer and your telephone system;
employee names and extension numbers; cost centers; account or
client names, if you use them; calendar and holiday
information; and call costing information

After you complete this section, your TELECOM IV software will be
fully operational.

MATERIALS AND INFORMATION
Before you can begin, you need to gather the following materials
and information.

1. A copy of DOS, and have basic familiarity with the
   following DOS commands: COPY, FORMAT,   DIR

2. 16 Floppy Disks if using a 2 Floppy Drive System
    5 Floppy Disks if using a Hard Drive System

3. Extension Numbers and Names

4. Cost Center Names

----

5. Account Code Numbers and Names (If these are to be used)

6. Area Codes and Exchange Codes of your Local and Foreign
   Exchange Trunk Group

7. Current Rates of your long Distance Carriers.

8. Trunk Group Equipment Numbers

9. The Station Message Deatil Recording (SMDR) section of your
   telephone system's technical documentation. This section
   will explain the various fields in your call record.

DISK PREPARATION

In this section the following terminology will be used:

    MASTER DISK   - An original disk supplied with TELECOM IV
    FLOPPY SET-UP - A TELECOM IV set-up which utilizes two
                  floppy disk drives.
    HARD SET-UP   - A TELECOM IV set-up which utilizes only a
                  hard disk drive.

Note: If you have a hard disk, normally you would choose the
HARD Set-up option. However, if you have two floppy disk drives
in addition to your hard disk, you could decide to run TELECOM IV
on your floppy drives and therefore should select the FLOPPY
Set-up option.

I. FILL OUT DISK LABELS

FLOPPY SET-UP:
Step 1. Fill out disk labels worded as follows:

      System Work
      System Work Back-up
      Cost & Sort Work
      Standard Reports Work
      Special Reports Work
      File Maintenance Work
      Files
      Files Back-up
      Calls 1
      Calls 2
      Calls I
      Calls II
      Calls 1 Back-up
      Calls 2 Back-up
      Calls I Back-up
      Calls II Back-up

HARD SET-UP:
Fill out disk labels worded as follows:
      System Work   ** See text under HARD SET-UP on next page
      System Work Back-up **
      Files Back-up
      Calls Back-up

      Calls Back-up

FORMAT DISKS

FLOPPY SET-UP
You will need 16 floppy disks.

PROCEDURE

Step 1.   Turn the computer on with a DOS disk in the A Drive.
           Follow the screen instructions until the DOS prompt A>
           appears.

Step 2.   Format 3 disks using the command: FORMAT B:/S
           After the third disk has been formatted, answer N (no)
           to the DOS prompt,"want to format another disk?"

Step 3.   Affix the SYSTEM WORK label, the SYSTEM WORK BACK-UP
           label and the STANDARD REPORT WORK label to the three
           disks.

Step 4.   Format the remaining disks using the command:
           FORMAT B: After the last disk has been formatted,
           answer N to the DOS prompt, "want to format another
           disk?"

Step 5.   Affix the remaining labels to these disks.

HARD SET-UP

You will need 5 floppy disks. Two of these disks are the SYSTEM
WORK and the SYSTEM WORK BACK-UP. The purpose of the SYSTEM WORK
Disk is to do the following:

    a) Load DOS with the CONFIG.SYS File setting FILES=20.
    b) Allow you to enter Date and Time.
    c) Change the directory to C:\TELECOM4
    d) Load the program C:\TELECOM4\ MENU.EXE

Many users prefer not to use the SYSTEM WORK Disk and to boot
directly from the Hard Disk. If you do not wish to utilize the
SYSTEM WORK disk, do the following:

    a)   If there is already a CONFIG.SYS file on your hard
          disk make sure that it sets FILES=20 or greater.
    b)   If a CONFIG.SYS File does not exist on your hard disk,
          copy this file from the TELECOM IV Master SYSTEM disk
          to the root directory of your hard disk.
    c)   Boot your system as usual.
    d)   To enter TELECOM IV from C> , enter the command
          CD C:\TELECOM4
    e)   Enter the Command, MENU
    f)   Skip Steps 2 & 3 below.

PROCEDURE

Step 1.   Turn the computer on and follow the screen instructions
          until you are in DOS with the prompt C>.

Step 2.   Format 2 disks using this command: FORMAT A:/S
          After the disk has been formatted, answer N to the
              DOS prompt "want to format another disk?"

Step 3.   Affix the SYSTEM WORK label and the SYSTEM WORK BACK-UP
          label to these disks.

Step 4.   Format the remaining disks using the command:
          FORMAT A: After the last disk has been formatted,
          answer N,(no) to the DOS prompt, "want to format
          another disk?"

Step 5.   Affix the remaining labels to these disks.

TRANSFER PROGRAMS

FLOPPY SET-UP:

PROCEDURE

Step 1.   Make sure the DOS prompt, A>   is appearing on the
          screen.

Step 2.   Insert the Master FILE MAINTENANCE Disk into Drive A.

Step 3.   Enter the word, FLOPPY, and follow the directions that
          appear on the screen. These directions will instruct
          you to insert the master disks into Drive A, and
          various Work Disks into Drive B.   Programs will
          automatically be copied from the Master Disks to the
          Work Disks.

==
CAUTION: Follow the directions exactly. GO SLOWLY. Read the
labels carefully.   Make absolutely certain that the correct
Disks are being inserted into Drive A and Drive B. If you make
any mistakes, you will have to reformat all disks and repeat the
TRANSFER procedure from the beginning.
==

Step 4.   After all programs have been transferred, you should
          verify that this has been done correctly. To do this,
          insert each of the disks into Drive A and enter the
          command DIR.   Compare the programs residing on each
          Disk with the list below:

          FILE MAINTENANCE WORK
                EDIT   EXE
                RATES EXE
                CFILES   EXE
                TRUNKS   EXE

          FILES
                RATETBL
                INFO
                DISCOUNT
                NPAFILE
                VHnnn   (Note:You will have several files with the
                form VH followed by an area code)
                FILES   BAT

SYSTEM WORK
COMMAND COM
MENU EXE
TRANS EXE
AUTOEXEC BAT
CONFIG SYS

COST AND SORT
COST EXE
SORT EXE

STANDARD REPORTS WORK
COMMAND COM
DETAIL EXE
EXTSUM EXE

SPECIAL REPORTS WORK
WRITER EXE
SPECIAL EXE
EXCEPT EXE

Step 5.   In order to proceed with the second major area of
Software Set-up ,which is Data Entry,insert the SYSTEM
WORK disk into Drive A, and reboot the system by
pressing the keys Ctrl Alt Del. The COMPUTER
CONFIGURATION MENU appears. Select appropriate option.
The TELECOM IV Menu will appear. Select #11, SET-UP OR
MAINTAIN FILES. The FILE MAINTENANCE MENU will appear.

HARD SET-UP:

Step 1.   Make sure the DOS prompt A> , is appearing on the
screen by typing the command A: .

Step 2.   Insert the Master FILE MAINTENANCE Disk into Drive A.

Step 3.   Enter the word HARD, and follow the directions that
appear on the screen. These directions will instruct
you to insert Master disks into Drive A. Programs will
be automatically copied from the Master disks to a sub
directory on your hard disk called ,"TELECOM4". You
will also be instructed to insert the SYSTEM WORK disk
into Drive A, and programs will be copied from your
hard disk to the SYSTEM WORK disk.

==

CAUTION: Follow the directions exactly. GO SLOWLY.   Read the
labels carefully.   Make absolutely certain that the correct
Disks are being inserted into Drive A.

==

Step 4.   After all programs have been copied, you will have
           finished with the first major task of Software Set-up,
           which is Disk Preparation.

Step 5.   In order to proceed with the second major area of
           Software Set-up , which is Data Entry, you will be
           instructed to reboot the system and select #11 (SET-UP
           OR MAINTAIN FILES).   The FILE MAINTENANCE MENU will
           appear.

DATA ENTRY

To begin this section you should have already re-booted the computer and selected #11 from the TELECOM IV MENU.

The FILE MAINTENANCE MENU, which is shown below, should now be appearing on the screen. You will be completing each one of these menu items.

FILE MAINTENANCE MENU

1.   CALL TRANSLATOR
2.   NAMES & GENERAL INFORMATION
3.   RATE INFORMATION
4.   COST FILES
5.   TRUNKS

1.NOTE: During Data Entry, anytime you wish a comma to appear as part of the data you must preceed the data with quote marks. For example; Smith, Mary would be entered as "Smith , Mary . Failure to do this will cause a redo from start message.

2. NOTE: Most data entry will require capital letters. Therefore you should press the CAPS LOCK key before you begin.

CALL TRANSLATION

To begin Call Translation Set-up, select #11 (SETUP OR MAINTIN
FILES) from the TELECOM IV MENU. From the File Maintenance Menu,
select CALL TRANSLATOR.   The Call Translator Menu, which is
shown below, should be appearing on the screen.

                    CALL TRANSLATOR MENU

              1. DATA COMMUNICATION PARAMETERS
              2. READ ORIGINAL DATA
              3. PRINT ORIGINAL DATA
              4. BUILD TABLES
              5. PRINT TABLES
              6. CREATE TEST FILE
              7. PRINT ORIGINAL AND TEST DATA
              8. RETURN TO THE TELECOM IV MENU

A Call record is a string of characters which is output by your
telephone system.   Each make of telephone system outputs a
unique call record. A typical call record looks like this:

06/12 10:30A 00:08:10 210 0006 1-714-555-1212 T010 85105

A Field is a particular portion of a call record. Examples of
fields that can be found in a call record are:

    Month,   Day,   Time,   Duration,   Extension,   Number
    Dialed, Trunk, Account Code , etc. .

TELECOM IV software needs to know where each field is located in
the Call Record so that it can cost , sort, and provide
meaningful reports.

A field can be successfully located with two pieces of
information: Starting Position and Length. Starting Position
is the column location of the first character. Length is the
total number of characters.

For example, in the typical call record above, the month is 06.
Its Starting Position is 1. Its length is 2.

<u>PROCEDURE</u>

Step 1.   Before   you   can   do   any   translating,   you   must
          successfully transfer Call Records from the buffer to
          your   computer.   To   do   this you must set the Data
          Communication Parameters.

          Select Data Communication Parameters from the Call
          Translator Menu. A list of 7 parameters will appear on
          the   left.   The possible choices for each parameter will
          appear on the right. Complete all 7 parameters.

          * <u>ADAPTOR</u>:   This number is determined by a setting on
          the   adaptor   when   it is installed. 1= COM1, 2= COM2.If
          your   computer has only one serial communications board,
          it will probably be COM 1. If there is more than one
          adaptor,   or   else an internal modem, the adaptor may be
          COM 2.   If the wrong choice is made, either a Device
          Unavailable   Error, or a Device Timeout Error will occur
          when Reading Calls .

          * <u>BAUD</u>:   This is the rate at which data is transferred
          from the buffer to the computer. 2400 is preferred.

          * <u>PARITY</u>: This   should correspond to the parity of the
          data   coming from the telephone system. Generally it is
          E for Even. Sometimes it may be O for Odd or N for No,
          M for Mark.

          *   <u>DATA BITS</u>: This   should also correspond to the
          telephone system. 7 is the usual choice.

          * <u>STOP BITS</u>: Most often this is 1.

          * <u>END CODE</u>:   Either a carriage return (ASCII 13) or a
          line feed (ASCII 10) end a call record. Usually you
          should choose 13.

          * <u>ASCII</u> (ASC OPTION): Some communication boards presume
          that data will be in a Binary format unless ASCII is
          specified. If this is the case with your Communications
          Board, you may select Y for Yes. In most cases however
          you should select N for No. You will know that you have
          made the wrong choice if unrecognizable characters are
          printed on the screen when you attempt to Read Calls.

Step 2.   Select Read Original Data from the Menu. Follow the
          screen prompts.   If you have set the Communication
          Parameters properly, if the hardware is installed
          correctly, and if there are call records in the buffer,
          these call records will be printed on the screen as
          they are transferred from the buffer to computer disk.

Step 3.   Select Print Original Calls from the Menu. Follow the
          screen prompt. Print a representative sample of calls,
          perhaps 100. A column identifier will be printed above
          each call record to assist you in locating particular
          fields.

PRINT ORIGINAL CALLS SAMPLE

```
||||V||||1|||V|||2|||V|||3|||V|||4|||V|||5|||V|||6|||V|||7|||
14:21 0:00:18         9                     411   268
```

```
||||V||||1|||V|||2|||V|||3|||V|||4|||V|||5|||V|||6|||V|||7|||
14:25 0:00:24 A      80                     P65   P40                08
```

```
||||V||||1|||V|||2|||V|||3|||V|||4|||V|||5|||V|||6|||V|||7|||
10-03
```

```
||||V||||1|||V|||2|||V|||3|||V|||4|||V|||5|||V|||6|||V|||7|||
14:28 0:07:48 A       9              669-3766  P65
```

```
||||V||||1|||V|||2|||V|||3|||V|||4|||V|||5|||V|||6|||V|||7|||
14:28 0:00:00         9              608-3242  389
```

```
||||V||||1|||V|||2|||V|||3|||V|||4|||V|||5|||V|||6|||V|||7|||
14:30 0:10:12         9      1-714-486-1020  269        99988
```

```
||||V||||1|||V|||2|||V|||3|||V|||4|||V|||5|||V|||6|||V|||7|||
14:41 0:06:54         9   52314-714-486-1020  269        87651
```

```
||||V||||1|||V|||2|||V|||3|||V|||4|||V|||5|||V|||6|||V|||7|||
14:49 0:09:36 I      82                      264  P42
```

Step 4.   Select Print Tables from the Menu. The Tables will not
          yet have information in them, however this print out
          will serve as a worksheet for building the Tables. It
          is recommended that you fill out this worksheet before
          you enter the information into the computer.

"DATE-TIME-DURATION" SAMPLE

	FIELD	SUB-FIELD	START	LENGTH
1.	DATE	MONTH	01	02
2.	DATE	DAY	04	02
3.	TIME	HOUR	01	02
4.	TIME	MINUTE	04	02
5.	DURATION	HOURS	07	01
6.	DURATION	MINUTES	09	02
7.	DURATION	SECONDS	12	02

AM-PM   PM CHARACTER

TIME TO ANSWER
START	LENGTH
69	2

NUMBER DIALED
LEFT	LENGTH
29	18

ACCOUNT CODE
START	LENGTH
61	5

ACTIVITY CODE
START	LENGTH
0	0

CALL TYPES

	COMPARISON 1				COMPARISON 2				TYP	PARTY		TRUNK	
	XPN	=<>	BEG	LEN	XPN	=<>	BEG	LEN	TYP	BEG	LEN	BEG	LEN
	1	2	3	4	5	6	7	8	9	10	11	12	13
1	−	=	3	1					D				
2	SP	=	15	1					0	49	3	21	2
3	A	=	15	1	P	=	44	1	A			21	2
4	A	=	15	1	P	<>	44	1	a			21	2
5	00	=	8	2	00	=	12	2	F				
6													
7													
8													

Step 5.   You are now ready to begin building the Call Translator
           Tables.
           Select Build Tables from the Menu. Refer to your
           Original Data Print Out. Find a typical call record.

        5.1   Look for the Date Field. (If a date is not
              provided in every record it will be necessary to
              locate a date record).

              a.   Find the starting position of the month and
              enter it in the Date-Time-Duration Table.   The
              length is 2 characters.

              b.   Find the starting position of the day and
              enter it on the Date-Time-Duration TABLE.   The
              length is always 2 characters.

        5.2   Look for the Time of Day Field.

              a.   Find the starting position of the hour and
              enter it in the Date-Time-Duration TABLE.   The
              length is always 2 characters.

              b.   Find the starting position of minutes and
              enter it on the Date-Time-Duration TABLE.   The
              length is 2 characters.

              c.   If your telephone system uses a 24 hour clock,
              enter 0 for the starting position of the AM-PM
              TABLE, then go to Step 5.3 , if not, do the
              following.
              Locate the starting position of AM-PM designator
              and enter it in the AM-PM TABLE.
              Find the one character which indicates a PM time.
              Enter this character to the AM-PM TABLE.

        5.3   Look for the Duration Field.

              a.   Find the starting position of hours and enter
              in in the Date-Time-Duration TABLE. Determine the
              length and enter it in the Date-Time-Duration
              TABLE.   If hours are not provided by your
              telephone system,   enter 0 (zero), for the
              starting position.

              b.   Find the starting position of minutes and
              enter it the Date-Time-Duration TABLE. The length
              is always 2 characters.

c.   Find the starting position of seconds or 1/10 of minutes and enter it in the Date-Time-Duration TABLE.   The length is 2 characters. If seconds are not provided by your telephone system, enter 0 (zero) for the starting position.

5.4   a.   Look for Time to Answer Field in an incoming Call Record. Find the starting position and enter it in the TIME TO ANSWER TABLE. If your telephone system does not provide time to answer, or you don't wish to use it, enter 0 (zero), for the starting position.

b.   Determine the length and enter it to the table

5.5   a.   In your Original Calls Print-Out, look for the <u>longest</u> telephone number dialed.   At the very <u>least</u>, this must be a long distance number (1+10 digits).   Sometimes, if you use a long distance service, the local access number and your account number may preceed the telephone number. In this case you should reference this number. If the longest possible telephone number is not shown in your original data print out, you should print another sample before completeing this Step.

b.   Find the left most position that a telephone number can begin and enter it to the NUMBER DIALED TABLE.

c.   Enter the length.

5.6   a.   Look for a representative Account Code. Find the starting position and enter it in the ACCOUNT CODE TABLE.   If your telephone system does not provide Account Codes, or if you do not use them, enter a zero.

b.   Determine the length and enter it in the Table.

c.   Repeat Steps a and b above for Activity Codes.

In Steps 7 - 12, you will be determining types of calls.
TELECOM IV identifies 6 call catagories:

OUTGOING	(O)	ATTENDANT OUTGOING	(a)
INCOMING	(I)	ATTENDANT INCOMING	(A)
DATE	(D)	FILTERED	(F)

Step 7. DATE RECORDS

    a.   If your telephone system outputs a date in
every record, it is not necessary to complete this
step. Otherwise , enter a D , the abbreviation for
Date Record, in Column 9.

    b.   In your Original Calls Print-Out, look for an
example of a Date Record . Find 1 character or 2
character expression that can uniquely identify
this call as a Date Type.

    c.   Enter this 1 or 2 character expression in
Column 1 on the CALL TYPE Worksheet.

    d.   Enter the starting position of the expression
in column 3 .

    e.   Enter the length of the expression in Column
4.

    f.   Enter the appropriate relational expression in
column 2. The permitted expressions are:
    EQUAL   =   UNEQUAL   <>
    LESS THAN <   GREATER THAN   >

NOTE: If one expression cannot adequately define a
Date Record, repeat b-f above for Comparison 2, Columns
5-8.

Step 8. OUTGOING CALLS

    a.   Enter an O, the abbreviation for Outgoing Call
Type in column 9 of the CALL TYPES Worksheet.

    b.   In your Original Calls Print-Out, look for an
example of an Outgoing Call. Find 1 character or 2
character expression that can uniquely identify
this call as an outgoing type.

    c.   Enter this 1 or 2 character expression in
Column 1 on the CALL TYPE Worksheet.

    d.   Enter the starting position of the expression
in column 3 .

e.   Enter the length of the expression in Column
4.

f.   Enter the appropriate relational expression in
column 2. The permitted expressions are:
EQUAL   =   UNEQUAL   <>
LESS THAN <   GREATER THAN   >

NOTE: If one expression cannot adequately define an
Outgoing Call Record, repeat b-f above for Comparison
2, Columns 5-8.

g.   Enter the starting positon of the Calling
Party in Column 10.

h.   Enter the length of the Calling Party in
Column 11.

i. Find a Trunk Identification Number.   This
number must be between 1 and 250.   Enter the
starting position of this number in Column 12.

j.   Enter the length of the Trunk Identification
Number in Column 13.

Step 9.   ATTENDANT OUTGOING CALLS

a.   Enter an a, the abbreviation for Attendant
Outgoing Calls, in Column 9 of the CALL TYPES
Worksheet.

b. Enter an Attendant Number in Column 14, usually
this number is a 1 or a 2.

c. Follow the same procedure as in 8 b-j above.

Step 10. INCOMING CALLS

a.   If you do not process Incoming Calls, go to
Step 12. Otherwise, enter an I , the abbreviation
for Incoming Calls, in Column 9.

b. Follow the same procedure as in 8 b-j above.

Step 11.   ATTENDANT INCOMING CALLS

a.   Enter an A, the abbreviation for Attendant
Incoming Calls, in Column 9.

----

      b.   Enter the Attendant Number in Column 14.

      c.   Follow the same procedure as in 8 b-j above.

Step 12. FILTERED CALLS

      a.   If you do not wish to filter out any original call records, go to Step 13. Otherwise, enter an F, the abbreviation for Filtered Calls, in Column 9.

      b.   Follow the same procedure as in 7 b-e above. An example of calls you might want to filter out are calls which were dialed but were clearly never completed. Another example would be calls under a certain length, such as 30 seconds.

Step 13   From the Translator Menu, select Print Tables. Check to see that the information has been printed correctly.

Step 14   From the Translator Menu, select Create Test File. In response to the screen prompts, choose the same first and last records to access that you chose when you printed Original Calls in Step 3 above. The Call Translator will build a file of calls which have been translated according to the Tables you have just built. The name of this file will be TELCALLS.NEW.

Step 15   From the Call Translator Menu, select Print Original and Test Data. Print the same range of calls as in Step 14 above. After printing is complete, compare the Original Records with the Translated Records. If any of the translated records are incorrect, you should:
      a. Edit the Tables, by repeating the appropriate Steps 7 - 12 above.

      b. Repeat Steps 13 , 14 and 15 until you are satisfied that all Types of Original Records are being translated correctly.

Step 16   Once   again   select Create Test File from the Translator
          Menu. In response to the screen prompts, choose #1 as
          the first record to access. Choose Records on File as
          the last record to access. All Original Data will now
          be translated according to your final version of the
          Tables.

==
CAUTION: You must complete Step 16, or the file TELCALLS.NEW
will probably be unusable. If TELCALLS.NEW is unusable, you will
not be able to Cost Calls and Print Reports.
==

CORRECT FORMAT FOR TRANSLATED RECORDS

FIELD	FORMAT
DAT	DATE: A 2 digit month, 2 digit day. The date will default to 0101 until an actual date is encountered.
TIM	TIME: A 12 hour clock. P denotes PM, AM is blank.
DUR	DURATION: 2 digit hours, 2 digit minutes, 2 digit seconds.
EXT	EXTENSION: Type O Calls: The extension number. Type a Calls: ATT + the Attendant Number entered in Column 14 of Call Types. Type A Calls: T + 3 digit Trunk Number Type I Calls: T + 3 digit Trunk Number
TTA	TIME TO ANSWER: If applicable at all, this field will appear only in Type I or Type A Calls. It will be 2 digit minutes, 2 digit seconds.
TNUM	TELEPHONE NUMBER: Actual digits dialed, minus any punctuation such as dashes.
ENUM	EQUIPMENT NUMBER: T + 3 digit Trunk Number for Type O and Type a Calls.
TRAN	TRANSFERRED TO EXTENSION NUMBER: Actual Extension Number for Type I Calls only.
ACOD	ACCOUNT CODE: Actual digits entered for the account code.
TYPE	TYPE OF CALL: The 1 character data entered from the CALL TYPES Worksheet, Column 9.

SAMPLE ORIGINAL AND TEST DATA

```
||||V||||1|||V|||2|||V|||3|||V|||4|||V|||5|||V|||6|||V|||7|||'
14:21 0:00:18            9                       411  268
RECORD 1
DAT  TIM   DUR     EXT  TTA  TNUM                    ENUM TRAN ACOD
0101  221P 000018 268       411                      T009
```

```
||||V||||1|||V|||2|||V|||3|||V|||4|||V|||5|||V|||6|||V|||7|||V
14:25 0:00:24 A      80                      P65  P40              08
RECORD 2
DAT  TIM   DUR     EXT  TTA  TNUM                    ENUM TRAN ACOD
0101  225P 000024 T080 0008                          
```

```
||||V||||1|||V|||2|||V|||3|||V|||4|||V|||5|||V|||6|||V|||7|||V
10-03
RECORD 3
DAT  TIM   DUR     EXT  TTA  TNUM                    ENUM TRAN ACOD
1003
```

```
||||V||||1|||V|||2|||V|||3|||V|||4|||V|||5|||V|||6|||V|||7|||V
14:28 0:07:48 A      9                669-3766  P65
RECORD 4
DAT  TIM   DUR     EXT  TTA  TNUM                    ENUM TRAN ACOD
1003  228P 000748 ATT1      6093766                  T009
```

```
||||V||||1|||V|||2|||V|||3|||V|||4|||V|||5|||V|||6|||V|||7|||V
14:28 0:00:00        9                608-3242  389
RECORD 5
DAT  TIM   DUR     EXT  TTA  TNUM                    ENUM TRAN ACOD
```

```
||||V||||1|||V|||2|||V|||3|||V|||4|||V|||5|||V|||6|||V|||7|||V
14:30 0:10:12        9          1-714-486-1020  269        99988
RECORD 6
DAT  TIM   DUR     EXT  TTA  TNUM                    ENUM TRAN ACOD
1003  230P 001012 269       17144861020              T009      99988
```

```
||||V||||1||||V||||2|||V|||3|||V|||4|||V|||5|||V|||6|||V|||7|||
14:41 0:06:54        9         52314-714-486-1020  269          87651
RECORD 7
DAT   TIM   DUR     EXT   TTA   TNUM                      ENUM TRAN ACOD
1003  241P  000654  269         523147144861020          T009      87651


||||V||||1||||V||||2|||V|||3|||V|||4|||V|||5|||V|||6|||V|||7|||
14:49 0:09:36 I      82                     264   P42
RECORD 8
DAT   TIM   DUR     EXT   TTA   TNUM                      ENUM TRAN ACOD
1003  249P  000936  T082                                      264
```

Step 17   This   completes   the   Call   Translator   procedures.
          Important Note: After you complete Software Set-Up, you
          will be collecting your telephone call data by running
          the Read Calls portion of TELECOM IV. The tables you
          have just built will translate this data and add the
          records to the file named TELCALLS.NEW. Changing the
          Translator Tables will change the structure of these
          records.

==
CAUTION:
Never change the Translator Tables without first Renaming or
Erasing TELCALLS.NEW.   If you fail to take this precaution,
TELCALLS.NEW will probably be unusable, and you will therefore
be unable to Cost Calls or Process Reports.
==

          Now return to the File Maintenance Menu.

GENERAL INFORMATION

Select   NAMES & GENERAL INFORMATION from the File Maintenance
Menu. Follow the screen prompts until the GENERAL INFORMATION
MENU appears.

PROCEDURE

All menu numbers must be selected and completed, whether you
utilize them or not.

Step 1.   COMPANY NAME: Enter your company name the way you wish
          it to appear on your reports.

Step 2.   YEAR : Enter the current year, (ie - 86)

Step 3.   COMPUTER CONFIGURATION :   Enter the disk configuration
          for running TELECOM IV. Choosing 2 Floppy Drives only
          will cause TELECOM IV to run on Drives A and B.
          Choosing Hard Disk System will cause TELECOM IV to run
          on Drive C.

Step 4.   TYPE OF CALLS : What you select here will determine
          what type of calls are stored and therefore what type
          of information will appear on reports.

Step 5.   MONTHLY SERVICE CHARGE/SALES TAX : If you so choose
          these items will appear in the Extension Report and the
          Account Report.   They will be added to the total cost
          for each Extension or Account.
          A typical use of these charges is to allocate
          administrative   costs   or   the costs of lines and
          equipment to each Extension or Account.

Step 6.   DIAL-UP #1 : TELECOM IV allows you to cost calls made
          via a Dial-Up Service in addition to your 1+ Long
          Distance Carrier. In order for this feature to work
          properly, you must enter the identifying digits which
          appear to the left of the area code in the "number
          dialed field" of a call record. Also , you must enter a
          cost multiplier.

Note: To access a Dial-Up Service, a 7 digit local number must first be dialed. Then a 5 or 6 digit account number must be entered. You may not know what these numbers are because often times they are in speed call, and therefore do not have to be manually entered. However, some, or all of them ,can be made to appear in the call record. How many of these 12 or 13 digits actually do appear depends upon the programming done by your telephone service company.

If you have a Dial-Up Service, and if the identifying digits are entered incorrectly, TELECOM IV will cost these calls at $0.50 per minute.

If you have a Dial-Up Service and leave this section blank, because you don't know the information, TELECOM IV will also cost these calls at $0.50 per minute. These identifying digits, which you don't know at this time, will be printed on your first reports.

Step 7.   DIAL-UP #2 : TELECOM IV provides for a second Dial-Up Service. This information is to be entered as in number 8 above.

Step 8.   COLOR : You must complete this item regardless of the type of monitor you have. Failure to do so will cause a blank screen during program operation.

If you have a color monitor, you will be able to select the foreground, background and border colors.
A suggested combination for color monitors is:
    Foreground : High White
    Background : Blue
    Border   : Blue

If you do not have a Color Monitor, you must select Monochrome.

Step 9.   COST MULTIPLIER : Call cost will be multiplied by this number.

When all Menu selections have been completed, print this information, and store it in your Documentation & Administration Binder. Return to the FILE MAINTENANCE MENU.

NAME INFORMATION

Name Information is divided into Extensions and Accounts. You
must complete the Extension portion. Only if you are using
Account or Client Codes and only if you are maintaining a Name
File for these codes, do you need to complete the Accounts
portion.

EXTENSIONS

PROCEDURE

Step 1.   Select NAMES from the MAIN MENU, then select
          EXTENSIONS.

Step 2.   Select INITIALIZE NEW FILE. After the initialization
          has been completed, select ADD OR CHANGE EXTENSIONS.
          The following information will now be entered:

          1.   COST CENTER (Optional) A sorting key number from 1
          to 30.   If utilized, calls will be sorted by Extension
          Number within Cost Center Number and sub-totals will be
          provided for each Cost Center. If Cost Centers are not
          utilized, calls will be sorted by extension Number
          only.

          2.   COST CENTER NAME: A 1 to 8 character description
          of the Cost Center, or the actual Cost Center code.

          3. EXTENSION NUMBER: A number from 1 to 9999.
          NOTE: Most telephone systems designate the Attendant
          as Extension ATT0 , ATT1, ATT2, etc. TELECOM IV files
          the Attendant numbers as the ASCII codes of "0", "1",
          "2", etc.   Therefore,   ATT0 is Extension number 48,
          ATT1 is Extension number 49, and ATT2 is Extension
          number 50.   If you don't know which number to use,
          enter all three.

          4.   EXTENSION NAME: A 1 to 20 character description.

          5.   TIMEKEEPER CODE: An optional code of 1 to 4
          characters. Generally this would be used in conjunction
          with an in-house billing package.

Step 3.   When all extension entries have been made, print the
          Extension File. Check the print out for errors and make
          changes if necessary. To make corrections, you will
          select either ADD OR CHANGE or DELETE from the Menu.

               Use DELETE if an Extension number or Cost Center
               Number was entered incorrectly.
               Use ADD OR CHANGE if the Extension Number and Cost
               Center Number is correct, but the extension Name
               is incorrect.

          If you made corrections, reprint the Extension file and
          store it in your Documentation and Administration
          Binder. Return to the MAIN MENU.

ACCOUNTS

PROCEDURE

Step 1.   Select "NAMES" from the MAIN MENU, then select
          "ACCOUNTS".

Step 2.   Select "INITIALIZE NEW FILE".

Step 3.   Select "ADD OR CHANGE ACCOUNTS". The following
          information will now be entered:

          1. ACCOUNT NUMBER : A 1 to 10 digit number.
          Note: During the General Information Set-up, you
          specified the length of your Account Codes. The
          Account Numbers you enter here must be this same
          length. Also note that this number is the Account
          Number only , and not the Account and Activity Number
          combined.

          2. ACCOUNT NAME : A 1 to 20 character description.

Step 4.   When all Account entries have been made, print the
          Accounts and store them in the Documentation and
          Administration Binder. Return to the MAIN MENU.

RATE INFORMATION

TELECOM IV uses a Unified Rate Table which includes the following areas:

AREA	AREA ABBREVIATION
Mainland U.S.& Hawaii	US
Alaska	AK
Puerto Rico & Virgin Islands	PV
Canada	CN
Mexico	MX
International	IL
Intrastate	IS
Local Service Area	LS
Zone Area	ZO
Directory Assistance	--

This Rate Table, together with discount tables for each area, comes to you with current rate schedules of your local telephone company and AT&T. If your primary long distance carrier is other than AT&T, you may replace AT&T rates with that company's rates.

Whatever your telephone service, as rates change, you have the capability to update the Unified Rate Table and Discount Tables. Rates can be obtained from your local telephone company and AT&T, or any other Long Distance Carrier.

PROCEDURE

Step 1. Select "RATE INFORMATION" from the FILE MAINTENANCE MENU. The following MENU will appear.

                          MENU

                    1. EDIT RATE FILE
                    2. PRINT RATE FILE
                    3. BUILD DISCOUNT TABLE
                    4. PRINT DISCOUNT TABLE
                    5. SETUP CALENDAR
                    6. PRINT CALENDAR
                    7. EXIT PROGRAM

Step 2. Select "PRINT RATE FILE". Store the Rate File in the Documentation and Administration Binder.

Step 3.   After the Rate Table has been printed. Select "PRINT
           DISCOUNT TABLE".

Step 4.   DISCOUNT AREAS   will appear on the screen. Select
           "MAINLAND U.S.".   After the Mainland U.S. Discount
           Table has printed, repeat the same procedure to print
           the discount table for the "LOCAL SERVICE AREA". After
           the Local Service Area Discount Table has printed,
           repeat the same procedure to print the "INTRASTATE"
           Discount Table.

If you wish, you may print out the discount tables for the
remaining areas. However, the three that you have printed will
represent nearly all of the calls you will make.

Step 5.   If you do not wish to modify the existing rate table
           goto Step 8.

Step 6.   If you do wish to modify the existing rate table, you
           must have on hand current rate information . If you do
           not have this information, refer to Section 7, RATE
           TABLE AND DISCOUNT TABLE MAINTENANCE, for specifics on
           obtaining it, or contact your telephone campany (MCI,
           SPRINT, etc.) for their rates.

Step 7.   Select "EDIT EXISTING RATE FILE". Select the RATE AREA
           you want to modify. In most cases, changing MAINLAND
           U.S. , INTRASTATE and LOCAL SERVICE AREA will be
           sufficient to account for most of your calls..

Step 8.   If you wish to modify any DISCOUNT TABLES, select
           "BUILD DISCOUNT TABLE" . Select the DISCOUNT AREA you
           wish to modify . Follow the screen directions, using
           the Discount Tables you have already printed out as a
           guide. When you have finished , print a copy of the
           modified Discount Table and store it in the
           Documentation and Administration Binder.

Step 9.   Select SETUP CALENDAR and follow screen prompts..

           Certain rate discounts are based on the day of the week
           and holidays. In order for TELECOM IV to cost calls
           correctly, you must input information regarding the
           current calendar year and rate holidays.

           Rate holidays are usually listed in the front pages of
           your telephone book. If you can't find them, ask your
           telephone operator.

Holiday   rates   usually   apply   on New Year's Day,
Washington's Birthday (observed), 4th of July, Labor
Day, Thanksgiving, and Christmas.

Step 10. When the calendar information is completed, print it ,
         then store it in your Documentation and Administration
         Binder. Select EXIT PROGRAM.

BUILD COST FILES

Using V & H Coordinates to determine mileage between points ,
this program builds an AREA CODE FILE which contains the
appropriate line numbers from the UNIFIED RATE TABLE. TELECOM IV
will cost most of your calls by referencing this file. For most
long distance calls, the area code file provides a high degree
of accuracy.

Mileage steps within the Local Service Area are so small, that
area code costing may not provide accurate enough costing for
your   needs.   Therefore, you will also be afforded the
opportunity to build selected EXCHANGE CODE FILES for local and
nearby calls and long distance calls within your local service
area.

AREA CODE FILE

PROCEDURE

Step 1.   Select SETUP OR MAINTAIN FILES from the TELECOM IV
          MENU.

Step 2.   Select COST FILES from the File Maintenance Menu. The
          following Menu will appear.

                         COST FILE MENU

                    1.   AREA CODE FILE
                    2.   EXCHANGE CODE FILE
                    3.   RATE AREA FILE
                    4.   V & H COORDINATE FILE
                    5.   RETURN TO TELECOM IV MENU

Step 3.   Select AREA CODE FILE from the COST FILE Menu. An AREA
          CODE Menu will appear.

Step 4.   Select SET-UP NEW FILE from this menu. Enter the area
          code of origin. This is the area code in which you are
          located. Enter the Exchange Code of origin. This is
          the first three digits of your local telephone number.
          Using this information the program will automatically
          build your Area Code File.

Step 5.   When the program is finished, print the AREA CODE FILE
          and store it in the Documentation and Administration
          Binder.

EXCHANGE CODE FILES

PROCEDURE

Step 1.   From the COST FILES Menu, select EXCHANGE CODE FILES.

Step 2.   Select BUILD NEW FILE. Enter the Area Code of origin
           and Exchange Code of origin as described above. Enter
           the Area Code of destination. For the first Exchange
           Code File, this will be the same area code as the area
           code of origin.   The program will automatically
           determine rate table line numbers for each exchange in
           the area code of destination.

       EXAMPLE   Area Code of Origin   213

                   Exchange Code of Origin   365

                   Area Code of Destination 213

NOTE: If many of your local and nearby calls are billed
according to Zones, you should enter Y for Yes when the screen
prompt "ZONE MEASUREMENT ?" appears. You should enter N for No
when the screen prompt for "FOREIGN EXCHANGE ?" appears.

Step 3.   When the program is finished, select "EXCHANGE CODE
           FILES, then select PRINT CONTENTS OF FILE .Follow the
           screen   prompts . Store the printout in the
           Documentation and Administration Binder.

Step 4.   Repeat Steps 1 through 3 using each additional area
           code in your local service area as the area code of
           destination. For a listing of the area codes in your
           local service area, check the front of your telephone
           book, or ask the telephone operator.

           For example, if you are located in the Los Angeles
           area, you should set-up Exchange Code Files for the
           following destination area codes: 213, 619, 714, 805,
           818.

Step 5.   If you have foreign exchange lines, you should create
           an exchange code file for each of them.

           EXAMPLE   Area code of Origin: 714

                       Exchange   Code of Origin: The three digit
                       exchange   number   of your foreign exchange
                       line.

                       Area Code of Destination: 714

If many of the local and nearby calls made on the foreign
exchange line are billed according to Zones, you should enter Y
for Yes when the screen prompt "ZONE MEASUREMENT ?" appears.
You should enter Y for Yes when the screen prompt for "FOREIGN
EXCHANGE ?" appears.

TELECOM IV allows a maximum of 10 exchange code files.

Step 6. Select RETURN TO MAIN MENU.   Then select RETURN TO
         TELECOM IV MENU.

NOTES

1. V & H COORDINATE FILE
    An edit capability is provided so that new exchanges can be
    added in the future.

2. RATE AREA FILE
    An edit capability is provided so that new area codes can be
    added in the future.

It will not be necessary to edit these files during Software
Set-up.

TELECOM IV
TRUNK INPUT WORKSHEET

GROUP EQUIP ID #	GROUP FILE #	GROUP NAME	AREA CODE	EXCHANGE CODE	DIRECT COST IN	DIRECT COST LOCAL	DIRECT COST LONG DIST	DIRECT COST INTERN	ROUND OFF PERIOD

BUILDING THE TRUNK FILE

A Trunk Group is a collection of Trunk Lines of a particular
type. For example , Local Lines, Foreign Exchange Lines, WATS
Lines. The information you will enter below for each of your
Trunk Groups will be used by TELECOM IV for costing and report
generation.

PROCEDURE

Step 1.   Select SETUP OR MAINTAIN FILES from the TELECOM IV
           MENU.

Step 2.   Select TRUNKS from the FILE MAINTENANCE MENU. The
           following menu will appear.

                         TRUNKS MENU

                 1.   INITIALIZE NEW FILE
                 2.   ADD OR CHANGE TRUNKS
                 3.   DELETE TRUNKS
                 4.   PRINT CONTENTS OF FILE
                 5.   RETURN TO TELECOM IV MENU

Step 3.   Select INITIALIZE NEW FILE from the TRUNKS MENU.

Step 4.   Select ADD OR CHANGE TRUNKS from the TRUNKS MENU.

Step 5.   For each of your Trunk Groups, enter the following
           information.

                   FILE #: An arbitrary number between 1-9
                   assigned by you as a key to identify your
                   various Trunk Groups; ie LOCAL, WATS, etc.
                   Start with number 1. This will be your Local
                   Trunk Group.

                   NAME: A descriptive 4 character
                   abbreviation of the Trunk Group which is
                   meaningful to you. This abbreviation will
                   print on reports.

                   AREA CODE: This is the Area Code of the Trunk
                   Group.   For WATS type lines no Area Code is
                   required.

EXCHANGE CODE: This is the first 3 digits
after the Area Code of the Trunk Group.

DIRECT COST IN: If no cost is entered ,
Incoming Calls for this Trunk Group will not
be costed.   If a dollar amount is entered,
incoming calls will be costed at this amount.

DIRECT COST LOCAL: If no dollar amount is
entered, Local Calls will be costed according
to the Rate Table. If a dollar amount is
entered, Local Calls will be costed at this
amount.

DIRECT COST LONG DISTANCE: If no dollar
amount is entered, Long Distance Calls will
be costed according to the Rate Table. If a
dollar amount is entered, Long Distance Calls
will be costed at this amount.

DIRECT COST INTERNATIONAL: If no dollar
amount   is   entered,   Direct   Dialed
International Calls will be costed according
to the Rate Table.   If a dollar amount is
entered, International Direct Dialed Calls
will be costed at this amount.

ROUND OFF PERIOD: Some carriers round the
length of call to the next highest minute,
others to the next highest tenth of a
minute.   The figure you enter here depends on
which carrier you use.

TRUNK GROUP EQUIPMENT ID # : If you have set
up the Translator correctly this ID # will
appear in the ENUM Field for Outgoing Calls
or EXT Field for Incoming Calls. If you are
unsure of which ID # belongs with which Trunk
Group, ask your Telephone Equipment Service
Vendor.

For a Key System, the TRUNK EQUIPMENT ID #
will correspond to the Line Number, ie Line 1
= T001, Line 2=T002,etc.

            For a PBX, this is a number assigned to the
            Trunk Group by the vendor who programmed your
            telephone system.

Step 5.   Print the TRUNK FILE and store it in the Documentation
          and Administration Binder.

Step 6.   Return to the TELECOM IV MENU.

FILES PROCEDURE

All Software Set-Up information has now been entered. This information must be transferred to the appropriate disks.

PROCEDURE

Step 1. Select END TELECOM IV from the TELECOM IV MENU.

Step 2. Follow the screen prompts carefully, inserting the disks as directed. The program will automatically copy all files to the proper disks.

==

CAUTION: Go slowly. If files are not transferred to the proper disks, TELECOM IV will not operate correctly.

==

Step 3.   This completes Software Setup. You can now proceed with Data Collection and Report Generation.

RECOMMENDATION

After you Read Calls for the first time (as outlined in Section 5), you should check to see that the call records which you have just read are in the correct format. This can be done as follows:

   1. From the TELECOM IV MENU, select #6, Print Call Files.

   2. In response to the screen prompts, print the last 50 records.

   3. Verify that the records are in the correct format. If the records are incorrect, you must erase the file TELCALLS.NEW, and then redo the Call Translator.

DATA COLLECTION

If all hardware is in working order and has been connected
properly, Call Data will be automatically transmitted from the
telephone system after each call has been completed. The buffer
will store this data until you transfer it to your computer disk.

LAST DATE

This is the month and day of the last call record that has been
read. To change the last date, do the following:

PROCEDURE

Step 1. Select LAST DATE/CUTOFF DATE from the TELECOM IV MENU.

Step 2. Select LAST DATE from the Sub Menu.

Step 3. Follow the program prompts to enter the correct month
         and day.

CUTOFF DATE

This is the final month and day of your current reporting period.
The READ CALLS Program will be interrupted when this date is
exceeded. FLOPPY Disk users will be prompted to switch disks at
this time. HARD Disk users will have the TELCALLS.NEW file
automatically renamed to TELCALLS.OLD. The READ CALLS program
will insert subsequent calls into TELCALLS.NEW. After the READ
CALLS Program has finished, the CUTOFF DATE should be changed.

To change the CUTOFF DATE , do the following:

PROCEDURE
Step 1. Select LAST DATE/CUTOFF DATE from the TELECOM IV Menu.

Step 2. Select CUTOFF DATE from the Sub Menu.

Step 3. Follow the program prompts to enter the correct month
         and day.

READ CALLS

This is the program that transfers data from the Buffer to
computer disk. You should run this program at least once daily in
order to lessen the risk of lost data due to power failure or to
overfilling the buffer.

==
CAUTION:
MAKE SURE THAT YOU HAVE ENTERED A LAST DATE BEFORE READING CALLS.
THIS IS IMPORTANT BECAUSE MANY TELEPHONE SYSTEMS DO NOT OUTPUT
THE DATE WITH EVERY CALL RECORD. THEREFORE, UNLESS YOU ENTER A
LAST DATE, YOUR INITIAL CALLS WILL HAVE NO DATE ASSIGNED UNTIL
YOUR TELEPHONE SYSTEM OUTPUTS ONE.
==

PROCEDURE

Step 1.   Select READ CALLS from the TELECOM IV Menu.

Step 2.   Follow the program prompts. As each call is "READ" from
          the buffer, it will be displayed on the screen before it
          is transferred to disk.

Step 3.   PRACTICAL PERIPHERALS BUFFER ONLY. If you are near the
          computer when it has finished "READING" calls, you will
          hear several "beeps". Immediately press the CLEAR
          button on the buffer to reset it. The next call coming
          in will erase the buffer. If you were not near the
          computer when it finished reading calls, DO NOT
          immediately press the CLEAR button. First REREAD the
          calls, then press the CLEAR button.

Step 4.   Return to the TELECOM IV Menu.

          IMPORTANT NOTE: If the CUTOFF DATE was reached during
          the READ CALL session, you should now change the CUTOFF
          DATE.

Step 5.   If this is the first time you have READ CALLS after
          completing Software Set-up, you should verify the call
          record format as follows:

                    a) Select PRINT CALL FILES from the TELECOM IV
                    MENU.
                    b) In response to the screen prompts, print the
                    last 50 records on file.
                    c) Verify the call format. If the format is
                    incorrect, erase the TELCALLS.NEW file and repeat
                    the Call Translator portion of Software Set-up.

Step 6.   Select END TELECOM IV from the TELECOM IV MENU.

Step 7.   Back-up Call Records.
          a) HARD DISK Users follow your company's standard
          back-up porcedures.

          b) FLOPPY DISK Users: Insert the CALLS BACK-UP disk
          into Drive A. Make sure the CALLS Disk is still in
          Drive B. Enter the command COPY B:*.* A:

IMPORTANT NOTES
** Some telephone systems do not output the date in every call
    record. If you have one of these systems, you will find that
    the READ CALLS Program will display the date applied to the
    last record. If this date does not correspond to the current
    date,   immediately change it according to the steps described
    above.

** Also, while running the READ CALLS Program check to see if
    the wrong date or wrong time is being displayed on the
    screen.   If so, the clock of the telephone system must be
    reset.   If you do not know how to do this, check with your
    telephone equipment service company.

PRACTICAL PERIPHERALS BUFFER OPERATION

NORMAL CONDITION

The buffer should remain ON at all times and the only light illuminated should be the POWER light.

UNUSUAL CONDITIONS

1. PAUSE LIGHT ON. A power failure or brown out has occured, or else the button has been manually pushed. When this light is ON, the buffer is in a manually controlled XOFF CONDITION. Trying to run the READ CALLS Program will always result in "BUFFER EMPTY". To correct this situation, do the following:
    a) Prepare to execute the READ CALLS Program, EXCEPT for the last key stroke.
    b) Press , then release the PAUSE button on the buffer causing the light to go out.
    c) Immediately engage the READ CALLS Program on the computer.
    d) If you are unable to READ calls, Press ON the PAUSE button, and repeat the above procedure.

2. CLEAR LIGHT ON. Either the buffer has been filled to capacity, or it "thinks" it has, due to the fact that it has not been cleared regularly. After the CLEAR Light comes on, all subsequent call records are lost. To correct this situation , immediately run the READ CALLS program. The light should go Off. If it doesn't, turn it Off. If this condition continues to occur there is a buffer malfunction, and it needs to be repaired.

3. SEVERAL LIGHTS ON. You may have experienced electrical interference. To correct this condition, attempt to turn all the buttons Off manually, then run the READ CALLS program. If the lights will not go out, turn Off the buffer, then turn it back On. Run the READ CALLS Program using the procedure described in #2 CLEAR LIGHT ON.

4. BUFFER ALWAYS EMPTY. If the buffer repeatedly shows empty, even when you know there should be data in it, turn it Off. Turn it back On. Wait a few minutes to allow call records to accumulate. Run the READ CALLS Program described in #2,CLEAR LIGHT ON.

BUFFER REPAIR PROCEDURE

Step 1. Contact:
                Practical Peripherals at:
                31245 La Baya
                Westlake Village, CA 91362
                (818) 991-8200 - 805-496-7707

        or

                Omnitronix Inc.
                760 Harrison Street
                Seattle , WA   98109
                (206) 624-4985

        Ask for Customer Service

Step 2. Describe the problem.   Obtain an RMA #.   Ship the
         buffer.
         For Practical Peripherals Buffer, specify that you
         require a 3.02 X PROM , if the PROM has to be replaced.

Step 3. When the buffer returns, remove cover.

                A.   Make sure the dip switches and jumpers are set
                as directed in Section 3, Buffer Set-Up.

                B.   For Practical Peripherals Buffer, make sure the
                PROM is 3.02 X.   The 3.02 X PROM enables you to
                clear the buffer and leave it in an XOFF status.

PRINT CALL FILES

Running this program will provide you with a quick reference
print out of selected records from your currect call file.

PROCEDURE

Step 1. Select PRINT CALL FILES from the TELECOM IV Menu.

Step 2. Follow the program prompts to enter a beginning record
         number and an ending record number to be printed.

Step 3. When the program has finished, you will be returned to
         the TELECOM IV Menu.

RENAME CALLS

FLOPPY DISK USERS
At the end of your reporting period, you will want to ready your
TELCALLS.NEW file for processing. In order to do this you must
Rename the file. If you do not , you will be unable to generate
reports.

HARD DISK USERS
If you specified a cutoff date, your TELCALLS.NEW file will have
already been renamed. If you did not specify a cutoff date, you
will have to follow the procedure described below.

PROCEDURE

Step 1. Select RENAME CALLS from the TELECOM IV Menu.

Step 2. Follow the program prompts to rename TELCALLS.NEW to
         TELCALLS.OLD   . If you have more than 1 CALLS Disk,
         you must do this for both calls disks.

ERASE CALLS

After you have finished printing all reports , you might want to
clear disk space for reuse. Be sure that you are completly
finished with the data , before you erase it. If for some reason
you wish to save the data for later reference, you should rename
TELCALLS.OLD to some other name besides TELCALLS.NEW.

PROCEDURE

Step 1. Select ERASE CALLS from the TELECOM IV Menu.

Step 2. Follow the program prompts to erase TELCALLS.OLD.

REPORT GENERATION OVERVIEW

Report generation takes place at the end of your reporting
period, and consists of four tasks.

   I.   COSTING CALLS

   II. SORTING CALLS

   III. PRINTING STANDARD REPORTS

   IV. PRINTING SPECIAL REPORTS

Procedures for each of these tasks are given below.

I. COSTING CALLS

PROCEDURE

Step 1.   Make sure that you have renamed the Calls file(s) from
          TELCALLS.NEW to TELLCALS.OLD.   See Section 5, DATA
          COLLECTION, for the correct procedure if you have not
          yet done this.

Step 2.   Select COST CALLS from the TELECOM IV MENU. Call Costing
          will be accomplished automatically according to the
          methodology described earlier in this documentation.

          When calls can be identified with a particular rate
          area, a Rate Table Line Number from 1 to 120 will be
          assigned.   In other instances, Line Numbers will be
          assigned as follows:

          OPERATOR ASSISTED   000   DIAL-UP #1   666
          DIRECT COST PER MINUTE   121   DIAL-UP #2   777
          LOCAL INFORMATION   411   DEFAULT COST 888
          LONG DISTANCE INFORMATION   555   EMERGENCY   911
          UNCOSTED CALLS   999

Rate Lines can be accessed through the use of the Report Writer.

II. SORTING CALLS

It is necessary to sort calls before you print each Standard
Report. The sort determines what information is selected and how
it will appear on the report. Only Outgoing Calls are sorted.

PROCEDURE

Step 1. From the TELECOM IV Menu select SORT CALLS.

Step 2.   Choose a PRIMARY SORT.

   PRIMARY SORTS:
   a.   All Extensions.   If you did not specify Cost Centers
        during Software Set-up, the sort will be from lowest to
        highest Extension number. If you did specify Cost
        Centers, the sort will be by Extension Number within
        each Cost Center.

   b.   All Accounts.   The sort will be from lowest to highest
        Account Code.

   c.   Selected Extensions. This gives you the opportunity to
        either Include or Exclude specific Extension Numbers. If
        you Include Extensions, then only these numbers will be
        selected from the file and sorted. If you Exclude
        Extensions, then these extensions will not be selected
        from the file. All others will be selected and sorted.

   d.   Selected Accounts.   This gives you the opportunity to
        either Include or Exclude Account Codes.

   SECONDARY SORTS:
   a.   Number Dialed.   Within each Account or Extension, the
        calls will be further sorted according to the number
        dialed. Local numbers appear first followed by long
        distance numbers.

   b.   Date.   Within each Account or Extension, calls will be
        further sorted by date and time.

   FILE ACCESS PARAMETERS:
   a.   Entire File.   All records will be sorted.

   b.   Part of File.   Only records between a beginning
        date-time and ending date-time will be sorted.

III.<u>PRINTING STANDARD REPORTS</u>

There are four Standard Reports.

    1. EXTENSION REPORT

    2. ACCOUNT REPORT

    3. EXTENSION EXPORT REPORT

    4. ACCOUNT EXPORT REPORT

Each of these reports is available at the Summary or Detail Level.

The <u>EXTENSION</u> and <u>ACCOUNT REPORTS</u> present detailed call information for each Extension or Account. A TOTALS page is also included for each Extension or Account. A Flat Rate Service Charge and Sales Tax Rate can be applied as well as a Cost Multiplier.

The <u>EXTENSION EXPORT</u> and <u>ACCOUNT EXPORT REPORTS</u> provide the same detailed call information as the above reports. No totals are provided. No Service Charge and Tax Rate are applied. A Cost Multiplier can be applied. Output can be directed either to Paper or to Disk. These reports are designed to be input for data entry or other software programs.

PROCEDURE

Step 1. Select STANDARD REPORTS from the TELECOM IV MENU.

Step 2. From the REPORT OPTIONS MENU select the Report you want to print.

   NOTE:This selection should correspond to the Sort which you performed earlier. You cannot print any STANDARD REPORT without first having completed the SORT PROGRAM.

Step 3. Follow the screen prompts to enter the following types of information.

    <u>REPORT LEVEL:</u> Summary only, or Summary and Detail

    <u>COPY:</u> Paper or Disk. This information applies only to <u>EXPORT</u> REPORTS.

    <u>LINES PER PAGE:</u> This information only applies to EXPORT REPORTS, Paper Copy.

REPORT TITLE: The title will appear on the Report exactly as you type it. You will not be asked for this information if you selected DISK COPY.

DESCRIPTION OF PRIMARY SORT: This description will appear on reports exactly as it is typed.

COST CENTER DESCRIPTION: This description will appear exactly as typed and applies only to the EXTENSION REPORT.

NUMBER OF CALL DISKS: This information is required by non HARD disk users.

PRINT OPTION
    a)   Both Local and Long Distance: Telephone numbers will print for both Local and Long Distance Calls. Totals will print for both.

    b)   Long Distance Only: Only Long Distance telephone numbers will print. However, totals will be provided for both.

    c)   Local Only: Only Local telephone numbers will be printed. However, totals will be provided for both.

INDIVIDUAL SUMMARY PAGES
    a)   Y,(YES) individual summary pages will print for each extension.
    b)   See the sample Extension Report at the end of this section.

BEGINNING PRINT POSITION
    a)   Beginning of File: The entire sorted record file will be printed.

    b)   Other Position: Printing of the sorted record file will begin with an extension or account number which you specify. This option enables you to redo part of a long report which did not print properly due to a printer malfunction.

Step 4   The reports will now print.

NOTES:
    On any report, a * or a ** preceeding the number dialed indicates that the call was placed using Dial-Up Service #1 or Dial -Up Service #2.

    The TRUNK column should contain the descriptions you entered during TRUNK Set-up. If this is not the case, the TRUNK Set-up was incorrect or incomplete. Any TRUNK Group number appearing on reports should be added to the TRUNK File.

EXPORT FILE STRUCTURES

This information is for those who wish to use Disk Copy Export
Reports.

EXTENSION AND ACCOUNT DETAIL REPORTS

Record Length	74
ASCII 34	1
Date	2-6
Time	8-13
Trunk Group	15-18
Number Dialed	20-45
Extension	47-50
Account Code	51-60
Minutes	62-65
Cost	67-71
ASCII 34	72
ASCII 13	73
ASCII 10	74

ACCOUNT SUMMARY REPORT

Record Length	57
ASCII 34	1
ASCII 32	2-21
Account Code	22-31
Calls	32-37
Minutes	38-44
Cost	45-54
ASCII 34	55
ASCII 13	56
ASCII 10	57

EXTENSION SUMMARY REPORT

Record Length	44
Extension	1 -3
Incoming Calls	4 -9
Incoming Minutes	10-15
Incoming Min/Call	16-19
Outgoing Calls	20-25
Outgoing Minutes	26-31
Outgoing Min/Call	32-35
Cost	36-42
ASCII 13	43
ASCII 10	44

TELCALLS.NEW FILE STRUCTURE

There can be up to 14 fields in each call record. Some are fixed, and some are variable.

FIXED

FIELD		LENGTH
F1	DATE	4
F2	TIME	5
F3	DURATION	6
F4	EXTENSION	4
F7	TRUNK	4
F10	COST	6
F11	RATE LINE	3
F12	CALL TYPE	1
F14	CARRIAGE RETURN & LINE FEED	2

VARIABLE

FIELD		LENGTH
F5	TIME TO ANSWER	4 if used, 0 if not used
F6	NUMBER DIALED	Determined by you with Call Translator.
F8	TRANSFER EXTENSION	This will be 4 if Incoming Calls are processed, 0 if they are not.
F9	ACCOUNT CODE	Determined by you with Call Translator. Account length + Activity length.
F13	TIMEKEEPER CODE	4 , if F9 is greater than 0, otherwise 0.

Record Length = F1 + F2 + F3 + ... F14

ORIGINAL.NEW FILE STRUCTURE

Field content varies with telephone system. Usually a carriage
return and line feed are included in a record. Record length =
90.

IV. PRINT SPECIAL REPORTS

There are three types of Special Reports: Summary, Exception, and Report Writer.

SUMMARY REPORTS

HOUR SUMMARY: This report tells what hour of the day both incoming and outgoing calls occurred. It also shows the number of rings it took to answer incoming calls. (If your telephone system outputs Time to Answer)

DAY OF THE WEEK SUMMARY: Summarizes the same information as above by Day of the Week.

EXTENSION TRUNK GROUP SUMMARY: For a specified Trunk Group, this summary provides Total Calls, Total Minutes and Total Cost attributable to each Extension. This report is useful for highlighting usage of WATS type lines.

AREA CODE SUMMARY: This report provides Total Calls, Minutes and Cost for each Area Code. It is useful for network planning.

PROCEDURE

Step 1. Select Special Reports from the TELECOM IV Menu.

Step 2. From the SPECIAL REPORTS MENU, select one, or any combination of the above reports.

Step 3. The Reports will automatically print.

EXCEPTION REPORT

This report can only be generated if you use Account Codes. It identifies any call records which have an incorrect or missing Account Code. This Exception Report is generated as a worksheet for each Extension. Account Code corrections can be made on this worksheet and later data entered to the Calls File.

PROCEDURE

Important Note: Northern Telecom SL1 Users must complete the MATCH RECORDS procedure before printing the Exception Report.

Step 1.   Select Special Reports from the TELECOM IV Menu.

Step 2.   From the SPECIAL REPORTS Menu, select EXCEPTION REPORT.

Step 3.   From the EXCEPTION REPORT Menu, select PRINT EXCEPTION
          REPORT.

Step 4.   Follow the screen prompts to enter the following
          information:
                 * Beginning and Ending Dates
                 * Beginning and Ending Hours
                 * Outcall Selectors: Local Only, Long Distance
          Only, or Both Local and Long Distance.
                 * Account Number Selectors: No Account Code
          Selector, Invalid Account Number Only, Both Invalid
          and No Account Number.

Step 5   The file will be accessed and exceptions will be printed
          according to the above parameters that you specified.

MATCH RECORDS (SL1 USERS ONLY)
     Because the SL1 separates the Charge Code Record from the
     Call Record, it is necessary to match these two records
     before you print the Exception Report.

PROCEDURE

Step 1.   From the EXCEPTION REPORT Menu, select MATCH RECORDS.

Step 2.   Follow the screen prompts to enter Beginning and Ending
          Dates, and Beginning and Ending Hours.

Step 3.   The program will access the file and match records for
          the time period specified.

Step 4.   Print the EXCEPTION REPORT according to the procedure
          described above.

REPORT WRITER

This report program enables you to extract and highlight
information of special interest to you from your call record
file.

The Selectors listed on the menu are all portions of the standard
call record. The Report Writer program will search through all
the call records and extract only those records which contain the
Selector values in the ranges that you have specified.

PROCEDURE

Step 1.   Select Special Reports from the TELECOM IV Menu.

Step 2.   From the SPECIAL REPORTS MENU select REPORT WRITER

Step 3.   Follow   the   program   prompts   to   enter   file   access
          parameters from the following list of alternatives:

          DATE
          HOUR
          CALL LENGTH
          EXTENSION
          RINGS
          PHONE NUMBER
          TRUNK
          COST
          TRUNK GROUP
          ACCOUNT NUMBER
          RATE LINES
          CALLS IN/OUT :   This must ALWAYS be selected.

NOTE: TELECOM   IV   designates   "BAD"   Calls   with   a   cost   of
          $99.99.   To exclude bad calls from your reports, specify
          a COST HIGH VALUE of $99.98.

Step 4.   Choose the Sort Option: Extension, Account, or Date

Step 5.   Records   will   be selected from the file according to the
          parameters you specified above, and printed according to
          the Sort Option you chose. Sorted Outgoing Calls will be
          printed first, followed by sorted Incoming Calls.

SAMPLE EXTENSION REPORT

DATE	TIME	TRUNK	NUMBER DIALED	CODE#	MIN	COST

EXTENSION: 217
NAME: TERRI SMITH
COST CENTER: SALES

DATE	TIME	TRUNK	NUMBER DIALED	CODE#	MIN	COST
01/31	3:50P	T009	411	4419110	1.0	$0.25
01/06	2:42P	T009	411	4419110	1.0	$0.25
01/06	4:14P	LAFX	411	9999999	1.0	$0.25
01/16	8:17	T009	411	9999999	1.0	$0.25
01/30	12:42P	T009	411	9999999	1.0	$0.25
01/03	5:14P	LAFX	411	9999999	1.0	$0.25
01/13	11:41	T009	411	9999999	1.0	$0.25
01/20	10:11	T009	313-2111	4419110	3.8	$0.38
01/07	5:17P	LAFX	429-3178	7501001	3.6	$0.46
01/14	10:14	T009	429-3178	7501001	3.3	$0.33
01/22	3:15P	T009	429-3178	9999999	3.6	$0.36
01/03	1:28P	T009	433-2185	7501001	3.3	$0.33
01/20	4:42P	LAFX	433-3272	4419110	2.9	$0.51
.8	5:11P	T009	433-5781	4419110	3.5	$0.35
01/13	2:55P	LAFX	485-4532	7501001	3.3	$0.65
01/31	3:40P	T009	486-3380	9999999	6.6	$0.66
01/20	11:19	T009	525-8584	7501001	1.1	$0.11
01/14	8:25	T009	525-8898	4419110	2.7	$0.27
01/09	10:33	LAFX	527-1116	7501001	1.2	$0.23
01/20	8:53	T009	527-1173	4419110	3.3	$0.33
01/27	3:49P	LAFX	568-3256	7501001	3.6	$0.65
01/08	3:46P	T009	568-5145	7501001	4.0	$0.40
01/15	9:26	LAFX	568-5145	7501001	3.7	$0.65
01/23	4:02P	LAFX	652-5922	7501	3.7	$0.65
01/30	3:21P	T009	656-5639	9999999	2.7	$0.27
01/10	9:59	T009	656-6732	9999999	3.3	$0.33
01/03	5:48P	LAFX	656-6889	9999999	3.6	$0.46
01/13	8:47	T009	657-5113	4419110	3.3	$0.33
01/23	12:45P	LAFX	726-1811	5419110	1.2	$0.23
01/16	1:34P	T009	751-1238	4419110	1.2	$0.12
01/13	2:01P	T009	751-2311	4419110	4.0	$0.40
01/23	2:51P	T009	751-2311	4419110	3.3	$0.33
01/23	4:02P	T009	751-2311	4419110	3.9	$0.39
01/28	3:45P	LAFX	751-3831	9999999	1.8	$0.37
01/07	3:15P	LAFX	751-3831	7501001	3.5	$0.65
01/20	9:13	LAFX	751-4411	4419110	3.6	$0.65
01/21	9:53	LAFX	751-8925	9999999	2.6	$0.51
01/21	2:18P	T009	751-9811	7501001	3.6	$0.36
3	3:50P	T009	759-4114	4419110	1.8	$0.18
10	5:55P	LAFX	759-4234	7501001	1.2	$0.16
01/21	1:22P	T009	783-2324	9999999	2.5	$0.25

SAMPLE EXTENSION REPORT

DATE	TIME	TRUNK	NUMBER DIALED	CODE#	MIN	COST
01/30	5:41P	T009	783-2324	7501001	4.1	$0.41
01/22	1:17P	LAFX	837-3562	7501001	4.2	$0.65
01/21	3:40P	LAFX	931-4785	4419110	3.6	$0.65
01/30	3:40P	LAFX	945-5264	99999	4.0	$0.65
01/22	4:54P	LAFX	011-886621438	4419110	1.6	$3.90
01/15	8:56	LAFX	011-81827643	9999999	3.6	$6.85
01/03	3:31P	T009	011-81827643	7501001	8.6	$8.63
01/08	8:48	T009	011-81827643	9999999	3.3	$3.32
01/29	12:40P	LAFX	011-81827643	7501001	3.8	$7.25
01/28	12:42P	LAFX	1-201-982-2345	9999999	3.3	$1.91
01/03	11:56	T009	1-206-739-7735	9999999	15.2	$6.02
01/08	4:46P	T009	1-206-752-2111	4419110	2.6	$0.95
01/28	1:26P	LAFX	1-415-737-9249	9999999	12.8	$4.65
01/29	11:22	LAFX	✘ 813-339-9711	9999999	24.8	$10.46
01/29	11:06	LAFX	✘ 813-337-3737	9999999	1.1	$0.50
01/13	9:00	T009	✘ 813-339-9711	9999999	3.9	$1.68
01/27	9:46	T009	✘ 813-339-8522	7501001	47.7	$20.08
01/09	11:46	T009	✘ 813-553-5222	7501001	5.7	$2.44
01/22	8:48	T009	✘ 904-335-3522	9999999	3.3	$1.44
r ?8	8:56	T009	✘ 904-335-3522	4419110	1.1	$0.49
t 0	11:49	T009	✘✘202-453-8415	9999999	6.9	$3.22
01/20	11:38	LAFX	✘✘212-471-4611	9999999	6.0	$2.82
01/03	2:55P	LAFX	✘✘212-979-2211	4419110	3.3	$1.57
01/20	4:11P	T009	1-612-964-5461	9999999	9.8	$3.68
01/16	4:52P	T009	1-619-464-7188	7501	3.8	$1.05
01/14	12:15P	T009	1-619-464-7188	7501001	3.5	$1.05
01/10	2:23P	T009	1-713-478-6326	8501001	3.3	$1.34
01/20	10:15	LAFX	1-714-372-1785	4419110	5.3	$1.83
01/06	12:33P	T009	1-714-372-1785	7501001	3.9	$0.96
01/23	11:54	T009	1-714-372-1785	4419110	3.5	$0.96
01/30	9:32	LAFX	1-714-372-6231	9999999	3.2	$0.96
01/07	4:35P	LAFX	1-714-372-6231	9999999	3.8	$1.25
01/27	4:36P	T009	1-714-659-6436	7501001	1.9	$0.38
01/16	1:27P	T009	1-714-661-5633	4419	1.1	$0.38
01/03	3:53P	T009	1-714-669-6548	4419	3.7	$0.96
01/27	3:07P	LAFX	1-714-761-8659	9999999	3.3	$1.25
01/02	1:42P	T009	1-800-933-3311	4419110	9.4	$0.00
01/07	10:52	LAFX	1-818-351-9675	7501001	3.3	$0.77
01/21	12:19P	T009	1-818-457-8654	7501001	3.3	$0.60
01/03	5:00P	T009	1-818-476-9635	9999999	4.0	$0.42
01/24	12:35P	LAFX	1-818-553-6911	4419110	3.6	$0.77
01/23	9:18	LAFX	1-818-555-1212	7501001	1.0	$0.00
01/28	10:08	LAFX	1-818-555-1212	4419110	1.0	$0.00
01/06	12:33P	T009	1-818-876-5843	9999999	7.7	$1.28

SAMPLE EXTENSION REPORT

DATE	TIME	TRUNK	NUMBER DIALED	CODE#	MIN	COST
01/17	12:13P	T009	1-818-954-9514	4419110	23.2	$4.00
01/14	1:28P	LAFX	1-914-555-1212	4419110	1.0	$0.50
01/20	12:32P	T009	1-916-553-9111	4419110	34.4	$11.79
01/07	12:11P	T009	1-916-556-9119	9999999	1.3	$0.57
01/06	10:39	LAFX	1-916-788-6689	9999999	20.6	$7.37
				SUBTOTAL	454.0	149.72

```
--------------------------------------------------------------------------
F  ΤNSION 217              SUMMARY OF CALLS
.  .----------------------------------------------------------------------


ITEMIZED CALLS:

NUMBER OF CALLS:         52                         $134.05
NUMBER OF MINUTES:      331



LOCAL CALLS:

NUMBER OF CALLS:         38                         $15.67
NUMBER OF MINUTES:      123



SERVICE CHARGE:                                     $7.35
TAX:                                                $9.73
                                                   ------
TOTAL CALLS:             90    TOTAL COST           $166.80
TOTAL MINUTES:          454
```

EXTENSION SUMMARY
01/06/86 TO 01/29/86

EXT	NAME	INCOMING			OUTGOING			COST
		CALLS	MIN	M/C	CALLS	MIN	M/C	
49	RECEPTIONIST	0	0	0.0	14	54	3.9	$17.12
217	TERRI SMITH	154	562	3.6	90	454	5.0	$166.80
235	MIKE THOMPSON	146	588	4.0	115	540	4.7	$172.13
244	MARY ANDERSON	163	631	3.9	117	479	4.1	$133.29
	COST CENTER: SALES	463	1781	3.8	336	1527	4.5	$489.33

```
                    COMPANY TOTALS

                 01/06/86 TO 01/29/86


OUTGOING


CALLS:                      336
MINUTES:                   1527
MINUTES/CALL:               4.5
LD COMPANY #1:          $108.64
LD COMPANY #2:           $28.58
TRUNKS:                 $294.64
                        --------
CALL COST:              $431.86




INCOMING


CALLS:                      463
MINUTES:                   1781
MINUTES/CALL:               3.8

CALL COST:              $139.11




TOTAL CALL COST:        $570.97
TOTAL SVC CHG:           $29.40
TOTAL TAX:               $37.11
                        --------
TOTAL COST:             $637.48
```

DATE	TIME	TRUNK	NUMBER DIALED	CODE#	EXT	MIN	COST

ACCOUNT: 7501
NAME: B&B MFG.

DATE	TIME	TRUNK	NUMBER DIALED	CODE#	EXT	MIN	COST
01/02	9:27	T009	1-818-619-2276	001	244	1.0	$0.26
01/02	10:30	LAFX	� 813-339-9711	001	235	13.3	$5.64
01/03	3:31P	T009	011-81827643	001	217	8.6	$8.63
01/06	10:16	LAFX	1-714-555-1212	001	244	1.0	$0.00
01/06	12:33P	T009	1-714-372-1785	001	217	3.9	$0.96
01/06	2:12P	T009	411	001	244	1.0	$0.25
01/07	8:21	LAFX	411	001	244	1.0	$0.25
01/07	10:52	LAFX	1-818-351-9675	001	217	3.3	$0.77
01/07	5:08P	T009	1-713-478-6326	001	244	4.4	$1.04
01/09	11:46	T009	✶ 813-553-5222	001	217	5.7	$2.44
01/09	3:57P	T009	411	001	235	1.0	$0.25
01/10	8:44	T009	1-714-752-5112	001	244	3.9	$0.96
01/10	9:59	T009	1-619-439-9318	001	244	3.9	$1.05
01/13	9:00	LAFX	✶✶212-961-4922	001	235	3.4	$1.59
01/13	2:42P	T009	1-818-457-8663	001	244	1.1	$0.26
'3	4:56P	T009	1-818-516-5394	001	244	5.6	$0.94
.4	10:30	T009	✶ 813-339-9711	001	244	15.2	$6.41
01/14	12:15P	T009	1-619-464-7188	001	217	3.5	$1.05
01/15	8:51	T009	1-303-431-7511	001	244	4.1	$1.69
01/15	12:39P	LAFX	1-714-861-8865	001	244	2.2	$0.67
01/16	8:16	T009	1-714-756-1711	001	244	3.8	$0.96
01/17	4:02P	T009	1-818-457-8663	001	244	10.7	$1.79
01/20	1:10P	LAFX	1-401-534-3455	001	235	1.0	$0.65
01/21	9:08	LAFX	1-916-433-3498	001	244	4.0	$1.59
01/21	12:19P	T009	1-818-457-8654	001	217	3.3	$0.60
01/22	11:30	LAFX	1-818-351-7381	001	235	1.4	$0.43
01/22	3:13P	LAFX	1-404-569-9854	001	235	3.3	$1.73
01/23	8:05	LAFX	✶ 813-337-3737	001	235	3.7	$1.61
01/23	9:18	LAFX	1-818-555-1212	001	217	1.0	$0.00
01/23	12:26P	T009	1-818-457-8654	001	244	1.7	$0.26
01/23	2:27P	LAFX	411	001	235	1.0	$0.25
01/23	5:12P	LAFX	1-404-569-9854	001	235	3.3	$1.04
01/24	12:45P	T009	411	001	244	1.0	$0.25
01/24	4:22P	LAFX	1-818-819-4449	001	235	1.3	$0.43
01/24	4:50P	T009	✶ 305-876-2629	001	235	29.8	$12.56
01/27	9:46	T009	✶ 813-339-8522	001	217	47.7	$20.08
01/27	3:05P	LAFX	411	001	235	1.0	$0.25
01/27	3:14P	LAFX	1-916-433-4893	001	244	5.6	$2.27
01/27	4:36P	T009	1-714-659-6436	001	217	1.9	$0.38
01/28	11:58	LAFX	1-805-366-6894	001	244	2.1	$0.78
'/28	5:29P	T009	1-818-454-2842	001	235	2.5	$0.30

SAMPLE ACCOUNT REPORT

Date	TIME	TRUNK	NUMBER DIALED	CODE#	EXT	MIN	COST
01/29	10:29	LAFX	1-818-351-7381	001	235	3.6	$0.77
01/29	11:57	T009	1-415-458-2112	001	244	3.7	$1.25
01/29	12:40P	LAFX	011-81827643	001	217	3.8	$7.25
01/29	5:10P	LAFX	1-212-555-1212	001	244	1.0	$0.50
01/30	1:49P	LAFX	1-713-478-6326	001	235	3.9	$1.73
01/30	3:57P	LAFX	**212-979-2211	001	244	4.7	$2.19
01/30	5:43P	T009	1-916-433-6776	001	235	1.6	$0.34
					SUBTOTAL	243.0	97.35

```
-----------------------------------------------------------------------------
ACCOUNT 7501                    SUMMARY OF CALLS
-----------------------------------------------------------------------------


ITEMIZED CALLS:

NUMBER OF CALLS:          48                        $97.35
NUMBER OF MINUTES:        243



LOCAL CALLS:

NUMBER OF CALLS:          41                        $21.06
NUMBER OF MINUTES:        147



SERVICE CHARGE:                                     $7.35
TAX:                                                $7.70
                                                    ------
TOTAL CALLS:              89      TOTAL COST        $133.46
TOTAL MINUTES:            390
```

TESTCO

SAMPLE ACCOUNT EXPORT REPORT

DATE	TIME	TRUNK	NUMBER DIALED	CODE#	EXT	MIN	COST
01/02	9:38	T009	✗ 813-339-9711	4419110	235	87.9	$36.96
01/02	1:42P	T009	1-800-933-3311	4419110	217	9.4	$0.00
01/03	2:55P	LAFX	✗✗212-979-2211	4419110	217	3.3	$1.57
01/03	3:15P	T009	1-404-569-9854	4419110	235	1.8	$0.56
01/06	9:49	LAFX	✗ 904-335-3522	4419110	235	3.3	$1.44
01/06	2:42P	T009	411	4419110	217	1.0	$0.25
01/06	4:14P	LAFX	411	4419110	217	1.0	$0.25
01/06	4:29P	LAFX	1-714-448-3642	4419110	244	6.8	$2.12
01/07	12:29P	LAFX	1-714-372-6231	4419110	235	3.9	$1.25
01/07	5:15P	T009	411	4419110	235	1.0	$0.25
01/08	1:57P	T009	✗ 305-634-7939	4419110	244	2.8	$1.22
01/08	4:46P	T009	1-206-752-2111	4419110	217	2.6	$0.95
01/09	10:42	T009	411	4419110	235	1.0	$0.25
01/09	3:18P	T009	1-714-661-5633	4419110	244	3.5	$0.96
01/10	4:29P	T009	1-818-876-2816	4419110	244	2.4	$0.43
01/13	8:05	T009	411	4419110	244	1.0	$0.25
01/13	8:11	T009	1-916-433-3498	4419110	235	3.9	$1.25
⌐˙'13	1:10P	LAFX	1-619-335-9983	4419110	235	1.1	$0.41
.3	2:56P	LAFX	1-714-939-1922	4419110	235	7.7	$2.41
01/14	1:28P	LAFX	1-914-555-1212	4419110	217	1.0	$0.50

| | | | | | | SUBTOTAL | 60.40 |

```
                    TESTCO
          CLIENT-MATTER CALL SUMMARY
            01-02-86 TO 01-31-86


NAME                CODE      CALLS      MIN      CHARGE
----------------------------------------------------------
XYZ CORP.           4419110    104        496      140.03
JAMES LTD.          5419110      7         46       10.35
B&B MFG.            7501001     89        390      118.41
ABC CORP.           8501001      2          7        2.68
OFC EXPENSE         9999999    105        491      141.02
                                                  -------
                                                  $412.49
```

TOTAL CALLS: 307

TOTAL MINUTES: 1430

TOTAL CHARGES: $412.49

```
                                TESTCO
                           EXCEPTION REPORT
                         01/02/86 TO 01/31/86


--------------------------------------------------------------------------
DATE    TIME    HH:MM:SS    NUMBER DIALED    RECORD    CODE      CORRECTION
--------------------------------------------------------------------------

EXTENSION: 244
NAME:   MARY ANDERSON
COST CENTER: SALES

01/09    813    00:03:19    525-8584          181      7501

01/13   1000    00:01:20    964-2323          267      4419

01/21   332P    00:03:52    1-818-454-2842    488      NONE
```

HOUR SUMMARY
01/06/86 TO 01/29/86

HOUR	RINGS										CALLS	
	NA	1	2	3	4	5	6	7	8	9+	IN	OUT
12 TO 1 AM	0	0	0	0	0	0	0	0	0	0	0	0
1 TO 2 AM	0	0	0	0	0	0	0	0	0	0	0	0
2 TO 3 AM	0	0	0	0	0	0	0	0	0	0	0	0
3 TO 4 AM	0	0	0	0	0	0	0	0	0	0	0	0
4 TO 5 AM	0	0	0	0	0	0	0	0	0	0	0	0
5 TO 6 AM	0	0	0	0	0	0	0	0	0	0	0	0
6 TO 7 AM	0	0	0	0	0	0	0	0	0	0	0	0
7 TO 8 AM	0	0	0	0	0	0	0	0	0	0	0	0
8 TO 9 AM	0	41	0	0	0	0	0	0	0	0	41	44
9 TO 10 AM	0	40	0	0	0	0	0	0	0	0	40	35
10 TO 11 AM	0	42	0	0	0	0	0	0	0	0	42	38
11 TO 12 AM	0	46	0	0	0	0	0	0	0	0	46	34
12 TO 1 PM	0	41	0	0	0	0	0	0	0	0	41	31
1 TO 2 PM	0	47	0	0	0	0	0	0	0	0	47	29
2 TO 3 PM	0	46	0	0	0	0	0	0	0	0	46	19
3 TO 4 PM	0	46	0	0	0	0	0	0	0	0	46	41
4 TO 5 PM	0	49	0	0	0	0	0	0	0	0	49	39
5 TO 6 PM	0	65	0	0	0	0	0	0	0	0	65	26
6 TO 7 PM	0	0	0	0	0	0	0	0	0	0	0	0
7 TO 8 PM	0	0	0	0	0	0	0	0	0	0	0	0
8 TO 9 PM	0	0	0	0	0	0	0	0	0	0	0	0
9 TO 10 PM	0	0	0	0	0	0	0	0	0	0	0	0
10 TO 11 PM	0	0	0	0	0	0	0	0	0	0	0	0
11 TO 12 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	463	0	0	0	0	0	0	0	0	463	336

DAY OF WEEK SUMMARY
01/06/86 TO 01/29/86

DAY	NA	1	2	3	4	5	6	7	8	9+	IN	OUT
					RINGS						CALLS	
MONDAY	0	79	0	0	0	0	0	0	0	0	79	71
TUESDAY	0	90	0	0	0	0	0	0	0	0	90	57
WEDNESDAY	0	96	0	0	0	0	0	0	0	0	96	56
THURSDAY	0	93	0	0	0	0	0	0	0	0	93	82
FRIDAY	0	105	0	0	0	0	0	0	0	0	105	70
SATURDAY	0	0	0	0	0	0	0	0	0	0	0	0
SUNDAY	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	463	0	0	0	0	0	0	0	0	463	336

AREA CODE SUMMARY

01/06/86 TO 01/29/86

AC	TOTAL CALLS	TOTAL MIN	TOTAL COST	COST/ MIN	DAY CALLS	MIN	EVE CALLS	MIN	NITE CALLS	MIN
201	2	29	$12.22	$0.42	2	29	0	0	0	0
202	5	32	$14.27	$0.45	4	26	1	6	0	0
206	2	19	$6.97	$0.37	2	19	0	0	0	0
212	10	38	$14.81	$0.39	9	36	1	2	0	0
303	2	8	$2.62	$0.33	2	8	0	0	0	0
305	3	35	$14.26	$0.41	3	35	0	0	0	0
401	4	14	$4.18	$0.30	2	6	2	8	0	0
404	3	10	$3.33	$0.33	2	6	1	4	0	0
415	2	17	$5.90	$0.35	2	17	0	0	0	0
503	2	6	$2.62	$0.44	2	6	0	0	0	0
	1	4	$1.31	$0.33	1	4	0	0	0	0
513	1	2	$0.50	$0.25	1	2	0	0	0	0
612	1	10	$3.68	$0.37	1	10	0	0	0	0
619	5	18	$4.93	$0.27	5	18	0	0	0	0
713	9	42	$13.95	$0.33	7	33	2	9	0	0
714	28	156	$41.00	$0.26	28	156	0	0	0	0
805	1	3	$0.78	$0.26	1	3	0	0	0	0
813	12	219	$90.37	$0.41	11	215	1	4	0	0
818	35	162	$24.52	$0.15	31	136	4	26	0	0
904	4	12	$4.01	$0.33	4	12	0	0	0	0
914	1	2	$0.50	$0.25	1	2	0	0	0	0
916	16	111	$37.77	$0.34	14	106	2	5	0	0
	149	949	$304.50	$0.32	135	885	14	64	0	0

EXTENSION/TRUNK GROUP CALL SUMMARY

01/06/86 TO 01/29/86

EXT	NAME	INCOMING			OUTGOING			COST
		CALLS	MIN	M/C	CALLS	MIN	M/C	
49	RECEPTIONIST	0	0	0.0	0	0	0.0	$0.00
217	TERRI SMITH	38	151	4.0	0	0	0.0	$33.58
235	MIKE THOMPSON	46	204	4.4	0	0	0.0	$46.54
244	MARY ANDERSON	57	261	4.6	0	0	0.0	$58.99
		141	616	4.4	0	0	0.0	$139.11

TRUNK GROUP: MWTS

DATE	HOUR	DUR	EXT	PHONE NUMBER	TRNK	EXT	CODE	COST
01/30	5:24P	00:12:46	ATT1	1-818-815-9685	T009			$1.49
17	12:13P	00:23:14	217	1-818-954-9514	T009		4419110	$4.00
01/29	11:22	00:24:48	217	✻ 813-339-9711	T008		9999999	$10.46
01/28	1:26P	00:12:48	217	1-415-737-9249	T008		9999999	$4.65
01/03	11:56	00:15:12	217	1-206-739-7735	T009		9999999	$6.02
01/27	9:46	00:47:42	217	✻ 813-339-8522	T009		7501001	$20.08
01/20	12:32P	00:34:22	217	1-916-553-9111	T009		4419110	$11.79
01/06	10:39	00:20:38	217	1-916-788-6689	T008		9999999	$7.37
01/03	2:50P	00:20:06	235	941-8553	T009		5419110	$2.01
01/02	10:30	00:13:20	235	✻ 813-339-9711	T008		7501001	$5.64
01/02	9:38	01:27:54	235	✻ 813-339-9711	T009		4419110	$36.96
01/24	4:50P	00:29:48	235	✻ 305-876-2629	T009		7501001	$12.56
01/14	4:44P	00:32:48	235	0-206-867-5368	T009		9999999	$0.00
01/30	12:36P	00:31:10	235	1-714-352-5552	T008		9999999	$9.08
01/31	12:43P	00:13:06	244	1-714-978-4848	T009		4419110	$3.86
01/27	5:31P	00:19:30	244	944-4623	T009		4419110	$1.95
01/20	3:13P	00:24:14	244	1-201-982-2345	T008		4419110	$10.31
01/14	10:30	00:15:10	244	✻ 813-339-9711	T009		7501001	$6.41
01/30	11:30	00:18:14	244	525-8584	T008		9999999	$2.61
01/17	4:02P	00:10:44	244	1-818-457-8663	T009		7501001	$1.79
01/10	10:31	00:10:34	244	✻✻202-473-7415	T009		9999999	$4.91
01/09	12:14P	00:10:22	T007			217	7501001	$2.30
01/31	9:26	00:10:00	T008			217	7501001	$0.00
01/27	3:39P	00:10:04	T007			217	9999999	$2.24
01/14	3:14P	00:15:40	T007			217	7501001	$3.47
01/28	10:37	00:12:56	T009			217	9999999	$0.00
96	2:58P	00:12:46	T007			217	7501001	$2.83
16	12:40P	00:10:18	T009			217	9999999	$0.00
01/29	4:32P	00:12:38	T009			217	5419110	$0.00
01/02	4:37P	00:10:24	T008			217	7501001	$0.00
01/28	4:09P	00:26:30	T008			217	9999999	$0.00
01/03	2:30P	00:15:34	T009			217	7501001	$0.00
01/28	12:41P	00:17:48	T008			217	9999999	$0.00
01/20	10:47	00:10:02	T009			235	4419110	$0.00
01/13	12:51P	00:19:22	T007			235	9999999	$4.28
01/09	1:00P	00:24:12	T008			235	9999999	$0.00
01/20	5:13P	00:13:22	T007			235	4419110	$2.96
01/21	1:10P	00:10:52	T008			235	9999999	$0.00
01/22	4:28P	00:10:16	T007			235	4419110	$2.28
01/15	11:13	00:12:56	T007			235	4419110	$2.87
01/08	12:17P	00:10:08	T007			235	9999999	$2.25
01/08	5:28P	00:10:08	T007			235	4419110	$2.25
01/27	4:49P	00:10:22	T007			235	9999999	$2.30
01/08	4:38P	00:10:50	T008			235	9999999	$0.00
01/06	2:19P	00:10:26	T008			235	4419110	$0.00
01/02	2:23P	00:13:36	T007			235	9999999	$3.01
01/30	10:31	00:11:06	T009			235	7501001	$0.00
01/17	2:47P	00:16:46	T008			244	7501001	$0.00
01/06	1:00P	00:11:18	T007			244	4419110	$2.51
01/17	10:56	00:28:46	T009			244	7501001	$0.00

SELECTORS	LOW VALUE	HIGH VALUE
CALLS IN/OUT	BOTH IN AND OUT	BOTH IN AND OUT
CALL LENGTH	001000	095959
COST	0000	9998

REPORT TOTALS

```
OUTGOING CALLS:       21
OUTGOING MINUTES:     519
OUTGOING COST:    $163.95


INCOMING CALLS:       37
INCOMING MINUTES:     502
INCOMING COST:     $50.00
```

END REPORT

FILE MAINTENANCE

The information you entered during Software Set-up will remain
relatively stable. The Calendar must only be changed on the first
of the year, and the Rate Table , once or twice a year. You must
alter the Trunk File only when you add or delete Trunk Groups.
Most of the changes, therefore, will probably occur in your
Extension and Account Name Files.

PROCEDURE

Step 1.   Select SET Up or MAINTAIN FILES from the TELECOM IV
          MENU.

Step 2.   From the FILE MAINTENANCE MENU , select the type of file
          you want to change.

Step 3.   In the same manner as Software Set-up, follow the screen
          prompts to make the appropriate changes.

Step 4.   Print a copy of the altered file, and store it in the
          Documentation and Administration Binder.

Step 5.   From the FILE MAINTENANCE MENU, select END FILE
          MAINTENANCE.

Step 6.   Follow the screen prompts to execute the FILES Program.

RATE TABLE AND DISCOUNT TABLE MAINTENANCE

Periodically it becomes necessary to update portions of the Rate
Table and Discount Tables due to rate increases and discount
changes. This procedure gives you the steps necessary to identify
which line numbers require updating , and how to go about making
the changes.

PROCEDURE

Step 1.   a.   Refer to the Area Code File in your Data Base
          Print-Outs, Section 8 of this binder. For each Area
          Code, find the Rate Table Line Number which is printed
          in the LN Column. Circle this line number on the
          Discount and Rate Table Worksheet.(located in this
          section)

          b.   Write in the area code on the Worksheet next to the
          circled Rate Line Number. Many area codes will be costed
          according to the same Line Number in the Rate Table. It
          is necessary to copy only one area code for each circled
          Line Number.

Step 2.   Refer to the Area Code/Prefix Code Fact Sheet. For each
          circled Line Number on your worksheet, find a prefix
          code and write it on the Discount and Rate Table
          Worksheet.

Step 3.   Consult your Local Service Company and Long Distance
          Carrier to find the current rates for calls to the area
          codes and prefix codes which you have written on the
          worksheet. If necessary, ask the operator for
          assistance.

Step 4.   a.   From the File Maintenance Menu select Rate Table.
          From the Rate and Discount Menu, select Edit Rate File.
          Follow the screen prompts.

          b.   Print the updated Table and store it in the Data
          Base Print-Outs Section of the Documentation &
          Administration BInder.

Step 5.   a.   If discount percentages or periods have changed,
          select Build Discount Table from the Menu. Follow the
          screen prompts.

          b.   Print the updated Discount Table and store it in the Data
          Base Print-outs Section of the Documentation & Administration
          Binder.

AREA CODE/PREFIX CODE FACT SHEET

AREA CODE	STATE/COUNTRY	PREFIX/EXCHANGE CODE	MAJOR METRO
201	New Jersey	480	Newark
202	District of Columbia	223	Washington D.C.
203	Connecticut	240	Hartford
204	Manitoba	224	Winnepeg
205	Alabama	226	Birmingham
206	Washington	621	Seattle
207	Maine	774	Portland
208	Idaho	375	Boise
209	California	225	Fresno
212	New York	210	New York City
213	California	680	Los Angeles
214	Texas	371	Dallas
215	Pennsylvania	225	Philadelphia
216	Ohio	333	Cleveland
217	Illinois	522	Springfield
218	Minnesota	720	Duluth
219	Indiana	232	South Bend
301	Maryland	233	Baltimore
302	Delaware	654	Wilmington
303	Colorado	320	Denver
304	W. Virginia	766	Charleston
305	Florida	261	Miami

AREA CODE	STATE/COUNTRY	PREFIX/EXCHANGE CODE	METRO METRO
306	Saskatchewan	653	Saskatoon
307	Wyoming	632	Cheyenne
308	Nebraska	534	No. Platte
309	Illinois	671	Peoria
312	Illinois	204	Chicago
313	Michigan	222	Detroit
314	Missouri	544	St. Louis
315	New York	421	Syracuse
316	Kansas	942	Wichita
317	Indiana	222	Indianapolis
318	Louisiana	797	Shreveport
319	Iowa	362	Cedar Rapids
401	Rhode Island	437	Providence
402	Nebraska	221	Omaha
403	Alberta	242	Calary
404	Georgia	221	Atlanta
405	Oklahoma	521	Oklahoma City
406	Montana	442	Helena
408	California	226	San Jose
409	Texas	737	Galveston
412	Pennsylvania	243	Pittsburg
413	Massachusetts	730	Springfield
414	Wisconsin	223	Milwaukee
415	California	469	San Francisco
416	Ontario	225	Toronto
417	Missouri	831	Springfield

AREA CODE	STATE/COUNTRY	PREFIX/EXCHANGE CODE	MAJOR METRO
418	Quebec	626	Quebec
419	Ohio	536	Toledo
501	Arkansas	370	Little Rock
502	Kentucky	580	Louisville
503	Oregon	230	Portland
504	Louisiana	241	New Orleans
505	New Mexico	247	Albuquerque
506	New Brunswig,CN	693	St. John
507	Minnesota	286	Rochester
509	Washington	456	Spokane
512	Texas	222	San Antonio
513	Ohio	561	Cincinnati
514	Quebec	332	Montreal
515	Iowa	242	Des Moines
516	New York	221	Nassau County
517	Michigan	371	Lansing
518	New York	422	Albany
519	Ontario	255	Windsor
601	Mississippi	922	Jackson
602	Arizona	222	Phoenix
603	New Hampshire	623	Manchester
604	British Columbia	660	Vancouver
605	So. Dakota	331	Sioux Falls
606	Kentucky	223	Lexington
607	New York	722	Binghamton

AREA CODE	STATE/COUNTRY	PREFIX/EXCHANGE CODE	MAJOR METRO
608	Wisconsin	222	Madison
609	New Jersey	984	Trenton
612	Minnesota	371	Minneapolis
613	Ontario	224	Ottawa
614	Ohio	235	Columbus
615	Tennesee	226	Nashville
616	Michigan	453	Grand Rapids
617	Massachusetts	726	Boston
618	Ilinois	532	Centralia
619	California	221	San Diego
701	N. Dakota	222	Bismark
702	Nevada	731	Las Vegas
703	Virginia	237	Arlington
704	No. Carolina	334	Charlotte
705	Ontario	253	Sault Ste.Marie
706	Mexico	398	Ensenada
707	California	575	Santa Rosa
709	Newfoundland	551	St.John's
712	Iowa	233	Sioux City
713	Texas	220	Houston
714	California	633	Orange
715	Wisconsin	832	Eau Claire
716	New York	821	Buffalo
717	Pennsylvania	232	Harrisburg
718	New York	224	New York City
801	Utah	481	Salt Lake City

AREA CODE	STATE/COUNTRY	PREFIX/EXCHANGE CODE	MAJOR METRO
802	Vermont	656	Burlington
803	So. Carolina	795	Charleston
804	Virginia	270	Richmond
805	California	322	Bakersfield
806	Texas	371	Amarillo
807	Ontario	343	Thundar Bay
808	Hawaii	528	Honolulu
809	Caribbean/Puerto Rico		
812	Indiana	422	Evansville
813	Florida	221	Tampa
814	Pennsylvania	451	Erie
815	Illinois	963	Rockford
816	Missouri	241	Kansas City
817	Texas	624	Ft. Worth
818	California	847	Burbank
819	Quebec	372	Trois Rivieres
901	Tennesee	366	Memphis
902	Nova Scotia	443	Halifax
904	Florida	387	Jacksonville
905	Mexico	709	Mexico City
906	Michigan	221	Marquette
907	Alaska	269	Anchorage
912	Georgia	233	Savannah
913	Kansas	272	Topeka
914	New York	320	White Plains

AREA CODE	STATE/COUNTRY	PREFIX/EXCHANGE CODE	MAJOR METRO
915	Texas	538	El Paso
916	California	321	Sacramento
918	Oklahoma	492	Tulsa
919	N. Carolina	779	Raleigh

DISCOUNT AND RATE TABLE WORKSHEETS

DISCOUNT PERIODS

ALASKA (AK), PUERTO RICO (PV), HAWAII and UNITED STATES (US)

DISCOUNT %	% OF FULL RATE	DAYS	HOURS
0%	100 %	MON - FRI	8am - 5pm

RATE TABLE

ALASKA (AK), PUERTO RICO (PV), HAWAII and UNITED STATES (US)

RATE TABLE LINE #	AREA CODE	MAJOR METRO EXCHANGE CODE	FULL DAY RATE 1st	ADDL
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				

DISCOUNT AND RATE TABLE WORKSHEETS continued

DISCOUNT PERIODS   CANADA (CN)
===

DISCOUNT %	% OF FULL RATE	DAYS	HOURS
0%	100 %	MON - FRI	8am - 5pm

===

RATE TABLE   CANADA (CN)
===

LINE #	AREA CODE	MAJOR METRO EXCHANGE CODE	FULL DAY RATE	
			1st	ADDL
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				

===

DISCOUNT AND RATE TABLE WORKSHEETS continued

DISCOUNT PERIODS   MEXICO (MX)

DISCOUNT %	% OF FULL RATE	DAYS	HOURS
0%	100 %	MON - FRI	8am - 5pm

RATE TABLE   MEXICO (MX)

LINE #	AREA CODE	MAJOR METRO EXCHANGE CODE	FULL DAY RATE 1st	ADDL
38				
39				
40				
41				
42				
43				
44				
45				
46				

DISCOUNT AND RATE TABLE WORKSHEETS continued

DISCOUNT PERIODS   INTERNATIONAL (IL)

DISCOUNT %	% OF FULL RATE	DAYS	HOURS
0%	100 %		

RATE TABLE   INTERNATIONAL (IL)

LINE #	AREA CODE	MAJOR METRO EXCHANGE CODE	FULL DAY RATE 1st	ADDL
47				
48				
49				
50				
51				
52				
53				
54				
55				
56				
57				
58				
59				
60				
61				
62				
63				
64				
65				
66				
67				

DISCOUNT AND RATE TABLE WORKSHEETS continued

DISCOUNT PERIODS   INTRASTATE   (IS)

DISCOUNT %	% OF FULL RATE	DAYS	HOURS
0%	100 %	MON - FRI	8am - 5pm

RATE TABLE   INTRASTATE   (IS)

LINE #	AREA CODE	MAJOR METRO EXCHANGE CODE	FULL DAY RATE	
			1st	ADDL
68				
69				
70				
71				
72				
73				
74				
75				
76				
77				
78				
79				
80				
81				
82				
83				
84				
85				
86				
87				
88				
89				

DISCOUNT AND RATE TABLE WORKSHEETS continued

DISCOUNT PERIODS   ZONE FOREIGN EXCHANGE (ZX)
                                              LOCAL SERVICE AREA (LS)

DISCOUNT %	% OF FULL RATE	DAYS	HOURS
0%	100 %		

RATE TABLE   ZONE FOREIGN EXCHANGE (ZX)
                                              LOCAL SERVICE AREA (LS)

LINE #	AREA CODE	MAJOR METRO EXCHANGE CODE	FULL DAY RATE 1st	ADDL
90				
91				
92				
93				
94				
95				
96				
97				
98				
99				
100				
101				
102				
103				
104				
105				
106				
107				
108				
109				
110				
111				
112				
113				
114				
115				
116				
117				
118				
119				
120				