

FrameSaver® SLV 9580 T3 ATM DSU

Installation Instructions

Document Number 9580-A2-GZ40-10

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Installation Checklist

Installation of the FrameSaver SLV 9580 DSU requires the following steps:

- Verify the contents of the shipping carton
- Mount the DSU in a cabinet or on open rails
- Connect the DSU to a power source
- Monitor the power-up self-test
- Connect the DSU to its DS3 interface
- Connect the DSU to its DTEs
- Connect the DSU to an Ethernet interface
- Connect the DSU to a terminal or PC, directly or through a modem
- Enter a device profile
- Set up system Login IDs and access levels
- Configure the system
 - Configure management PVCs and any other unique PVCs
 - Enter and configure VPI/VCI if your switch does not support traffic descriptors
 - Configure and run Auto-Configuration
- Connect the DSU to its monitor and NetScout Probe, if used
- Test the system

At any step, diagnose and correct any errors.

Physical installation is described in this document. For detailed configuration and troubleshooting information, see the *FrameSaver SLV 9580 T3 ATM DSU User's Guide* (9580-A2-GB20).

Checking the Contents of the Shipping Carton

The shipping carton for your FrameSaver SLV 9580 DSU should contain:

- FrameSaver SLV 9580 DSU
- Two DS3 network cables
- One power cable for each power supply installed
- Two mounting brackets
- Installation kit containing machine screws and other hardware
- Installation instructions
- User's guide

Notify your supplier if anything is missing or damaged.

Mounting the FrameSaver SLV 9580 DSU

The FrameSaver SLV 9580 DSU can be mounted in a standard 19-inch or 23-inch cabinet or open rails, and either flush with the mounting rails or approximately 4 inches forward of the rails. The different configurations are accommodated by positioning two mounting brackets.

The following procedure requires:

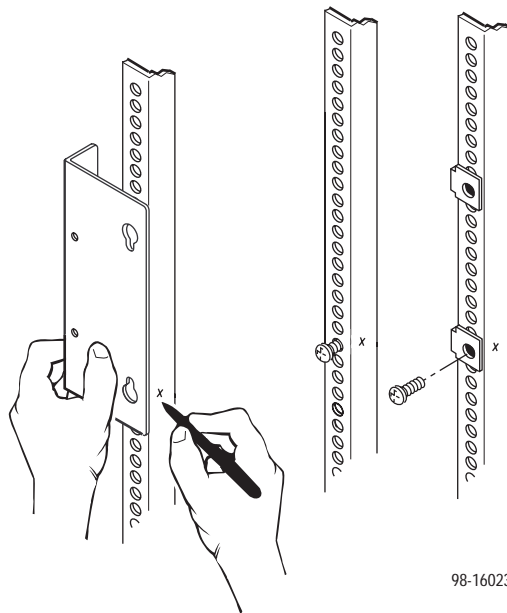
- A fiber-tip marking pen
- A large Phillips screwdriver
- Mounting brackets and #8 flathead machine screws
- Four self-retaining nuts (for rails with unthreaded holes)
- Four #10 machine screws (for use with self-retaining nuts or rails with small threaded holes)
- Four #12 machine screws (for rails with large threaded holes)

The mounting brackets, machine screws, and self-retaining nuts are supplied with the FrameSaver SLV 9580 DSU.

► Procedure

To install the FrameSaver SLV 9580 DSU in a standard rack:

1. Determine the general position of the FrameSaver SLV 9580 DSU in the rack. Hold one of the mounting brackets in that position and align it so that the notches in the keyed holes of the bracket line up precisely with holes in the rail.
2. Mark the holes in the rail where the two machine screws will go. Then mark the opposite rail in the same positions.
3. If the rack has threaded holes, go to Step 4. If the rack does not have threaded holes, fit self-retaining nuts over the rails at the marked holes.
4. Using a large Phillips screwdriver, put machine screws at the two bottom screw positions you marked. Leave the screws loose enough that the mounting brackets can slide over them.



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5. Determine the size of the rack you are installing the DSU in.

The brackets must be mounted with the:

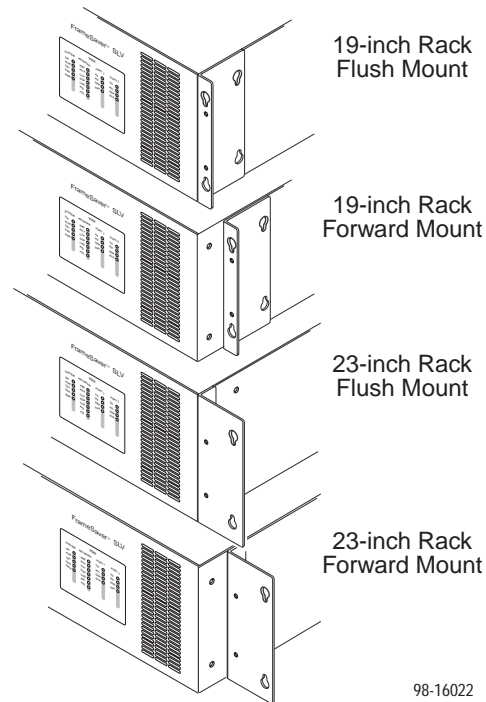
- Wide side of the brackets against the body of the DSU for a 19-inch rack
- Narrow side of the brackets against the body of the DSU for a 23-inch rack

Use the screw holes:

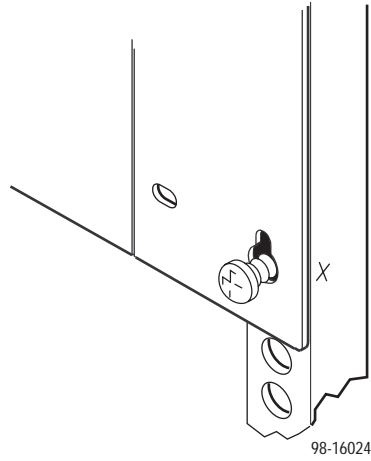
- Nearest the front of the DSU to mount it flush with the rails
- Four inches from the front of the DSU to mount it overhanging the rails (forward mount)

The keyed holes are at the bottom of the brackets when they are positioned correctly.

6. Fasten the mounting brackets to the DSU with four #8 flathead screws.



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7. Lift the FrameSaver SLV 9580 DSU into position in the rack, putting the screws through the keyed holes of the bracket. Lower the DSU onto the screws.



8. Put a machine screw through the top hole of each bracket and tighten the screw. Tighten the bottom screws.

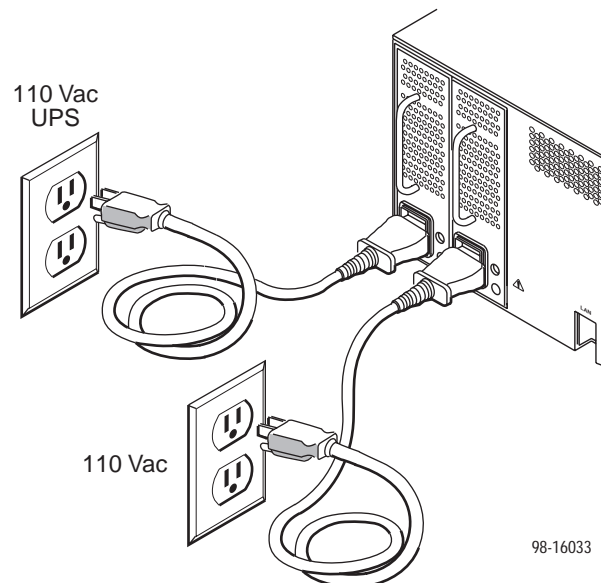
Connecting to Power

The FrameSaver SLV 9580 DSU can be powered by one or two power modules. Each is supplied with a power cable.

► Procedure

To install the power cable:

1. Verify that the switch on the power module is in the Off (0) position.
2. Push the 3-hole connector of the power cable into the power receptacle on the back of the FrameSaver SLV 9580 DSU. Fix the cable to the rail with a cable tie or other strain relief device.
3. Connect the other end of the power cable to a grounded 110 Vac power source.
4. Push the switch on the power module to the On (1) position.



If two power modules are used, connect them to separate power sources. If one power source fails, the FrameSaver SLV 9580 DSU continues to run.

Power-On Self-Test

When power is applied to the FrameSaver SLV 9580 DSU, it performs a series of internal tests. The SYSTEM TST and SYSTEM OK LEDs are on during the power-on self-test. When the test is complete, all LEDs light up for about five seconds, then assume their assigned functions. After the test:

- If the test ran with no errors, the SYSTEM OK LED stays on and the SYSTEM ALM (Alarm) LED turns off.
- If any step of the power-on self-test failed, the SYSTEM OK LED cycles on and off rapidly (10 times per second) and the SYSTEM ALM LED stays on.
- If the processor failed, the SYSTEM OK and SYSTEM TST LEDs stay on.

If the power-on self-test failed, a message describing the failure can be displayed on the Health and Status screen of the Asynchronous Terminal Interface.

Self-Test Results Messages

Message	What It Indicates	What To Do
Bypassed	Self-test was disabled when the unit was powered up or reset.	No action needed.
CPU Fail	The CPU failed internal testing.	<ol style="list-style-type: none">1. Reset the unit and try again.2. Call your service representative for assistance.3. Return the unit to the factory.
Network T3 Fail	The FrameSaver SLV 9580 DSU failed to internally loop data on the network T3 circuit.	<ol style="list-style-type: none">1. Verify the connection between the unit and the T3 source.2. Reset the unit and try again.3. Call your service representative for assistance.4. Return the unit to the factory.
Memory Fail	Memory verification failed.	<ol style="list-style-type: none">1. Reset the unit and try again.2. Call your service representative for assistance.3. Return the unit to the factory.
Failure <i>ffffff</i>	An internal error has occurred, identified by the 8-digit hexadecimal code <i>ffffff</i> .	<ol style="list-style-type: none">1. Record the failure code; reset the unit and try again.2. Call your service representative for assistance.3. Return the unit to the factory.
Passed	No problems were found during power-up or reset.	No action needed.

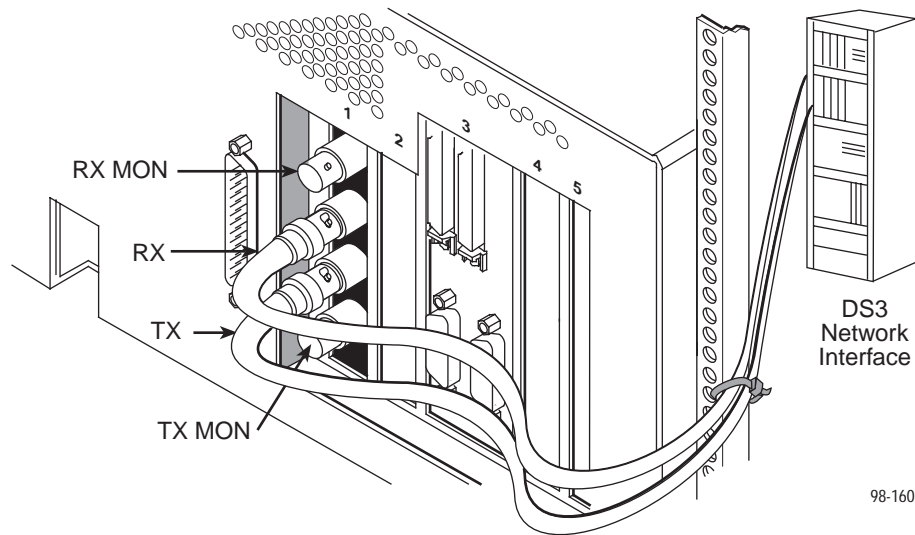
Connecting the DS3 Network Cables

Connection to the DS3 network requires two BNC-to-BNC coaxial cables. The cables are shipped with the FrameSaver SLV 9580 DSU.

► Procedure

To install the DS3 network cables:

1. Take the end of the receive cable and push it onto the DS3 RX (Receive) connector on the back of the FrameSaver SLV 9580 DSU. Turn the cable connector clockwise to lock it.
2. Take the end of the transmit cable and push it onto the DS3 TX (Transmit) connector on the back of the FrameSaver SLV 9580 DSU. Turn the cable connector clockwise to lock it.
3. Fix the cables to the rail with a cable tie or other strain relief device.
4. Connect the receive and transmit cables to the output and input connectors, respectively, of the DS3 source.



5. If the DS3 source device has a variable line build out (LBO) setting, ensure that it is matched to the cable length.
6. If the cable length is longer than 100 feet (30 meters), set the LBO on the Network Interface Options configuration screen to Long. The default is Short. Follow this menu selection sequence to change LBO:

Main Menu → Configuration → Network Interface

Connecting the DTE Cables

The FrameSaver SLV 9580 DSU can be connected to two DTEs. Each may have either a HSSI or a V.35 interface. The FrameSaver SLV 9580 DSU automatically detects the presence of a V.35 adapter. If Port Type is set to HSSI and a V.35 adapter is installed, or if Port Type is V.35 and a V.35 adapter is not installed, an error message is displayed on the Health and Status screen and the Port-*n* Physical Options configuration screen. The port is not usable when the Port Type and cable do not match.

The DTE sockets require 50-position 0.5-inch straight exit connectors. Molded connectors cannot be used. DTE cables are not supplied with the DSU.

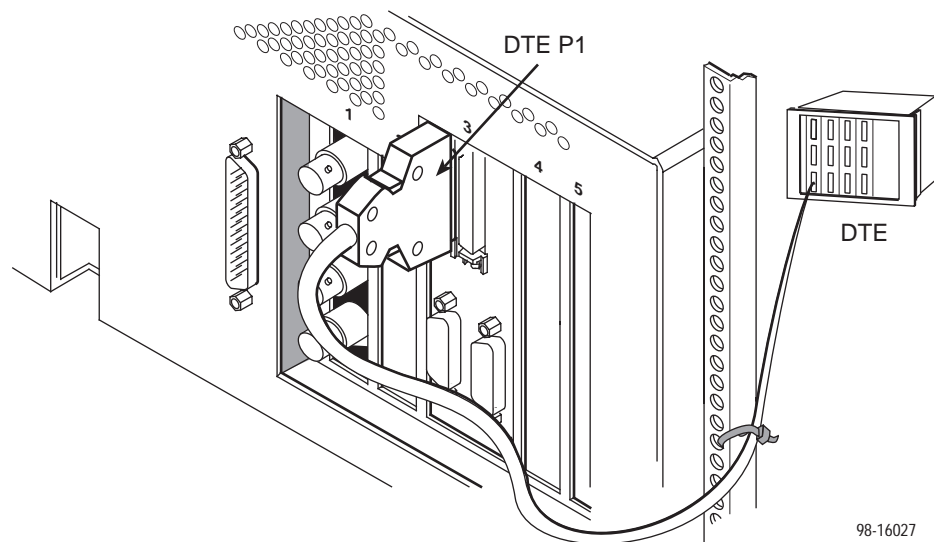
NOTE:

If you wish to isolate the router from network activity until proper network operation has been verified, do not connect the router to the DSU until the network has been configured and network connectivity has been verified.

► Procedure

To install a V.35 or HSSI DTE cable:

1. Press the 50-pin connector of the HSSI cable or the V.35 adapter onto the DTE P1 or DTE P2 socket on the back of the DSU until the latches lock.
2. For a HSSI cable, proceed with Step 3. Connect the V.35 cable to the V.35 adapter, providing appropriate strain relief.
3. Fix the cable to the rail with a cable tie or other strain relief device.
4. Connect the other end of the cable to the appropriate port of your DTE.



Do not substitute a SCSI-2 cable for a HSSI cable. Although apparently similar, a SCSI-2 cable may not accommodate high speeds without errors.

Connecting the LAN Cable

The LAN port can be connected to an Ethernet hub using a standard 10BaseT cable, or to a Network Interface Card (NIC) in a PC using a crossover cable. The LAN port provides a high-speed connection that can be used for FTP and Telnet sessions.

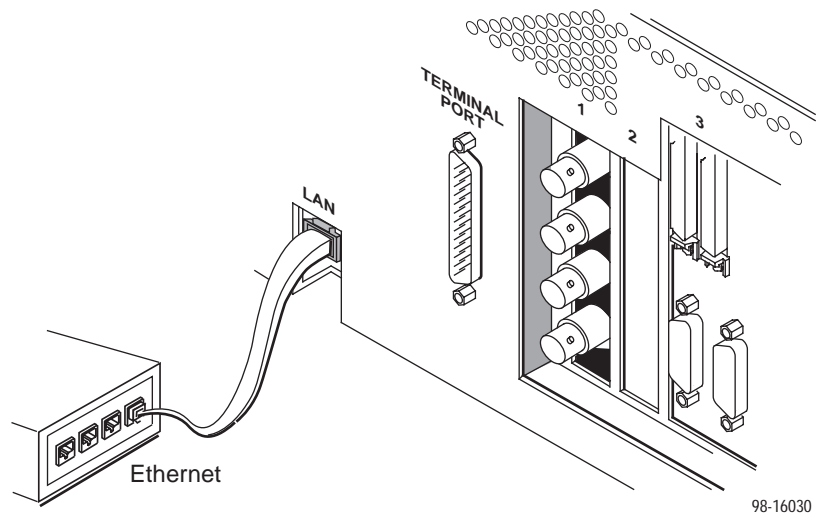
The default IP address for the port is 192.168.0.1. The default subnet mask is 255.255.000.000.

A LAN cable is not supplied with the FrameSaver SLV 9580 DSU.

► Procedure

To connect the FrameSaver SLV 9580 DSU to an Ethernet hub or NIC:

1. Select the correct cable:
 - To connect the LAN port to a hub, use a standard 10BaseT cable
 - To connect the LAN port to a NIC, use a 10BaseT crossover cable
2. Insert the 8-pin modular connector of the cable into the LAN socket on the back of the FrameSaver SLV 9580 DSU. It locks in place when it is fully seated.
3. Fix the cable to the rail with a cable tie or other strain relief device.
4. Connect the other end of the cable to your LAN hub or NIC.



Connecting the Terminal Cable

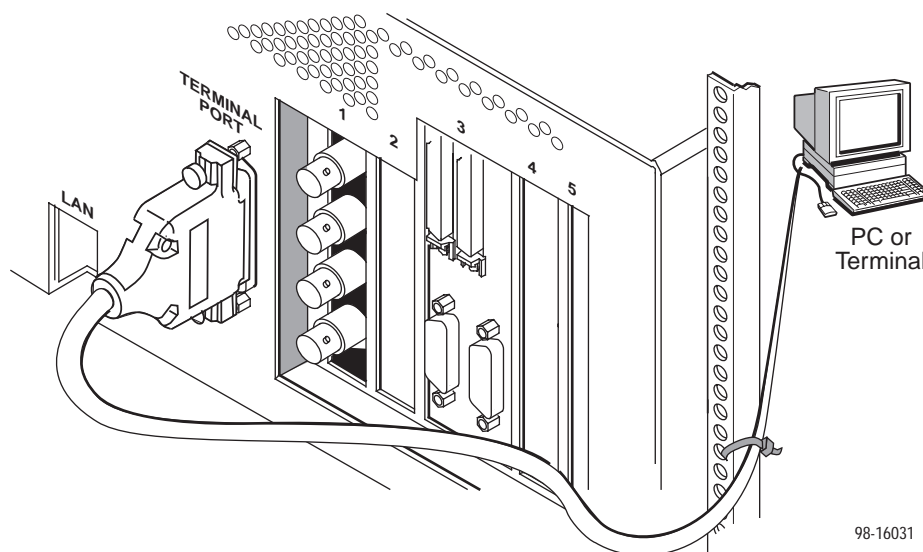
The Terminal port on the back of the FrameSaver SLV 9580 DSU can be used to connect a VT100-compatible terminal, a PC with terminal emulation software, or a modem. The port can be protected by access level or password. Dial-in access is disabled by default. See the User's Guide for more information.

Connect a terminal or PC to the DSU with an EIA-232-F straight-through cable. Connect a modem using an EIA-232-F crossover cable.

► Procedure

To install the cable with a terminal, PC, or modem:

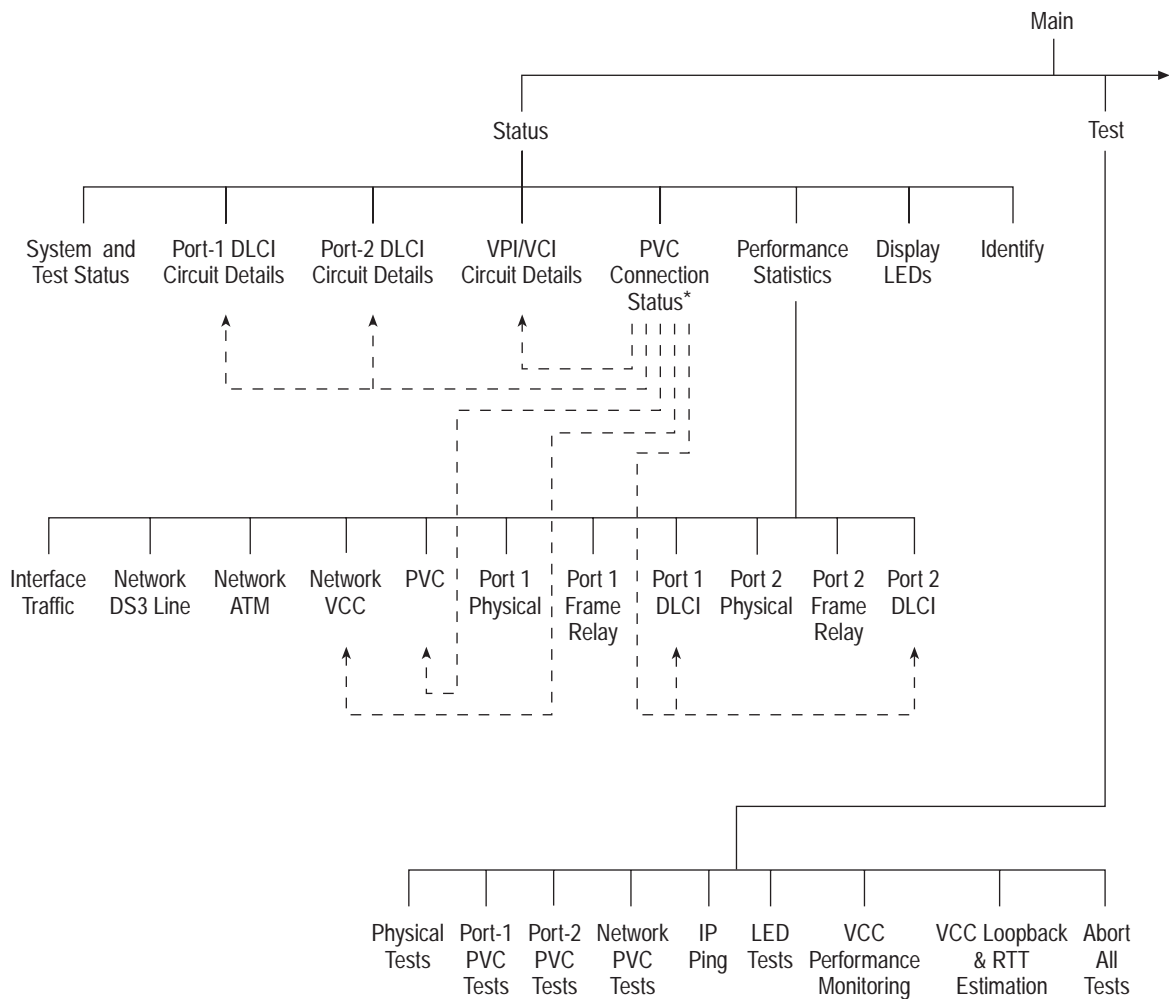
1. Press the 25-pin connector of the cable onto the TERMINAL PORT socket on the back of the FrameSaver SLV 9580 DSU. If the cable will be permanently attached, fasten the connector and fix the cable to the rail with a cable tie or other strain relief device.
2. Connect the other end of the cable to your terminal, PC, or modem.



3. Verify that the terminal or emulation software is set to:
 - 9600 bps
 - 8 data bits
 - No parity bit
 - 1 stop bit

Any flow control type, or no flow control, can be used. If using a modem, configure it to automatically answer, and to use standard EIA-232-F detection and control for RLSD, DSR, and DTR.

The menu tree of the items available using the Asynchronous Terminal Interface (ATI) is shown beginning on the next page.

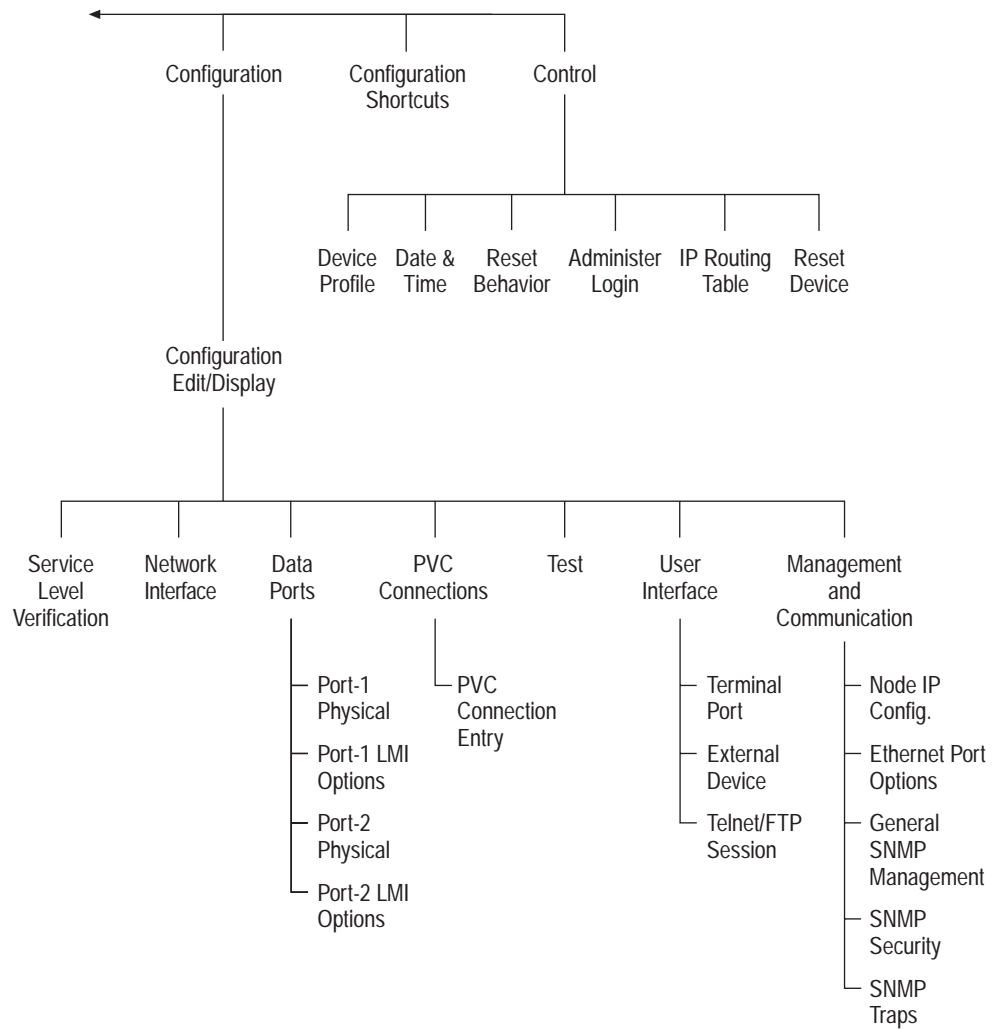


*The PVC Connection Status screen allows jumps to other screens by use of virtual function keys. Possible jumps are shown by dashed lines.

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All screen function keys located below the dotted line operate the same way throughout the ATI screens where they appear. This is a partial list.

For ...	Select ...	And press Enter to ...
<u>E</u> xit	E or e	Terminate the async terminal session.
<u>M</u> ainMenu	M or m	Return to the Main Menu screen.
<u>PgD</u> n	D or d	Display the next page, or group of entries.
<u>PgU</u> p	U or u	Display the previous page, or group of entries.
<u>R</u> efresh	R or r	Display current data.
<u>S</u> ave	S or s	Save information.



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Entry to all of the FrameSaver SLV 9580 DSU's tasks begins at the Main Menu screen, which has these menus or branches:

Select ...	To ...
Status	View system status, diagnostic test results, statistics, LEDs, and device identity information.
Test	Select and cancel tests for the FrameSaver SLV 9580 DSU's interfaces.
Configuration	Display and edit the configuration options.
Auto Configuration Shortcuts	Use the Integrated Local Management Interface (ILMI) protocol to create PVCs for VPI/VCI's not yet configured.
Control	Set the date and time, change the device identity, administer logins, activate new firmware, or initiate a power-on reset of the FrameSaver SLV 9580 DSU.

Set the Device Profile

The device name, date, and time are displayed on every ATI screen. They are among the basic settings accessed using the Control branch of the ATI.

- Use the Device Profile and Date & Time screens of the Control branch to set the:
 - Device Name
 - SNMP System Name
 - SNMP System Location
 - SNMP System Contact
 - DS3 Circuit Identifier
 - VPI/VCI Supporting ILMI
 - Date
 - Time

► Procedure

To set the Device Profile:

1. Follow this menu selection sequence:

Main Menu → Control → Device Profile

```
main/control/device_name                                PARADYNE 9580
Device Name: Node A                                    05/13/2000 00:01

                                DEVICE PROFILE

Device Name:                Node A                    Clear
SNMP System Name:           Clear
SNMP System Location:       Clear
SNMP System Contact:        Clear
DS3 Circuit Identifier:      Clear

VPI/VCI supporting ILMI: 0,16

-----
Ctrl-a to access these functions, ESC for previous menu      MainMenu  Exit
Save
```

2. Enter information for your system.
3. Press Ctrl-a to access the screen function keys, select Save, and press Enter.

Configure the Unit

Configuration of the FrameSaver SLV 9580 DSU consists of the following steps:

- Configure the system by selecting the:
 - Service Level Verification options
 - Network Interface options
 - ATM Interface options
 - Data Port options
 - PVC Connection options
 - VPI/VCI Entry options
 - General options
 - User Interface options
 - Management and Communication options

- Set the parameters for and run the Auto-Configuration.

Auto-configuration should not be run until you have used the Configure branch to set up any specific management PVCs required for your network.

Accessing and Displaying Configuration Options

To display the configuration options, you must first copy a configuration option set into the edit area.

► Procedure

To load a configuration option set into the configuration edit area:

1. Follow this menu selection sequence:

Main Menu → Configuration

```
main/config_load                                PARADYNE 9580
Device Name: Node A                            05/13/2000 00:02

                                LOAD CONFIGURATION FROM:
                                Current Configuration
                                Default Factory Configuration

-----
Ctrl-a to access these functions, ESC for previous menu      MainMenu  Exit
```

- The Current Configuration and Default Factory Configuration are identical the first time this screen is displayed. Subsequent configurations are ordinarily based on the Current Configuration.

Position the cursor on Current Configuration or Default Factory Configuration and press Enter. The Configuration Edit/Display menu screen appears.

```

main/config                                     PARADYNE 9580
Device Name: Node A                             05/13/2000 00:03

                                CONFIGURATION EDIT/DISPLAY

                                Service Level Verification
                                Network Interface
                                Data Ports
                                PVC Connections
                                Test
                                User Interfaces
                                Management and Communication

-----
Ctrl-a to access these functions, ESC for previous menu   MainMenu  Exit
Save
  
```

- Select the options you would like to configure.

Select ...	To configure ...
Service Level Verification	The Service Level Verification options.
Network Interface	Network interface options.
Data Ports	The physical and frame relay options for each port.
PVC Connections	The PVC connections and management links.
Test	Test timeout and duration for user-initiated tests.
User Interfaces	Terminal port, external device, and Telnet and FTP session options.
Management and Communication	IP, Ethernet, and SNMP options.

- Press Ctrl-a to access the screen function keys, select Save, and press Enter.

Auto-Configuration Shortcuts

Auto-Configuration defines Permanent Virtual Circuits (PVCs) for the Virtual Channel Connections (VCCs) that you have defined or that exist on the network, according to parameters you specify. A VCC is identified by a Virtual Path Identifier/Virtual Channel Identifier (VPI/VCI). A frame relay virtual circuit is identified by a Data Link Control Identifier (DLCI). The cross-connection of one or more DLCIs to a VCC constitutes a PVC.

Depending on the Discovery Mode, an InterWorking Function (IWF) DLCI containing one to three Embedded DLCIs (EDLCIs) is created:

- **1Port** – An IWF DLCI containing one EDLCI and a corresponding Port 1 interface DLCI are created and connected for every VPI/VCI discovered.
- **1MPort** – An IWF DLCI containing two EDLCIs (one for Port 1 and one for management), a corresponding DLCI for Port 1, and a management DLCI, are created and connected for every VPI/VCI discovered.
- **2MPorts** – An IWF DLCI containing three EDLCIs (one for each port and one for management), a corresponding DLCI for each port, and a management DLCI, are created and connected for every VPI/VCI discovered.

Do not run Auto-Configuration until you have used the Configure branch to set up any specific management PVCs required for your network.

► Procedure

To perform the basic setup of the FrameSaver SLV 9580 DSU using the Auto-Configuration Shortcuts branch of the Main Menu:

1. Follow this menu selection sequence:
Main Menu → Auto Configuration Shortcuts
2. Set Auto-Configuration Mode to Continuous and select the other Auto-Configuration options you want in effect.
3. Press Ctrl-a to access the screen function keys, select Save, and press Enter.

Connecting a DS3 Monitor and NetScout Probe

See the User's Guide for information about connecting the FrameSaver SLV 9580 DSU to a DS3 monitor or NetScout Probe.

Test the System

Tests are started and stopped from the Test branch of the ATI.

► Procedure

To access the Test branch:

1. Follow this menu selection sequence:

Main Menu → Test

2. Use the Tab key to select Abort All Tests or the test you would like to initiate, then press Enter.

Select . . .	To . . .
Physical Tests	Start and stop a physical test.
Port- <i>n</i> PVC Tests	Start and stop a Permanent Virtual Circuit (PVC) test in the direction of the DTE for a DLCI on Port-1 or Port-2.
Network PVC Tests	Start and stop a PVC test in the direction of the network.
IP Ping	Display the menu for running the PING function.
LED Test	Perform a lamp test.
VCC Performance Monitoring	Select Virtual Channel Connections (VCCs) for monitoring.
VCC Loopback and RTT Estimation	Send test cells to the remote end of the ATM VCC to estimate Round Trip Time (RTT).
Abort All Tests	Abort all active tests except DTE-initiated and network-initiated tests.

If Test Timeout is enabled, user-initiated loopback and pattern tests end after the number of minutes specified in Test Duration. If Test Timeout is disabled, tests run indefinitely.



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