PARADYNE®

FrameSaver® SLV 9520
Installation Instructions

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Select the following document:

9520-A2-GB20
FrameSaver SLV 9520 and 9520-ILM User's Guide

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Checking the Contents of the Shipping Carton

In addition to these installation instructions, the shipping carton for your FrameSaver SLV 9520 should contain:

- FrameSaver SLV 9520
- Two DS3 network cables
- One power cable for each power supply installed
- Two mounting brackets
- Installation kit containing machine screws and other hardware
- *FrameSaver SLV 9520 and 9520-ILM Quick Reference*

Notify your supplier if anything is missing or damaged.

Site Preparation Checklist

Preparation for installation of the FrameSaver SLV 9520 includes the following steps:

- ❏ Identify a suitable location for installation:
  - — Verify that there is a nearby unshared ac power source, preferably from an Uninterruptable Power Supply (UPS). If a redundant power supply is used, verify that there is a second source available.
  - — Verify that there is free vertical space of at least seven inches in the rack for each FrameSaver SLV 9520 to be installed. See the User's Guide for the complete dimensions of the unit.
  - — There must be clearance of at least four inches at the back of the units for cabling. Access to the back of the unit is required during installation or when test equipment is connected to the unit.
  - — The front of the unit must be visible so that LEDs can be monitored. Access to the front of the unit is also required in the event the front panel assembly must be replaced.
  - — The ambient temperature of the site must be in the range of 32° to 122°F (0° to 50°C).
- ❏ Determine location of your T3, DTE, LAN, and PSTN interfaces.
- ❏ Procure cables of appropriate types and lengths (see Table 1, Cables Required, and Table 2, Maximum Cable Lengths).
- ❏ Install and position the cables for eventual attachment to the FrameSaver SLV 9520.

Installing the FrameSaver SLV 9520

Physical installation of the FrameSaver SLV 9520 includes:

- ❏ Procuring the required cables
- ❏ Mounting the FrameSaver SLV 9520 in a rack
- ❏ Connecting to power
- ❏ Observing the Power-On Self-Test

Before you install the unit, read the *Important Safety Instructions* beginning on page 20.

Cables Required

Table 1 shows the cables used with the FrameSaver SLV 9520. See the User's Guide for electrical specifications of the cables.

Table 1. Cables Required

Port	Cable Description	Quantity Required	Supplied
Network	BNC to BNC coaxial	Two	Yes
Port 1 and Port 2	50-position EIA-613 (HSSI) to 50-position, 0.5-inch straight exit connector*	Two	No
	50-position EIA-613 (HSSI) to MS34 V.35 Adapter	One for each port to be connected to a V.35 interface	No
LAN	Ethernet 10BaseT straight-through cable with 8-pin modular connectors	One (if LAN port is to be connected to an Ethernet hub)	No
	Ethernet 10BaseT crossover cable with 8-pin modular connectors	One (if LAN port is to be connected to a Network Interface Card)	No
Modem	RJ11 to RJ11 modular	One	No
* Do not substitute a SCSI-2 cable for a HSSI cable.			

Maximum Cable Lengths

Table 2 shows the maximum distances for each cable for which a maximum is specified.

Table 2. Maximum Cable Lengths

Cable Description	Maximum Length
50-position EIA-613 (HSSI) to 50-position, 0.5-inch straight exit connector	50 ft (15 m)
Ethernet 10BaseT unshielded twisted pair with 8-pin modular connector	328 ft (100 m)
DB25-to-DB25 EIA-232-F for terminal	100 ft (30 m)

Mounting the FrameSaver SLV 9520

The FrameSaver SLV 9520 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:

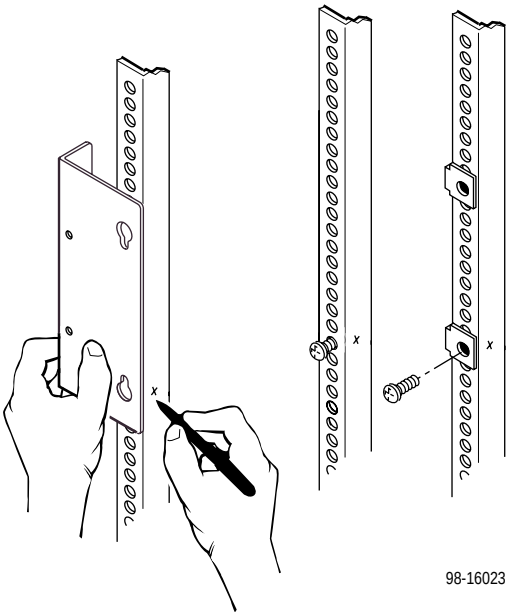
- A fiber-tip marking pen
- A large Phillips screwdriver
- Mounting brackets and #8 flathead machine screws
- Four self-retaining nuts (for rails with unthreaded holes)
- Four #10 machine screws (for use with self-retaining nuts or rails with small threaded holes)
- Four #12 machine screws (for rails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

The mounting brackets, machine screws, and self-retaining nuts are supplied with the FrameSaver SLV 9520.

▶ Procedure

To install the FrameSaver SLV 9520 in a standard rack:

1. Determine the general position of the FrameSaver SLV 9520 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.



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

The brackets must be mounted with the:

— Wide side of the brackets against the body of the unit for a 19-inch rack

— Narrow side of the brackets against the body of the unit for a 23-inch rack

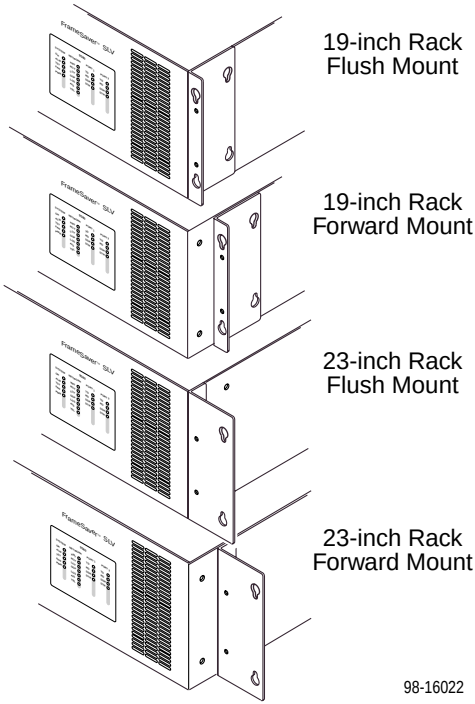
Use the screw holes:

— Nearest the front of the unit to mount it flush with the rails

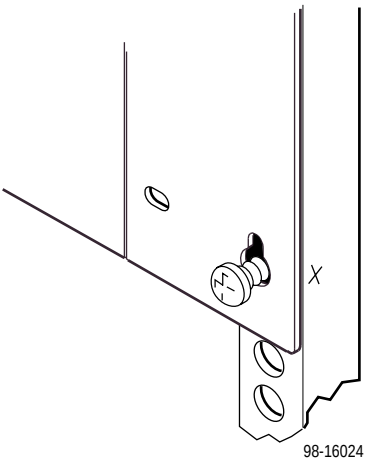
— Four inches from the front of the unit to mount it overhanging the rails (forward mount)

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

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



7. Lift the FrameSaver SLV 9520 into position in the rack, putting the screws through the keyed holes of the bracket. Lower the unit onto the screws.



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

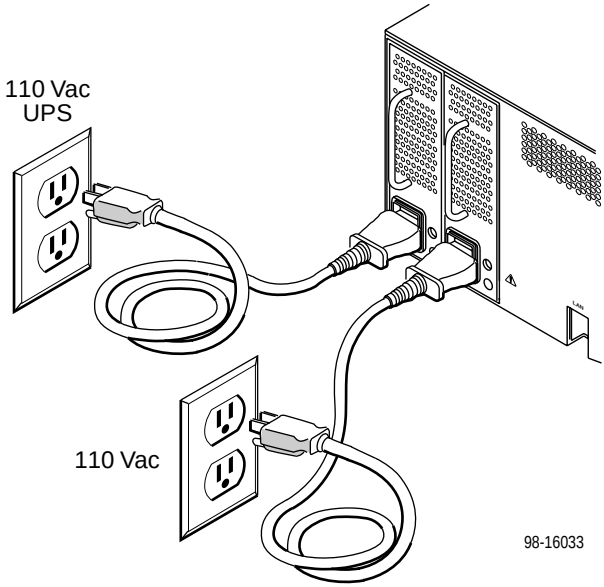
Connecting to Power

The FrameSaver SLV 9520 can be powered by redundant 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 9520. 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 if possible to separate power sources. If one power source fails, the FrameSaver SLV 9520 continues to run.

Connecting the Terminal Cable

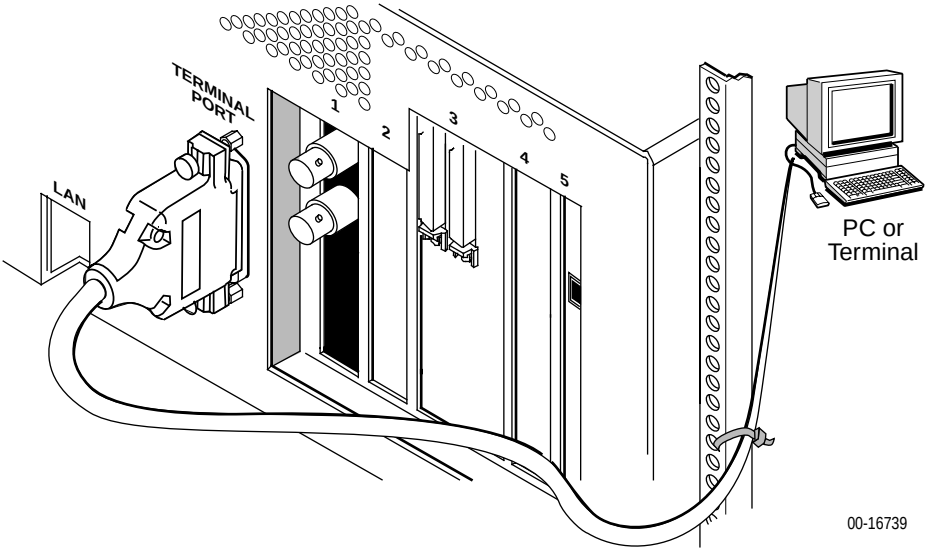
The Terminal port on the back of the FrameSaver SLV 9520 can be used to connect a VT100-compatible terminal, a PC with terminal emulation software, or a modem. The port can be protected by access level or password. Dial-in access is disabled by default. See the User's Guide for more information.

Connect a terminal or PC to the unit 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 9520. 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:
   - 19200 bps
   - 8 data bits
   - No parity bit
   - 1 stop bit
   - No flow control

Power-On Self-Test

When power is applied to the FrameSaver SLV 9520, 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 the power-on self-test failed, a message describing the failure can be displayed on the System and Test Status screen of the Asynchronous Terminal Interface. Use this menu sequence to view the System and Test Status screen:

Main Menu → *Status* → *System and Test Status*

Configuration Using Configuration Edit/Display

The FrameSaver unit should operate using the default (factory-set) configuration options, with exception to the changes specified in these installation instructions. Refer to the following table for help in navigating through the menus.

Press the . . .	**To . . .**
Esc key	Go back one screen or menu level. To see a visual representation of the menu levels, see *Menu Hierarchy* in the Quick Reference.
Tab key, or Up (↑), Down (↓), Left (←) and Right (→) Arrow keys	Move the cursor from one menu item to the next.
Enter or Return key	Complete the menu or option selection.
Spacebar	Display the next available setting when changing a configuration option. All the available settings for an option appears at the bottom of the screen.

As an example, follow these steps to go to the Configuration Edit/Display menu so you can start setting up the unit.

▶ Procedure

To load a configuration for editing:

1. From the Main Menu, press the down arrow key twice so the cursor is on Configuration.
2. Press Enter to display the Configuration menu. The Load Configuration From menu appears.
3. Press Enter to select Current Configuration (the cursor is already on this selection). The Configuration Edit/Display menu appears.

This sequence of steps would be shown as the menu selection sequence:

Main Menu →Configuration

▶ Procedure

To save a configuration option change:

1. Press Ctrl-a to switch to the function keys area at the bottom of the screen.
2. Type **s** or **S** (Save) and press Enter. The Save Configuration To menu appears.
3. Press Enter again to save your changes to the Current Configuration.
4. Press Esc until the Configuration Edit/Display menu reappears to continue configuring the unit.

   Press Ctrl-a, type **m** (MainMenu), and press Enter to return to the Main Menu.

About the Installation Procedures

There are two methods for installing and setting up the FrameSaver unit.

- One person can install and set up the unit. If this is the case, see *Full Installation and Setup* on page 13.
- An installer can physically install and set up access to the unit, and the network operation center (NOC) can complete the setup. If this is the case, see *Minimal Installation*, below.

Minimal Installation

A minimal configuration can be performed using the Easy Install screen. Once the unit is installed and minimal configuration is completed, the NOC can complete and verify the setup.

▶ Procedure

1. Select the Easy Install feature.

   Main Menu →Easy Install

```
main/easy_install                                                    9520
Device Name: Node A                                   05/13/2000 01:01
                                EASY INSTALL



          Node IP Address:                    000.000.000.000 Clear
          Node Subnet Mask:                   000.000.000.000 Clear
          TS Access:  DLCI                     980

          Create a Dedicated Network Management Link
          Ethernet Port Options Screen

          Network 1 Line Build Out(LBO):      Short
          Port 1 Port Type:                   HSSI
          Port 1 Port Rate (Kbps):            51750




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

2. Enter the Node IP Address and Subnet Mask.
3. Set TS Access to DLCI, then select a DLCI on the network interface to be used as the troubleshooting access link.

4. Create a dedicated network management link. Select a DLCI when prompted. The management link will be used by the NOC to access the unit.
5. If the Ethernet port will be used, select the Ethernet Port Options Screen. Enable the interface. Respond Yes to the prompt **`Would you like to set the Node's Default IP Destination to Ethernet?`** and configure the following:
   – Enter the IP address and subnet mask for the Ethernet interface.
   – Enter the Default Gateway Address (the IP Address that will be used for packets without a route).
   – Press the ESC key to return to the Easy Install screen.
6. If the cable length is longer than 100 feet (30 meters), set the LBO to Long.
7. Select the Port Type and Port Rate. (Note: Port 2 is not shown on the Easy Install screen, but can be configured if necessary using the Data Ports Physical Options screen.)
8. Save the configurations.
9. Install the network cable (see *Connecting to the Network* on page 14). The FrameSaver unit starts discovering DLCIs (see *Automatic Configuration* on page 14).
10. If the Ethernet port will be used for management, install the Ethernet cable (see *Connecting the LAN Cable* on page 17).
11. Install the DTE cable (see *Connecting to the DTE* on page 18).

Physical installation of the unit is complete; the NOC can now remotely access the unit for additional configuration.

Completing Setup of the Unit From the NOC

▶ Procedure

1. Access the remote FrameSaver unit on the dedicated network management link, using the Node IP Address.
2. Configure specific frame relay options, like CIR (Committed Information Rate) or traffic policing, and any other configuration options requiring input or changes from the default settings.
3. Configure SNMP traps.
4. Save the configurations.
5. Verify the entire path from the FrameSaver unit to the NOC NMS is functioning (see *Verifying the End-to-End Path* on page 16).
6. Verify that data is being received (see *Checking That Data is Being Received* on page 19).
7. Verify that all PVCs, including Management PVCs, are configured (see *Checking PVC Connections* on page 19).

Full Installation and Setup

The Easy Install feature can also be used when one person installs and sets up the FrameSaver unit from beginning to end.

▶ Procedure

1. Follow Steps 1 through 8 of the *Minimal Installation*.
2. If the unit will be enforcing CIR (Committed Information Rate) and EIR (Excess Information Rate) on network frame relay links, enable Traffic Policing.

   Main Menu → Configuration → System → Frame Relay and LMI

   You can change other Frame Relay and LMI default settings, if necessary.
3. Configure each interface according to the local management interface (LMI) and assigned line conditions supplied by the service provider.

   Configuration → Network → Frame Relay
   Configuration → Data Ports → Frame Relay
4. Install the network cable (see *Connecting to the Network* on page 14). The FrameSaver unit starts discovering DLCIs (see *Automatic Configuration* on page 14).
5. If SNMP traps are wanted, set up managers and select the desired traps (see *Configuring SNMP Trap Managers and Traps* on page 16).
6. Verify the entire path from the FrameSaver unit to the NOC NMS is functioning (see *Verifying the End-to-End Path* on page 16).
7. If the Ethernet port will be used for management, install the Ethernet cable (see *Connecting the LAN Cable* on page 17).
8. Install the DTE cable (see *Connecting to the DTE* on page 18).
9. Verify that data is being received (see *Checking That Data is Being Received* on page 19).
10. Verify that all PVCs, including Management PVCs, are configured (see *Checking PVC Connections* on page 19).

The FrameSaver installation is complete.

In the User's Guide, see *Operation and Maintenance* for additional status information, and *Troubleshooting* for additional troubleshooting information.

Automatic Configuration

The FrameSaver unit provides several automatic configuration features. Frame Relay Discovery and configuration is one of these features.

Main Menu →Auto-Configuration

The default discovery mode is 1MPort. In this mode, for each DLCI discovered on the network, a multiplexed network DLCI and a standard data port DLCI will be configured and connected, and a Management PVC will be embedded in the network DLCI.

NOTE:

When auto-configuration creates a multiplexed DLCI, but a standard DLCI is needed, change the DLCI to standard from the network DLCI Records screen: *Configuration →Network →DLCI Records*

Other modes can be selected. See *Setting Up Automatic Configuration* in the *Configuration Options* chapter of the User's Guide for information about other modes and how the Frame Relay Discovery Mode can be changed.

No automatic configuration occurs until the network cable is connected. If you do not want management links configured or automatic configuration, change the default setting for the Frame Relay Discovery feature.

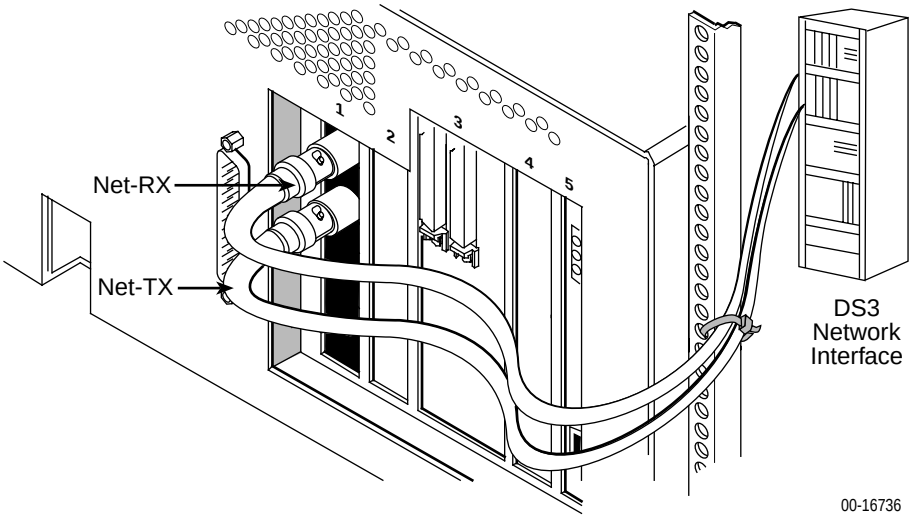
Connecting to the Network

Connection to the DS3 network requires two BNC-to-BNC coaxial cables. The cables are shipped with the FrameSaver SLV 9520.

▶ Procedure

To install the DS3 network cables:

1. Take the end of the receive cable and push it onto the Net-RX (Receive) connector on the back of the FrameSaver SLV 9520. Turn the cable connector clockwise to lock it.
2. Take the end of the transmit cable and push it onto the Net-TX (Transmit) connector on the back of the FrameSaver SLV 9520. 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.

> **NOTE:**
> After connecting the network cable, wait about a minute to allow Auto-Configuration a chance to discover the frame relay characteristics and DLCIs.

Verification Check:

❑ Check the System ALM (Alarm) LED. Is it off? Check the Network LEDs. Are the TD and RD LEDs blinking, and are the OOF, LOS, AIS, and YEL LEDs off?

— If yes, the network interface is set up correctly and is ready to pass data.

— If no, check that both ends of the network cable are properly seated, then verify that the network physical options are configured correctly.

Main Menu → Configuration → Network → Physical

❑ Check the LMI LED. Is it on?

— If the LMI LED is off for more than three minutes, check the System and Test Status screen for error messages.

Main Menu → Status → System and Test Status

Refer to the *Operation and Maintenance* chapter of the User's Guide for possible reasons for the messages and what can be done to resolve the problem.

Configuring SNMP Trap Managers and Traps

Once the FrameSaver unit is connected to the network, SNMP trap managers and SNMP traps can be configured.

▶ Procedure

To enter SNMP managers and configure traps:

1. Select SNMP Traps.

   Main Menu →Configuration →Management and Communication → SNMP Traps

2. Configure the following:
   – Enable SNMP Traps.
   – Identify the total Number of Trap Managers.
   – Specify the IP address of the NMS(s) to which traps will be sent.
   – Specify the Initial Route Destination for the Trap Manager(s).
   – Select desired trap categories.

3. Save the configuration.

4. Return to the Main Menu.

Verifying the End-to-End Path

After installation, run an IP Ping test to ping the NMS at the NOC and verify that the entire path from the unit to the NMS is functioning. To run the IP Ping test, SNMP trap managers must have been configured for the FrameSaver unit. One of those trap managers must be the NOC NMS.

▶ Procedure

1. Select the IP Ping test.

   Main Menu →Test →IP Ping

2. Enter the IP Address of the device being pinged, then select Start.

   NOTE:
   When running tests, the cursor is positioned over the Start command. Press Enter to start the test. **`Stop`** appears while the test is running. Press Enter again to issue the Stop command.

   – While the test is running, **`In Progress...`** appears in the Status field.
   – When the test is finished, **`Alive. Latency = nn ms`** should appear as the Status (*nn* being the amount of time the test took in milliseconds).
   If any other message is displayed, additional testing will be required.

See *Device Messages* in *Operation and Maintenance* of the User's Guide for information about IP Ping-related messages.

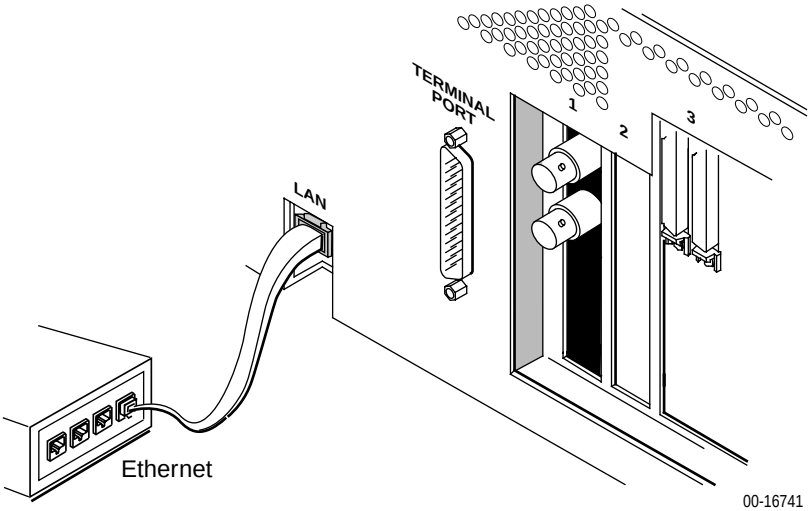
Connecting the LAN Cable

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.

▶ Procedure

To connect the FrameSaver SLV 9520 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 9520. 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 to the DTE

The FrameSaver SLV 9520 can be connected to two DTEs. Each may have either a HSSI or a V.35 interface. The FrameSaver SLV 9520 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 appears on the System and Test 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 unit.

NOTES:

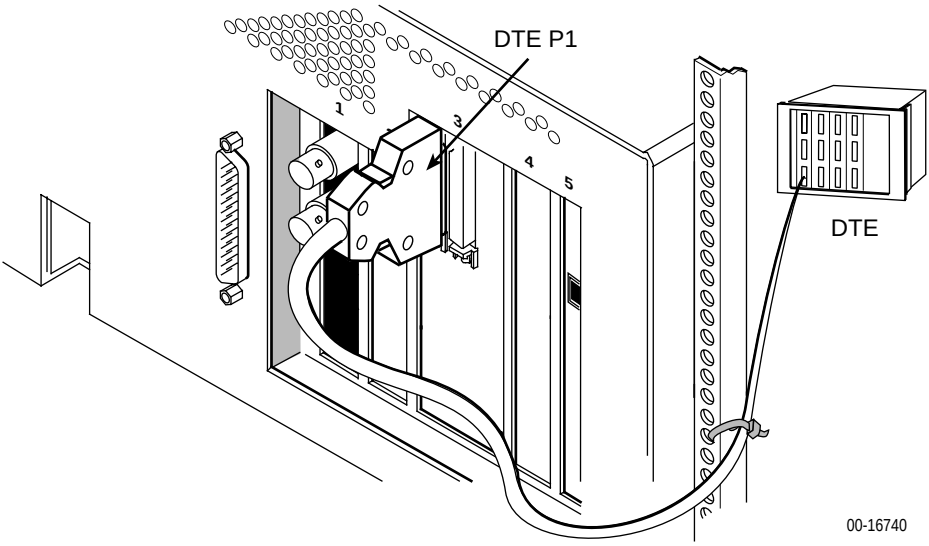
— If you wish to isolate the router from network activity until proper network operation has been verified, do not connect the router to the unit until the network has been configured and network connectivity has been verified.

— Only Port 1 is auto-configured (1MPort).

▶ 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 User Port 1 socket on the back of the unit until the latches lock.
2. (For a HSSI cable, proceed to 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.

Verification Check:

❑ Is the port DTR LED on?

If so, the port is ready to communicate. If not, check that both ends of the HSSI cable are properly seated and secured. Then, check the DTE; RTS (V.35 only) or DTR could be down on the DTE.

❑ Check Health and Status in the left column of the System and Test Status screen for messages.

Main Menu → Status → System and Test Status

If **`System Operational`** appears, the Port-*n* interface is set up correctly and is operational. If not, refer to the status information in *Operation and Maintenance* of the User's Guide.

NOTE:

When any error conditions are detected, a status message appears at the bottom right corner of the screen.

Checking That Data is Being Received

▶ Procedure

1. Return to the Main Menu**.**
2. Select Performance Statistics**,** and select an interface's frame relay statistics.

   Main Menu → Status → Performance Statistics → Frame Relay → Net1-FR1

3. Verify that the Frames Received and Characters Received counts under the Frame Relay Link statistics are incrementing, and there are no errors under the Frame Relay LMI statistics.
   - If count increments occur after refreshing the screen, the unit is receiving data.
   - If data is not being received, recheck the cable connections, and replace or repair a damaged cable. Recheck LMI status; you may need to contact your service provider. Next, check the DLCI's status.

Checking PVC Connections

Check PVC connections to verify that all PVCs, including management PVCs, are configured, and to see whether the PVC is active or not.

▶ Procedure

1. Return to the Status menu**.**
2. Select PVC Connection Status.

   The PVC Connection Status screen shows all PVC connections; the interface source and DLCI number of the incoming data linked to the interface and DLCI number for the outgoing data. You can also see whether the PVC is active.

3. Verify that each PVC is active.

   If active, the FrameSaver unit should be passing data. If not active, no traffic can be carried by the PVC. If the PVC is configured correctly, the circuit may be down.

⚠ Important Safety Instructions

1. Read and follow all warning notices and instructions marked on the product or included in the manual.
2. This product is intended to be used with a 3-wire grounding type plug – a plug which has a grounding pin. This is a safety feature. Equipment grounding is vital to ensure safe operation. Do not defeat the purpose of the grounding type plug by modifying the plug or using an adapter.
3. Prior to installation, use an outlet tester or a voltmeter to check the ac receptacle for the presence of earth ground. If the receptacle is not properly grounded, the installation must not continue until a qualified electrician has corrected the problem.
4. If a 3-wire grounding type power source is not available, consult a qualified electrician to determine another method of grounding the equipment.
5. Slots and openings in the cabinet are provided for ventilation. To ensure reliable operation of the product and to protect it from overheating, these slots and openings must not be blocked or covered.
6. Do not allow anything to rest on the power cord and do not locate the product where persons will walk on the power cord.
7. Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous high voltage points or other risks. Refer all servicing to qualified service personnel.
8. General purpose cables are provided with this product. Special cables, which may be required by the regulatory inspection authority for the installation site, are the responsibility of the customer. Use a minimum 26 AWG, UL Listed or CSA Certified line cord for the modem connection.
9. When installed in the final configuration, the product must comply with the applicable Safety Standards and regulatory requirements of the country in which it is installed. If necessary, consult with the appropriate regulatory agencies and inspection authorities to ensure compliance.
10. A rare phenomenon can create a voltage potential between the earth grounds of two or more buildings. If products installed in separate buildings are **interconnected**, the voltage potential may cause a hazardous condition. Consult a qualified electrical consultant to determine whether or not this phenomenon exists and, if necessary, implement corrective action prior to interconnecting the products.
11. In addition, if the equipment is to be used with telecommunications circuits, take the following precautions:
    - Never install telephone wiring during a lightning storm.
    - Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
    - Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
    - Use caution when installing or modifying telephone lines.
    - Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
    - Do not use the telephone to report a gas leak in the vicinity of the leak.

12. Follow these instructions when rack mounting the equipment.

- — Maintain an environment compatible with the maximum rated operating temperatures indicated in *Technical Specifications* in the User's Guide. The ambient temperature of equipment in a closed or multi-unit rack assembly may be higher than the room temperature.
- — Install the equipment in a rack such a way that the amount of air flow required for safe operation of the equipment is not compromised.
- — Mount the equipment in a rack in such a way that a hazardous condition is not created due to uneven mechanical loading.
- — Apply the equipment nameplate ratings to ensure that connection of the equipment does not overload the supply circuits.
- — Maintain reliable earthing of rack-mounted equipment, particularly if using indirect connections to the branch circuit such as power strips.

13. This product contains a coin cell lithium battery that is only to be replaced at the factory. **Caution:** There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same type. Dispose of used batteries according to the battery manufacturer's instructions. **Attention:** Il y a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type. Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

⚠ UNITED STATES – EMI NOTICE:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case, the user will be required to correct the interference at his own expense.

The authority to operate this equipment is conditioned by the requirements that no modifications will be made to the equipment unless the changes or modifications are expressly approved by Paradyne.

⚠ CANADA – EMI NOTICE:

This Class A digital apparatus meets all requirements of the Canadian interference-causing equipment regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du règlement sur le matériel brouilleur du Canada.

Government Requirements

Certain governments require that instructions pertaining to connection to the telephone network be included in the user documentation. Specific instructions listed in the following sections pertain to the unit's modem, Model 9008-F1-100.

United States
Notice to Users of the Telephone Network

This equipment complies with Part 68 of the FCC rules. On the modem's rear panel is a label or silkscreened text that contains, among other information, the FCC registration number for this equipment and the Ringer Equivalence Number (REN). If requested, please provide this information to your telephone company.

The REN is used to determine the number of devices that may be connected to the telephone line. Excessive RENs on the line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that can be connected to the line, as determined by the total RENs, contact the local telephone company.

If your unit causes harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But if advance notice is not practical, you will be notified as soon as possible. You will be advised of your right to file a complaint with the FCC.

Your telephone company may make changes in facilities, equipment, operations, or procedures that could affect the proper operation of your equipment. If so, you will be given advance notice so as to give you an opportunity to maintain uninterrupted service.

No repairs may be performed by the user. Should you experience difficulty with this equipment, refer to the *Warranty, Sales, Service, and Training Information* on page 24.

Make the modem connection using a USOC-type RJ11C jack. The modem cannot be used on public coin phone service provided by the telephone company. Connection to party-line service is subject to state tariffs. Contact the state public utility commission, public service commission, or corporation commission for tariff information.

After the telephone company has installed the requested services and jacks, you can connect the unit with the cable provided. An FCC compliant telephone cord and modular plug are provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible modular jack that is Part 68 compliant.

Canada
Notice to Users of the Canadian Telephone Network

The Industry Canada label identifies certified equipment. This certification means that the equipment meets telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

> **CAUTION:**
>
> **Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.**

The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

If your equipment is in need of repair, refer to *Warranty, Sales, Service, and Training Information* on page 24.

Warranty, Sales, Service, and Training Information

Contact your local sales representative, service representative, or distributor directly for any help needed. For additional information concerning warranty, sales, service, repair, installation, documentation, training, distributor locations, or Paradyne worldwide office locations, use one of the following methods:

- **Internet:** Visit the Paradyne World Wide Web site at **www.paradyne.com**. (Be sure to register your warranty at **www.paradyne.com/warranty**.)
- **Telephone:** Call our automated system to receive current information by fax or to speak with a company representative.
  - Within the U.S.A., call 1-800-870-2221
  - Outside the U.S.A., call 1-727-530-2340

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FrameSaver SLV products are protected by U.S. Patents: 5,550,700 and 5,654,966. Other U.S. patents pending.

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