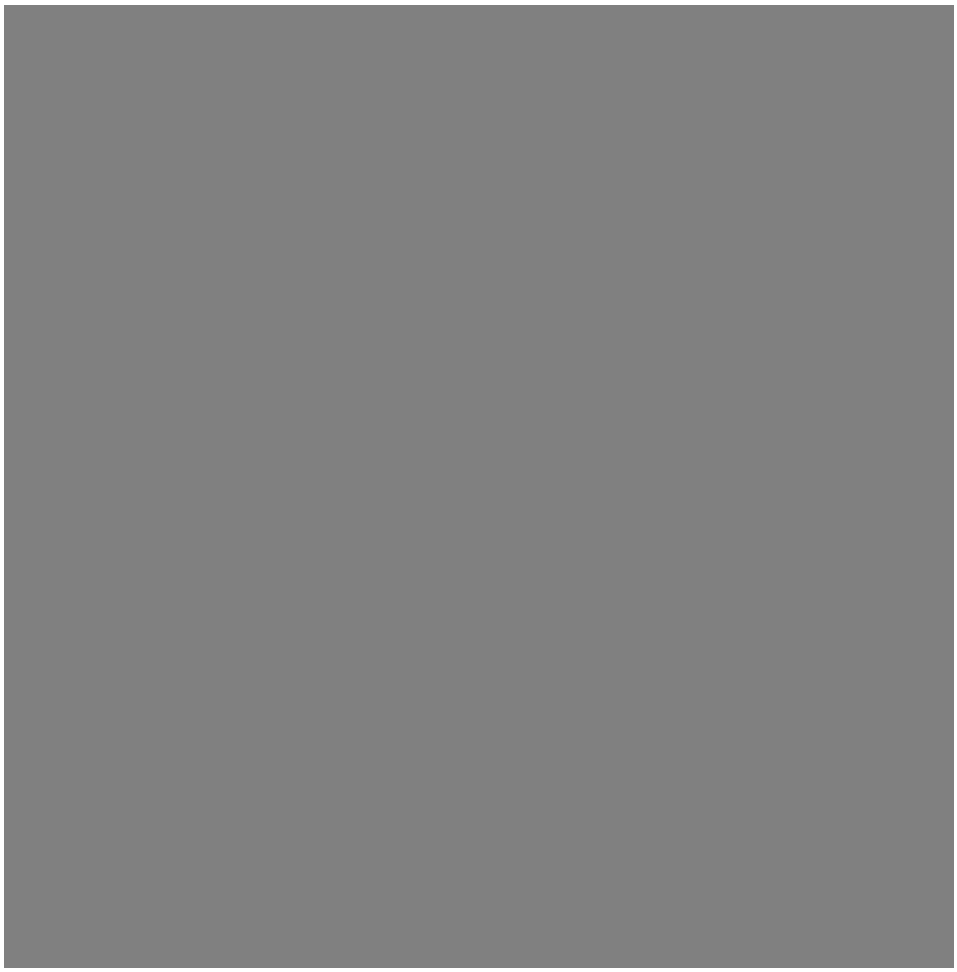
Network operations systems

TOPS
Voice service node

System administration and maintenance operating procedures

Release BCS30 05 Status: Standard



northern telecom

Network operations systems

TOPS
Voice service node

System administration and maintenance operating

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1. Introduction

The Traffic Operator Position System (TOPS) Voice Service Node (VSN) is an automated 0+ call processing vehicle capable of handling collect calls, calling-card calls, and third-party billing calls without the assistance of an operator. The TOPS VSN is also capable of handling collect calls and third-party billing calls that are handed-off by an operator.

This Practice addresses the administration and maintenance requirements of TOPS VSN user groups. There are two basic user groups:

- installation/field support personnel
- maintenance personnel

Each user group performs a limited range of tasks that either establishes, enhances, corrects or maintains the operation of a TOPS VSN in an operating company environment. A brief description of the tasks associated with each group follows.

Installer/field support functions

The installer is usually a representative of Northern Telecom (NT), and is responsible for

(a) placing cabinets on-site

(b) installing the Miscellaneous (MISC) Frame

(c) inserting shared resource units (SRUs) into the cabinets

(d) installing the cabling system

(e) loading the initial software

Field support personnel are usually representatives of NT. They are responsible for correcting any unforeseen software problems that occur after the TOPS VSN is installed at the customer site. They correct software problems using patches. Patch information is documented and stored in a patch database.

Maintenance personnel functions

Maintenance personnel are representatives of the operating company. They are usually responsible for

(a) controlling the object states of T1 resources, VI resources and control links

(b) monitoring and printing log and alarm messages

(c) replacing TOPS VSN SRUs

(d) entering data into customer tables on the TOPS VSN

Practice information

Additional Practice information is described here under the three headings: "related Practices" and "notational conventions". Related Practices are either required by, or of benefit to, the user executing tasks described in this Practice.

Related practices

450-1011-200	Installation Planning Guide
450-1011-201	Installation Guide for Cabinet Systems
450-1011-301	A Guide to System administration Services Procedures
450-1011-501	Maintenance and Troubleshooting Guide
450-1011-505	A Guide to Extended Diagnostics
297-1001-110	Maintenance and Administration Position (MAP*)
297-1001-114	Operational Measurements (Supplement)
297-1001-122	Alarm System Description
297-1001-310	Table Editor Reference Manual
297-1001-320	Operational Measurements Reference Manual
297-1001-451	Customer Data Schema (select sections)
297-1001-509	Command Reference Manual
297-1001-510	Log Report Manual
297-1001-517	External Alarms MMI Description
297-1001-520	Maintenance System MMI Description
297-1001-525	Data Packet Controller Reference Manual

Notational conventions

The following conventions are used in this Practice:

- KEYBOARD KEYS are in uppercase.
- Values for table input are shown in bold type.
- <Soft Keys> are in mixed case with caret (<>) marks.
- **Commands** are in bold italic and may be on a separate line in the case of long commands. Commands are often case sensitive.
- ***aaa...*** indicates alpha-numeric input.
- ***nnn...*** indicates numeric-only input.
- ***hh:mm*** indicates the time in hours and minutes using the 24-hour clock (23:59). When the time must be entered by the user it is designated in bold italic.
- ***mm/dd/yy*** indicates the date by month, day, and year. When the date must be entered by the user it is designated in bold italic.

* MAP is a trademark of Northern Telecom.

- The arrow symbol ==> indicates the results of an action.
- **Paragraph Heading** are in mixed case bold.
- Number Range is represented by the upper and lower limits and separated by a hyphen (for example 1-7).

Change history

This section lists the important changes that affect this Practice. They are arranged by Batch Change Supplement (BCS) in a descending order starting with the current release.

BCS30

The presentation of this publication has been changed.

The following changes to the TOPS VSN application were added by BCS30.

- introduction of a locality database
- introduction of a prompt manager to manage the prompts in the locality database
- the capability to handle operator-handoff calls
- the capability to conduct DTMF billing verification

2. TOPS VSN access and main menu

The system administrator is the first operating company representative to access and operate the administration and maintenance features of the TOPS VSN office interface. The TOPS VSN administration and maintenance position is a Meridian terminal M4000.

Meridian user interface

The Meridian terminal as shown in figure 2-1 has characteristics that have been specially adapted to the telephone company environment. For a complete description of the terminal, and for detailed operating instructions refer to 450-1011-100 . Terminals must be connected according to the installation job work sheets and procedures described in 450-1011-200 and 450-1011-201.

This Practice assumes that the user is throughly familiar with the M4000 user interface; however, a brief summary of common operations is given here.

Activation

When the M4000 terminal is idle, the screen is dark although it is still powered. To activate the screen, press any hardkey (preferably the SHIFT key). The screen is also activated when messages are sent to the terminal.

Note: The M4000-series terminal screen automatically darkens after a period of inactivity to extend the life of the screen.

Basic softkey functions

Softkey functions are displayed in the icons at the bottom of the screen. The purpose of the softkey is to simplify the command entry by reducing a number of keystrokes to one.The displayed bank of softkeys often depends on the key entries that were previously made.

Basic softkey functions common to all features are the following:

(a) <Sign Off> allows the user to withdraw from the system.

(b) <Next> and <Previous> are displayed if there are more list items than can be displayed on one screen. These softkeys provide forward and backward page scrolling. When adding items to lists, new items may not be displayed until the user presses the <Previous> softkey. By doing this, the alphabetically ordered list is updated from the first line (which it uses as a reference point). For example, if a component is assigned a name beginning with the letter A, but the first item in the list has a name beginning with the letter B, the new item will not be displayed until the user pages backward.

(c) <Add> is displayed with lists when the user is allowed to create items of the type belonging to that list. When the form is completed and saved, a new item is added to the list.

(d) <Change> is displayed with lists when the user is allowed to change the list entry selected. When the form showing the existing information is overwritten, the changed item is substituted for the existing item.

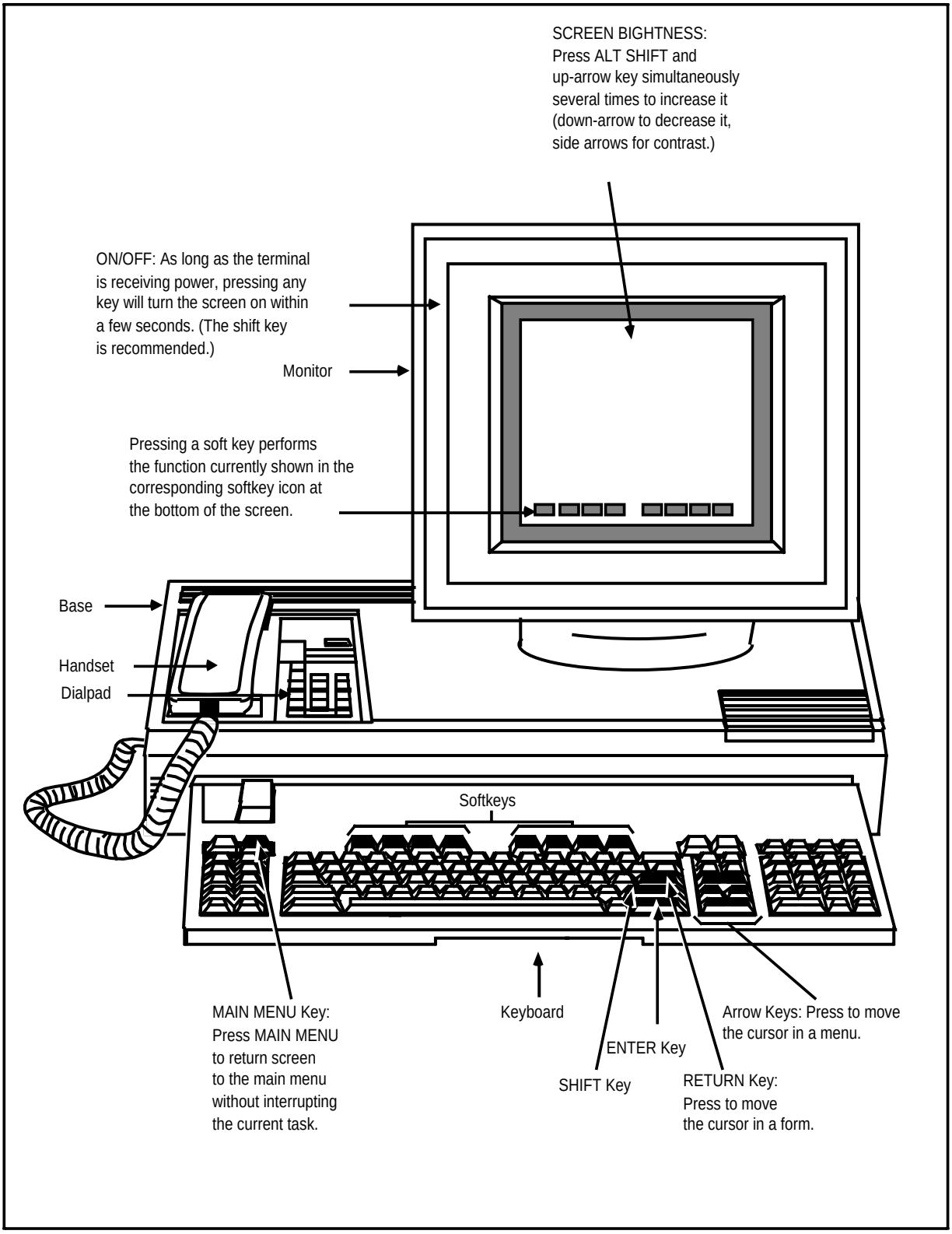
(e) <Delete> is used to delete an item from the data base. When the item is highlighted and <Delete> is pressed, the system deletes the highlighted item. In certain tables the system requests confirmation of the deletion request. In the latter case, <Delete> must be pressed a second time before the item is deleted. To abort the delete request, press the ENTER key or another softkey when delete confirmation is requested.

(f) <Done> saves information just entered or changed on a form. The user can then fill in the form again for another entry.

(g) <Exit> is displayed with all screens except the main menu. Pressing this key allows the user to leave the current screen and return to the previous screen. <Exit> when used with an add or copy operation, aborts all additions or changes to the form.

(h) <Save> is displayed when additions or changes have been made. This softkey enters the new data into the system. <Save as New> is used to save changes made to a form where the original must be kept.

Figure 2-1
M4000-series terminal



Logging in for the first time

After the M4000 terminal has been installed for the TOPS VSN, the user is presented with a log-in screen; an example is shown in figure 2-2. This is the log-in screen for the TOPS VSN application. The screen can be designed in any configuration , using alpha-numeric characters.To access the application main menu, the user must pass the system security check by entering one of the default userIDs and passwords that are delivered with the system.

The default userIDs and passwords are as follows:

(a) The maintenance personnel userID is maintenance and the password is also maintenance.

(b) The field support userID is fieldsupport and the password is also fieldsupport.

Note To prevent unauthorized use of the system, the default passwords should be changed as soon as possible.

To log in, follow the instruction given below.

(a) Type maintenance, then press ENTER.

==> A prompt is displayed requesting password entry.

(b) Type maintenance, then press ENTER.

==> The TOPS VSN main menu shown in figure 2-3 is displayed.

TOPS VSN access

Once a unique userID and password have been assigned, any authorized user may enter the system. The procedure for accessing the main menu from the log-in screen is as follows:

Login

(1) Type a valid userID, then press ENTER.

==> A prompt is displayed requesting password entry.

(2) Type a valid user password then press ENTER.

==> The TOPS VSN main menu shown in figure 2-3 is displayed.

Signing off

All users sign off from the main menu, shown in figure 2-3.

(1) Press <Sign Off>.

==> The main menu is retired and the log in screen shown in figure 2-2 is displayed.

Figure 2-2
An example of a login screen

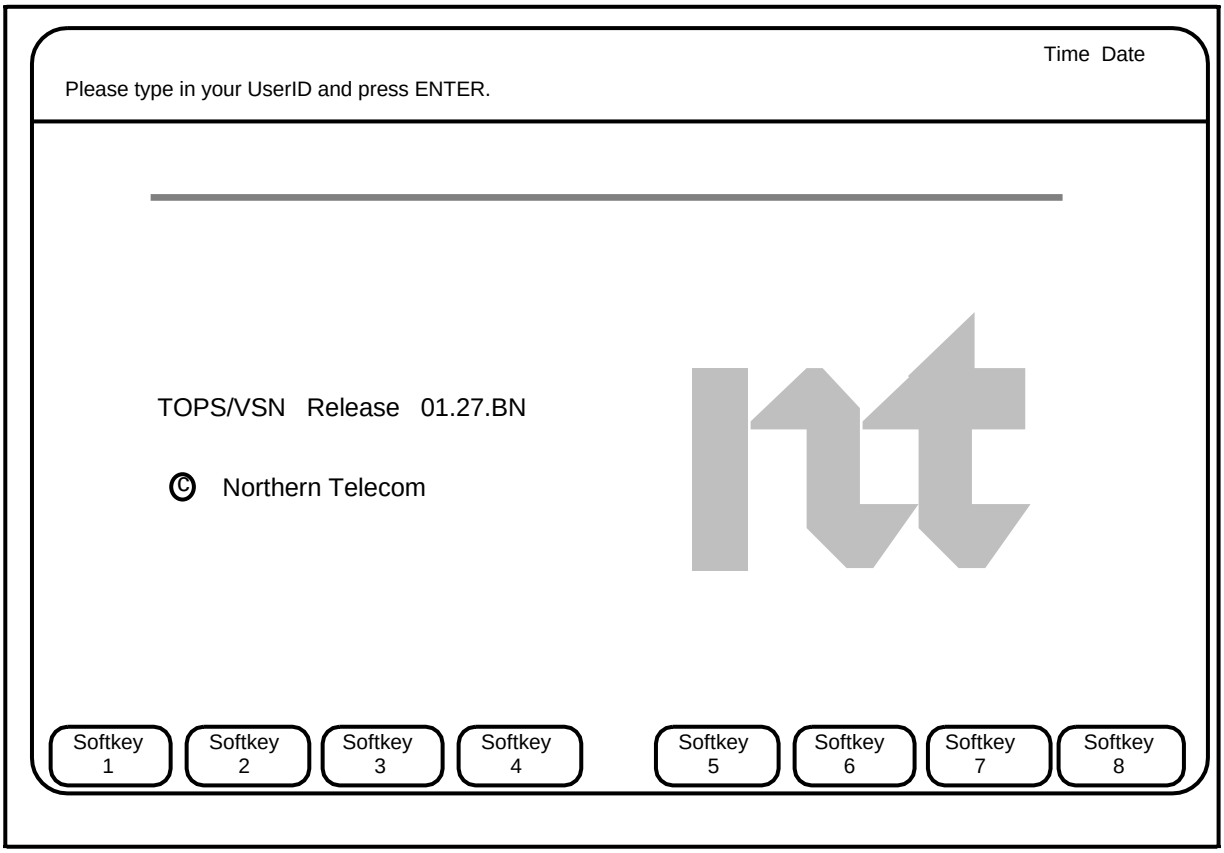
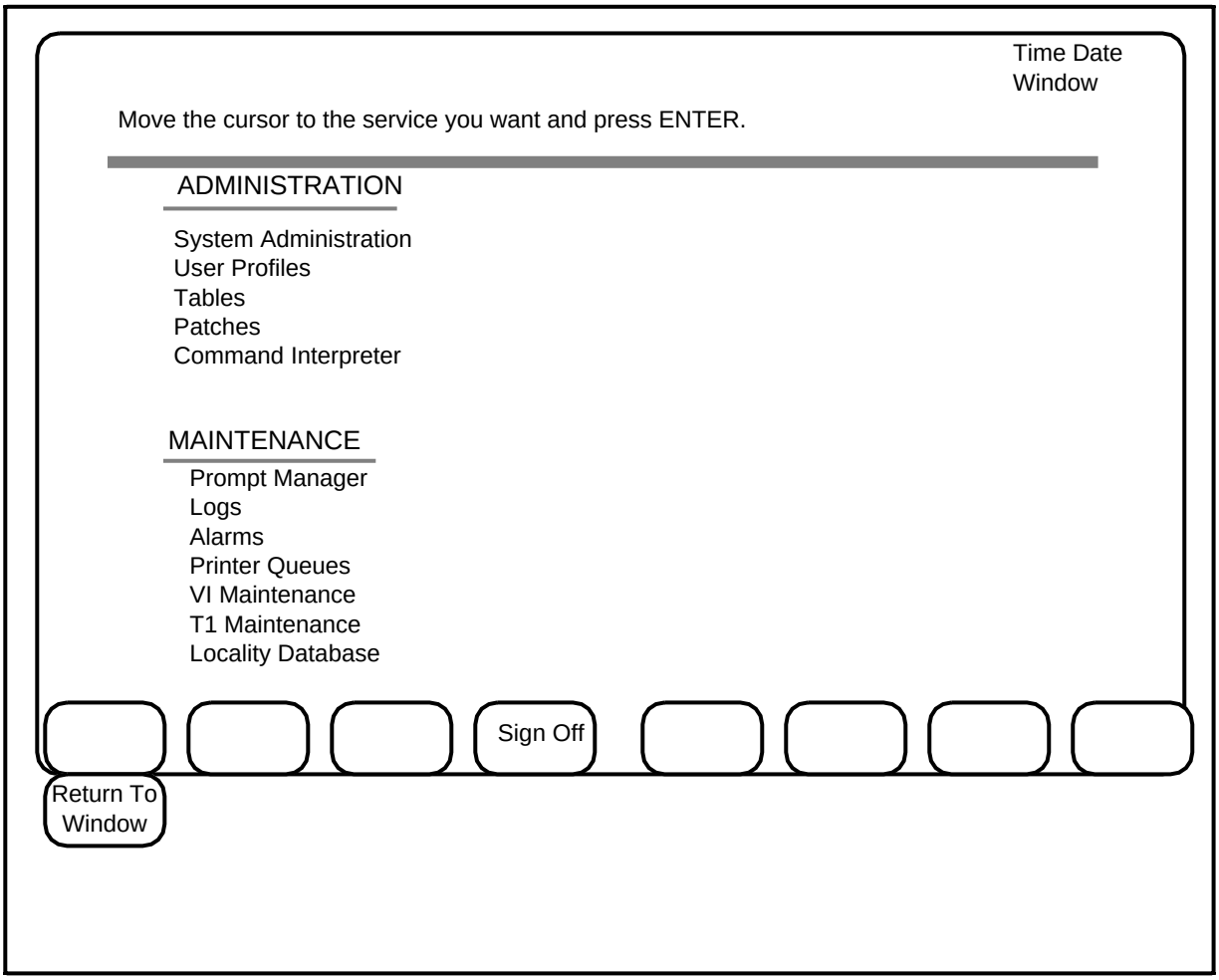


Figure 2-3
TOPS VSN main menu



Main menu

The TOPS VSN main menu is divided into two groups. The first group is called Administration. The second group is Maintenance.

Administration

Installers and maintenance personnel have access to all system administration functions. However, each is responsible for certain tasks identified in the first chapter of this NTP.

The major group called Administration is divided into five subgroups or options:

- System administration
- User profiles
- Tables
- Patches
- Command interpreter

System administration

System Administration is the label used for system administration services (SAS). SAS is the base facility which allows authorized users to maintain the hardware and software used to run TOPS VSN.

If a faulty SRU is detected, it is serviced through the maintenance function of SAS.

User profiles

User Profiles is a facility used to change expired passwords and user names (not sign-on names). The use of this facility has not been modified in any way for the TOPS VSN application. For a complete description of this facility and for detailed instructions on its use, refer to "Changing Your User Name or Password" in Practice 450-1011-301.

Tables

The table editor is a facility accessed from the Tables option on the main menu. It allows authorized users to modify a number of parameters in the operating company configurable tables.

Patches

Patches is a facility available from base software that allows operating company and field support personnel to view and install patches. Patches are sometimes required to correct problems that arise in the field.

Command interpreter

The command interpreter is used by operating company personnel and field support personnel to install patches and to use the backup management system (BMS).

Maintenance

TOPS VSN is maintained by way of the options listed under Maintenance on the main menu. The following options are available:

- Logs
- Alarms
- Printer queues
- T1 maintenance
- VI maintenance
- Locality database
- Prompt manager

Logs

The log query facility allows the user to examine and print all log messages, or a select number of log messages stored on disk. For a complete description of

this facility and for detailed instructions on its use, refer to "Logs in DNC * " in 450-1011-301.

Alarms

The alarm query facility allows the user to examine and print all alarm messages or a select number of alarm messages that are currently stored on disk. It is used to shut off the audible alarm indicator from the terminal. It may be used to change the state of any alarm. For a complete description of this facility and for detailed instructions on its use, refer to "The DNC Alarm Subsystem" in 450-1011-301.

Printer queues

The printer queue facility allows the user to spool a particular printing job to any one of the connected printers. For a complete description of this facility and for detailed instructions on its use, refer to "Managing Your Own Print Jobs" in 450-1011-301.

T1 maintenance

The digital trunk link (T1) maintenance facility allows maintenance users to monitor and control the state of the T1 SRUs, the trunks that connect them to the DMS and the 24 channels they make available.

VI maintenance

The voice interface maintenance facility allows maintenance users to monitor and control the state of each VI SRU and the six voice channels controlled by it.

Locality database

The locality database (see chapter 6) is used to determine the content of the announcements presented to the billed party of a collect call, or bill to a third number call.

Prompt manager

The prompt manager (see chapter 7) controls the access and use of the locality database. This includes adding, deleting, modifying,and grouping prompts that are available for use, as well as archiving prompts that are not currently required.

TOPS VSN reports

Operational measurements (OM) and log and alarm reports are available for TOPS VSN. Log reports are printed continuously and channelled to the log printer. Log messages can be interpreted using the following Practices: 450-1301-511. OM reports are also printed, but on a scheduled basis. These reports are channelled to the public printer. The contents of these reports are described in 450-1301-110.

* DNC is a trademark of Northern Telecom.

Logs and alarm messages can be accessed on-line. The procedure for accessing these is discussed in 450-1301-511.

3. System administration

SAS

The installer uses Administration Services (SAS) primarily to enter configuration data specific to the Traffic Operator Position System (TOPS) Voice Service Node (VSN) and to verify system data loaded from the installation tapes.

SAS is also used by maintenance personnel to monitor and maintain the health of the TOPS VSN. When a faulty SRU is detected, this service is used to take the hardware out of service, then return it to service.

Configuration tasks

The installer is responsible for installing and verifying all system configuration. The installer should be presented with completed forms (provided in 450-1301-454) so that the system can be customized to suit operating company needs.

Maintenance tasks

SAS maintenance is used by maintenance personnel to identify problems with shared resource units (SRUs) and program resource units (PRUs). This service is used in conjunction with log and alarm messages which serve as a first alert.

When a problem is detected, the following tasks may be performed from this service:

- testing for diagnostic purposes
- removing an SRU or PRU from service (courtesy down)
- returning an SRU or PRU to service (put in service)

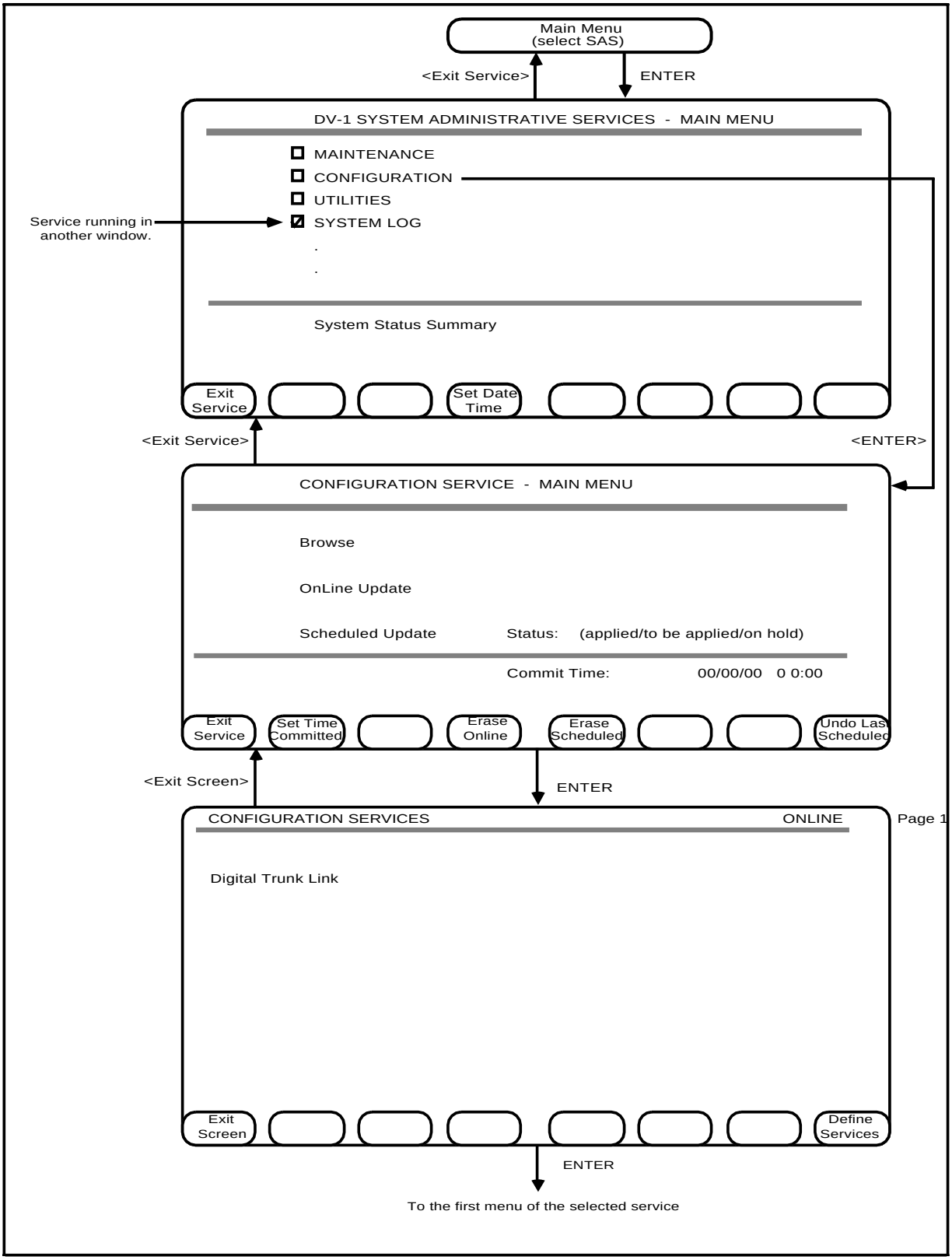
These procedures are not specific to TOPS VSN. However, specific hardware and software components required by TOPS VSN need special attention. For general instructions refer to "Performing Maintenance on System Components" in 450-1011-301. Instructions specific to TOPS VSN are discussed in this Practice under the heading "Replacing VSN SRUs".

Access to SAS

System administration Services is accessed from the TOPS VSN main menu by selecting the System Administration option, then pressing ENTER. Figure 3-1 illustrates the selection sequence required to access the services described

above. Complete instructions on how to access all data in SAS is given in 450-1011-301.

Figure 3-1
Selection screens to configuration services



Configuring the T1

The Digital Trunk Link (T1) SRU is configured by the installer with generic T1 datafill. The installer must also datafill tables to customize T1 links for TOPS VSN. T1 tables are accessed from the System Administration Services (SAS) facility of TOPS VSN. This Practice gives the settings that are required for TOPS VSN T1 links to operate successfully.

The procedures used to adjust these settings are given in 450-1011-301. Use table 3-A of this Practice in conjunction with 450-1011-301 to set all T1 parameters.

To datafill T1 tables, access SAS from the TOPS VSN main menu, then select each of the following in turn.

Configuration	press ENTER
Online Update	press ENTER
Digital Trunk Link	press ENTER select node
Cabinet x Slot y	press ENTER
Call Processing	verify table entries
Maintenance	verify table entries
Trunk Signalling	verify table entries
Trunk ID Mapping	complete table

==> The screens are displayed. table 3-A identifies the setting required on each screen.

Table 3-A
T1 configuration settings for TOPS VSN communications

SCREEN and PARAMETER	SETTING
Call Processing	
Wink Time Limits	
Maximum Time (ms)	600
Minimum Time (ms)	100
On Time (ms)	150
Digital Detection Timer	
Incoming Interdigit (ms)	300
Incoming Onhook (ms)	30
Incoming Offhook (ms)	30
Outgoing Interdigit (ms)	600
Outgoing Onhook (ms)	60
Outgoing Offhook (ms)	40
Miscellaneous Timers	
Pause Time (ms)	1000
Response Time (ms)	5000
Release Time (ms)	1500

-continued-

Table 3-A
T1 configuration settings for TOPS VSN communications (continued)

SCREEN and PARAMETER	SETTING
Recall (Flash) Duration	
Flash 1 (ms)	300
Flash 2 (ms)	700
Flash 3 (ms)	1000
Flash 4 (ms)	1600
T1 Maintenance	
Bipolar Violation	
Maintenance Limit Selection	4 (checkpoint no.)
Out-of-Service Limit Selection	3 (checkpoint no.)
Check Point 1 (second	5
2	15
3	15
4	150
5	1500
Error Limit at Check Point 1	480
2	144
3	14
4	14
5	14
Slippage Count (per hour)	
Maintenance Limit Selection	4
Out-of-Service Limit Selection	255
Converter Unlock Filter Time (ms)	2000
Frame Loss/Red Alarm	
Maintenance Limit (per day)	17
Out-of-Service Limit (per day)	511
In Red Alarm Filter (ms)	2500
Out of Red Alarm Filter (ms)	15000
Yellow Alarm Conditions	
In Yellow Alarm Filter (ms)	500
Out of Yellow Alarm Filter (ms)	500
T1 Trunk Signalling	
Channel Selection	0 - 23 (select one, then press ENTER)
Start Type	Immediate
Map Type	D3
Trunk Type	em4
Trunk ID Mapping	
DMS CLLI	Identifies the DMS host by it common language location identifier. This name must be the same as the DMS named in the Datalink_Config table accessed from table Editor.
Link Config.	* In Service, Manbusy, Offline

-continued-

Table 3-A
T1 configuration settings for TOPS VSN communications (continued)

SCREEN and PARAMETER	SETTING
Channel Number	01 - 24 Identifies each channel of the connected T1 link
Trunk Ident.	Identifies the trunk used for each channel. This number must be the same as the trunk identifier used in the DMS table TRKMEM. The convention is to use a four digit number. The first digit identifies the TOPS VSN. (If there is only one connected TOPS VSN, then this number is always 0). The final three digits identify each trunk (channel) connected to each TOPS VSN starting with 1. (For this release, the final four numbers should range from 0001 to 0072.)
Channel Config.	* In Service, Manbusy, Offline

Note Only the DMS CLLI and Channel Number fields may be modified through this screen. The link and channel config. fields are pre-set for this release (2 inservice links, and 1 manbusy link).

* Link and channel configuration rules are enforced by the system. The following rules apply:
1. For a link to be in service, at least one channel must be in service to handle calls.
2. For a link to be manbusy, there must be no channels in service and at least one channel must be manbusy. Manbusy is used to control traffic to the VSN. If a link is manbusy, the TOPS VSN can not accept calls on that link. If a channel is manbusy, that channel can not accept calls.
3. For a link to be offline, all links must be offline. Offline is used for installation and servicing purposes.

Replacing TOPS VSN SRUs

Once an SRU is diagnosed as defective, it should be replaced as soon as possible. In order to replace the defective SRU a series of operations must be performed. Depending on which SRU is replaced, one of two procedures is used.

Procedure 1 is used for the following set:

- prime processor
- disk drives
- digital trunk link (T1) SRU
- lanlink SRU

Procedure 2 is used for the following set:

- voice interface (VI) SRU
- application processors (APs)

Procedure 1

(1) Change the state of all T1 trunks to Manbusy using the DMS Maintenance and Administration Position (MAP).

==> All 0+ calls are automatically routed to the Mechanized Calling Card Service or to an operator; operator handoff calls are disabled.

(2) Power down the TOPS VSN.

(3) Identify the physical location of the defective SRU, then courtesy down the SRU from SAS Maintenance.

Maintenance	press ENTER
locate appropriate cabinet	press <Cabinet State> press <Next Cabinet>
locate appropriate SRU	select SRU press <More Softkeys>

(4) Remove all cables attached to that SRU.

(5) Remove the defective SRU from the cabinet.

(6) Insert the new SRU.

(7) Replace the SRU cables removed earlier.

(8) Power on the TOPS VSN and wait until the system is working.

(9) Access SAS Maintenance and run diagnostics test. These procedures are described in detail in 450-1011-301.

(10) If diagnostics show no faults, return the SRUs to service. If faults are detected contact NT.

Maintenance	press ENTER
locate appropriate cabinet	press <Cabinet State> press <Next Cabinet>
locate appropriate SRU	select SRU press <More Softkeys>
	press <Diagnose>

Procedure 2

(1) Change the state of all T1 trunks to Manbusy using the DMS Maintenance and Administration Position (MAP).

==> All 0+ calls are automatically routed to the Mechanized Calling Card Service or to an operator.

(2) Identify the physical location of the defective SRU, then courtesy down the SRU from SAS Maintenance. Figure 3-2 illustrates SAS Maintenance screens. The following table specifies the routine for SRU access.

Maintenance	press ENTER
locate appropriate cabinet	press <Cabinet State> press <Next Cabinet>
locate appropriate SRU	select SRU press <More Softkeys>

(3) Remove all cables attached to that SRU.

(4) Remove the defective SRU from the cabinet.

(5) Insert the new SRU.

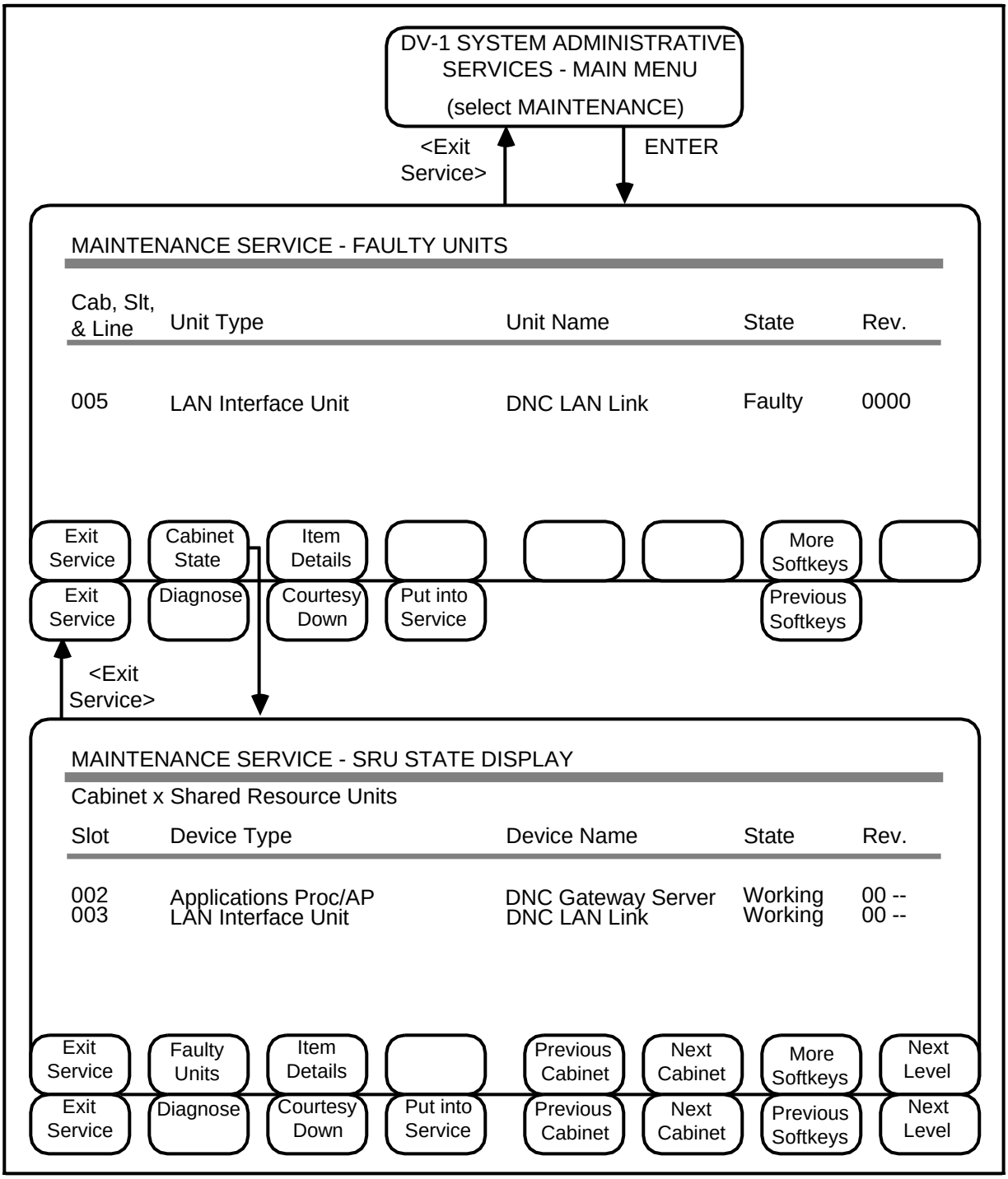
(6) Replace the SRU cables removed earlier.

(7) Access SAS Maintenance and run diagnostics test and if the test is successful put the SRU back into service. These procedures are described in detail in 450-1011-301.

Maintenance	press ENTER
locate appropriate cabinet	press <Cabinet State> press <Next Cabinet>
locate appropriate SRU	select SRU press <More Softkeys>
	press <Diagnose>

(8) If diagnostics show no faults, return the SRUs to service. If faults are detected contact NT.

Figure 3-2
Selection screens for maintenance services



Taking PRUs out of service

Program Resource Units may be taken out of service using the Maintenance Services of SAS. The effect of taking a PRU out of service depends on the function of that PRU. These effects are itemized below. Note that some PRUs should never be taken out of service.

(a) SCSI Tape Server: Prevents reading and writing from tapes.

(b) Screen Activity Manager: Can not be taken out of service.

(c) Data Connection Manager: Can not be taken out of service.

(d) Systemadministration Services: Can not be taken out of service.

(e) File Server (VSNFS2): Prevents OMs from writing to disk. OM subsystem and OM reporter become faulty.

(f) Synchronization Manager: No immediate effect is seen. Over time the T1 links may go down.

(g) Application Scheduler: Prevents the removal of seven day old OMs. OM reports may not be generated.

(h) Printer Queue Manager: Prevents OM reports and logs from printing. The spooler user interface goes faulty.

(i) Spooler User Interface: Prevents printer access from main menu.

(j) Simple Forms Handler 1: degrades access performance to Logs, Alarms, Tables and Printer Queues from main menu .

(k) Job Manager: Prevents OM reports from printing. Prevents the removal of seven day old OMs.

(l) Notification Server: Prevent user notification of logs at terminal and prevents alarm status notification from displaying in the right corner of the terminal.

(m) Alarm Subsystem: Prevents audible alarms and prevents access to Alarms from main menu.

(n) SDM table Editor: Prevents access to tables from the main menu.

(o) Report Generator: Prevent the creation of OM reports.

(p) Logger: Prevents the writing of logs to disk. Current logs can not be viewed from main menu. There are not no maintenance notices.

(q) Log Query: Prevents log and alarm access from the main menu.

(r) OM Reporter: Prevents the creation of OM reports.

(s) OM Collector: Prevents the collection of OM from subsystem components.

(t) Log Printer: Prevents logs from printing.

(u) Maintenance Notices: Prevents maintenance notices from being sent to the DMS.

(v) VI Resource Manager: Prevents TOPS VSN from processing any new calls. Current calls continue. If returned to service before current calls are completed, active calls are retained. Prevents the use of VI maintenance.

(w) SDM Notification Server: No effect.

(x) ACPE: Terminates all calls being processed by this PRU. (All existing calls are completed.)

(y) ACPE-RM: Prevents the TOPS VSN from processing any new calls.

(z) Voice Network Manager: Prevents the TOPS VSN from processing any new calls. Current calls continue. If returned to service before current calls are completed, active calls are retained.

(aa) T1 Resource Manager: Prevents TOPS VSN from processing any new calls. Current calls continue. If returned to service before current calls are completed, active calls are retained. Prevents the use of T1 maintenance.

(ab) X.25 Gateway (0/1): Stops all calls if both are taken out of service. No effect is seen if only one is taken out of service.

(ac) VSN Control Link: Stops all calls.

(ad) Network Resource Manager: May prevent X.25 links from being returned to service. No effect is seen as X.25 links are not taken out of service.

(ae) Host Agent: Prevents TOPS VSN from processing any new calls. Current calls continue. If returned to service before current calls are completed, active calls are aborted. ASCII terminal access and remote application access can not function.

(af) T1 Maintenance: Prevents access to T1 Maintenance from the main menu.

(ag) X.25 Gateway (2): Remote application access is not available.

(ah) Network Support: Remote application access is not available.

(ai) ASCII Connection Agent: ASCII terminal access is not available.

(aj) Simple Forms Handler-2: Slows operation of T1 and VI Maintenance.

(ak) Patch: Prevent access to Patch option from the main menu.

(al) VI Boss Task: All calls being processed by this PRU are terminated.

(am) VI Maintenance: Prevents access to VI Maintenance from the main menu.

4. Tables

The Tables option available from the TOPS VSN main menu allows maintenance personnel to access and modify operating company configurable parameters. The operating company is able to access and configure a number of tables used to control operational measurement reporting and TOPS VSN operation. (Note however, that most tables can not be accessed or modified by the operating company.)

Using tables

This chapter explains how to locate and manipulate table data using the table editor. The instructions that follow are generic; they apply to both OM tables and TOPS VSN control parameter tables. For comprehensive instructions, refer to the section entitled Using SDM Tables in 450-1101-301.

Access to the tables

(1) From the TOPS VSN main menu select the Tables option, then press ENTER.

==> The List_of_Tables screen is displayed.

The List_of_Tables screen lists all tables used by the TOPS VSN by name. The following column fields are displayed for tables that can be edited by the operating company. All other screens display the table name only.

(a) **Table Name.** The table names are listed in alphabetical order.

(b) **File Name.** The file names are listed.

(c) **DD Name.** The Data Dictionary (DD) names are listed.

(d) **Size.** The size of the tables are listed numerically.

(e) **Attributes.** Attributes for each table are listed.

(f) **Table Name.** This search field (prompt) appears only after the <Find> softkey is pressed.

The basic set of table softkeys is available from the List_of_Tables screen. These are illustrated in figure 4-1, and described on the following pages.

Exiting from tables

From each screen display that is not executing a task, the <Exit> softkey is available. Pressing <Exit> returns the user to the previous screen display.

Finding a table

The List_of_Tables screen spans many pages. If the name of the table is known the user may use the ***Find*** command available through the softkey. If the name of the required table is not known, or the user wants to browse through the full list, then the paging softkeys can be used.

Find

(1) To locate a table using the ***Find*** command from the List_of_Tables screen press <Find>.

==> A prompt for the table Name to search for is displayed. A new set of softkeys is displayed. These are <Exit> and <Execute>.

(2) Type the name of the table to search from the keyboard.

==> The name is displayed on the lower portion of the screen.

(3) When the name is correct, press <Execute>.

==> A search is initiated. If the table Name is found, the page on which the table appears is displayed and the target record is highlighted. The previous softkey set replaces the current one.

Paging

(1) To browse the items on all or several pages from any page of the List_of_Tables, the user presses one of the following paging softkeys.

(a) To advance to the next page, press <Next Page>.

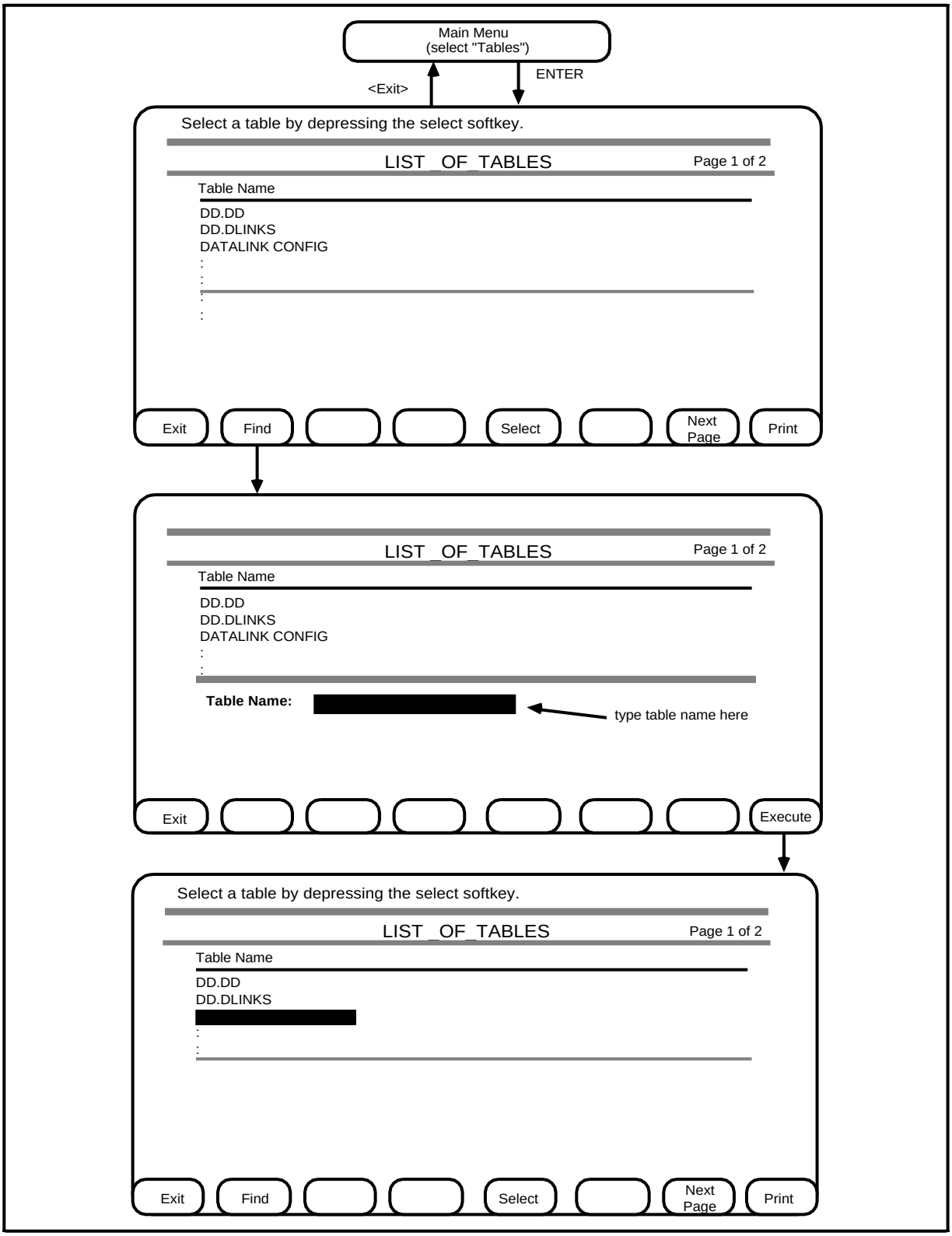
==> The next (ten records) page of the List_of_Tables is displayed.

(b) To return to the previous page, press <Previous Page>. This softkey is not displayed on the first page of this screen.

==> The previous (ten records) page of the List_of_Tables is displayed.

(2) When the required record is found, highlight it by positioning the cursor on the entry.

Figure 4-1
List_of_tables screen interactions



Selecting edit or browse mode

The user must select a mode of operation. The options available are browse and edit modes.

(1) When a table has been highlighted on the List_of_Tables screen, the user selects the option by pressing <Select> or pressing ENTER.

==> A new set of softkeys is displayed. These are <Browse> and <Edit>.

(2) Select a mode of operation by choosing between the two softkey options available.

(a) To view a table without making changes, press <Browse>.

==> The selected table is displayed in browse mode. (See heading "More Details" for information on browsing tables.)

(b) To view a table with the intention of making changes, press <Edit>.

==> The selected table is displayed in edit mode. (See heading "Editing Tables and More Details" for information on editing tables.)

Printing tables

Any or all tables displayed from the List_of Tables screen may be printed. Three options are available. The user can print the list of tables, one table, or all tables.

(1) To print a particular table, highlight it from the List_of Tables screen. To print either the list of tables or all tables do not highlight a particular entry. Press <Print>.

==> A new set of softkeys is displayed. These are <List of Tables>, <All Tables>, <Current table> and <Cancel>.

(2) To cancel the initial print command, press <Cancel>.

==> The previous set of softkeys is displayed, and initial print command is cancelled.

(3) Make a specific print request by selecting one of the following:

(a) To print a list of all tables, press <List of Tables>.

(b) To print the contents of all the tables, press <All Tables>.

(c) To print the contents of the highlighted table, press <Current table>.

==> After selecting a print request, an <Abort> softkey is presented to allow the user to stop the print job. When the print job is finished, the <Abort> softkey is retired, and the previous softkey set is displayed.

Aborting the print job

The abort softkey is used to stop a print job after it has begun. Press <Abort> to stop the print job.

Editing tables

When in edit mode only the <Change> and <More Details> softkeys are available (except for the Screening Code table which also makes the <Add> and <Delete> softkeys available). Parameters defined in all tables may be changed. Values in the Screening Code table may be added, changed or deleted.

(1) To change a table entry, display the table using the find, select and edit commands available through softkeys, then press <Change>.

==> Depending on the length of the table, the editing screen is either displayed in the lower portion of the display, or the editing screen occupies a page on its own. The following softkeys are also displayed: <Exit>, <Save As New>, <Save and GoTo Next>, and <Save and Exit>.

(2) On the editing screen

(a) Position the cursor at the required parameter, then type the new entry in from the keyboard.

(b) To save the changes and then open the next table entry, press <Save and GoTo Next>

==> The changed entry is displayed on the editing screen.

(3) When all changes to the table have been made select one of the following softkeys to save the changes:

(a) To save and commit changes made to the table, press <Save>.

(b) To save the changes in a new table, press <Save As New>.

(c) To save the changes then exit to List_of_Tables screen, press <Save and <Exit>.

(d) To exit without saving the changes, press <Exit>.

==> The changes (or not changes) are saved and committed.

More details

When a mode is selected, the <More Details> is displayed. The same screens are available in both edit and browse mode. By pressing the <More Details> softkey on each consecutive screen, the user may access progressively deeper or more detailed levels of the table or display. The number of levels varies from table to table.

The screens displayed from the <More Details> softkey can be edited from edit mode; they can not be edited from browse mode. All the same editing softkeys are available for editing <More Details> screens as are available for editing first level table screens.

The operational measurement (OM) report class screens accessed from this softkey display the groups and the registers that comprise the OM class. These however, can not be changed by the operating company.

Operating company configurable tables

A number of TOPS VSN tables must be datafilled by the operating company. These either fine tune TOPS VSN operation for the particular operating company environment, or provide unique operating company datafill for communication between switch and TOPS VSN.

One table must be datafilled by the operating company to identify the data links between the TOPS VSN and the DMS switch. This table is:

- DATALINK_CONFIG

Four other tables containing TOPS VSN operational data can be accessed by the operating company. These are used to fine tune the operation of the TOPS VSN. They are:

- LOC_SCREEN_CODES
- SCREENING_CODES
- USER INTERACTION
- VSN DIGIT TIMING
- VSN RETRY COUNTS

Access summary

To access each of these tables, do the following: (For detailed instruction refer to the first part of this chapter entitled "Using Tables".)

(1) Select the Tables option, then press ENTER.

(2) Press <Find>.

(3) Type the name of the table exactly as it appears in the bulleted list above, then press <Execute>.

(4) When the table is found, press <Select> or ENTER.

(5) Press <Edit> or <Browse> depending on the task.

VSN_system table

The VSN_System table is used to administer the messaging that is conducted between the DMS switch and the VSN system. When there are more than one VSN system that the operating company has at a site, an identifying parameter is assigned by the operating company in the VSN_System table. The parameter is in the range 0 to 15, and must match the data entered in field VSNNUM of DMS table VSNMEMBR

There are other parameters in the table that are not accessible by the operating company. If an attempt is made to alter the established parameters by unauthorized personnel, the following message is displayed:

This may not be changed

The name, description and entry information is given in table 4-A.

Table 4-A
VSN_System table data

Parameter	Entry	Comment
Call sanity timeout	integer	Inaccessible to operating company personnel
Max. calls allowed	integer	Inaccessible to operating company personnel
VSN_Identifier	integer	This entry is used to identify each of the VSN in sites where there are more than one VSN. The default value is 0, indicating that there is only one VSN at the site.The entry must be the same as the entry in field VSNNUM of DMS table VSNMEMBR

Control link testing	integer	Inaccessible to operating company personnel
Control link to ATV	integer	Inaccessible to operating company personnel

Datalink_config table

The Datalink_Config table contains information used by the control link PRU to determine the physical links it is required to manage. Operational measurements (OM) are keyed to the DMS CLLI specified in this table. The DMS switch name also provides the Application Call Processing Engine (ACPE) and its resource manager (ACPE-RM) with the name of the switch originating the call to the TOPS VSN. This name must also appear in the T1 Configuration table in SAS.

Access and display this table using the general table instructions provided in this part. For detailed screen interactions refer to the section entitled Using SDM Tables in 450-1011-301.

The name, description and range of values (where appropriate) for each field is given in table 4-B. Updates made to this table take effect only after the VSN Datalink Manager and Maintenance Notices PRUs are taken out of service (courtesied down) and then returned to service.

Table 4-B
Datalink_config table

Field Name	Entry	Description
Link Name	16 alphanumeric characters	Identifies each link by an arbitrary but unique name. This name appears in log and OM reports.
DMS CLLI	9 alphanumeric characters	Identifies the DMS connected to each link by its common language location identifier (CLLI). This name is also passed to the ACPE RM and the ACPE with each message received from the automated alternative billing service (AABS). The data entry for this parameter must be the same as its counter- part in T1 Configuration. (Used for OM keys.)
X.25 PRU	8 digits, for example, 82510001	Identifies the location of the X.25 service connected to the link. This field is comprised of two related subfields, the unit type and the configuration type of the X.25 PRU managing the link. The first four digits identify the X.25 unit type; the final four, the X.25 configuration type.
VSN CL PRU	8 digits, for example, 94410001	Identifies the control link service responsible for managing the link. This field is comprised of two related subfields, the unit type and the configuration type of the control link PRU managing the link. The first four digits identify the control link unit type. The final four digits identify the control link configuration type.

Screening codes

The Screening codes table contains a list of screening codes used by the operating company to identify third-number billing calls, where the entry in the field Action is one of Accept, Verify, or Operator, and collect calls, where the entry in the field Action is one of Prison or Prison-Operator (these codes may vary between operating companies).

Third number billing calls: These calls are identified by a value in the field Action of Accept, Verify, or Operator. The values are checked when the TOPS VSN does not receive a valid response from the LIDB database or BVA database in the DMS.

Collect calls: These calls are identified by a value in the field Action of Prison or Prison_Operator. The values are always checked when TOPS VSN receives a collect call to determine if the call is to be treated as a prison call, or if it is to be routed directly to a prison operator.

Updates to this table become effective after all ACPE PRUs have been taken out of service then returned to a working state.

Access and display this table using the general Tables instruction provided in this part. For detailed screen interactions refer to the section entitled Using SDM Tables in 450-1011-301.

The name, description and range of values (where appropriate) for each field are given in table 4-C. Figure 4-2 illustrates interaction with the screening code table.

Figure 4-2
Screening code table interactions

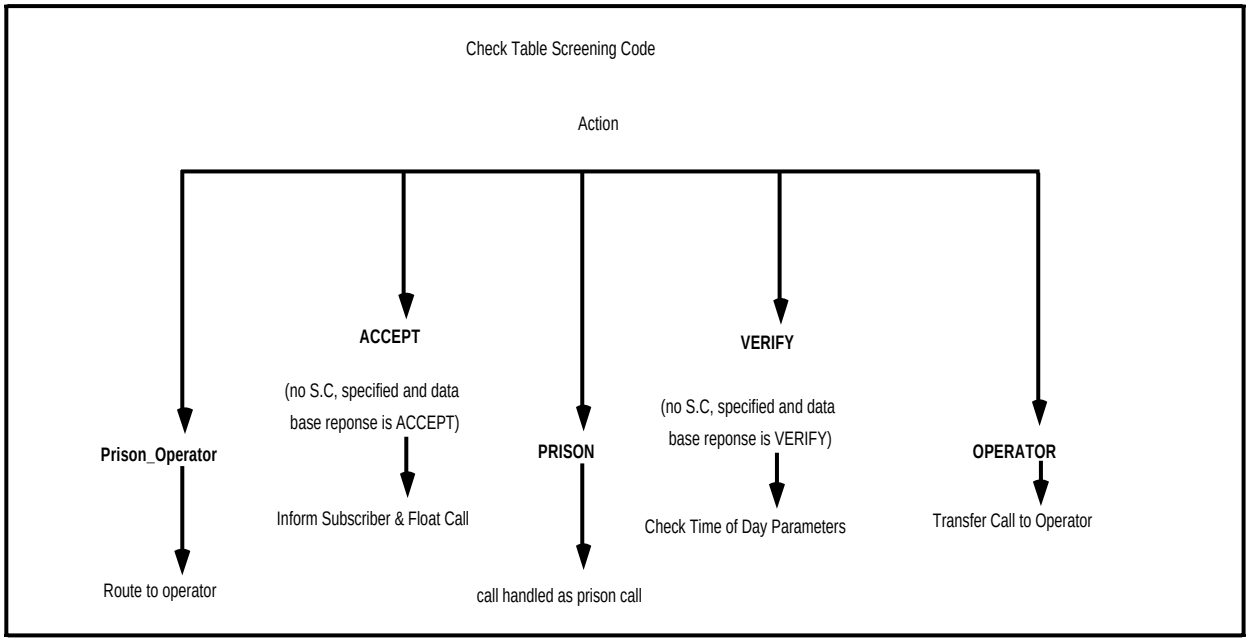


Table 4-C
Screening codes table

Field Name	Entry	Description
Screening Code	0 - 99	Specifies the screening codes used by the operating company to identify third-number billing calls for which a specific action can be associated. For each code listed, an action must be specified. Default third-number billing screening codes are 85, 88, 89, 98 and 99.
Action		Identifies the range of call handling actions that are allowed.
	Accept / Verify / Operator	These values apply to third-number billing only. If the screening code of third-number billing calls is not specified in this table, then the action obtained from the database query is applied to the call. The default action associated with the default screening codes given above is Verify.
	Prison/Prison-Operator	These values apply to collect calls.The calls with the value Prison are handled as prison calls, while calls with the value Prison-Operator are routed to the prison operator before the bong tone is heard.

Loc_Screen_Codes table

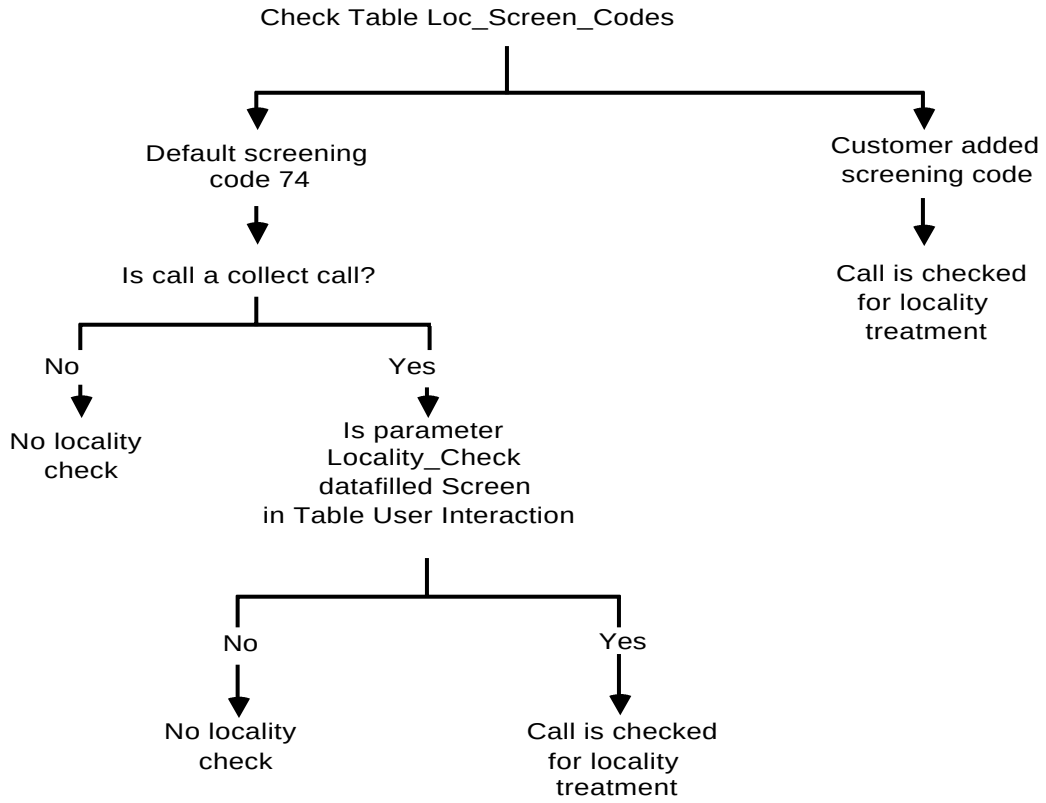
The Loc_Screen_Codes table contains a list of the screening codes of the calls that need to be checked for locality. If the screening code of a call is not included in this table, no locality check is conducted for thst call.

The Loc_Screen_Codes table can be datafilled by the operating company. After the table has been updated, the ACPE must be courtesied doewn and then put back into Working state before the updates become effective. This procedure is required for each ACPE PRUs that is defined.The name, description, and range of values for each field are given in Table 4-D.

Table 4-D
Loc_Screen_Codes form

Field Name	Entry	Description
Locality Screening code	0 - 99	All calls that have a screening code that matches the screening code that is datafilled in this table are checked for locality treatment. The default Locality screening code is 74

The following figure illustrates the interaction between the Screening codes table and the Locality screening codes table



VSN digit timing table

The VSN Digit Timing table contains a list of subscriber related actions originating from the TOPS VSN. For each VSN action, an appropriate

subscriber response is expected. The maximum time the TOPS VSN must wait for each subscriber response is determined by the values entered for each parameter on this table.

These time-out parameters govern service selection, third- number billing service, calling-card service and a request for operator service during name recording.

Updates to this table become effective after the VI-RM PRU and the VI PRU have been taken out of service then returned to a working state. The VT-RM must be in a working state before the VI PRU is put into a working state.

Access and display this table using the general table Editor instruction provided in this part. For detailed screen interactions refer to the section entitled Using SDM Tables in 450-1011-301.

The name, description and range of values (where appropriate) for each field are given in table 4-E. Digit timing is illustrated in figure 4-3.

Figure 4-3
Interdigit timing for TOPS VSN

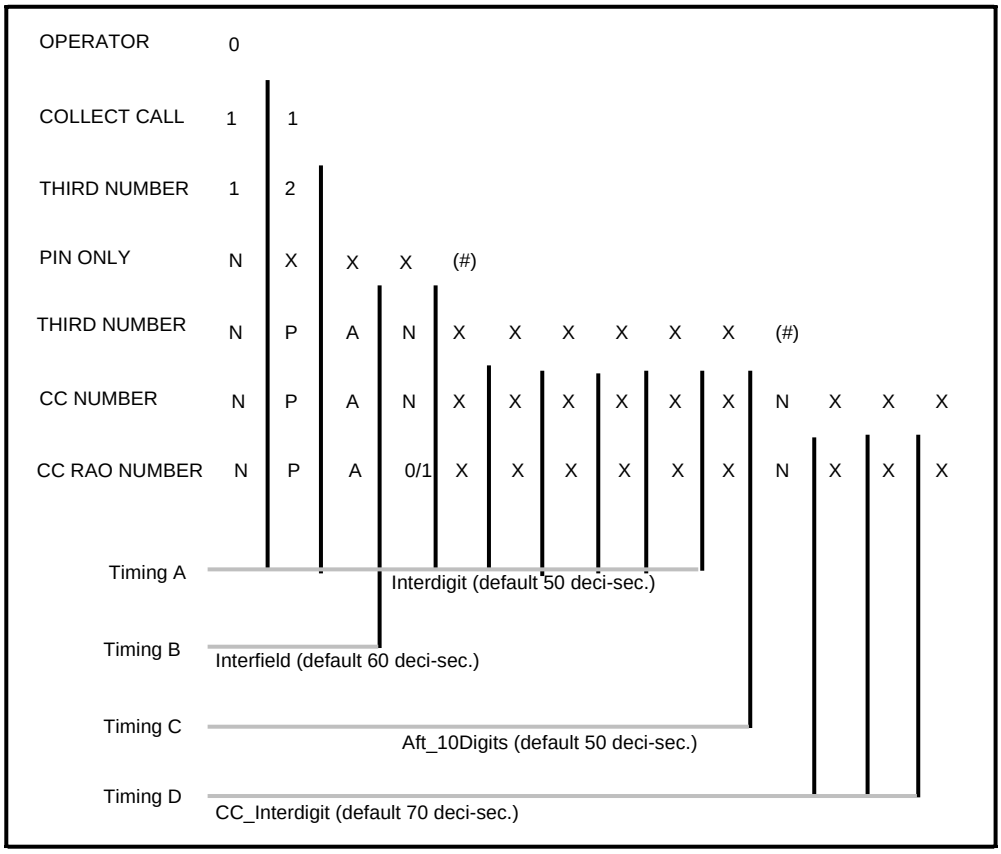


Table 4-E
VSN digit timing table

Field Name	Entry deci-seconds	Description
Bong_Only	0 - 100	Specifies the maximum length of time, following a bong tone during service selection, the subscriber has to enter a digit from the telephone. This applies to calls that originate from trunk groups which receive tone-only treatment. The default is 30.
Bong_N_Prompt	0 - 100	Specifies the maximum length of time following a bong tone and before the service selection prompt, the subscriber has to enter a digit from the telephone for calls receiving the tone-plus-prompt treatment. The default is 10.
Aft_Prompt	0 - 100	Specifies the maximum length of time, following a prompt announcement, the subscriber has to enter a digit from the telephone set. The default is 50.
Aft_Err_Prompt	0 - 100	Specifies the maximum length of time following an error prompt announcement the subscriber has to enter a digit from the telephone set. The default is 30.
Bong_CC_Altbill	0 - 100	Specifies the maximum length of time the subscriber has to enter digits after the bong tone in calling card service and following a calling-card service error sequence. The default is 30.
CC_Err_Prompt	0 - 100	Specifies the maximum length of time following a prompt during the calling-card error sequence, the subscriber has to enter a digit from the telephone. The default is 50.
Interdigit	0 - 100	Specifies the maximum length of time the subscriber has to enter a digit from the telephone when making a phone call. The default is 50 between each digit.
Interfield	0 - 100	Specifies the maximum length of time the subscriber has to enter the next digit following the area code. The default is 60.
Aft_10Digits	0 - 100	Specifies the maximum length of time the subscriber has to enter the 11th digit of a calling card number. This timing distinguishes third number calls from calling-card service calls. The default is 50.
CC_Interdigit	0 - 100	Specifies the maximum length of time the subscriber has to dial the next digit when entering a PIN number after the calling card number. The default is 70.

-continued-

Table 4-E
VSN digit timing table (continued)

Field Name	Entry deci-seconds	Description
Aft_4Digits_PIN	0 - 100	Specifies the time delay before a PIN-only CCV query is sent when 4 DTMF digits have been entered but the timeout interval has not been reached. This parameter influences the holding time for PIN-only calling card calls. The default is 20.
Req_Op_On_Err	0 - 100	Specifies the maximum length of time the subscriber has to dial "0" for the operator when the call has encountered too many dialing or name recording errors. The default is 30.
Req_Op_Clt_Only	0 - 100	Specifies the maximum length of time the subscriber has to dial "0" for the operator when the call originates from a collect-only or prison station. The default is 30.

VSN retry counts

The VSN Retry Counts table contains a list of retry counts detected by the TOPS VSN which influence subscriber responses. For each error condition, the subscriber is allowed to retry the action in order to get an error-free response from the TOPS VSN. The number of times the subscriber is allowed to retry an action that ellicits an error condition is determined by the values entered for each parameter on this table.

These retry count parameters govern dialing, name recording, voice recognition and service retrys.

Updates to this table become effective after all ACPE PRUs have been taken out of service then returned to a working state.

Access and display this table using the general Tables instruction provided in this part. For detailed screen interactions refer to the section entitled Using SDM Tables in 450-1011-301.

The name, description and range of values (where appropriate) for each field are given in table 4-F.

Table 4-F
VSN retry counts table

Field Name	Entry	Description
Dialing_No_Response	0 - 5	Specifies the maximum number of times an error of no response is tolerated when the TOPS VSN is expecting dialing. The default is 1.
Dialing_Format_Err	0 - 5	Specifies the maximum number of times format errors are tolerated when the TOPS VSN expects dialing. The default is 1.
Dialing_Total_Retry	0 - 5	Specifies the total number of errors tolerated by the TOPS VSN when it expects dialing. This includes no response, format and other errors. The default is 2.
Name_No_Response	0 - 5	Specifies the maximum number of times a response of no response is tolerated when the TOPS VSN expects speech for name recording. The default is 1.
Name_Format_Err	0 - 5	Specifies the maximum number of times format errors are tolerated when the TOPS VSN expects speech for name recording. This includes too long and too short errors. The default is 1.
Name_Total_Retry	0 - 5	Specifies the total number of errors tolerated by the TOPS VSN when it expects speech for name recording. This includes no repsonse, format and other errors. The default is 1.
Billing_No_Response	0 - 5]	Specifies the maximum number of times an error of no response is tolerated when the TOPS VSN expects a valid response for billing acceptance. The default is 1.

-continued-

Table 4-F
VSN retry counts table (continued)

Field Name	Entry	Description
Billing_Reject_Err	0 - 5	Specifies the maximum number of times unrecognized speech is tolerated when the TOPS VSN expects a valid response for billing acceptance. The default is 1.
Billing_Total_Retry	0 - 5	Specifies the total number of times the TOPS VSN retries to get billing acceptance verification. This includes no response, format and other errors. The default is 1.
Calling_Card_Retry	0 - 5	Specifies the maximum number of dialing errors tolerated by the TOPS VSN in the calling-card service. The default is 1.
No_Resp_1st_SS	0 - 5	Specifies the maximum number of times an error of no response is tolerated when the TOPS VSN is expecting a response to the first service selection. The default is 0.
Third_Num_Alt_Bill	0 - 5	Specifies the maximum number of times alternate billing can be selected during third number billing. The default is 1.

User interaction

The User Interaction table contains a list of parameters that specify the way a call is processed.These TOPS VSN user interaction parameters govern service selection, name recording and voice recognition.

Updates to this table become effective after all ACPE PRUs have been taken out of service then returned to a working state.

Access and display this table using the general Tables instruction provided in this part. For detailed screen interactions refer to the section entitled Using SDM Tables in 450-1011-301.

The name, description and range of values (where appropriate) for each field are given in table 4-G. Six figures (figure 4-4 through 4-9) that illustrate the interaction of some user interaction parameters are given after table 4-G.

Table 4-G
User interaction table

Field Name	Entry	Description
Locality_Check		Allows the specification of the type of calls, if any, that should be given locality treatment.
	All	Indicates that a locality database query should be conducted for all calls that need billing verification so that the locality treatment can be determined
Note: When the LDB fails, incoming calls are considered to be locality calls and are handled as follows: When the Locality_Check entry is All, all calls are assumed to be locality calls and are treated according to the datafill of parameter Loc_Default_Prompt. When the Locality Check entry is Screen, it is assumed that all calls that originate from a screening code that is datafilled in table Loc_Screen_Codes are locality calls,and are treated according to the datafill of parameter Loc_Default_Prompt.		
	None	Indicates that a locality database query should not be conducted for any calls. All calls are handled as if no locality database exists in the system
	Screen	Indicates that a locality database query should be conducted for all calls that need billing verification. These calls are identified by the data that is entered by the operating company in table Loc_Screen_Codes.
Loc_Default_Prompt		Applies to calls for which an existing locality prompt is not available.
	All	Causes TABS to play a default prompt, regardless of the type of call. Prison calls and non-prison calls may have different default prompts.
	None	Indicates that the call is to be sent to the operator for manual billing, rather than playing a default prompt to the billed party. This treatment is applied for all types of calls.
	Prison	Indicates that a default prompt should be played back for prison calls only. Other types of calls are sent to an operator for manual billing verification.
	NonPrison	Indicates that a default prompt should be played back for non-prison calls only. Prison calls are sent to an operator for manual billing verification.

-continued-

Table 4-G
User interaction table

Field Name	Entry	Description
Record_Name_Non_Prison	Yes/No	Specifies whether or not the caller's name is used for billing acceptance verification for all non-prison calls. If this value is no, the caller's name is not recorded. The default is "yes".
Record_Name_Prison	Yes/No	Specifies whether or not the caller's name is used for billing acceptance verification for all prison calls. If this value is no, the caller's name is not recorded. The default is "yes".
Prison_Msg_DTMF_Inter	Yes/No	Specifies whether or not DTMF interruption is allowed during the prison service selection announcement. The default is "no".
Refer_To_Op_On_O_Aft_Bong	Yes/No	Specifies whether or not the caller can refer the call to the operator by dialing "0" after the first bong tone. The default is "no".
Welcome_Msg_Enable	Yes/No	Specifies whether or not the welcome message, which has company branding, is played after the first bong tone. The default is "yes".
Hdo_Welcome_Msg_Enable	Yes/No	Specifies whether or not the welcome message for operator handoff calls, which has company branding, is played after the first bong tone. The default is "yes".
Calling_Listen_In_Accept	Yes/No	Specifies whether or not the calling party is allowed to listen during billing accpetance verification. The default is "yes".
CCV_Query_Fail_Acc_Bill	Yes/No	Specifies whether TOPS VSN should automatically accept billing when notified by the DMS that a calling-card number query to the database could not obtain a valid response(that is, a timeout) The default is "yes".
Collect_If_Same_Num	Yes/No	Specifies whether or not the third-number billing call is processed as collect if the number called and number billed is the same. The call is charged as a collect call if this parameter is yes. If no, the billed party is reprompted. The default is "yes".
Verify_Coin	Yes/No	Specifies whether or not third-number billing calls originated from coin phones must be verified. This flag is checked when the database query response indicates that billing has been accepted. The default is "yes". See figure 4-4.

-continued-

Table 4-G
User Interaction table (continued)

Field Name	Entry	Description
Accept_Third_Non_Coin	Yes/No	Specifies the action to take on third-number calls originating from a non-coin phone. If the value is yes, the Screening Codes table is checked for special action instructions. If the value is No, then charges are automatically accepted without verbal confirmation and the call is floated. If no, the screening code table is checked for special action instructions. If the result of that check is verbal acceptance, then the time_of_day parameter is checked. If the final result is verbal acceptance, then the billed party is connected. The default is no. See figure 4-5.
Name_Record_Duration	5-50	Specifies the maximum length of time in deciseconds given for name recording. The default is 25 .
Name_Record_Wait_Time	5-100	Specifies the maximum length of time in deciseconds to wait for the caller to begin speaking for name recording. If no response is made after this time, TOPS VSN either reprompts or the caller is asked to dial 0 for operator assistance. The default is 40 .
Treatment_Cut_Off_Time	0-1000	Specifies the maximum length of time in deciseconds allowed for local treatment. After this time an announcement is played. The duration should be long to allow opeator interception. The default is 500 .
No_Far_End_Ans_Cut_Off	0-1000	Specifies the maximum length of time in deciseconds to wait for the far-end called party to answer the phone. This duration should be long to allow for operator interception. The default is 500 .
End_Of_Name_Duration	5-20	Specifies the period of silence required to mark the end of speech during name recording in deciseconds. The default is 5 .
Greeting_Timeout	1-100	Specifies the length of time in deciseconds to wait for the far-end greeting speech after the TOPS VSN is informed that the billed party has picked up the telephone. The default is 10 .
Bill_Acc_Timeout	5-100	Specifies the length of time in deciseconds to wait for the billing acceptance voice response. When there is no speech after this time, TOPS VSN reprompts. The default is 40 .

-continued-

Table 4-G
User Interaction table (continued)

Field Name	Entry	Description
Greeting_Length	0-300	Specifies the maximum length of time in deci-seconds the far-end party is allowed for a greeting message. The billing acceptance voice prompt starts playing at this time. The default is 15 .
Bill_Acc_Conf_Cut_Off	5-1000	Specifies the maximum length of time in deciseconds the billed party has to stay online to request operator intervention during billing decision confirmation. The default is 40 .
Backend_Operator_Req_T_O	0-1000	Specifies the time in deciseconds to wait before requesting operator interception during billing verification. When there are repeated voice response failures, the billed party is asked to either hang up or stay on the line for operator assistance. If the billed party stays on the line, this parameter specifies the wait time. The default is 30 .
Frontend_Operator_Req_T_O	0-1000	Specifies the minimum hold time in deciseconds before requesting an operator when retry count value has been reached for the no response to first service selection parameter. The default is 0 .
BNS_Query_Failure	Accept, Reject, Operator, Verify	Specifies the action the TOPS VSN should take when told by the DMS that it cannot obtain a valid database response for the BNS query. The default action is "verify". See figure 4-6 and 4-7.
T_O_D_Start_Hour (see *)	0-23	Specifies the starting hour for the time-of-day check in third-number billing. From this hour (and minute) to the ending time, all third-number billing calls are not verified depending on the value of the followinging parameters: TOD_CHK_HLD_COIN and TOD_CHK_NONCOIN_HLD. The default is 0 . See figure 4-8.
T_O_D_Start_Minute (see*)	0-59	Specifies the starting minute for the time-of-day check in third-number billing. From this minute of the hour to the ending time, all third-number billing calls are not verified depending on the value of the following parameters: TOD_CHK_HLD_COIN and TOD_CHK_NONCOIN_HLD. The default is 0 . See figure 4-8.

-continued-

Table 4-G
User Interaction table (continued)

Field Name	Entry	Description
T_O_D_End_Hour (see*)	0-23	Specifies the ending hour for the time-of-day check in third-number billing. From this hour to the starting time, all third-number billing calls are verified. The default is 6 . See figure 4-8.
T_O_D_End_Minute (see*)	0-59	pecifies the ending minute for the time-of-day check in third number billing. From the end hour and minute time, to the starting time, all third number billing calls are verified. The default is 0 . See figure 4-8.
Frontend_Input_Gain	+180/-180dB tenths	Specifies the amount of gain in 1/10 of a decibel to apply to the DTMF input and name recording. The default is 0. Default should only be changed in consultation with NT.
Frontend_Output_Gain	+180/-180dB tenths	Specifies the amount of gain in 1/10 of a decibel to apply to the voice announcements played to the calling party.The default is 0. Default should only be changed in consultation with NT.
Backend_Input_Gain	+180/-180dB tenths	Specifies the amount of gain in 1/10 of a decibel to apply to speech recognition. The default is 0. Default should only be changed in consultation with NT.
Backend_Output_Gain	+180/-180dB tenths	Specifies the amount of gain in 1/10 of a decibel to apply to the voice announcements played to the billed party. The default is 0. Default should only be changed in consultation with NT.
T_O_D_Check_Coin_Hdl (see*)	Accept, Reject, Operator, Verify	Specifies the action the TOPS VSN takes when a call originates from a coin phone and the current time is within the time-of-day parameters found in this table. The default action is "reject".
T_O_D_Chk_Non_Coin_Hdl (see*)	Accept, Reject, Operator, Verify	Specifies the action the TOPS VSN takes when a call does not originate from a coin phone and the current time is within the time-of-day parameters found in this table. The default action is "accept".
Billing_Denied_Action	Reject, Operator, Altbill	Specifies the TOPS VSN action required when billing to a third number has been denied. Reject, means disconnect the call; operator, means connect to an operator, and altbill, means play the service selection message. The default action is "altbill". If "altbill", the retry count Third_Num_ Alt_Bill in table VSN Retry Counts is checked. See figure 4-9

-continued-

Table 4-G
User Interaction table (continued)

Field Name	Entry	Description
Hdo_Billing _Failed_Action	Reject/Operator	Specifies the TOPS VSN action required when handoff billing to a third number has failed. Reject, means disconnect the call; operator, means connect to an operator The default action is "operator".
Billing_Acceptance_Validation	DTMF/Speech/ Both	Indicates the type of response for which the billed party will be prompted during billing acceptance verification.The value Speech means that the billed party is prompted for a speech response during the billing acceptance process; the value DTMF means that the billed party is prompted for a DTMF response during the billing acceptance process;the value Both means that the billed party is prompted for a speech response during the billing acceptance process,but DTMF reponses are also recognized. The billed party can request an operator at any time, regardless of the value in this field.

* T_O_D parameters are not applicable to operator handoff calls

Figure 4-4
Verify_coin parameter interaction

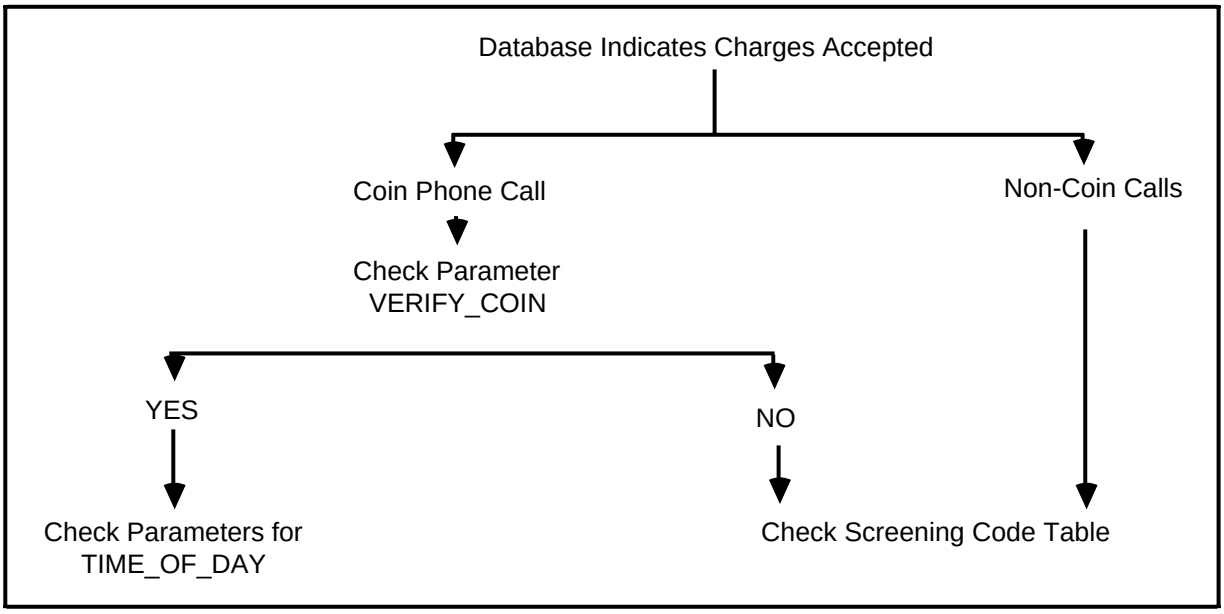


Figure 4-5
Accept_third_non_coin parameter interaction

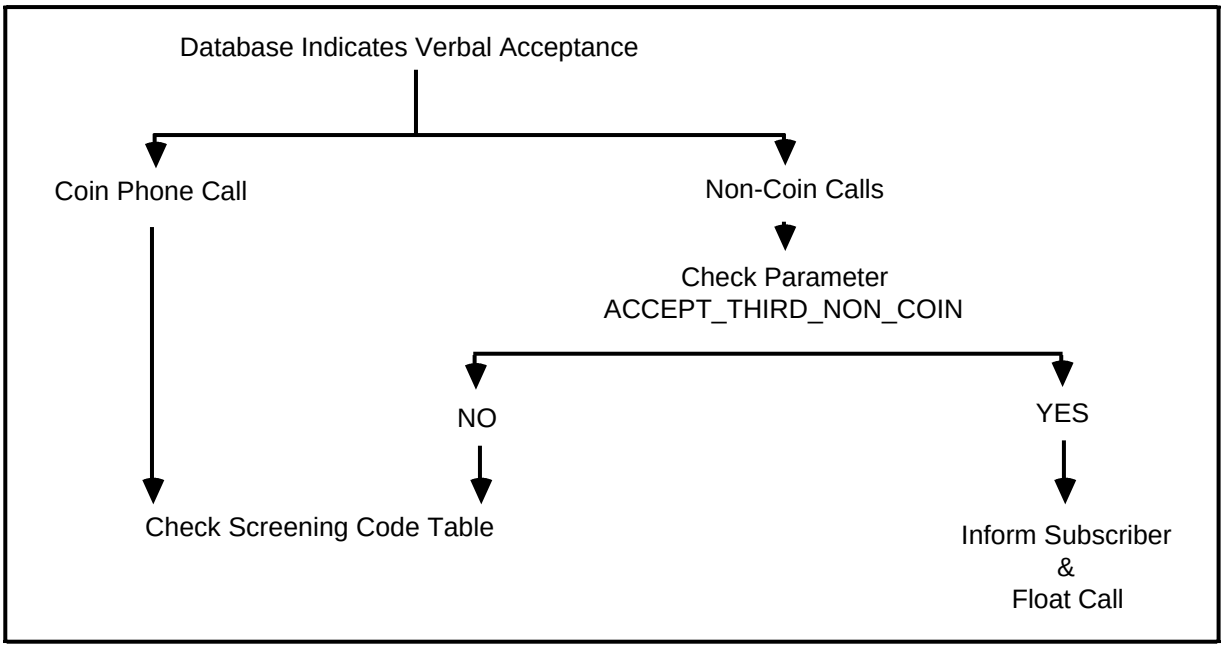


Figure 4-6
BNS_query failure parameter interaction for collect calls

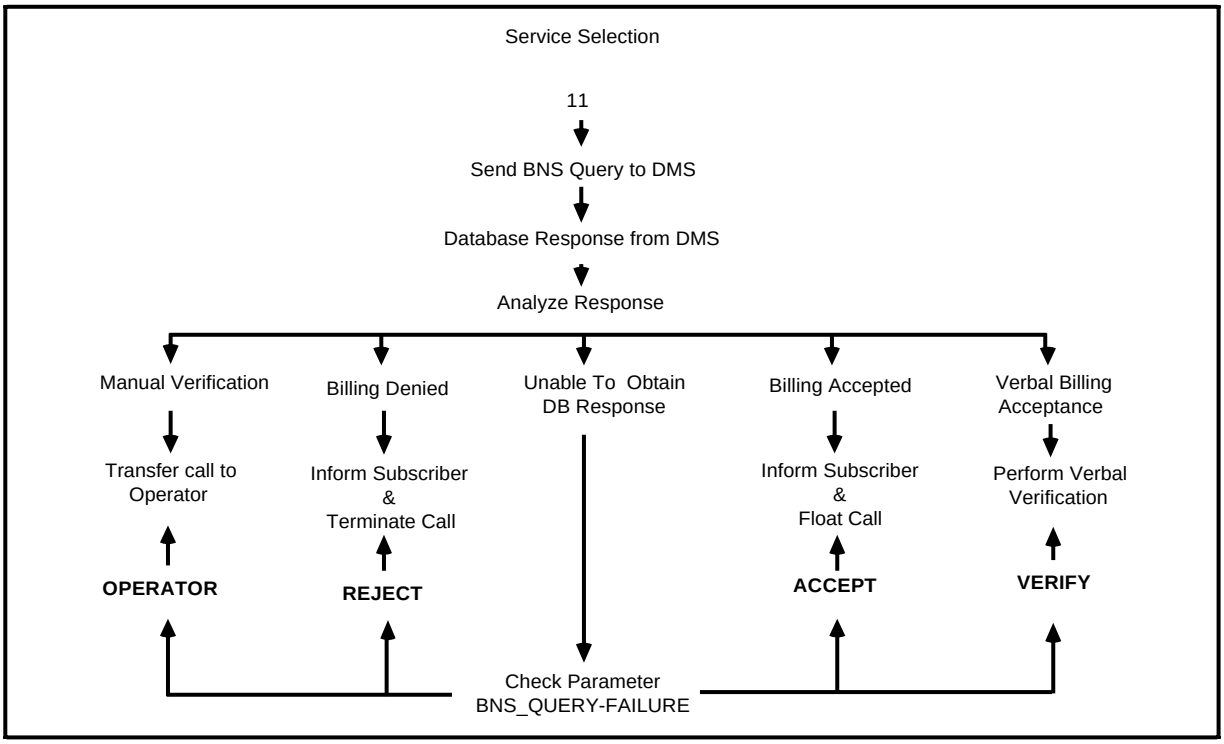


Figure 4-7
BNS_query_failure parameter for interactions for third number calls

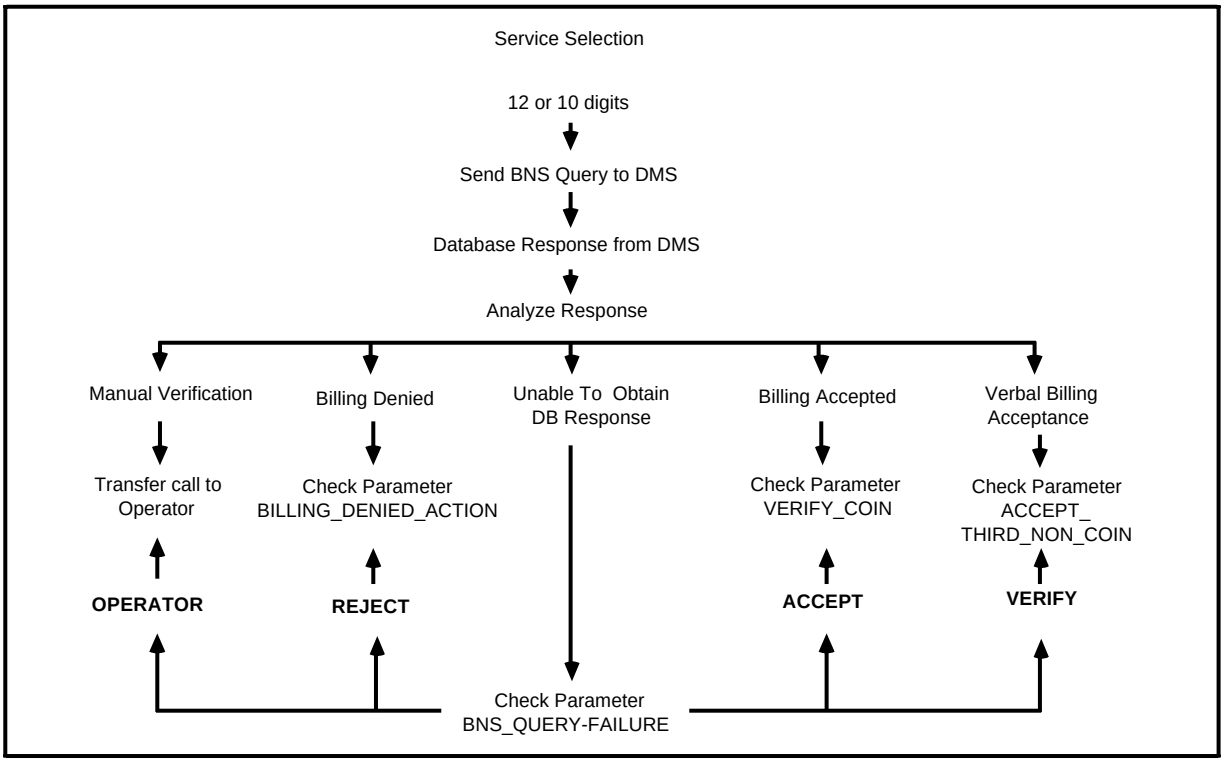


Figure 4-8
Time_of_day parameter interactions

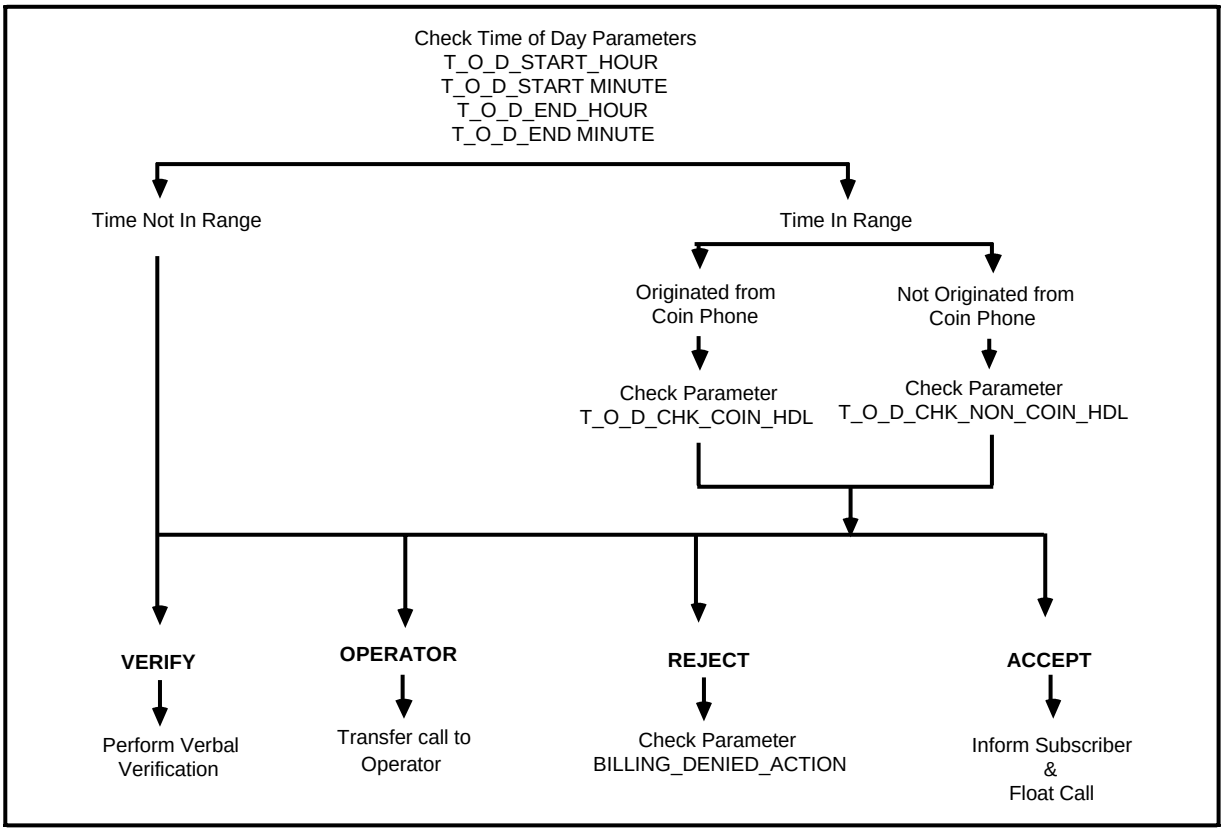
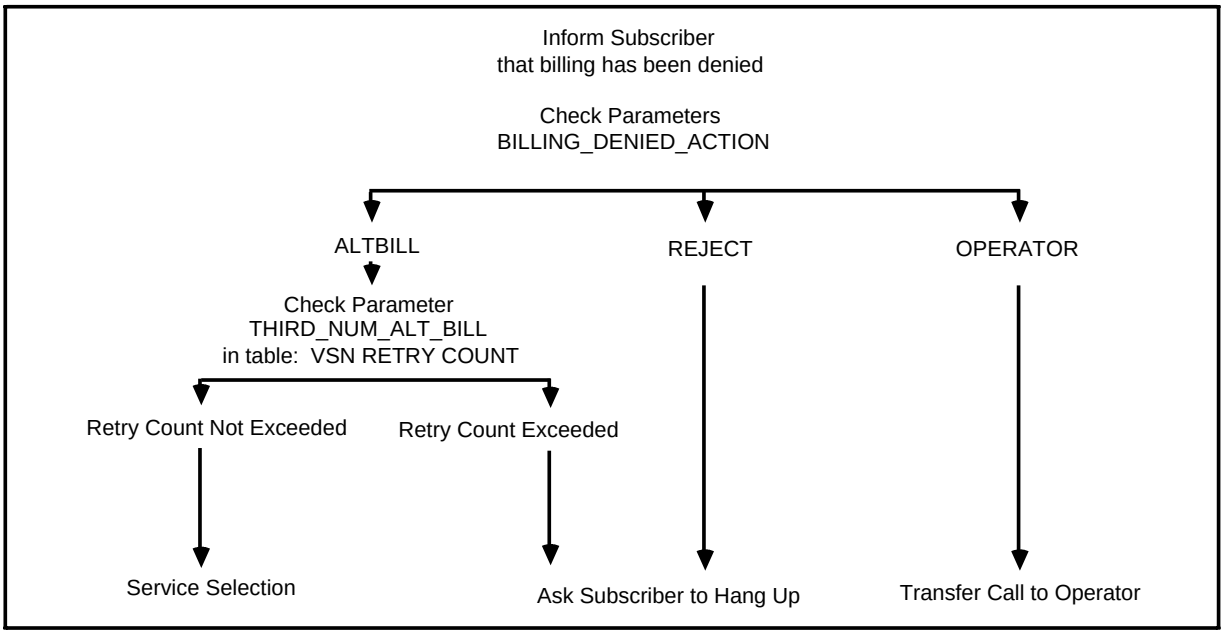


Figure 4-9
Billing_denied_action parameter interaction



OM report class tables

Operational measurement (OM) reports are defined by parameters in OM report class tables. There is one predefined OM report class for TOPS VSN. Its name is MMI_CLASS and it comprises the following TOPS VSN OM groups:

(a) Service Group

(b) 3rdnum Group

(c) Namercd Group

(d) Billacc Group

Default report class parameters have been created for TOPS VSN which provide the operating company with summary reports, in addition to the standard basic and total reports. Summary reports, which report percentages based on the relative values of two registers, rely on these predefined parameters to operate properly.

It is not possible to make any changes to the TOPS VSN report class. It is however possible for the operating company to inspect the parameters which define the OM reports they receive.

Accessing the report class table

Report class tables are accessed by selecting the Tables option from the main menu. Use the commands and softkeys available by way of the table editor (discussed under the heading Tables) to navigate. Figure 4-10 illustrates the screen interaction used to view the parameters which define the OM report class.

(1) From the List_of_Tables screen, find, then select the MMI_CLASS option, then press <Select>.

==> The report class parameters are displayed.

(2) To view the OM groups which comprise the report class press <More Details>.

(3) To view the OM resgisters which comprise the report class group selected, press <More Details>.

OM report class fields

At the OM Report Class screen the user may only view the definition of an existing table. The definition are provided for information only. The fields that appear on-screen are defined below; the field values have been fixed by NT and cannot be changed.

(a) **Name.** Identifies the OM Report name. This value must be unique among all other reports in the current table.

(b) **ENB.** Determines if the report is processed. If this value is Yes, the report is processed; if this value is No, the report is not processed.

(c) **Type.** Specifies the report type. There are three valid entry types:

Hist (for history)

Accu (for accumulation)

Hold (for holding)

(d) Freq. Specifies how often the report is generated. Report frequency may be one of the following:

Once

Hourly

Daily

Weekly

Mnthly (for monthly)

Hold (for holding type reports only; may be omitted).

(e) **Start-Time.** Specifies when the report starts. This field identifies the start date and time.

(f) **End-Time.** Specifies when the report ends. This field identifies the end date and time.

(1) ***Once*** reports do not have set a default value; they require both a start date and time, and an end date and time.

(2) ***Hourly*** reports start at 00 hour and 00 minutes of the hour if no start time is entered, and end at 00 minutes of the next hour if no end time is entered.

(3) ***Daily*** reports start at 00 hour and 00 minutes of the day if no start time is entered, and end at 00 hour and 00 minutes of the next day if no end time is entered. If only an hour value or a minute value is entered for the start time or the end time, then the remaining unentered values are set at 00.

(4) ***Weekly*** reports start at day 1, hour 00 and minute 00 if no start date or time is entered, and end at day 1, hour 00 and minute 00 of the next week if no end date and time is entered; day 1 is Monday and day 7 is Sunday. Any values for the start date and time, and the end date and time, that are entered are observed by the reporting system.

(5) ***Monthly*** reports start at day 1, hour 00 and minute 00 if no start date or time is entered, and end at day 1, hour 00 and minute 00 of the next month if no end date and time is entered; day 1 Monday and day 28, 29, 30, or 31 is the last day of the month as applicable.

(6) ***Hold*** reports do not set a default value; they continue until they are disabled.

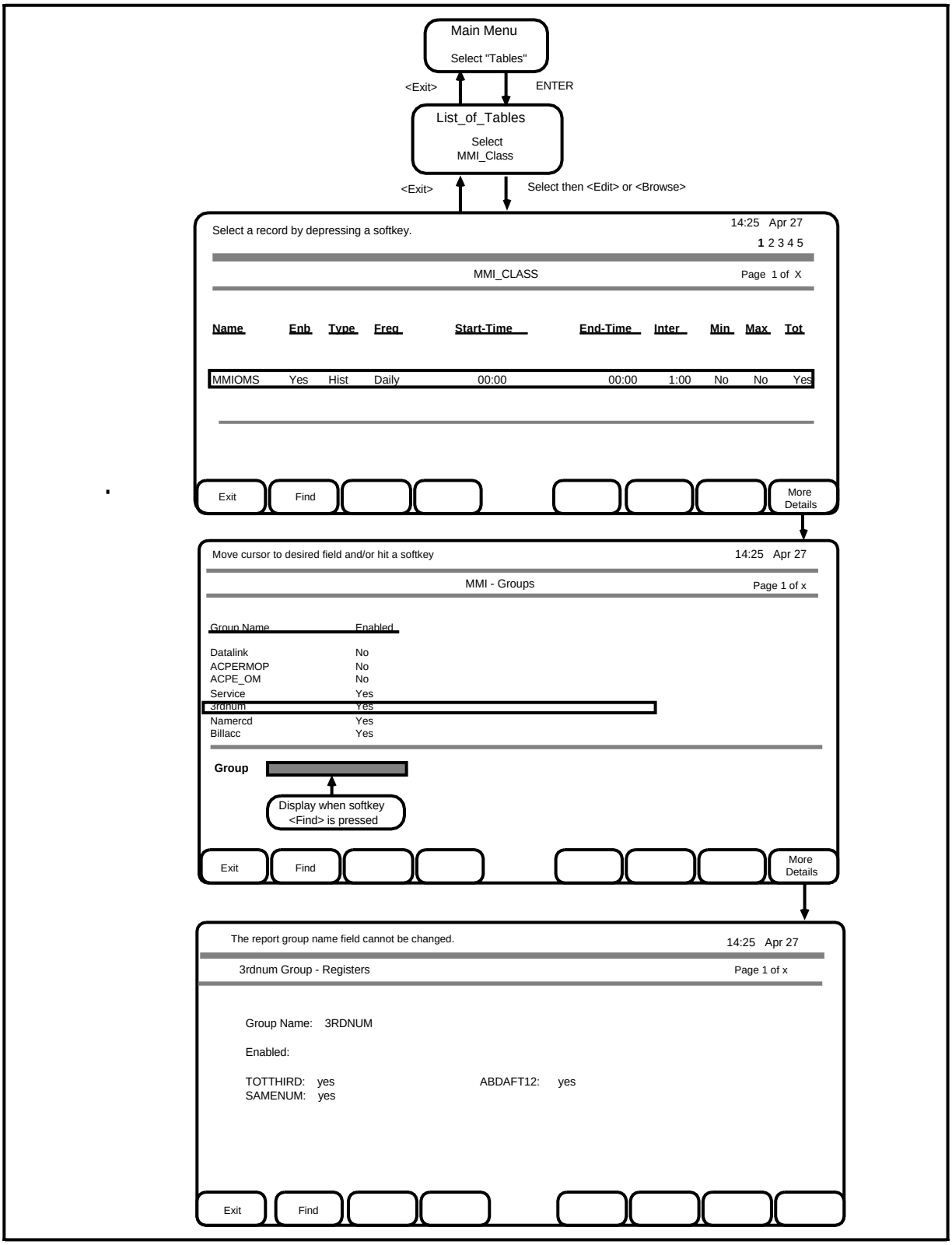
(g) **Inter.** Identifies the report interval, that is the collection duration of a history type report. This attribute is used for history type reports only and should be left blank if the report type is otherwise. The report interval for History reports is entered in the format hh:mm, where the specified interval must be shorter than the duration of the complete report.

(h) **Min.** Specifies, if enabled, that minimum figures are reported. The value "Yes" is entered to report minimum data, and the value "No" is entered to report all data.

(i) **Max**. Specifies, if enabled, that maximum figures are reported. The value "Yes" is entered to report maximum data, and the value "No" is entered to report all data.

(j) **Tot.** Specifies, if enabled, that total figures will be reported. The value "Yes" is entered to report total data, and the value "No" is entered if total data is not to be reported.

Figure 4-10
OM report class interactions



Report class - groups

The primary function of the Report Class - Groups screen is to display the OM groups that comprise the OM report class. In the case of MMI Class OM class, four OM groups belong to this class. When a group is highlighted and the <More Details> softkey is pressed again, the Group - Registers screen is displayed. This screen displays the parameters of the highlighted group that are enabled for the purposes of the OM report. When disabled, the groups and registers are not printed as part of the report.

Report class - group fields

The following fields are displayed on the Report Class - Group screen:

(a) **Group Name.** Identifies the name of the report group.

(b) **Enabled.** Specifies whether a group is included in the report class. The display indicates as "Yes" or "No".

(c) **Group Name** (prompt). This search field appears only after the <Find> softkey is pressed.

Group - registers screen

The Report Group - Registers screen is used to view the registers which belong to group highlighted on the previous screen. Beside each register is a yes or no which specifies whether the register is enabled or not.

(a) **Register Name.** Identifies the name of the report group register.

(b) **Enabled.** Specifies whether a register is included in the report class group. The display indicates as "Yes" or "No".

(c) **Register Name** (prompt). This search field appears only after the <Find> softkey is pressed.

5. Maintenance

The following TOPS VSN maintenance options are listed on the main menu:

- Logs
- Alarms
- Printer Queues
- T1 Maintenance
- VI Maintenance
- Prompt Manager (see Chapter 6)

Logs, alarms & printer queues

The logs, alarms and printer queues options are all features of the base software and are described in 450-1011-301.

Logs and alarms are also discussed in 450-1011-511 and 450-1301-511.

T1 maintenance

The T1 Maintenance allows the user to maintain the T1 Links that extend between the TOPS VSN and the DMS switch. Maintenance tasks include:

(a) monitoring the real-time state of the link and its associated channels

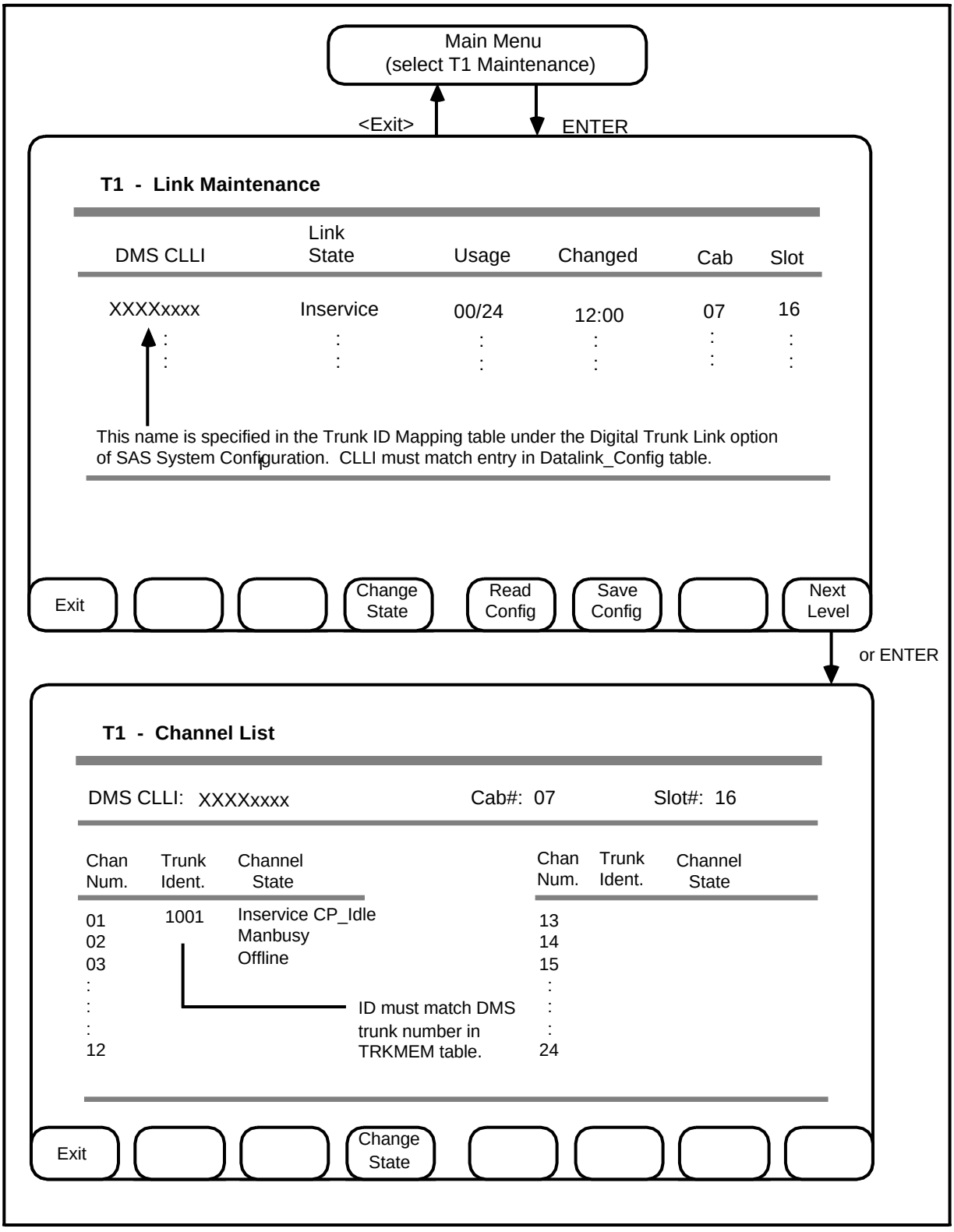
(b) changing the state of a link or its associated channels

(c) reading default configuration data into the T1 Maintenance screen from T1 SRU configuration data (stored under Digital Trunk Link configuration service in SAS)

(d) saving new configuration data on the T1 Maintenance screen as T1 SRU configuration data (stored under Digital Trunk Link configuration service in SAS)

Note Default T1 configuration data is provided for TOPS VSN and can be viewed using the Digital Trunk Link configuration service in SAS. Normally, any changes to the run time states of the T1 channels or links made by way of T1 Maintenance are permanent and do not survive system reboots. However, the <Save Config.> is used to make such changes permanent. The <Read Config.> is used to restore link and channel states to their default values.

Figure 5-1
Monitoring the state of T1 links and channels



Access

To display the first screen of T1 maintenance, follow this procedure:

(1) Select the T1 Maintenance option on the TOPS VSN main menu, then press ENTER.

==> The Link Maintenance screen is displayed. Screen interaction possibilities from this screen are shown in Figures 5-1, 5-2, and 5-3.

From this screen, the user may monitor or change the state of a link, read in T1 shared resource unit (SRU) configuration data to reinitialize the link or save parameters changed on this screen as new configuration data. The user may also access the channel level of a particular T1 link.

Monitoring the state of a T1 link

The state of the any T1 link is monitored from the T1 - Link Maintenance screen. The T1 link maintenance screen as shown in figure 5-1 may display one of many states for each link. The list that follows identifies (on the left) and defines (on the right) the link state possibilities.

Offline	Indicates that the link has been taken out of service but not removed from the system map. This state masks all SRU state changes and prevents SRU-related log and alarm messages from being generated.
Manbusy	Indicates that the link has been manually busied to prevent traffic on the link.
Standby Busied Out *	Indicates that the link is configured as a standby and is ready to take over in case of a link failure. In this state, the link is busied to prevent traffic on the link.
Standby In Service*	Indicates that the link is configured as a standby, is in service, and is ready to handle traffic.
In Service	Indicates that the link is in service and is ready to handle traffic.
Unknown	Indicates that the link is currently in an unknown state. This is an error condition and all T1 log information should be recorded and reported to NT service personnel.
... Pending	Indicates that the link is in a transitional state. It is currently handling traffic, but when all calls are completed, the link will move into the requested state. Possible pending states are: offline pending, manbusy pending, and standby pending.

* Not available in the current release.

Not Configured	Indicates that the link (or trunk) configuration data for this T1 SRU could not be located or read from the system administration file. This state may be displayed when a new T1 SRU has been added to the system map without adding configuration data. Specify trunk ID mapping parameters configured from the Digital Trunk Link option on SAS menu.
Initializing	Indicates that T1 software is making a query to the T1 SRU and does not know the link state at present.
System Busy	Indicates a T1 line failure. The link can not handle traffic. See T1 log reports.

The following list also identifies and defines link state possibilities. The SRU state controls the state of the link and its associated channels.

SRU Preload	Indicates that the T1 SRU is in a preload state.
SRU Loading	Indicates that the T1 SRU is in loading state.
SRU Working	This state is transparent. When the SRU is in a working state, a link state (previous page) is displayed.
SRU Testing	Indicates that the T1 SRU is being tested.
SRU Faulty	Indicates that the T1 SRU is faulty.
SRU Down	Indicates that the T1 SRU is down.
SRU Defined	Indicates that the T1 SRU is in a defined state specified in the system map. Defined state SRUs are removed from the T1 Maintenance display list. If this state persists, it indicates an error condition. If this happens, record all T1 log data and report the problem to NT.
SRU Unloading	Indicates that the T1 SRU is unloading.

System enforced link and channel state rules

The following link and channel state rules are enforced by the system:

(a) For a link to be in service, at least one channel must be in service to handle calls.

(b) For a link to be manbusy, there must be no channels in service and at least one channel must be manbusy. Manbusy is used to control traffic to the VSN. If a link is manbusy, the TOPS VSN can not accept calls over that link. If a channel state is manbusy, that channel can not accept calls.

(c) For a link to be offline, all channels must be offline. Offline is used for installation and servicing purposes because offline links can not generate logs or alarms.

Monitoring the state of T1 channels

The Channel List screen is used to monitor the real-time state of link channels. To access the T1 - Channel List screen perform the following procedures:

(1) Select the T1 Maintenance option from the TOPS VSN main menu.

==> The T1 Link Maintenance screen is displayed.

(2) Highlight a link option from the T1 Link Maintenance screen.

(3) Press <Next Level> or ENTER.

==> The channels for the selected link are displayed on the Channel List screen shown in figure 5-1. The list which follows identifies (on the right) and defines (on the left) the channel state possibilities.

System Busy	Indicates a T1 line failure. The link can not handle traffic. See T1 log reports.
Offline	Indicates that the channel has been taken out of service and does not track any signalling changes on the trunk.
Manbusy	Indicates that the channel has been manually busied to prevent traffic on the link.
In Service CP_Idle	Indicates that the channel is in service but not currently handling a call.
In Service CP_Busy	Indicates that the channel is in service and is currently handling a call.
Answer CP_Idle	Indicates that the DMS has gone off- hook and the TOPS VSN has gone off- hook in response. No call is in progress. (Used for testing only.)
Answer CP_Busy	Indicates that the DMS has gone off-hook and the TOPS VSN has gone off-hook in response. A call is in progress. (Used for testing only.)
...Pending	Indicates that the channel is waiting until the current call is complete before initiating the pending action.
Remote Answer	Indicates that the channel from the TOPS VSN side has gone off-hook and the DMS responds with an off-hook.
Remote Seized	Indicates that the DMS has gone off-hook without the TOPS VSN responding with an off-hook. This condition is cleared by making the DMS go on-hook.
Seize Failure	Indicates that the channel from the TOPS VSN side has gone off-hook but the DMS has already gone off-hook. This is an error condition called a seize failure.
Trunk Failure	Indicates that the T1 call processing configuration for this trunk has not been set to the current start type. For TOPS VSN the trunk start type must be set to immediate. This state occurs when the trunk start type is wink or delay dialing and an attempt is made to manbusy the channel.

Standby*	Indicates that the channel is in a busied state. If a link state is standby busied out, then all channels serviced by the link display a standby state. If the link state is standby in service, then the channels it services are set to match the state of the channels of the failed link immediately prior to the failure.
Unknown	Indicates that the state of the channel is currently unknown. Change state (force) moves the channel to a known state.
Not Configured	Indicates that the link (or trunk) configuration data for this T1 SRU could not be located or read from the system administration file. This state may be displayed when a new T1 SRU has been added to the system map without adding configuration data. Specify trunk ID mapping parameters configured from the Digital Trunk Link option on SAS menu.
Initializing...	Indicates that T1 software is making a query to the T1 SRU and does not know the link state at present.

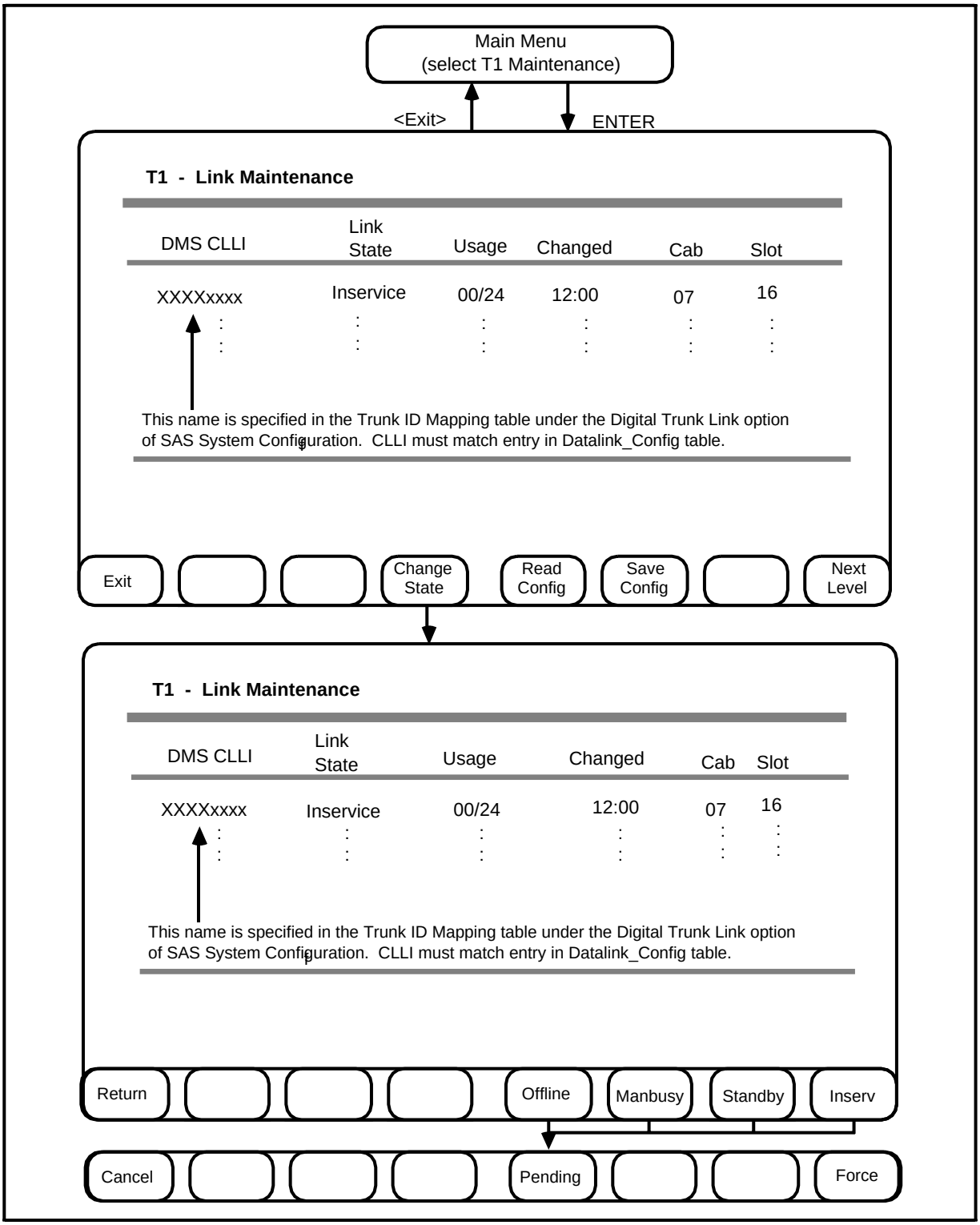
Interpreting usage and changed fields

The usage indicator on the T1 Maintenance screen displays the ratio of active calls to available channels on a T1 link. The first number is a count of Inservice CP_Busy and Answer CP_Busy channels. The second number is a count of all Inservice and Asnwer state channels.

The Changed indicator on the T1 Maintenance screen displays the time of the last activity change for the T1 link.

* Not available in this release.

Figure 5-2
Changing the T1 link states



Changing the state of a T1 link

The user may change the state of a link from its current state to offline, manbusy, standby, or in service. Screen interactions for changing the state of a T1 link are shown in figure 5-2.

To access the T1 Link Maintenance screen, and then change the state of a link, follow this procedure:

(1) Select the T1 Maintenance option from the TOPS VSN main menu.

==> The T1 Link Maintenance screen is displayed.

(2) Highlight a link option from the T1 Link Maintenance screen.

(3) Press <Change State>.

==> A new set of softkeys is displayed. These are <Offline>, <Manbusy>, and <In Service>. (The <Standby> softkey is not operational in phase 1.)

(4) Press the softkey that represents the state change required. (See Montioring the State of a T1 Link, for link state definitions.)

==> A new set of softkeys is displayed. These are <Offline Pending>, and <Force Offline> when <Offline> is pressed; <Manbusy Pending>, and <Force Manbusy> when <Manbusy> is pressed, and <Idle Pending>, and <Force Idle> when <In Service> is pressed.

(5) To make the state change effective

(a) after all calls currently in progress are complete, press <... Pending>.

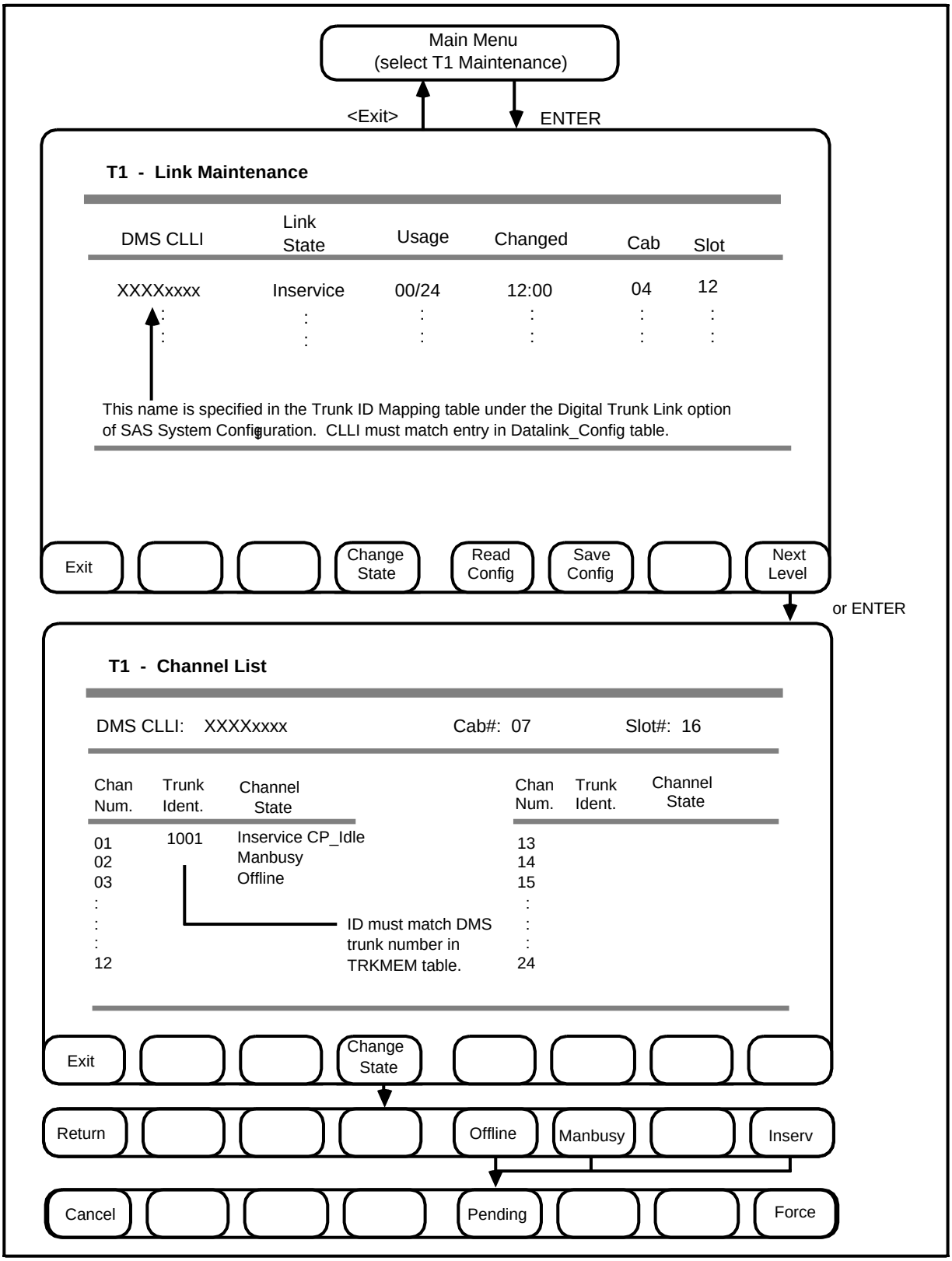
==> All calls are completed before the link state is changed.

(b) immediately, press <Force ...>.

==> All calls in progress are terminated and the link state is changed immediately.

When a link or channel state is SRU testing, SRU faulty, SRU down, then the request to put the link in manbusy, standby or in service causes the SRU to reboot before entering the selected state. However, if the SRU is already working, the SRU does not have to reboot before changing to the requested state.

Figure 5-3
Changing the T1 channels states



Changing the state of a T1 channel

The state of each channel may be changed from its current value to one of the following: manbusy, offline, or in service. To change the state of a channel perform the following procedures:

(1) Select the T1 Maintenance option from the TOPS VSN main menu.

==> The T1 Link Maintenance screen is displayed.

(2) Highlight a link option from the T1 Link Maintenance screen.

(3) Press <Next Level> or ENTER.

==> The channels for the selected link are displayed on the T1 Channel List screen shown in figure 5-2.

(4) Highlight a channel option, then press <Change State>.

==> A new set of softkeys is displayed. These are <Offline> <Manbusy>, and <In Service>. (The <Standby> softkey is not operational in Phase 1.)

(5) Press the softkey that represents the state change required. (See Montioring the the State of a T1 Channel for channel state definitions.

==> A new set of softkeys is displayed. These are <Offline Pending>, and <Force Offline> when <Offline> is pressed; <Manbusy Pending>, and <Force Manbusy> when <Manbusy> is pressed, and <Idle Pending>, and <Force Idle> when <In Service> is pressed.

(6) To make the state change effective

(a) after all calls currently in progress are complete, press <... Pending>.

==> All calls are completed before the channel state is changed.

(b) immediately, press <Force ...>.

==> All calls in progress are terminated and the channel state is changed immediately.

Updating the link state with T1 configuration data

In some cases it may be necessary or desirable to reinitialize the state of the T1 links to their default states. The user may reinitialize the state of T1 links with the values saved in the Trunk ID Mapping screen of the T1 configuration table.

To update the current state of a link and all its channels, follow this procedure:

(1) Select the T1 Maintenance option from the TOPS VSN main menu.

==> The T1 Maintenance screen is displayed.

(2) Press <Read Config>.

==> The current link and channel states change to the values saved in the T1 configuration table. The screen displays these changes when all calls are completed.

Updating T1 configuration with the current state data

In some cases it may be necessary or desirable to update the data saved in the T1 configuration tables with the state values currently displayed on screen. To update the T1 configuration data with the data displayed on screen,

(1) Select the T1 Maintenance option from the TOPS VSN main menu.

==> The T1 Maintenance screen is displayed.

(2) Press <Save Config>.

==> The link and channel states saved in the T1 configuration table are changed to the values displayed on the screen. A message indicates that the update has been made.

VI maintenance

The Voice Interface (VI) Maintenance allows the operating company user to maintain the VI SRU and its six associated voice channels. Maintenance tasks include:

(a) monitoring the real-time state of the VI SRU and its associated channels

(b) changing the state of a VI SRU and its associated channels

(c) running tests on the VI SRU and on each of the SRU's single board components

Access

To display the first screen of VI maintenance, follow this procedure:

(1) Highlight the VI Maintenance option on the TOPS VSN main menu, then press ENTER.

==> The VI SRU State Display screen is displayed. Screen interactions for this are shown in figure 5-4.

From this screen, the user may monitor and change the state of VI SRU, or test the SRU hardware and software. The user may also access the channel level for a particular VI SRU.

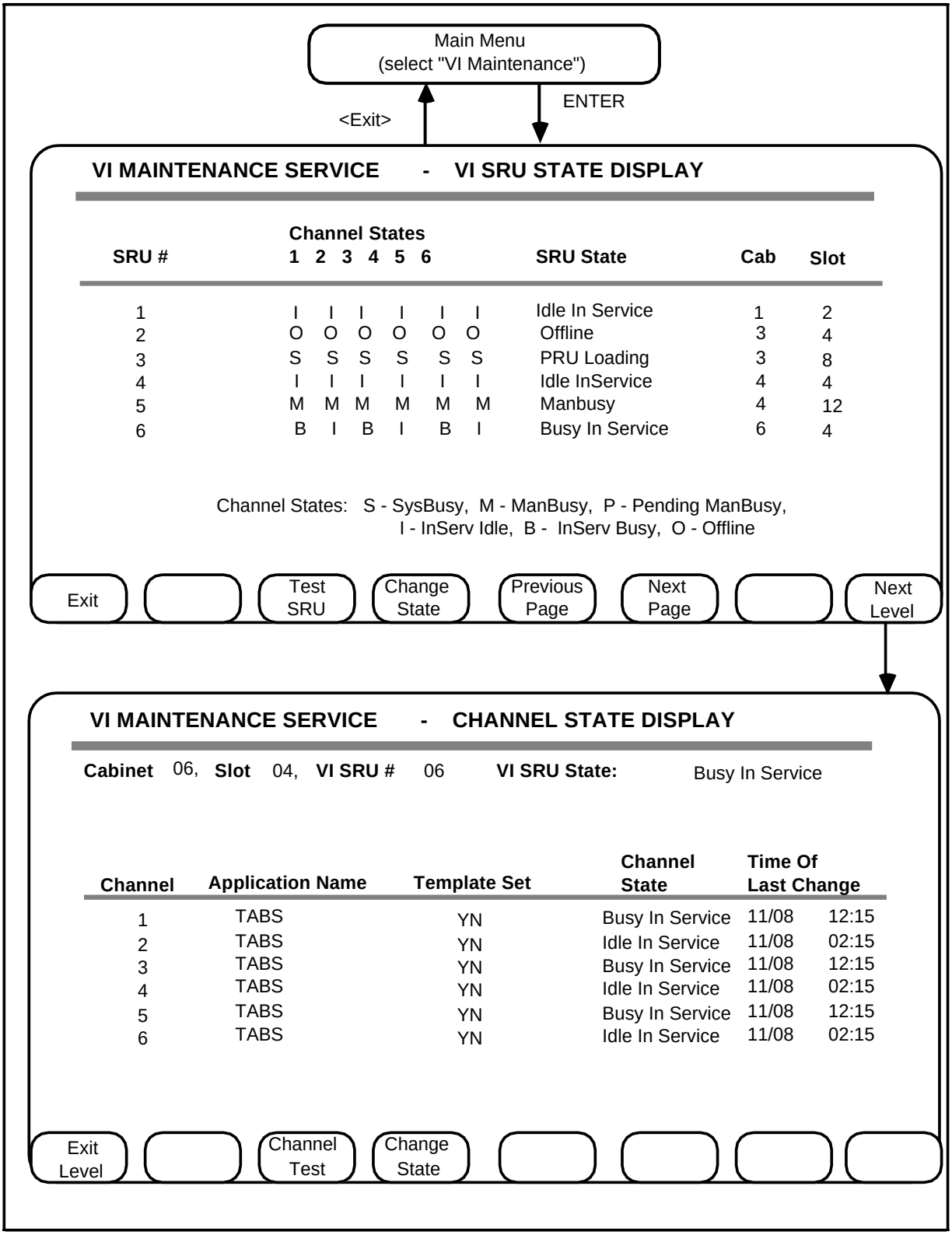
Monitoring the state of a VI SRU

The state of the any VI SRU is monitored from the VI SRU State Display screen. The list that follows identifies (on the right) and defines (on the left) VI SRU state possibilities:

Offline	Indicates that the SRU has been taken out of service but not removed from the system map.
Manbusy	Indicates that the SRU has been manually busied to prevent traffic from being handled by the SRU.
Idle In Service	Indicates that the SRU is in service and ready to handle traffic, but is currently not being used.
Busy In Service	Indicates that the SRU is in service, ready to handle traffic, and currently in use.
Pending...	Indicates that the SRU is in a transitional state but still handling traffic. When all calls are completed, it will move into the requested state. Pending states are: pending offline, and pending manbusy.

System Busy	System Busy indicates the state of the channel on the SRU State Display screen when there is a VI failure, and the SRU can not handle traffic. The following system busy states can be specified:
No Board Present	Indicates that there is a problem with one or more hardware cards. The problem may that the card is faulty or that the card is not seated properly in the SRU.
No Code Loaded	Indicates that there is no software loaded in the selected cards. The PRU must be rebooted.
Faulty	Indicates that the SRU is not working and that the fault has been detected by diagnostic testing or by an interacting application.
SRU/PRU Preload	Indicates that the VI SRU or PRU is in a preload state.
SRU/PRU Loading	Indicates that the VI SRU or PRU is in a loading state.
SRU/PRU Working	This state is transparent. When the SRU and PRU are in a working state, a channel state is displayed.
SRU/PRU Faulty	Indicates that the VI SRU or PRU is faulty.
SRU/PRU Down	Indicates that the VI SRU or PRU is down.
SRU Waiting	Indicates that the VI SRU is up, but the PRU has not started loading.
PRU Waiting	Indicates that the VI SRU and PRU are up, but the channels have not been polled to check their state.

Figure 5-4
Monitoring the state of VI SRUs and channels



System enforced VI SRU and channel state rules

The SRU state is taken from the state of individual channel states. The following rules determine the SRU state:

(a) If any channel is Busy In Service, the SRU state is Busy In Service.

(b) If a channel is not Busy In Service, then the SRU state takes on the state of the channel which is considered most active. The following hierarchy is used: Idle In Service, Pending Manbusy, Manbusy, Pending Offline, Offline, or Faulty. For example, if five channels were Pending Manbusy and one channel was Idle In Service, then the state of the VI SRU would be Idle In Service.

(c) If a channel is Manbusy or Offline, the SRU does not have to be Manbusy, but the TOPS VSN can not handle calls through that channel.

(d) If all channels are system busy, the VI SRU state reflects the state of the first channel. For example, if all channels are system busy because the SRU is loading, then the SRU state is SRU Loading.

Monitoring the state of VI channels

The Channel State Display screen is used to monitor the real-time state of VI channels. To access the VI State Display screen perform the following procedures:

(1) Select the VI Maintenance option from the TOPS VSN main menu.

==> The VI SRU State Display screen is displayed.

(2) Highlight an SRU option from the VI SRU State Display screen.

(3) Press <Next Level>.

==> The channels for the selected SRU are displayed on the Channel State Display screen shown in figure 5-4. The list which follows identifies (on the right) and defines (on the left) the channel state possibilities.

Offline	Indicates that the channel has been taken out of service but not removed from the system map.
Manbusy	Indicates that the channel has been manually busied to prevent traffic from being handled by the channel.
Idle In Service	Indicates that the channel is in service and ready to handle traffic, but is currently not being used.
Busy In Service	Indicates that the channel is in service, ready to handle traffic, and currently in use.
Faulty	Indicates that the channel is not working and that the fault has been detected by diagnostic testing or by an interacting application.
Pending...	Indicates that the channel is in a transitional state. It is currently handling traffic, but when all calls are completed, it will move into the requested state. Possible pending states are: Pending Offline, and Pending Manbusy.

System Busy	System Busy indicates the state of the channel on the SRU State Display screen when there is a VI failure, and the SRU can not handle traffic. The following system busy states are specified at the channel display level:
No Board Present	Indicates that there is a problem with one or more hardware cards. The problem may that the card is faulty or that the card is not seated properly in the SRU.
No Code Loaded	Indicates that there is no software loaded in the selected cards. The PRU must be rebooted.
Faulty	Indicates that the SRU is not working and that the fault has been detected by diagnostic testing or by an interacting application.
SRU/PRU Preload	Indicates that the VI SRU or PRU is in a preload state.
SRU/PRU Loading	Indicates that the VI SRU or PRU is in loading state.
SRU/PRU Working	This state is transparent. When the SRU and PRU are in a working state, a channel state is displayed.
SRU/PRU Faulty	Indicates that the VI SRU or PRU is faulty.
SRU/PRU Down	Indicates that the VI SRU or PRU is down.
SRU Waiting	Indicates that the VI SRU is up, but PRU has not started loading.
PRU Waiting	Indicates that the VI SRU and PRU are up, but the channels have not been polled yet to check their state.

Changing the state of a VI SRU

It is sometimes necessary to change the state of a VI SRU. The following list identifies the circumstances under which the state of a VI SRU would be changed:

(a) when replacing a VI SRU

(b) when upgrading the VI single board computer (VISBC) PRU running in the VI SRU

(c) when testing the components of a VI SRU

(d) when removing from service a VI SRU exhibiting a problem

The user may change the state of an SRU from its current state to offline, manbusy, or in service. Screen interactions for changing the state of a VI SRU are shown in figure 5-5.

To access the VI SRU State Display screen, and then change the state of an SRU, follow this procedure:

(1) Select the VI Maintenance option from the TOPS VSN main menu.

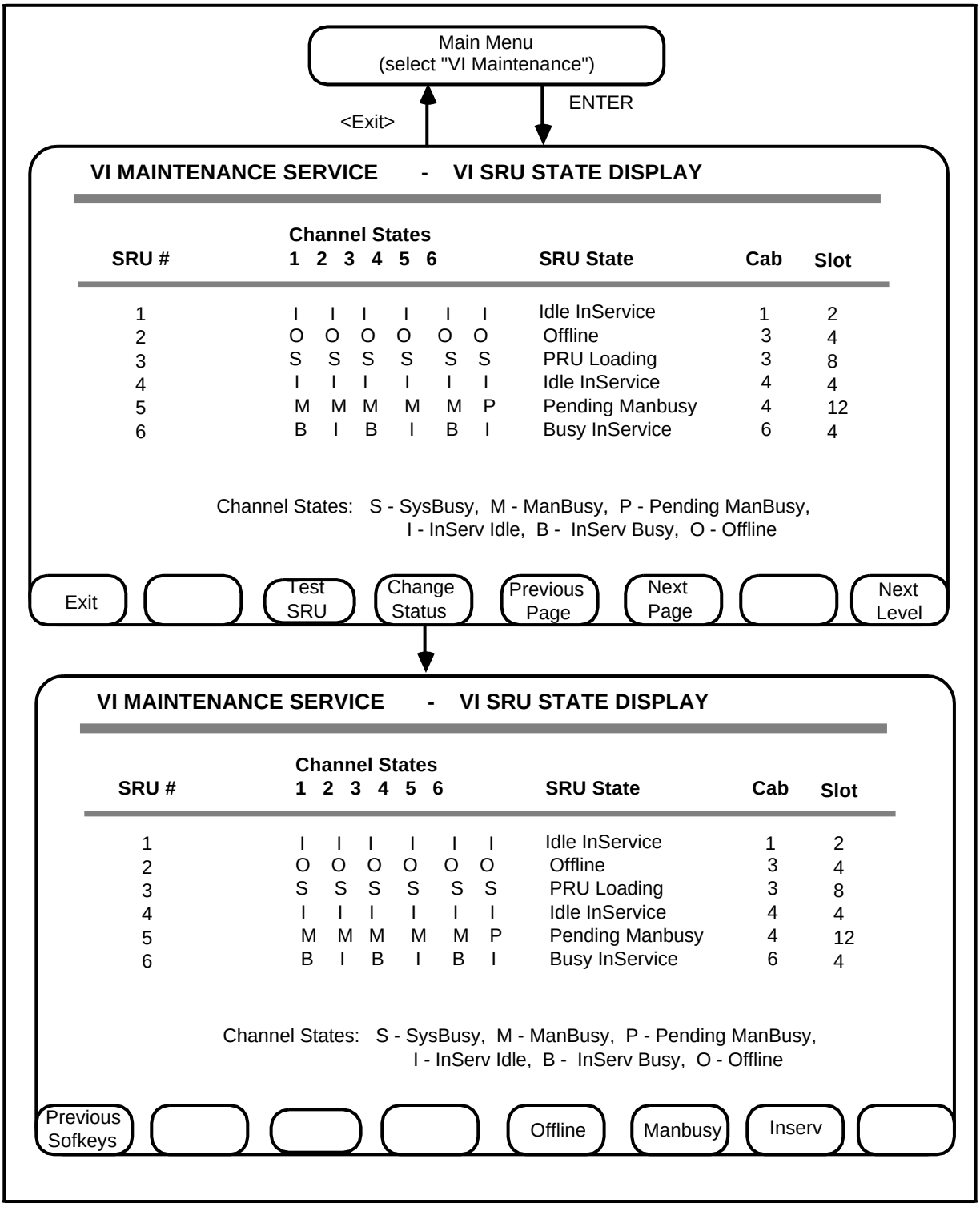
==> The VI SRU State Display screen is displayed.

(2) Highlight an SRU option from the VI SRU State Display screen.

(3) Press <Change State>.

==> A new set of softkeys is displayed. These are <Previous Softkeys>, <Offline>, <Manbusy>, and <In Service>.

Figure 5-5
Screen interactions for changing the state of a VI SRU



(4) Press the softkey that represents the state change required. A description of the result of pressing any of the available softkeys follows: (Note that the change may take few seconds.)

Offline	This softkey is used before a VI SRU or VISBC PRU is rebooted. When pressed, all calls currently in-progress are completed, but new calls are not allocated SRU resources.
Manbusy	This softkey is used to put the VI SRU in state necessary for testing. When pressed, all calls currently in-progress are completed, but new calls are not allocated SRU resources. This state allows the SRU to interact with testing applications.
Inservice	This softkey is used to return the channels of a VI SRU to active service following a successful test. When pressed, all SRU channels are placed in an idle in service state. If any channels are in a pending state, this softkey command is not executed.
Previous Softkeys	This softkey is used to redisplay the previous screen at any time.

Changing the state of a VI channel

The state of each channel may be changed from its current value to one of the following: manbusy, offline, or in service. To change the state of a channel perform the following procedures:

(1) Select the VI Maintenance option from the TOPS VSN main menu.

==> The VI SRU State Display screen is displayed.

(2) Highlight an SRU option from the VI SRU State Display screen.

(3) Press <Next Level> or ENTER.

==> The channels for the selected SRU are displayed on the Channel State Display screen as shown in figure 5-6.

(4) Highlight a channel option, then press <Change State>.

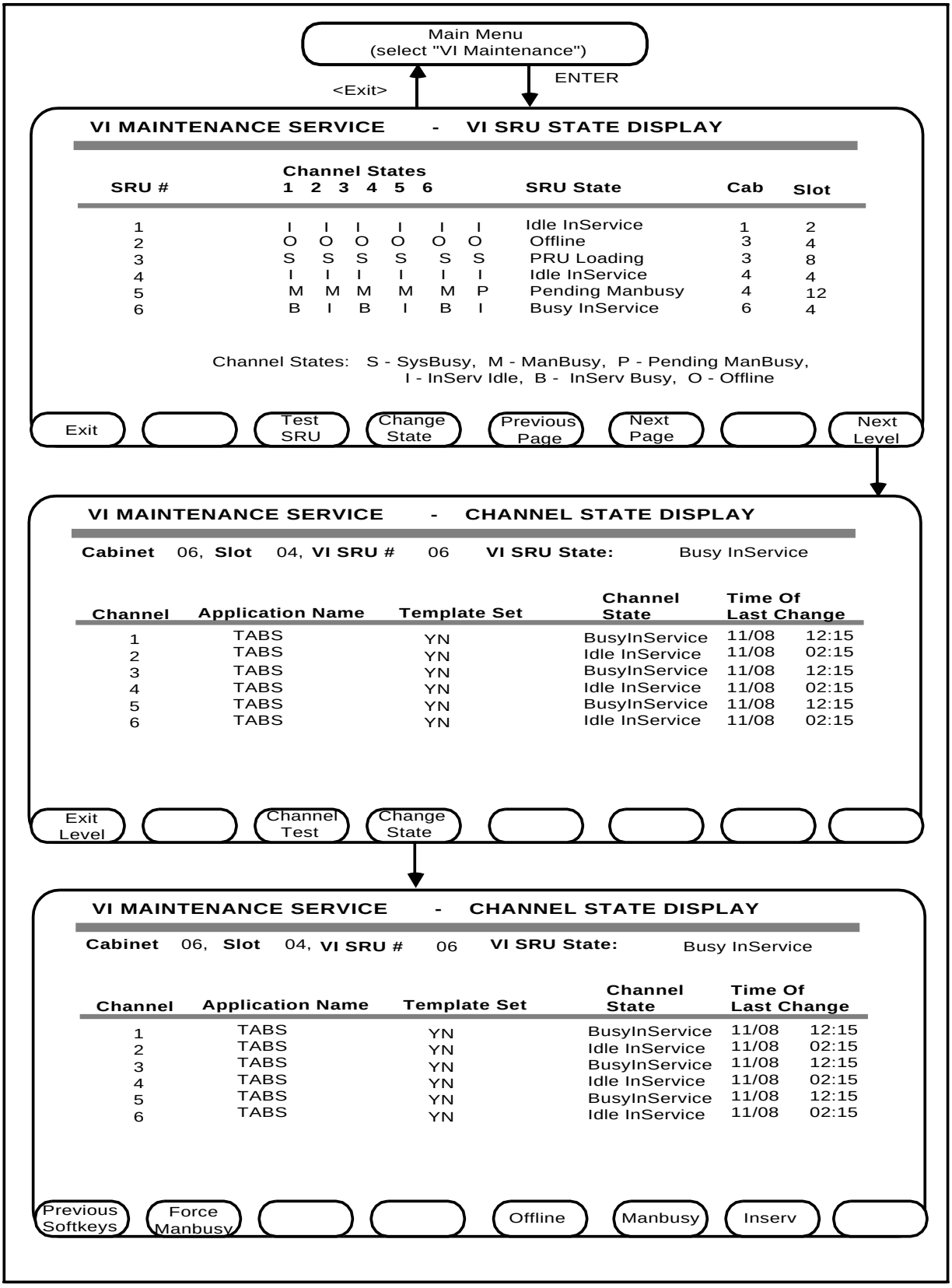
==> The previous set of softkeys is displayed. They are <Previous Softkeys>, <Offline>, <Manbusy> and <In Service>.

(5) Press the softkey that represents the state change required. A description of the result of pressing any of the available softkeys follows: (Note that the change make take a few seconds.)

Offline	This softkey is used to take a channel that has been operating abnormally, out of service When pressed, the current call is completed, but new calls are not allocated this channel.
Manbusy	This softkey is used to put a VI channel in state necessary for testing. When pressed, the current call is completed, but new calls are not allocated this channel. This state allows the channel to interact with testing applications.

Inserv	This softkey is used to return the VI channel to active service following a successful test. When pressed,the channel is placed in an idle in service state. If any channel is in a pending state, this softkey command is not executed.
Previous Softkeys	This softkey is used to redisplay the previous screen at any time.

Figure 5-6
Changing the state of a VI channel



Testing a VI SRU

The user may test a VI SRU using one to five tests. Testing can only take place when the SRU is in a manbusy state. If a faulty is detected, the SRU state is changed to faulty. Screen interactions for testing a VI SRU are shown in figure 5-7.

To acces the VI SRU Test Display screen, and then test the SRU, follow this procedure:

(1) Select the VI Maintenance option from the TOPS VSN main menu.

==> The VI SRU State Display screen is displayed.

(2) Highlight an SRU option from the VI SRU State Display screen.

(3) Press <Change State>.

==> A new set of softkey options available.

(4) Press <Manbusy>.

==> All VI channels that are not in use change to a manbusy state. All VI channels currently in use change to pending manbusy, and when the calls are complete, change to manbusy.

(5) When the SRU state of the selected SRU is manbusy, press <Previous Softkeys>.

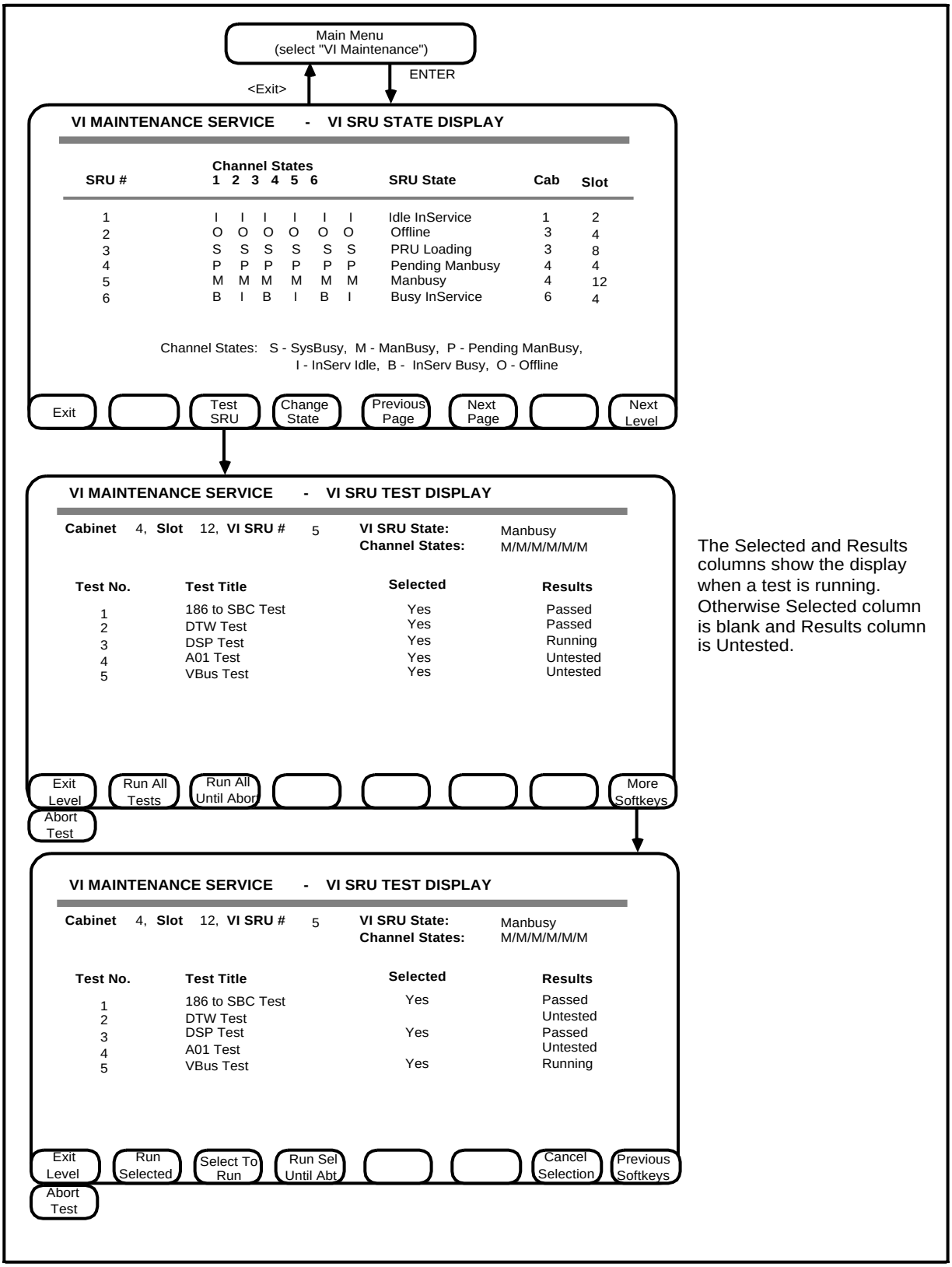
==> The original VI SRU State Display screen is displayed.

(6) Verify that the required SRU is selected, then press <Test SRU>.

==> The VI SRU Test Display screen is displayed. The number, location and state of the SRU selected is displayed at the top of the screen. The central part of the screen displays the test types available. At the botton of the screen the following softkey options are identified: <Exit>, <Run All Tests>, <Run All Until Abt> and <More Softkeys>.

At this point the tester must make two choices. The first choice is between running all five tests or running only some of the tests. The second choice is between running the selected tests once or many times until the testing is manually aborted.

Figure 5-7
Testing a VI SRU



The Selected and Results columns show the display when a test is running. Otherwise Selected column is blank and Results column is Untested.

The following tests are available:

186 to SBC Test	Tests that the 80186 to SBC interface functions, and that the 186 and digital signal processor (DSP) memory is working. This test also downloads 186 and DSP executable code which in effect reboots the PRUs.
DTW Test	Tests that dynamic time warping (DTW) is working. This done by comparing an utterance to referenced utterances, and ensuring that the correct result is returned.
DSP Test	Tests communication with the 186 and the DSP, and then verifies the result.
A01 Test	Tests that the DVS voice bus interface chip (A01) can read and write data by way of the DSPs.
VBus Test	Tests that the DVS voice bus interface chip (A01) can read and write data between cards within an SRU by way of the DSPs.

Run all tests

All tests are run once at installation time and periodically after that to verify that all SRUs are working properly. Tests are run over a long period of time, if an intermittent error is suspected.

(1) To run the tests on the VI SRU

(a) once, press <Run All Tests>.

==> The <Abort Test> softkey is displayed. The column entitled "selected" on the VI SRU Test Display displays the word yes opposite each test. The "results" column displays the result of the test after it is finished.

(b) indefinitely, press <Run All Until Abort>.

==> The <Abort Test> softkey is displayed. All tests are selected. The testing cycle which begins with test 1 and ends with test 5, continues until the user manually intervenes. The result of each test is displayed on screen after it is finished. If all channels fail a test, then the testing cycle is terrminated. Possible test results are given below:

Untested	Means the test has not begun.
Running	Means the test is in progress.
Passed	Means the test has been completed and the SRU has passed the test.
Failed	Means the test has been completed and the SRU has failed the test.
Soft Fail	Means the test has been completed and the SRU has failed due to an internal problem. Contact NT.
Aborted	Means the test has been manually aborted.

(2) To stop the testing cycle or any test except , test 1, 186 to SBC Test, press <Abort Test>.

CAUTION

Never abort the first test, 186 to SBC Test, while it is running. The channel being tested will be left in an unusable state, and will have to be rebooted.

==> The test or testing cycle stops and the previous set of softkeys becomes available.

(3) Exit to the VI SRU State Display screen by pressing <Exit Level>.

Run select tests

The tester may chose to run only a few of the tests on an SRU. To do this begin at the VI SRU Test Display screen and follow the procedures given below:

(1) Press <More Softkeys>.

==> A new set of sotkeys is displayed. These are <Exit>, <Run Selected>, <Select To Run>, <Run Sel Until Abt>, <Cancel Selection> and <Previous Softkeys>.

(2) To select a test to run, highlight one test, then press <Select To Run>.

==> A yes is placed in the selected column opposite the test name.

(3) Select other tests by repeating step 2.

==> A yes is placed in the selected column opposite each selected test name.

(4) To cancel a test that is already selected, press <Cancel Selection>.

==> A blank replaces the yes in the selected column opposite the test name.

(5) To run selected tests on the VI SRU

(a) once, press <Run Selected>.

==> The <Abort Test> softkey is displayed. The "results" column displays the result of each selected test after it is finished.

(b) indefinitely, press <Run Sel Until Abt>.

==> The <Abort Test> softkey is displayed. The testing cycle which begins with the first selected test and ends with last selected test, continues until the user manually intervenes. The result of each test is displayed on screen after it is finished. If all channels fail a test, then the testing cycle is terrminated. Possible test results are given below:

Untested	Means the test has not begun.
Running	Means the test is in progress.
Passed	Means the test has been completed and the SRU has passed the test.
Failed	Means the test has been completed and the SRU has failed the test.
Soft Fail	Means the test has been completed and the SRU has failed due to an internal problem. Contact NT.
Aborted	Means the test has been manually aborted.

(6) To stop the testing cycle or any test except , test 1, 186 to SBC Test, press <Abort Test>.

CAUTION

Never abort the first test, 186 to SBC Test, while it is running. The channel being tested will be left in an unusable state, and this SRU will have to be rebooted.

==> The test or testing cycle stops and the previous set of softkeys becomes available.

(7) Exit to the VI SRU State Display screen by pressing <Exit >.

Testing a VI channel

The user may test a VI channel pair using one to four tests. Testing can only take place when the VI channel pair is in a manbusy state. If a fault is detected, the state of both channels is changed to faulty. Screen interactions for testing a VI channel pair are shown in figure 5-8.

To acces the VI SRU Board Test Display screen, and then test the channel pair, follow this procedure:

(1) Select the VI Maintenance option from the TOPS VSN main menu.

==> The VI SRU State Display screen is displayed.

(2) Highlight an SRU option from the VI SRU State Display screen.

(3) Press <Next Level>.

==> The VI Channel State Display screen is displayed.

(4) Highlight a channel option from the VI Channel State Display screen.

(5) Press <Change State>.

==> A new set of softkeys is displayed. These are <Previous Softkeys>, <Offline>, <Manbusy>, and <In Service>.

(6) Press <Manbusy>.

==> The selected VI channel is changed to a manbusy state when the current call is completed.

(7) Highlight the channel that is paired with the previously manbusied channel. The following channels are paired 1-2, 3-4, 5-6. (For example, if channel 3 was manbusied, highlight channel 4.)

(8) Press <Change State>.

==> A new set of softkeys is displayed. These are <Previous Softkeys>, <Offline>, <Manbusy>, and <In Service>.

(9) Press <Manbusy>.

==> The selected VI channel is changed to a manbusy state when the current call is completed.

(10) When the state of the selected channel pair is manbusy, press <Previous Softkeys>.

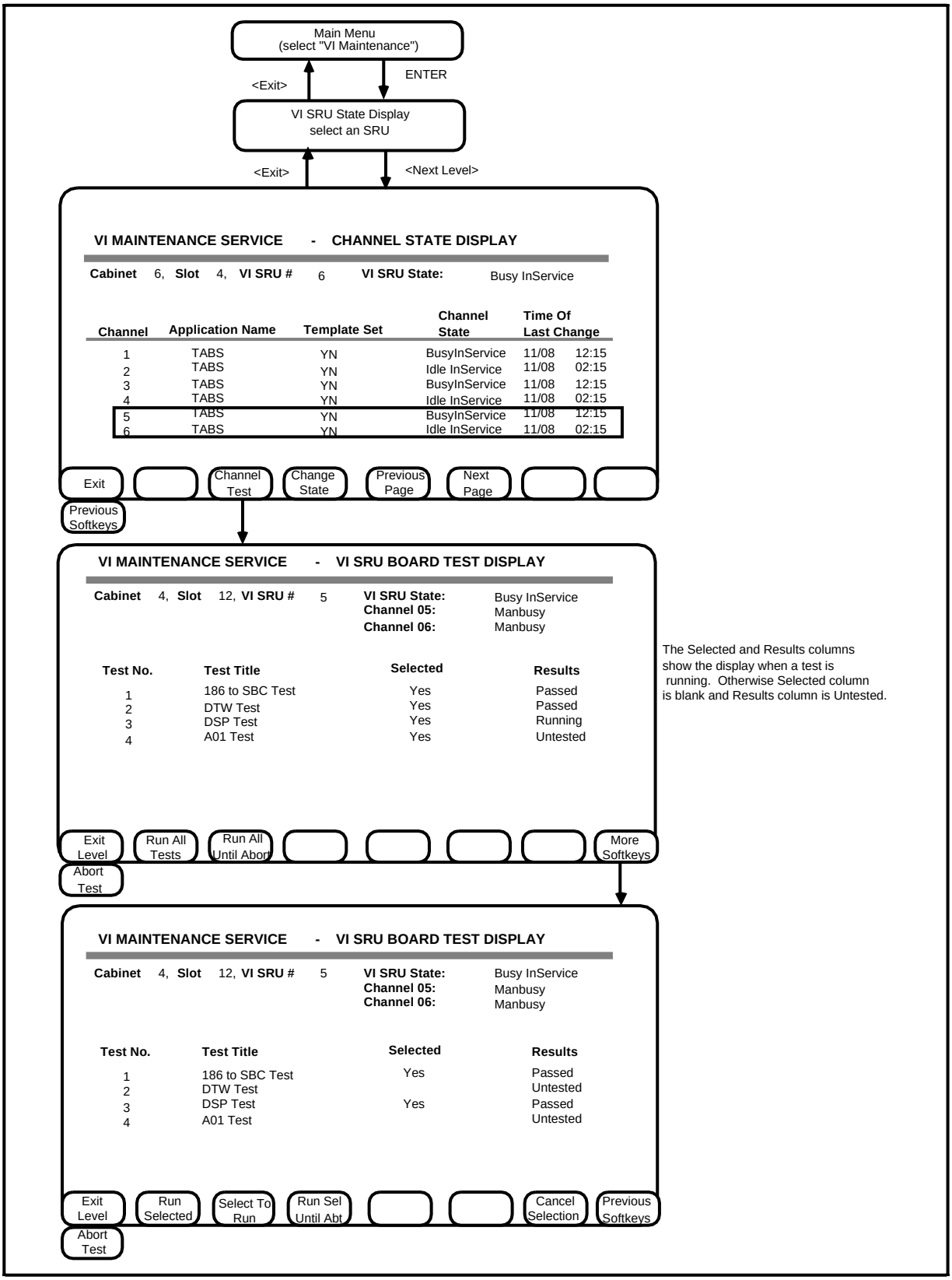
==> The original VI Channel State Display screen is displayed.

(11) Verify that the required channels are manbusy, then press <Channel Test>.

==> The VI SRU Board Test Display screen is displayed. The number, location and state of the SRU and channels selected is displayed at the top of the screen. The central part of the screen displays the test types available. At the botton of the screen the following softkey options are identified: <Exit>, <Run All Tests>, <Run All Until Abort> and <More Softkeys>.

At this point the tester must make two choices. The first choice is between running all four tests or running only some of the tests. The second choice is between running the selected tests once or many times until the testing is manually aborted.

Figure 5-8
Testing the VI SRU board channels



The following tests are available:

186 to SBC Test	Tests that the 80186 to SBC interface functions, and that the 186 and digital signal processor (DSP) memory is working. This test also downloads 186 and DSP executable code which in effect reboots the PRUs.
DTW Test	Tests that dynamic time warping (DTW) is working. This done by comparing an utterance to referenced utterances, and ensuring that the correct result is returned.
DSP Test	Tests communication with the 186 and the DSP, and then verifies the result.
A01 Test	Tests that the DVS voice bus interface chip (A01) can read and write data by way of the DSPs.

Run all tests

All tests are run once at installation time and periodically after that to verify that all channels, and specifically all SRU boards, are working properly. Tests are run over a long period of time, if an intermittent board error is suspected.

(1) To run the tests on a VI SRU board (channel pair)

(a) once, press <Run All Tests>.

==> The <Abort Test> softkey is displayed. The column entitled "selected" on the VI SRU Board Test Display displays the word yes opposite each test. The "results" column displays the result of the test after it is finished.

(b) indefinitely, press <Run All Until Abt>.

==> The <Abort Test> softkey is displayed. All tests are selected. The testing cycle which begins with test 1 and ends with test 4, continues until the user manually intervenes. The result of each test is displayed on screen after it is finished. If all channels fail a test, then the testing cycle is terrminated. Possible test results are given below:

Untested	Means the test has not begun.
Running	Means the test is in progress.
Passed	Means the test has been completed and the SRU has passed the test.
Failed	Means the test has been completed and the SRU has failed the test.
Soft Fail	Means the test has been completed and the SRU has failed due to an internal problem. Contact NT.
Aborted	Means the test has been manually aborted.

(2) To stop the testing cycle or any test except , test 1, 186 to SBC Test, press <Abort Test>.

CAUTION

Never abort the first test, 186 to SBC Test, while it is running. The channel being tested will be left in an unusable state, and this SRU will have to be rebooted.

==> The test or testing cycle stops and the previous set of softkeys becomes available.

(3) Exit to the VI Channel State Display screen by pressing <Exit Level>.

Run select tests

The tester may chose to run only a few tests on an SRU. To do this begin at the VI SRU Board Test Display screen and follow the procedures given below:

(1) Press <More Softkeys>.

==> A new set of sotkeys is displayed. These are <Exit>, <Run Selected>, <Select To Run>, <Run Sel Until Abt>, <Cancel Selection> and <Previous Softkeys>.

(2) To select a test to run, highlight one test, then press <Select To Run>.

==> A yes is placed in the selected column opposite the test name.

(3) Select other tests by repeating step 2.

==> A yes is placed in the selected column opposite each selected test name.

(4) To cancel a test that is already selected, press <Cancel Selection>.

==> A blank replaces the yes in the selected column opposite the test name.

(5) To run selected tests on the VI SRU

(a) once, press <Run Selected>.

==> The <Abort Test> softkey is displayed. The "results" column displays the result of each selected test after it is finished.

(b) indefinitely, press <Run Sel Until Abt>.

==> The <Abort Test> softkey is displayed. The testing cycle which begins with the first selected test and ends with last selected test, continues until the user manually intervenes. The result of each test is displayed on screen after it is finished. If all channels fail a test, then the testing cycle is terrminated. Possible test results are given below:

Untested	Means the test has not begun.
Running	Means the test is in progress.
Passed	Means the test has been completed and the SRU has passed the test.
Failed	Means the test has been completed and the SRU has failed the test.
Soft Fail	Means the test has been completed and the SRU has failed. Contact NT.
Aborted	Means the test has been manually aborted.

(6) To stop the testing cycle or any test except , test 1, 186 to SBC Test, press <Abort Test>.

CAUTION

Never abort the first test, 186 to SBC Test, while it is running. The channel being tested will be left in an unusable state, and this SRU will have to be rebooted.

==> The test or testing cycle stops and the previous set of softkeys becomes available.

(7) Exit to the VI Channel State Display screen by pressing <Exit >.

6. Locality database

The locality database is used to determine the content of the announcement presented to the billed party of a collect call, or bill to a third number call. The database maintains a mapping of directory numbers to locality announcements. The content of the announcement is determined by the directory number of the calling party.

Locality database content

The information in the database is able to define relationships between complete or partial DNs and locality announcements. The minimum partial DN is one digit, a complete DN is 10 digits.

An announcement consists of a pre-recorded voice message, and its associated parameters that are necessary for playing the message. Locality uses only a single prompt set containing the available announcements for the feature.

When a call is originated, all the digits of the calling DN are available. When the locality database is queried, the entry in the locality database which best matches the calling DN is selected. If no match is found, the call is handled as a non-locality call.

Locality database server

The locality database server manages the information in the locality database using interfaces to:

- the locality database MMI
- the call processing engine (ACPE)
- the prompt manager

Accessing the locality database menus

The locality database directory number list is the entry screen for the man machine interface (MMI) to the locality database. This screen is accessed for one of the following tasks:

- adding data
- editing data
- deleting data
- saving data
- archiving the locality database

- restoring an archived locality database

Locality database DN list

This procedure gives access to the tasks previously listed. The starting point of this procedure is the TOPS VSN main menu.

(1) Select the Locality Database using the cursor, and pressing ENTER.

==> The system responds by displaying the Locality Database - Directory Number List (see figure 6-1). The display is limited to ten announcements; any additional announcements are displayed by pressing the <Next Page> softkey. When a subsequent page of announcements is displayed, the softkey <Previous Page> is pressed to display previous announcements.

To add an entry go to step (2); to edit an entry go to steps (3 and 4); to delete an entry go to steps (3 and 5)

(2) To add an entry to the database, press the <Add> softkey.

==> The system responds by displaying the Locality database - DN Add screen (see figure 6-2)

(3) To edit or delete an entry in the database, move the cursor to the Find DN field, enter the directory number to be edited, and then press the <Find> softkey; or move the cursor to the Find Announcement field, enter the announcement to be edited, and then press the <Find> softkey.

==> The system responds by displaying the appropriate information at the head of the list on the Directory Number List screen.

(4) To edit an entry in the database, press the <Edit> softkey.

==> The system responds by displaying the Locality database - DN Edit screen. The screen is the same as the screen in figure 6-2, with the exception that the title is Locality database Directory Number Edit.
Note: After the add or edit functions are complete, the Directory Number List screen is redisplayed with the completed function included.

(5) To delete an entry from the database, press the softkey <Delete>, and then press the <Confirm> softkey to make that delete function effective, or press the <Cancel> softkey to abort that delete function.

==> The system responds by redisplaying the Directory Number List screen with the deleted entry excluded.

(6) After add, edit, or delete functions have been completed, a new bank of softkeys is displayed

To save the changes, press the <Save> softkey

To archive the contents of the disk, press the <Archive> softkey; the Locality database - Archive screen is displayed(see figure 6-4)

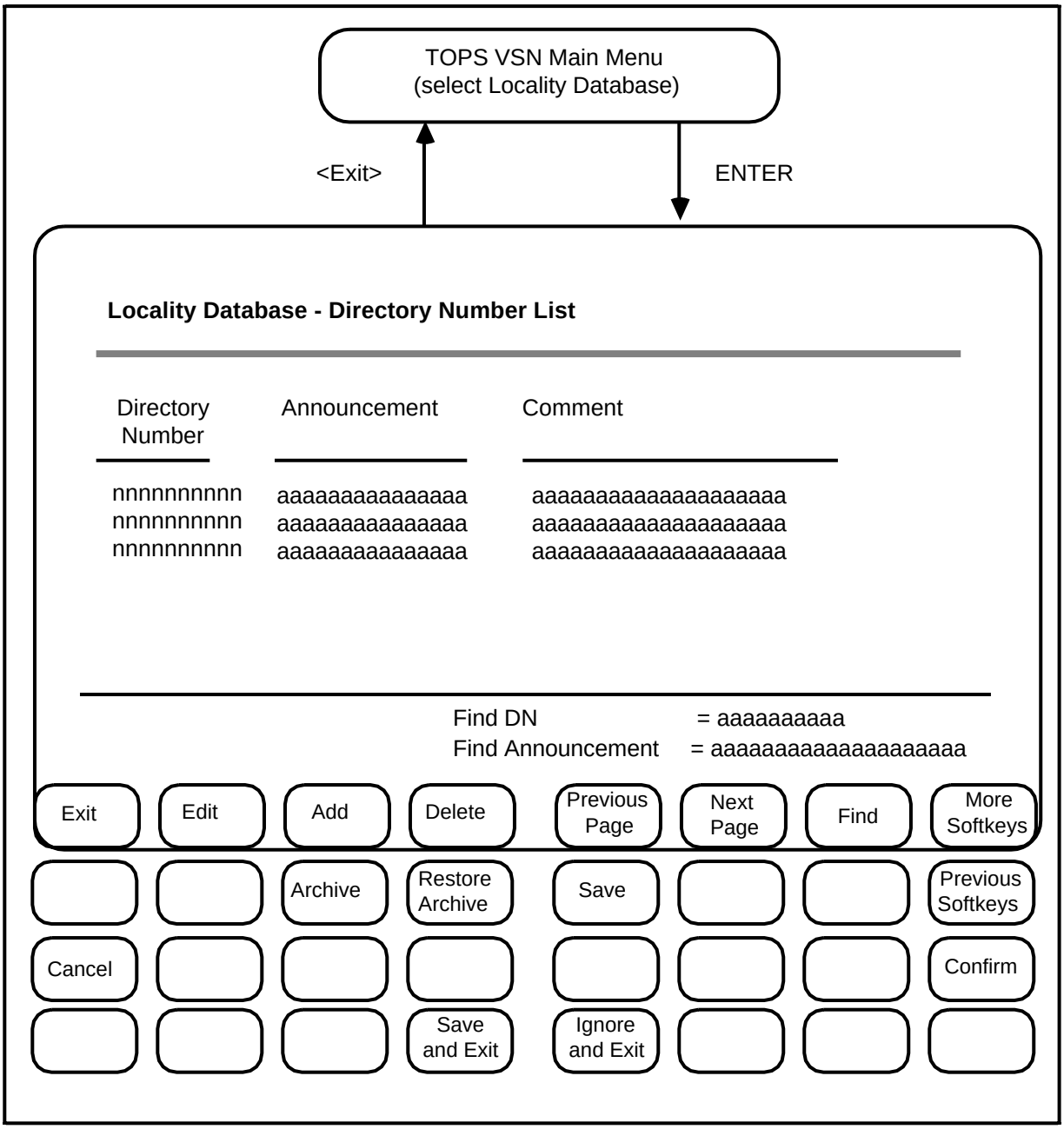
To restore the archived version of the locality database to disk, press the <Restore Archive> softkey. This causes the Locality Database - Restore Archive List screen to be displayed (see figure 6-5).

(7) After the activities in (6) are completed, a new bank of softkeys is displayed to permit the changes to be cancelled or confirmed. The appropriate softkey is pressed accordingly.

(8) If any of the add, edit, or delete functions are conducted, and the <Exit> softkey is pressed without first pressing the <Confirm> or <Cancel>

softkey, a new bank of softkeys is displayed. The <Save and Exit> softkey is pressed to save the changes and return to the TOPS VSN main menu, or the <Ignore and Exit> is pressed to not save the changes and return to the TOPS VSN main menu.

Figure 6-1
Locality database - DN list screen



Adding an entry to the locality database

The add screen is used to specify the details about an entry to be added to the database. After entering the required information, the user may save the entry to the database, or exit without saving. The user may also request a list of announcements from which to choose. If an announcement is selected from the announcement list screen, it is automatically put in the announcement field.

This procedure describes a method of adding an entry to the locality database.

This procedure commences with the Locality Database - Directory Number List screen with a listing displayed.

(1) Display the add screen by pressing the <Add> softkey.

==> The system responds by displaying the Directory Number Add screen (see figure 6-2).

(2) Move the cursor to highlight the Directory Number field, and enter the information. Characters in excess of the maximum of ten overwrite the field, starting at the left.

Note: The cursor is normally defaulted to the Directory Number field.

Then move the cursor to the Announcement field, and enter information. Characters in excess of the maximum of 15 overwrite the field, starting at the left.

If comments are necessary,move the cursor to the Comment field. Characters in excess of the maximum of 20 overwrite the field, starting at the left.

Then go to step 5.

==>The system responds by echoing the information in the fields on the screen.

(3) If the information is to be taken from the announcement list, press the <List Announce> softkey to display the list that the locality database recognizes.

==> The system responds by displaying the Announcement List screen (see figure 6-3).

(4) Move the cursor to the required announcement and press the <Select> softkey.

==> The system responds by returning to the Directory Number Add screen with the new announcement inserted.

(5) If the announcement information is correct press the <Save and Exit> softkey to save the information.

==> The system saves the data in a temporary storage area and returns to the Directory Number List screen.

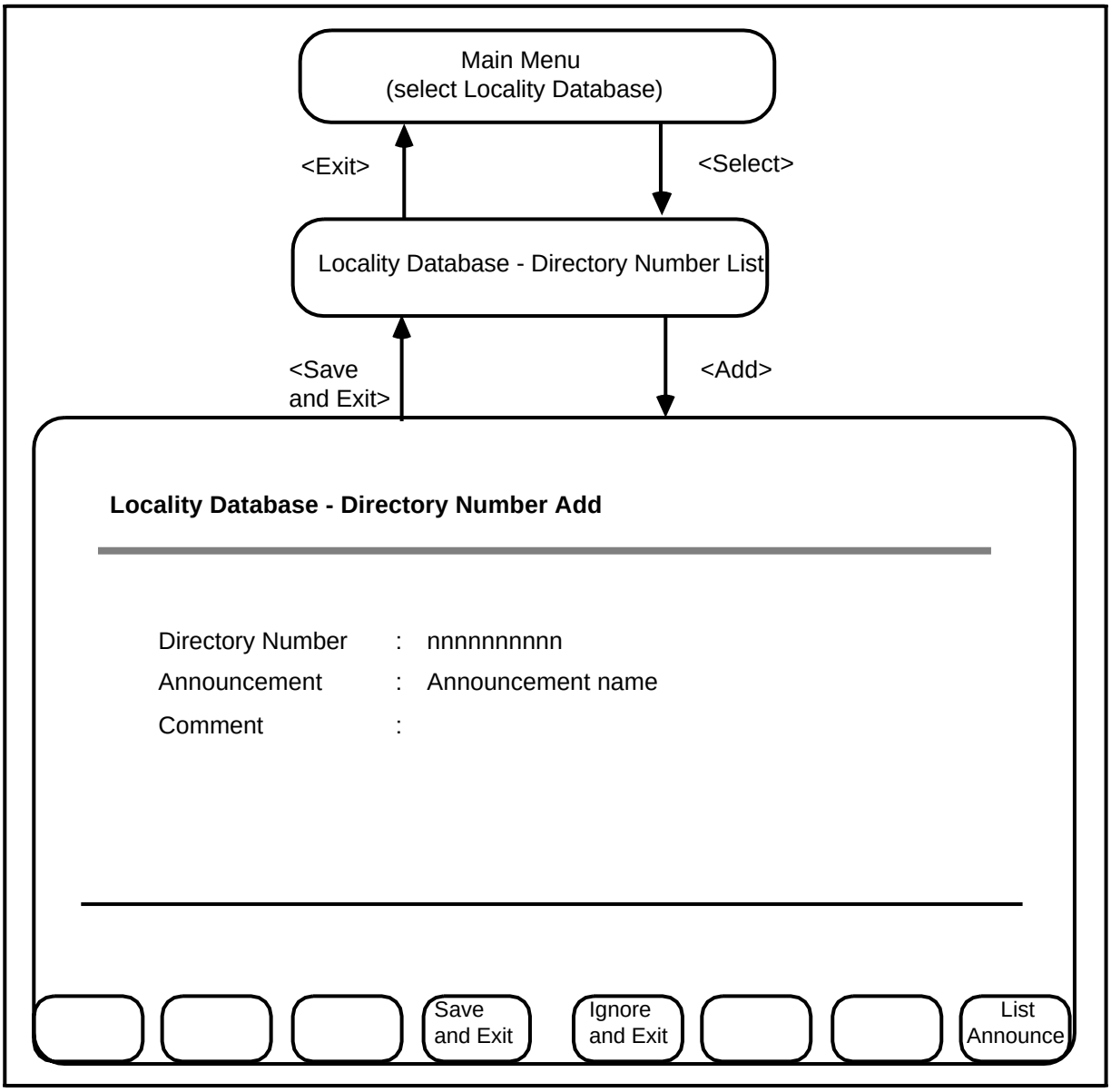
If the announcement information is not correct, press the <Ignore and Exit> softkey to start again.

Note:These additions are not available to the ACPE.

(6) To save the changes to disk, press the <More Softkeys> softkey to display an additional bank of keys, and then press the <Save> softkey.

==> The system responds by displaying the Announcement List screen (see figure 6-3)with the additions included.The changes are now available to the ACPE.

Figure 6-2
Locality database - DN add screen



Editing data in the locality database

The edit screen is used to display the details of an entry in the locality database so that changes to the data can be made. The screen is similar to the Directory Number Add screen except the title is changed. Use figure 6-2 with this procedure.

This procedure describes a method of editing an entry in the locality database.

This procedure commences with the Locality Database - Directory Number List screen with a listing displayed.

(1) Display the edit screen by pressing the <Edit> softkey.

==> The system responds by displaying the Directory Number Edit screen.

(2) Move the cursor to the field is being changed and make the change; then press the ENTER key.

==>The system responds by echoing the information in the field on the screen.

Move the cursor to any other fields that are being changed and repeat the foregoing procedure.

(3) If the information is to be taken from the announcement list, press the <List Announce> softkey to display the list that the locality database recognizes.

==> The system responds by displaying the Announcement List screen (see figure 6-3).

(4) Select the required announcement by moving the cursor to that announcement and pressing the <Select> softkey.

If changes are to be made to the announcement , proceed according to the information in step 2.

==> The system responds by returning to the Directory Number List screen with the new announcement inserted.

(5) When the announcement information in all fields is correct, press the <Save and Exit> softkey to save the information.

If the announcement information is not correct, press the <Ignore and Exit> softkey to start again.

Note:These additions are not available to the ACPE.

(6) To save the changes to disk, press the <More Softkeys> softkey to display an additional bank of keys, and then press the <Save> softkey.

==> The system responds by displaying the Announcement List screen (see figure 6-3)with the additions included.The changes are now available to the ACPE.

Deleting data in the locality database

The delete screen is used to display the details of entries in the locality database so that any entries can be removed from the database. The screen is similar to the Directory Number Add screen except the title is changed. Use figure 6-1 with this procedure.

This procedure describes a method of deleting an entry in the locality database.

This procedure commences with the Locality Database - Directory Number List screen with a listing displayed.

(1) Display the delete screen by pressing the <Delete> softkey.

==> The system responds by displaying the Directory Number Delete screen.

(2) Move the cursor to each field successively and delete the entries

==>The system responds by echoing the deletions in the field on the screen.

(3) If the information deleting is to be obtained from the announcement list, press the <List Announce> softkey to display the list that the locality database recognizes.

==> The system responds by displaying the Announcement List screen (see figure 6-3).

(4) Select the required announcement by moving the cursor to that announcement and pressing the <Select> softkey.

To delete the announcement , proceed according to the information in step 2.

==> The system responds by returning to the Directory Number List screen with the announcement deleted.

(5) When the announcement deletions are complete, press the <Save and Exit> softkey to save the information.

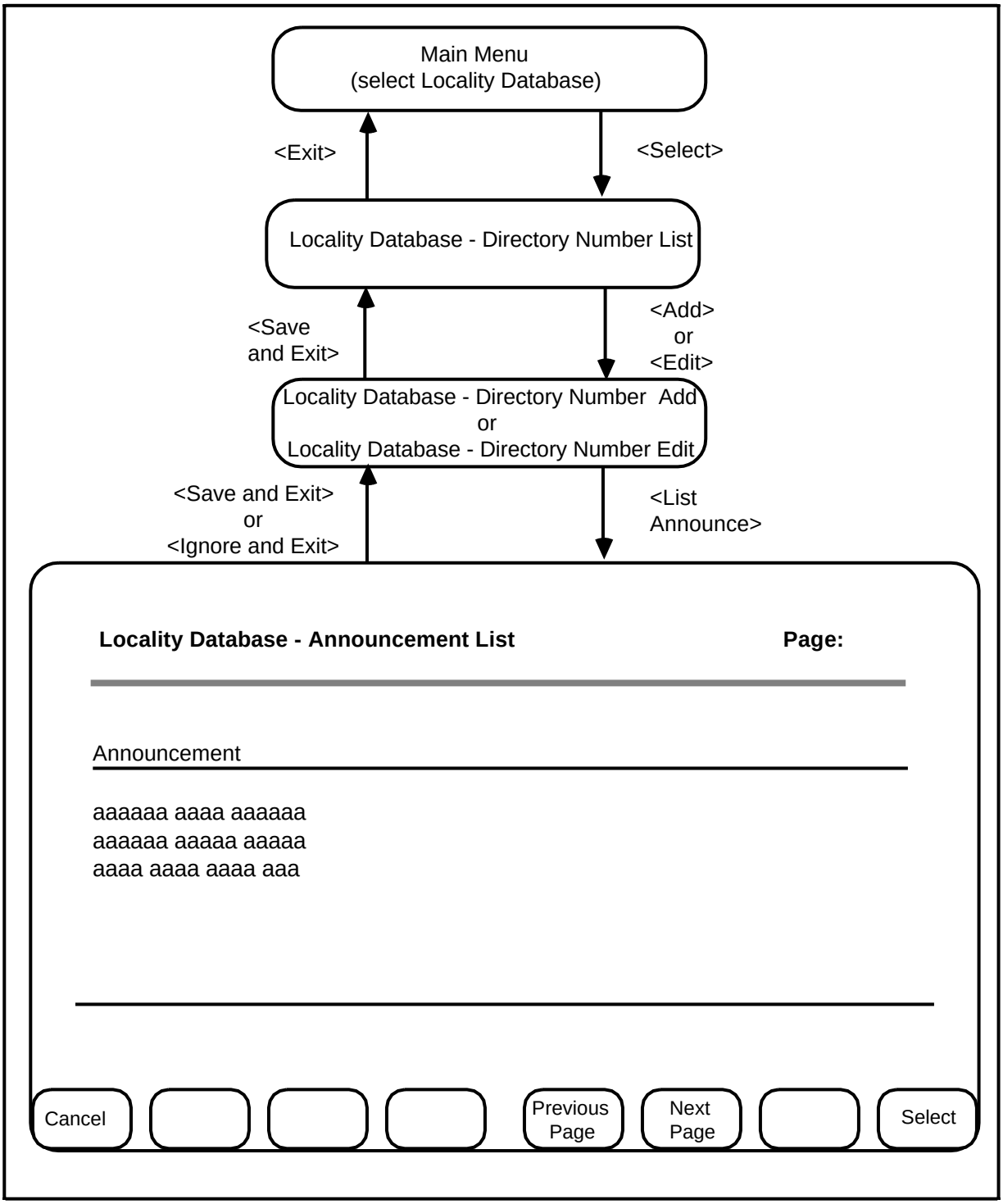
If the deletions are not to be saved, press the <Ignore and Exit> softkey to start again.

Displaying the announcement list

The Announcement list screen displays the list of announcement labels that are currently recognized by the locality database. If the list is longer than one page, the user may page through the list using the previous page and next page softkeys. The user may select an announcement to be used in association with the locality database entry displayed on the Add or Edit screen that was previously displayed.

This procedure commences with the Directory Number Add, or the Directory Number Edit screen with a listing displayed.When the <List Announce> softkey is pressed, the system responds by displaying the Announcement List screen (see figure 6-3)..

Figure 6-3
Locality database - announcement list screen



Archiving the locality database

Archiving the database stores on tape, both the locality database image and the locality prompt set that is currently saved on disk . Note that the disk version may be different from the version in memory, because the memory may be updated before storage to disk.

Naming of the archive is automatic. The archive name will be of the form: LocArchive.xxxx, where xxxx is a unique issue number. Each archive will have a number within the range 0001 to 9999. In the event that an archive reaches 9999, the next archive will be 0001, to start the cycle again.

This procedure commences with the Locality Database - Directory Number List screen with a listing displayed.

(1) Press the softkey <More Softkeys>

==> The system responds by displaying the next bank of softkeys.

(2) Display the archive screen by pressing the <Archive> softkey.

==> The system responds by displaying the Locality Database Archive screen with the name of the next archive listed (see figure 6-4).

(3) If comments are required, move the cursor to the comment field and then input the comment.

Note: When more than 20 characters are input, the additional characters overwrite the first 20 characters, starting at the left.

(4) The user has two options to archive:

(a) to archive the contents of the disk only, press the <Archive> softkey. This archives the current database.

(b) to save these database changes to disk and then archive the information, press the <Save and Archive> softkey. All additions, deletions, and changes are then saved to disk and then archived.

==> The system responds by displaying a second bank of softkeys.

(5) The user has two options

(a) press the softkey <Confirm > to proceed with the archiving action that was taken in step 4.

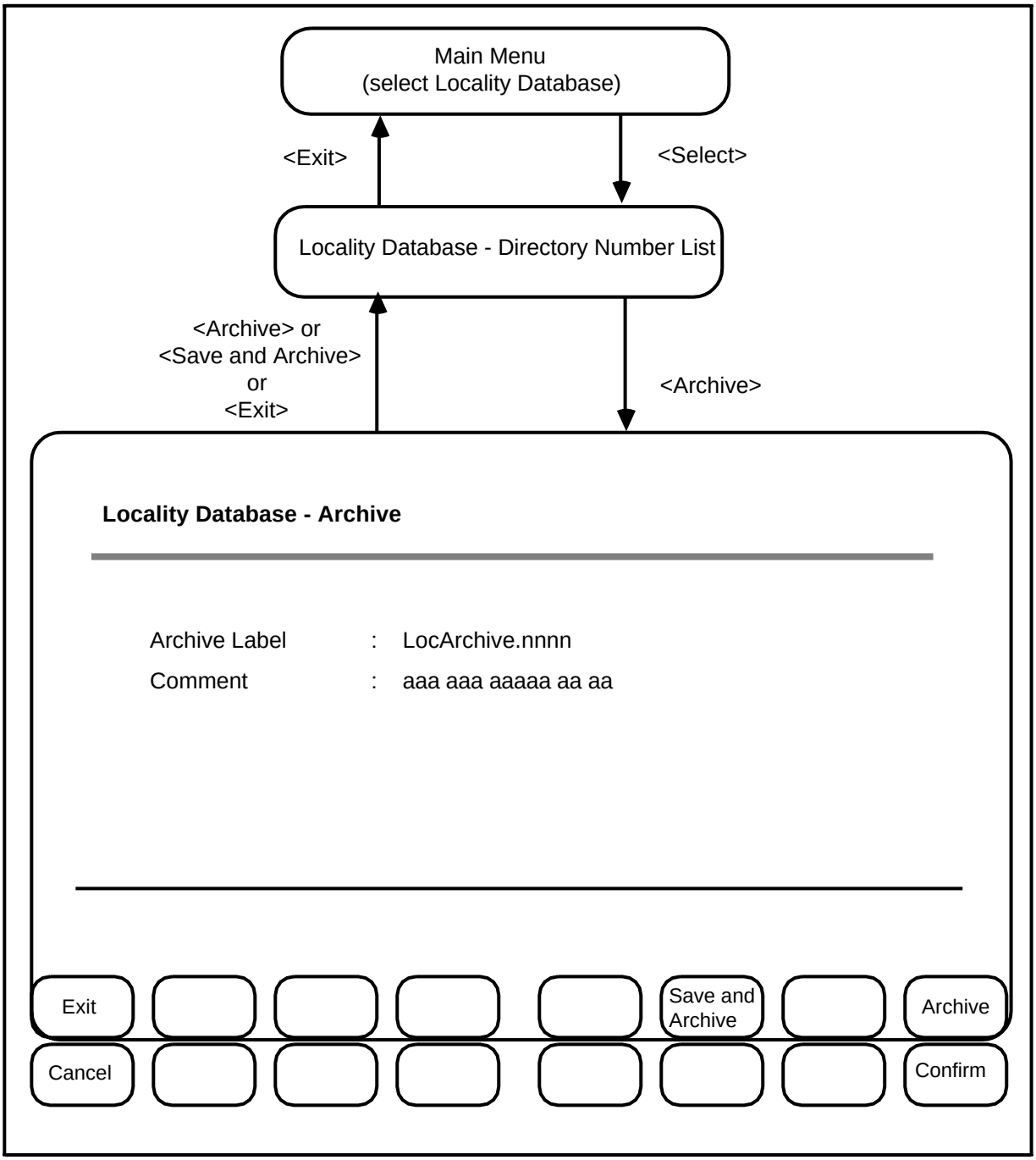
==> The system carries out the selected function.

(b) press the softkey <Cancel >to withdraw the archiving action that was taken in step 4.

==> The system aborts the selected function.

When the action is completed the first bank of softkeys is redisplayed. The user can then return to the Directory Number List screen.

Figure 6-4
Locality database archive screen



Restoring an archived locality database

Restoring an archived version of the locality database restores the locality database image and the locality prompt set to disk.

This function minimizes any conflict with the ACPE during the restore function . If memory resources allow, the database image is loaded into memory in a temporary area. Then the version the ACPE is using is changed. If memory resources are not available, the ACPE is blocked from the locality database during the time period that the database is being reloaded into memory.

This procedure starts with the Locality Database - Directory Number List screen with a listing displayed.

(1) Press the softkey <More Softkeys>

==> The system responds by displaying the next bank of softkeys.

(2) Display the restore archive screen by pressing the <Restore Archive> softkey.

==> The system responds by displaying the Locality Database Restore Archive List screen with the name of the archive currently on tape listed (see figure 6-5).

(3) To restore the contents of the tape to disk, and then reload the data from disk to memory, press the <Restore and Load> softkey

==> The system displays another bank of softkeys.

(4) The user has two options

(a) press the softkey <Confirm >to proceed with the restore and load action

==> The system carries out the action.

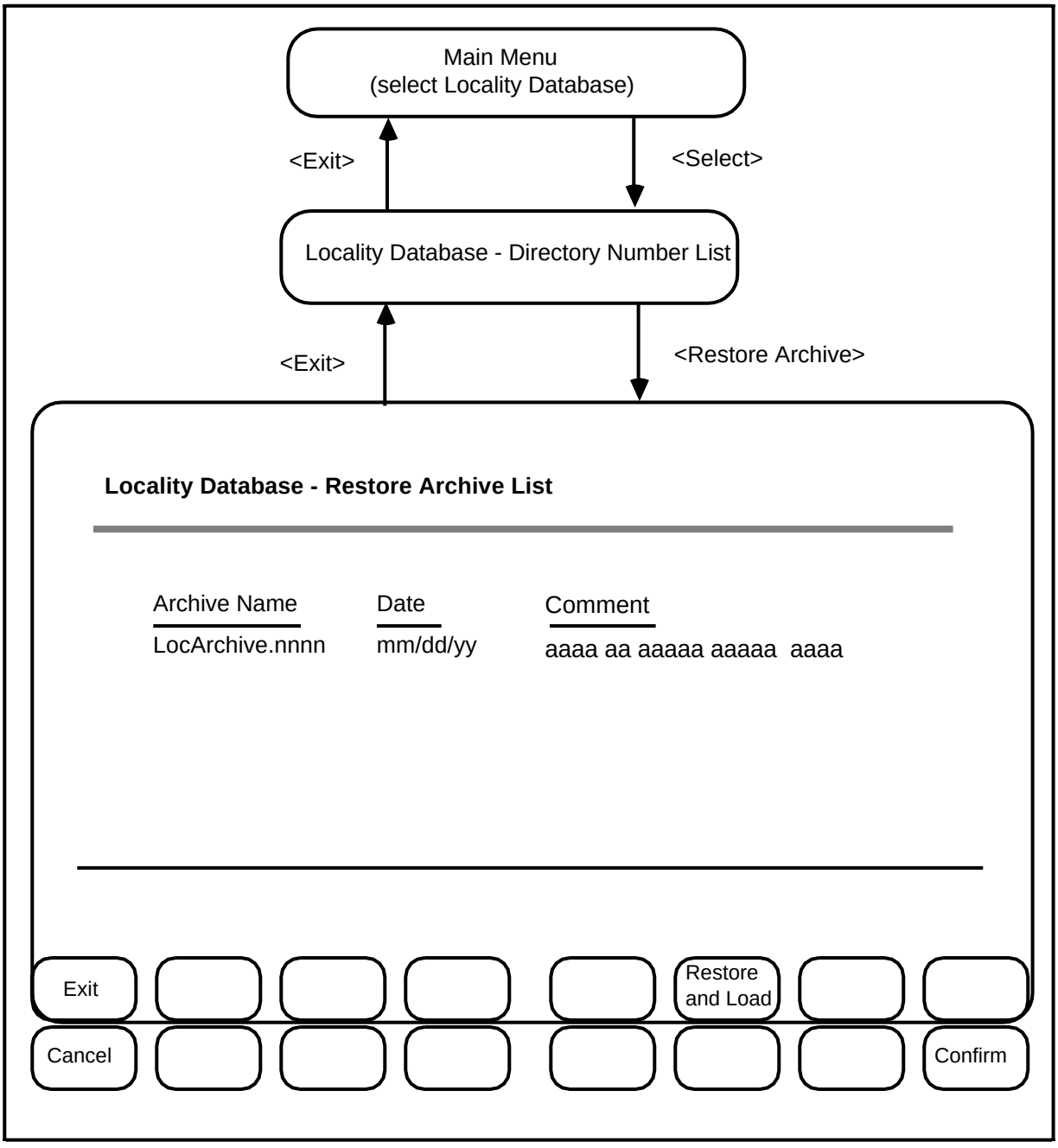
(b) press the softkey <Cancel >to withdraw the restore and load action

==> The system aborts the saction.

When (a) or (b) is completed, the first bank of softkeys is redisplayed. The user can then return to the Directory Number List screen.

Note Once the load process is started, the user is not able to abort the function.

Figure 6-5
Locality database - restore archive list screen



7. Prompt manager

This chapter contains information and procedures for accessing the functions performed by the Prompt Manager. Because these functions will not be used often, the procedures described may be more detailed than other procedures in this publication.

Terminology used in this chapter

Table 7-A contains a description of the major terms used in this chapter.

Table 7-A
Major terms used in this chapeter

Term	Description
Prompt	Is the general term for the messages played to telephone subscribers. These messages are contained in the Prompt library.
Prompt issue	Is the term for a specific message in the Prompt library. Each prompt issue in the Prompt library is unique.
Set	Is the general term for a collection of prompts for a specific purpose.
Set issue	Is the term for a specific set containing an identifiable group of prompt issues. Each set issue in the Prompt library is unique. Any changes to the contents of a set issue must result in a change to the set issue identifier.

Levels of access to the prompt manager

The Prompt Manager manages the locality prompts used by the TOPS VSN. There are a number of functions available under the Prompt Manager banner that can be used to perform the management task. The Prompt Manager is a menu item under maintenance in the TOPS VSN main menu. Two levels of access are available for using the Prompt Manager.

- User, for general use
- Administrator, for complete control of the Prompt Manager functions.

Only one user can access the Prompt Manager at any one time; this access must be through the DNC system, and not through a remote login.

The access privileges for the two types of user are as follows:

A User has limited access, it is initiated when the user logs in to the TOPS VSN system with a login name pmuser, and its associated password.

An Administrator has complete access, it is initiated when the user logs in to the TOPS VSN system with a login name maintenance , and its associated password.

(a) A User may:

- Import prompts from magnetic tape and add them to an existing library of prompts. If the prompt already exists, a new issue is created.
- Search the library for specific issues of a prompt. These issues may be copied, edited, archived, or played.
- Record a new prompt using an edit command.
- Group prompts into sets. A set is a logical grouping that can be identified by the TOPS VSN application.
- Search the library for specific issues of a set. These issues may be copied, edited, or archived.
- Install a set of prompts in the TOPS VSN application.

(a) An Administrator, in addition to the functions of a user, has the ability to:

- change Prompt Manager parameters.
- re-activate pending archive prompts and sets.
- archive the library.
- restore a library from an archive.

Accessing the prompt manager

The Prompt Manager is accessed from the maintenance menu item on the TOPS VSN main menu. Selection of the Prompt Manager will result in the Prompt Manager Main Menu being displayed, as shown in figure 7-1 and figure 7-2.

Inside the Prompt Manager environment, there are a number of softkeys that are used by more than one screen function. They are listed in table 7-B, and may not be described within the procedures.

Table 7-B
Common softkey definitions

SOFTKEY	DEFINITION
Exit	This softkey is used to terminate an activity in the current screen, and return to either the previous screen or another screen as defined by the function.
Previous Page	This softkey is used to page backward through data in the scrolling region. It is only visible when there is more than one page of data, and the screen is displaying page 2 or a subsequent page.
Next Page	This softkey is used to page forward through data in the scrolling region. It is visible until the last line of data is displayed on the screen.

-continued-

Table 7-B
Common softkey definitions (continued)

SOFTKEY	DEFINITION
More Softkeys	This softkey is used to access the next bank of softkeys. It is only visible when there is another bank of softkeys to access.
Previous Softkeys	This softkey is used to return to the previous bank of softkeys. It is only visible when there is another bank of softkeys to return to.
Select	This softkey is used to highlight the current menu item for an activity. The item is highlighted by moving the cursor as required, and pressing the <Select/Unselect> softkey.
Cancel	This softkey is used to cancel a function. A message is displayed in the menu header region of the display related to the action taken by the system. The system then displays the previous softkey options.
Confirm	This softkey is used to confirm the function that was initiated by the user. A message is displayed in the menu header region of the display, reporting the action that will be taken by the system as a result of the function.When the function is completed the previous softkey options are displayed.
Abort	This softkey stops an operation that is running. A message is displayed in the menu header region of the display related to the action taken by the system. The system then displays the previous bank of softkey options.

Prompt and set status

Prompts and their sets have an operating status of active, pending archive, or archived. A description of these states is contained in table 7-C

Table 7-C
Prompt and set status

STATUS	PROMPT	SET
active	The prompt issue is available to the users in the Prompt library.	The set issue is available to the users in the Prompt library.
pending archive	The prompt issue has been removed from use. At this point the prompt issue is not archived, and can be returned to active status.	The set issue has been removed from use. At this point the set issue is not archived, and can be returned to active status.
	The prompt issue cannot be assigned the status pending archive if it is a member of an active set	A pending archive set cannot be assigned the status active if the status of a prompt in the set is pending archive or archived.
archived	The prompt issue was archived by the administrator. This prompt issue is no longer accessible in the Prompt library, but the name of the prompt can be queried by the administrator.	The set issue was archived by the administrator. This set issue is no longer accessible in the Prompt library, but the name of the set can be queried by the administrator. The prompts in an archived set are not necessarily archived.

Note 1: A prompt issue with the status active cannot be changed to status pending archive until all set issues that contain the prompt issue have been made pending archive.

Note 2: A set issue with the status pending archive cannot be changed to status active until the status of all prompt issues within the set have been changed to active.

Figure 7-1
Prompt manager main menu for user

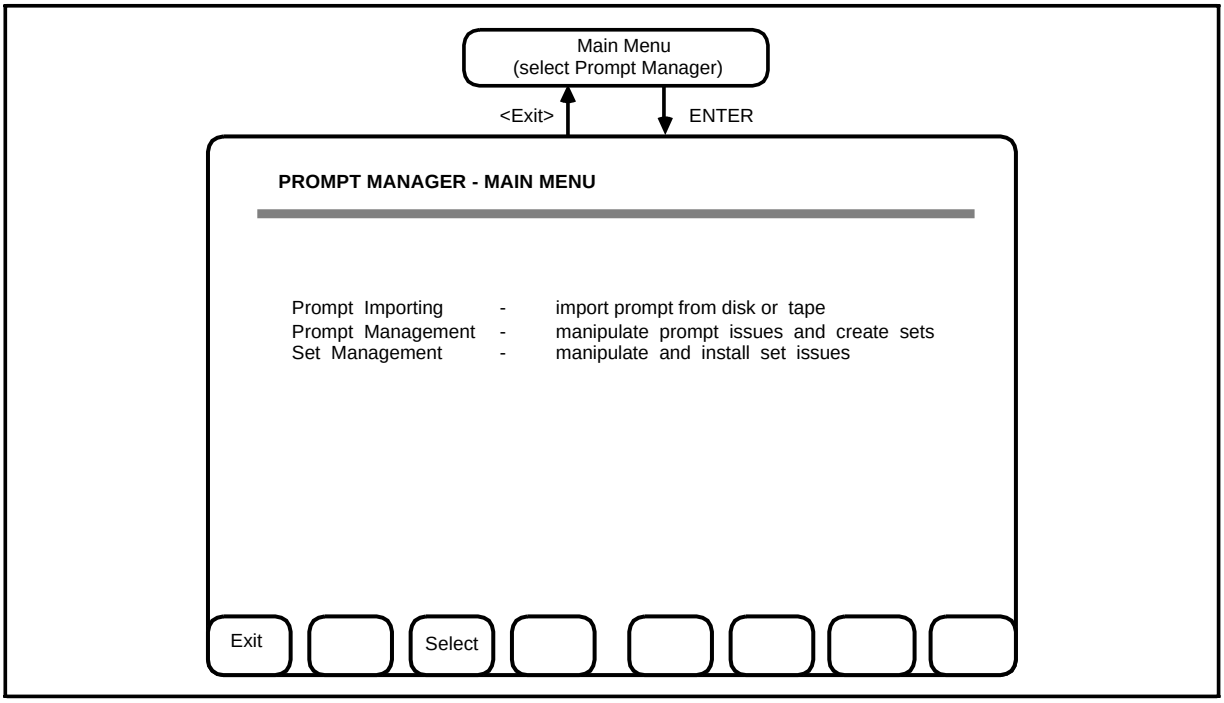


Figure 7-2
Prompt manager main menu for administrator

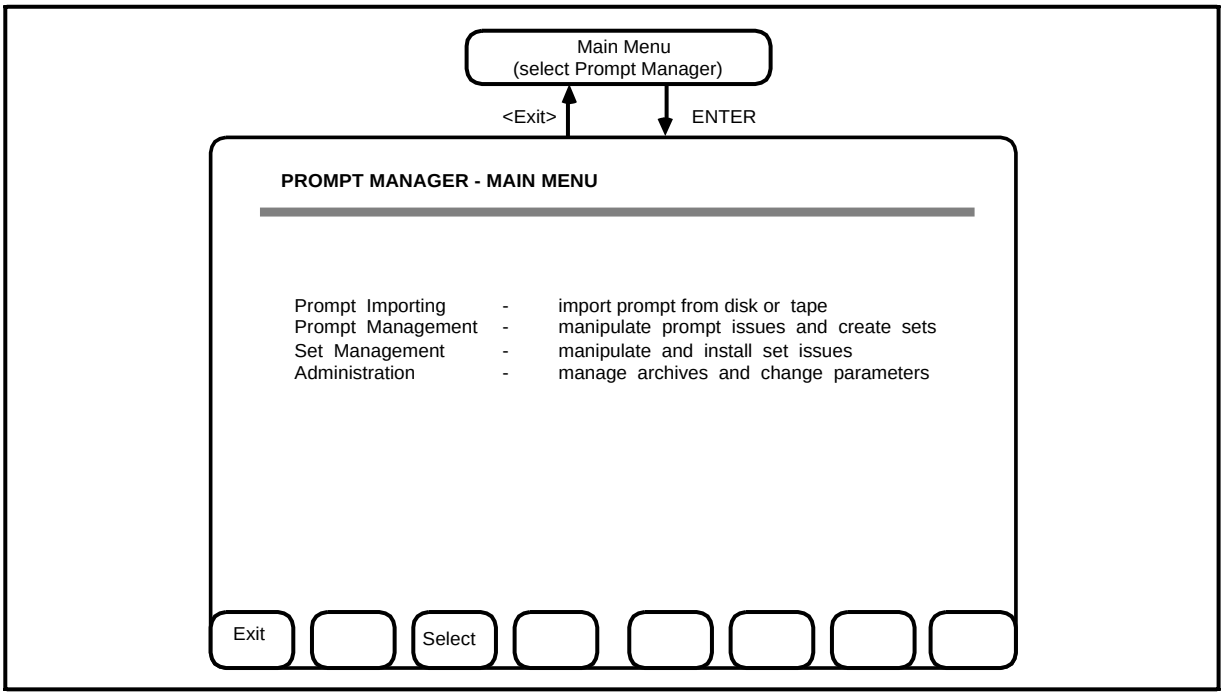
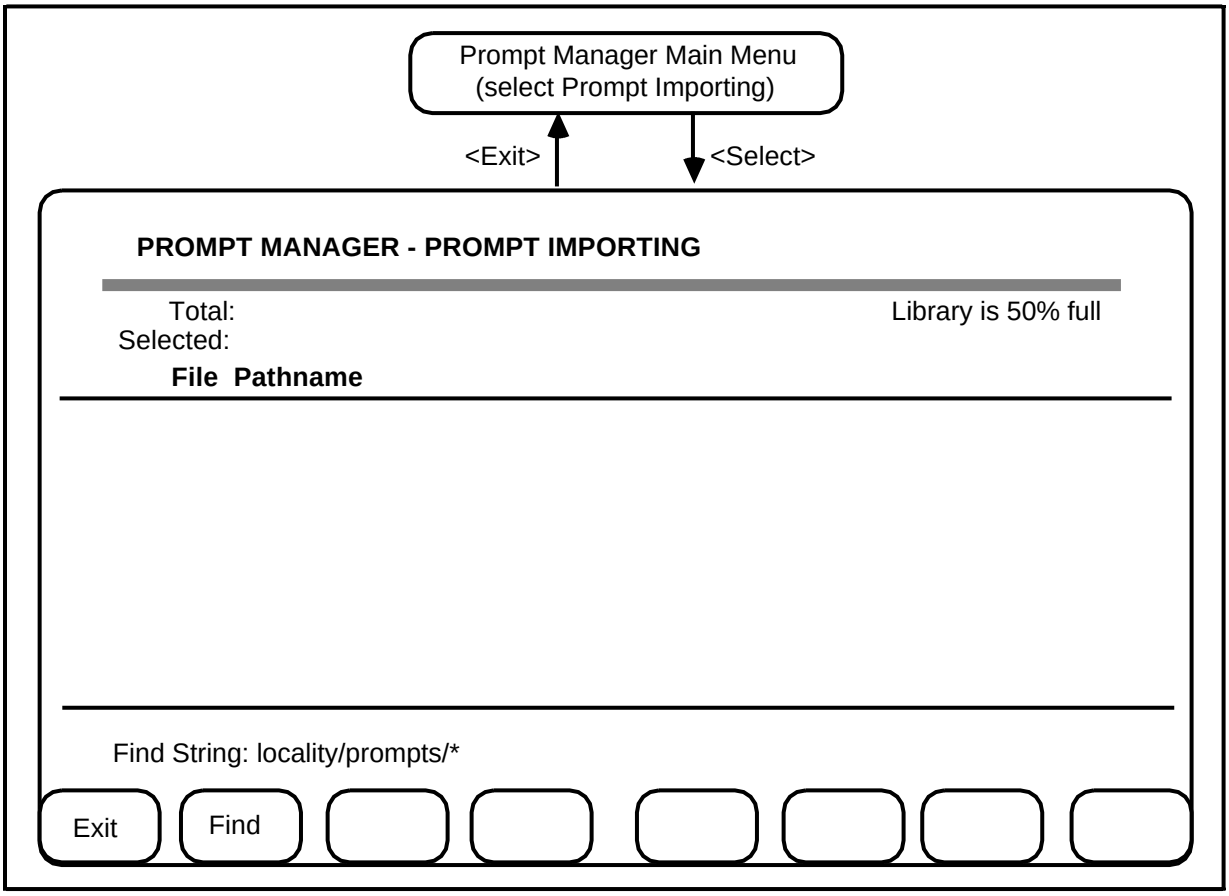


Figure 7-3
Sample of first prompt importing screen



Importing prompts from tape

Prompts are professionaly produced by Northern Telecom. They are encoded in multipulse linear predictive coding (MPLPC) format and written to data cartridge tapes in groups. Each group consists of two files with the same name and a different suffix. The suffixes used are as follows:

- .SEG for the file that contains the prompt name and other data
- .AUD for the file that contains the encoded audio of the prompt

A cartridge tape may contain groups of prompts for many applications.A file name is used to search the tape for a specific group of prompts. When the group is located, the prompts in the group can be selected and played for assessment. Specific prompts can then be added to the Prompt library by using the procedure described later under the heading Adding Prompts to the Library.

Locating prompts

A prompt manager user or an administrator can locate groups of prompts on named volumes of cartridge tapes; the groups are identified by filename. The groups can then be acted on as required.

The procedure for locating the groups is as follows:

(1) log in to the TOPS VSN system and bring up the main menu

(2) mount the cartridge tape on the tape drive

(2) move the cursor to the Prompt Manager option, then press enter.

==> The Prompt Manager Main Menu is displayed, as shown in figure 7-1 and figure 7-2.

(3) move the cursor to the Prompt Importing option and then press the <Select/Unselect> softkey.

==> The Prompt Importing screen is displayed as shown in figure 7-3. The highlighted data entry field to the right of the field Find String: indicates the location of the cursor.

The example in figure 7-3 shows the Prompt Library to be 50% full.

(4) Type in the file pathname and then press the <Find> softkey.

If the wild card pathname * is typed, the system displays all the files on the tape. If a filename is not valid, the message "invalid find string" is displayed.

==> The system searches the tape until the files are found, and then displays them. If the system cannot find the files the message "no files found" is displayed., If there is no tape in the reader the message "Tape inserted incorrectly or is faulty" is displayed.

Either the directory name or the file pathname entry is required. In figure 7-4, the directory name entry is locality/prompts/*; the entry * causes all files within the directory to be displayed. In this example there are four files.

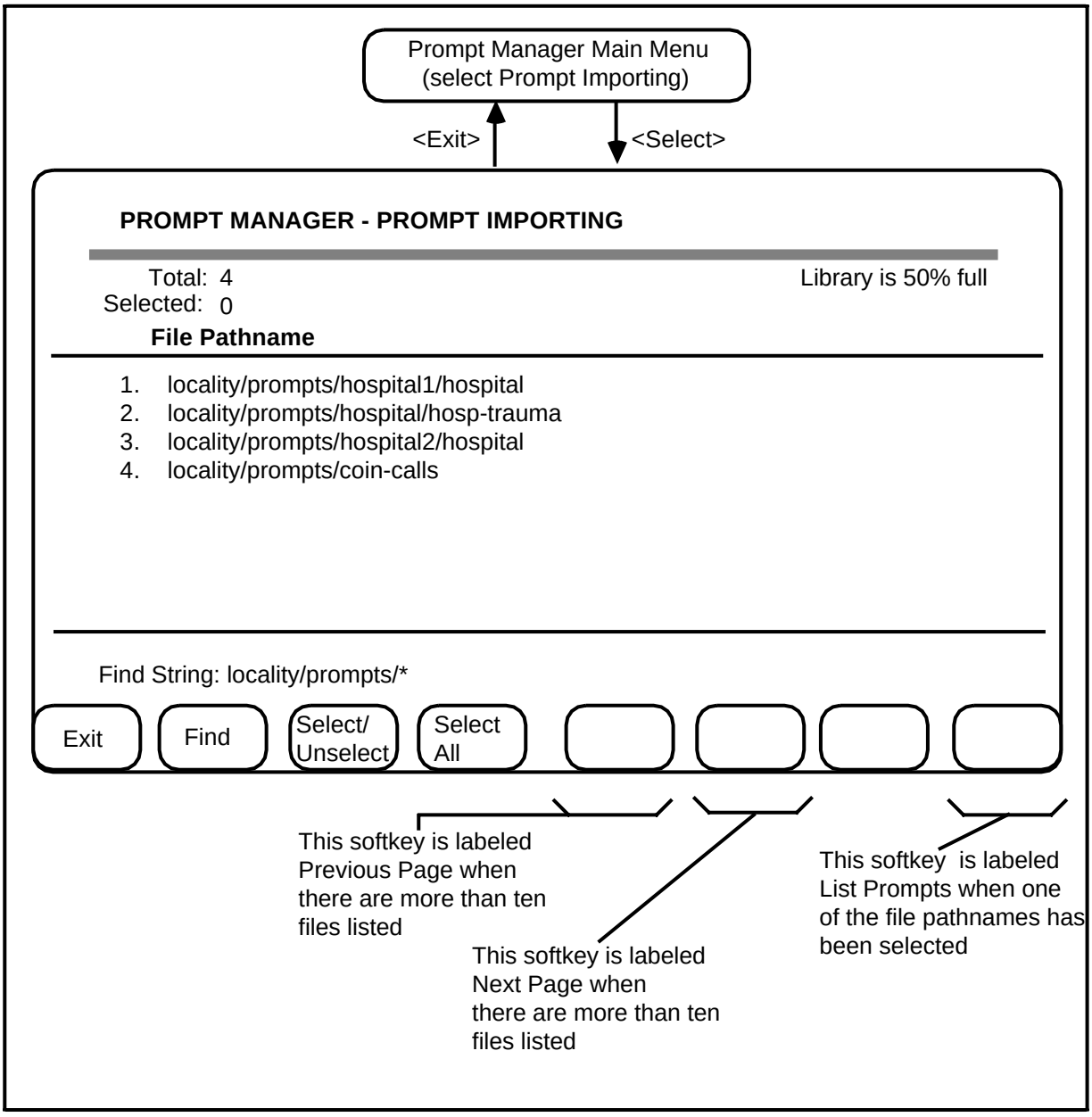
When the filenames are displayed the user can scroll through the items using the cursor up or down keys, and the <Next Page> or <Previous Page> softkeys (visible only if the file list covers more than ten files).

(5) Select the files one at a time by placing the cursor on a file and pressing the <Select/Unselect> softkey, or select all of the files in the selected group by pressing the <Select All> softkey.

==> The system responds by highlighting the selected files.

Note: The <Select/Unselect> softkey is a toggle. It can be used to select or unselect a file.

Figure 7-4
Prompt importing screen after string is found



Adding prompts to the library

Prompts can be added to the library after they have been identified as described in the previous procedure. This procedure commences with the required files highlighted on the Prompt Importing display.

(1) Press the <List Prompts> softkey. (This key is not available if no prompts have been selected).

==> The system responds by displaying the Add Prompts To Library screen. The screen shown in figure 7-5, contains examples of the following information:

File Pathname, is the complete path to the file displayed, even if a wild card was used in locating the prompt files, with the filename name appended. *Library is*, is the current proportion of the Prompt library that is filled. Total, is the number of prompts in the file.

(2) Select the prompts that are to be added to the library, by using the cursor and the <Select/Unselect> or <Select All> softkeys.

To play the prompts, press the <Play> softkey.

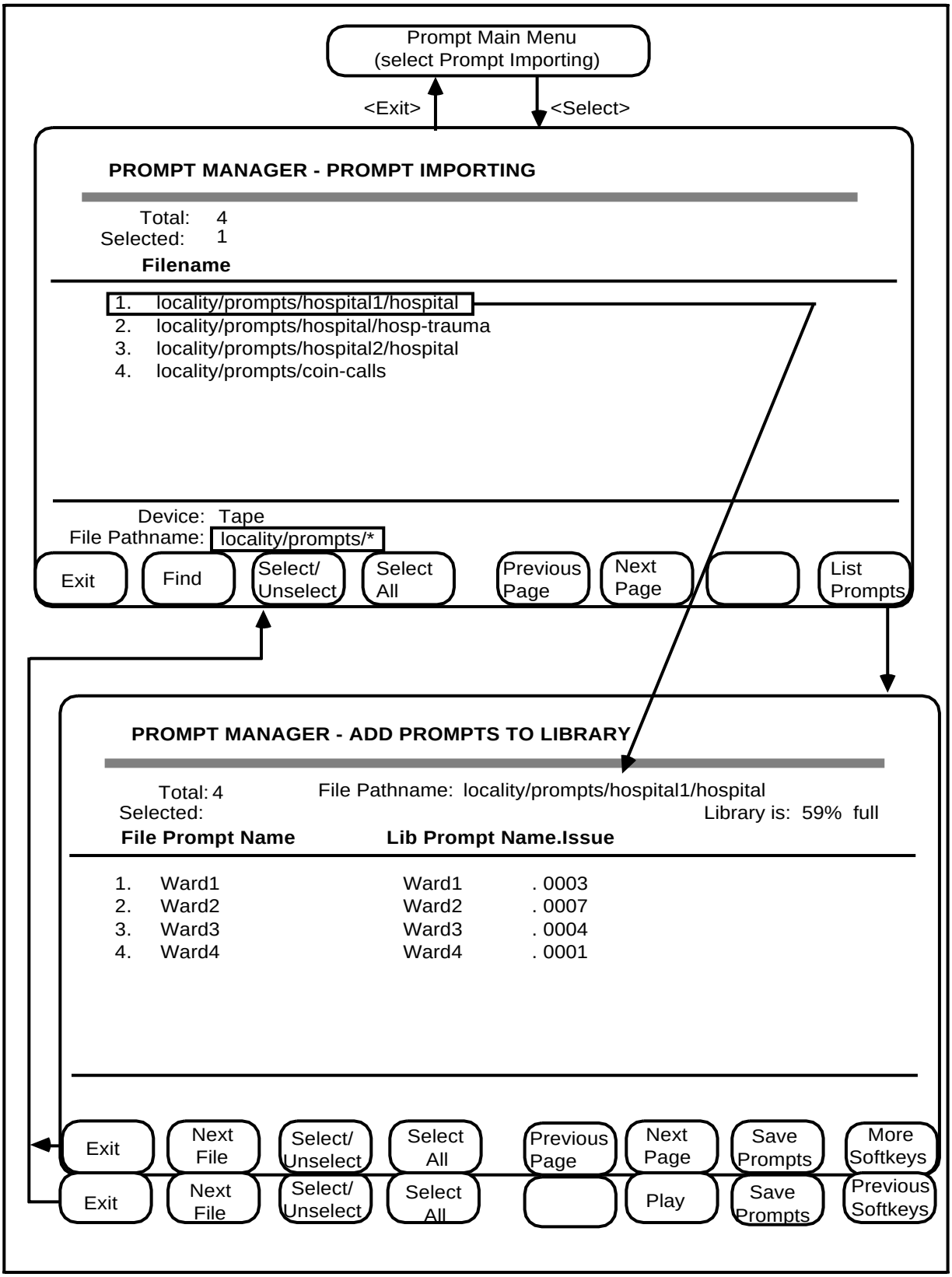
==> The system plays the selected prompts through the M4020 handset. The prompt can be played through the adjacent speaker if it was first selected as part of the edit function.

(3) Enter the names of the prompts in the Lib Prompt Name field.

To add the prompts to the library, press the <Save Prompts> softkey.

==> The system adds the selected prompts to the Prompt library, and displays a message that describes the progress of the save process.

Figure 7-5
Adding prompts to the library



Managing prompts

Prompt management consists of the following functions:

- Search for a prompt issue in the library.
- Play a particular prompt issue.
- Edit a particular prompt issue.
- Record a new prompt issue.
- Save prompt issues as a set.
- Copy prompt issues.
- Assign the status pending archive to prompt issues.
- List the set membership of prompt issues.

The above functions can be performed from the Prompt Management screen, an item from the Prompt Manager Main Menu.

The following group of procedures describe methods of managing the Prompt library. They are small procedures that assume that the user has logged in to the TOPS VSN system with a login name and password that has access to the Prompt Manager.

Searching for a known prompt in the library

This procedure commences from the Prompt Manager Main Menu.

(1) Select the Prompt Management option using the cursor and then pressing the <Select/Unselect> softkey.

==> The Prompt Management screen is displayed,with the cursor located at the field Find String: (see figure 7-6).

(2) Enter the name and issue of the required prompt, or prompts; then press the softkey <Find>. If an asterisk is used with a partial name, all prompts that match the partial name are in the search.

==> The system searches for the required prompt and issue (or prompts), and displays them on the screen. If there is more than one page of prompts in the search string, the first page of the prompts are displayed together with the page manipulation softkeys.

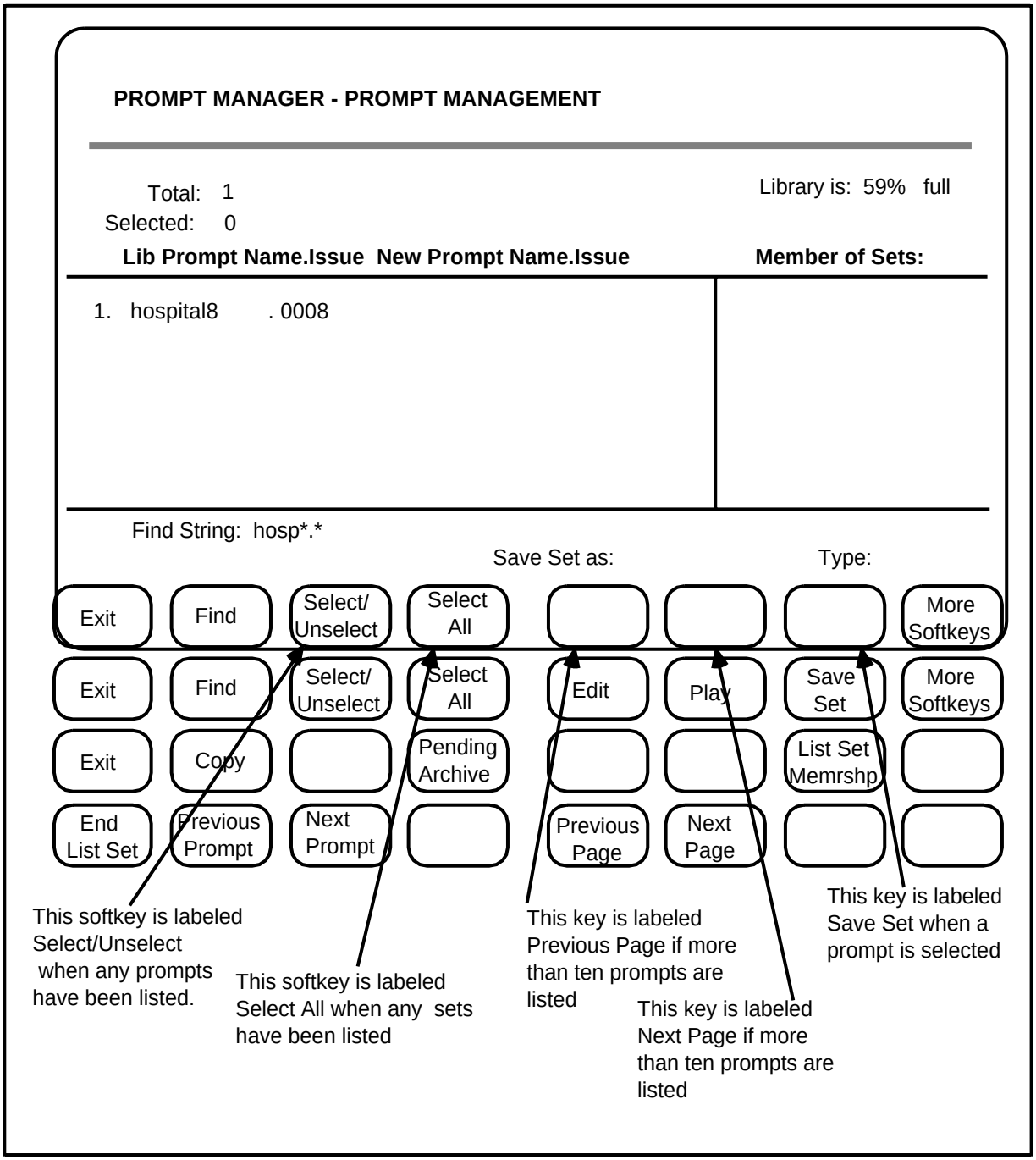
Note 1: The number of prompt issues in the search string is also displayed at the top left of the display, under the heading Total.

Note 2: The Find string must be a complete prompt name and issue. When all the prompts in the library are required the characters *.* are used.

Note 3: A string that uses UNIX general expressions can also be used to find prompts. The data in the Find String entry area treats strings that start with a double quotation mark (") as general expressions.

At this point the Add and Edit procedures that apply to a prompt can be conducted. The procedures are described in the following pages.

Figure 7-6
Prompt management screen and softkeys



Playing a known prompt

Playing a prompt issue employs a VI channel. This use of a VI channel decreases the TABS call capacity by one resource unit, which could affect the number of incoming calls that can be handled by TABS during heavy traffic periods.

The three methods of playing a known prompt, or prompts are summarized as follows:

(1) If the prompt is to be played for suitability only, and not changed in any way, access is made using the <Play> softkey from the Prompt Management screen. When accessed, the prompt is played through the handset or speaker of a M4020 terminal.

(b) If the prompt is to be played prior to importing prompts from tape. Access is made using the <Play> softkey from the Add Prompts to Library screen, a sub-level from the Prompt Importing screen. When accessed, the prompt is played through the handset or speaker of a M4020 terminal.

(3) If the prompt is to be played before changing its content , the <Edit> softkey is pressed to enter the voice editor environment, and display the Voice Editor screen (see figure 7-7). The prompt can then be played with a tone with or without an overlay. Including the tone is useful to measure the total time of the prompt. The prompt is played through the handset of an M4020 terminal, or through its speaker.

The following procedure describes a method of playing prompts using the voice editor screen, the other two methods of playing prompts use the <Play> softkey from their respective screens.

This procedure commences at the Prompt Management screen, with the prompt or prompts selected (see "Search for a Known Prompt in the Library").

(1) Select the voice editor screen by pressing the <Edit> softkey. If this softkey is not visible, press <More Softkeys> to display the next level of softkeys.

==> The system responds by displaying the Voice Editor screen with information about the prompt if there are more than one prompts, the first prompt in the list is displayed.

(2) Press the <Speaker Off> softkey if it is active. This causes the <Speaker Off> softkey to be replaced with the <Speaker On> softkey, and the speaker to be turned on.

==> The system selects the speaker in readiness for playing the prompt. The speaker stays in readiness until the softkey <Speaker On> is pressed, or when the Prompt Manager Main Menu is exited.

(3) Press the <Play> softkey to play the prompt, or press the <Play w/ Tone> softkey to play the prompt with a tone overlay.

==> The system responds by obtaining a VI channel and playing the prompt.

Note: The <Speaker Off> softkey is a toggle that is initially set to Off. If the user presses the softkey, the sound of the prompt is transferred to the speaker on the terminal and the label on the softkey is changed to Speaker On.

Editing prompts

The major function of the voice editor is to create new issues of a prompt. The changes that can be included in the new issue are:

- create a new recording of the prompt with a different name
- change its description
- shorten duration at the beginning
- shorten duration at the end
- adjust playback level

(a) **Creating a new recording of the prompt with a different name.** The cursor is moved to the field Save As, and the new name of the prompt is typed in. If the name is new to the library, issue 0001 of the prompt is created when the prompt is saved. If the name of the prompt exists in the library, the current issue is incremented by one.

(b) **Changing the description of a prompt.** The description of a prompt can be changed only when the Voice Editor screen is displayed. To change the description, move the cursor to the field Description and type the new description in the 45 character space provided. The last character is replaced with the last character typed if more than 45 characters are typed. When the prompt is saved, the current issue is incremented by one to reflect the change of description.

(c) **Shortening the length of a prompt at the beginning.** A prompt may contain too much silence before speech commences. This unwanted silence can be removed by shortening the prompt at the beginning. This shortening can be done only when the Voice Editor screen is displayed. Move the cursor to the field Shorten Beginning By and enter the number of blocks to be deleted (one block is equivalent to 0.028 seconds). As an aid to determining how many blocks are required, the system displays the duration time of the number of blocks that are input, so that the shortening of the prompt can be adjusted. any changes are cancelled by entering 0 blocks to be shortened before saving the change. When the prompt is saved, the current issue is incremented by one to reflect the change of description.

(d) **Shortening the length of a prompt at the end.** A prompt may contain too much silence after speech has finished. The process of removing this unwanted silence is similar to the one above, except that Shorten End By field is used. When the prompt is saved, the current issue is incremented by one to reflect the change of description.

(e) **Adjusting the playback level.** The playback level is adjusted as required between the levels 0.1 dbm and 20.0 dbm in units of 0.1dbm The adjustment is made by moving the cursor to the field Adjustment and entering a value for the number of 0.1 dbm units that are to be added or deleted. The sign of the value entered is toggled between plus and minus each time the minus key (-) is operated. When the prompt is saved, the current issue is incremented by one to reflect the change of description.

The prompt edits are saved as a new issue of the same name of the prompt, or as a new issue of any new prompt. In this way new prompts are created. This is done as follows :

(1) Move the cursor to to the field Save As

==> The screen is ready to accept the name under which the prompt is to be stored in the Prompt library.

(2) Type the name of the prompt

==> the name of the prompt and the issue of the prompt as assigned by the system,is displayed,

(3) Press the <Save Prompt> softkey

==> a new bank of softkeys is displayed, comprised of the <Cancel> softkey and the <Confirm> softkey

(4) Press the <Confirm> softkey

==> the system updates the library and the previous bank of softkeys is displayed

(5) If additional prompts are to be edited press the softkey <Next Prompt>

==> the next prompt in the set is displayed

(6) If editing activities are complete press the softkey <Exit>

==> the Prompt Management menu is displayed

Although the prompt manager permits a prompt of up to 60 seconds in duration, the maximum duration of a TOPS VSN prompt is 8 seconds. If a prompt in the prompt manager is greater than 8 seconds in duration and is installed in the locality database, a log is generated from the ACPE when a call attempts to access locality treatment, and the call is routed to the operator.

Figure 7-7
Voice Editor screen and softkeys

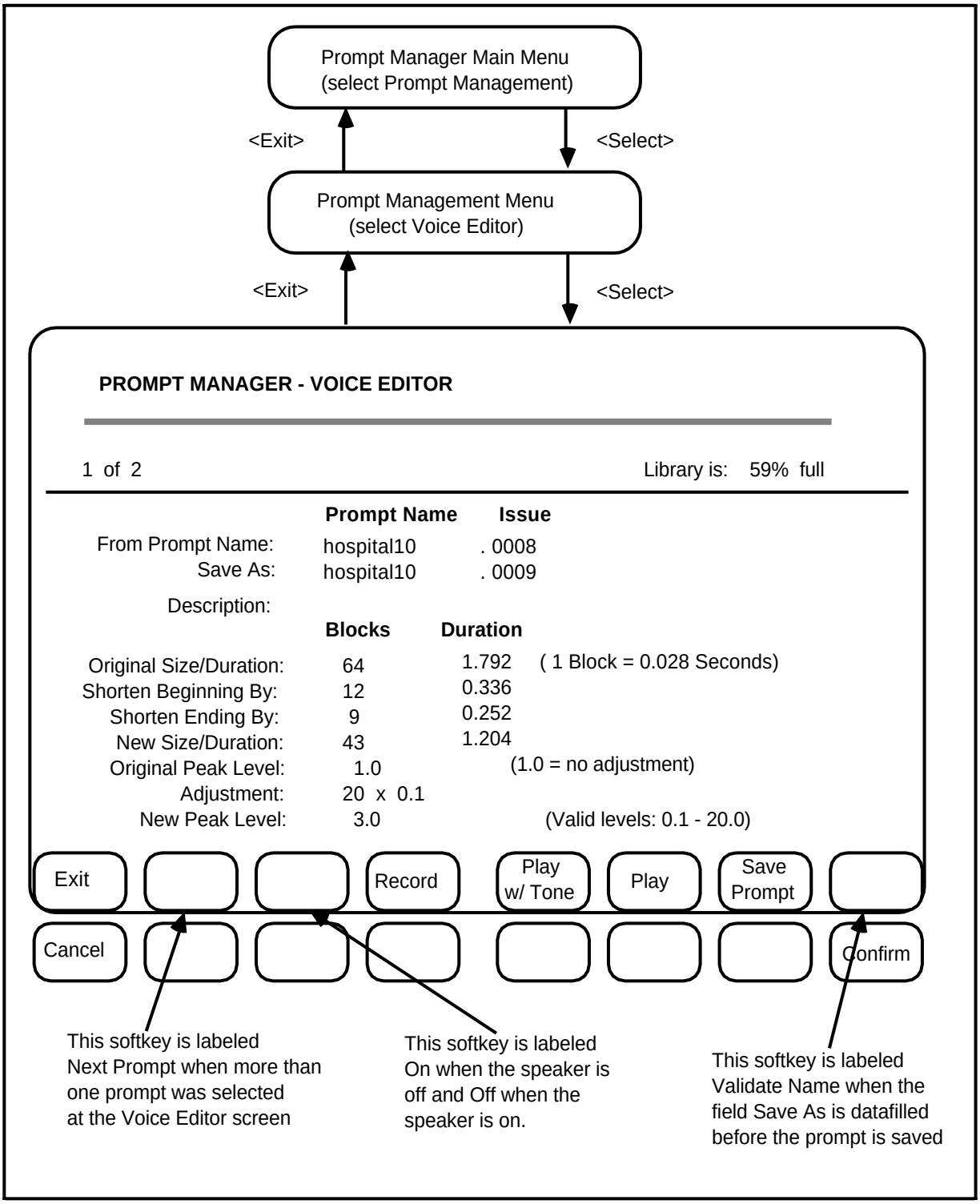
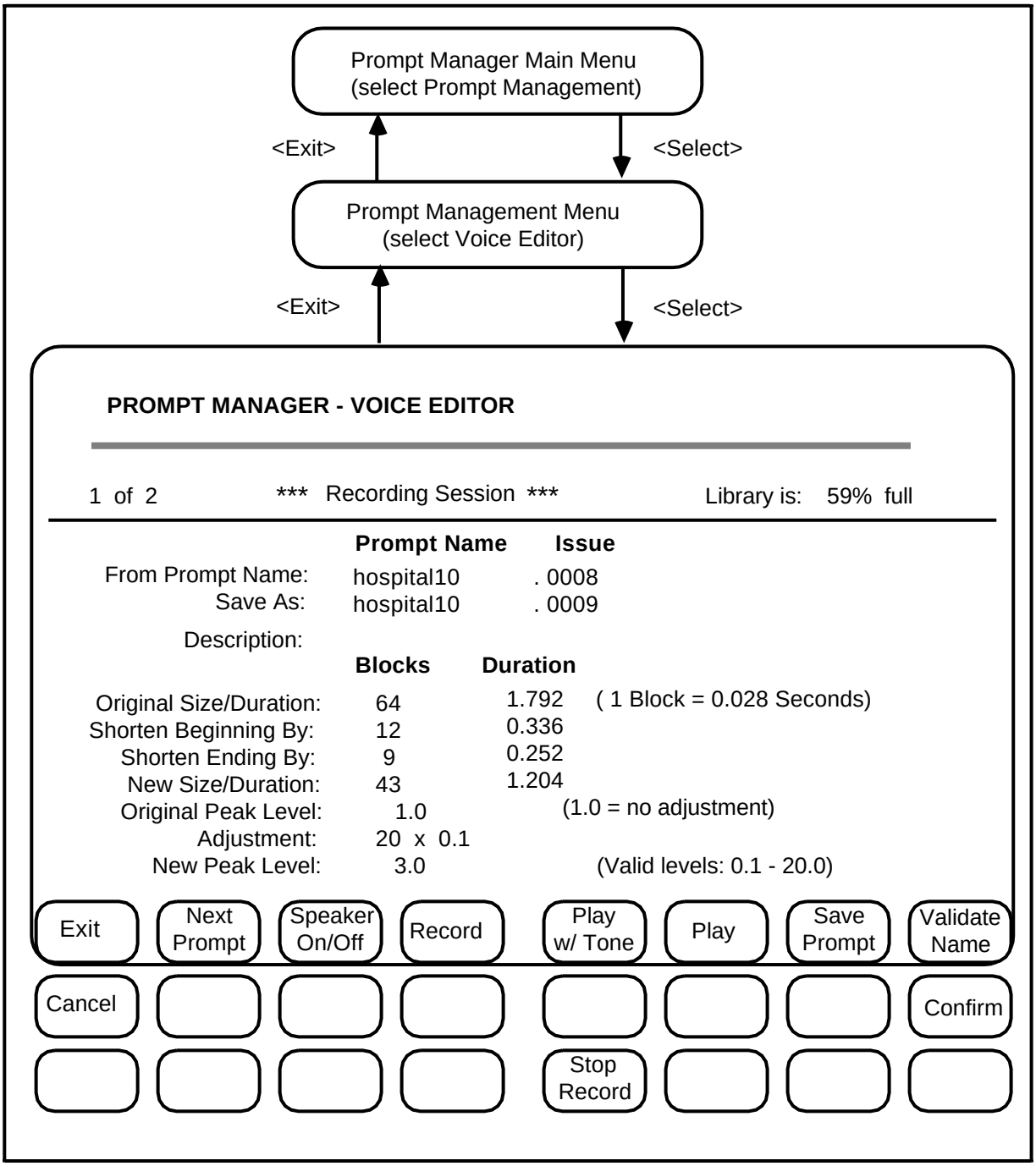


Figure 7-8
Voice editor screen during record session



Recording a prompt issue

Recording a prompt issue employs a VI channel. This use of a VI channel decreases the TABS call capacity by one resource unit, which could affect the number of incoming calls that can be handled by TABS during heavy traffic periods.

The procedure to record a new prompt, or to rerecord an existing one, begins at the Prompt Management Main Menu. When the Voice Editor is invoked without selecting any prompt issue, the system assumes that a new prompt is to be recorded. The steps of the procedure are as follows:

(1) At the Prompt Management Main Menu, press the <Edit> softkey

==> The system responds by displaying the Voice Editor screen

(Figure 7-7) with the existing values displayed in the data fields if the prompt is to be rerecorded, or empty data fields if the prompt is new.

(2) Move the cursor to the field Save as: and type in the name of the prompt

==> the name of the prompt is displayed and the issue number that is assigned by the system is displayed

(3) Move the cursor to the field Description and type in the description of the prompt. The size of the description text is limited to 45 characters.

==> The description of the prompt is displayed. If more than 45 characters are used, the last character that is displayed is replaced with the last character typed.

(4) Pick up the M4020 handset and press the <Record> softkey.

==> The system initiates a recording cycle, displays the third level of softkeys (see figure 7-8), and generates a tone to signal readiness for the start of recording.

(5) Record the prompt by speaking into the handset transmitter. When the prompt message is completed, press the <Stop Record> softkey.

Note: One second of silence during the recording also causes the recording to stop.

==> The system responds by inserting data into the voice editor screen, and displaying the first level of softkeys.

(6) Press the <Save Prompt> softkey

==> a new bank of softkeys is displayed, comprised of the <Cancel> softkey and the <Confirm> softkey

(7) Press the <Confirm> softkey

==> the system updates the library and the previous bank of soft keys is displayed

(8) If additional prompts are to be recorded, press the softkey <Next Prompt>

==> the next prompt recording session is ready

(9) If recording activities are complete, press the softkey <Exit> .

==> the Prompt Management menu is displayed

Saving prompt issues as members of a set

This section describes a method of generating a new set from a collection of prompts. If the intent is to add a prompt (or prompts) to an existing set, it is better to use set management procedures to locate the set, and not use this procedure.

Note: A prompt issue may be a member of more than one set issue.

This procedure selects a number of prompt issues and places them in a new set issue. The procedure starts with the Prompt Management screen displayed.

The pre-requisites for this procedure are as follows:

- the name of the new set has been determined; if the name exists in the locality database,the next issue is created.
- the prompt issues are known

(1) Identify the prompt issues that will be formed into the set using the procedure described in the section called Search For A Known Prompt In The Library.

==> The system responds by displaying the identified prompt issues, and the paging softkeys, if there are more than ten prompt issues identified.

(2) Select all of the displayed prompt issues by using the cursor and the <Select All> softkey, or select them individually using the <Select/Unselect> softkey.

Note: When the softkey <Select All> is operated its label toggles to <Unselect All>.

==> The system confirms the selection by highlighting all of the selected prompt issues.

(3) Move the cursor to the Save Set As: field, then input the name of the set. Press the <Save Set> softkey to save the set in the Prompt library.

==> The system appends an issue number as a suffix to the set name, and displays a message on the message line to tell the user the name of the set and the number of prompts that are in the set.

After the set has been saved in the Prompt library, it is advisable to verify that the set has been saved and that the set issue contains the correct prompt issues (use the Search For A Known Prompt In The Library procedure).

Copying a prompt issue

Prompt issues can be copied from one prompt issue to a new prompt issue at the Prompt Management screen. The user first selects the prompt issue (or issues) and inputs the new prompt issue under the heading New Prompt Name.Issue. If a prompt name is missing or is a duplicate, an error message is displayed asking if the copy function is to continue. When the copying is completed the user should save and confirm the action. The following procedure describes a method of copying prompt issues

This procedure commences with the Prompt Management screen displayed.

(1) Identify the prompt issues that will be copied, using the procedure described in the section called Search For A Known Prompt In The Library.

==> The system responds by displaying the identified prompt issues; if there are more than ten prompts displayed the paging softkeys are also displayed.

(2) Select each prompt issue separately, by using the cursor and the <Select/ Unselect> softkey; all prompt issues can be selected by using the <Select All> softkey.

==> The system confirms the selection by highlighting the selected prompt issue.

(3) Input, in turn, the new prompt names, and press the <Copy> softkey.

==> The system responds by copying the prompts to the new prompt issues, displaying a message that identifies the name of the prompt that is being copied. If the system detects an error (prompt name missing or a duplicate name), it displays an error message, and does not copy that prompt.

If the prompt issues are to be used in a new set issue, select the new prompt issue and then use the procedure Save A Prompt Issue As A Member Of A Set.

Note: The prompt issues have only been copied, the original prompt issues still remain in the locality library.

Archiving a prompt issue

When prompt issues are no longer required they are removed from use by archiving. A user is able to make a prompt pending archive, after which the administrator can permanently archive the prompt.

This procedure describes a method of changing the state of a prompt issue (or issues) from active to pending archive. In the pending archive state a prompt is not visible in the library.

This procedure commences with the Prompt Management screen displayed.

(1) Identify the prompt issues that are to be archived, using the procedure described in the section called Search For A Known Prompt In The Library.

==> The system responds by displaying the identified prompt issues, and if required the paging softkeys.

(2) Select the prompt issues, separately using the <Select/ Unselect> softkey, or collectively using the <Select All> softkey.

==> The system responds by highlighting identified.

(3) Press the <pending archive> softkey to change the state of the highlighted prompt issues to the pending archive state.

==> The system responds by requesting confirmation of the change and displaying the <Confirm> and <Cancel> softkeys.

(4) Press the <Confirm> softkey to complete the archiving task.

==> The system responds by marking the prompt issues as pending archive. The pending archive prompts can be displayed at an administration

position only. A message is then displayed on the status line to confirm that the archiving function was performed correctly.

Listing the set membership of a prompt

There are occassions when it is necessary to determine which set issues contain a particular prompt issue (or issues). This section describes a method of identifying these set issues. To accommodate large set lists, softkeys are available to scroll through pages, and to quit the listing.

This procedure commences with the Prompt Management screen displayed.

(1) Identify the prompt issues that are to be queried, using the procedure described in the section called Search For A Known Prompt In The Library.

==> The system responds by displaying the identified prompt issues, and the paging softkeys, if they are required

(2) Select each prompt issue separately , using the <Select/ Unselect> softkey.

==> The system responds by supplementing each selected prompt issue with an asterisk (*).

(3) Press the <List Set Membrshp> softkey to list the set membership for the prompt issue highlighted.

==> The system responds by listing the required set issues on the right hand side of the screen.

If the list is longer than one page use the <Next Page> and <Previous Page> softkeys to view the list.

If there are more than one prompt issue to be investigated, use the <Next Prompt> and <Previous Prompt> softkeys to select other prompt issues and repeat the above procedure.

When finished, use the <End List Set> softkey to exit the function.

Managing sets

Set management consists of the following functions:

- Search for a set issue in the library
- Edit a particular set issue
- Copy set issues
- Archive set issues
- Install set issues

The above functions can be performed from the Set Management screen, an item from the Prompt Manager Main Menu.

The following group of procedures describe methods of managing the Prompt library. They are small procedures that assume that the user has logged in to the TOPS VSN system with a login name and password that has access to the Prompt Manager.

Searching for a known set in the library

This procedure commences from the Prompt Manager Main Menu.

(1) Move the cursor to the Set Management option ; then press the <Select/Unselect> softkey.

==> The Set Management screen is displayed (see figure 7-9).

(2) Move the cursor to the Find String field. When the field is highlighted, input the name and issue of the required set (or sets) and press the softkey <Find>. If an asterisk is used with a partial name and issue, all sets that match the partial name are in the search.

==> The system searches for the required set or sets, and displays their name and issue on the screen. If there is more than one page of sets in the search string, the first page of the sets are displayed together with the page manipulation softkeys.

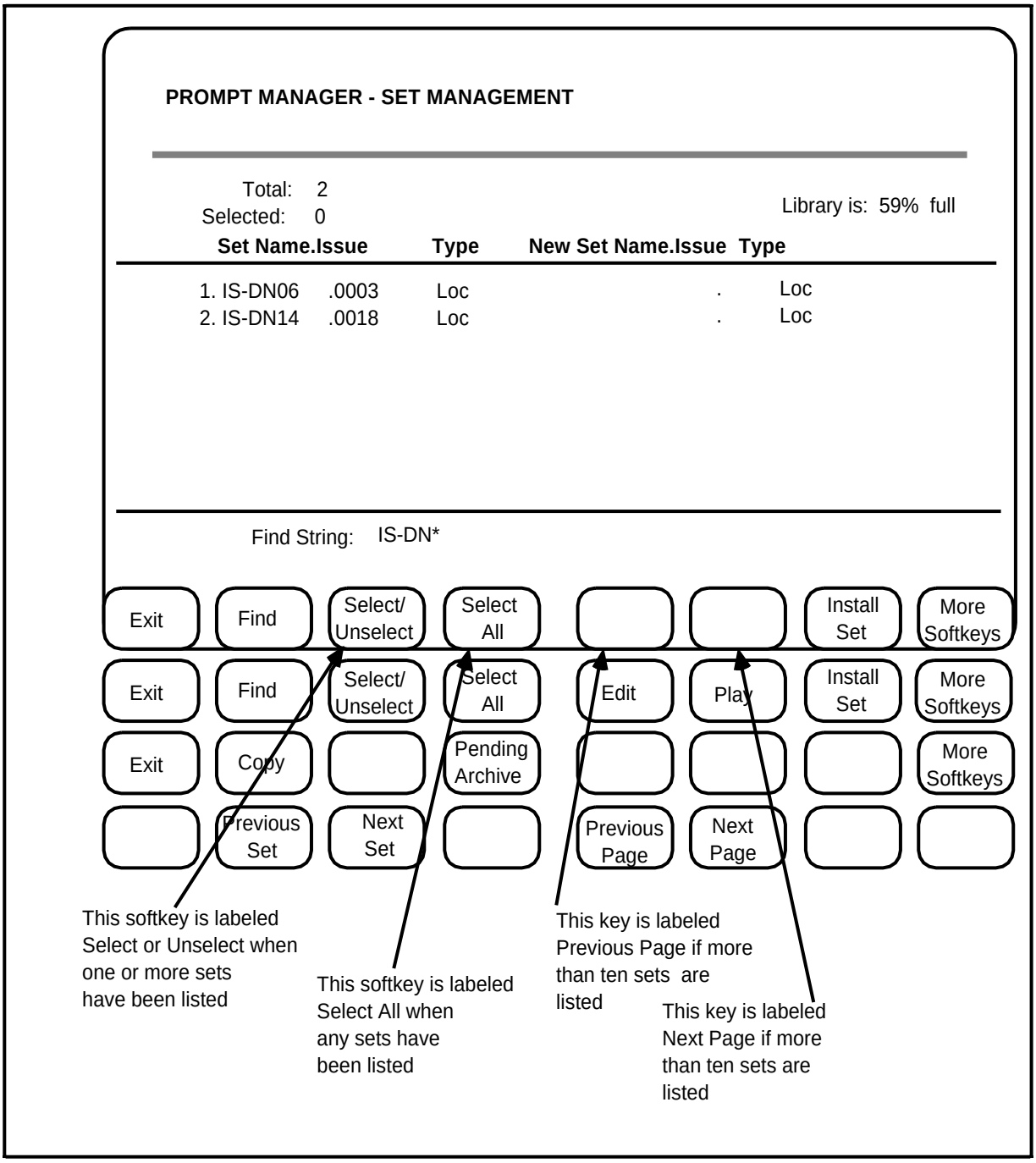
Note 1: The number of set issues in the search string is also displayed at the top left of the display, under the heading Total.

Note 2: The Find string must be a complete set name and issue. When all the sets in the library are required the characters *.* are used.

Note 3: A string that uses UNIX general expressions can also be used to find sets. The data in the Find String entry area treats strings that start with double quotation marks (") as general expressions.

At this point the Add and Edit procedures that apply to a set can be conducted. The procedures are described in the following pages.

Figure 7-9
Set management screen and softkeys



Editing a set issue

The main purpose of editing a set issue is to change the prompts that are in that set. Therefore when entering the edit function with a selected set, the system changes the display to the prompt management screen, where the new set issue is saved. When the changes have been made they are saved to the set issue that has been incremented by one.

This procedure commences at the Set Management screen, with the set or sets displayed (see "Search for a Known Set in the Library").

(1) To select a set issue move the cursor to the displayed set issue and press the <Select/ Unselect> softkey. To select all of the set issues press the <Select All> softkey.

==> The system confirms the selection by adding an asterisk (*) beside each set issue that is selected, and displaying the next level of softkeys.

(2) Press the <Edit> softkey.

==> The system displays the Prompt Management screen with all of the prompt issues of the selected set issue (or the first prompt of a number of set issues).

(3) Move the cursor to the data entry field beside the field Find String and enter the string to identify the prompts that are to be edited. Then press the <Find> softkey.

==> The system displays the prompts that are to be edited

(4) Add or delete prompts in the set as required.

(5) When the editing is complete, move the cursor to the Save Set as: field and input the set name.

==> The system responds by saving the changes, if any, of prompt issues in the set to the designated set issue. If the set already exists in the library, the system will increment the issue by one, or if it is a new issue the system will give the set an issue of 0001.

Copying a set issue

Sets can be copied from one set issue to a new set issue at the Set Management screen. The user first selects the set issue (or issues) and inputs the new set issue under the heading New Set Name.Issue. If a set name is missing, or if it is a duplicate, an error message is displayed asking if the copy function is to continue. The following procedure describes a method of copying set issues

This procedure commences with the Set Management screen displayed.

(1) Identify the set issues that will be copied, using the procedure described in the section called Search For A Known Set In The Library.

==> The system responds by displaying the identified set issues, and if required the paging softkeys.

(2) Select each set issue separately, by using the cursor and the <Select/ Unselect> softkey, or collectively by pressing the <Select All > softkey.

==> The system confirms the selection by adding an asterisk (*) beside the selected set issues.

(3) Input the new set names in the highlighted column, and press the <Copy> softkey.

==> The system responds by copying the sets to the new set issues, and displays an identification of each set as it is being copied. If the system detects an error (set name missing or a duplicate name), it displays an error message, and does not copy that set.

Note: The set issues have only been copied, the original set issues still remain in the Prompt library.

Archiving a set issue

When set issues are no longer required they are removed from use by archiving. A user is able to make a set pending archive, the administrator can then permanently archive the set.

This section describes a method of changing the state of a set issue (or issues) from active to pending archive. In the pending archive state the set issue is not visible in the library.

This procedure commences with the Set Management screen displayed.

(1) Identify the set issues that are to be archived, using the procedure described in the section called Search For A Known Set In The Library.

==> The system responds by displaying the identified set issues, and the paging softkeys if they are required.

(2) Select the set issues, separately using the <Select/ Unselect> softkey, or collectively using the <Select All> softkey.

==> The system responds by highlighting the selected set issues.

(3) Press the <pending archive> softkey to change the state of the highlighted set issues to the pending archive state.

==> The system responds by requesting confirmation of the change and displaying the <Confirm> and <Cancel> softkeys.

(4) Press the <Confirm> softkey to complete the archiving task.

==> The system responds by marking the set issues as pending archive. The pending archive sets can be displayed at an administration position only. A message is then displayed on the status line to confirm that the archiving function was performed correctly.

Installing a set issue

Prompts are installed in the TOPS VSN as members of sets, therefore only set issues are installed in the TOPS VSN system. The Installing Set Issues function is performed from the Set Management screen.

This section describes a method of installing a set issue in the TOPS VSN system.

Note: Installing a set issue, replaces an existing set issue in the TOPS VSN with different set issue.

This procedure commences with the Set Management screen displayed.

(1) Identify the set issue that is to be installed, using the procedure described in the section called Search For A Known Set In The Library.

==> The system responds by displaying the identified set issue.

Note: Only one set issue can be installed at any one time.

(2) Select the set issues, using the <Select/ Unselect> softkey,.

==> The system responds by highlighting the selected set issue and displaying the <Install Set> softkeys.

(3) Press the <Install Set> softkey to install the highlighted set issue in the TOPS VSN system.

==> The system responds by requesting confirmation of the change and displaying the <Confirm> and <Cancel> softkeys.

(4) Press the <Confirm> softkey to complete the installation.

==> The system installs the set issue in the TOPS VSN system. A message is then displayed on the status line to confirm that the installation was performed correctly.

If a prompt issue is missing, or if the locality database is in use, the set cannot be installed. An appropriate message is then displayed on the status line.

Administration procedures

An administrator has the ability to perform administrative fuctions on the prompt and set libraries, and control the frequency of back-up tasks. These functions and tasks are controlled from the prompt manager's Administration Menu. This menu contains three items (see also figure 7-10)

- **Prompt Archive Management.** This menu item provides an administrator with the tools to copy the Prompt library to tape, restore the Prompt library from tape, query the tape for archive name, view the date and name of the last archive, and change the status of the prompt.
- **Set Archive Management.** This menu item provides an administrator with the tools to copy the Prompt library to tape, restore the Prompt library from tape, query the tape for archive name, view the date and name of the last archive, and change the status of the set.
- **Parameter Management.** This menu item provides an administrator with the tools to change the back-up parameters of the prompt manager.

Prompt archive management

This section describes procedures that are initiated from the Prompt Archive Management menu item.

Copying the Prompt library to tape

This procedure enables an administrator to copy the Prompt library to tape for archiving purposes. The procedure commences from the Prompt Manager Main Menu, and assumes that the user has the status of administrator.

(1) Move the cursor to the Administration menu item (from the Prompt Manager Main Menu), then press the <Select/Unselect> softkey.

==> The system responds by presenting the Administration Menu, as shown in figure 7-10

(2) Move the cursor to the Prompt Archive Management menu item, or the Set Archive Management menu item, then press the <Select/Unselect> softkey.

==> The system responds by presenting the Prompt Archive Management screen, as shown in figure 7-11.

(3) Load a blank tape on the tape handler, and ensure that it is online.

CAUTION

The copying process assumes that there is no data on the tape, therefore it is essential that a blank tape is used, or one that can be overwritten, and is not write protected.

(4) Move the cursor to the Tape Name field, and input the name that is to be used as the tape name. Then press the <More Softkeys>softkey.

==> The system responds by displaying the next bank of softkeys.

Then press the <Save Library> softkey to request a start to the copying process

==> The system responds by displaying the <Confirm> and <Cancel> softkeys, and a message warning that the entire Prompt library is to be copied to tape.

Note: The tape name can be any 14 character name that can be used to identify a particular archive.

(5) Press the <Confirm> softkey to start the copying process.

==> The system copies the entire prompt manager database to tape, and displays the <Save> softkey (all other softkeys are not visible) during the process.

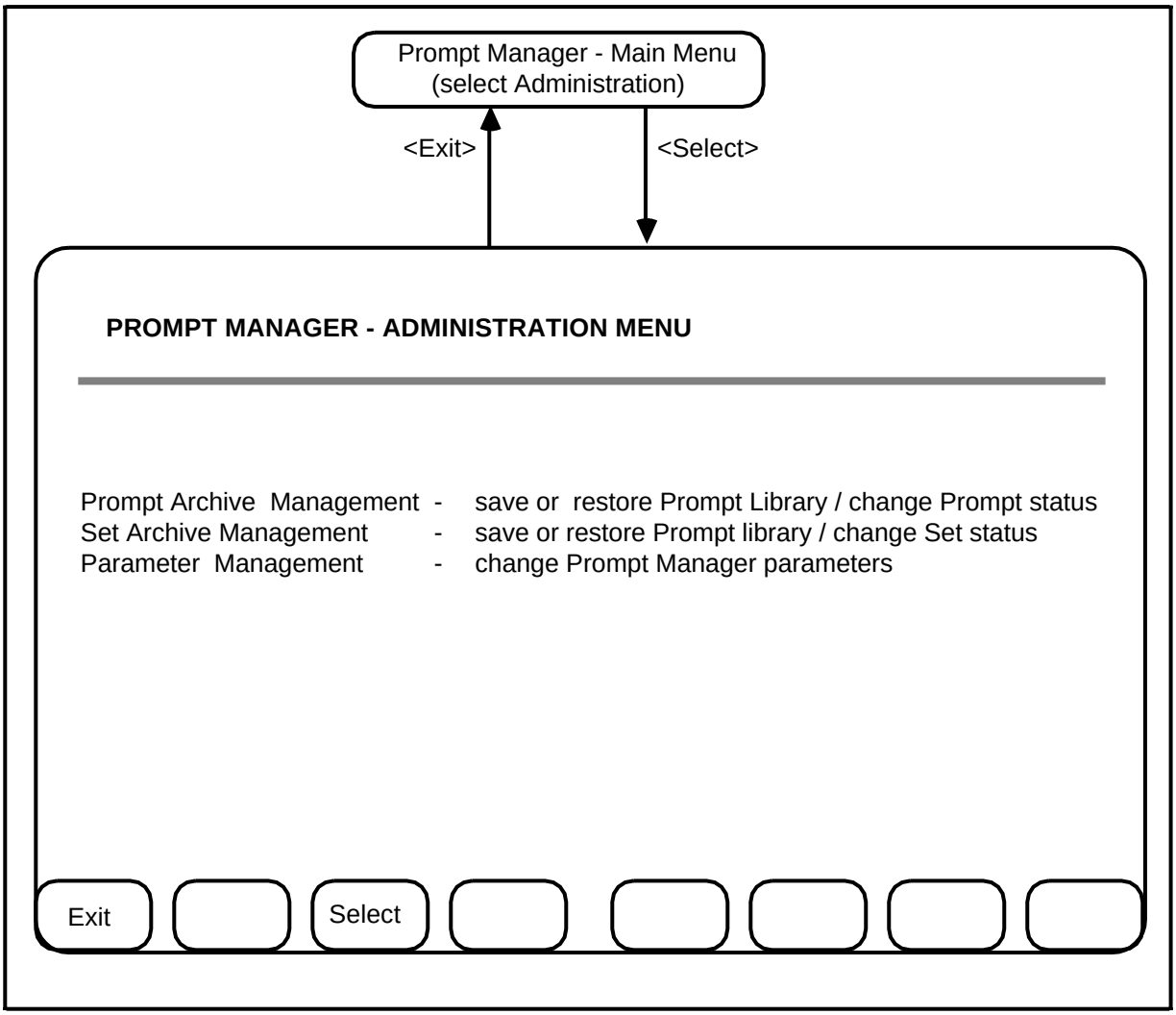
Note: The tape name and a time stamp are also written to tape.

(6) When the copying is complete the system returns the softkeys to first level.

The administrator can stop the copying process at any time by pressing the <Save> softkey.

Note: The archiving procedure assigns the status archived to all prompt and set issues that have a status of pending archive, these prompt and set issues cannot now be assigned the status active. The archiving process removes the data physically from the library, and the space is available for other use.

Note: Figure 7-10
Administration menu screen



Restoring the Prompt library from tape

The administrator can restore the Prompt library from a previous archive. The procedure commences from the Prompt Manager Main Menu, and assumes that the user has the status of administrator.

(1) Select the Administration menu item (from the Prompt Manager Main Menu), by using the cursor keys, then press the <Select/Unselect> softkey.

==> The system responds by presenting the Administration Menu, as shown in figure 7-10.

(2) Select the Prompt Archive Management menu item, by using the cursor keys, then press the <Select/Unselect> softkey.

==> The system responds by presenting the Prompt Archive Management screen, as shown in figure 7-11

(3) Mount the archive tape on the tape handler, and ensure that it is online.

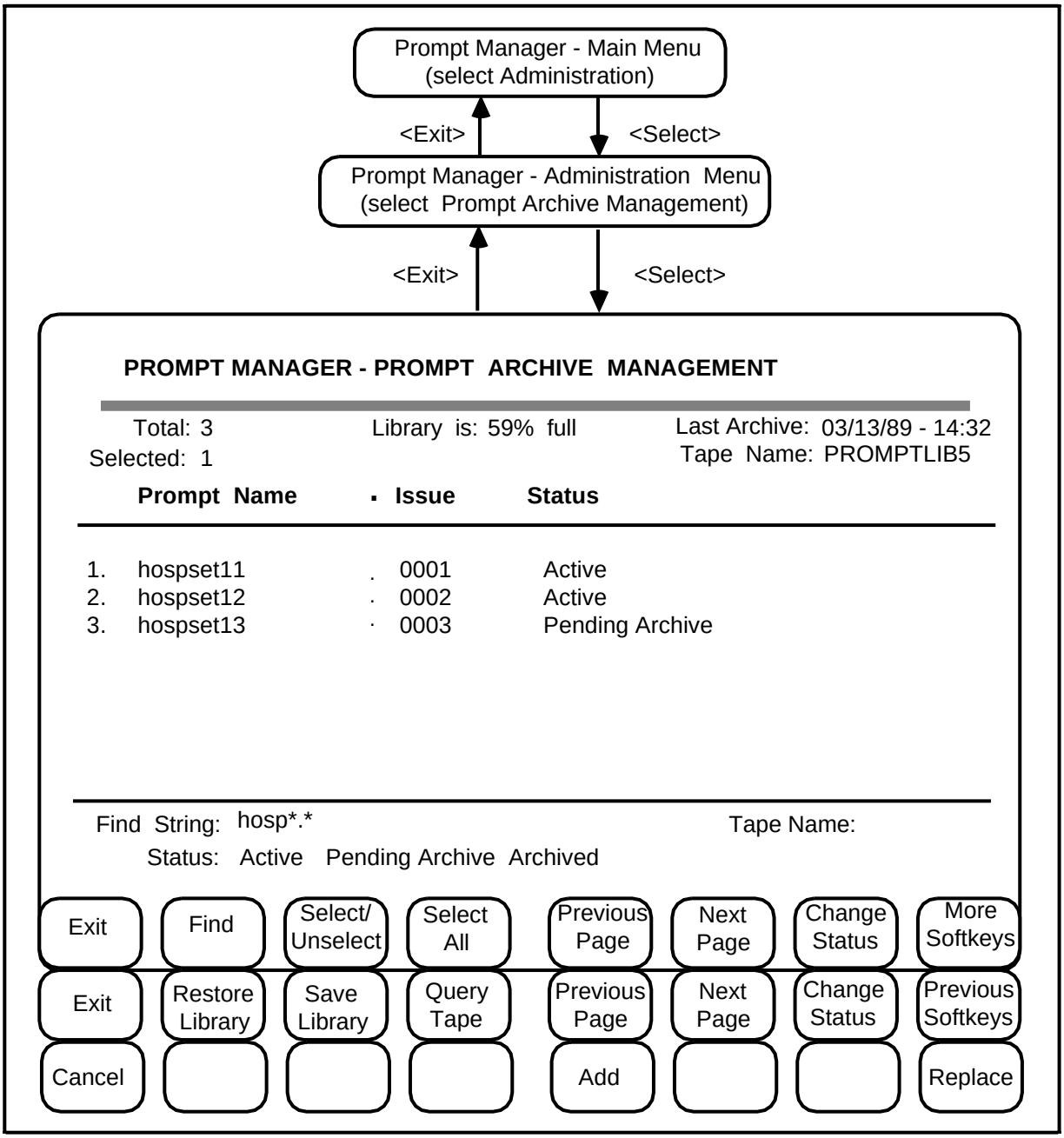
(4) Press the <Restore Library> softkey to initiate the restoration process (if this softkey is not visible, use the <More Softkeys> softkey to display the next level).

==> The system responds by displaying the tape name and the time stamp of the archive on tape, and then displays the <Confirm> and <Cancel> softkeys.

(5) Press the <Confirm> softkey to start the process.

==> The system replaces the entire Prompt library using the library from tape. Once started, the process cannot be stopped using the <Abort> softkey.

Figure 7-11
Prompt archive management screen



Querying a tape for its archive name

The query tape facility is available for the user to verify that the tape mounted on the tape handler is the correct tape. The facility is available from the Prompt Management screen, and displays the tape name and the associated time stamp without reading any other data from the tape. The procedure commences from the Prompt Manager Main Menu, and assumes that the user has the status of administrator.

(1) Select the Administration menu item (from the Prompt Manager Main Menu), by using the cursor keys, then press the <Select/Unselect> softkey.

==> The system responds by presenting the Administration Menu, as shown in figure 7-10.

(2) Select the Prompt Archive Management menu item, by using the cursor keys, then press the <Select/Unselect> softkey.

==> The system responds by presenting the Prompt Archive Management screen, as shown in figure 7-11

(3) Mount the archive tape on the tape server, and ensure that the tapeserver in cabinet 1, slot 6-PRU under the prime processor is in the state "working".

(4) Press the <Query Tape> softkey (if this softkey is not visible, use the <More Softkeys> softkey to display the next level).

==> The system responds by displaying the tape name and the time stamp of the archive on tape.

Obtaining details of all prompt issues in the library

This procedure is useful for identifying prompt issues in the library, and whether they are active, pending archive, or archived. The procedure commences from the Prompt Manager Main Menu, and requires that the user has the status of administrator.

(1) Select the Administration menu item (from the Prompt Manager Main Menu), by using the cursor keys, then press the <Select/Unselect> softkey.

==> The system responds by presenting the Administration Menu, as shown in figure 7-10.

(2) Select the Prompt Archive Management menu item, by using the cursor keys, then press the <Select/Unselect> softkey.

==> The system responds by presenting the Prompt Archive Management screen, as shown in figure 7-11.

(3) Move the cursor to the Find String field and input a string to be located

If all prompts in the library are required, input the string *.* in this field.

(4)• Use the arrow keys to move the cursor to the field Status: and highlight the each status that is to be searched by pressing the <Select/Unselect> softkey. An unhighlighted status is highlighted by pressing the <Select/Unselect> softkey, and a highlighted status is unhighlighted by pressing the <Select/Unselect> softkey. One , two, or all of the statuses can be highlighted. The find does not function if no status is highlighted.

(5)• Press the <Find> softkey.

The softkeys are replaced with a new bank of keys as follows:

- the softkey <Add> is pressed to add the new prompts to the prompts that are already selected for display
- the softkey <Replace> is pressed to replace with the new prompts, the prompts that were selected for display
- the softkey <Cancel> is pressed to cancel the search

When any of the softkeys is pressed the previous bank of softkeys is redisplayed.

==> The system displays a list of the name, issue, and status of all the prompt issues that were requested (the total at the top of the screen reflects

the number of prompt issues that were selected for display by the previous Find).

After the prompts are displayed, the status of any prompt issue can be changed, unless the status of the prompt is Archived, or the prompt is a member of a set.

Changing the status of a prompt issue

After obtaining details of a prompt issue in the library, the status of the active or pending archive prompt or prompts can be changed at the Prompt Archive Management screen as follows:

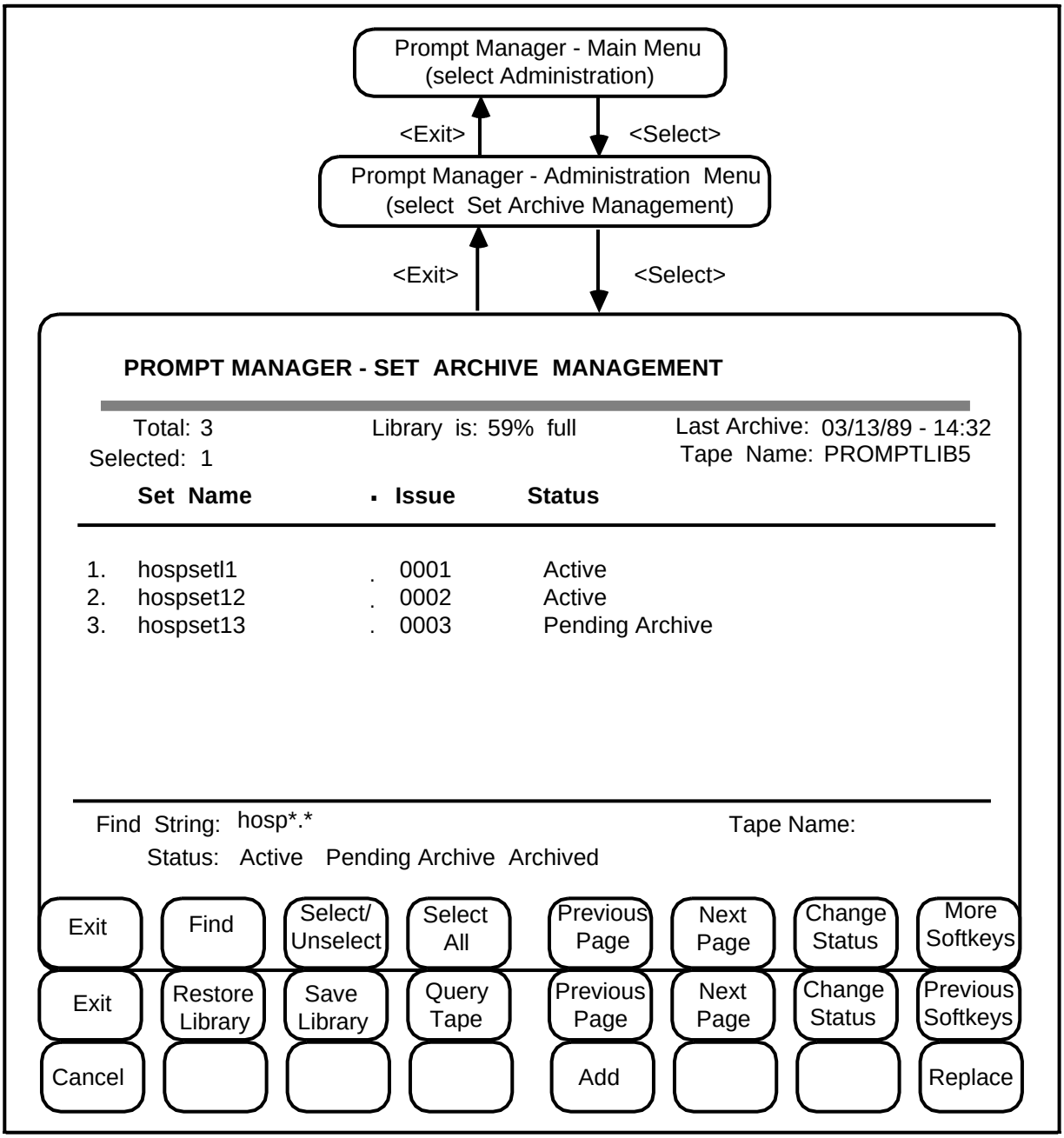
(1) Move the cursor to the field Prompt Name at the prompt that is to be changed in status, and then press the <Change Status> softkey. The change of status is completed.

Prompts that are in status archived are not affected by the <Change Status> softkey.

Set archive management

The functions available for set archive management are similar to those for prompt archive management. The same procedures can be used, substituting the term "prompt" for the term "set". The correct screen for the Set Archive Management is shown in figure 7-12.

Figure 7-12
Set archive management screen



Parameter management

Parameter management is the setting of back-up parameters on the system. The parameters generate advisory messages, when certain levels are exceeded, to inform the administrator that remedial action must be taken.

Back-up consists of archiving the prompt and set libraries as a precautionary measure against errors in the libraries.

A value of 0 in any one of the parameter fields turns off the advisory message that is associated with that paramater.

Changing the back-up parameters

This procedure describes a method of changing the back-up parameters. The procedure commences from the Prompt Manager Main Menu, and assumes that the user has the status of administrator.

(1) Move the cursor to the Administration menu item (from the Prompt Manager Main Menu), and then press the <Select/Unselect> softkey.

==> The system responds by presenting the Administration Menu, as shown in figure 7-10.

(2) Move the cursor to the Parameter Management menu item, and then press the <Select/Unselect> softkey.

==> The system responds by presenting the Parameter Management screen, as shown in figure 7-13.

(3) Move the cursor to the parameter that requires changing and then input the new value. (When changes are made the <Save> softkey is displayed) When all changes have been made press the <Save> softkey to make the values active.

==> The system responds by displaying the new value and making the values active.

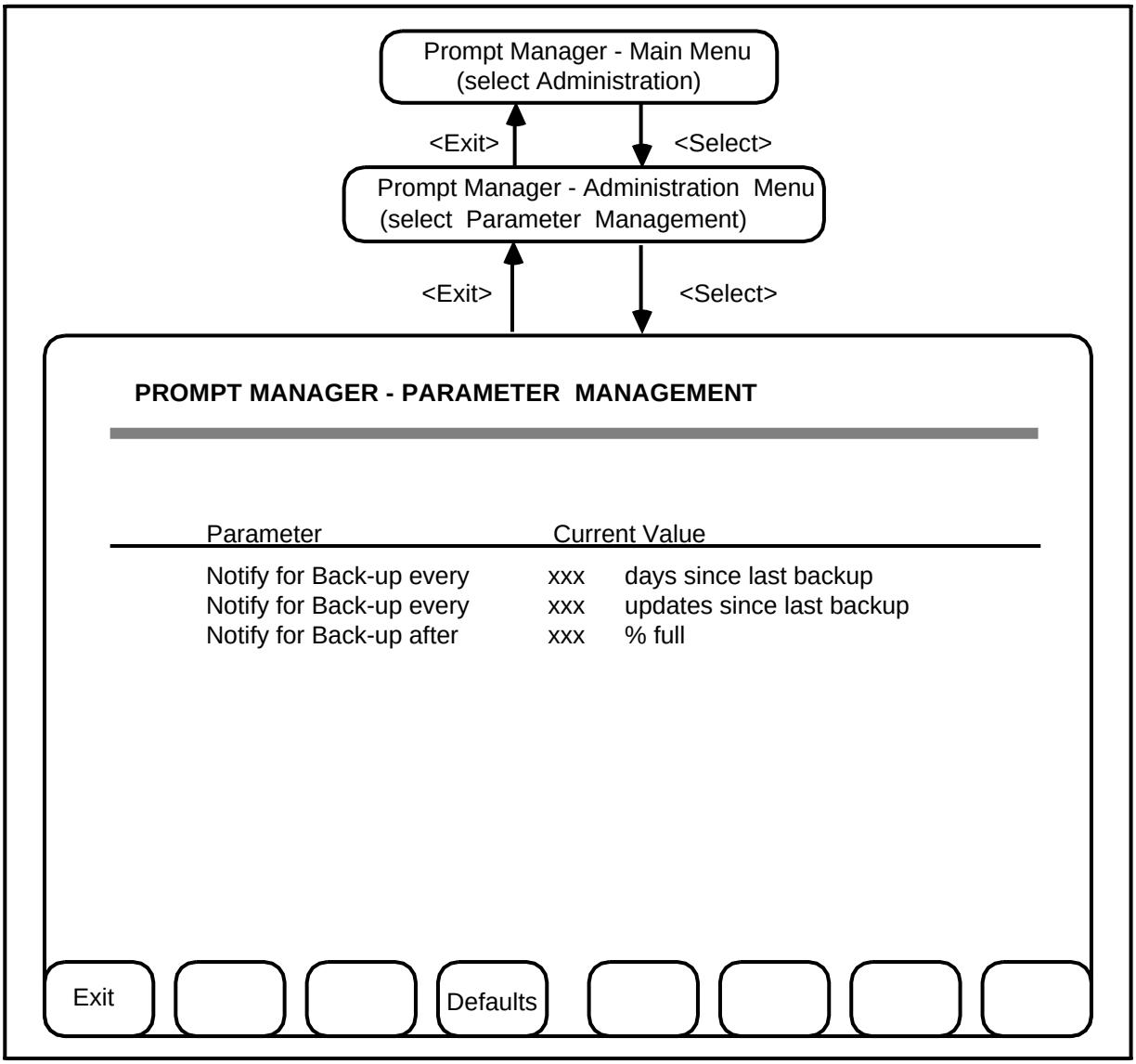
Note: If the <Exit> softkey is pressed without previously pressing the <Save> softkey, the following message is displayed:

Changes will be lost without first saving changes. Still exit?

Now press the <Exit> softkey to exit without saving the change, or press the <Save> softkey, to save the change,and then the <Exit > softkey.

(4) Press the <Defaults> softkey to display the default values for all the Parameter fields.

Figure 7-13
Parameter management screen



8. TOPS VSN datafill on the DMS

In order for the DMS to communicate with the TOPS VSN, a number of DMS tables must be completed with TOPS VSN specific information. Some tables are new and others such as table TRKGRP, only require additions to existing tables. There are five new DMS tables and three modified tables which require TOPS VSN specific data entry.

The new tables are:

(a) AABSOST table

(b) VSNOPT table

(c) VSNMEMBR table

(d) TOPSVNIN table

(e) MPCLINK table

(f) VSNALARM table

The modified tables are:

(a) TRKGRP table

(b) MPCFASTA table

(c) MPCLSET table

The following existing DMS tables must also be updated to include TOPS VSN specific data. These tables are:

(a) CLLI table

(b) TRKSGRP table

(c) TRKMEM table

(d) MPC table

Tables should be completed in the order in which they appear in this Practice. In all cases, only the parameters specific to TOPS VSN are given and discussed in this Practice. For complete details refer to the DMS reference provided for each table.

These tables must be completed by operating company personnel from a Maintenance and Administration Position (MAP) terminal. Instructions for using the MAP terminal and for modifying DMS tables are found in Practices 297-1001-110 (Maintenance and Administration Position [MAP]) and 297-1001-520.

Office parameter tables

There are two DMS office parameter-type tables required to operate TOPS VSN equipment. They are

- CLLI
- VSNOPT

table CLLI

The Common Language Location Identifier (CLLI) table is used to identify and index all trunk groups associated with a particular DMS switch. All trunk groups are uniquely identified. This table must be completed before table TRKGRP and table AABSOST.

Table 8-A identifies the parameters and values of table CLLI that are specific to TOPS VSN.

Reference

Refer to 297-1001-455.

Table 8-A
table CLLI parameters for TOPS VSN

Parameter Name	Value	Description/Reference
CLLI	TOPS VSN	Identifies valid incoming and two way trunk groups. An entry must be made in this table for the AABS TOPS VSN application.
ADNUM		Identifies theadministration trunk group number. This number must be unique and can be any number between 0 and one less than the size of the table CLLI shown in table DATASIZE.
TRKGRSIZ	0-2047	Identifies the number of trunk members this trunk group is expected to handle.
ADMININFO	TOPSVL	Identifies the trunk group type which is a subfield of the ADMININO parameter. This parameter has other subfields associated with it.

table VSNOPT

The Voice Service Node Options (VSNOPT) table is an office parameter-type table used to identify TOPS VSN office parameters without making changes to the following traditional office parameter tables: OFCOPT, OFCENG, OFCSTD, OFCVAR.

table 8-B identifies all the parameters and values of table VSNOPT. Recommended default values are also given.

Reference

Refer to 297-2271-455.

Table 8-B
table VSNOPT parameters for TOPS VSN

Parameter Name	Value
COLLECT_ACCEPT_AUTO_OP	Y/N Default: Y
NUM_HANDOFFS_ALLOWED	0-15 (integer) Default: 0
ONHOOK RECOVERY_TIMER	0 -120 seconds. Default: 5
OPR_SIMULATED_OUTPULSING	Y/N. Default: Y
OPR_0PLUS_3RD_DISPLAY	1-6 characters. Default: 0+3RD
OPR_0PLUS_COL_DISPLAY	1-6 characters. Default: 0+COL
OPR_0PLUS_3RDCON_DISPLAY	1-6 characters. Default: 3RDCON
OPR_0PLUS_CLDCON_DISPLAY	1-6 characters. Default: CLDCON
SPL_SPL_BILLING_ALLOWED	Y/N Default: N
VOICE_LINK_CLLI	clli Default: none

Trunk tables

There are four trunk tables associated with the operation of TOPS VSN. They are:

- TRKGRP
- TRKSGRP
- TRKMEM
- VSNMEMBR

All tables listed above require data entry.

table TRKGRP

The Trunk Group (TRKGRP) table is used to identify and define a large group of trunk members that have similar characteristics and functions.

Table 8-C identifies and describes the parameters and values of table TRKGRP as they apply to TOPS VSN.

Reference:

Refer to 297-1001-451.

Table 8-C
table TRKGRP parameters for TOPS VSN

Parameter Name	Value	Description/Reference
GRPKEY	TOPSVSN	Indexes the trunk group name CLLI to this trunk group definition.
GRPTYP	TOPSVL	Identifies the the trunk group type which handles voice links to the external application.
TRAFSNO	0-127	Identifies the traffic separation number assigned to each trunk group with a type of TOPSVL.
PADGRP	NPDGP	Identifies the pad name assigned to the trunk group in table PADDATA. The value should be NPDGP.
NCCLS	NCRT	Requires datafill to satisfy table control, but is otherwise not required for trunk group type TOPSVL. An entry of NCRT satisfies table control.
SELSEQ	MIDL	Identifies the type of selection sequence used. This value must be MIDL, the most idle trunk.

table TRKSGRP

The Trunk Subgroup (TRKSGRP) table is used to identify and define a smaller group of trunks broadly defined by the trunk group definition. Each member of a subgroup shares a number of similar characteristics and functions.

Table 8-D identifies and describes the parameters and values of table TRKSGRP as they apply to TOPS VSN.

Reference

Refer to 297-1001-451.

Table 8-D
table TRKSGRP parameters for TOPS VSN

Parameter Name	Value	Description/Reference
SGRPKEY		Indexes this name to the definition of the subgroup. The subgroup name is a concatenation of the CLLI and trunk group number.
CLLI	TOPSVSN	Identifies the trunk group to which the trunk subgroup belongs.
SGRP	0 or 1	Indexes the trunk group. There can only be two TOPSVSN subgroups, either 0 or 1.
CARDCODE		Identifies the trunk card type by engineering product code.
SGRPVAR		Identifies a number of subgroup variables.
SIGDATA	STD	Specifies standard signalling data.
CONTMARK	+	Indicates that the tuple continues.
DIR	OG	Specifies an outgoing circuit.
IPULSTYP	blank	Specifies no incoming trunks.
ISTARTSG	blank	Specifies no incoming trunks.
PSPDSEIZ	blank	Specifies no incoming trunks.
PARTDIAL	blank	Specifies no incoming trunks.
OPULSTYP	NP	Specifies no pulse.
OSTARTSG	IM	Specifies immediate signalling.
Others		There are a number of non TOPS VSN specific data entry fields. Data should be entered according to rules described in the Practice indicated above.
REMBSY	Y	Specifies that the trunk subgroup has the remote make busy feature.

table TRKMEM

The Trunk Member (TRKMEM) table is used to identify and define each trunk that has already been broadly defined by the trunk group definition and more specifically defined by the subgroup definition.

Table 8-E identifies and describes the parameters and values of table TRKMEM as they apply to TOPS VSN.

Reference

Refer to 297-1001-451.

Table 8-E
table TRKMEM parameters for TOPSVSN

Parameter Name	Value	Description/Reference
CLLI	TOPSVSN	Identifies the trunk group to which this member belongs.
EXTRKNM	0-9999	Identifies the external trunk number assigned to the trunk member. The following convention is recommended: Use a four digit number; the first digit should identify the TOPS VSN the trunk is going to, the final three should consecutively number the trunks (channels) going to that TOPS VSN. In phase 1, the number range is 0000-0072.
SGRP	0 or 1	Identifies the subgroup number assigned to which the member trunk belongs.
Other		There is no TOPS VSN specific data entry for the other fields in this table. Data should be entered according to the rules described in the Practice indicated above.

table VSNMEMBR

The VSN Member (VSNMEMBR) table is used to associate a selected trunk member with a TOPS VSN. The VSNNUM parameter is used to select a datalink terminating on the TOPS VSN as the trunk member.

Table 8-F identifies and describes the parameters and values of table VSNMEMBR as they apply to TOPS VSN.

Reference

Refer to 297-2271-451.

Table 8-F
table VSNMEMBR parameters for TOPS VSN

Parameter Name	Value	Description/Reference
VSNMEM	0-9999	Identifies the trunk by its EXTRKNM value. Every trunk member with a CLLI of TOPS VSN (that is connected to the TOPS VSN) must be listed in this table.
VSNNUM	0-15	Identifies the TOPS VSN the trunk is going to. This number should be reflected in the first digit(s) of the VSNMEM (EXTRKNM) number.

Data communication tables

Data Communication tables are used to establish data communication between the DMS and the TOPS VSN. TOPS VSN fields that share the same definition as DMS fields must duplicate the DMS entry. The following DMS tables are used to establish data communication.

- TOPSVNIN
- MPC
- MPCFASTA
- MPCLSET
- MPCLINK

table TOPSVNIN

The VSN Virtual Node Inventory (TOPSVNIN) table provides protocol and datalink information for use with external applications.

Table 8-G identifies and describes the parameters and values of table TOPSVNIN as they apply to TOPS VSN.

Reference

Refer to 297-2271-451.

Table 8-G
table TOPSVNIN parameters for TOPS VSN

Parameter Name	Value	Description/Reference
KEY	1	Indexes each application group by a number. Each group identifies an application, a protocol, and a Datalink* type.
AAPLN	AABS	Identifies the application name.
PROTOCOL	TABS	Identifies the protocol used by the application.
DATALINK	MPC	Identifies the multiple protocol controller Datalink utility.

table MPC

The Multiple Protocol Controller (MPC) table registers the configuration of each NT1X89 MPC board used by the switch. The NT1X89AA board is located on the DMS Input-Output Controller (IOC) and is connected to the TOPS VSN via data communication facilities.

The MPC handles low-level protocol communications between the DMS and the TOPS VSN.

Table 8-H identifies and describes the parameters and values of table MPC as they apply to TOPS VSN.

Reference

Refer to 297-1001-451.

Table 8-H
table MPC parameters for TOPS VSN

Parameter Name	Value	Description/Reference
MPCNO	0-255	Indexes the MPC board used by each switch to handle communication with the TOPS VSN. This field is duplicated in table X25LINK.
MPCIOC	0-12	Identifies the shelf number of the DMS Input-Output Controller where the MPC board is installed.
IOCCCT	0, 4, 8, 12, 16, 20, 24, 28, 32	Identifies the the slot number on the IOC shelf assigned to the MPC board.
EQ	1X89AA	Identifies the product engineering code used for the MPC board. The AA suffix represents the vintage designation.
DLDFILE	MPCX30BC	Identifies the download file name used for MPC. It starts with MPC, followed by X (for X25 Original), then four characters identifying the BCS cycle and its issue.

* DATALINK is a trademark of Bell Canada.

table MPCLINK

The MPC Link (MPCLINK) table is used to configure the parameters for the X.25 layer protocol handled by each MPC. This table includes a set of fields that can be assigned default values.

Table 8-I identifies and describes the parameters and values of table MPCLINK as they apply to TOPS VSN.

Reference

Refer to 297-1001-451.

Table 8-I
table MPCLINK parameters for TOPS VSN

Parameter Name	Value	Description/Reference
INDEX	0-15	Identifies the virtual channel X.25 link.
MPCNO	0-255	Identifies each MPC (NT1X89) board installed on the switch. This number must also appear in the duplicate field on the MPC table.
LINKNO	2	Identifies the communication port handled by the MPC.
PROTOCOL	X25ORIG	
LINKNABLE	55	Specifies the number of minutes the TOPS VSN has to establish communication links once contact is made by the switch. After the specified time, the switch sends a busy signal to the link. This number is specified in 5 minute intervals. A setting of 0 means an indefinite period.
CONVNABLE	55	Specifies the conversation enable parameter in minutes. This setting specifies the duration of the the average conversation between the TOPS VSN and the DMS. When this time is exceeded, the switch sends a busy signal to the link. This number is specified in 5 minute intervals. A setting of 0 means an indefinite period.
PARMSEL	(L2 WINDOW 7) (TIDLE 15) (TINACTIVE 10) (STANDARD CCITT 80) (NUMPVCS 1) $	Specifies the parameter values for the X.25 link. These values must match entries in the X.25 configuration tables on the TOPS VSN. Each value is entered on a separate line. Conclude the list with a dollar ($) sign which specifies default values for all remaining parameters.

table MPCFASTA

The Multiple Protocol Controller (FAST) Application Utility (MPCFASTA) table is used to identify the applications which using the MPC Fast Utility (a fast Input-Output interface through the MPC). Tables MPC and X25LINK must be datafilled first.

Table 8-J identifies and describes the parameters and values of table MPC (FAST) as they apply to TOPS VSN.

Reference

Refer to 297-1001-451.

Table 8-J
table MPCFASTA parameters for TOPS VSN

Parameter Name	Value	Description/Reference
INDEX	VSN	Identifies the application name used in the application load build tapes.
AUDITFRQ	0-255	Identifies the audit frequency identifies the number of x units (see next parameter) between each audit of idle permenant virtual circuits (PVC). This value should be 0 if the application does not support audits.
UNITS	minutes/seconds	Specifies the unit of time used to measure the value of AUDITFRQ (above).
MPCLIST	0-255 (MPC) 2-3 (link #) 1-10 (chan.#)	Identifies up to 16 MLCs. An MLC comprises three separate values: the first value represents the MPC number, the second value represents the link number, and the third value represents the channel number.

table MPCLSET

The MPC Link Set (MPCLSET) table is used to identify a group of data links which go to the same physical instance of an application, in this case the two links going to each TOPS VSN. This table associates an application name and a set number with a data link set.

Table 8-K identifies and describes the parameters and values of table MPCLSET as they apply to TOPS VSN.

Reference

Refer to 297-1001-451.

Table 8-K
table MPCLSET parameters for TOPS VSN

Parameter Name	Value	Description/Reference
APPLN	VSN	Identifies the external application using the MPC.
LSETKEY	1-255	Indexes the link set by numerical key.
MLCLIST	0-255 (MPC) 2-3 (link #) 1-10(chan#.)	Identifies up to 16 MLCs. An MLC comprises three separate values: the first value represents the MPC number, the second value represents the link number, and the third value represents the channel number.

AABS tables

There is currently two DMS Automated Alternative Billing Service (AABS) table in this group. Tables in this group are specific to the AABS application. The tables in this group are:

- AABSOST
- VSNALARM

table AABSOST

The AABS Originating Station Treatment (AABSOST) table is used to identify TOPS trunks considered valid for AABS handling. This table is to be datafilled after DMS table CLLI and table TRKGRP.

Table 8-L identifies and describes the parameters and values of table AABSOST as they apply to TOPS VSN.

Reference

Refer to 297-2271-451.

Table 8-L
table AABSOST parameters for TOPS VSN

Parameter Name	Value	Description/Reference
CLLI	16 characters already defined	Identifies each incoming or two-way TOPS trunk group in an office.
PUBLIC		Subgroups identify service type and originating station treatment for calls made from a public phone that provides restricted, hotel, or coin service.
STAT	NOSERV, SERV, BVCLOOK	Identifies the service available. The range includes no services (NOSERV), originating station treatment (SERV) or billing validation lookup (BVCLOOK).
OST	blank	Originating station treatment when STAT is NO SERV. (No service is provided)
	TONE or TONEANN	Originating station treatment when STAT is SERV. (Tone or tone plus announcement)
	NOAABS, TONE, TONEANN	Originating station treatment when STAT is BVCLOOK.(No AABS service for the dialled party, or tone, or tone plus announcement)
PRIVATE		Subgroups identify service type and originating station treatment for calls made from a private phone.
STAT	NOSERV, SERV, BVCLOOK	Identifies the service available. The range includes no services (NOSERV), originating station treatment (SERV) or billing validation lookup (BVCLOOK).
OST	blank	Originating station treatment when STAT is NO SERV. (No service is provided)
	TONE or TONEANN	Originating station treatment when STAT is SERV. (Tone or tone plus announcement)
	NOAABS, TONE, TONEANN	Originating station treatment when STAT is BVCLOOK.(No AABS service for the dialled party, or tone, or tone plus announcement)

table VSNALARM

The VSN Alarm table specifies a severity rating and text message that is associated with a particular TOPS VSN alarm code sent to the DMS. Each alarm code identified in this table is reported to the DMS by way of a maintenance message. This maintenance message is decoded using this table.

The severity rating and text tells the DMS operator more about the alarm condition the TOPS VSN is experiencing.

Table 8-M identifies and describes the parameters and values of table VSNALARM as they apply to TOPS VSN.

Reference

Refer to 297-2271-451.

Table 8-M
table VSNALARM parameters for TOPS VSN

Parameter Name	Value	Description/Reference
ALMCODE	1 -255	Identifies the alarm code sent by the TOPS VSN by way of a maintenance message.
SEVERITY	CR, MJ, MN, NA	Identifies the severity associated with each alarm code. The severity may one of the following: critical, major, minor, or no alarm.
ALM TEXT	17 characters	Provides a 17 character string description of the problem that is included in the log message EXT105.

The default settings are the recommended setting for this table. They are:

ALMCODE	SEVERITY	ALMTEXT
1	MJ	FAULTY_PRU
2	MJ	FAULTY_SRU_DEV
3	MJ	DISK_FULL
4	NA	EXTERNAL_ALARM
5	MJ	INSERV_T1_TRBL
6	MN	BUSIED_T1_TRBL
7	MJ	VSN_CALL_CAP
255	MJ	ALM_CODE_VSN (default)

9. Abbreviations

The following abbreviations are used in this publication, a larger list of TOPS VSN terms can be found in 450-1301-001 (Index of Practices):

AABS	Automated alternate billing service
ACPE	Application call processing engine
AIU	Alarm interface unit
AP	Application processor (a type of SRU)
BCS	Batch change supplement
BVA	Billing validation authority
CLLI	Common language location identifier
CPH	Calls per hour
DMS	Digital Multiplex Switch
DNC	Dynamic network controller
DTC	Digital trunk controller
DTMF	Dual tone multifrequency
DVS	Data voice system
IOC	Input-output controller
IOP	Input-output processor
LAN	Local area network
LAPB	Link access protocol, balanced
LIDB	Lines information database
LIU	LAN interface unit
MAP	Maintenance and administration position
MCCS	Mechanized calling card service
MLC	MPC number, link number, conversation number
MMI	Man-machine interface
MPC	Multi-protocol converter (1X89)
MPLPC	Multipulse linear predictive coding

NOP	Network operations protocol
NOS	Network operations system
NSR	Network Software Release
NTP	Northern telecom practice
OM	Operational measurement
PIN	Personal identification number
PRU	Program resource unit
RM	Resource manager
RRU	Remote resource unit
SAS	System administration services
SCSI	Small computer system interface
SDM	Service data manager
SRU	Shared resource unit
TICS	TOPS interLATA carrier service
TOPS	Traffic operator position system
T1	Line carrier at digital signaling level one (DS-1) also known as Digital trunk link
VI	Voice interface
VSN	Voice service node
1X89	MPC circuit pack code

Network operations systems

TOPS
Voice service node

System administration/maintenance
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