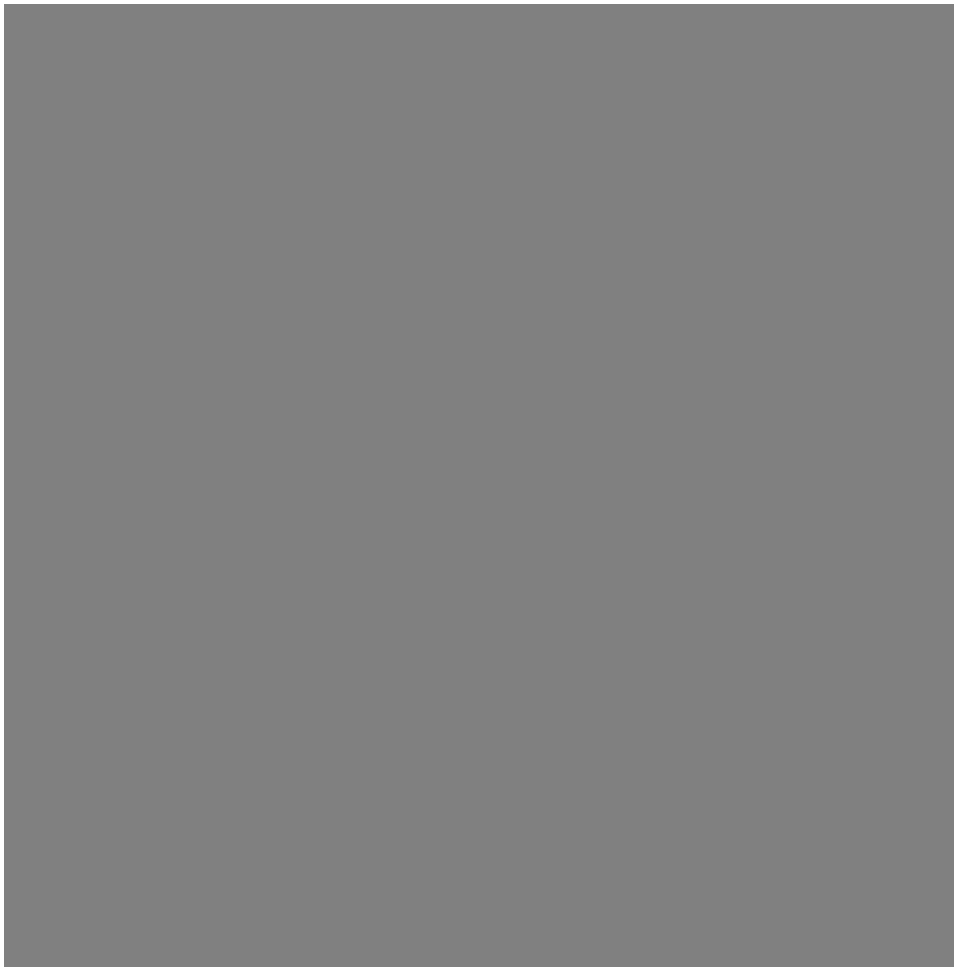
450-1021-311

Network Operations Systems

Business Network Management

DNC-500 Operations NSR32 and up

DMSCCM04 Standard 32.01 August 1995



northern telecom

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Publication number: 450-1021-311
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Contents

Introduction

This manual

This Northern Telecom Practice (NTP) gives step-by-step instructions on how to use the features and services of the Business Network Management (BNM) application that are available to DNC-500 users.

Related practices

For an introduction to BNM and a general description of its features, see NTP 450-1021-101. For a list of all the practices that describe aspects of BNM, see NTP 450-1021-001.

Notational conventions

The following conventions are used in this document:

- The names of "hardkeys" (keys that are labeled on the keyboard and always perform the same function) are shown in uppercase. Some examples of hardkeys are ENTER and RETURN.
- The names of "softkeys" (keys that perform different functions depending on the screen display) are shown in mixed case and bracketed with carets. Some examples of softkeys are <Exit>, <Add>, <Delete>, and <Change>.
- The result of an action is indicated by an arrow: ==>

The system accepts both uppercase and lowercase input, but interprets all alphabetical input as uppercase, except where noted.

Changes

32.01

The following changes have been made to this document from feature SMDR Modification for International Direct Distance Dialing, specifically supporting the following requirements:

- upissed document from 28.32 to 32.01 release to correspond to patch NSR32 activity (SMDR Modification for International Direct Distance Dialing,)
- an increase in the number for international direct distance dialing (IDDD) from 12 to 15 digits, in accordance with International Telecommunications Union (ITU) requirements
- an increase in the length of the long SMDR record (D3) and the long

network evaluation, reporting, and verification (NERVE) call detail recording (CDR) SMDR record (D4)

- multiple DMS nodes with pre-NA004 and NA004 software releases or subsequent software releases to customer and customer premise equipment (CPE)
- added field 15IDDD? to Customer Table
- data spooling support, based on the Centrex customer requirement of receiving the former SMDR format (that is, 12 IDDD and 78 characters in the D3 and D4 call records) or the expanded international SMDR format (that is, 15 IDDD and 84 characters in the D3 and D4 records), regardless of the DMS operating software release. (By default, the end user customer receives the former SMDR format. BNM Customer Table must be datafilled to activate the expanded international SMDR format.)

NSR32

The following changes have been made to this document to support version NSR32 of BNM:

- Improvements in CMAP Passthru security by incorporating DNC to DMS logon permissions.
- The addition of CMAP journaling so that all user input and a limited amount of DMS responses are recorded and may be printed out on request.

NSR28

The following changes have been made to this document to support version NSR28 of BNM:

- A description of the DNC Processor Monitoring table has been added.
- A description of the DNC Disk Monitoring table has been added.
- The description of Scheduling Services has been changed to include the POLLCDR job that is used to schedule Switch/PBX Poller polls. (See 450-1021-131 for more information about the new Switch/PBX Poller (SPP) feature.)
- The description of the Node table has been changed to include a new SMDR Data Stream ID field and a softkey that is used in connection with the Switch/PBX Poller feature.
- SMDR spooling ports have been increased from 8 to 32.

Using the terminals

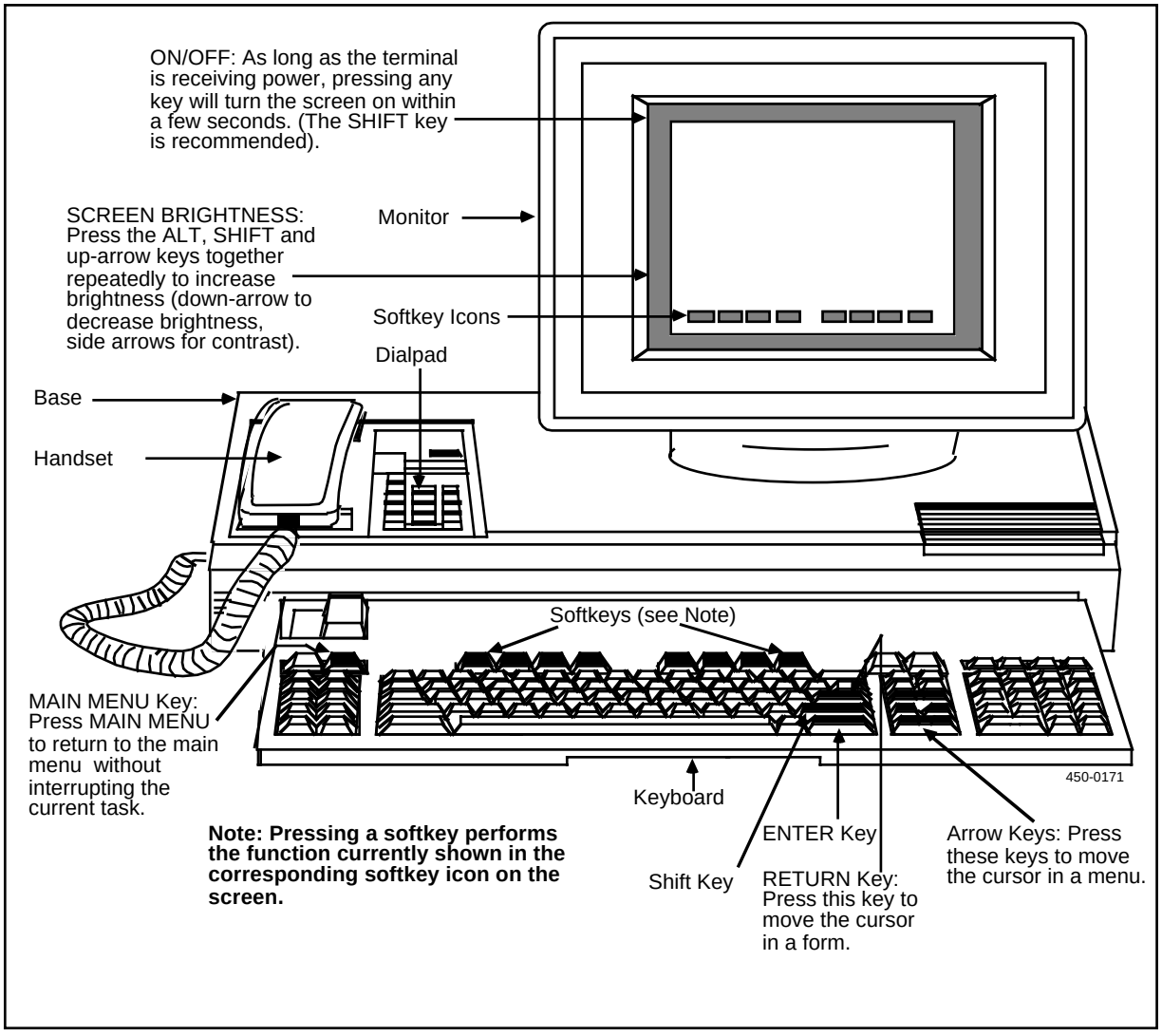
Users can communicate with the system by way of Meridian M4000-series terminals, or VT100*-type ASCII terminals.

The M4000-series terminals are a family of intelligent terminals with softkey operation and graphic capability. They are the administrator's means of communicating with the DNC-500 by way of the man-machine interface (MMI) system. They include M4010 terminals (with no telephone handset) and M4020 terminals (with a speaker for audible alarms). Either can be used with the DNC-500. Figure 1-1 illustrates the features of these terminals.

In addition to the M4000-series terminals, the DNC can be accessed by ASCII-type (VT100, VT220, or equivalent) terminals. The ASCII terminal is connected by an RS-232 cable to a local area network (LAN) interface unit (LIU). Software downloaded to the LIU allows the ASCII terminal to interact with the DNC as if it were an M4000-type terminal.

The user of an ASCII terminal sees the same menus and displays as if using an M4000-type terminal, except that they are rendered by using the ASCII character set to approximate the graphics of the M4000-type terminals. The operation of softkeys is carried out using combinations of other keys.

Figure 1-1
The M4000-series terminal



Using M4000-series terminals

A DNC-500 system must be loaded and booted from an M4000 terminal. After the system has been initialized, other operations can be carried out from M4000 terminals or from VT100-type terminals.

Turning the terminal ON and OFF

M4000 terminals are not turned on and off in the conventional sense. As long as a terminal is receiving power, pressing any key will cause its screen to come on after a few seconds. The screen also comes on if a message or data comes to the terminal. Note that even when the screen is dark, data may still be active on the terminal. For this reason, when turning the screen on, press a key that will not accidently cause data entry or modification (the SHIFT key is recommended). The screen automatically darkens when the terminal has not been used for about 10 minutes. This feature extends the life of the screen.

Brightness and contrast

Brightness and contrast are adjusted by holding down the ALT and SHIFT keys and simultaneously pressing arrow keys:

- To increase brightness, press ALT, SHIFT, and the up-arrow key repeatedly.
- To decrease brightness, press ALT, SHIFT, and the down-arrow key repeatedly.
- To increase contrast, press ALT, SHIFT, and the left-arrow key repeatedly.
- To decrease contrast, press ALT, SHIFT, and the right-arrow key repeatedly.

The screen

The terminal's screen (Figure 1-2) is divided into regions. Each region is reserved for a particular function, such as displaying messages or input.

Selecting menu items

In a menu, a selected entry is highlighted in reverse video. To select another entry, press the arrow key for the direction in which the highlight is to be moved. When the required item is highlighted, the user can perform a function on it by pressing the ENTER key, or in some cases, a softkey.

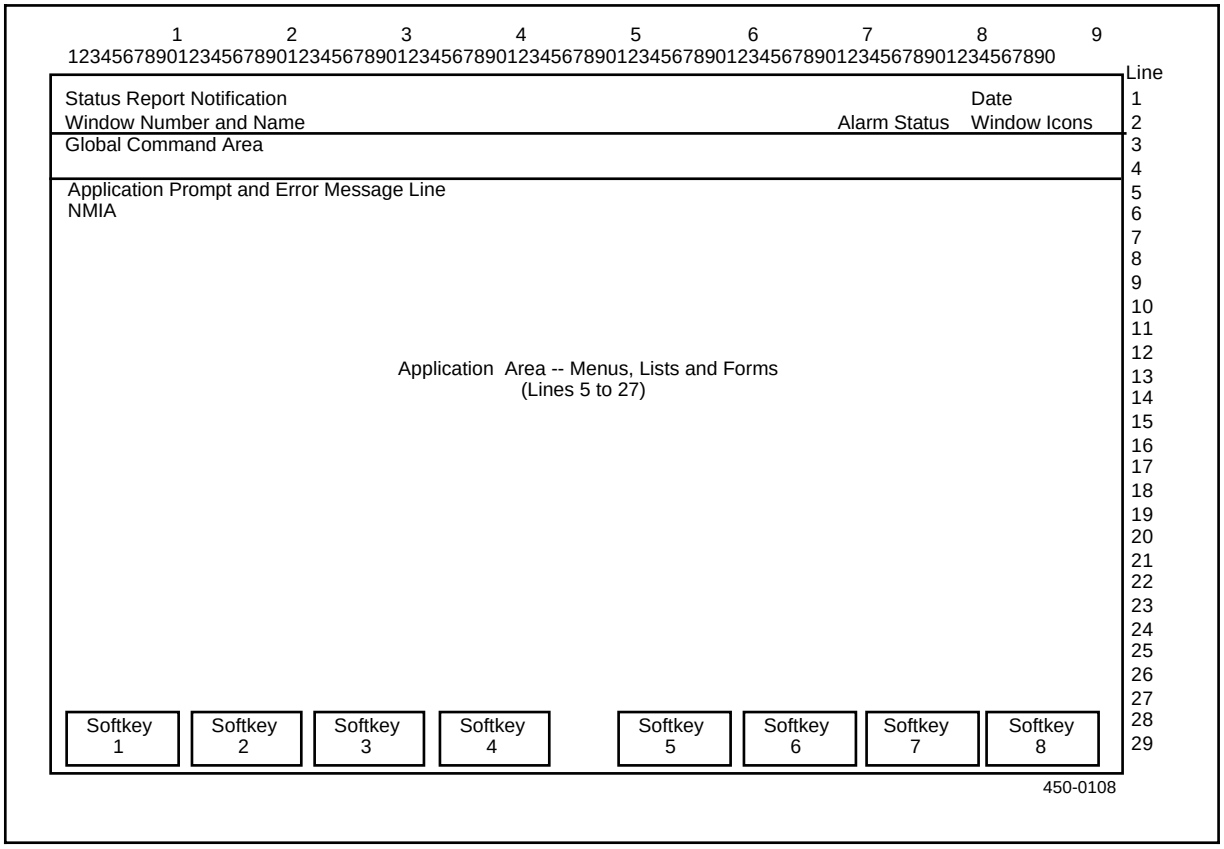
Filling in tables

To enter or change data in a table, type new data over the old (if necessary) and press the RETURN key to advance to the next field. When the data is correct, pressing a <Done>, <Commit>, or similar softkey enters the data to the system. Sometimes ENTER is used to commit data. In this case, instructions are given on the screen.

Window operation

An M4000-series terminal can have up to six activities operating on it, all at the same time. When a task is started, the system creates a window for that task. If several tasks are active on the terminal, the user can switch between them by using the WINDOW key. Each window remains in existence until the user exits to the main menu using the <Exit>-type softkeys. (The CLOSE hardkey also terminates windows, but may have unpredictable effects. Avoid using it.)

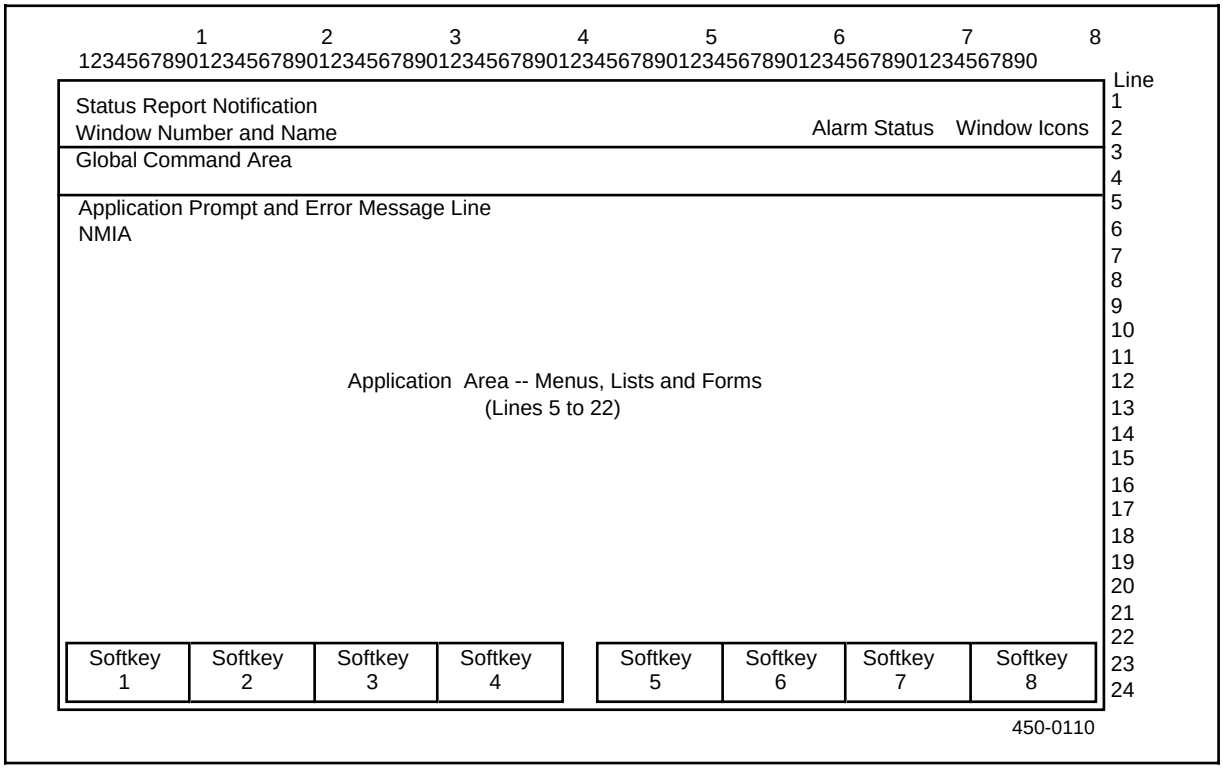
Figure 1-2
Screen layout for M4000-series terminals



Creating a New Window. To create a new window while maintaining the current task, press MAIN MENU. A main menu appears. This is the main menu of another window. A new job can then be started.

Changing to Another Window. Press the WINDOW key. The window next in numerical sequence is displayed. To display all windows in a menu format, press SHIFT and WINDOW together. From the resulting menu of windows, select the window to be displayed.

Figure 1-3
Screen layout for VT100-type terminals



Using VT100 type terminals

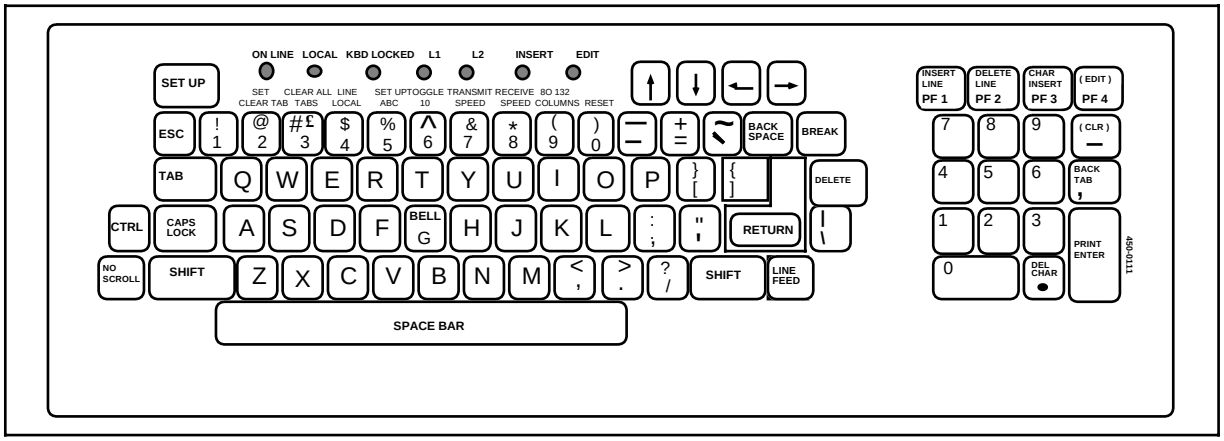
Some customers may wish to use VT100 or other ASCII terminals with their DNC systems. The system supports terminals that are compatible with Digital Equipment Corporation's VT100. Such terminals operate on the ANSI X3.64 standard.

When attached to a DNC-500, VT100 or compatible terminals operate quite similarly to M4000 terminals, with a few important exceptions.

Screen layout

The VT100 screen layout displays only 24 lines and 80 columns. Softkeys are shown on lines 23 and 24, lines 1 and 2 are the notification lines, the global command area occupies lines 3 and 4, and application windows occupy lines 5 to 22. Figure 1-3 shows the layout of the screen on a VT100 terminal. There is no date field.

Figure 1-4
VT100 keyboard



Keyboard

There are no specific keys on the VT100 keyboard (Figure 1-4) dedicated to the softkey and hardkey functions required to access and work with a DNC system. Instead, one key on the VT100 keyboard must be configured as an attention (ATTN) key for the DNC system, and this key must be used in combination with other keys to emulate the functions of M4000 keys. The ESC and BREAK keys are often used as ATTN keys. Table 1-A lists the key sequences required on a VT100 or compatible terminal to emulate specific softkeys and hardkeys provided by the M4000-series terminals. The table also lists equivalent VT100 key sequences for miscellaneous terminal functions.

The equivalent to the M4000 terminal's ENTER key is the ENTER key on the numeric keypad on the right side of the VT100 keyboard. The arrow keys on this keypad are equivalent to the M4000 arrow keys.

Cursor

The VT100 has only one cursor at a time, while the M4000 has one per window. Thus, if multiple windows are active on a VT100, only one of them will display a cursor.

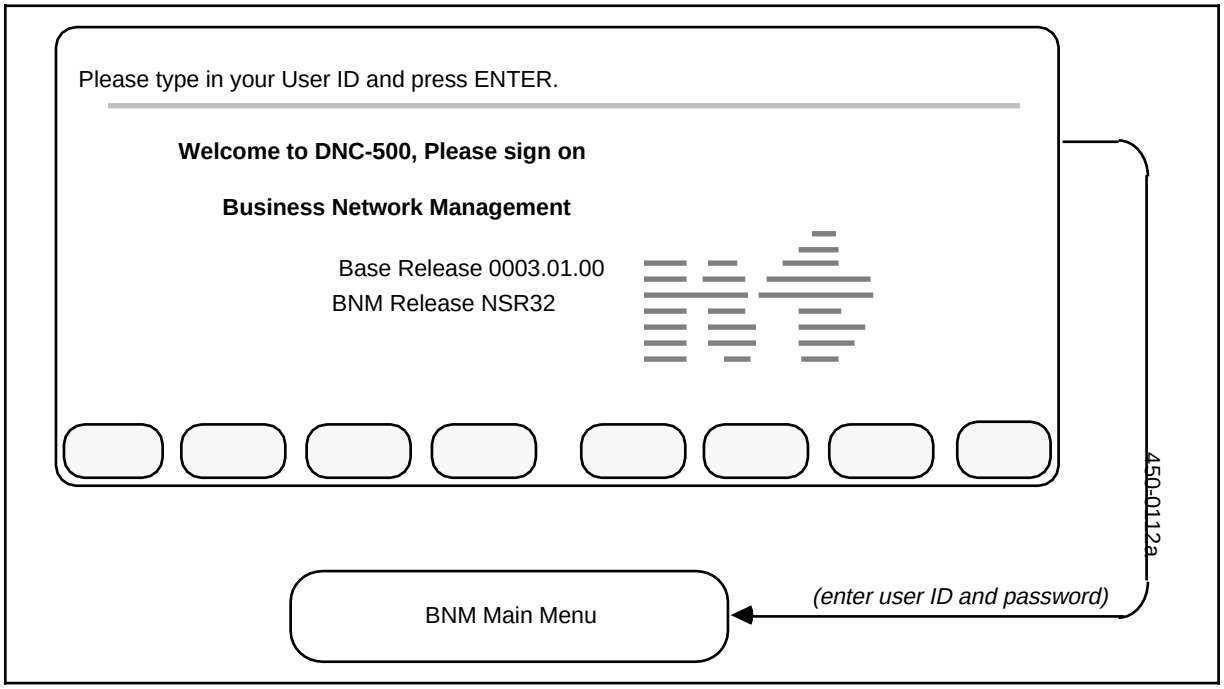
Table 1-A
VT100 keyboard functions

M4000 KEY	EQUIVALENT VT100 KEY SEQUENCE
Softkeys	
Softkey 1	ATTN 1 or PF1
Softkey 2	ATTN 2 or PF2
Softkey 3	ATTN 3 or PF3
Softkey 4	ATTN 4 or PF4
Softkey 5	ATTN 5
Softkey 6	ATTN 6
Softkey 7	ATTN 7
Softkey 8	ATTN 8
Hardkeys	
ACCEPT	ATTN A
ADJUST	ATTN D
CANCEL	ATTN X
CLOSE	ATTN L
COMMAND	ATTN C
HELP	ATTN H
MAIN MENU	ATTN M
MEETING	ATTN T
PHONE	ATTN P
SHARE	ATTN S
WINDOW	ATTN N
Miscellaneous Functions	
ALT HELP (service description help)	ATTN V
ATTN key code (see note 1)	ATTN ATTN
SHIFT TAB (back to last tab)	ATTN B
ENTER	ATTN E or ATTN RETURN
INSERT	ATTN I
RESET	ATTN R
SHIFT HELP (help in data fields)	ATTN ?
SHIFT WINDOW (window menu)	ATTN W
XOFF	CRTL S (see note 2)
XON	CTRL Q (see note 2)

Note 1: The key that is to be used as the ATTN key is specified in the terminal configuration. (Terminal configuration is explained in NTP 450-1011-301.) Press the ATTN key twice to perform that key's own function. For example, if ESC is the ATTN key, press ESC twice to send the ESC code.

Note 2: XON and XOFF are flow-control characters. Pressing CTRL S on a VT100 will cause the terminal to stop accepting input from the LAN interface unit that connects it to the DNC-500.

Figure 1-5
Sign on screen



Signing on and off

Before any DNC feature can be used, the DNC-500 must be up and running. If the Northern Telecom (NT) logo is on the screen, the DNC-500 is ready for use. If the screen shows anything else, the terminal is probably being used by someone else. In that case, press the MAIN MENU key to display the BNM main menu, then sign off the other person before signing on yourself.

Before using the terminal, you must sign on to the system using a valid user ID and password. The sign on screen is shown in Figure 1-5.

Signing on

When the sign on screen is displayed, follow these steps:

(1) A message at the top of the screen prompts you to enter your user ID. Type your user ID, then press ENTER.
==> A new message at the top of the screen asks for your password.

(2) Type your password, then press ENTER. As a security measure, the password is not displayed as you type it.
==> If the user ID and password you entered are valid, the BNM main menu appears. If the user ID and password are not valid, the system prompts for them again.

Once you have signed on, you can use any feature of BNM that appears on your BNM main menu. (Other users may have different main menus that give access to different features.)

Signing off

When you have finished using BNM, you should sign off. This helps to prevent unauthorized use of BNM. Follow these steps to sign off and close all windows:

(1) Display the BNM main menu. (Either press <Exit> on each screen in turn until you reach the main menu, or press the MAIN MENU key.)

(2) Press <Sign Off>.
==> A message prompts you to press ENTER to confirm that you want to sign off, and the <Sign Off> softkey changes to <Change User ID>. (If you want to change the user ID, see the next procedure.)

(3) Press ENTER.
==> The system signs you off, closes all windows, and displays the sign on screen.

Changing the user ID

If you want to stop working under one user ID and switch to another user ID, you do not have to sign off completely and then sign on again and reopen your windows. Instead, follow these steps:

(1) Follow the first two steps of the procedure for signing off.

(2) Instead of pressing ENTER to complete the signoff procedure, press <Change User ID>.
==> The system displays the sign on screen and prompts for a new user ID, but all windows remain open.

(3) Type the new user ID, then press ENTER.
==> The system prompts you for a password.

(4) Type the password for the new user ID and then press ENTER.
==> The BNM main menu appears. All your original windows remain open.

BNM administration

DMS node - add or remove

This procedure summarizes the steps for adding or removing a DMS-100 node in the BNM network. It assumes that all hardware has been installed (see NTP 450-1011-200 and NTP 450-1011-201).

Adding a DMS node

At the DNC-500:

(1) Register the new node in the Node table. (Reference: “Installation - Node Table” in Part 3 of this document.)

(2) Register the new node for the appropriate customers in the Customer Node table. (Reference: "Installation - Customer Node Table” in Part 3 of this document.)

(3) Enter the new DMS node with the features it supports for the appropriate customers in the Customer Feature Profile table. (Reference: “Installation - Customer Feature Profile” in Part 3 of this document.)

(4) In System Administrative Services (SAS), enter the X.25 Configuration screens in on-line update mode and specify the operating parameters that the X.25 software will use to communicate with the node. Be sure to press the <Commit> softkey and exit all the way to the main menu to save the changes. (Reference: "Setting Up X.25 Gateway and NOP Ports" in NTP 450-1011-301.)

(5) Add a tuple for the new node in the SDM table “ADDR” (reference: table ADDR in NTP 450-1021-151).

(6) In SAS Maintenance, “courtesy down” the Communication Server 6/7 (if the SDM table “ADDR” has been altered). Also, courtesy down the NOP I/F Level 3.# (where # is replaced by the numbers of any objects or gateways changed) and the relevant LIU (with the appropriate DTE address) physically connected to the new DMS node. Then “put into service” these LIU personalities in reverse order to activate the various entries for the new node. (Reference: NTP 450-1011-301.)

(7) Do a system backup to tape to save the new configuration (Reference: NTP 450-1011-301, and “Saving and Restoring Data” in this NTP.)

Removing a DMS node

(1) For each DNC-500 receiving data from the old DMS node, remove the DMS node entries in the reverse order from which they were added above. Press <Done> and exit all the way to the main menu to save the changes on disk.

(2) In SAS Maintenance, "courtesy down" the NOP I/F Level 3.# (where # is replaced by the numbers of any objects or gateways changed) and the relevant LIU (with the appropriate DTE address) physically connected to the DNC-500. Then “put into service” these LIU personalities in reverse order to activate the new system configuration with the old mode deleted. (Reference: NTP 450-1011-301.)

(3) Do a system backup to save the deletion on tape (Reference: NTP 450-1011-301, and "Saving and Restoring Data" in this NTP.)

Network class of service changes - trunks

A network class of service (NCOS) number is a code used by DMS nodes to identify a particular set of capabilities and restrictions that are assigned to a trunk group or other facility. The telco can define NCOS numbers between 0 and 255 for each customer group in table NCOS on a DMS node. To assign an NCOS code to a trunk group, the telco enters it with the trunk group's name in table TRKGRP on a DMS node.

Business Network Management's NCOS Changes feature allows customers to change NCOS numbers for their Meridian Digital Centrex trunks from a DNC. A customer can change the NCOS for an incoming trunk group, or for the incoming side of a two-way trunk group, by selecting a new NCOS from a list that the telco has made available on the DNC. The DNC then sends the request to the DMS and advises the customer on whether or not it has been carried out.

> ***Note:*** NCOS assignments for stations can be changed through BNM's Station Administration NCOS feature. Station Administration is explained in a separate practice numbered Appendix 1 to 450-1021-311.

Administrative requirements

Before a customer can use the NCOS Changes feature, the telco must make a list of NCOS numbers available to that customer on the DNC. These numbers must match NCOS numbers that are assigned to the customer in table NCOS on the DMS. Since there is no way to upload NCOS data directly from a DMS to a DNC, the telco must:

- enter an initial list of valid NCOS numbers for each customer into the NCOS Choices screen on the DNC
- change the list manually on the NCOS Choices screen whenever a change is made on the DMS that did not originate from the DNC

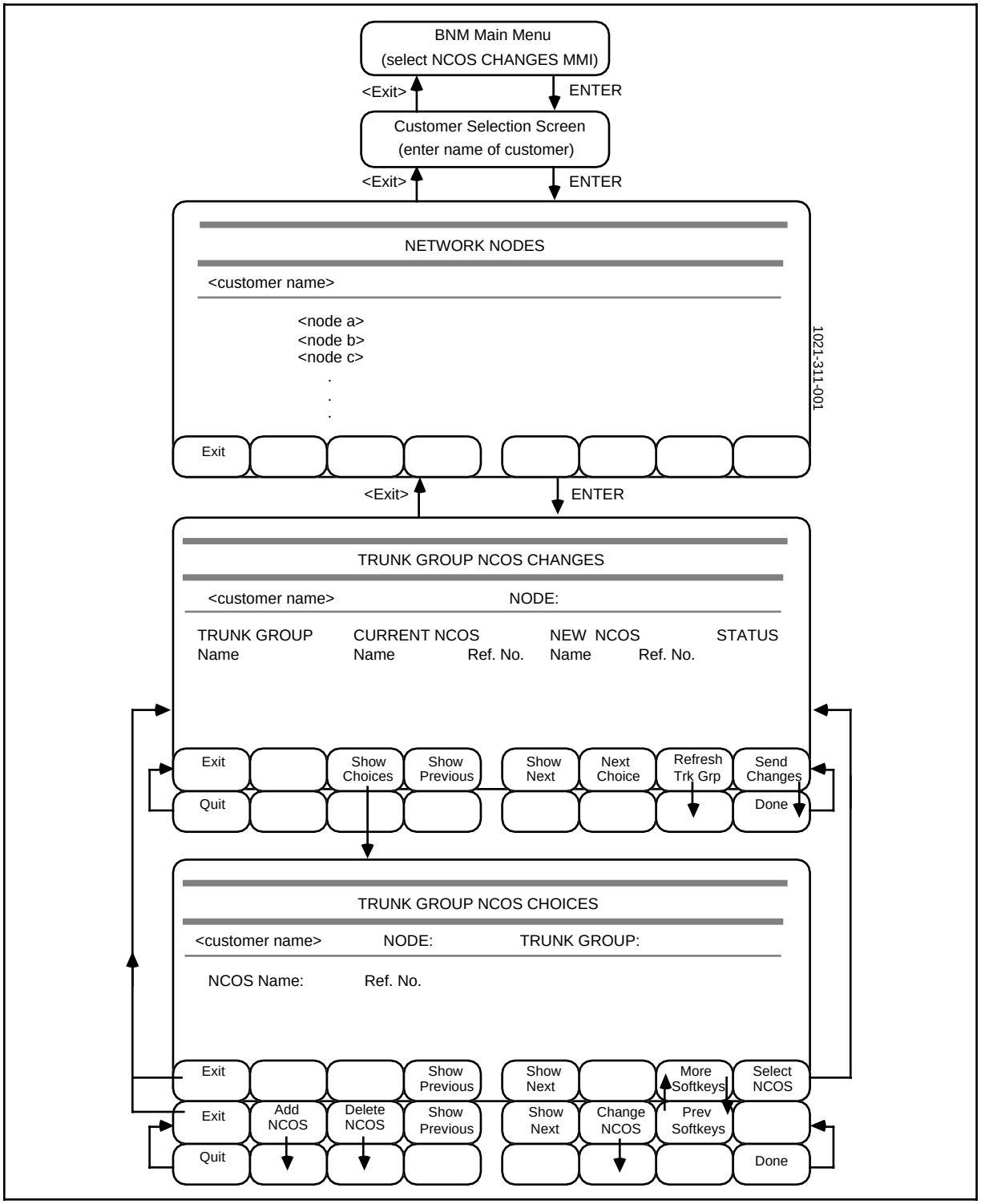
While entering NCOS numbers on the DNC, the telco can give them names so that the customer will recognize them more easily. The customer can assign and change NCOS names too. These names are local to the DNC; they are not used by the DMS.

When setting up the NCOS Changes feature for a customer for the first time, the telco must also press the <Refresh Trk Grp> softkey on the NCOS Changes screen. This causes the feature to read the Trunk Ownership table to determine which trunks belong to the customer. Any time changes are made to the Trunk Ownership table, the telco must use <Refresh Trk Grp> again to read the new information. It is recommended that the telco refresh routinely once a day.

> ***Note:*** All trunks in the Trunk Ownership table are assumed to be Meridian Digital Centrex trunks. The telco must ensure that the information in this table is consistent with trunk group information on the DMS nodes.

When a trunk group first appears on the NCOS Changes screens, its NCOS is listed as undefined until the telco or the customer associates an NCOS with it.

Figure 2-1
Network class of service changes - trunks



Making NCOS choices available to customers

To enter or change the list of NCOS numbers that is available to a customer for a particular node, perform the following steps (Figure 2-1):

(1) On the BNM main menu, select NCOS Changes MMI and then press ENTER.
==> The Customer Selection screen appears.

(2) Type the name of the customer and then press ENTER.
==> The list of nodes associated with the customer appears on the Network Nodes screen.

(3) Select a node and then press ENTER.
==> The Trunk Group NCOS Changes screen appears. This screen shows the NCOS reference numbers and names that are currently associated with each trunk group. (The list is empty the first time you use the screen.) On the right is space for new NCOS numbers to be entered.

- ***Scrolling the Screen.*** If the list of NCOS numbers is too long to fit on one screen, the <Show Previous> and <Show Next> softkeys appear. Press them to see other parts of the list.
- ***Refreshing the Display.*** Press <Refresh Trk Grp> to read a list of the trunks that belong to the customer from the Trunk Ownership table. You must press this key the first time you display this screen. Subsequently, you should display this screen and press <Refresh Trk Grp> any time changes are made to the Trunk Ownership table. (It is recommended that you do this routinely once a day.)

(4) Press <Show Choices>.
==> The Trunk Group NCOS Choices screen appears. This screen displays a list of the NCOS numbers that are available to the specified customer on the specified node.

(5) Press <More Softkeys>.
==> The second bank of softkeys appears.

(6) Perform (a), (b), or (c) depending on whether you want to add to the NCOS choices, change a choice, or delete a choice. You can repeat these actions as many times as necessary.

(a) Adding. To add a new NCOS number to the list of choices, follow these steps:

- Press <Add NCOS>.
==> The third bank of softkeys appears and you are prompted to add a new NCOS.
- Type the new NCOS name (optional) and number. You must press the RETURN key or the TAB key to move between the Name and Ref. No. fields.
- Press <Done> to keep the new entry, or press <Quit> to ignore it.
==> The second bank of softkeys reappears and the message "Addition Made" or "Addition Cancelled" is displayed.

(b) ***Changing.*** To change an existing entry in the list, follow these steps:

- Select the entry you want to change.
- Press <Change NCOS>.
  ==> The third bank of softkeys appears and you are prompted to make the change.
- Make the required changes to the Name and Ref. No. fields, using the RETURN key to move between them.
- Press <Done> to keep the changes, or press <Quit> to ignore them.
  ==> The second bank of softkeys reappears and the message "Changes Made" or "Changes Cancelled" is displayed.

(c) ***Deleting.*** To delete an NCOS from the list of choices, follow these steps:

- Select the entry you want to delete.
- Press <Delete NCOS>.
  ==> The third bank of softkeys appears and you are prompted to continue or stop the deletion.
- Press <Done> to confirm the deletion or press <Quit> to cancel it.
  ==> The second bank of softkeys reappears and the message "Deletion Made" or "Deletion Cancelled" is displayed.

(7) When you have finished adding, changing, and deleting NCOS choices, press <Exit> on each screen in turn to return to previous screens.

Assigning NCOS Numbers to Trunk Groups

The following steps explain how to assign an NCOS number to a trunk group on behalf of a customer (Figure 2-1). Customers can also perform this procedure themselves.

(1) On the BNM main menu, select NCOS Changes MMI and then press ENTER.
==> The Customer Selection screen appears.

(2) Type the name of the customer and then press ENTER.
==> The list of nodes associated with the customer appears on the Network Nodes screen.

(3) Select a node and then press ENTER.
==> The Trunk Group NCOS Changes screen appears. This screen shows the NCOS reference numbers and names that are currently associated with each of the customer's trunk groups at the specified node. On the right is space for new NCOS numbers to be entered.

- ***Scrolling the Screen.*** If the list of NCOS numbers is too long to fit on one screen, the <Show Previous> and <Show Next> softkeys appear. Press them to see other parts of the list.
- ***Refreshing the Display.*** To update the display with trunks that may have been added to the Trunk Ownership Table since this screen was last displayed or refreshed, press <Refresh Trk Grp>.

(4) Select a trunk group (by using the arrow keys and the <Show Next> and <Show Previous> keys), then use one of the following methods to select a new NCOS for that trunk group:

(a) Press <Next Choice>.
==> In the New NCOS column, the next available choice for an NCOS appears. Press <Next Choice> repeatedly until you find the choice you wish to use.

(b) Press <Show Choices>.
==> The Trunk Group NCOS Choices screen appears.

Select a choice from the list on this screen and then press <Select NCOS>.
==> The Changes screen reappears and the message "A new NCOS is selected" is displayed.

You can use these two methods to select new NCOS numbers for any number of trunk groups. Once you have finished selecting NCOS numbers, continue with Step 5 to send the changes to the DMS node.

(5) Press <Send Changes>.
==> A message requests confirmation and new softkeys (<Quit> and <Done>) appear.

(6) Press <Done> to send the changes, or press <Quit> to ignore them.
==> If you press <Quit>, the first set of softkeys reappears and the message "Send Cancelled" is displayed. No changes are sent to the node.

==> If you press <Done>, all changes in the New NCOS column are sent to the node, including any that have a status of "Fail" from previous unsuccessful attempts. "Pend" appears in the Status column beside the trunk groups that are being changed and various messages are displayed on the message line. When "Pend" is replaced by "Def" and the new NCOS is shifted to the Current NCOS column, the update has been processed successfully. If "Fail" appears in the status column, the change has not been made. Check the log messages in the Logs and Alarms subsystem to find the reason for the failure.

Routing plan changes

The Routing Plan feature allows customers to select, from a list of routing plans defined by the operating company, a routing plan to be used for switching calls to a given destination. The selected plan is in force on a given node.

Administrative requirements

Required Information. The following information is required to use this feature:

(a) ***Route Name.*** This is a descriptor that can be changed at any time. It identifies the destination.

(b) ***Route Reference Number.*** (up to 4 digits) This number corresponds to a route list index in the DMS-100 node table IBNRTE. It indirectly identifies the route plan list associated with the route.

(c) ***Current Plan Name.*** This is a descriptor that can be changed at any time. It describes the current choice of alternative route plan.

(d) ***Current Plan Reference Number.*** (up to 4 digits) This number corresponds to a route list index in the DMS-100 node table IBNRTE. It identifies the route list to be used as a first- choice alternative route in reaching the associated destination.

The reference numbers referred to in this feature are the route list indexes in the DMS-100 node table IBNRTE. These indexes describe lists of alternative routing plans the customer can select for a specific route. This feature allows the customer to send updates directly into the IBNRTE tables of the node. The data in the node and the data of this feature must therefore be maintained consistently by the operating company, otherwise errors will result.

The mandatory data for table IBNRTE for this feature is defined in the Network Administration section of NTP 450-1021-351. IBNRTE tables are also described in section 149 of NTP 297-1001-451, part of the DMS-100 library of NTPs.

Making routes available to customers

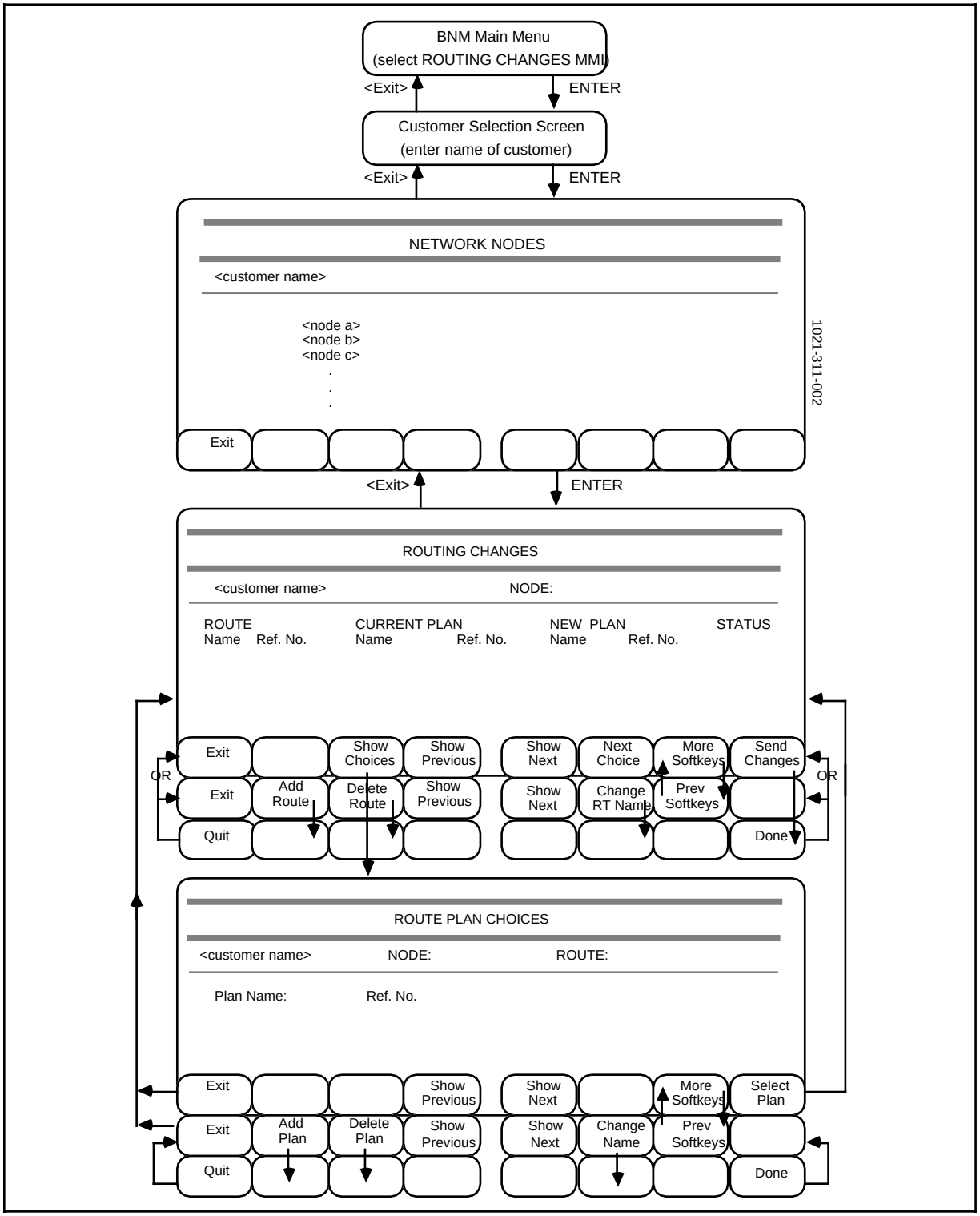
To enter or change the list of routes that is available to a customer for a particular node, perform the following steps (Figure 2-2):

(1) On the BNM main menu, select Routing Changes MMI and then press ENTER.
==> The Customer Selection screen appears.

(2) Type the name of the customer and then press ENTER.
==> The list of nodes associated with the customer appears on the Network Nodes screen.

(3) Select a node and then press ENTER.
==> The Routing Changes screen appears. This screen shows the routes that are currently available, and the routing plan reference numbers and names that are currently associated with each route. If the list of routes is too long to fit on one screen, the <Show Previous> and <Show Next> softkeys appear. Press them to see other parts of the list.

Figure 2-2
Routing plan changes



(4) Press <More Softkeys>.
==> The second bank of softkeys appears.

(5) Perform (a), (b), or (c) depending on whether you want to add a new route, change the name of a route, or delete a route. You can repeat these actions as many times as necessary.

(a) ***Adding.*** To add a new route, follow these steps:

- Press <Add Route>.
  ==> The third bank of softkeys appears and you are prompted to add a new route.
- Type the new route name and number. You must press the RETURN key or the TAB key to move between the Name and Ref. No. fields.
- Press <Done> to keep the new entry, or press <Quit> to ignore it.
  ==> The second bank of softkeys reappears and the message "Addition Made" or "Addition Cancelled" is displayed.

(b) ***Changing.*** To change the name of an existing route, follow these steps:

- Select the entry you want to change.
- Press <Change RT Name>.
  ==> The third bank of softkeys appears and you are prompted to make the change.
- Type the new name in the Name field.
- Press <Done> to keep the change, or <Quit> to ignore it.
  ==> The second bank of softkeys reappears and the message "Changes Made" or "Changes Cancelled" is displayed.

(c) ***Deleting.*** To delete a route, follow these steps:

- Select the route you want to delete.
- Press <Delete Route>.
  ==> The third bank of softkeys appears and you are prompted to continue or stop the deletion.
- Press <Done> to confirm the deletion or press <Quit> to cancel it.
  ==> The second bank of softkeys reappears and the message "Deletion Made" or "Deletion Cancelled" is displayed.

(6) When you have finished adding, changing, and deleting routes, press <Exit> on each screen in turn to return to previous screens.

Making routing plan choices available to customers

To enter or change the list of routing plans that is available to a customer for a particular node, perform the following steps (Figure 2-2):

(1) On the BNM main menu, select Routing Changes MMI and then press ENTER.
==> The Customer Selection screen appears.

(2) Type the name of the customer and then press ENTER.
==> The list of nodes associated with the customer appears on the Network Nodes screen.

(3) Select a node and then press ENTER.
==> The Routing Changes screen appears. This screen shows the routing plan reference numbers and names that are currently associated with each route. On the right is space for new plans to be entered. If the list of routes is too long to fit on one screen, use the <Show Previous> and <Show Next> softkeys to see other parts of the list.

(4) Press <Show Choices>.
==> The Routing Plan Choices screen appears. This screen displays a list of the routing plans that are available to the specified customer on the specified node.

(5) Press <More Softkeys>.
==> The second bank of softkeys appears.

(6) Perform (a), (b), or (c) depending on whether you want to add to the routing plan choices, change a choice, or delete a choice. You can repeat these actions as many times as necessary.

(a) ***Adding.*** To add a new plan number to the list of choices, follow these steps:

- Press <Add Plan>.
  ==> The third bank of softkeys appears and you are prompted to add a new plan.
- Type the new plan name (optional) and number. You must press the RETURN key or the TAB key to move between the Name and Ref. No. fields.
- Press <Done> to keep the new entry, or press <Quit> to ignore it.
  ==> The second bank of softkeys reappears and the message "Addition Made" or "Addition Cancelled" is displayed.

(b) ***Changing.*** To change the name of an existing plan, follow these steps:

- Select the entry you want to change.
- Press <Change Name>.
  ==> The third bank of softkeys appears and you are prompted to make the change.
- Type the new name.
- Press <Done> to keep the change, or press <Quit> to ignore it.
  ==> The second bank of softkeys reappears and the message "Changes Made" or "Changes Cancelled" is displayed.

(c) ***Deleting.*** To delete a plan from the list of choices, follow these steps:

- Select the entry you want to delete.
- Press <Delete Plan>.
  ==> The third bank of softkeys appears and you are prompted to continue or stop the deletion.
- Press <Done> to confirm the deletion or press <Quit> to cancel it.
  ==> The second bank of softkeys reappears and the message "Deletion Made" or "Deletion Cancelled" is displayed.

(7) When you have finished adding, changing, and deleting routing plan choices, press <Exit> on each screen in turn to return to previous screens.

Assigning plans to routes

The following steps explain how to assign a plan to a route on behalf of a customer (Figure 2-2). Customers can also perform this procedure themselves.

(1) On the BNM main menu, select Routing Changes MMI and then press ENTER.
==> The Customer Selection screen appears.

(2) Type the name of the customer and then press ENTER.
==> The list of nodes associated with the customer appears on the Network Nodes screen.

(3) Select a node and then press ENTER.
==> The Routing Changes screen appears. This screen shows the plan reference numbers and names that are currently associated with each of the customer's routes at the specified node. On the right is space for new plans to be entered. If the list of routes is too long to fit on one screen, use the <Show Previous> and <Show Next> softkeys to see other parts of the list.

(4) Select a route (by using the arrow keys and the <Show Next> and <Show Previous> keys), then use one of the following methods to select a new plan for that route:

(a) Press <Next Choice>.
==> In the New Plan column, the next available choice appears. Press <Next Choice> repeatedly until you find the choice you wish to use.

(b) Press <Show Choices>.
==> The Routing Plan Choices screen appears.

Select a choice from the list on this screen and then press <Select Plan>.
==> The Changes screen reappears and the message "A new plan is selected" is displayed.

You can use these two methods to select new plans for any number of routes. Once you have finished selecting plans, continue with Step 5 to send the changes to the DMS node.

(5) Press <Send Changes>.
==> A message requests confirmation and new softkeys (<Quit> and <Done>) appear.

(6) Press <Done> to send the changes, or press <Quit> to ignore them.
==> If you press <Quit>, the first set of softkeys reappears and the message "Send Cancelled" is displayed. No changes are sent to the node.

==> If you press <Done>, all changes in the New Plan column are sent to the node, including any that have a status of "Fail" from previous unsuccessful attempts. "Pend" appears in the Status column beside the routes that are being changed and various messages are displayed on the message line. When "Pend" is replaced by "Def" (defined) and the new plan is shifted to the Current Plan column, the update has been processed successfully. If "Fail" appears in the status column, the change has not been made. Check the log messages in the Logs and Alarms subsystem to find the reason for the failure.

Saving and restoring data

This procedure explains how to save BNM data on magnetic tape, in the form of cartridges or 9-track tape spools, and how to restore the data from the tapes. Use this procedure as part of the installation procedures, or to perform a regular backup to guard against a hard disk failure.

Note: This procedure must be performed by a system administrator. See NTP 450-1011-301 for more information about system administration.

The types of data that can be saved and restored are:

- the DNC configuration files and BNM table files
- Station Administration databases
- SMDR, OM, KT, and ATT data that has been collected from DMS nodes

The screens used for saving and restoring data are shown in Figure 2-3.

Preparation

Perform the following steps before you begin to save or restore data:

(1) Establish whether you are going to use a tape cartridge system, a 9-track tape system or a combination of both.

(2) Clean the read/write heads of the tape systems you have selected to use. This step is important because many errors are caused by dirty tape heads.

(3) Collect the necessary tapes. To restore data, you need the ones on which the data was saved. To save data, you need a number of tapes, dependant on the amount of data you wish to save.

Note: In this procedure the term tape means either cartridge tape or 9-track tape, depending on the system you have chosen in step 1.

(4) An indication on quantity of tapes you will require can be assessed from the following list:

- The System Map, System User, System X.25, RFT, FOS, and DataNet Configuration files must always be saved together on the same tape.
- The Init and BCFG files, SDM tables, CI profile, and BNM system data will also fit on the above tape (cartridge or 9-track).
- Station Administration databases will fit on one cartridge tape, provided the combined size of the databases does not exceed 12,000 stations. Larger databases will require a 9-track tape system.
- The quantity of tapes for SMDR data is dependent on the number of files. A 9-track system will store more data than a cartridge system, therefore, if there are a large number of data files, it may be an advantage to use 9-track tapes for saving data.
- OM, KT, and ATT data files are usually less in number than SMDR files, therefore, cartridge tapes can be used.

Menu access

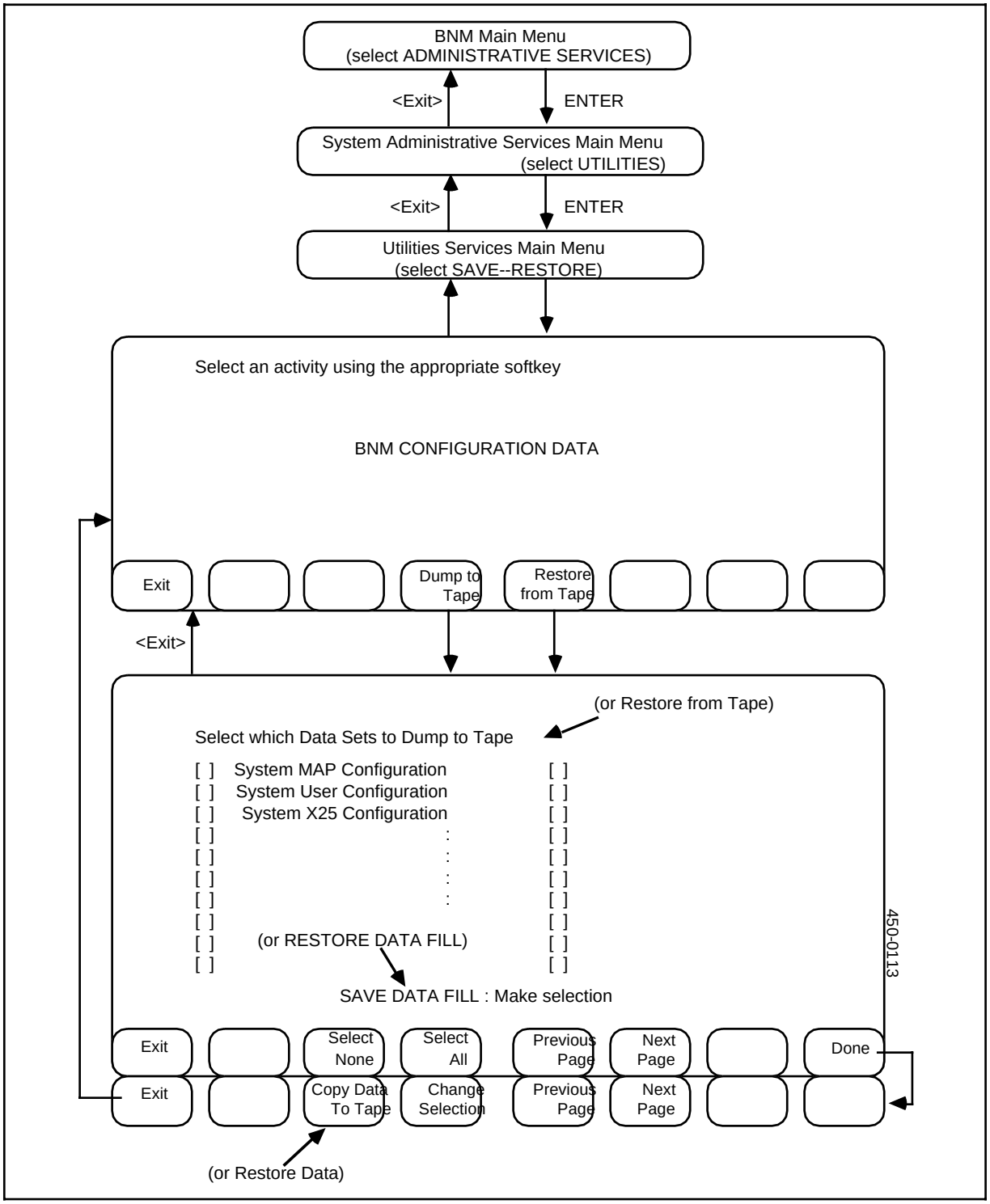
To access Save and Restore:

(1) Sign on to BNM as a system administrator.

(2) If you intend to restore files, shut down data collection, all jobs, and all other users. Data collection will fail if it is running while files are being restored. (It is not necessary to shut down data collection before saving files.)

(3) If you intend to restore the System Map Configuration, System User Configuration, and System X.25 Configuration files, perform a system reboot. If you intend to restore INIT files, "courtesy down" the affected PRUs.

Figure 2-3
Datafill save and restore



Saving data

Each tapeload of data must be saved as a separate procedure; you cannot save data on several tapes as one continuous job. The procedure for saving one tapeload worth of data is:

(1) On the BNM main menu, select Administrative Services and then press ENTER.
==> The System Administrative Services Main Menu appears.

(2) Select Utilities and then press ENTER.
==> The Utilities Services Main Menu appears.

(3) Select Save-Restore and then press ENTER.
==> The BNM Configuration Data screen appears with a prompt that asks you to select an activity.

(4) Select the tape system you wish to use by moving the cursor.

(5) Insert a blank tape cartridge into the system's Storage SRU, or a tape spool on the 9-track tape handler.

Note: Ensure that the tape is in the write permit condition before inserting it in its handler.

(6) Press the <Dump to Tape> softkey.
==> A list of BNM files appears. The files have names such as UN:UNINIT.TEXT (an initialization file), Station Database 1 (a Station Administration database), and COME1 SMDR ALL (a file of SMDR data from the node COME1).

(7) Use the arrow keys, the SPACE BAR, and the appropriate softkeys to select the files to be dumped to tape.

-CAUTION-

Do not select more files than can fit on one tape. (Follow the guidelines given in the Preparation section of this procedure.)

- Use the arrow keys to move the cursor from file to file.
- To select or deselect a file, move the cursor to the file, then press the SPACE BAR to insert or remove a check mark in the box beside the file.
- To select all the files on the screen, use the <Select All> softkey. To deselect all the files on the screen, use <Select None>.
- If the list of files continues on more than one screen, use <Next Page> and <Previous Page> to move from screen to screen.

(8) When the required files are marked by a check mark, press <Done>.
==> New softkeys appear.

(9) Check the file selection. If it is not correct, press <Change Selection> and repeat steps 6 and 7. Otherwise, press <Copy Data to Tape>.
==> Messages appear to indicate the progress of the dumping operation.

(10) When the system has finished copying the selected files, remove the tape from its handler.

Note: When you have removed the tape from its handler, set it to read only, to prevent inadvertent loss of data.

(11) If an error message is displayed informing you that the tape is full, repeat steps 4 through 10 with a reduced number of files.

(12) Press <Exit> to return to the BNM Configuration Data screen. From there you can exit back to the BNM main menu, or repeat steps 4 through 10 to save another tapeload worth of data.

Restoring data

Each tapeload of data must be restored as a separate procedure; you cannot restore data from several tapes as one continuous job.

-CAUTION-
Shut down data collection before beginning to restore files. Data collection will fail if it is running while files are being restored.

The procedure for restoring one tapeload worth of data is:

(1) On the BNM main menu, select Administrative Services and then press ENTER.
==> The System Administrative Services Main Menu appears.

(2) Select Utilities and then press ENTER.
==> The Utilities Services Main Menu appears.

(3) Select Save-Restore and then press ENTER.
==> The BNM Configuration Data screen appears with a prompt that asks you to select an activity.

(4) Select the tape system you wish to recover data from.

(5) Insert the tape cartridge that contains the required files into the system's Storage SRU, the tape spool on the 9-track tape handler.

(6) Press the <Restore from Tape> softkey.
==> A list of the BNM files that are stored on that tape appears. The files have names such as CS:ROINIT (an initialization file), Station Database 1 (a Station Administration database), and COME1 SMDR ALL (a file of SMDR data from the node COME1).

(7) Use the arrow keys, the SPACE BAR, and the appropriate softkeys to select the files that are to be restored from the tape to the system's hard disk:

- Use the arrow keys to move the cursor from file to file.
- To select or deselect a file, move the cursor to the file, then press the SPACE BAR to insert or remove a check mark in the box beside the file.
- To select all the files on the screen, use the <Select All> softkey. To deselect all the files on the screen, use <Select None>.
- If the list of files continues on more than one screen, use <Next Page> and <Previous Page> to move from screen to screen.

(8) When the required files are marked by a check mark, press <Done>.
==> New softkeys appear.

(9) Check the file selection. If it is not correct, press <Change Selection> and repeat steps 7 and 8. Otherwise, press <Restore Data>.
==> Messages appear to indicate the progress of the restoration.

(10) When the system has finished copying the selected files from the tape to the hard disk, remove the tape from its handler.

(11) Press <Exit> to return to the BNM Configuration Data screen. From there you can exit back to the BNM main menu, or repeat steps 3 through 10 to restore another tapeload worth of data.

The DNC processor monitoring table

The DNC Processor Monitoring table shows how busy selected processors' central processing units (CPUs) are and how much memory they have available. To display this table, select DNC Processor Monitoring on the BNM main menu and then press ENTER.
==> The DNC Processor Monitoring table appears (Figure 2-4). Each line on this table displays the following information about a processor:

Num	a number that the DNC uses to keep track of the processor
CC/SS/LL/PP	numbers that identify the location of the processor by cabinet (CC), slot (SS), line (LL), and port (PP)
Interval	the length of time, in seconds, that the processor is monitored before this screen is updated
Average-busy	the percentage of time that the processor's CPU was busy during the last monitoring interval
Memory Available	the number of kilobytes of memory that the processor currently has available
Peak-busy	the percentage of time that the CPU was at peak business during the last monitoring interval
Peak-time	the month (MTH), day (DD), hour (HH), and minute (MM) that peak CPU usage occurred

Selecting processors

By default, the Processor Monitoring table displays information about each processor that is listed in a Service Data Manager (SDM) table called MXMCP-UD. You can add or delete processors from this list. See Using SDM Tables in 450-1011-301 for instructions on editing SDM tables.

You can also add or delete processors while the Processor Monitoring table is being displayed:

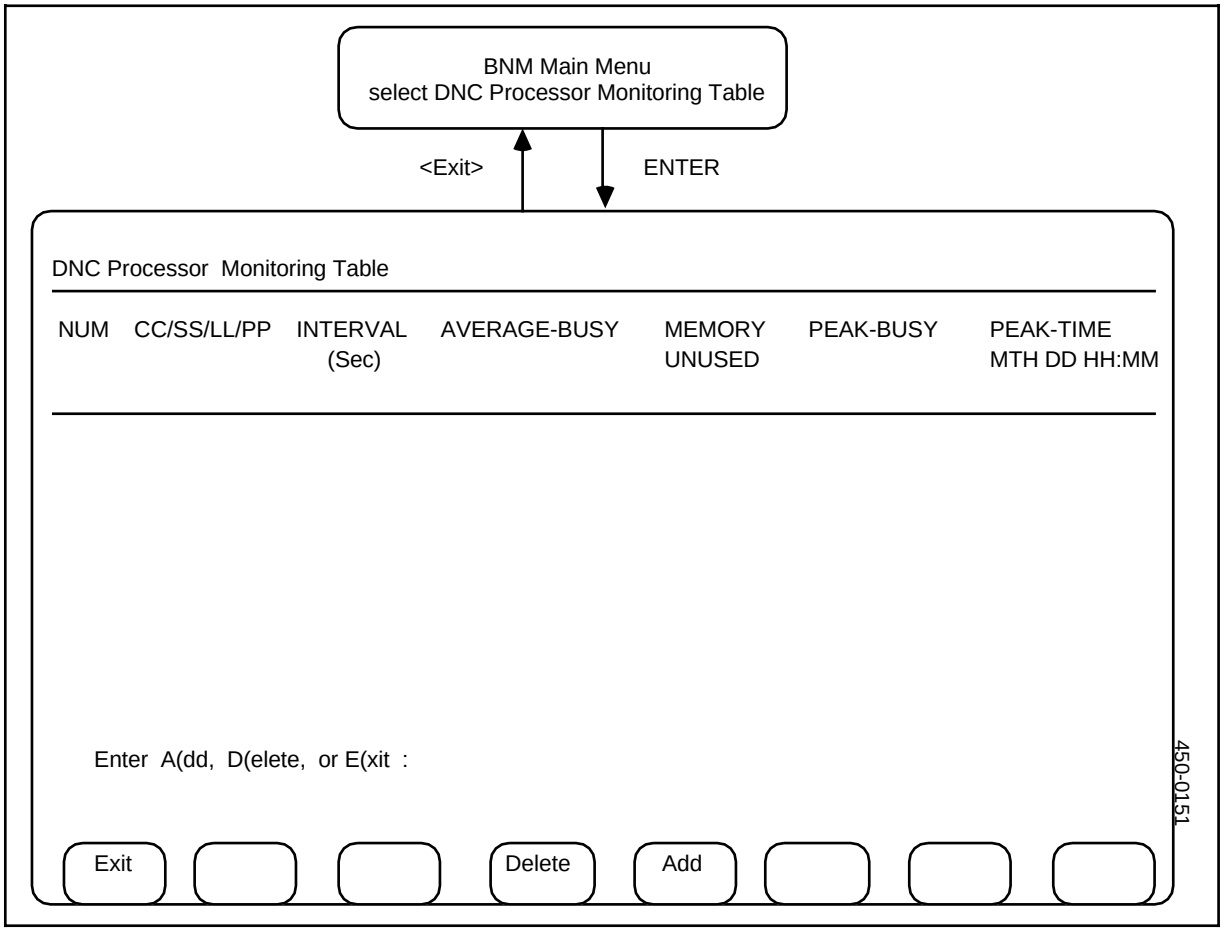
(1) Press <Add> or <Delete>, or type Add, Delete, A, or D.
==> The system prompts you for the name of the processor you want to add or delete.

(2) Type the name of a processor, then press ENTER.
==> The system updates the screen to add or remove information about that processor.

Exiting from the table

To exit from the Processor Monitoring screen and return to the BNM main menu, press <Exit>, or type Exit or E.

Figure 2-4
The DNC processor monitoring table



The DNC disk monitoring table

Disk Monitoring shows how many files are stored on selected disks and what percentage of space on each disk is full. To display, select DNC Disk Monitoring on the BNM main menu and press ENTER.
==> The DNC Disk Monitoring table appears (Figure 2-5). Each line on this table displays the following information about a disk:

Server Name	name of the disk
Total Blocks	total no. of blocks on disk (1 block = 1 Kbyte)
Blocks Used	number and percentage of blocks currently used
After Audit	number and percentage of blocks that were being used at the end of the last audit
Last Audit	day, hour, and minute the last audit took place
Peak Usage	highest percentage of disk space in use between audits (i.e., highest ever) and the time this happened
Intvl	length of time, in seconds, that the disk is monitored before this screen is updated
Total Files	total number of files on the disk at the end of the last audit. If an audit is running, it is the number of files found so far during the audit.

Selecting disks

By default, the Disk Monitoring table displays information about each processor that is listed in a Service Data Manager (SDM) table called MXDISK-UD. You can add or delete disks from this list, and you can also change the monitoring intervals. See Using SDM Tables in 450-1011-301 for instructions on editing SDM tables.

You can also add or delete disks while the Disk Monitoring table is being displayed:

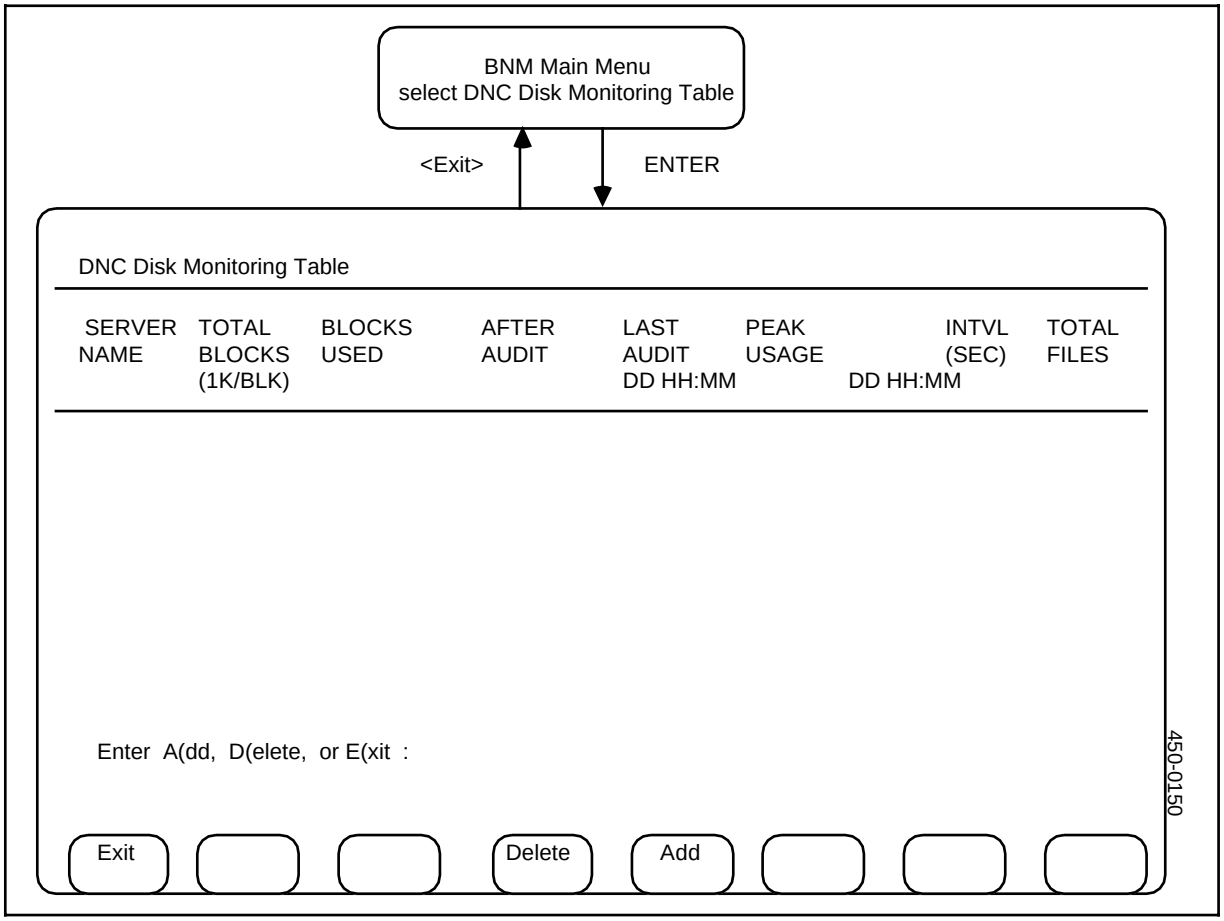
(1) Press <Add> or <Delete>, or type Add, Delete, A, or D.
==> The system prompts you for the name of the disk you want to add or delete.

(2) Type the name of a disk, then press ENTER.
==> The system updates the screen to add or remove information about that disk.

Exiting from the table

To exit from the Disk Monitoring screen and return to the BNM main menu, press <Exit>, or type Exit or E.

Figure 2-5
The DNC disk monitoring table



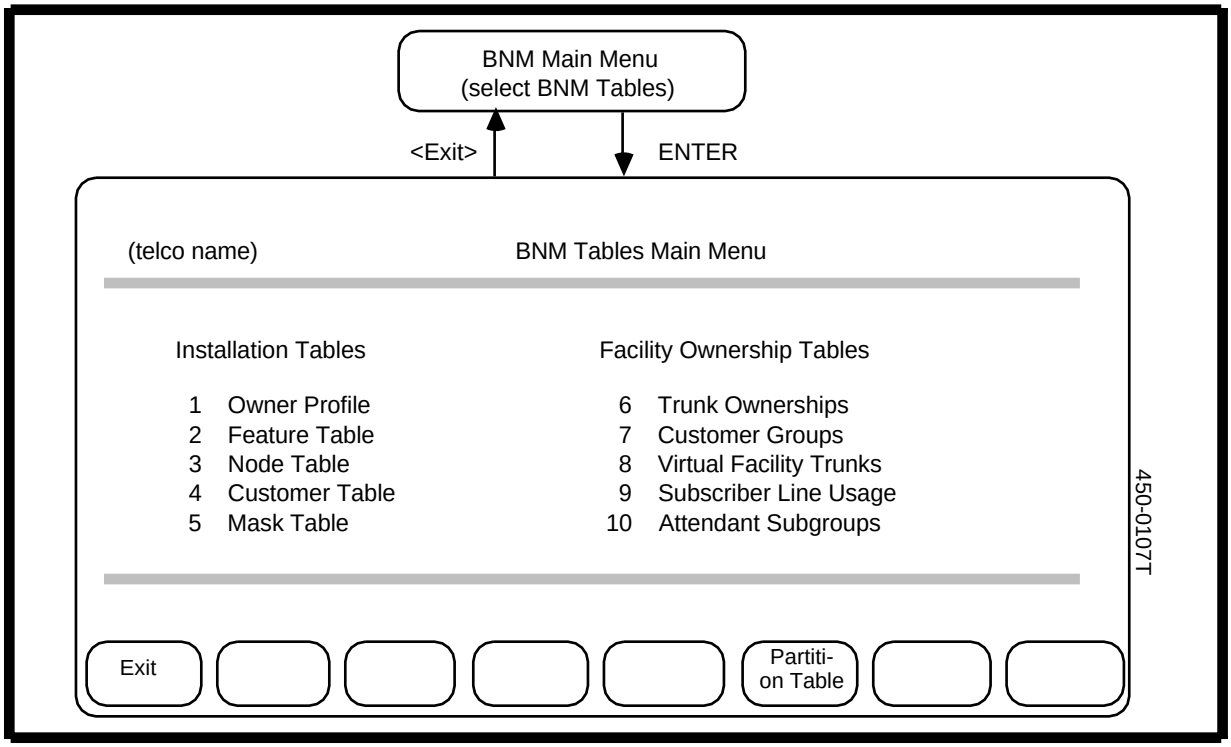
BNM datafill

Overview

This part explains how to administer the BNM data tables. These tables record such things as the names of all the customers that the DNC-500 serves and the names or identification numbers of the facilities that are reserved for those customers. The DNC-500 uses this information to communicate with DMS switches and DNC-100s and to process the data it receives.

The tables must be initialized with appropriate entries when the DNC-500 is installed. After installation, entries can be displayed, added, deleted, and changed when necessary. The tables are accessed through the BNM Tables option on the BNM main menu. Figure 3-1 shows the BNM Tables menu.

Figure 3-1
The BNM tables menu



Installation tables

The Installation tables are the tables that the DNC relies on for information about the nodes, features, and customers that make up the BNM network. There are five installation tables:

Owner Profile	This table registers information about the owner of the DNC-500. The owner has access to all functions of the BNM system and to all data collected by the DNC-500 for all customers.
Feature Table	This table lists each type of data that the BNM system collects and shows the names by which the data types are known to DMS switches and to DNCs. For OM (operational measurements) data, there is an entry for each OM subtype.
Node Table	This table contains information about all the switches from which the DNC-500 collects data.
Customer Table	This table registers information about all the customers of the BNM system. For each customer in the table, softkeys lead to four other tables:

Customer Feature	lists the types of data that BNM collects for the customer
Customer Node	lists the nodes from which the data is collected
Customer DNC	gives information about the type of DNCs the customer uses (DNC-100 or remote)
SMDR Profile	shows how and in what format SMDR data is sent to the customer

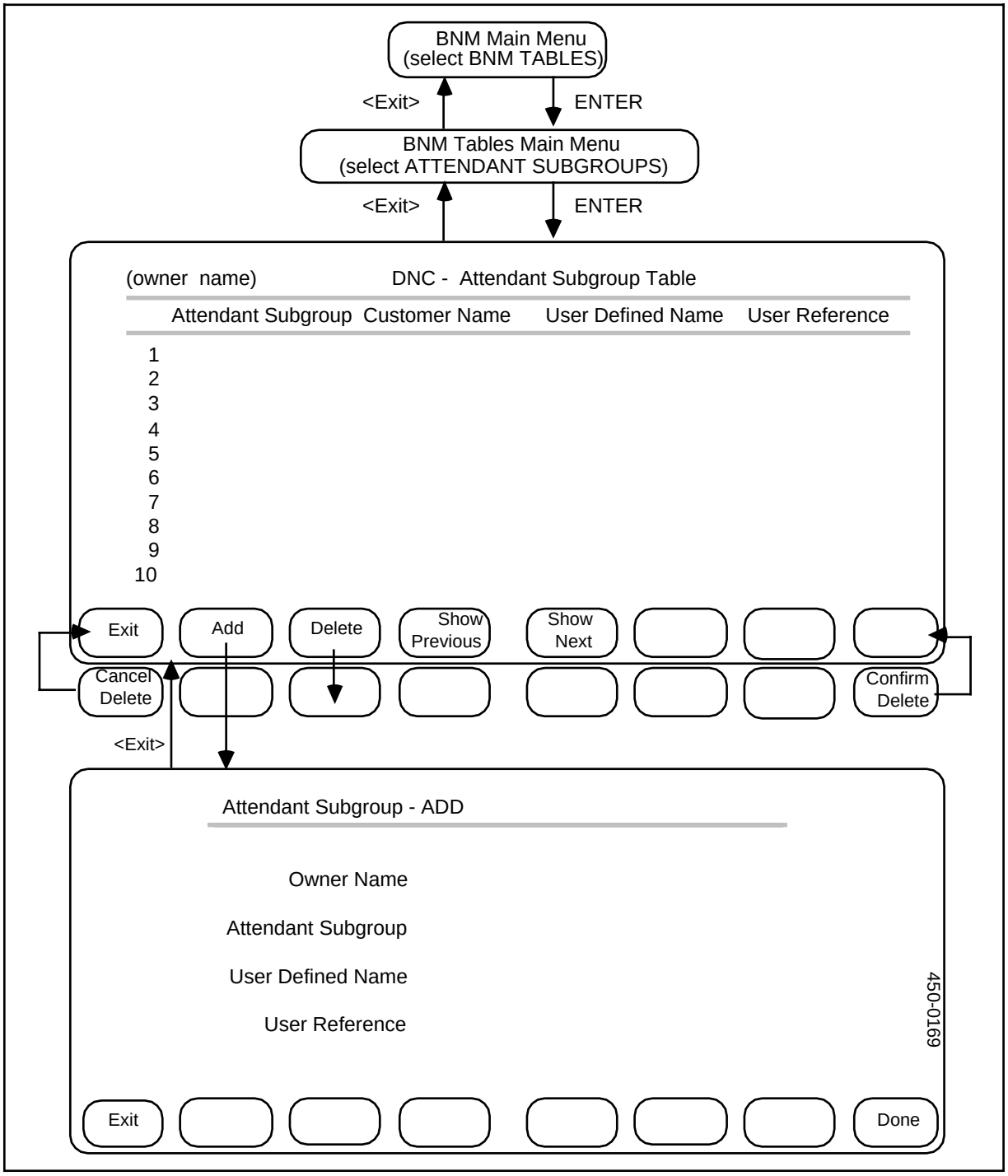
Mask Table	This table is a list of telephone numbers that identify stations for which called numbers are to be masked on Station Message Detail Recording (SMDR) records.

Facility ownership tables

The Facility Ownership tables identify the network facilities that are reserved for the BNM customers and show which facilities belong to which customers. There are tables for five types of facilities:

- attendant subgroups
- customer groups
- subscriber lines
- trunks
- virtual facility trunks

Figure 3-2
The attendant subgroup table



Facility ownership - attendant subgroups

In Meridian Digital Centrex networks, attendants can be arranged into attendant subgroups. For a BNM system to function properly, these subgroups must be registered in the Attendant Subgroup table (Figure 3-2). This table contains the following information:

(a) ***Attendant Subgroup.*** This is the name of an attendant subgroup that is registered on a DMS switch.

(b) ***Customer Name.*** This is the name, as recognized by the DMS, of the customer to whom the attendant subgroup belongs. This name must appear first in the Customer Table.

(c) ***User-defined Name.*** This is the customer's name for the attendant subgroup. This is the name that will appear on formatted reports.

(d) ***User Reference.*** This is a shorter version of the user-defined name that the system uses when formatting SMDR data.

The table can contain a maximum of 250 attendant subgroups.

Displaying the table

To display the entries in the Attendant Subgroup table, follow these steps:

(1) From the BNM main menu, select BNM Tables and then press ENTER.
==> The BNM Tables Main Menu appears.

(2) Select Attendant Subgroups and then press ENTER.
==> The Attendant Subgroup Table screen appears. If there are too many entries to be displayed on one screen, the <Show Next> and <Show Previous> softkeys can be used to move to different sections of the table.

Adding an entry

To add an entry to the Attendant Subgroup table, first display the table, then follow these steps:

(1) On the Attendant Subgroup Table screen, press <Add>.
==> The Attendant Subgroup ADD screen appears.

(2) Fill in the fields on this screen, using the RETURN key to move between fields. To save the new entry, press <Done>.
==> A message indicates that the entry has been added.

Note: To leave this screen without creating a new entry, press <Exit>.

(3) Add other entries as above, typing new characters over the old, or exit.

Deleting an entry

To delete an entry from the Attendant Subgroup table, use the arrow keys to select the entry to be deleted, then

(a) Press <Delete>.
==> A message requests confirmation, and new softkeys appear.

(b) Press <Confirm Delete>.
==> The table reappears with the entry deleted.

Exiting

To leave the Attendant Subgroup screens and return to previous screens, press <Exit> on each screen in turn.

Facility ownership - customer groups

In Meridian Digital Centrex networks, customers can be organized into groups that share a common owner. These arrangements must be listed in the Customer Group Table (Figure 3-3). This table contains the following information:

(a) ***Customer Group:*** This is the name of a customer group that is registered on a DMS switch for a customer.

(b) ***Customer Name.*** This is the name, as recognized by the DMS, of the customer to whom the group belongs. This name must first appear in the Customer Table.

(c) ***User-defined Name.*** This is the customer's name for the group. This is the name that will appear on formatted reports.

(d) ***User Reference.*** This is a shorter version of the user-defined name that the system uses when formatting SMDR data for the customer.

The table can contain a maximum of 512 customer groups.

Displaying the table

To display the entries in the Customer Group table, follow these steps:

(1) From the BNM main menu, select BNM Tables and then press ENTER.
==> The BNM Tables Main Menu appears.

(2) Select Customer Groups and then press ENTER.
==> The Customer Group Table screen appears. If there are too many entries to be displayed on one screen, the <Show Next> and <Show Previous> softkeys can be used to move to different sections of the table.

Adding an entry

To add an entry to the Customer Group table, first display the table, then follow these steps:

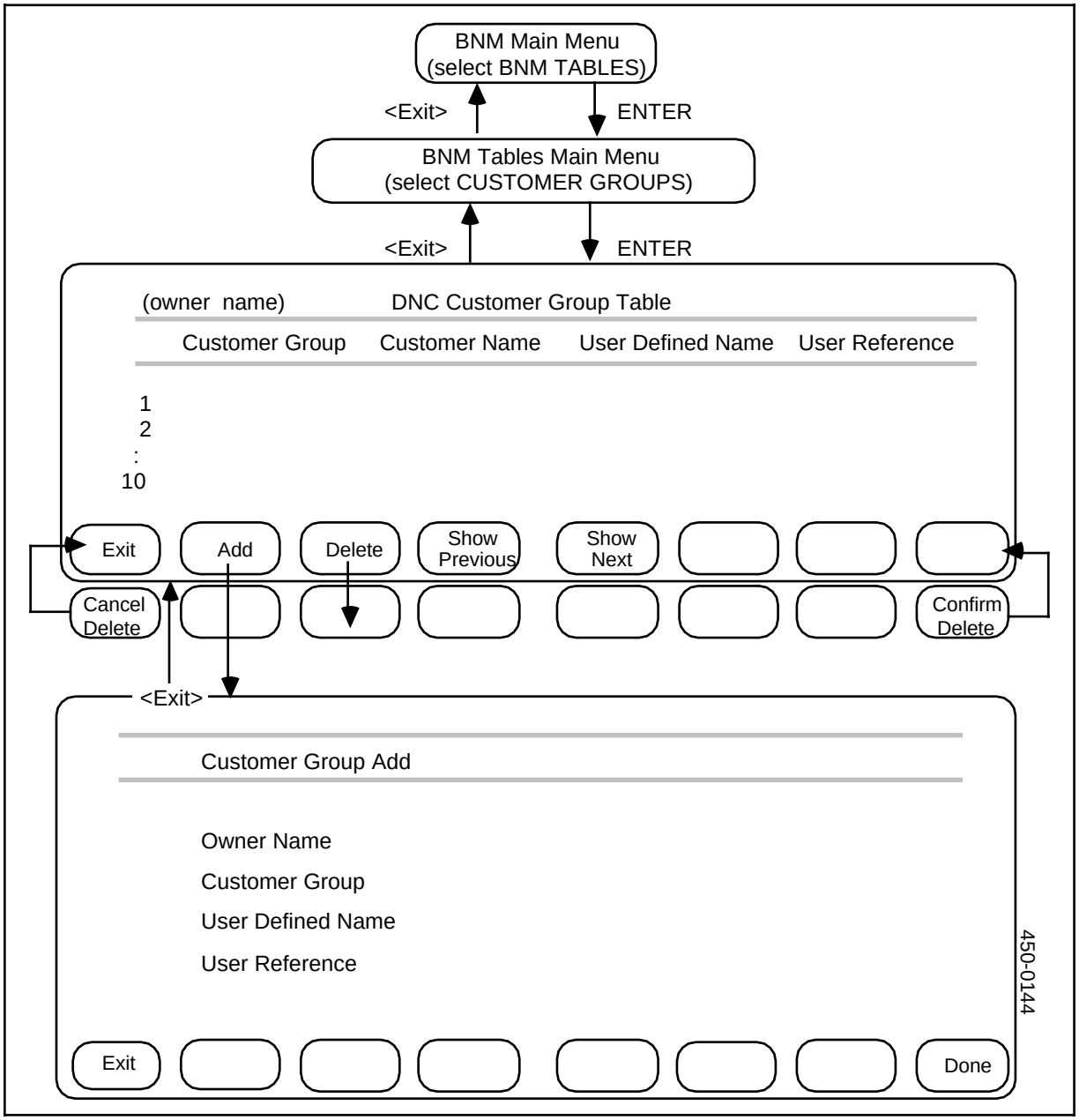
(1) Press <Add>.
==> The Customer Group Add screen appears.

(2) Fill in the fields on this screen, using the RETURN key to move between fields. To save the new entry, press <Done>.
==> A message indicates that the entry has been added.

Note: To leave this screen without creating a new entry, press <Exit>.

(3) Add other entries as above, typing new characters over the old, or exit.

Figure 3-3
Facility ownership - customer group table



Deleting an entry

To delete an entry from the Customer Group table, use the arrow keys to select the entry to be deleted, then

(1) Press <Delete>.
==> A message requests confirmation, and new softkeys appear.

(2) Press <Confirm Delete>.
==> The table reappears with the entry deleted.

Exiting

To leave the Customer Group screens and return to previous screens, press <Exit> on each screen in turn.

Facility ownership - subscriber line usage

The Subscriber Line Table (Figure 3-4) identifies the lines that customers use at the various DMS nodes. This table contains the following information:

(a) ***Subscriber Line:*** This is the name of a subscriber line that is allotted to a customer on a DMS switch.

(b) ***Customer Name.*** This is the name, as recognized by the DMS, of the customer to whom the subscriber line is dedicated. This name must first appear in the Customer Table.

(c) ***User-defined Name.*** This is the customer's name for the subscriber line. This is the name that will appear on formatted reports.

The table can contain a maximum of 250 subscriber lines.

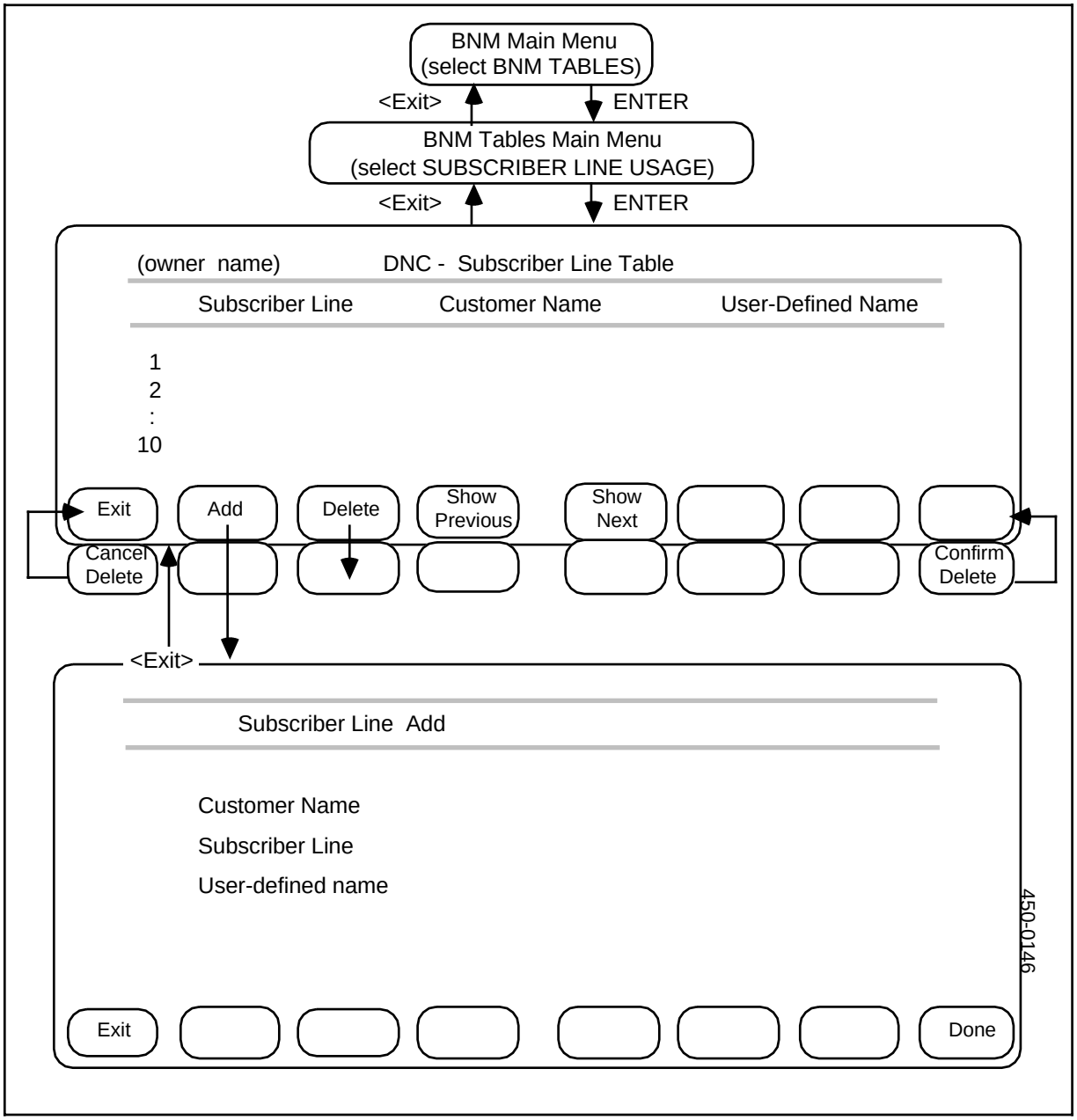
Displaying the Table

To display the entries in the Subscriber Line table, follow these steps:

(1) From the BNM main menu, select BNM Tables and then press ENTER.
==> The BNM Tables Main Menu appears.

(2) Select Subscriber Line Usage and then press ENTER.
==> The Subscriber Line Table screen appears. If there are too many entries to be displayed on one screen, the <Show Next> and <Show Previous> softkeys can be used to move to different sections of the table.

Figure 3-4
Facility ownership - subscriber line usage table



Adding an entry

To add an entry to the Subscriber Line table, first display the table, then follow these steps:

(1) Press <Add>.
==> The Subscriber Line Add screen appears.

(2) Fill in the fields on this screen, using the RETURN key to move between fields. To save the new entry, press <Done>.
==> A message indicates that the entry has been added.

Note: To leave this screen without creating a new entry, press <Exit>.

(3) Add other entries as above, typing new characters over the old, or exit.

Deleting an Entry

To delete an entry from the Subscriber Line table, use the arrow keys to select the entry to be deleted, then

(1) Press <Delete>.
==> A message requests confirmation, and new softkeys appear.

(2) Press <Confirm Delete>.
==> The table reappears, with the entry deleted.

Exiting

To leave the Subscriber Line screens and return to previous screens, press <Exit> on each screen in turn.

Facility ownership - trunk translation

The Trunk Ownership Tables (Figure 3-5) show which trunks are used by which customers. (They are also known as Trunk Translation Tables.) These tables contain the following information:

(a) ***Originating Node Name and CLLI:*** This is the name and common language location identifier (CLLI) for the originating node, as recognized by the node. This name will appear on formatted output. This originating node must first appear in the Customer Node Table.

(b) ***Destination Node Name and CLLI:*** This is the name and CLLI for the destination node as known to the node. This name will appear on formatted output. This destination node must first appear in the Customer Node table.

(c) ***Trunk Type:*** This shows whether the trunk is 1-way (origination to destination) or 2-way.

(d) ***User-Defined Name:*** This is the customer's name for the trunk.

(e) ***Owner Name/Trunk Owner:*** This is name of the customer (as listed in the Customer Table) to whom the trunk is dedicated.

The tables can contain entries for a maximum of 4000 trunks.

Displaying the table

To display the entries in the Trunk Ownership table, follow these steps:

(1) From the BNM main menu, select BNM Tables and then press ENTER.
==> The BNM Tables Main Menu appears.

(2) Select Trunk Ownerships and then press ENTER.
==> The DNC Translation Tables - CLLI Specification Form screen appears.

(3) Specify the trunks to be listed by filling in the CLLI and Node fields. In the Node field, type a particular node name to list trunks from that node, or leave the field blank to list trunks from all nodes. In the CLLI field, fill in the CLLI of a particular trunk to list that trunk, or leave the field blank to list all trunks from the specified node or nodes. Use the RETURN key to move between the fields. When you have finished, press ENTER.
==> The Translation Tables screen appears with a list of trunks that meet the specifications.

Figure 3-5
Facility ownership - trunk ownership table (continued on Figure 3-6)

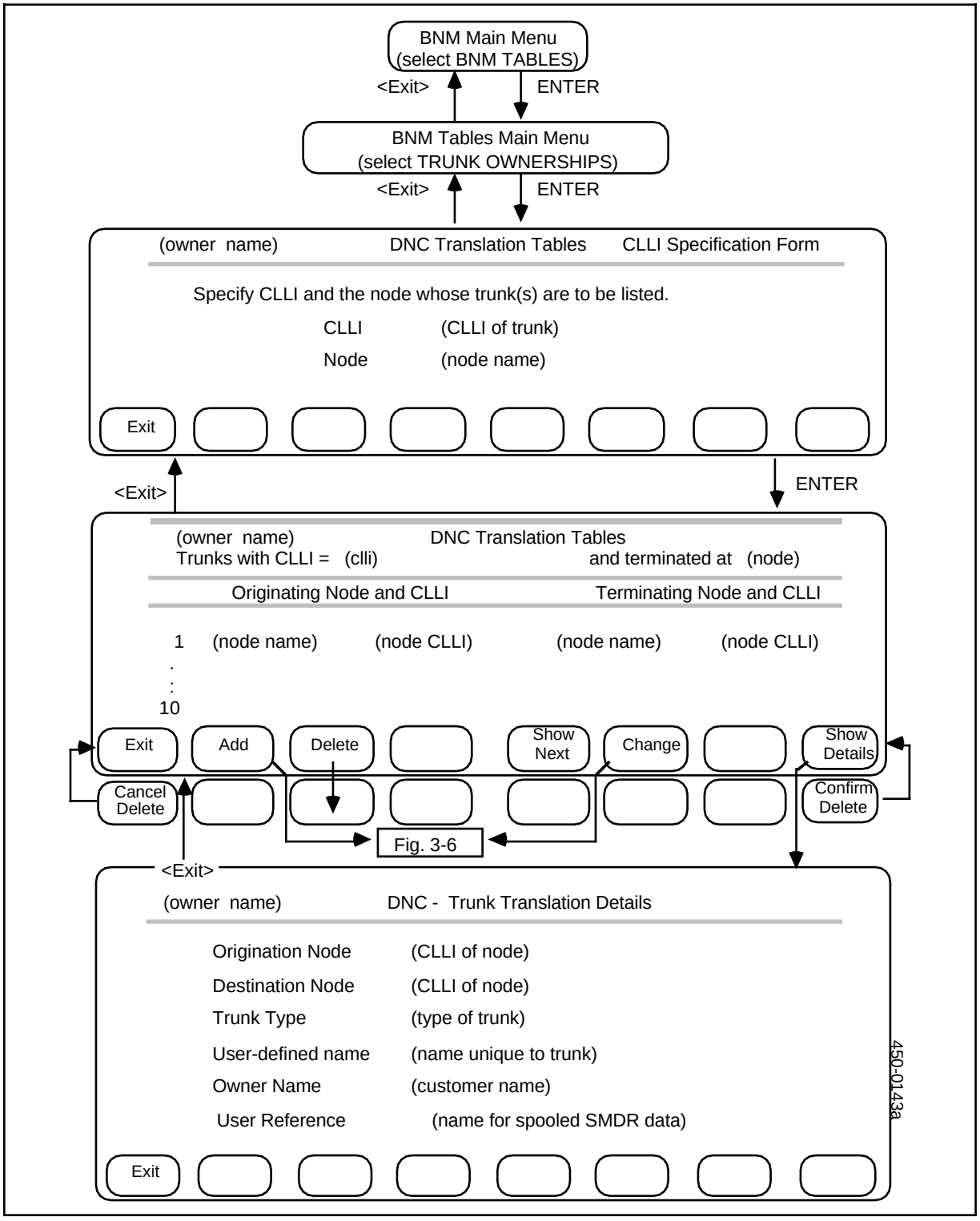
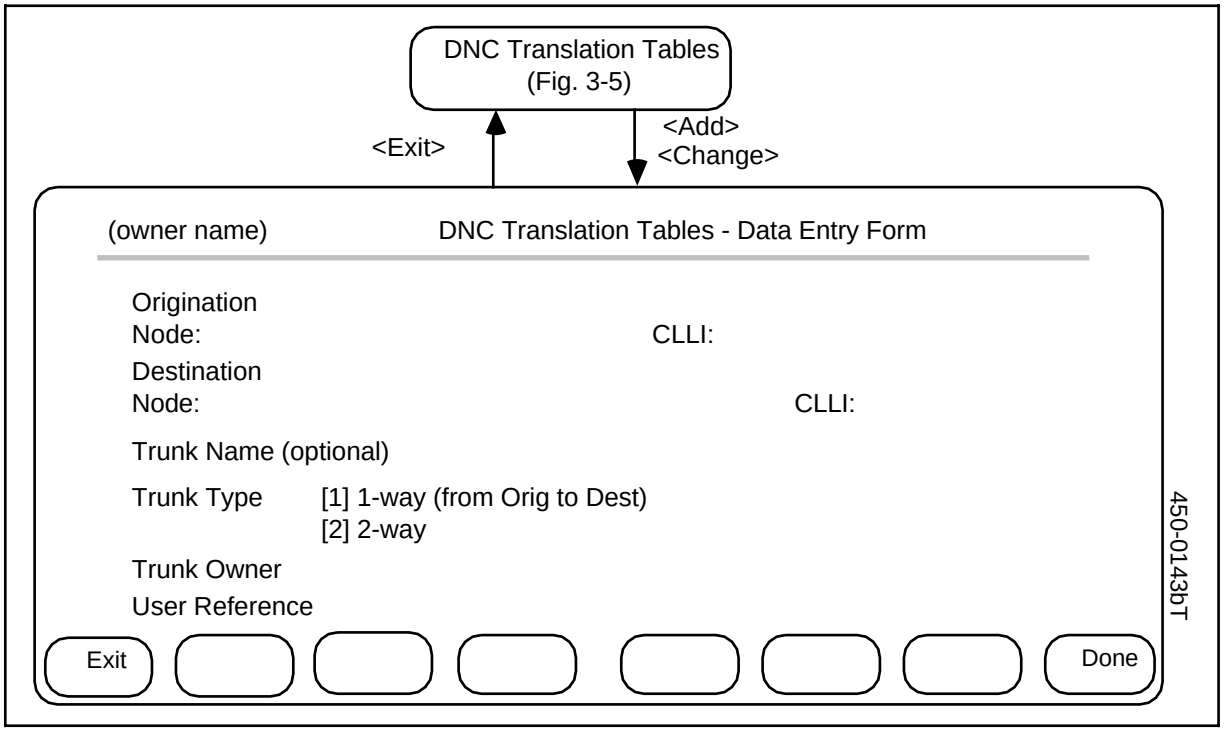


Figure 3-6
Facility ownership - trunk ownership table (continued from Figure 3-5)



Displaying details of a trunk

To display more details about a particular trunk that is displayed on the Translation Tables screen, use the arrow keys to select the trunk, then press <Show Details>.
==> The Trunk Translation Details screen appears (Figure 3-5).

Adding or changing an entry

To add or change a trunk, first display the Trunk Translation Tables screen, then follow these steps:

(1) Press <Add> or <Change>.
==> The DNC Translation Table - Data Entry Form screen appears (Figure 3-6).

(2) Fill in the fields on this screen, using the RETURN key to move between fields. To save the new entry, press <Done>.
==> A message indicates that the entry has been added.

Note: To leave this screen without creating a new entry, press <Exit>.

(3) Add other entries as above, typing new characters over the old, or exit.

Deleting an entry

To delete a trunk, use the arrow keys to select the entry to be deleted on the DNC Translation Tables screen (Figure 3-5), then

(1) Press <Delete>.
==> A message prompts confirmation, and new softkeys appear.

(2) Press <Confirm Delete>.
==> The table reappears with the entry deleted.

Exiting

To leave the Translation Tables screens and return to previous screens, press <Exit> on each screen in turn.

Facility ownership - virtual facility trunks

The Virtual Facility Trunk Group table (Figure 3-7) lists the virtual trunk groups that are used by BNM customers. This table contains the following information:

(a) ***Virtual Trunk Group:*** This is the name of a virtual trunk group that is allotted to a customer on a DMS switch.

(b) ***Customer Name.*** This is the name, as recognized by the DMS, of the customer to whom the virtual trunk group is dedicated. This name must appear in the Customer Table.

(c) ***User-defined Name.*** This is the customer's name for the virtual trunk group. This is the name that will appear on formatted reports.

(d) ***User Reference.*** This is a shorter version of the user-defined name that the system uses when formatting SMDR data for the customer.

The table can contain a maximum of 250 virtual trunk groups.

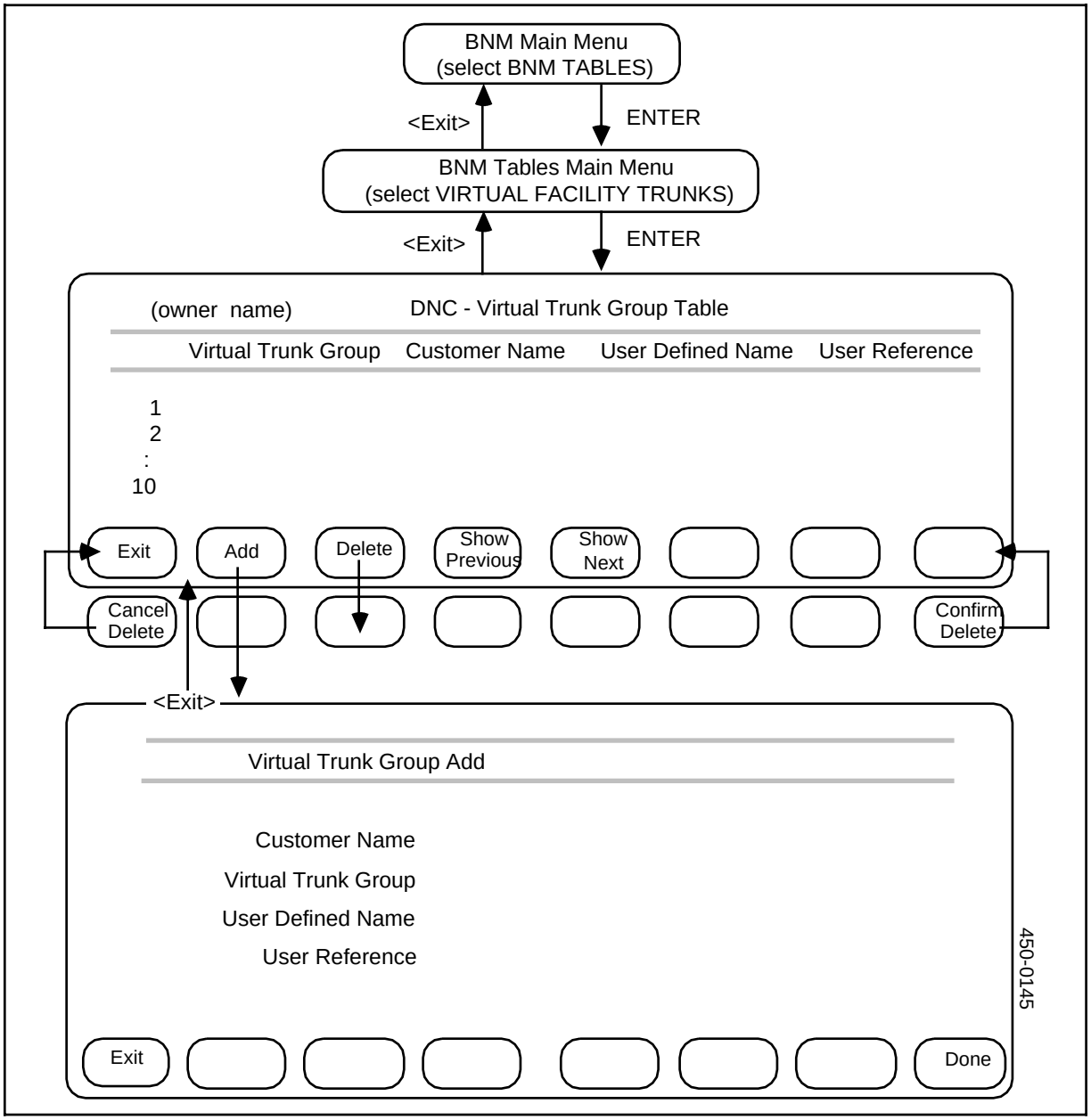
Displaying the table

To display the entries in the Virtual Trunk Group table, follow these steps:

(1) From the BNM main menu, select BNM Tables and then press ENTER.
==> The BNM Tables Main Menu appears.

(2) Select Virtual Facility Trunks and then press ENTER.
==> The Virtual Trunk Group Table screen appears. If there are too many entries to be displayed on one screen, the <Show Next> and <Show Previous> softkeys can be used to move to different sections of the table.

Figure 3-7
Facility ownership - virtual facility table



Adding an entry

To add an entry to the Virtual Trunk Group table, first display the table, then follow these steps:

(1) Press <Add>.
==> The Virtual Trunk Group Add screen appears.

(2) Fill in the fields on this screen, using the RETURN key to move between fields. To save the new entry, press <Done>.
==> A message indicates that the entry has been added.

Note: To leave this screen without creating a new entry, press <Exit>.

(3) Add other entries as above, typing new characters over the old, or exit.

Deleting an entry

To delete an entry from the Virtual Trunk Group table, use the arrow keys to select the entry to be deleted, then

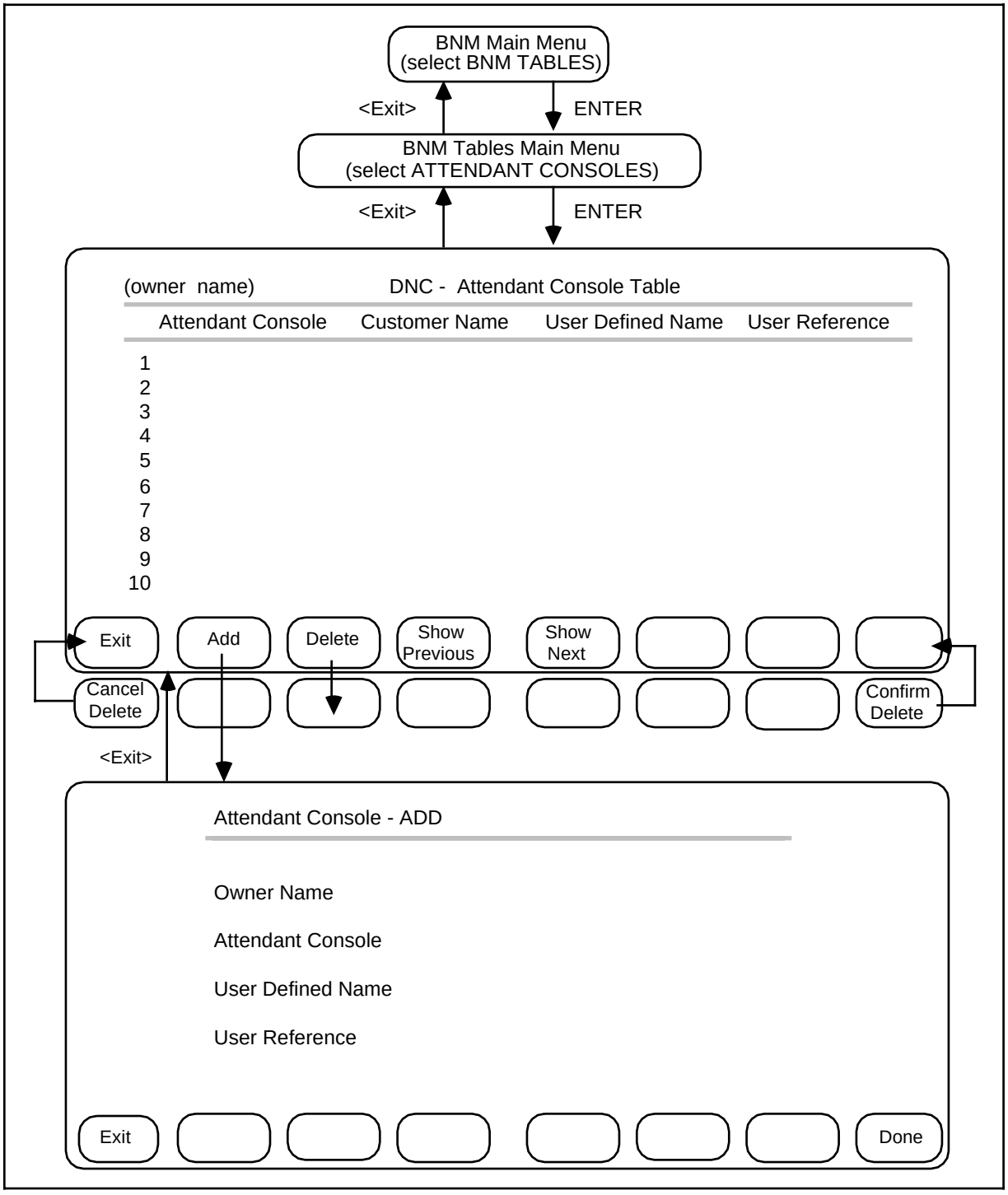
(1) Press <Delete>.
==> A message prompts to confirm, and new softkeys appear.

(2) Press <Confirm Delete>.
==> The table reappears with the entry deleted.

Exiting

To leave the Virtual Trunk Group screens and return to previous screens, press <Exit> on each screen in turn.

Figure 3-8
The attendant consoles table



Facility ownership - attendant consoles

In Meridian Digital Centrex networks, there can be a number of attendant consoles. For a BNM system to function properly, these consoles must be registered in the Attendant Consoles table (Figure 3-8). This table contains the following information:

(a) ***Attendant Console.*** These are the names of an attendant consoles that are registered on a DMS switch.

(b) ***Customer Name.*** This is the name, as recognized by the DMS, of the customer to whom the attendant consoles belong. These names must appear first in the Customer Table.

(c) ***User-defined Name.*** These are the customer's names for the attendant consoles. These are the names that will appear on formatted reports.

(d) ***User Reference.*** This is a shorter version of the user-defined name that the system uses when formatting SMDR data.

The table can contain a maximum of 250 attendant consoles.

Displaying the table

To display the entries in the Attendant Consoles table, follow these steps:

(1) From the BNM main menu, select BNM Tables and then press ENTER.
==> The BNM Tables Main Menu appears.

(2) Select Attendant Consoles and then press ENTER.
==> The Attendant Consoles Table screen appears. If there are too many entries to be displayed on one screen, the <Show Next> and <Show Previous> softkeys can be used to move to different sections of the table.

Adding an entry

To add an entry to the Attendant Consoles table, first display the table, then follow these steps:

(1) On the Attendant Consoles Table screen, press <Add>.
==> The Attendant Console ADD screen appears.

(2) Fill in the fields on this screen, using the RETURN key to move between fields. To save the new entry, press <Done>.
==> A message indicates that the entry has been added.

Note: To leave this screen without creating a new entry, press <Exit>.

(3) Add other entries as above, typing new characters over the old, or exit.

Deleting an entry

To delete an entry from the Attendant Consoles table, use the arrow keys to select the entry to be deleted, then

(a) Press <Delete>.
==> A message requests confirmation, and new softkeys appear.

(b) Press <Confirm Delete>.
==> The table reappears with the entry deleted.

Exiting

To leave the Attendant Consoles screens and return to previous screens, press <Exit> on each screen in turn.

Installation - customer table

The Customer table (Figure 3-9) registers all customers who are served by this DNC-500. The Customer table must also include an entry for the telco owner of the DNC-500 itself that has a group-id of 0.

The DNC-500's data collector checks the information in the Customer Table when it starts to collect data from a DMS node. This means that if the DNC is in the process of collecting data when a new customer is added to the Customer Table, no data for the new customer will be collected until the data collector is stopped and then restarted. Similarly, if information about a customer is changed, or if a customer is deleted, the data collector does not recognize the change until it is stopped and then restarted. To start or stop data collection, use the Nodes menu (see part 4 of this practice).

NSR28 supports up to 64 customers.

The Customer table contains the following information:

(a) ***Customer Name:*** (up to 16 characters) This is the name of the customer as it is to be formatted on reports.

(b) ***DNC Reference:*** (up to 16 characters) This is the name of the customer as recognized by this and other DNC systems. It should be the same as the DNC Reference for the customer at other DNC systems in the network.

(c) ***DNC Logon Password:*** (8 characters - displayed on the Add and Change screens only) This password is required to log on to the DNC system of the customer defined by this entry.

(d) ***Group-ID:*** (number from 0 to 99) This identifies the group with which the customer is associated in System Administrative Services. The system reserves group zero for the operating company owner of the DNC-500. Each group other than zero represents a separate customer and associated real or virtual DNC-100. (See NTP 450-1011-301.)

(e) ***15IDDD?:*** (Add and Change screens only) This field specifies the format of SMDR spooling. If the box next to this field is empty (the default value), then BNM spools the former SMDR format. Pressing the space bar, which enters a check mark in the box, indicates that BNM is to spool the expanded SMDR format.

(f) ***Printer Group:*** (up to 16 characters - displayed on the Add and Change screens only) This is the name of the printer queue to which print jobs are assigned (see NTP 450-1011-301).

(g) ***DNC Type:*** (displayed on the Add and Change screens only) Select

- DNC-500 for the operating company owners and users
- Remote Access for customers with a terminal access.

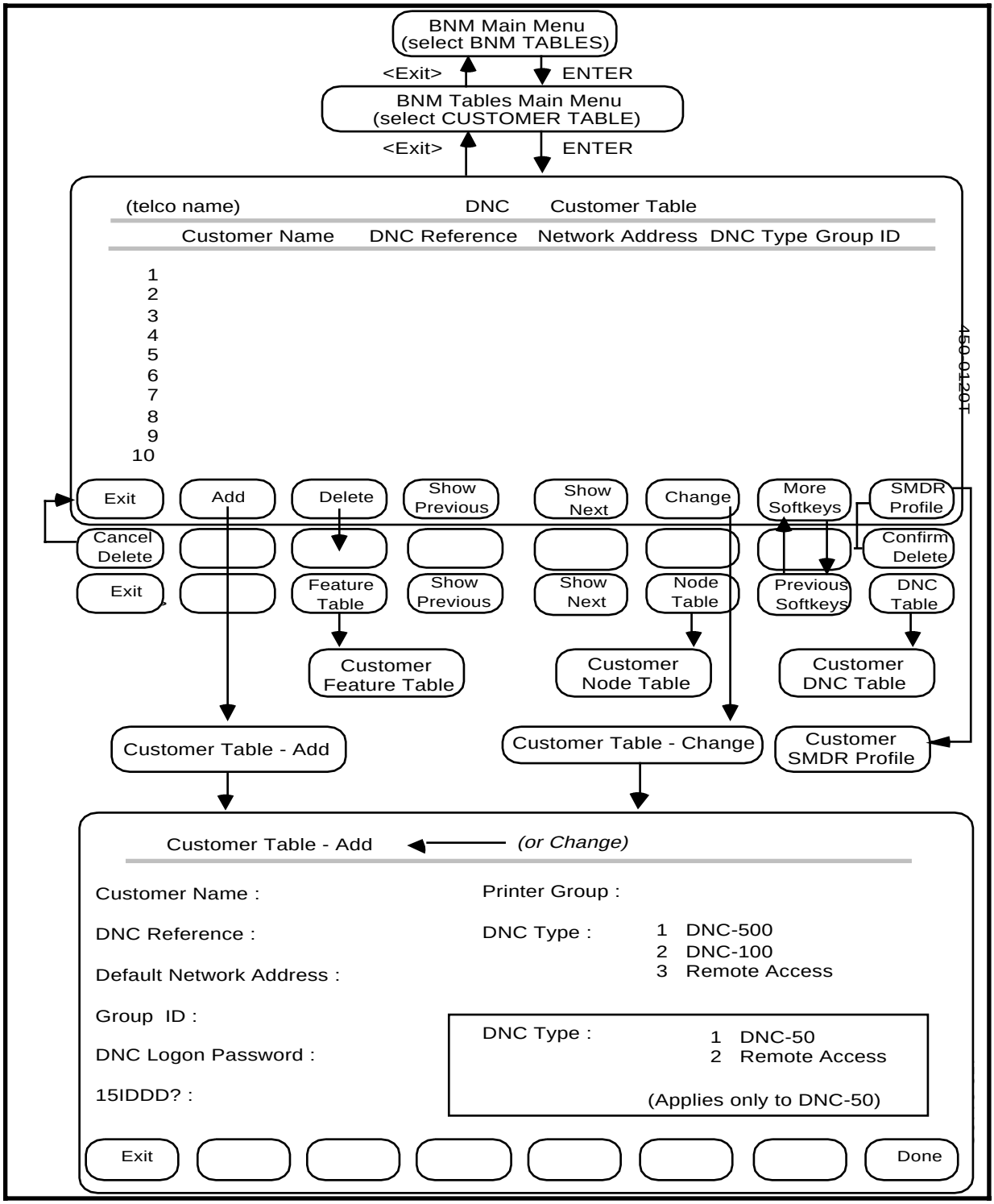
Displaying the table

To display the entries in the Customer table, follow these steps:

(1) From the BNM main menu, select BNM Tables and then press ENTER.
==> The BNM Tables Main Menu appears.

(2) Select Customer Table and then press ENTER.
==> The Customer Table screen appears. If there are too many entries to be displayed on one screen, you can use the <Show Next> and <Show Previous> softkeys to move to different sections of the table.

Figure 3-9
Installation - customer table



Adding an entry

To add an entry to the Customer table, first display the table, then follow these steps:

(1) Press <Add>.
==> The Customer Table Add screen appears.

(2) Fill in the fields on this screen, using the RETURN key to move between fields. In the DNC Type field, use the arrow keys to select a type. To save the new entry, press <Done>.
==> A message indicates that the entry has been added.

Note: to exit from this screen without creating a new entry, press <Exit>.

(3) Add other entries as above, typing new characters over the old, or exit.

Deleting an entry

To delete an entry from the Customer table, use the arrow keys to select the entry to be deleted, then

(1) Press <Delete>.
==> A message requests confirmation and new softkeys appear.

(2) Press <Confirm Delete>.
==> The table reappears with the entry deleted.

Changing an entry

To change an entry in the Customer table, first select the entry you want to change on the Customer Table screen, then:

(1) Press <Change>.
==> The Customer Table Change screen appears.

(2) Type new data in each field. Use the RETURN or TAB key to move from field to field. Press <Exit> at any time to return to the previous screen without changing the entry. To save the changes, press <Done> when all the fields are correct.
==> A message indicates that the entry has been changed.

(3) Press <Exit> to return to the previous screen.

Exiting

To leave the Customer Table screens and return to previous screens, press <Exit> on each screen in turn.

Installation - customer DNC table

For each entry in the Customer Table, softkeys lead to a Customer DNC table (Figure 3-10) that lists information about the customer's DNC and about all the other DNCs that are connected to the customer's DNC. There can be up to 12 entries in the table. The table contains the following information:

(a) ***DNC Name:*** (up to 16 characters) This is the name of the owner of the other DNC system, as recognized by the system's users.

(b) ***DNC Reference:*** (up to 16 characters) This is the name of the owner of the other DNC as recognized by that DNC. It must be consistent with the Customer Name and DNC Reference for this customer in other tables.

(c) ***Network Address:*** (16 characters, upper case, no blanks) This is the address of the other DNC in the X.25 packet network. It must match the other DNC's DTE Address on the X.25 Details Screen under System Administrative Services (see the section on setting up ports for X.25 and NOP in NTP 450-1011-301).

(d) ***Password:*** (8 characters - displayed on the Add and Change screens only) This password will be required to access this DNC.

(e) ***DNC Type:*** This shows whether the other DNC is a DNC-500.

Displaying the table

To display the entries in a Customer DNC table, follow these steps:

(1) From the BNM main menu, select BNM Tables and then press ENTER.
==> The BNM Tables Main Menu appears.

(2) Select Customer Table and then press ENTER.
==> The Customer Table appears (Figure 3-9).

(3) Select the entry for the appropriate customer, then press <More Softkeys>.
==> New softkeys appear.

(4) Press <DNC Table>.
==> The DNC Table appears. If there are too many entries to be displayed on one screen, the <Show Next> and <Show Previous> softkeys can be used to move to different sections of the table.

Adding an entry

To add an entry to a Customer DNC table, first display the table, then follow these steps:

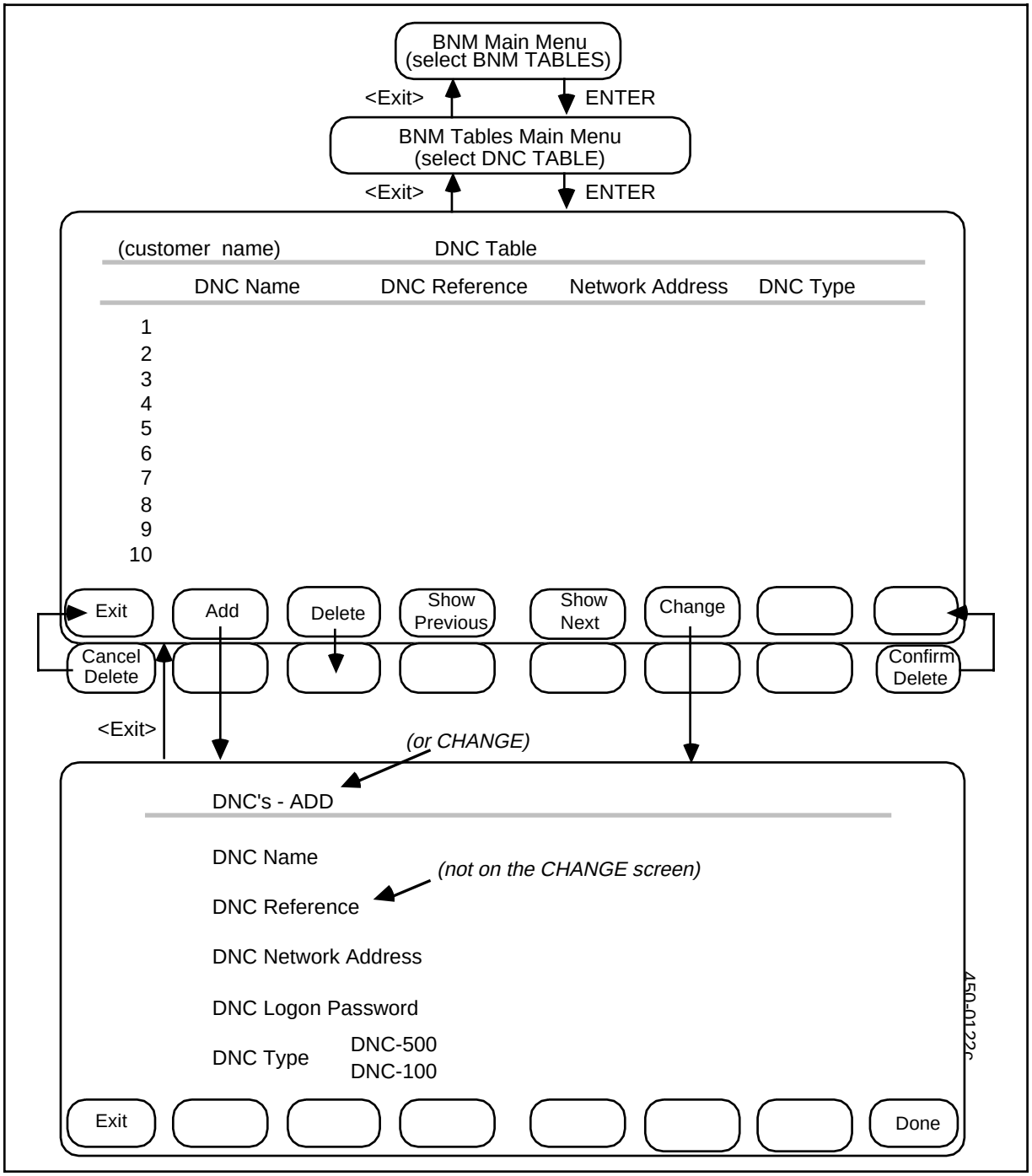
(1) Press <Add>.
==> The DNCs - Add screen appears.

(2) Fill in the fields on this screen, using the RETURN key to move between fields. In the DNC Type field, use the arrow keys to select a type. To save the new entry, press <Done>.
==> A message indicates that the entry has been added.

Note: To leave this screen without creating a new entry, press <Exit>.

(3) Add other entries as above, typing new characters over the old, or exit.

Figure 3-10
Installation - customer DNC table



Deleting an entry

To delete an entry from a Customer DNC table, use the arrow keys to select the entry to be deleted, then

(1) Press <Delete>.
==> A message requests confirmation, and new softkeys appear.

(2) Press <Confirm Delete>.
==> The table reappears with the new entry deleted.

Changing an entry

To change an entry in a Customer DNC table, first select the entry you want to change on the DNC screen, then:

(1) Press <Change>.
==> The DNCs - Change screen appears.

(2) Type new data in each field. Use the RETURN or TAB key to move from field to field. Press <Exit> at any time to return to the previous screen without changing the entry. To save the changes, press <Done> when all the fields are correct.
==> A message indicates that the entry has been changed.

(3) Press <Exit> to return to the previous screen.

Exiting

To leave the Customer DNC screens and return to previous screens, press <Exit> on each screen in turn.

Installation - customer feature profile

For each entry in the Customer Table (Figure 3-9), softkeys lead to a Customer Feature Profile table (Figure 3-11) that lists the types of data that are collected for that customer from each DMS node. Each combination of feature and node requires a separate entry.

A Customer Feature Profile table contains the following information:

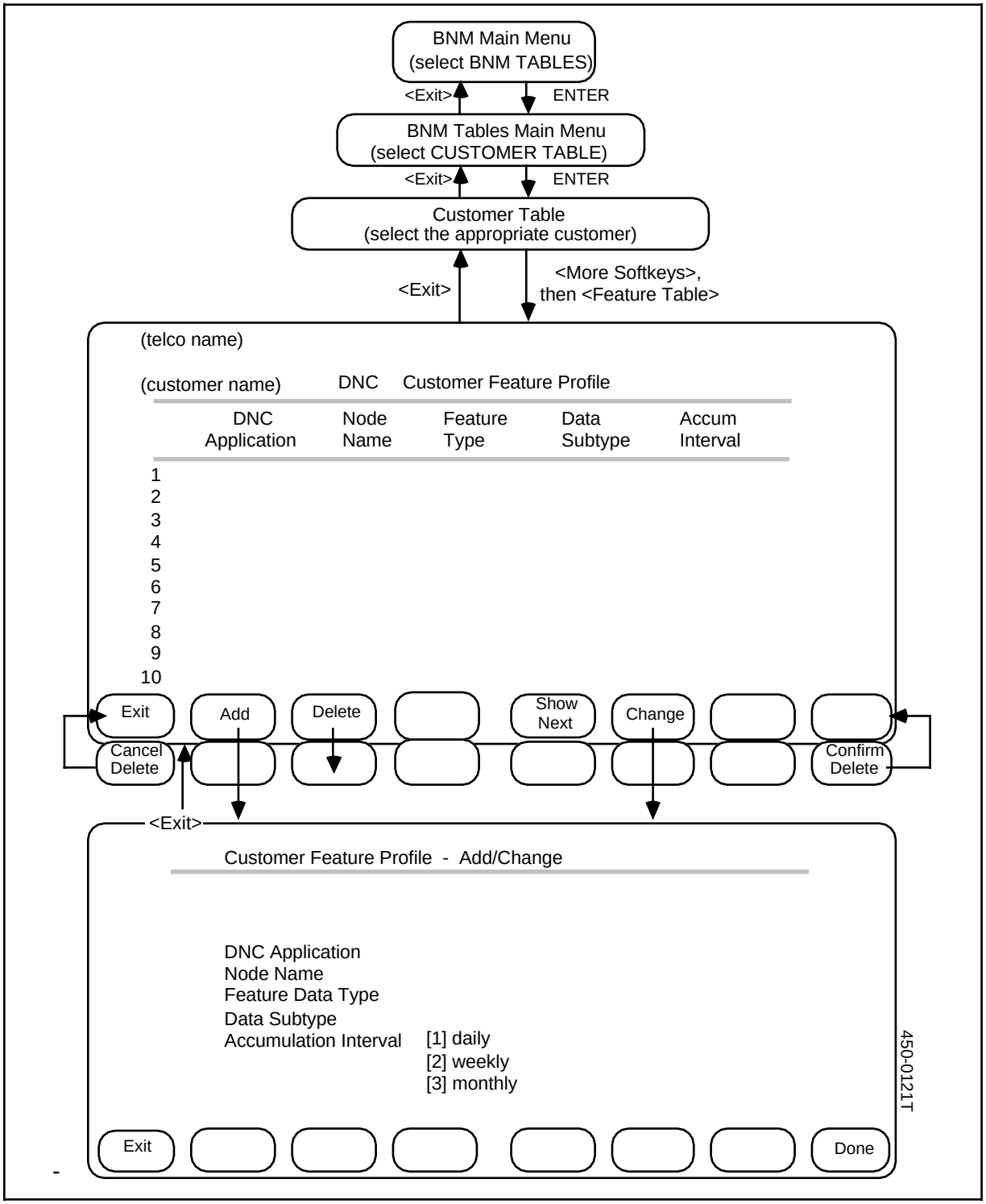
(a) ***DNC Application:*** This is always “BNM”.

(b) ***Node Name:*** (up to 16 characters) This is the name of a DMS node that is collecting data for the customer. The entry must match the DNC reference for the node name as defined in the Node Table.

(c) ***Feature Type:*** (up to 10 characters) This is the name of a type of feature data that is collected by the node. It must match the DNC Reference for the Feature Data Name in the Feature Data Table. Valid entries are:

ATT	Automated Trunk Testing
KT	Killer Trunk
OM	Operational Measurements
SMDR	Station Message Detail Recording
CMAP	Centralized Maintenance and Administration Position

Figure 3-11
Installation - customer feature profile



(d) ***Data Subtype:*** (10 characters) This applies only to Operational Measurements data. It must match the DNC Reference for the Subgroup Name in the Feature Data Table. Valid entries are:

IBN	Meridian Digital Centrex features
IBNAC	Attendant Consoles
IBNSG	Attendant Subgroups
OHCBQ	Off-hook Queuing and Call-back Queuing usage
PRK	Call Park usage
SLU	Subscriber Line Usage
TRK	Trunk Group Usage
VFG	Virtual Facility Groups

(e) ***Accumulation Interval:*** Nodes collect data for daily, weekly or monthly summaries. One can be selected for collection by this DNC.

The table can contain a maximum of 120 entries.

Displaying the table

To display the entries in a Customer Feature Profile table, follow these steps:

(1) From the BNM main menu, select BNM Tables and then press ENTER.
==> The BNM Tables Main Menu appears.

(2) Select Customer Table and then press ENTER.
==> The Customer Table screen appears.

(3) Press <More Softkeys>.
==> New softkeys appear.

(4) Select the entry for the appropriate customer, then press <Feature Table>.
==> The Customer Feature Profile screen appears.

Adding an entry

To add an entry to a Customer Feature Profile table, first display the table, then follow these steps:

(1) Press <Add>.
==> The Customer Feature Profile - ADD screen appears.

(2) Fill in the fields on this screen, using the RETURN key to move between fields. In the Accumulation Interval field, use the arrow keys to select a value. To save the new entry, press <Done>.
==> A message indicates that the entry has been added.

Note: To leave this screen without creating a new entry, press <Exit>.

(3) Add other entries as above, typing new characters over the old, or exit.

Deleting an entry

To delete an entry from the Customer Feature Profile table, use the arrow keys to

select the entry to be deleted, then

(1) Press <Delete>.
==> A message requests confirmation, and new softkeys appear.

(2) Press <Confirm Delete>.
==> The table reappears, with the entry deleted.

Note: You must perform housekeeping functions after deleting an entry in the Customer Feature Profile table.

Changing an entry

To change an entry in the Customer Feature Profile table, first select the entry you want to change on the Customer Feature Profile screen, then:

(1) Press <Change>.
==> The Customer Feature Profile - Change screen appears.

(2) Type new data in each field. Use the RETURN or TAB key to move from field to field. Press <Exit> at any time to return to the previous screen without changing the entry. To save the changes, press <Done> when all the fields are correct.
==> A message indicates that the entry has been changed.

(3) Press <Exit> to return to the previous screen.

Installation - customer node table

For each entry in the Customer Table (Figure 3-9), softkeys lead to a Customer Node table (Figure 3-12) that lists the nodes on which the customer has dedicated facilities. A Customer Node table contains the following information:

(a) ***Node:*** (up to 16 characters) This is the name of a DMS node as it is recognized by the customer. This is the node name that is used on formatted reports.

(b) ***DNC Id:*** (up to 16 characters) This is a unique descriptor that uniquely defines this customer's DNC-100.

(c) ***Network Address:*** (16 characters, upper case, no blanks) This is the address of the DNC in the X.25 packet network. It must match the other DNC's DTE Address on the X.25 Details screen under System Administrative Services (see the section on setting up ports for X.25 and NOP in NTP 450-1011-301).

(d) ***Node Type:*** (up to 10 characters, default = DMS) Valid entries are "DMS", "SL100", or "OFFNET". A DMS is a DMS-100 family node. An SL100 is an SL-100 PBX (closely related to the DMS-100. An offnet node is a node, of any type, that is on a different DNC-500. While offnet nodes cannot be logged-on to by this DNC-500, table entries are included so that a complete translation table can be made for transfer to the DNC-100.

(e) ***Node Load:*** (up to 10 characters) This field records the software load on the node. (While it is not currently used by the system, it can be filled in for user reference.)

There can be a maximum of 20 nodes per customer.

Note 1: These parameters are also given in the Node table. While the Node table lists all nodes in the BNM network, each Customer Node table lists nodes on for a particular customer. Corresponding entries in the two tables should match.

Displaying the table

To display the entries in a Customer Node table, follow these steps (Figure 3-12):

(1) From the BNM main menu, select BNM Tables and then press ENTER.
==> The BNM Tables Main Menu appears.

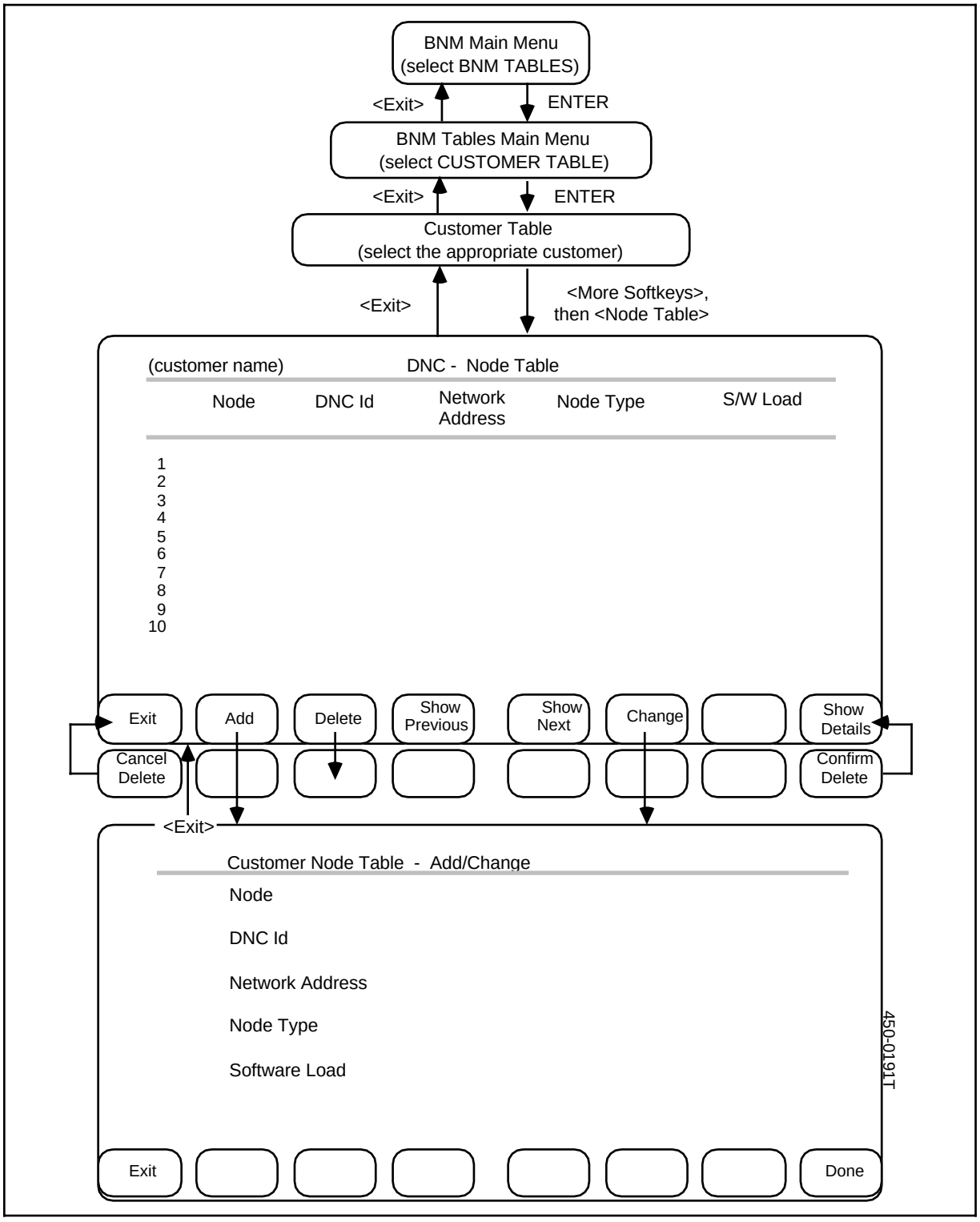
(2) Select Customer Table and then press ENTER.
==> The Customer Table screen appears.

(3) Press <More Softkeys>.
==> More softkeys appear.

(4) Select the entry for the appropriate customer, then press <Node Table>.
==> The Customer Node Table appears. If there are too many entries to be displayed on one screen, the <Show Next> and <Show Previous> softkeys can be used to move to different sections of the table.

Figure 3-12

Installation - customer node table



Adding an entry

To add an entry to a Customer Node table, first display the table, then follow these steps:

(1) Press <Add>.
==> The Customer Node Table ADD screen appears. (To leave this screen without creating a new entry, press <Exit>.)

(2) Fill in the fields on this screen, using the RETURN key to move between fields. To save the new entry, press <Done>.
==> A message indicates that the entry has been added.

(3) Add other entries as above, typing new characters over the old, or exit.

Deleting an entry

To delete an entry from the Customer Node table, use the arrow keys to select the entry to be deleted, then

(1) Press <Delete>.
==> A message requests confirmation, and new softkeys appear.

(2) Press <Confirm Delete>.
==> The table reappears with the entry deleted.

Changing an entry

To change an entry in a Customer Node table, first select the entry you want to change on the Node Table screen, then:

(1) Press <Change>.
==> The Node Table - Change screen appears.

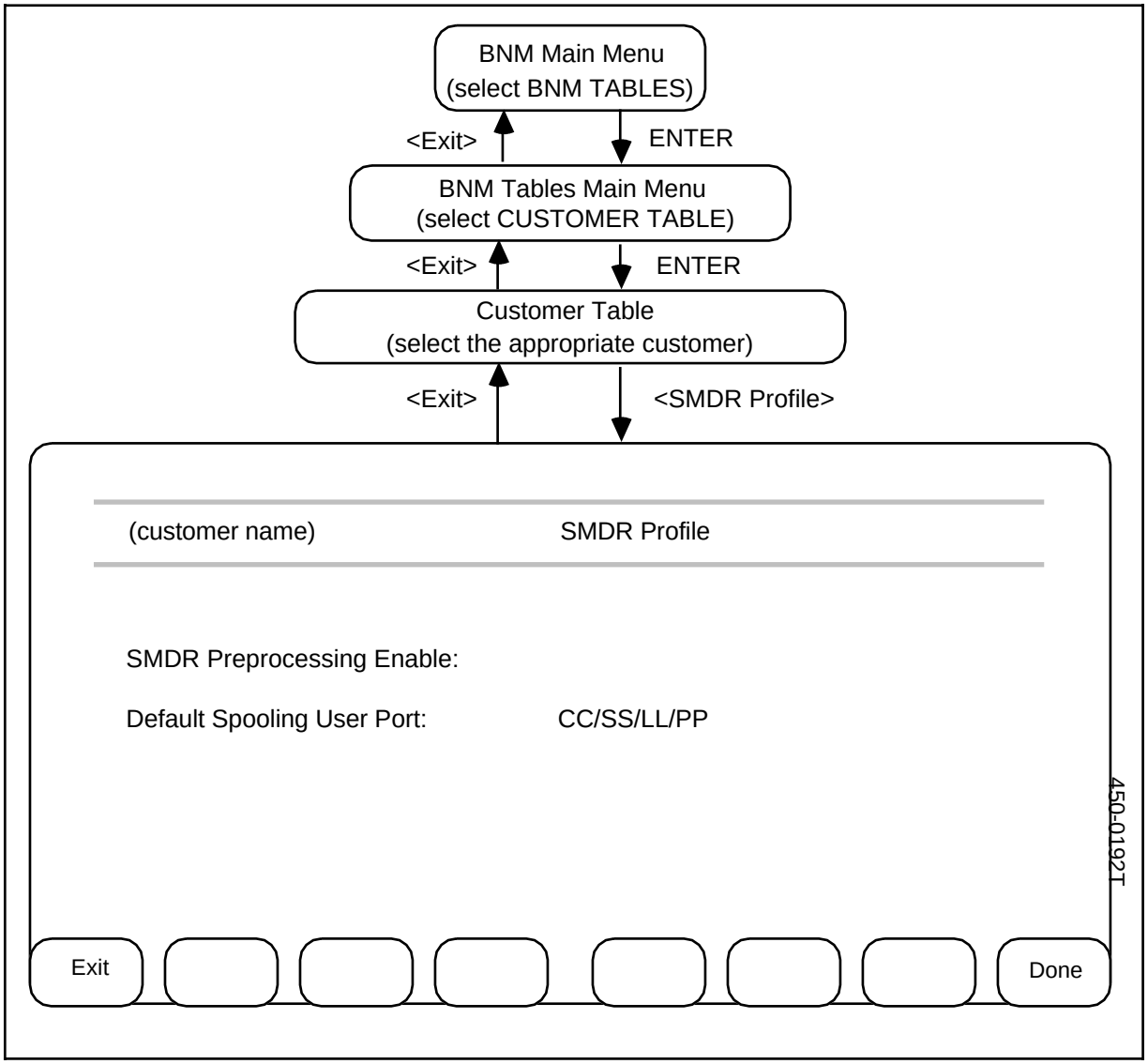
(2) Type new data in each field. Use the RETURN or TAB key to move from field to field. Press <Exit> at any time to return to the previous screen without changing the entry. To save the changes, press <Done> when all the fields are correct.
==> A message indicates that the entry has been changed.

(3) Press <Exit> to return to the previous screen.

Exiting

To leave the Customer Node table screens and return to previous screens, press <Exit> on each screen in turn.

Figure 3-13
Installation - customer SMDR profile



Installation - customer SMDR profile

For each entry in the Customer Table (Figure 3-9), softkeys lead to a Customer SMDR Profile table (Figure 3-13) that lists the parameters for spooling SMDR data to that customer. The SMDR Profile contains the following information:

(a) SMDR Preprocessing Enable. If there is a check mark in this field, SMDR data that is being collected from a DMS switch is processed before it is stored on the DNC-500's disk. Processing consists of inserting a user reference name into the data.

(b) Default Spooling User Port. This identifies the LIU port on the DNC-500 through which data is spooled to the customer.

Displaying the table

To display the entries in an SMDR Profile table, follow these steps (Figure 3-13):

(1) From the BNM main menu, select BNM Tables and then press ENTER.
==> The BNM Tables Main Menu appears.

(2) Select Customer Table and then press ENTER.
==> The Customer Table screen appears.

(3) Select the entry for the appropriate customer, then press <SMDR Profile>.
==> The SMDR Profile screen appears.

Changing an entry

To change an entry in a customer's SMDR Profile, first display the SMDR Profile screen, then follow these steps:

(1) Type the new entries in the fields. In the Preprocessing Enable field, use the SPACE BAR to insert or delete a check mark. Use the RETURN or TAB key to move between the fields.

(2) To save the changes, press <Done>.
==> A message confirms that the changes have been made.

(3) Press <Exit> to return to the previous screen.

Installation - DNC owner profile

The DNC Owner Profile (Figure 3-14) registers the operating company owner of the DNC-500, who has access to all customer data and to all functions of the DNC system. This table contains the following information:

(a) ***Telco Name:*** (up to 16 characters) This is the name of the operating company as it is to appear on tapes and reports.

(b) ***Telco DNC Reference:*** (up to 16 characters) This is the name of the operating company as it is recognized by the DNC-500 and by any attached DNC-100s. The telco's DNC reference must be the same as the telco name.

(c) ***Network Address:*** (16 characters, upper case, no blanks) This is the address of this DNC-500 in the X.25 packet network. It must match this DNC's DTE Address on the X.25 Details Screen under System Administrative Services (see the section on setting up ports for X.25 and NOP in NTP 450-1011-301).

(d) ***Password:*** This is the password the DNC-500 uses when it logs on to DMS switches to collect data.

Displaying the table

To display the DNC Owner Profile, follow these steps:

(1) From the BNM main menu, select BNM Tables and then press ENTER.
==> The BNM Tables Main Menu appears.

(2) Select Owner Profile and then press ENTER.
==> The DNC Owner Profile screen appears.

Changing the profile

Change any fields that need to be changed by typing new information over old. Use RETURN to move the cursor from one field to the next. When the data is correct, press <Change Profile>.

Changing the password

To change the password, begin at the DNC Owner Profile screen, then follow these steps:

(1) Press <Change Password>.
==> The DNC Owner Password screen appears with a prompt to enter a new password.

(2) Type a new password.
==> The cursor moves, but the password is not displayed on the screen.

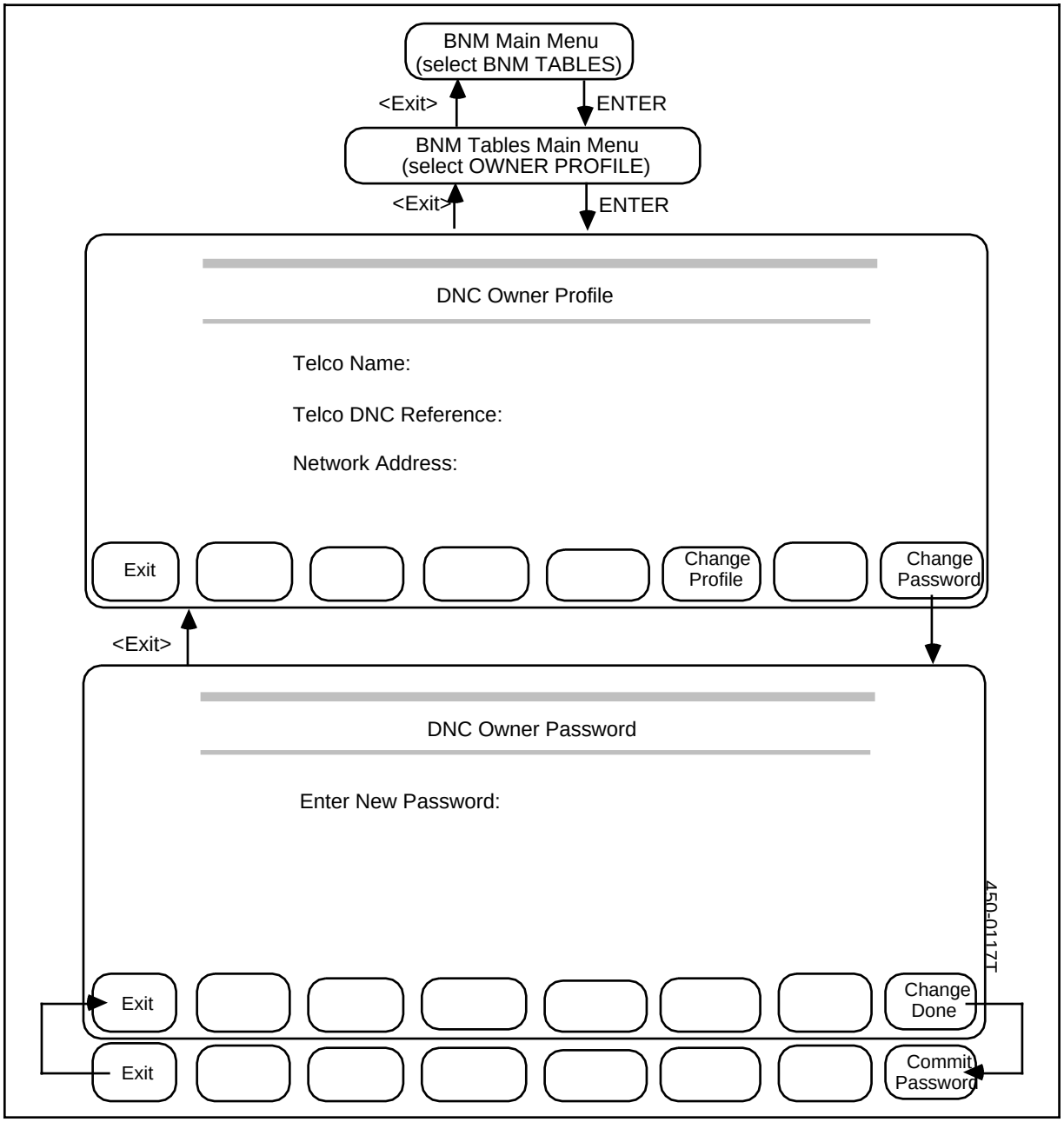
(3) Press <Change Done>.
==> A prompt requests confirmation.

(4) Retype the new password and press <Commit Password> to save the new password, or press <Exit> to leave this screen without changing the password.

Exiting

To leave the DNC Owner Profile screens and return to previous screens, press <Exit> on each screen in turn.

Figure 3-14
Installation - DNC owner profile



Installation - feature data table

The Feature Data table (Figure 3-15) lists each type of data that the BNM system collects. For OM (operational measurements) data, there is an entry for each OM subtype. The table contains the following information:

(a) ***Feature Data Name:*** (10 characters) This is the name for the feature data as it is known to users. This is the name that will appear on formatted reports.

(b) ***DNC Reference:*** (10 characters) This is the name for the feature data as it is known to this and other DNC systems. A given feature should have the same name at all DNCs. Valid entries are ATT, KT, OM, SMDR, and CMAP.

(c) ***DMS Reference:*** (10 characters) This is the name for the feature data as it is recognized by the DMS system. Valid entries are ATT, KT, OM, SMDR, and CMAP.

(d) ***Subtype Name:*** (10 characters) This field applies only to OM data. It shows the name for the OM subgroup as it is known to users. This is the name that will appear on formatted reports.

(e) ***DNC Reference:*** (10 characters) This field applies only to OM data. It shows the name of the OM subtype as recognized by this and other DNC systems. A given feature should have the same name at all DNC nodes. Valid entries are:

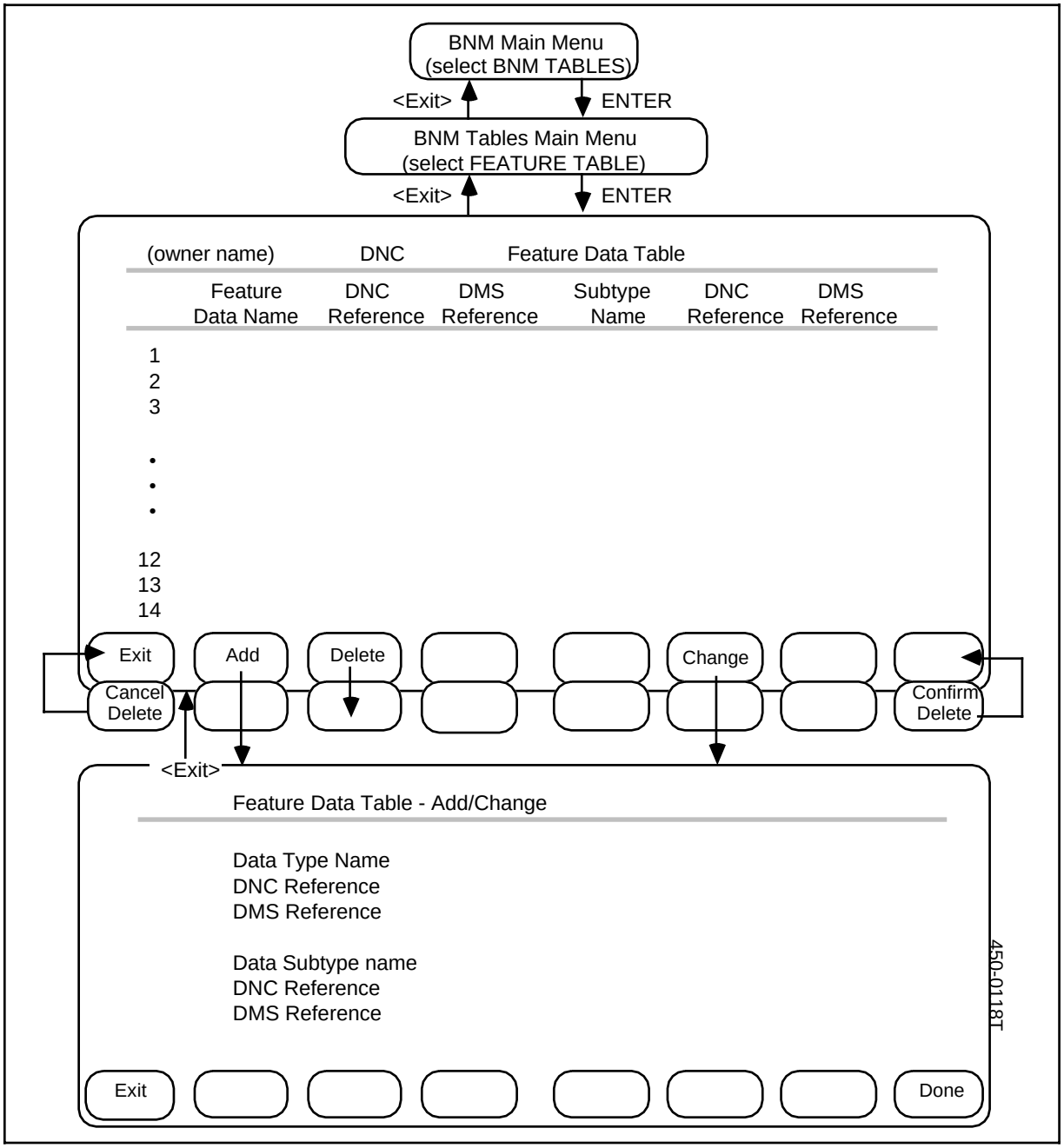
IBN	Meridian Digital Centrex features
IBNAC	Attendant Consoles
IBNSG	Attendant Subgroups
OHCBQ	Off-hook Queuing and Call-back Queuing usage
PRK	Call Park usage
SLU	Subscriber Line Usage
TRK	Trunk Group Usage
VFG	Virtual Facility Groups

(f) ***DMS Reference:*** (10 characters) This is the name for the feature data subtype as recognized by the DMS system. Valid entries are:

FOR:	**DMS REFERENCE**
IBN	IBNGRP
IBNAC	IBNAC
IBNSG	IBNSG
OHCBQ	OHQCBQCG
PRK	PRKOM
SLU	TRA125M1, TRA125M2, TRA250M1 or ENG64OM1
TRK	TRK
VFG	VFGUSAGE

The table can contain a maximum of 14 entries.

Figure 3-15
Installation - feature table



Displaying the table

To display the Feature Data table, follow these steps:

(1) From the BNM main menu, select BNM Tables and then press ENTER.
==> The BNM Tables Main Menu appears.

(2) Select Feature Table and press ENTER.
==> The Feature Data Table screen appears.

Adding an entry

To add an entry to the Feature Data table, first display the table, then follow these steps:

(1) Press <Add>.
==> The Feature Data Table ADD screen appears.

(2) Fill in the fields on this screen, using the RETURN key to move between fields. To save the new entry, press <Done>.
==> A message indicates that the entry has been added.

Note: To leave this screen without creating a new entry, press <Exit>.

(3) Add other entries as above, typing new characters over the old, or exit.

Deleting an entry

To delete an entry from the Feature Data table, use the arrow keys to select the entry to be deleted, then

(1) Press <Delete>.
==> A message requests confirmation, and new softkeys appear.

(2) Press <Confirm Delete>.
==> The table re-appears with the entry deleted.

Changing an entry

To change an entry in the Feature table, first select the entry you want to change on the Feature Data screen, then:

(1) Press <Change>.
==> The Feature Data Table - Change screen appears.

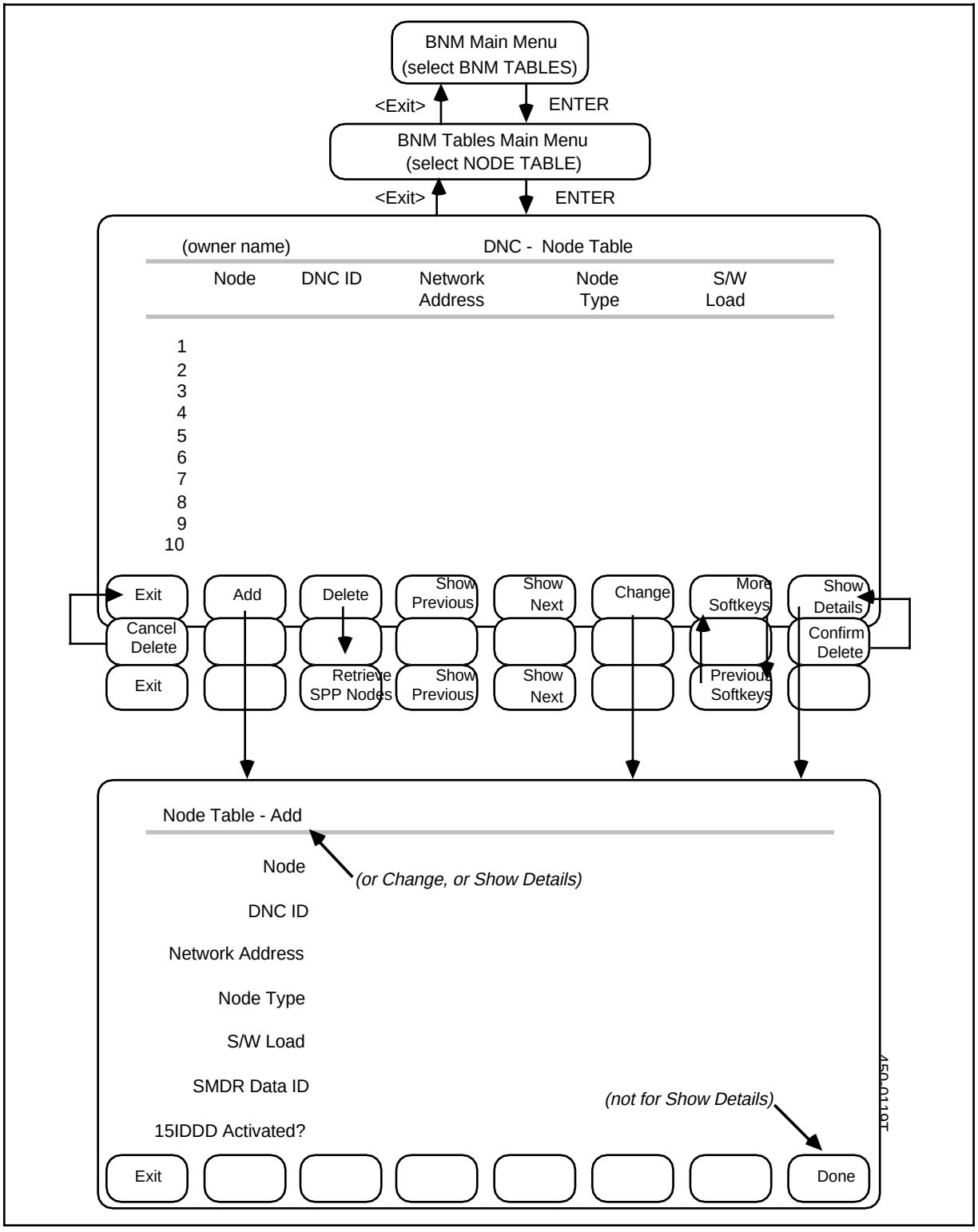
(2) Type new data in each field. Use the RETURN or TAB key to move from field to field. Press <Exit> at any time to return to the previous screen without changing the entry. To save the changes, press <Done> when all the fields are correct.
==> A message indicates that the entry has been changed.

(3) Press <Exit> to return to the previous screen.

Exiting

To leave the Feature Data table screens and return to previous screens, press <Exit> on each screen in turn.

Figure 3-16
Installation - node table



Installation - node table

The Node table (Figure 3-16) lists all the nodes from which this DNC can collect data. In a BNM system, nodes may be Northern Telecom DMS-100 switches, or in a BNM system that includes the Switch/PBX Poller (SPP) feature, a node may also be any other type of switch that is supported by SPP. (See 450-1021-131 and 450-1021-331 for more information about SPP.) There can be a maximum of 50 nodes, with a maximum of 20 DMS or SL100 nodes.

The Node table contains the following information:

(a) ***Node:*** (up to 16 characters) This is the name of a node as it is recognized by customers and used on formatted reports.

(b) ***DNC ID:*** (DIRECT only)

(c) ***Network Address:*** (up to 16 characters, uppercase, no blanks) This name uniquely identifies the address of this node on a packet network. This name must also appear in the NSAP table (see "Setting Up of X.25 Gateway and NOP Ports" in 450-1011-301), where it is associated with the packet address of the node in the packet network.

(d) ***Node Type:*** (up to 10 characters) The type can be DMS or any type that is supported by the Switch/PBX Poller (SPP) feature. All SPP nodes are prefixed by T-; for example, an SL1X37 switch is shown as T-SL1X37. See 450-1021-131 for information about the SPP feature and the types of nodes it supports.

(e) ***S/W Load:*** (up to 10 characters) This field records the software load on the node. (While not currently used by the system, it should be filled in for user reference.)

Note 1: For NSR32-patch 29 and up, the S/W Load field accepts both BCSxx and NAxxx software load names (where xx and xxx refer to the appropriate software load in the switch).

(f) ***SMDR Data ID:*** This field identifies which of three possible SMDR data streams the DNC collects from the node. The value must be 1, 5, or 6.

Note 2: These parameters, except SMDR Data ID, are also given in the Customer Node table for each customer. The entry for this node in the customer table(s) must have the same entries.

(g) 15IDDD Activated?***:*** (Add and Change screens only) This field specifies the format of SMDR spooling. If the box next to this field is empty (the default value), then BNM spools the former SMDR format; pressing the space bar, which enters a check mark in the box, indicates that BNM is to spool the expanded SMDR format.

Note 3: The 15IDDD Activated? field is displayed only for NSR32-patch 29 and up,

When your BNM system is installed, the Node table contains appropriate entries for DMS nodes but not for SPP nodes. To register the SPP nodes in the BNM Node table, you must display the Node table and then press the <Retrieve SPP

Nodes> softkey.

You can add, delete, and change information for DMS nodes in the BNM Node table, but you can only display SPP nodes. You must use the SPP feature's screens to make changes to SPP nodes.

Displaying the table

To display the Node table, follow these steps:

(1) From the BNM main menu, select BNM Tables and then press ENTER.
==> The BNM Tables Main Menu appears.

(2) Select Node Table and then press ENTER.
==> The Node Table screen appears. If there are too many entries to be displayed on one screen, you can use the <Show Next> and <Show Previous> softkeys to move to different sections of the table.

Retrieving SPP information

If you have the Switch/PBX Poller feature, follow these steps to retrieve information about nodes from the SPP database and store it in the Node table:

(1) Display the Node table. (See Displaying the Table above.)

(2) Press <More Softkeys>.
==> Different softkeys appear.

(3) Press <Retrieve SPP Nodes>.
BNM collects node information from the SPP database and displays it in the Node table.

(4) Press <Show Next> or <Show Previous> to look at other parts of the Node table, or press <Previous Softkeys> or <Exit> to display other softkeys or exit from the Node screen.

Adding an entry

To add a DMS entry to the Node table, follow these steps (you must use SPP screens to add SPP nodes):

(1) Display the Node table. (See Displaying the Table above).

(2) Press <Add>.
==> The Node Table ADD screen appears.

(3) Fill in the fields on this screen, using the RETURN key to move between fields. To save the new entry, press <Done>.
==> A message indicates that the entry has been added.

Note: To leave this screen without creating a new entry, press <Exit>.

Deleting an entry

To delete a DMS entry from the Node table, follow these steps (you must use SPP screens to delete SPP nodes):

(1) Use the arrow keys to select the entry to be deleted, then press <Delete>.
==> A message requests confirmation, and new softkeys appear.

(2) Press <Confirm Delete>.
==> The table reappears with the entry deleted.

Changing an entry

To change a DMS entry in the Node table, follow these steps (you must use SPP screens to change SPP entries):

(1) Select the entry you want to change on the Node Table screen, then press <Change>.
==> The Node Table - Change screen appears.

(2) Type new data in each field. Use the RETURN or TAB key to move from field to field. Press <Exit> at any time to return to the previous screen without changing the entry. To save the changes, press <Done> when all the fields are correct.
==> A message indicates that the entry has been changed.

(3) Press <Exit> to return to the previous screen.

Exiting

To leave the Node table screens and return to previous screens, press <Exit> on each screen in turn.

Mask table

The Mask Table (Figure 3-17) registers all telephone numbers in the network that are to have their called numbers masked in SMDR data. The numbers are shown as 10-digit numbers that include an area code.

Displaying the mask table

To display the Mask table, follow these steps:

(1) From the BNM main menu, select BNM Tables and then press ENTER.
==> The BNM Tables Main Menu appears.

(2) Select Mask Table and then press ENTER.
==> The Mask Table screen appears with a prompt for a telephone number.

Querying an entry

To find out whether or not a particular directory number is in the Mask table, follow these steps:

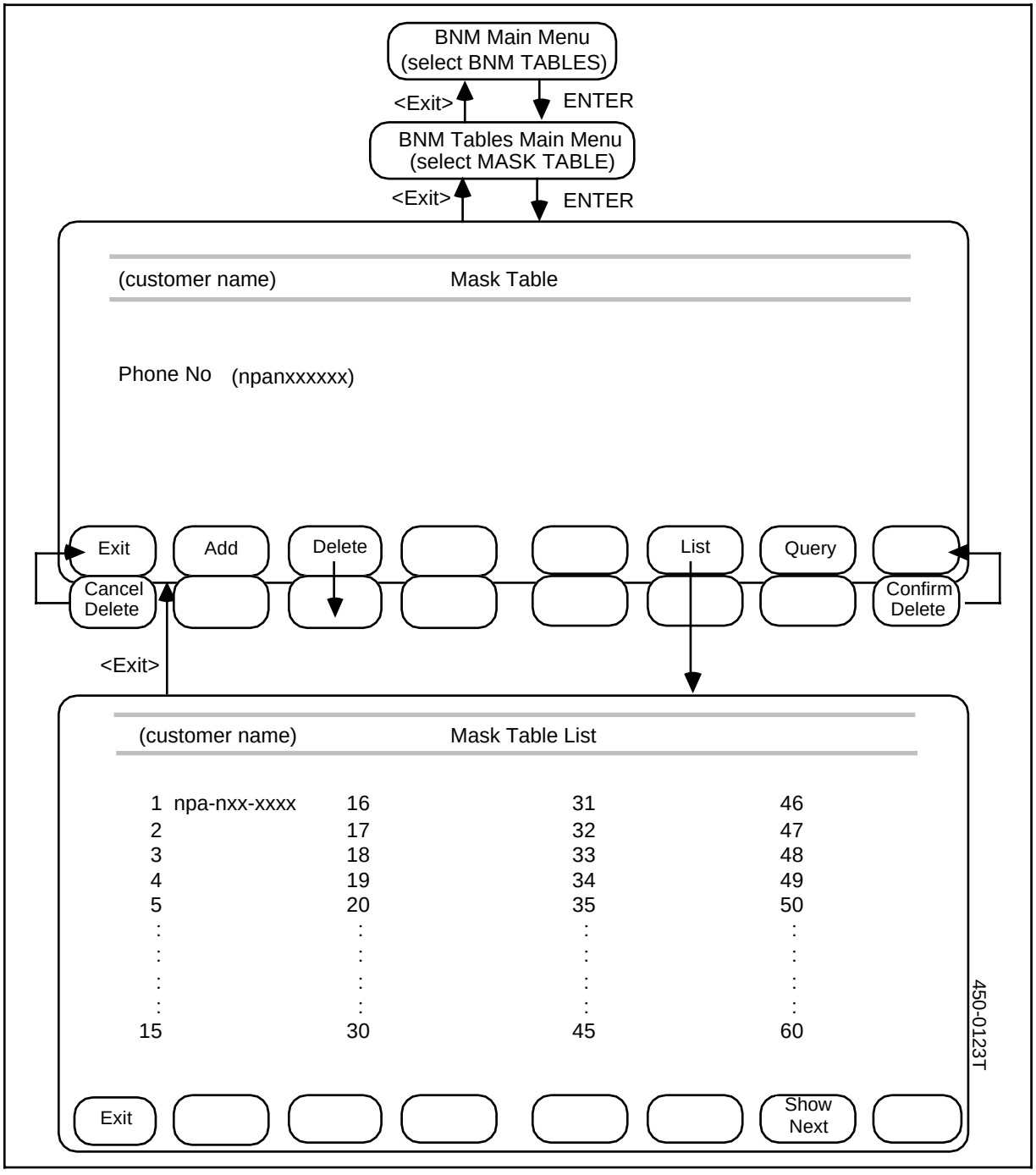
(1) Type the directory number on the Mask Table screen. Use 10 digits, including an area code. The form can be either NPA-NXX-XXXX or NPANXXXXXX.

(2) Press <Query>.
==> A message indicates whether the number is in the Mask Table or not.

Listing all entries

To list all the entries, press <List> on the Mask Table screen.
==> The List screen appears with a list of the entries in the Mask table.

Figure 3-17
Installation - mask table



Adding an Entry

To add an entry to the Mask table, follow these steps:

(1) Type the directory number on the Mask Table screen. Use 10 digits, including an area code. The form can be either NPA-NXX-XXXX or NPANXXXXXX.

(2) Press <Add>.
==> A message confirms that a number has been added.

Deleting an entry

To delete an entry in the Mask table,

(1) Type the directory number, to be deleted, on the Mask Table screen. Use 10 digits, including an area code. The form can be either NPA-NXX-XXXX or NPANXXXXXX.

(2) Press <Delete>.
==> A message requests confirmation, and new softkeys appear.

(3) Press <Confirm Delete>.
==> A message confirms the deletion.

Exiting

To exit from a Mask table screen and return to a previous screen, press <Exit>.

Using BNM features

Feature overview

This part outlines the day-to-day use of BNM features. Figure 4-1 shows an overview of the features.

Figure 4-1
An overview of the BNM features

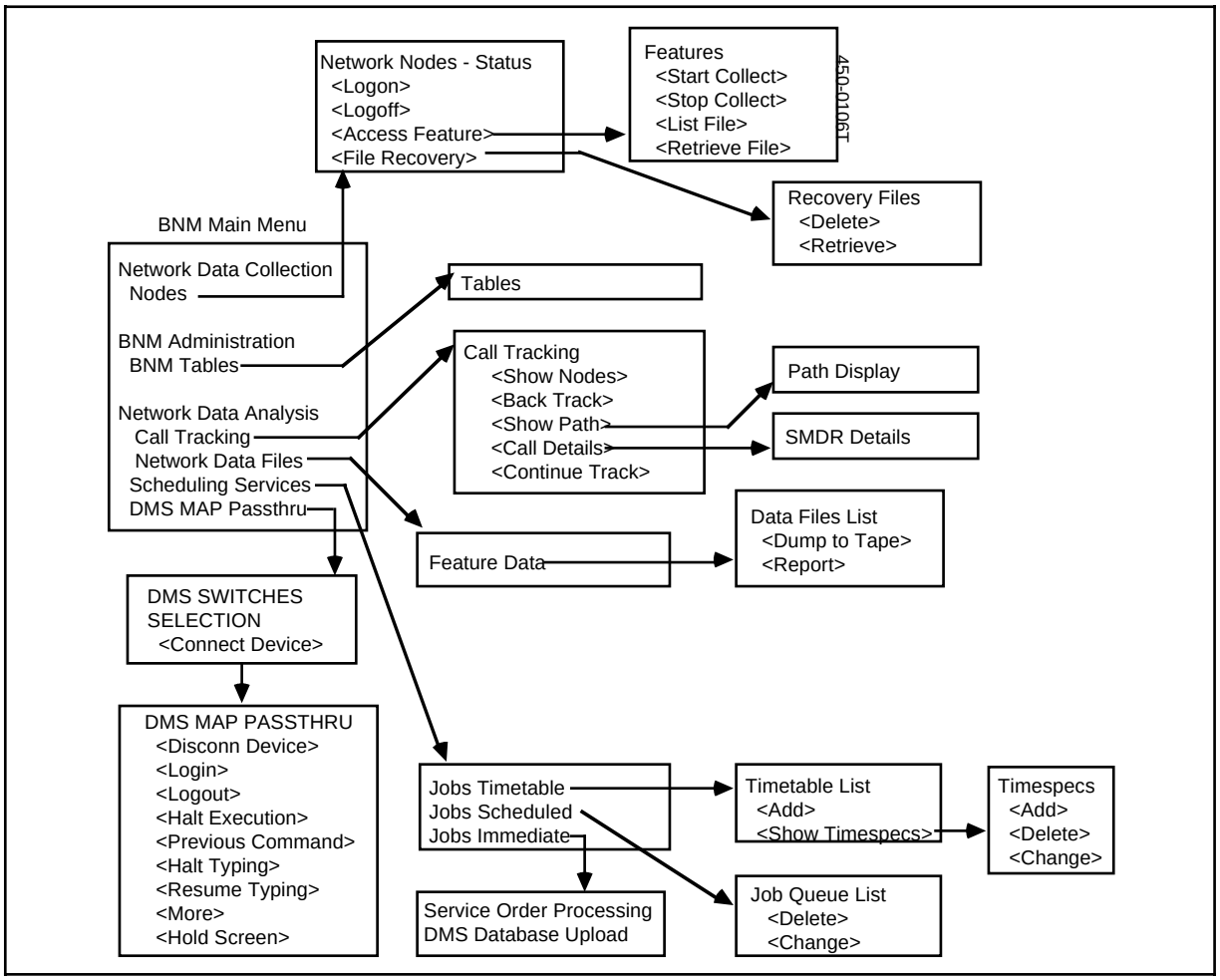
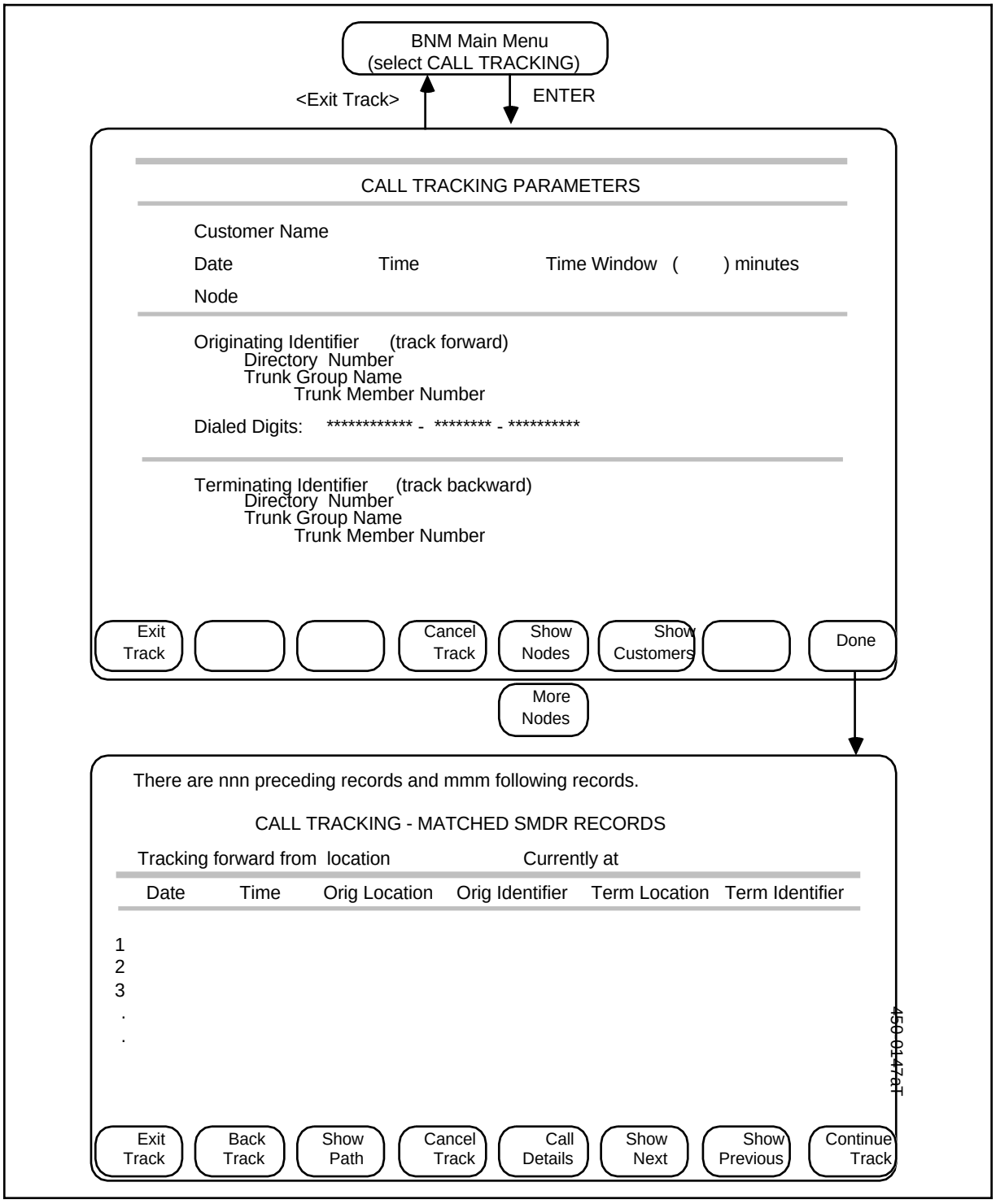


Figure 4-2

Call tracking, first two screens



Call tracking

The Call Tracking feature enables BNM users to find out which line and trunk

facilities were used for any call that was completed within the time period for which there are records on the BNM system (usually 3 business days). It is intended for maintenance, not emergency call tracing. The first two screens are shown in Figure 4-2.

Required information

The following information is required:

(a) ***Customer Name:*** the name of the customer whose call is being tracked. This name must match an entry in the Customer table.

(b) ***Date, Time, Time Window: t***he date and the approximate termination time of the call. The default is the current date and time. If the time is not known exactly, the Time Window value (minutes, up to 480, default 30), can designate a time interval. This interval evenly brackets the date/time to allow the search of records to widen in 15 minute intervals up to the window limit (a maximum of 240 minutes) before and after the Time entry.

(c) ***Node:*** This field shows the name of the DMS node from which tracking is to begin. This name must match an entry in the Node table.

(d) ***Originating and Terminating IDs:*** enter either an originating identifier, or a terminating identifier, or both. An identifier is one of the following:

- the 10-digit directory number of the calling station
- the CLLI identifier of the originating trunk group and (optionally) its five-digit member number

(e) ***Dialed Digits:*** the digits dialed by the originating station.

Menu access

After signing on, which results in the main menu display,

(1) Select Call Tracking and then press ENTER.
==> The Call Tracking Parameters screen appears.

Specify search parameters

(1) Enter the customer name, then press RETURN.
==> The cursor moves to the Date field.

(2) Enter the date, then press RETURN.
==> The cursor moves to the Time field

(3) Enter the disconnect time, as near as it is known. Press RETURN to change fields.
==> The cursor moves to the Time Window field.

(4) Enter the time window and press RETURN.
==> The cursor moves to the Node field.

(5) Enter a node name. Press <Show Nodes>, and, if necessary, <More Nodes>, to see a list of valid node names along the message line of the screen. Press RETURN.
==> The cursor moves to the Originating Identifier field.

Originating identifier

The Originating Identifier fields identify the call by SMDR data relating to its origins:

(1) If the call originated from a known subscriber line, enter the line's 10-digit directory number and press RETURN. If the line is not known, leave the field blank and press RETURN.
==> The cursor advances to the next field.

Note: Enter a directory number or a trunk group, but not both.

(2) If the call originated from a known trunk group, enter the CLLI of the trunk group, then press RETURN. If the trunk group is not known, leave the field blank and press RETURN.
==> The cursor advances to the next field.

(3) If a trunk CLLI was entered, enter the member number, if known. Press RETURN. If the member number is not known, leave the field blank and press RETURN.
==> The cursor advances to the next field.

(4) If the digits dialed by the originating station are known, enter the area code (NPA), office code (NXX), and line (XXXX), pressing RETURN to advance fields, or < --TAB to move one field back.

- Numbers entered in fields should be right-justified.
- The first field (12 digits) is for non-standard numbering plans such as country codes.
- The second field (eight digits) is for area and office codes (NPANXX).
- The third field (four digits) is for the extension.

Any of the digits can be entered or left blank. Call Tracking will search for all numbers that fit the digits entered. For example, any of the following entries would bring up the number (234) 567-8998 as part of the resulting list:

********** - **234567 - 8998******
********** - **234*** - **********
********** - **234567 - **********
********** - **234*** - 8998******

Note: For software releases NA004 and above, the maximum number of dialed digits increases to 30. For software releases below NA004, the maximum number of dialed digits is 24.

Terminating identifier

The Terminating Identifier fields identify the call by SMDR data relating to its termination:

(1) If the call terminated on a known subscriber line, enter line's 10-digit directory number and press RETURN. If the line is not known, leave the field blank and press RETURN.
==> The cursor advances to the next field.

Note: Enter a directory number or a trunk group, but not both.

(2) If the call terminated on a known trunk group, enter the CLLI of the trunk group, then press RETURN. If the trunk group is not known, leave the field blank and press RETURN.
==> The cursor advances to the next field.

(3) If a trunk CLLI was entered, enter the trunk member number, if known.

Tracking

After entering the tracking parameters, press <Done>.
==> A message indicates that Call Tracking is in progress.

The system displays messages to indicate if a search parameter is invalid or to indicate the stage of progress of the search (such as when a new 15 minute interval is started, or when it must pause to sort any of the records being searched).

- If matching records are found, the list of matched SMDR Records appears (Figure 4-2).
- If no matching records are found, the system displays a message stating why and redisplays the Call Tracking Parameters screen.

Continuing tracking

From the Call Tracking - Matched SMDR Records screen,

(1) Select the entry that best matches the trouble ticket. If it terminates on a trunk, press <Continue Track>.
==> The tracking process continues from the current node.

A new screen list is displayed showing the matched records on the new node, or other messages as above. This step can be repeated for each new node encountered.

Backtracking

From the Matched SMDR Records screen,

(1) Press <Back Track>.
==> The system backtracks to display the matched records of the previous tracking stage.

(2) This step can be repeated until the matched records from the original tracking process are displayed on the screen.

Viewing call details

From the Matched SMDR Records list,

(1) Use the arrow keys to select a record for which you wish to see details.

(2) Press <Call Details>.
The SMDR Details screen appears (Figure 4-3).

(3) Press <Exit Details> to return to the Matched SMDR Records screen.

Figure 4-3
Show SMDR details (from Figure 4-2)

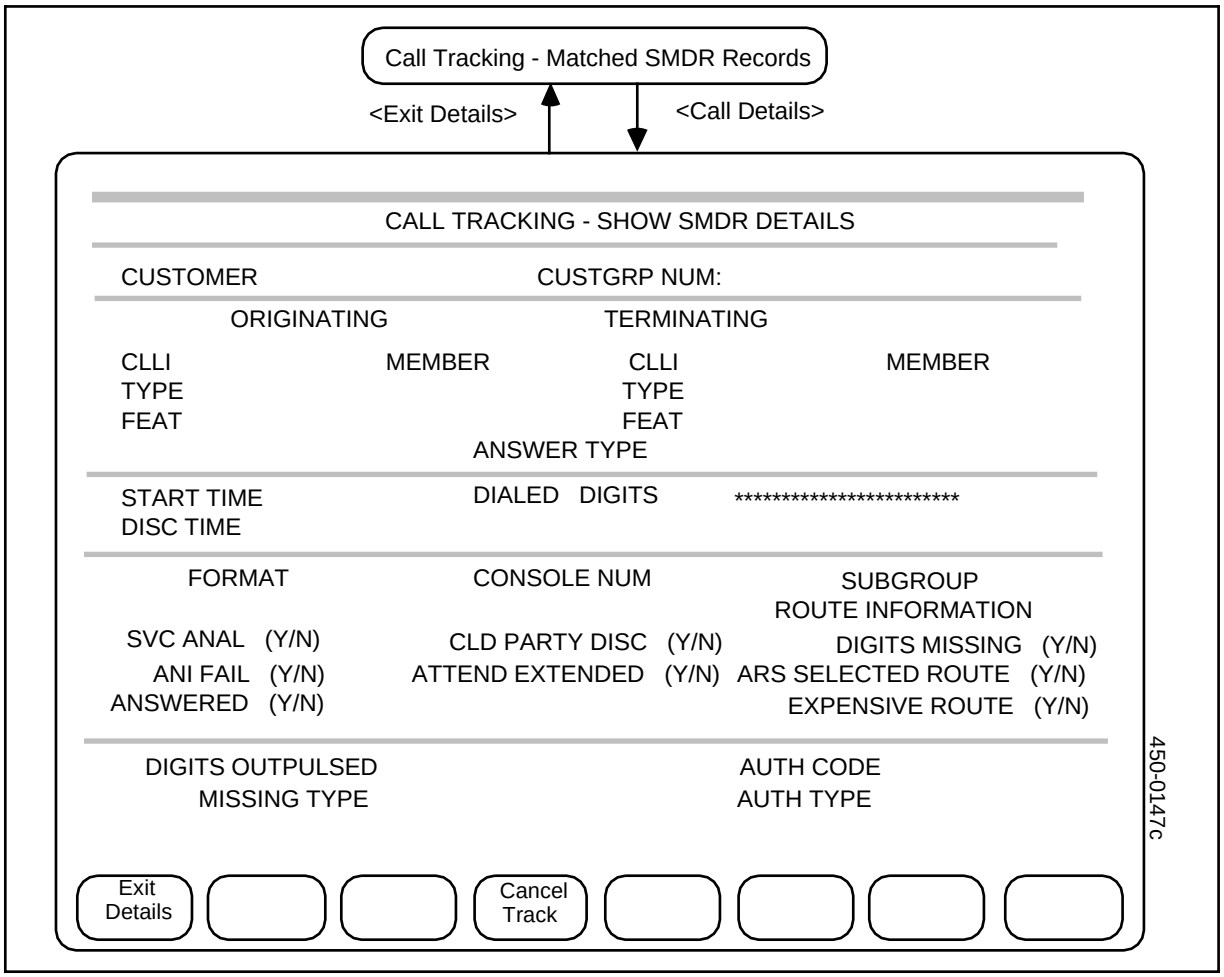
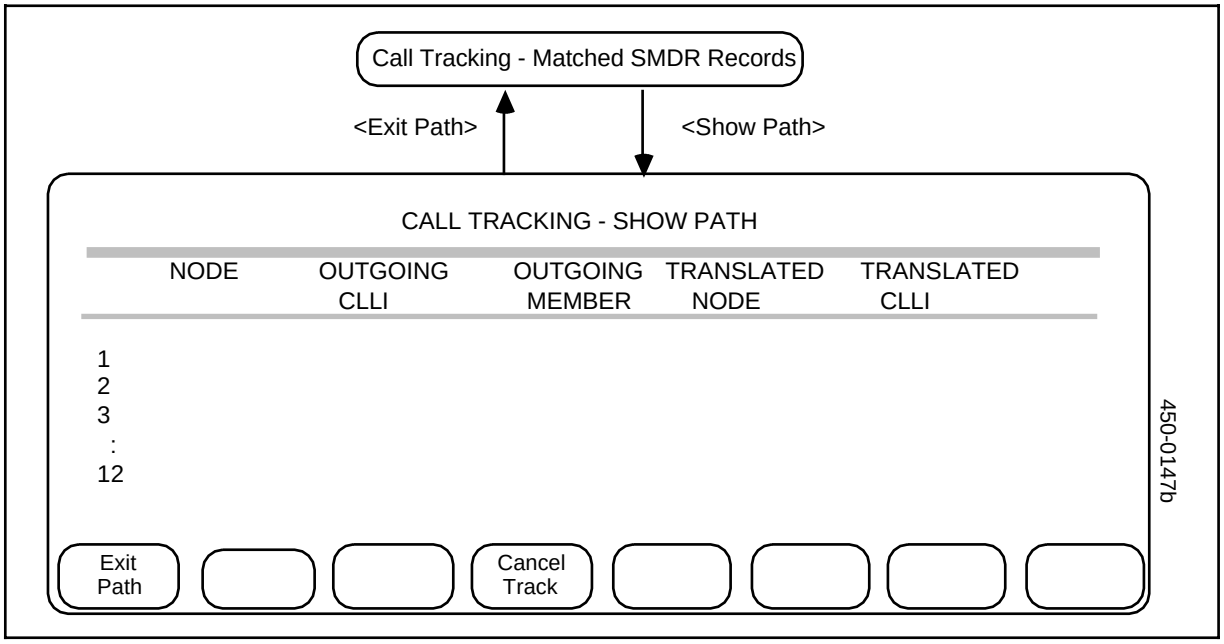


Figure 4-4
Show path (from Figure 4-2)



Showing the tracking path

Show Path reviews the tracking path that was taken in reaching the currently displayed node. It shows a summary of the tracking stages to this point. From the Matched SMDR Records screen,

(1) Press <Show Path>.
==> The Show Path screen appears (Figure 4-4).

(2) Press <Exit Path> to return to the Matched SMDR Records screen.

Cancelling tracking

To cancel in-progress tracking for the current customer and node, or to return to the Tracking Parameters screen,

(1) Press <Cancel Track>.
==> The system returns to or remains at the Call Tracking Parameters screen and displays a message stating that tracking has been halted.

(2) At the Tracking Parameters screen the user may add to or change parameters and restart the tracking process.

(3) The user may also press <Exit Track> to cancel the tracking process.

Exiting

From the Call Tracking Parameters screen or the Matched SMDR Records listing,

(1) Press <Exit Track>.
==> The system halts any tracking in progress and returns to the main menu.

(2) Sign off or perform other tasks.

Network data files

This procedure explains how to display the data files that have been collected from DMS nodes and stored on the DNC-500's hard disk, and how to produce reports and tapes from those files on demand. Telco users of the DNC-500 have access to all customers' files.

Required information

The following information is required:

(a) ***Customer Name.*** This identifies which customer's data files are to be listed.

(b) ***Feature Type.*** This identifies the type of data file to be listed. The type is chosen from a list of the available types, which may include ATT (automatic trunk testing), KT (killer trunk), OM (operational measurements), SMDR (station message detail recording), and CMAP (Centralized Maintenance and Administration Position).

(c) ***Node.*** This identifies the DMS switch from which the data was collected. A valid node must be entered.

(d) ***Subgroup.*** If the type of data file selected is OM, this identifies the OM subgroup. The subgroup is selected from the following list: TRK (trunk group usage), VFG (virtual facility group usage), SLU (subscriber line usage), IBN (customer group measurements), IBNSG (attendant subgroup measurements), PRK (measurements of call parking), IBNAC (attendant console measurements), or OHCBQ (measurements of off-hook queuing and call-back queuing).

(e) ***Collection Interval.*** This identifies the interval over which the data was collected by the switch. The interval is chosen from the following list: Daily, Weekly, Monthly, or All (all intervals).

(f) ***Timespec.*** This gives the approximate time limits from within which data files are to be listed. If the timespec fields are left blank, all data files of the selected type, node, and collection interval are listed.

Selecting data files

To select an individual data file or a group of data files, follow these steps (Figure 4-5):

(1) On the BNM main menu, select Network Data Files and then press ENTER.
==> The Feature Data menu appears.

(2) Select one of the values on the Feature Data menu, then press ENTER.
==> A specification screen appears with the cursor in the Customer field. The fields on this screen are used to enter the remaining information that will be used to select files.

(3) Fill in the fields on the specification screen, using the RETURN key or the TAB key to move from field to field. In the Subgroup field (if present) and the Collection Interval field, use the arrow keys to select a value. In the Timespec fields, fill in a year (last two digits), month (1-12), day (1-31), hours (0-23), and minutes (0-59), or leave the fields blank to specify all files of the appropriate type, node, and collection interval.

(4) Press the <List Files> softkey.
==> The DNC List of Files screen appears.

(5) Continue with one of the following procedures.

Figure 4-5
Network data files, first two screens (continued on Figure 4-6)

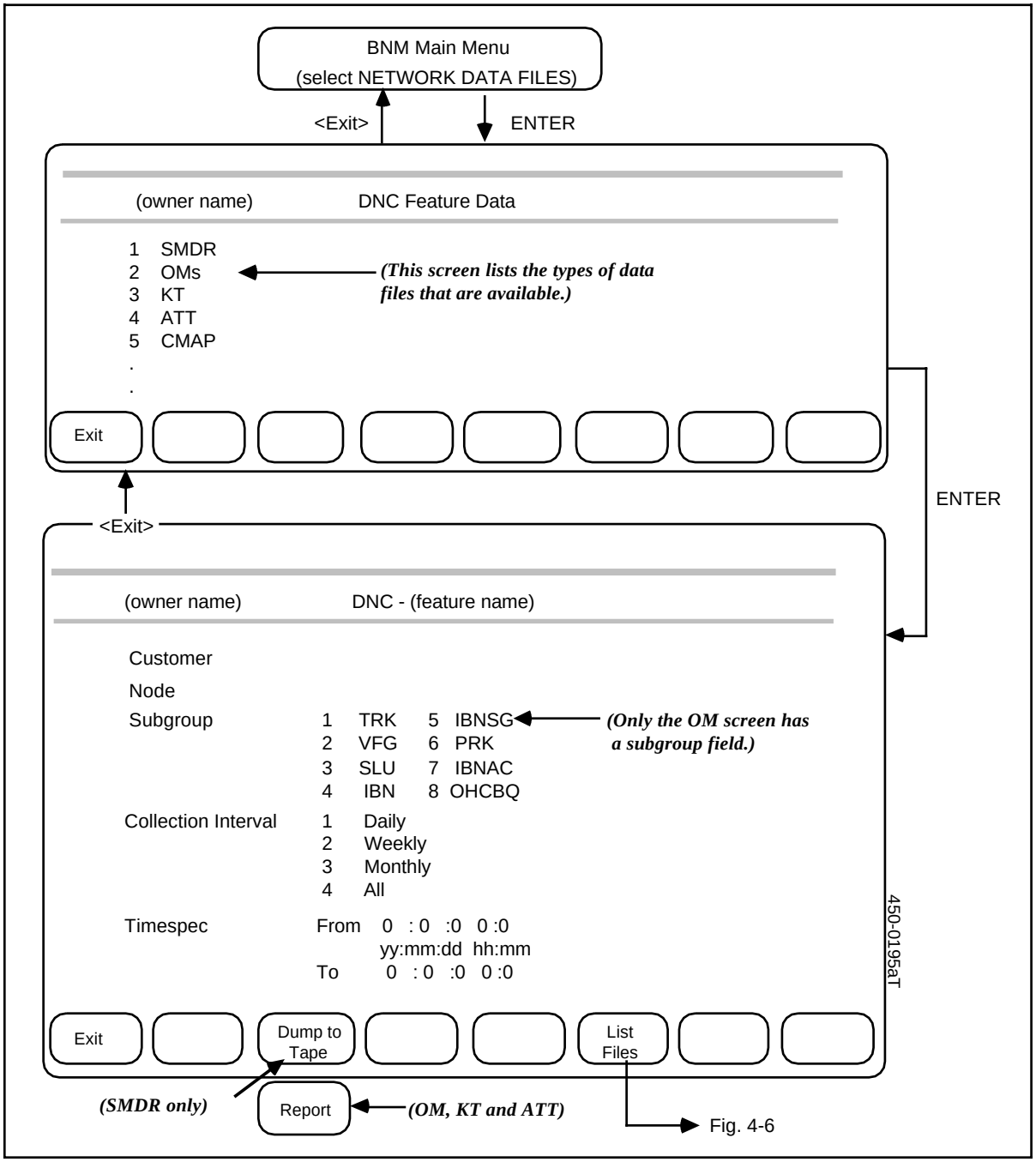
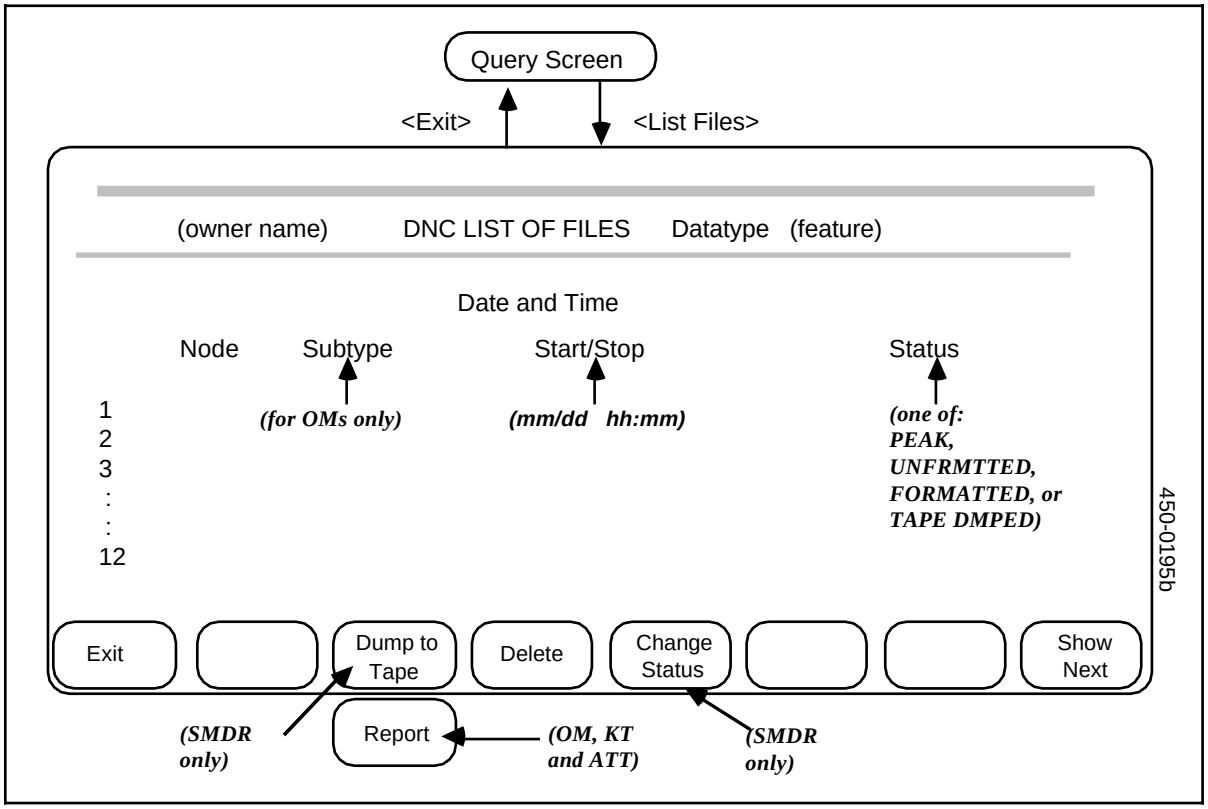


Figure 4-6
DNC list of files (continued from Figure 4-5)



Creating a report from a group of files (ATT, KT or OM)

To create a report from all the ATT, KT or OM files specified on the specification screen, press the <Report> softkey.
==> A message confirms that a PRINT job has been scheduled. This job is carried out as soon as possible.

Creating a tape from a group of files (SMDR Only)

To create a tape from all the SMDR files specified on the specification screen, press the <Dump to Tape> softkey.
==> A message confirms that a TAPE job has been scheduled. This job is carried out as soon as possible.

Listing files

To list all the files specified on the specification screen, press the <List Files> softkey.
==> The DNC List of Files screen appears (Figure 4-6). The Status column shows one or more of the following values for each file:

Unformatted	The file has not been printed (ATT, KT, OM, or CMAP) or dumped to tape (SMDR).
Formatted	The file has been printed (ATT, KT, OM, or CMAP only). It can be printed again if necessary.
Tape Dumped	The file has been dumped to tape (SMDR only). It can be dumped again if necessary.
Unsent	The file has not been transmitted to another location (SMDR only).
Sent	The file has been transmitted to another location (SMDR only). It can be sent again if necessary.
Peak	The file contains peak value data (OM only). It may be formatted or unformatted.

Changing the status of a SENT SMDR file

To change the status of an SMDR file from SENT to UNSENT, select the file on the List of Files screen, then press the <Change Status> softkey. The file can then be retransmitted.

Creating a report from an individual file (ATT, KT or OM)

To create a report from one file, select the file on the List of Files screen, then press the <Report> softkey.
==> A message confirms that a PRINT job has been scheduled. This job is carried out as soon as possible.

Creating a tape from an individual file (SMDR Only)

To create a tape from one SMDR file, select the file on the List of Files screen, then press the <Dump to Tape> softkey.
==> A message confirms that a TAPE job has been scheduled. This job is carried out as soon as possible.

Deleting individual files

To delete a file from the DNC's holding disk, follow these steps:

(1) Select the file on the List of Files screen, then press the <Delete> softkey.
==> A message requests confirmation.

(2) Press <Delete> again.
==> A message confirms that the file has been deleted.

Scheduling services - jobs timetable

The Jobs Timetable option is used to schedule routine jobs that are performed by the DNC at regular intervals. The types of jobs that can be scheduled this way are:

(a) ***PRINT.*** A PRINT job produces a printed report on a specified type of data from a specified DMS node. The report contains all such data that has accumulated on the DNC since the last time the job ran. Printed reports can be produced for

- automated trunk testing (ATT) data
- killer trunk (KT) data
- operational measurements (OM) data

For OM data, one of the following subtypes must be specified:

IBN	Meridian Digital Centrex features
IBNAC	Attendant Consoles
IBNSG	Attendant Subgroups
OHCBQ	Off-hook Queuing and Call-back Queuing usage
PRK	Call Park usage
SLU	Subscriber Line Usage
TRK	Trunk Group Usage
VFG	Virtual Facility Groups

(b) ***PEAK.*** A PEAK job produces a printed report of peak values for TRK or VFG operational measurements data collected during the current day. The system scans the TRK or VFG data for the day and produces a report that shows the point of peak traffic on each trunk during that day.

(c) ***TAPE.*** A TAPE job generates a tape of SMDR data from a specified DMS node. The tape contains all SMDR data from the specified node that has accumulated on the DNC since the last time the job ran.

(d) ***SPOOL.*** A SPOOL job transfers (spools) SMDR data from the DNC through a dedicated modem link to a waiting printer or computer. The link must be connected to an RS232 port on the DNC and must be available at all times. Each time the SPOOL job runs, all SMDR data that has accumulated on the DNC for the requested parameters since the last time the job ran is transmitted.

(e) ***POLL.*** A POLL job polls a specified node for ATT data. For the ATT feature, this is the normal method of collecting data. When a poll takes place, logon to the node is not automatic. The user must log the DNC-500 on to the node before the poll is scheduled, and keep the session open until the poll is finished.

(f) ***POLLCDR.*** A POLLCDR job polls a node that is supported by BNM's Switch/PBX Poller (SPP) feature for call detail record (CDR) data. Once the CDR data has been collected, the SPP feature converts it to SMDR format. (See 450-1021-131 for more information about the SPP feature.)

(g) ***SOP.*** SOP jobs are used to select and schedule service order processing (SOP) tasks for batches of service orders generated by the BNM Station Administration option. For each SOP job, the system searches for all unprocessed service order batches with the same date and time as that scheduled. The BNM system translates the service orders in these batches to DMS commands and sends the commands to the appropriate DMS node(s).

(h) ***SADBSYNC.*** A Station Administration Database Synchronization (SADBSYNC) job performs an incremental database upload for a particular Station Administration customer's database from a particular node. (See the appendix to this practice for more information about Station Administration.) Synchronization opens the database in exclusive mode, so it should not be scheduled to conflict with any other job that needs to open the database.

(i) ***ADMIN.*** The ADMIN job deletes old data from the DNC's disk after the retention period has passed. For example, if the retention period is 2 days, the ADMIN job deletes any data that is more than two days old. The default retention period is 3 days, but this can be changed by Northern Telecom on a per-datatype basis to suit customers' requirements.

The ADMIN job also creates new directories on the DNC's disk for the data that is to be collected the following day.

The ADMIN job should be scheduled to run daily before the disk audit that takes place automatically at 3 AM. A disk audit reclaims the space used by the data that the ADMIN job has deleted.

Required information

The following information is required about each job:

(a) ***Customer Name.*** The name of the customer for whom the job is scheduled. Not relevant for ADMIN jobs.

(b) ***Job Type.*** One of PRINT, PEAK, TAPE, SPOOL, POLL, POLLCDR, SOP, SADBSYNC, or ADMIN.

(c) ***Node.*** The name of the node from which data is assembled for the job:

- For ADMIN jobs, leave the field blank.
- For PRINT, PEAK, TAPE, SPOOL, and POLL jobs, enter the name of an individual DMS node, or leave the field blank to indicate all DMS nodes.
- For POLLCDR jobs, enter the name of the individual SPP-supported node that is to be polled, or enter FAILPOLL to initiate polling of all the nodes in SPP's Failed Poll database. (See 450-1021-131 and 450-1021-331 for more information about SPP.)

(d) ***Feature Data Type.*** The type of data that is processed by the job. The choices are SMDR, OM, ATT and KT. The data type must be compatible with the job type:

- Leave the field blank for ADMIN and SADBSYNC jobs.
- TAPE and SPOOL jobs work only with SMDR data.
- PEAK jobs work only for the TRK and VFG subtypes of OM data (see Data Subtype).
- PRINT jobs work for OM, ATT and KT data.
- Enter SMDR for POLLCDR jobs.

(e) ***Data Subtype.*** For OM data only, the OM subtype. The choices are:

IBN	Meridian Digital Centrex features
IBNAC	Attendant Consoles
IBNSG	Attendant Subgroups
OHCBQ	Off-hook Queuing and Call-back Queuing usage
PRK	Call Park usage
SLU	Subscriber Line Usage
TRK	Trunk Group Usage
VFG	Virtual Facility Groups

(f) ***Collection Interval.*** The interval over which the data was originally accumulated at the node: daily, weekly, or monthly. Not relevant for ADMIN or POLLCDR jobs.

(g) ***Frequency.*** The type of schedule over which the job is performed by the DNC: daily, weekly, or monthly. Not relevant for ADMIN jobs.

Listing jobs

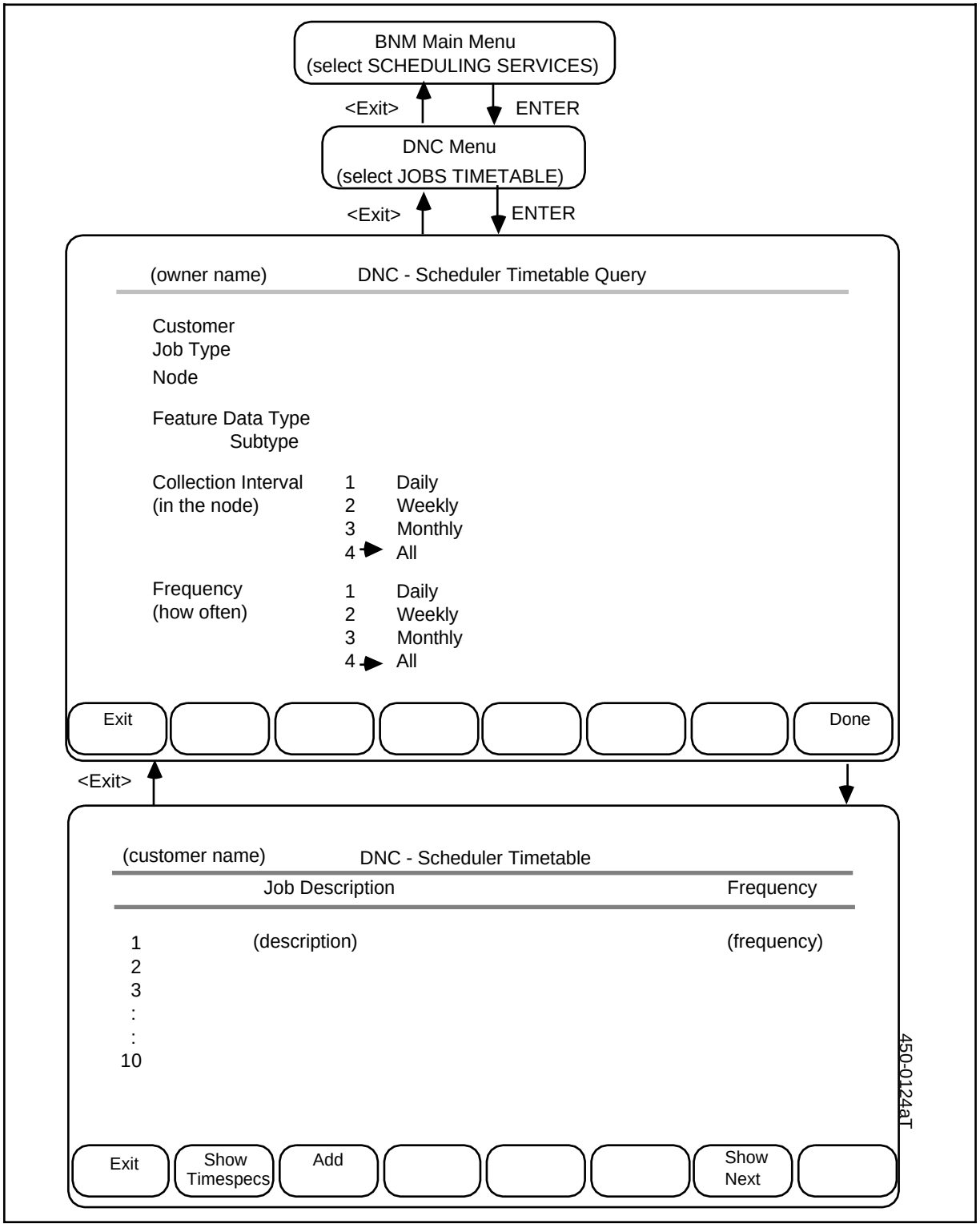
The first step in using the jobs timetable is always to reach the Scheduler Timetable screen (Figure 4-7). This screen lists selected jobs from the timetable. To reach the Scheduler Timetable screen, follow these steps:

(1) Select Scheduling Services on the BNM main menu and then press ENTER.
==> The DNC Scheduling Services menu appears.

(2) Select Jobs Timetable and press ENTER.
==> The DNC Scheduler Timetable Query screen appears.

(3) To list all the jobs in the timetable or move quickly to the next screen so that you can add a new job, leave the fields on the Query screen blank and press <Done>. To list particular jobs in the timetable, fill out the fields on the Query screen to identify those jobs, then press <Done>.
==> A list of the selected jobs appears on the Scheduler Timetable screen.

Figure 4-7
Scheduler query and scheduler timetable (continued on Figure 4-8)



Adding a job

To add a new job to the timetable, begin at the Scheduler Timetable screen (see Listing Jobs above), then follow these steps:

(1) Press <Add>.
==> The Timetable - Add Job Type screen appears (Figure 4-8).

(2) Fill in the appropriate fields on this screen to enter information about the new job. In the Collection Interval and Frequency fields, use the arrow keys to select a value, then press RETURN to move to the next field.

(3) Press <Add Timespec>.
==> A blank Spec Add/Change form appears with appropriate fields for the frequency that was chosen (Figure 4-8).

(4) Fill in the fields on the Spec Add/Change screen to enter the first time specification for the new job. Valid entries are:

Date (of month)	1 through 31
Day (of week)	SUN, MON, TUE, WED, THU, FRI, SAT
From Time	Hours: 00 through 23 Minutes: 00 through 59
To Time	Hours: 00 through 23 Minutes: 00 through 59
Every	1 through 9999 minutes

(5) Press <Done>.
==> A message confirms that the timespec has been added.

(6) If another timespec is required, repeat steps 4 and 5, typing over the first timespec. You can enter up to eight timespecs.

(7) Press <Exit>.
==> The Add Job Type screen appears.

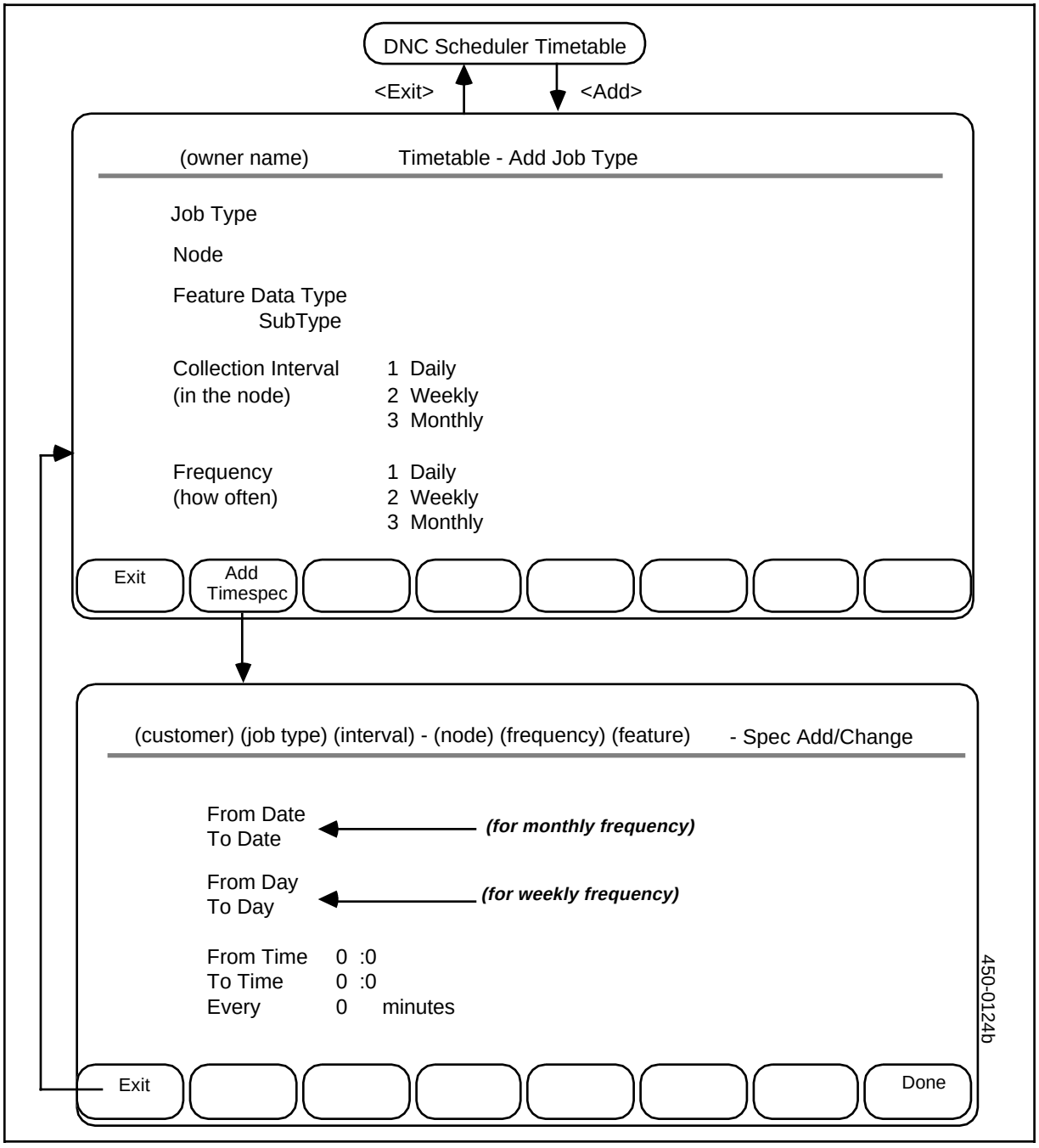
(8) Press <Exit>.
==> The Scheduler Timetable screen appears.

Deleting a job

To delete a job, delete all its associated timespecs (see *Deleting a Timespec* below). Once all timespecs have been deleted, the job disappears from the Scheduler Timetable.

To delete only the next scheduled occurrence of a job but retain the schedule for all occurrences after the next one, use the Jobs Scheduled option (see the *Jobs Scheduled* section of this practice).

Figure 4-8
Add job type (from Figure 4-7)



Deleting a timespec

To delete one of a job's timespecs, begin at the Scheduler Timetable screen (see *Listing Jobs* above), then follow these steps:

(1) Select the job for which a timespec is to be deleted and then press <Show Timespecs>.
==> The Timespec screen appears with a list of the current timespecs (Figure 4-9).

(2) Select the timespec to be deleted and press <Delete>.
==> The timespec disappears from the list.

Adding a timespec

To add a timespec for a job, begin at the Scheduler Timetable screen (see *Listing Jobs* above), then follow these steps:

(1) Select the job for which a timespec is to be added and press <Show Timespecs>.
==> A list of the current timespecs appears (Figure 4-9).

(2) Press <Add>.
==> The Spec Add/Change form appears (Figure 4-9).

(3) Enter the new timespec, then press <Done>.

(4) If another new timespec is required, repeat step 3, typing over the first timespec. You can enter up to eight timespecs per job.

(5) Press <Exit>.
==> An updated Timespec screen appears.

Changing a Timespec

To change a timespec, begin at the Scheduler Timetable screen (see Listing Jobs above), then follow these steps:

(1) Select the job to be changed and press <Show Timespecs>.
==> The Timespec screen appears with a list of the current timespecs (Figure 4-9).

(2) Select the timespec to be changed and press <Change>.
==> The Spec Add/Change form appears.

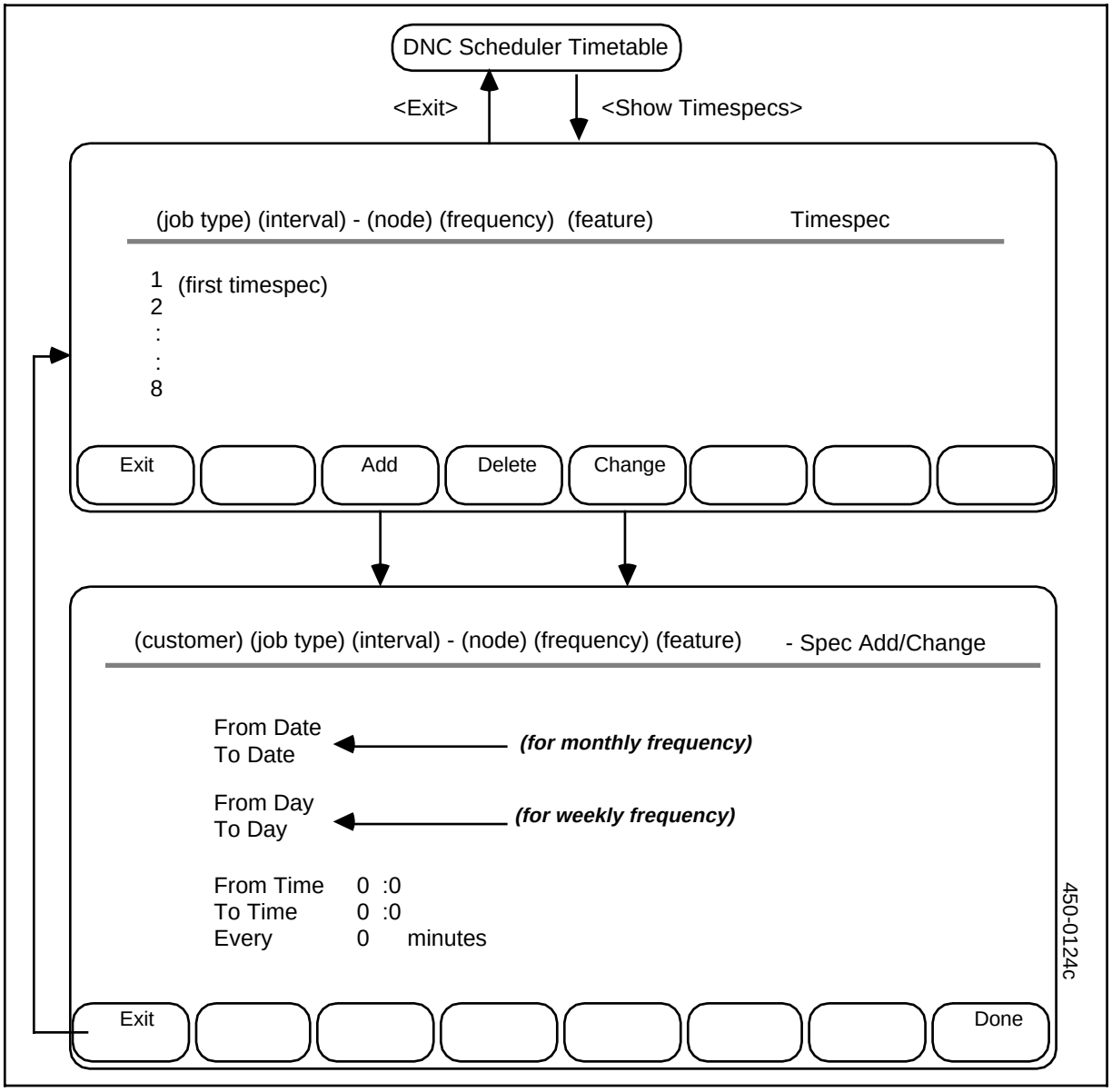
(3) Enter new specifications over the old and press <Done>.
==> A message confirms the change.

(4) Press <Exit>.
==> The Timespec screen appears, with the updated entry.

Changing a job

To change non-timespec data for a job, delete the job and then replace it with a new job.

Figure 4-9
Timespecs (from Figures 4-7 and 4-8)



Scheduling services - jobs scheduled

The Jobs Scheduled option is used to view and make changes to the job queue. The job queue shows the next scheduled occurrence of each job that is defined in the timetable. Each entry in the queue can be removed or set to take place at a new time. Such a change in setting affects only one occurrence of the job; other occurrences will still be put into the queue and performed at their scheduled times.

- ***Example:*** if you delete or reschedule the 0900 occurrence of a job that is supposed to run every 60 minutes from 0900 to 1159, the 1000 and 1100 occurrences will still run as scheduled.

The following information is displayed for each entry in the queue:

(a) ***Customer.*** The name of the customer for whom the job is performed.

(b) ***Job Type.*** One of PRINT, PEAK, TAPE, POLL, POLLCDR, SPOOL, SOP, SADBSYNC, or ADMIN.

(c) ***Node.*** The name of the node from which data is assembled for the job. Not relevant for ADMIN jobs.

(d) ***Feature Data Type.*** The type of data (SMDR, ATT, KT, or OM with a subtype) that is processed by the job. Not relevant for ADMIN, SOP, or SADBSYNC jobs.

(e) ***Date and Time.*** The date and time of the next scheduled occurrence of the job.

Listing jobs in the job queue

The first step in using the jobs queue is always to reach the Scheduled Job Queue List screen (Figure 4-10). This screen lists selected jobs in the queue. To reach the Job Queue List screen, follow these steps:

(1) Select Scheduling Services on the BNM main menu and then press ENTER.
==> The DNC Scheduling Services menu appears.

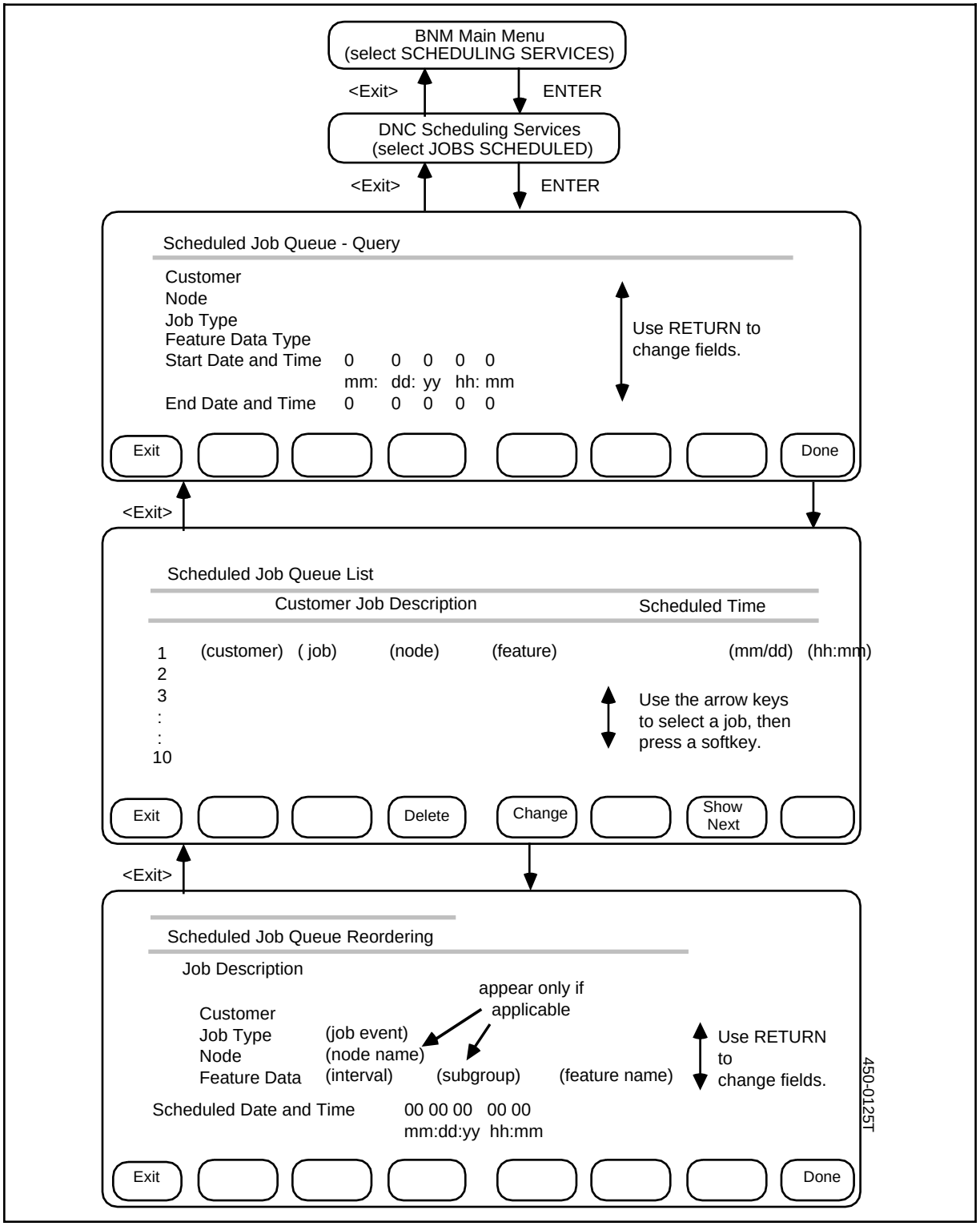
(2) Select Jobs Scheduled and press ENTER.
==> The Scheduled Job Queue Query screen appears.

(3) To list all the jobs in the queue, leave the fields on the Query screen blank and press <Done>. To list particular jobs in the queue, fill out the fields on the Query screen to identify those jobs, then press <Done>.
==> A list of the selected jobs appears on the Scheduled Job Queue List screen.-

Deleting an entry

To delete an entry from the job queue, select it on the Job Queue List screen and then press <Delete>.
==> A message confirms that the entry has been deleted. If you exit from this screen and then re-enter it, the list will show a new entry for the next scheduled occurrence of the job after the one that was deleted.

Figure 4-10
Scheduling services - jobs scheduled



Rescheduling an entry

To reschedule an entry on the Job Queue List screen, follow these steps:

(1) Use the arrow keys to select the entry and then press <Change>.
==> The Scheduled Job Queue Reordering screen appears.

Note: The Job Type, Node, and Feature Data fields cannot be changed.

(2) Enter a new date, a new time, or both, then press <Done>.
==> A message confirms the new schedule.

(3) Press <Exit>.
==> The Job Queue List screen appears with the updated entry.

Exiting

To exit from any job queue screen and return to the previous screen, press <Exit>.

Scheduling services - jobs immediate

The Jobs Immediate option is used by the telco on the DNC-500 to initiate two kinds of one-time, non-routine jobs that are performed immediately:

(a) ***Service Order Processing.*** This type of job is used to begin processing accumulated service orders immediately, instead of scheduling periodic service order processing (SOP) jobs in the timetable. Service orders are created with BNM's Station Administration feature, which is described in NTPs Appendix 1 to 450-1021-101 and Appendix 1 to 450-1021-311.

(b) ***DMS Database Upload.*** This type of job is used by the operating company to create a Station Administration database for a new customer and load the database with information about the customer's Meridian Digital Centrex network. The information is uploaded from the appropriate DMS nodes. The job must be run once for each DMS node in the new customer's network.

The Jobs Immediate option is not available to customers.

Continuous data collection

A DNC-500 normally collects data from nodes continuously, as the data is generated. Each type of data is collected on a separate data collection channel. For example, two data collection sessions are required to collect both SMDR data and OM data from the same node.

There are two ways that continuous data collection can begin: automatically and manually. Once continuous collection begins, it continues indefinitely until you stop it or until there is an interruption.

The autologon and minimum session logon features

If the Autologon feature is active on your DNC, the DNC automatically attempts to log on to all known nodes and set up data collection sessions when the Nodes program resource unit (PRU) is brought into service. (See 450-1011-100 and 450-1011-301 for more information about PRUs.) This feature minimizes the work you have to do manually when the DNC is reinitialized; however, the DNC attempts to log onto each data collection channel only once, so if one logon attempt fails, you must still perform a manual logon for that channel.

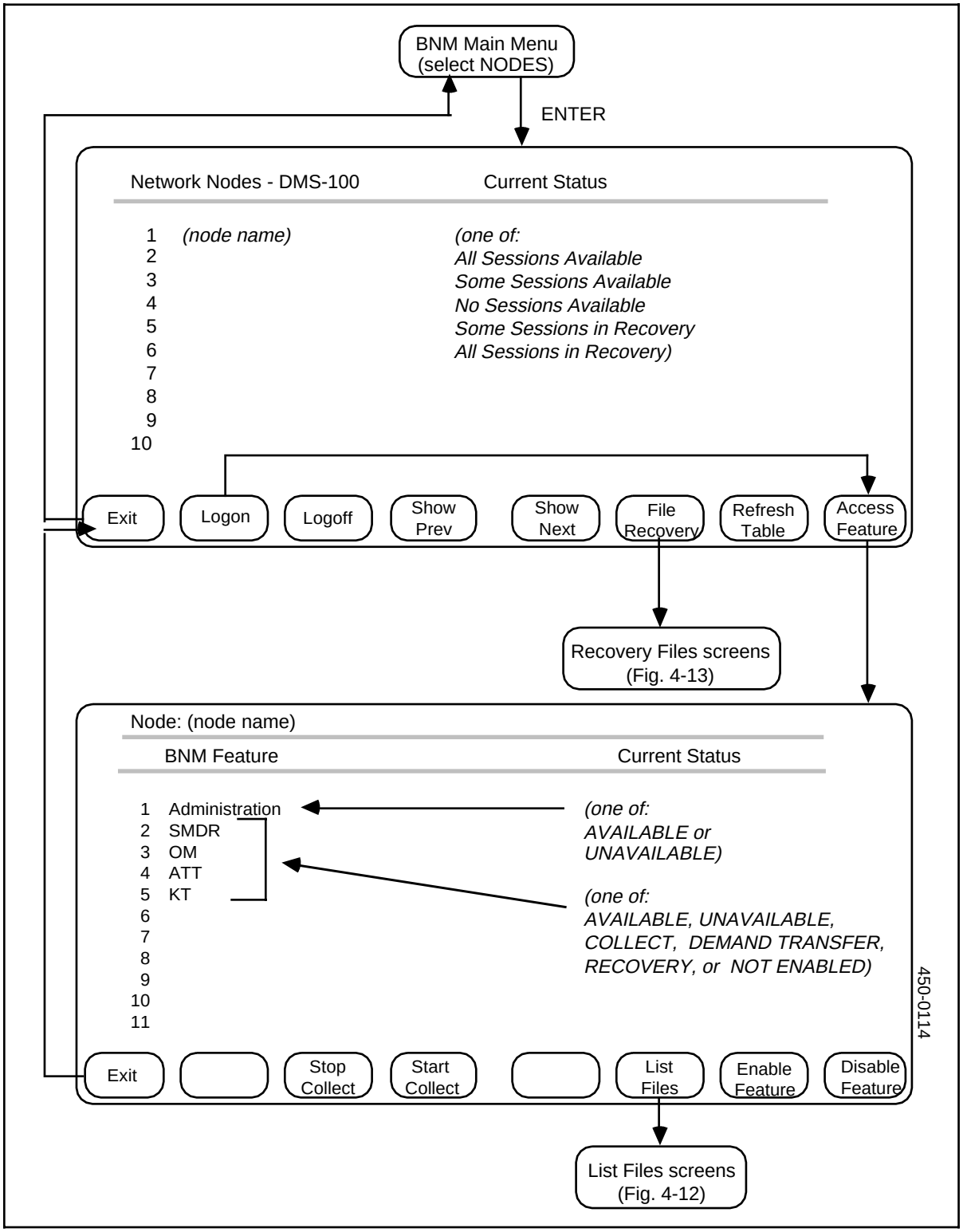
The number of data collection sessions that the Autologon feature attempts to set up depends on another feature called Minimum Session Logon. When the feature is active, the DNC correlates information from the Installation Profile tables to determine which types of data are used by customers and then sets up only the minimum number of sessions required. When this feature is not active, the DNC sets up sessions for all types of data from all nodes, even though some of the data may not be required by customers.

The Autologon and Minimum Session Logon features are controlled by two Service Data Manager (SDM) tables called US CONFIG-NS and US CONFIG-US. These tables are available through the SDM Tables option on the BNM main menu. See 450-1011-301 to find out how to display and edit SDM tables.

The US CONFIG-NS table shows whether or not you subscribe to the Autologon and Minimum Session Logon features. This table can only be edited by Northern Telecom.

If you subscribe to the Autologon feature, you can turn it on or off by entering YES or NO in the Autologon field of the US CONFIG-US table. If you enter YES in the Autologon field, you can use the Startup Delay field to specify how long after DNC startup the automatic logons should take place. You can enter a value of from 0 to 30 minutes.

Figure 4-11
The continuous collection screens



Starting continuous data collection manually

To log on to a node and start continuous data collection manually, follow these steps (Figure 4-11):

(1) On the BNM main menu, select Nodes and then press ENTER.
==> The Network Nodes screen appears. This screen lists the nodes in the network and shows the current status of the communications sessions with each node. The possible statuses are:

- all sessions available
- some sessions available
- no sessions available
- some sessions in recovery
- all sessions in recovery

(2) Use the arrow keys to select the node that you want to log on to, then press <Logon>.
==> Messages show the success or failure of logon attempt.

(3) Once you have logged on to a node, you can start continuous data collection from that node. Make sure the node is selected on the Network Nodes screen and that the DNC is logged onto that node, then press <Access Feature>.
==> The BNM Feature screen appears. This screen lists the communication channels between the node and the DNC. There is one channel for each type of feature data, and one channel for administration.

The Feature screen also gives the status of each channel. The administration channel can be either AVAILABLE or UNAVAILABLE. It must be AVAILABLE before any data collection can begin.

The status of each data channel is one of:

Available	This channel is ready to be used for data collection. It is not being used now.
Unavailable	This channel cannot be used now. (To make the channel usable, select it and then press <Enable Feature>. The status should change to AVAILABLE.)
Collect	This channel is currently being used for continuous data collection.
Demand Transfer	This channel is currently being used for a "demand transfer" of data (see Collecting Data by Demand Transfer in the next section of this document).
Recovery	The system is attempting to re-establish data collection on this channel after an interruption.
Not Enabled	This channel is not enabled because Minimum Session Logon is in effect and there are no customers who require this type of data from this node (according to the Installation Profile tables).

(4) Use the arrow keys to select the data channel on which you would like to begin continuous collection, then press <Start Collect>.
==> The feature status becomes COLLECT when data collection is started.

Note 1: The <Start Collect> softkey is available only if the status of the relevant feature is AVAILABLE.

Note 2: To ensure that the necessary "Xlate" file exists, SMDR collection must be started before KT collection. Other features are not affected by this file.

(5) Repeat step 2 to start continuous collection of other types of data. When you have finished, press <Exit> to exit from the Nodes screens. Continuous data collection will continue until you stop it.

Stopping continuous data collection

To stop collecting data continuously on a data channel, select that channel on the Feature screen and then press <Stop Collect>.
==> The system stops collecting data and the status of the channel becomes AVAILABLE.

Note: You may have to perform housekeeping functions after stopping data collection.

Stopping collection and clearing a channel

To stop collection and clear a channel, press <Disable Feature>.
==> Data collection stops. After a short time, the status of the channel becomes UNAVAILABLE.

Note: You may have to perform housekeeping functions after stopping data collection.

Reopening a channel

To reopen an UNAVAILABLE data channel, select it and then press <Enable Feature>.
==> The system reinstates the channel for that feature and its status becomes AVAILABLE. You can then start data collection on that channel.

Logging off a node

When you stop collecting from all data channels to a particular node, you should log off the node. Return to the Network Nodes screen, select that node, and then press <Logoff>.

Note: Pressing <Logoff> twice while continuous collection is in progress causes the system to stop all data collection and log off all channels.

Collecting data by demand transfer

If continuous collection from a node is interrupted, a DNC operator may have to request the transfer of missing data from the node. This procedure explains how to request the transfer of an unprocessed data file from a node. Screen interactions are shown in Figure 4-12.

Note that demand transfer cannot be used to recover files that are in the Recovery File (see section in this practice immediately following this one for Recovery File procedures).

If the file has to be manually restored from tape at the node, some manual intervention at the node will be required.

Required information

The following information is required:

(a) ***Node:*** This is the location name identifying the node to be logged on to.

(b) ***Data Transaction Type:*** This is the type of file to be listed:

- SMDR (Station Message Detail Recording)
- ATT (Automatic Trunk Test)
- KT (Killer Trunks)
- OMs (Operational Measurements)
- ALL (all of the above)

(c) ***Volume:*** This identifies the disk volume that contains file.

(d) ***Filename:*** This is the name of the file to be collected.

(e) ***FileID:*** This is the DIRPHOLD Number obtained from DMS file listings.

Menu access

After signing on, which results in the main menu display,

(1) Select Nodes and press ENTER.
==> A list of node locations appears.

Data connection

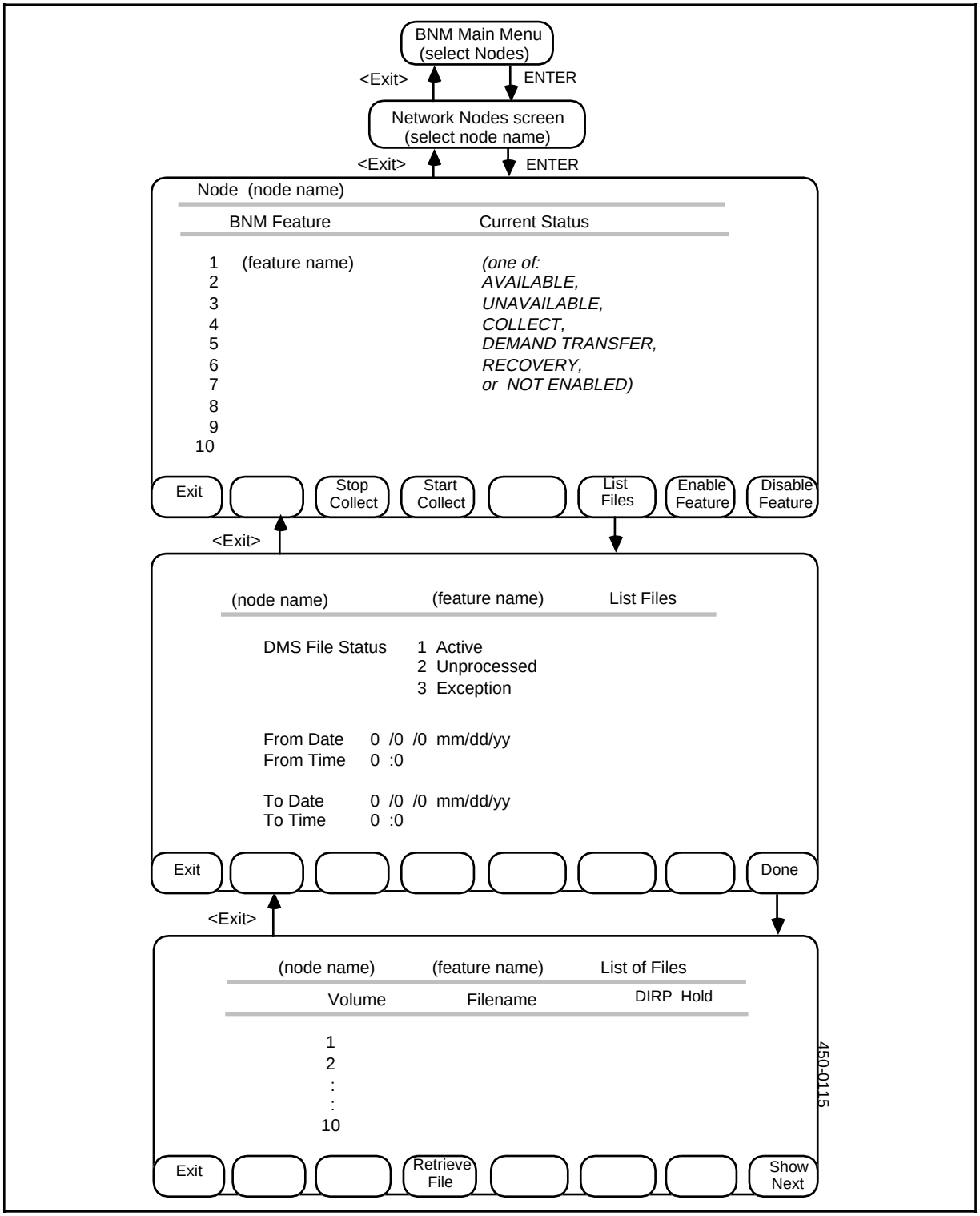
From the list of node locations,

(1) Use arrow keys to select the node for which data files are to be listed and press <Logon>.
==> Messages appear indicating success or failure of the logon and the availability of features.

(2) Press <Access Feature>.
==> The Feature Availability table appears.

Note: This step and those that follow can only be completed if the logon was successful.

Figure 4-12
The demand transfer screens



Demand transfer

Only data files of features in the available state can be retrieved. From the Feature Availability table,

(1) Use the arrow keys to select the feature for which data is to be recovered and press <List File>.
==> A query form appears.

(2) Use the arrow keys to select the type of file to be listed and press RETURN.
==> The cursor moves to the From Date field.

(3) If only certain files are required, enter the earliest date and time from which files are to be listed, pressing RETURN to change fields. If the earliest available files are to be listed, leave each field as it appears and press RETURN.
==> The cursor moves to the To Date field.

(4) If only certain files are required, enter the latest date from which files are to be listed, pressing RETURN to change fields. If latest available files are to be listed, leave each field as it appears and press RETURN.

(5) Press <Done>.
==> The list of available files appears.

(6) Use arrow keys to select the file to be retrieved and press <Retrieve File>.
==> Messages confirm the beginning of file transfer and its success or failure.

Exiting

To return to previous screens, press <Exit> on each screen in turn.

Recovery state

If the file transfer fails, and a message states that the file is in a “recovery” state, it means that the file should be recovered using the “Recovery File” method (see the part immediately following this one).

Recovery file

In most cases, a DNC receives feature data files transferred from various DMS nodes on a continuous basis. However, if a transmission is lost or interrupted, the DNC identifies the portions of the transmission that were not received. The node flags the files involved as recovery (R) files. This procedure explains how to list and recover files that have not been received due to an interruption of data transfer.

Required information

The following information is required:

(a) ***Node:*** (optional) This field identifies the node from which recovery data is to be assembled. If left blank, recovery data from all nodes is assembled.

(b) ***Feature Data Type:*** (optional) Identifies the type of recovery data to be assembled. It can be one of ATT, KT, OM or SMDR.

(c) ***Date and Time:*** (optional) These fields specify the time period from within which data is to be listed. If they are left blank, all files that meet the node and type criteria will be listed.

Selecting the files to be listed

To select and list a group of recovery files, follow these steps (Figure 4-13):

(1) On the BNM main menu, select Nodes and then press ENTER.
==> The Network Nodes screen appears.

(2) Ensure that the DNC is logged on to all the nodes from which you wish to recover data. If the DNC is not logged on to one of the necessary nodes, use the arrow keys to select that node and then press <Logon>.

(3) Press <File Recovery>.
==> The Recovery File Query screen appears.

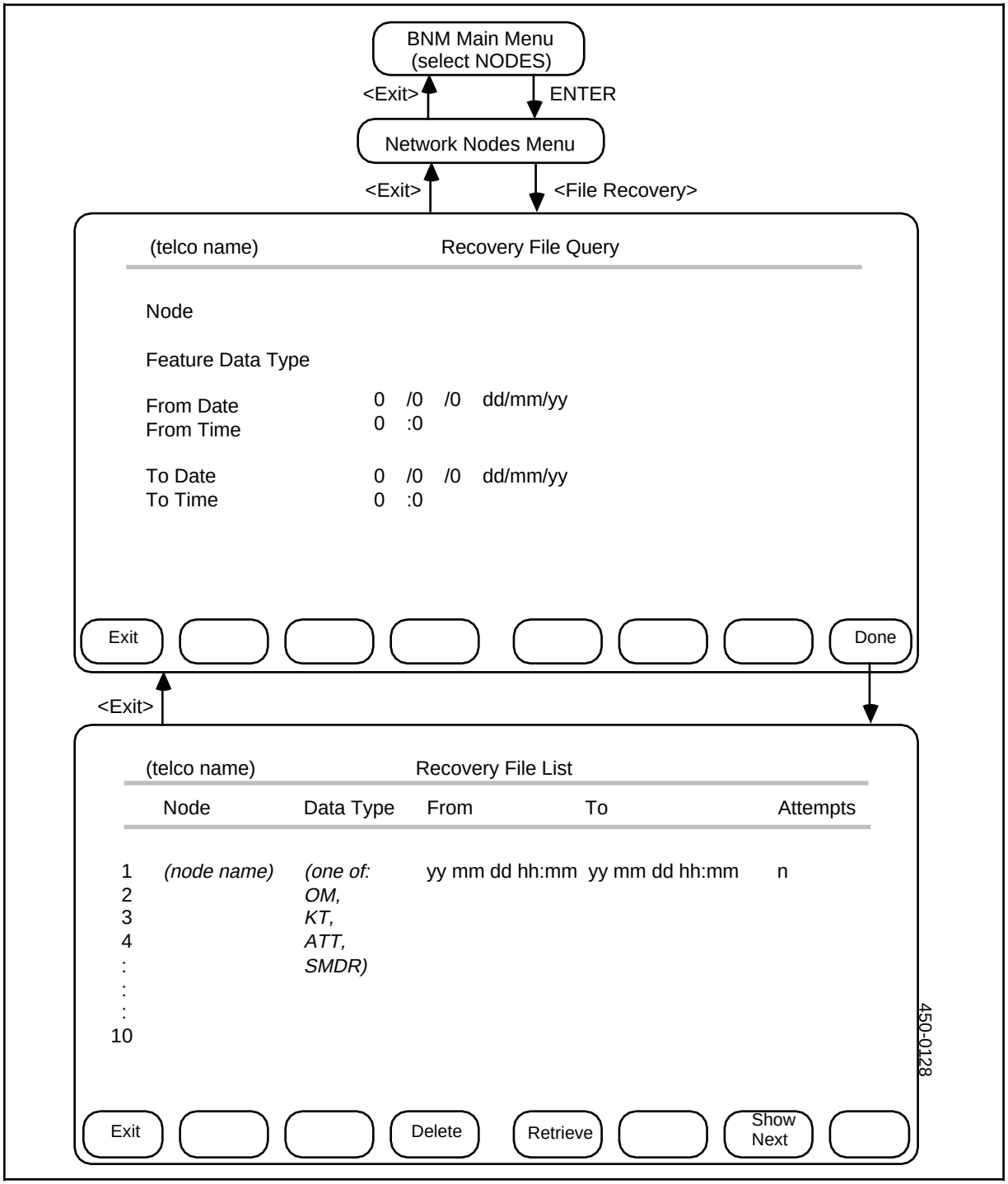
(4) Enter the node from which you wish to recover files and then press RETURN. If you want to recover data from all nodes to which the system is logged on, leave the field blank and press RETURN.
==> The cursor moves to the next field.

(5) Enter the type of data file you want to recover (OM, KT, ATT, or SMDR) and then press RETURN.
==> The cursor moves to the From field.

(6) Enter the From and To dates and times. Enter day (1-31), month (1-12) , year (last 2 digits), hours (0-23) and minutes (0-59). Press RETURN to advance fields. If the date and time fields are left blank, all files that meet the Node and Type criteria will be listed.

(7) Press <Done>.
==> The Recovery File List screen appears with a list of all available recovery files that meet the criteria you entered.

Figure 4-13
The recovery file screens



Deleting a file

To delete a file that appears on the Recovery File List screen, use the arrow keys to select the file and then press <Delete> twice.
==> The file disappears from the list.

Retrieving a file

On the Recovery File List screen, use the arrow keys to select the file to be retrieved and then press <Retrieve>.
==> A message confirms that file retrieval has been initiated.

Exiting

To exit from the Recovery Files screens and return to previous screens, press <Exit> on each screen in turn.

Housekeeping

Housekeeping is necessary to prevent system storage from being overloaded with unwanted data files. There are two main housekeeping procedures:

- removing all data from a customer's file
- removing feature data from a customer

Before using one of these procedures, stop collection of data from the DMS node (see Stopping Continuous Data Collection in this Part).

To remove data from within a file you must understand how to use Helix commands. It is beyond the scope of this practice to give complete details of a procedure using the Helix command interpreter. These procedures give you only the entry point and the command that you will use to delete the data.

-CAUTION-

The following procedures do not instruct you on the use of Helix quit and save commands. If you are not familiar with using Helix, contact your local NT representative.

Removing feature data from a customer

The entry point for Helix commands is the Helix CI level, a sublevel of SAS Utilities.

(1) The command and its syntax for removing a feature from a customer's file is:
REMOVEDIR :(fileservername):(custname):(dncapp):(nodename):(featype)
using the data defining the customer and the feature

(2) The command and its syntax for removing an OM subtype from a customer's file is:
REMOVEDIR :(fileservername):(custname):(dncapp):(nodename):(featype):(datasubtype)}
using the data defining the customer, feature, and OM subtype

Reports generation

This procedure summarizes the steps for setting up periodic generation of printed reports.

> ***Note:*** If generation of a report is scheduled when the system has not collected any new data, no output will be produced.

Datafill

The following tables must contain the Customer Name if the report concerns a particular customer:

At the DNC-500:

Customer Table	Reference: “Installation - Customer Table”
Customer Feature Profile	Reference: “Installation - Customer Feature Profile”

At the DNC-100:

DNC Owner Profile	Reference: “Installation - DNC Owner Profile"
Feature Profile	Reference: “Installation - Feature Profile”

Scheduling or rescheduling a report

(1) Add (or delete) an entry in the Scheduler Timetable for the PRINT (report) or PEAK (peak report) generation event. (Reference: “Jobs Timetable”).

(2) If the entry is being deleted, the next scheduled PRINT or PEAK event will still remain in the Scheduled Event Queue. This must also be deleted. (Reference: “Jobs Scheduled”).

Deleting or reordering a single report

Modify or delete the event in the Scheduled Event Queue for the next scheduled occurrence of the PRINT or PEAK event. (Reference: “Jobs Scheduled”).

SMDR tape generation

This procedure summarizes the steps for setting up a periodic SMDR tape generation job.

Note: If generation of a tape is scheduled when the system has not collected any new data, no output will be produced.

-CAUTION-

The system automatically rewinds the tape before writing the current SMDR data to it. Thus, the tape used must be changed between SMDR tape generation events in order to preserve any call detail records already written to tape. If desired, Northern Telecom personnel can configure the system during installation so that the call detail records from recurrent SMDR tape generation jobs are written sequentially on the same tape, without overwriting each other.

Datafill

The following tables must contain the CUSTOMER NAME if the tape to be generated concerns a particular customer.

At the DNC-500:

Customer Table	Reference: “Installation - Customer Table”
Customer Feature Profile	Reference: “Installation - Customer Feature Profile”

Scheduling or rescheduling tape output

(1) Add (or delete) an entry in the Scheduler Timetable for the “Tape” generation job (Reference: “Jobs Timetable”).

(2) If the entry is being deleted, the next scheduled event will still remain in the Scheduled Event Queue. This must also be deleted (Reference: “Jobs Scheduled”).

Deleting or reordering a tape event

Modify or delete the event in the SCHEDULED EVENT QUEUE for the next scheduled occurrence of the TAPE event (Reference: “Jobs Scheduled”).

Using other features

Other features available with BNM include

(a) ***DMS MAP Passthru.*** This facility allows the DNC-500 user to use the DNC-500 terminal to communicate with a DMS-100 node. The terminal emulates the Maintenance and Administrative Position (MAP) terminal.

(b) ***Host Reachthrough.*** This feature allows the DNC-500 user to use the DNC-500 to access remote hosts (such as ASCII or IBM 3270), and interact with them through a window of their M4000 series terminal, as if they were logged on from a separate terminal.

Information on setting up and configuring ASCII Host Access and DMS MAP Passthru (a form of ASCII Host Access) is found in 450-1011-301 under "Configuring ASCII Device Services."

DMS MAP passthru - using

The Centralized DMS MAP Passthru (CMAP) option enables you to use any terminal that is connected to the DNC-500 as a Maintenance and Administrative Position (MAP) terminal. MAP terminals are used to operate, administer, and maintain DMS switches and are normally located close to a particular switch. Since a DNC-500 may be connected to several different switches, the MAP Passthru option allows you to operate several DMS switches from one central location.

This procedure explains how to initiate MAP Passthru and enter the Command Interpreter environment of a DMS switch. Once you are in that environment, you can enter commands as if you were at a MAP terminal. Consult the appropriate DMS practices in the 297-1001-*** series for information about the commands and responses that can be used in the Command Interpreter environment.

Note 1: On an ASCII terminal, the BREAK key always serves as the ATTN key for the MAP Passthru option, regardless of which key has been configured as the ATTN key. For example, the equivalent of <softkey 1> is always BREAK 1 when MAP Passthru is being used.

Note 2: There are not enough lines on the screen of an ASCII terminal to accommodate softkey icons along with all the lines required by a MAP terminal, so the softkey icons are not displayed.

Required information

You need two sets of user IDs (user names and passwords) in order to use MAP Passthru. First you must sign on to the DNC-500 as a user who has been authorized to select MAP Passthru. After you have selected MAP Passthru and established a connection to a DMS switch, you must log on to the switch.

Initiating MAP passthru

To operate DMS MAP Passthru, first sign on to the DNC-500, then follow these steps (Figure 5-1):

(1) Use the arrow keys to select “DMS MAP Passthru” on the BNM main menu, then press ENTER.
==> The DMS Switches Selection Menu appears. This menu lists the names and device names of DMS switches that are connected to the DNC-500.

(2) Use the arrow keys to select a switch, then press <Connect Device> (BREAK 2).
==> The DNC attempts to establish a connection to the switch. Messages appear on the status line to show whether the attempt has been successful. If the first attempt is not successful, the DNC tries again and again until it is successful, or until you press <Quit CMAP> (BREAK 1). The connection is ready when the following message appears

WAITING (device name) (node name)

(3) Press <Logon (ci)> (BREAK 3).
==> The prompt "Enter username and password" appears at the top of the screen, if the DNC user is not restricted to a specified DMS userid.
==> The prompt "Enter password" appears at the top of the screen, if the DNC user is restricted to a specified DMS userid.

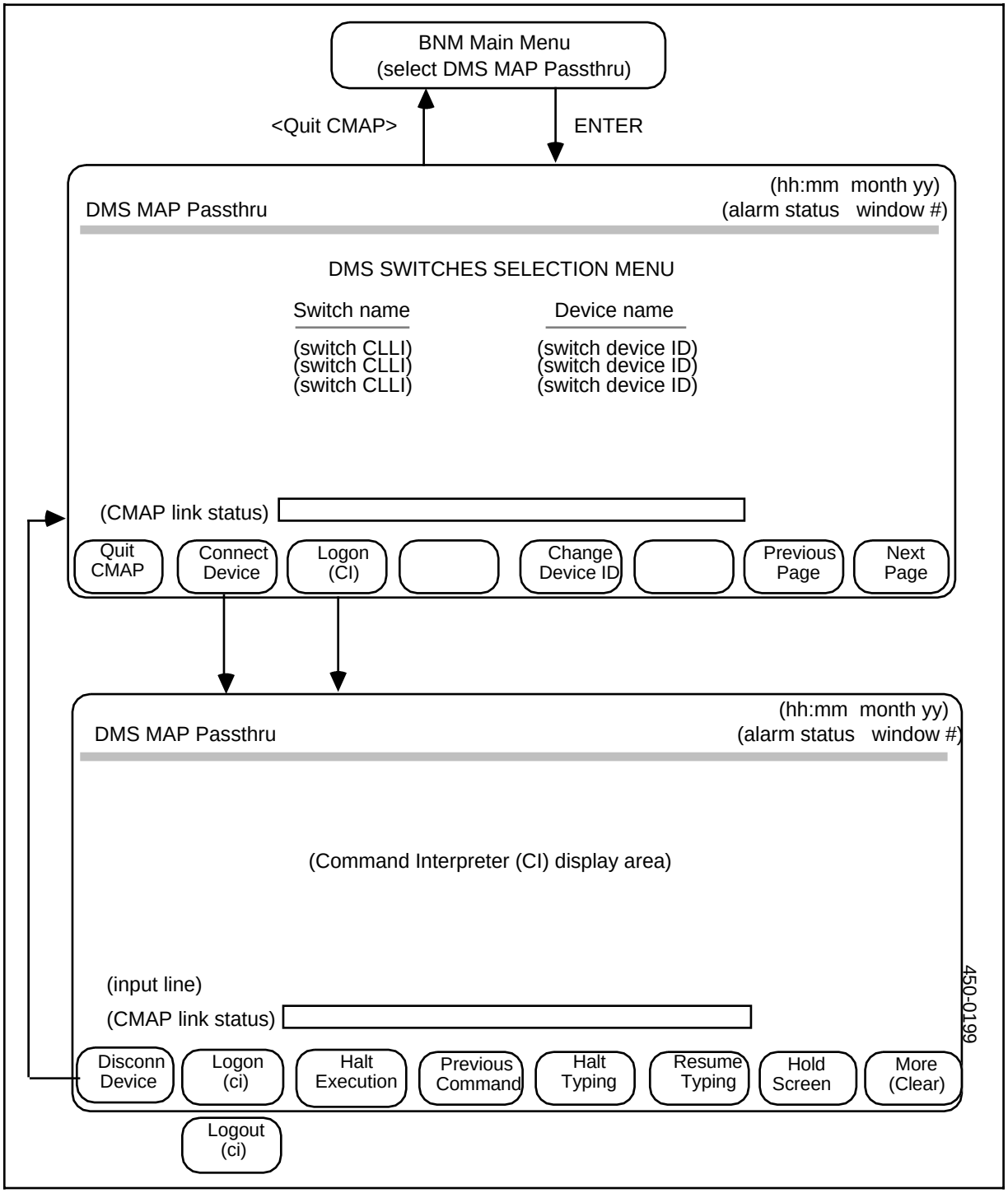
Note: In cases where the user is restricted to a specified DMS userid, the username will not be displayed during logon. The username will be supplied to the DMS internally.

(4) Type your user ID, as requested above, in one of the following forms:

username password (with a space between the name and the password),
or
password (alone),

then press ENTER. The typing will not be displayed on the terminal.
==> You are now in the Command Interpreter (CI) environment.

Figure 5-1
DMS MAP passthru



DMS command level

When you are using a DNC-500 terminal as a MAP terminal, the following softkeys are available:

- ***<Disconn Device> (BREAK 1)*** logs you off from the switch and disconnects the communication link.
- ***<Logout> (ci)> (BREAK 2)*** logs you off from the switch and terminates the CI session without disconnecting the communications link.
- ***<Login (ci)> (BREAK 2)*** restarts a CI session that you terminated by pressing <Logout (ci)>.
- ***<Halt Execution> (BREAK 3)*** is equivalent to the MAP terminal's BREAK key.
- ***<Previous Command> (BREAK 4)*** repeats the most recent command.
- ***<Halt Typing> (BREAK 5)*** is equivalent to the MAP terminal's HT command
- ***<Resume Typing> (BREAK 6)*** is equivalent to a MAP terminal's RT command.
- ***<More (clear)> (BREAK 7)*** displays the next screen of data when More... is shown on the screen; that is, when more data is coming to the terminal. If <More> is not pressed, the screen is cleared after 15 seconds.
- ***<Hold Screen> (BREAK 8)*** prevents the screen from clearing in 15 seconds if more data is coming to the terminal.

Exiting from CMAP

To end the session and exit from CMAP, follow these steps:

(1) Press <Logout (ci)> (BREAK 2).
==> This logs you out from the switch.

(2) Press <Disconn Device> (BREAK 1).
==> The communications link is disconnected and the DMS Switches Selection Menu is displayed.

(3) Select another switch, or press <Quit CMAP> (BREAK 1) to return to the BNM main menu.

Changing device IDs

To change a switch's device name in the list on the DMS Switches Selection screen, follow these steps:

(1) Use the arrow keys to select the switch.

(2) Press <Change Device ID> (BREAK 5).
==> The old device name disappears and the cursor moves to the space in the list so that you can enter a new name.

(3) Type the new device name, then press ENTER.
==> The new name appears in the list

ASCII host access - using

This section explains how to contact a host and explains features unique to ASCII Host Access (AHA). A list of the data communications codes you can send to a host is included.

Required Information. The only information you need to know is the name that the host is given on the DNC-500. You can select this name from a menu of hosts to contact.

Menu access

From the BNM main menu,

(1) Select ASCII Host Access and then press ENTER.
==> A list of hunt groups appears.

This sub-menu can contain three types of entries - AHA hunt groups, APIO hunt groups, and hunt groups with both AHA and APIO entries (see Figure 5-2 for an example). The APIO entries can be accessed by ASCII terminals only. If the names do not indicate which are which, ask the System Administrator which entries may be used by M4000 workstations (AHA or AHA/APIO hunt groups).

(2) Use arrow keys to select the hunt group name corresponding to the host you wish to access. Press <Next---> to show the next screen if the list extends beyond one screen. When the name is selected, press ENTER.

- If the connection is successful, the next screen is the emulation of the ASCII host.
- If the connection is not successful, a message to this effect is displayed. To show the list of hosts again, press <Select Another>.

Exit to main menu

Before exiting to the main menu, you must sign off from the host you are in contact with. Then, press the <Exit> key repeatedly. The access screens reappear until the main menu appears.

During AHA emulation

Whenever the emulation is started, the features in Table 5-A are in effect. However, the host may change these features by sending commands known as escape sequences to the M4000-series terminal.

Figure 5-2
ASCII host access

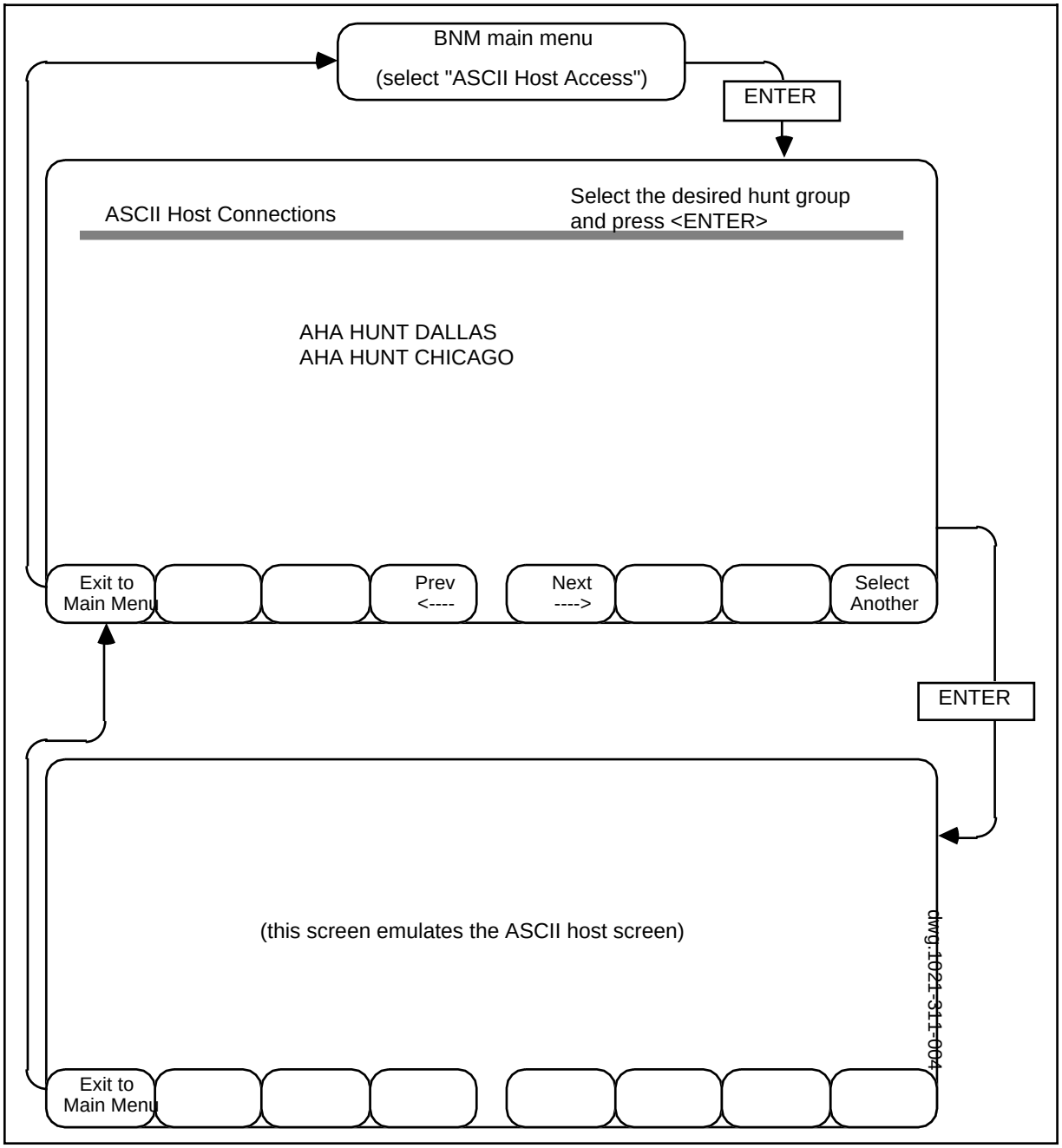


Table 5-A
DEFAULT AHA EMULATION FEATURES

FEATURE	MEANING
USASCII Character	"#" is available, not "£".
Numeric Keypad	The numeric keypad is used for entering numbers.
Normal Arrow Key Movements	Arrow keys move cursor up, down, right, left.
Block Cursor	The cursor appears as a block, not an underline.
No New Line	From the M4000 series keyboard: the RETURN key produces only a carriage return; it does not line feed. The result is that the cursor moves to the first column of the existing line.
	From the Host: a received line feed does not cause a carriage return. The result is that the cursor moves down one line to the same column.
No Local Echo	Keystrokes on the M4000 series terminal are sent to the host; the host may or may not send them back to the M4000 series terminal screen.
Autowrap	When the right margin of a line is reached, the next entered character will automatically appear as the first character of the next line.
Jump Scroll	The screen scrolls a line at a time, in one quick movement.
24 Lines Displayed	Up to 24 lines of data appear on the screen.
80 Character Line	Up to 80 characters appear on a line.
Normal Video	The characters and background area appear as usual, not as reverse video.

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