

DECserver 90L+

Owner's Manual

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About This Manual

This guide gives an overview of the DECserver 90L+ and describes how to install, operate, manage, and troubleshoot the DECserver 90L+. This guide also gives the specifications and related documentation for the DECserver 90L+.

Organization

This guide has five chapters and two appendices.

Chapter	Meaning
1	Provides an overview of the DECserver 90L+ including its features and a quick start procedure.
2	Describes how to install the DECserver 90L+.
3	Describes how to operate the DECserver 90L+.
4	Describes how to manage the DECserver 90L+ locally or from a remote device on the network.
5	Describes how to troubleshoot the DECserver 90L+.
Appendix A	Describes the physical dimensions; environmental, electrical, and LAT specifications.
Appendix B	Provides a list of related documentation and how to order information.

Conventions

Convention	Meaning
<i>italic</i>	Indicates a new term or, in command syntax examples, <i>italic words</i> represent elements of a command for which you supply a value. For example: -> <i>service</i>
Return	Key names appear in a box.
NOTE	Provides general information.
bold text	Bold text represents user input. For example: -> SET Return
<>	In a command line, characters in angle brackets <> represent elements of a command for which you supply a value. For example: -> < old_password >, < new_password >
[]	The characters in brackets [] are optional. For example: D[ISCONNECT]

1

Overview

This chapter describes the features of the DECserver 90L+ and provides a summary of the installation procedure.

Features

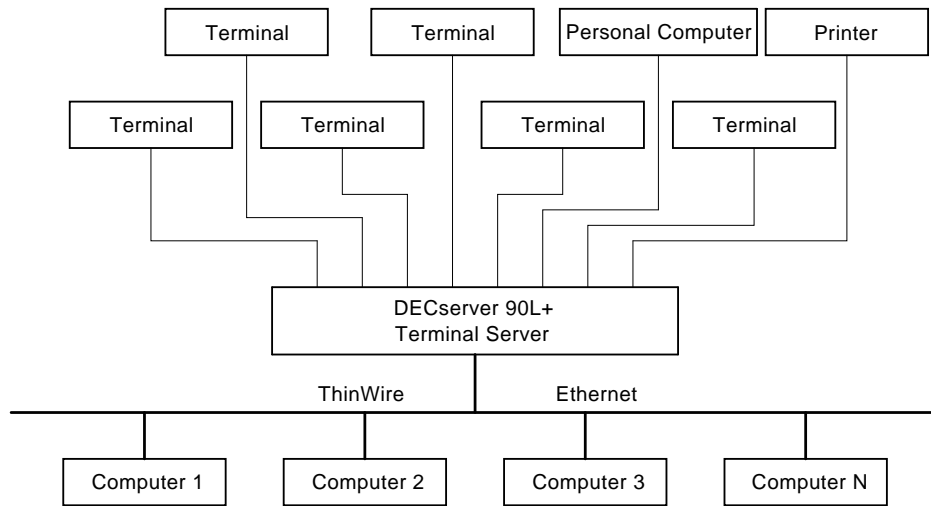
The DECserver 90L+ contains the following features:

- Easy user interface
- Plug-and-go installation
- Small in size
- Rack mountable in *DEChub 90 Ethernet backplane*
- Network management through MOP and TSM (future release of TSM)
- Dedicated service
- Preferred service
- Programmable prompt
- LAT compatible, V5.0 or higher
- Eight ports
 - 1.2 K bits to 38.4 K bits per second
 - 8-bit characters
 - One stop bit
 - No parity
- Four LAT sessions per port
- One outbound maintenance operations protocol (MOP) session per port
- Command line recall and editing
- On-Demand Loading Font Protocol
- Enable/disable ports
- Printer support, including queuing
- "Send Break" out port

The DECserver 90L+ terminal server is an eight line terminal server that supports terminals and printers. Each line or *port* can establish up to a maximum of four LAT sessions and one MOP session at a time. DECserver 90L+ supports Digital's Local Area Transport (LAT) protocol and is designed to work in a ThinWire Ethernet Local Area Network (LAN), as shown in Figure 1-1.

Overview

Figure 1–1 Sample DECserver 90L+ Connection



LJ-01099-T10

Quick Start

To install and begin using your DECserver 90L+ is simple. It does not require any programming or other assistance from system management. After unpacking the unit:

1. Plug the power supply in a working AC outlet and plug the power connector from the power supply into your DECserver 90L+.
The green power LED turns on to indicate DC power is getting to the unit. The green self-test LED turns on to indicate that the unit successfully completed its internal self-test. The self-test takes approximately five seconds to complete.
2. Connect the unit to a properly terminated ThinWire Ethernet.
The green network LED turns on to indicate a good connection.

Overview

3. Connect a working terminal to one of the terminal ports. Refer to Table 1-1 for supported terminal characteristics.
4. Turn the power on to the terminal and press **[Return]** twice to get the DECserver 90L+ prompt (->).

Pressing **[Return]** twice causes the green activity LED to blink and automatically sets the port's baud rate.

5. Enter the name of the network node you want to connect to and press **[Return]**. The DECserver 90L+ will display a string of dots ".....", one per second, until the connection is made.

For more detailed information on installing and using the DECserver 90L+ refer to Chapter 2, Installing the DECserver 90L+ and Chapter 3, Operating the DECserver 90L+ of this manual.

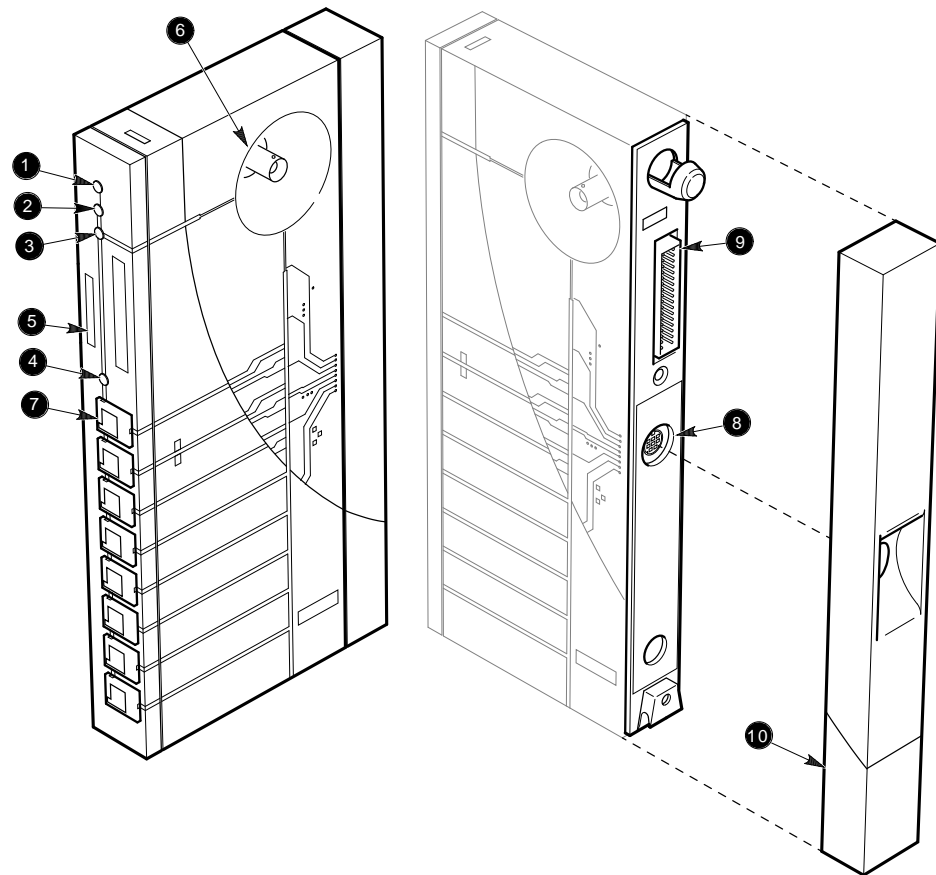
Table 1-1 Supported Terminal Characteristics

Characteristic	Setting
Transmit speed	1.2K to 38.4K BPS
Receive speed	Receive = Transmit
Flow control	XON/XOFF or None
Data and parity	8 Bits, No Parity
Stop bits	1

Overview

Figure 1-2 shows the DECserver 90L+ and calls out its features.

Figure 1-2 DECserver 90L+



LJ-00072-T10

Overview

- ❶ **Power Indicator** - Turns on when +5 volts is supplied to the unit.
- ❷ **Self-Test OK Indicator** - Turns on when the unit has successfully completed its diagnostics.
- ❸ **Network OK Indicator** - Turns on when the unit is connected to a properly terminated network.
- ❹ **Activity Indicator** - Turns on when data is being transmitted or received by any of the ports.
- ❺ **Ethernet Address** - Unique physical address of the unit.
- ❻ **Network Connector (BNC)** - Connects unit to the network. Not used when the unit is installed in the DEChub 90 Ethernet backplane.
- ❼ **Port Connector (MMJ)** - Connect terminals and printers to the DECserver 90L+.
- ❽ **Power Connector** - Provides +5 volts from the DECserver 90L+ power supply. Not used when the unit is installed in the DEChub 90 Ethernet backplane.
- ❾ **Backplane Connector** - Provides network and power connections to the DECserver 90L+ when it is installed in the DEChub 90 Ethernet backplane.
- ❿ **Cover** - Present on standalone units only. Covers the backplane connector and mounting assembly.

2

Installing the DECserver 90L+

The DECserver 90L+ can be placed on a table, mounted to a wall, or installed in the DEChub 90 Ethernet backplane. Refer to the section Standalone Installation when installing the unit on a table or mounting it to a wall. Refer to the section Backplane Installation when installing the unit in the DEChub 90 Ethernet backplane.

Standalone Installation

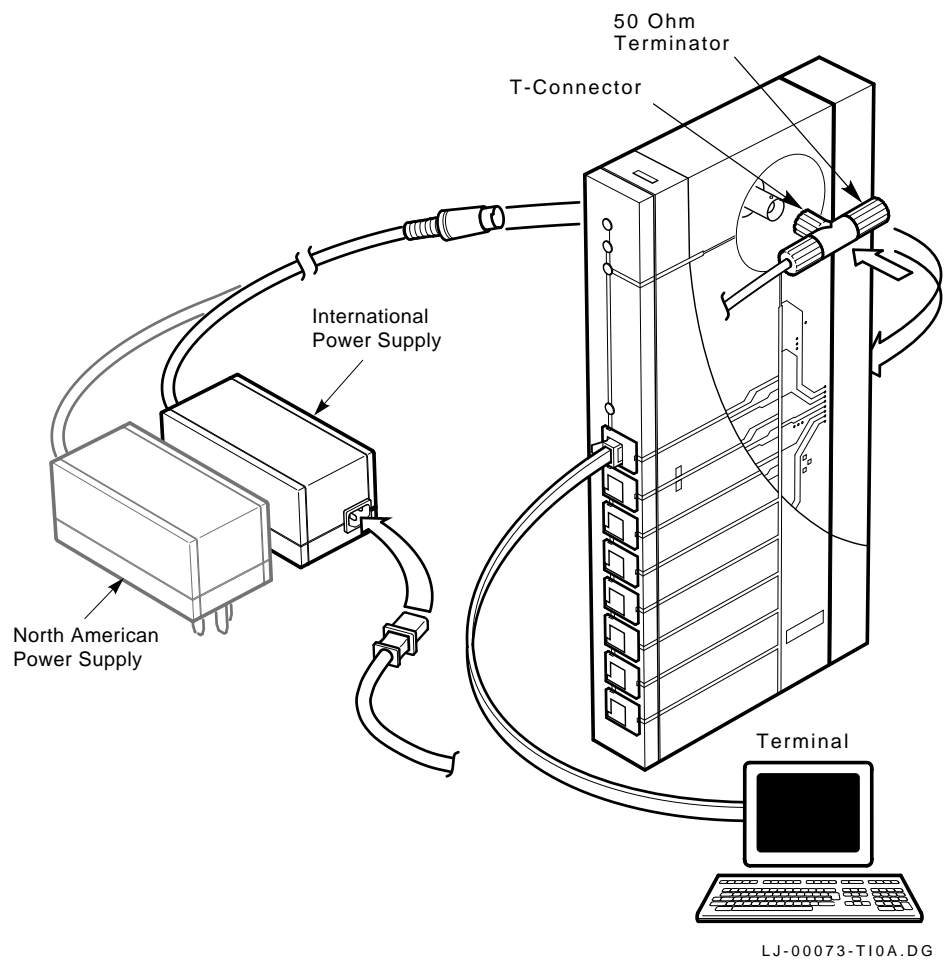
To install the DECserver 90L+ as a standalone unit, perform the following procedures and refer to Figure 2-1.

Mount DECserver 90L+.

Locate and mount the DECserver 90L+. For wall mounting, remove the back cover on the unit and use the mounting holes on the cover as a template to locate the mounting screws.

Installing the DECserver 90L+

Figure 2-1 DECserver 90L+ Standalone Installation



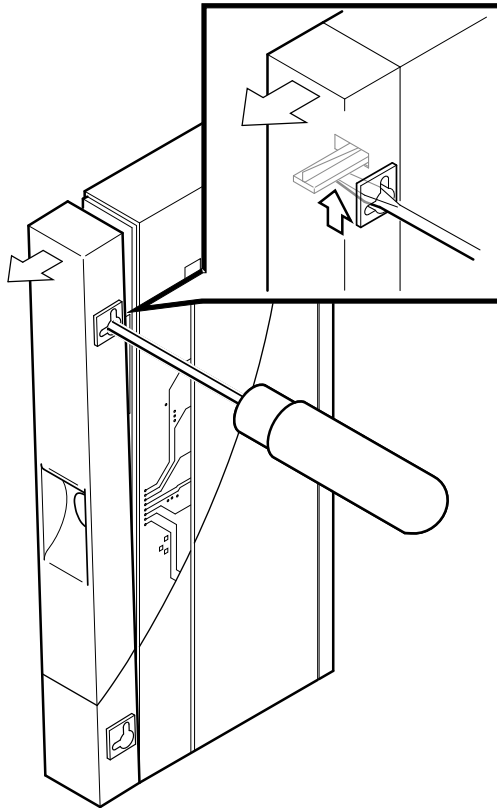
Installing the DECserver 90L+

Remove Cover (if necessary).

To remove the back cover of the DECserver 90L+ unit (Figure 2-2):

1. Insert a small screwdriver into the top mounting hole in the cover.
2. Lift up on the latch.
3. While lifting up on the latch, pull the top of the cover away and down from the unit.

Figure 2-2 Removing the Back Cover of the DECserver 90L+



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Installing the DECserver 90L+

Make Connections.

1. Plug the power supply into the DECserver 90L+.
2. Attach the Ethernet T-connector to the BNC connector on the DECserver 90L+. Make sure the Ethernet segment is properly terminated at each end.
3. Attach the power cord to the power supply, if needed.
4. Plug the power supply into a working AC outlet.
5. The following indicators should be lit: power, self-test ok, and network. Within five seconds, the self-test ok indicator should be lit, followed by the network indicator.

Verify Ports.

Verify the operation of each port by connecting a terminal to the port. Refer to Table 1-1 for supported terminal characteristics. Press `[Return]` twice (autobaud) to set the operating speed of the port. While watching the Activity LED, type a character on the terminal. The LED should turn on and off, indicating activity on the port. Perform this procedure for each port.

Verify Network.

Verify the operation of the network. Enter **SHOW S** at the prompt (->) and press `[Return]`. The server characteristics screen will verify if the network is "OK" or "Failed". If "Failed", make sure the server is on a properly configured network. For more information on the SHOW S command, refer to Chapter 4.

Installing the DECserver 90L+

Start Terminal Session.

1. Connect terminals to ports as needed.
2. To start a terminal session using a terminal connected to one of the ports:
 - a. With the terminal turned on, press `Return` twice. This sets the baud rate of the port to that of the terminal.
 - b. At the prompt (`->`), enter a *service name* and press `Return`.
The DECserver 90L+ responds by displaying a string of dots "....." while connecting to the selected service. Once the connection is established, your terminal will display the system-dependent login message or prompt.

Note

The DECserver 90L+ can take up to one minute when connecting to a node for the first time.

For more information on using the DECserver 90L+, refer to Chapter 3 in this manual.

Backplane Installation

To install the DECserver 90L+ in the DEChub 90 Ethernet backplane, perform the following procedures and refer to Figure 2-3.

Remove Cover (if necessary).

If the unit to be installed in the backplane has a cover on the back of the unit, remove the cover (Figure 2-2).

To remove the back cover on the DECserver 90L+ unit:

1. Insert a small screwdriver into the top mounting hole in the cover.
2. Lift up on the latch.
3. While lifting up on the latch, pull the top of the cover away and down from the unit.

Installing the DECserver 90L+

Mount DECserver 90L+.

1. Place the lower mounting tab, located on the back of the DECserver 90L+, in the appropriate mounting slot on the backplane.

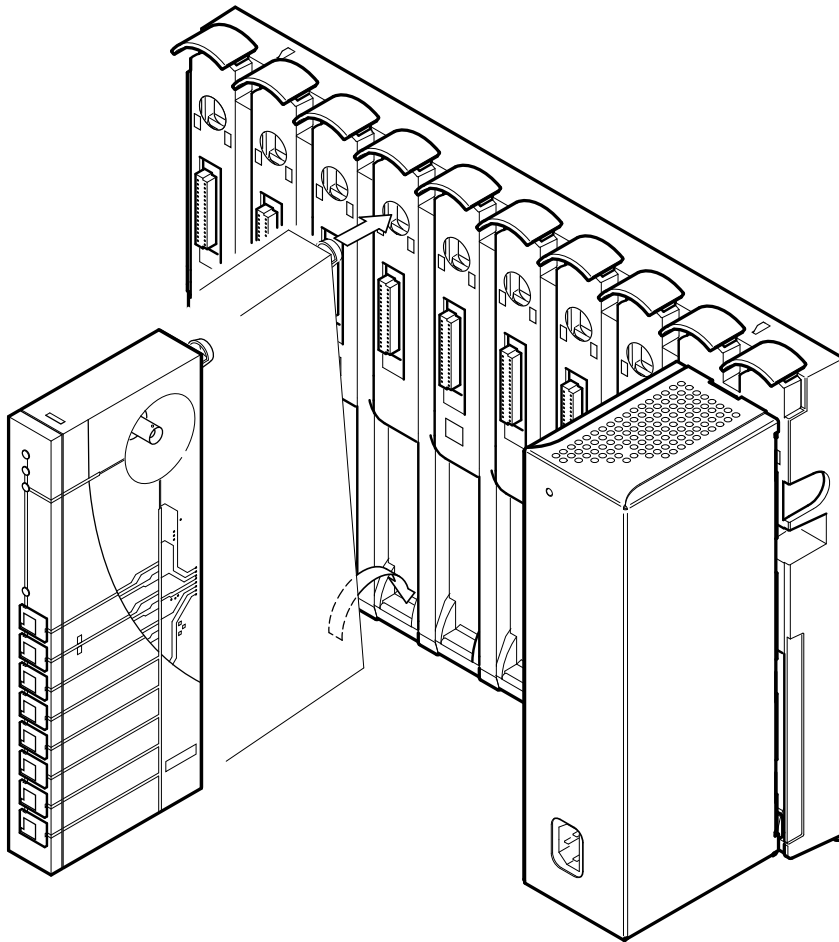
Note

The DECserver 90L+ can be installed in an operating DEChub 90 Ethernet backplane (hot-swap).

2. Rock the unit into place. An audible click is heard when the unit is securely latched in place.
3. With the power applied to the backplane, the following indicators on the DECserver 90L+ should be lit: power, self-test ok, and network. Within five seconds, the self-test ok indicator should be lit, followed by the network indicator.

Installing the DECserver 90L+

Figure 2-3 DECserver 90L+ Backplane Installation



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Installing the DECserver 90L+

Verify Ports.

Verify the operation of each port by connecting a terminal to the port. Refer to Table 1-1 for supported terminal characteristics. Press twice (autobaud) to set the operating speed of the port. While watching the Activity LED, type a character on the terminal. The LED should turn on and off, indicating activity on the port. Perform this procedure for each port.

Verify Network.

Verify the operation of the network. Enter **SHOW S** at the prompt (->) and press . The server characteristics screen will verify if the network is "OK" or "Failed". If "Failed", make sure the server is on a properly configured network. For more information on the SHOW S command, refer to Chapter 4.

Installing the DECserver 90L+

Start Terminal Session.

1. Connect terminals to ports as needed.
2. To start a terminal session using a terminal connected to one of the ports:
 - a. With the terminal turned on, press Return twice. This sets the baud rate of the port to that of the terminal.
 - b. At the prompt (->), enter a *service name* and press Return.
The DECserver 90L+ responds by displaying a string of dots "....." while connecting to the selected service. Once the connection is established, the system-dependent login message or prompt will appear.

Note

The DECserver 90L+ can take up to one minute when connecting to a node for the first time.

For more information on using the DECserver 90L+, refer to Chapter 3 in this manual.

3

Operating the DECserver 90L+

Using the DECserver 90L+ terminal server is as easy as turning on your terminal, pressing `[Return]` twice, and entering the name of the service (nodename) you want to connect to at the `->` prompt. You can also set a port for use by a printer.

This chapter describes how to operate the DECserver 90L+. This chapter describes how to start, interrupt, resume, cycle forward or backward, and end a terminal session. It also describes how to operate the DECserver 90L+ as a console requester and as a console server using Maintenance Operations Protocol (MOP).

Note

LAT Version 5.0 or higher must be installed and running on a host system before you can use the DECserver 90L+. If you cannot connect to a selected system and you are not sure if LAT Version 5.0 or higher is installed and running, see your system manager for help.

Using a Terminal or Personal Computer

This section explains how to use the DECserver 90L+ with a terminal or personal computer (PC) running terminal emulation software.

Establishing a Terminal Session

To establish a terminal session:

1. Turn your terminal on or start the terminal emulation software on your PC.
2. Press the `[Return]` key twice, you will see the DECserver 90L+ prompt:

`->`

Operating the DECserver 90L+

3. At the prompt (->), type your *service name* and press . The DECserver 90L+ indicates that it is attempting to connect by displaying a string of dots "...." on the screen.

The following example shows the connection to a service named RED.

```
-> RED 
.....
%DS90L-108, RED session 1 established
           Welcome to MYNODE running VMS 5.4

Username:
```

Note

The DECserver 90L+ does not require the configuration of group codes. The first time it connects to a service, it learns the service name. This can take up to 60 seconds.

The terminal session is established and control is passed to the specified host. If you do not know the services offered by your host(s), ask your system manager.

When a terminal session is established, most systems start some type of log in sequence, such as prompting you for username and password. Refer to the documentation for your specific system for information about starting a session.

Ending a Terminal Session

A terminal session is ended by logging off or disconnecting from the system on which your terminal session was running. Logging off a system ends your terminal session and returns you to the DECserver 90L+ prompt. The following example shows what happens when a user logs off the service RED.

```
$ LO 
USER logged out at 01-JAN-1992 16:55:00.00
-> %DS90L-107, RED session 1 disconnected
->
```

Operating the DECserver 90L+

Last Number Redial

Last number redial allows a port to connect to the last service accessed without entering the service or node name. This is done by entering the CONNECT command C[ONNECT] at the DECserver 90L+ prompt and pressing . The following example shows how to use the *last number redial* feature to reconnect to service RED.

```
$ LO 
USER logged out at 01-JAN-1992 16:55:00.00
-> C 
%DS90L-108, RED session 1 established
      Welcome to MYNODE running VMS 5.4

Username:
```

Note

The use of a preferred service overrides the last number redial feature.

Interrupting a Terminal Session

You can interrupt a terminal session and return to the DECserver 90L+ prompt by pressing the key on the terminal. When you press the key, the session is interrupted, not ended, and the DECserver 90L+ prompt appears as follows:

```
->
```

Operating the DECserver 90L+

At this point you can issue a **SHOW** or **SET** command, resume the interrupted session, cycle forward or backward to other sessions, or end the session. The following is an example of displaying the sessions active for port 1. The asterisk next to the service name of session 1 shows it as the default session to which you are returned.

-> **SHOW**

```
1 Port_1*
2 Port_2
3 Port_3
4 Port_4
5 Port_5
6 Port_6
7 Port_7
8 PRINT
P Ports
S Server
D Dedicated/Preferred Service
```

1

```
Name      Port_1
Speed     38400
In Flow   ENA/on
Out Flow  ENA/on
Type      TERM
Break     LOCAL
Rem Mod   DIS
Test      NO
AutoConf  ENA
ODL       DIS
Status    CONN
Service   RED*          YELLOW          GREEN           BLUE
Node      MYNODE        MYNODE          YOURNODE        YOURNODE
Port      LTA123         LTA456          LTA789          LTA790
MOP CC    08-00-2B-12-35-56
Preferred ULTRIX          DECSTATION
Fram Err  0
```

Operating the DECserver 90L+

Resuming an Interrupted Terminal Session

To resume the current interrupted terminal session, type the connect command `␣` or RESU[ME] at the DECserver 90L+ prompt. To resume a specific session, type the command and specify the session number. In the case of a MOP session, type **M** in place of the session number. The following is an example of resuming terminal session 2 for a port.

```
-> > 2   
-> %DS90L-112, YELLOW session 2 resumed
```

When you resume an interrupted session, control is returned to the point at which the session was interrupted.

Cycle Forward from an Interrupted Terminal Session

After you interrupt a terminal session, you can cycle forward to the next session. This is done by entering the FORWARD command F[ORWARD] at the DECserver 90L+ prompt and pressing . The following is an example of having interrupted session 2 and forwarding to session 3.

```
-> F   
-> %DS90L-112, GREEN session 3 resumed
```

Cycle Backward from an Interrupted Terminal Session

After you interrupt a terminal session, you can cycle backward to the session previous to the session that was interrupted. This is done by entering the BACKWARD command B[ACKWARD] at the DECserver 90L+ prompt and pressing . The following is an example of having interrupted session 2 and cycling backward to session 1.

```
-> B   
-> %DS90L-112, RED session 1 resumed
```

Note

There are no definable switch characters to immediately go forward and backward between sessions as in other Digital terminal servers.

The FORWARD and BACKWARD commands are circular, that is they "loop" or "cycle" through the number of sessions established.

Operating the DECserver 90L+

Disconnecting an Interrupted Terminal Session

After you interrupt a terminal session, you might change your mind and decide not to resume the session. In this case, you can disconnect the session by typing the disconnect symbol \boxtimes or D[ISCONNECT] at the DECserver 90L+ prompt. To disconnect a specific session, type the command and specify the session number. In the case of a MOP session, type **M** in place of the session number. The following is an example of disconnecting terminal session 4 for a port.

```
-> < 4 
-> %DS90L-112, BLUE session 4 disconnected
```

When you disconnect an interrupted session, your session is stopped and the DECserver 90L+ prompt appears on your terminal.

Note

Entering the DISCONNECT command when there is no interrupted session to resume causes the port to enter its power-up state (non-autobaud state).

Using MOP Console Carrier

Maintenance Operations Protocol (MOP) is a maintenance protocol specified in the Digital Network Architecture (DNA) that is used to implement the remote console facility and to perform remote management and loopback tests.

The DECserver 90L+ supports the remote console facility also known as console carrier. Within console carrier there are two components: console requester, and console server.

Operating the DECserver 90L+

Operating as a Console Requester

The DECserver 90L+ can operate as a console requester. As a console requester, the DECserver 90L+ establishes a MOP console carrier session with another console server on the same network. This is done by using the M[OP] command and the network device's Ethernet address. The DECserver 90L+ also supports a verification code if required by the console server. The following is an example of establishing a connection from a DECserver 90L+ to another DECserver 90L+. The Ethernet address of the device is 08-00-2B-19-8B-AF.

```
MYSERVER> MOP 08-00-2B-19-8B-AF 
-> %DS90L-113, Console connected (press Ctrl/D when finished)
-> (prompt from connected device)
```

Note

The RESUME and DISCONNECT commands can be used for a MOP session by typing RESU[ME] M or D[ISCONNECT] M.

If a MOP session is active, use of the F[ORWARD] and B[ACKWARD] commands will cycle through the MOP session.

Operating as a Console Server

The DECserver 90L+ can also operate as a console server. A console server allows another requester to connect to its console port. This function is used for remote management of the DECserver 90L+. The following shows how a VMS system can establish a console carrier session with a DECserver 90L+. The Ethernet address of the DECserver 90L+ in this example is 08-00-2B-08-32-2B and SVA-0 identifies the VMS system's Ethernet circuit name.

```
$ MCR NCP
$ NCP> CONNECT VIA SVA-0 PHY ADDR 08-00-2B-08-32-2B
Console connected (press CTRL/D when finished)
-> (DECserver 90L+ PROMPT)
```

Using a Printer

Any of the ports on your DECserver 90L+ can be set for use with a printer. This is usually done by the person responsible for managing the DECserver 90L+. Chapter 4 contains information on how to set a port for use with a printer.

Operating the DECserver 90L+

DECserver 90L+ Commands

The commands used to establish and control a terminal session and to manage the DECserver 90L+ are described in Table 3–1. Chapter 4 provides a detailed description of the SET and SHOW commands and how they are used to manage the DECserver 90L+.

Table 3–1 DECserver 90L+ User Commands

Symbol/Command	Function
<i>service</i>	At the prompt (->), enter the name of the <i>service</i> (maximum of 16 characters) with which you want to establish a terminal session.
<i>service [node [port]]</i>	Establishes a terminal session with the <i>service</i> , <i>node</i> (maximum of 16 characters), and <i>port</i> (maximum of 8 characters) specified. The <i>node</i> and <i>port</i> are optional.
C[ONNECT] ¹ <i>service [node [port]]</i>	Establishes a terminal session with the <i>service</i> , <i>node</i> , and <i>port</i> specified. The <i>node</i> and <i>port</i> are optional. This command should be used to establish a terminal session when a service name conflicts with one of the DECserver 90L+ commands.
M[OP] ¹ <i>Ethernet address [verification code]</i>	Establishes a MOP session with the device owning the specified Ethernet address. The Ethernet address must be entered as 6 hex bytes, separated by hyphens. The verification code is an optional field. It may be used as a password by the device you are trying to establish a MOP session with. If used, the verification code must be entered as 8 hex bytes, separated by hyphens.
Break	Interrupts a terminal session.
⏏	Resumes last interrupted session.
⏏ n	Resumes session specified by n. n={1,2,3,4,M ² }.
RESU[ME] ¹	Resumes last interrupted session.
RESU[ME] ¹ n	Resumes session specified by n. n={1,2,3,4,M ² }.
F[ORWARD] ¹	Cycles forward to the next session.

¹The characters in brackets [] are optional and do not need to be entered for the DECserver 90L+ to recognize the command.

²M represents a MOP session.

(continued on next page)

Operating the DECserver 90L+

Table 3–1 (Cont.) DECserver 90L+ User Commands

Symbol/Command	Function
B[ACKWARD] ¹	Cycles backward to the last session.
⏪	Disconnects an interrupted terminal session or disconnects the port, if no sessions are active. Disconnecting the port returns the port to the power-up state (non-autobaud).
⏪ n	Disconnects an interrupted terminal session specified by n. n={1,2,3,4,M ² }.
D[ISCONNECT] ¹	Disconnects an interrupted terminal session or disconnect the port. Disconnecting the port returns the port to the power-up state (non-autobaud).
D[ISCONNECT] ¹ n	Disconnects an interrupted terminal session specified by n. n={1,2,3,4,M ² }.
SE[T] ¹	Sets port or server parameters.
SH[OW] ¹	Shows port or server parameters.
RESE[T] ¹	Resets port or server parameters to power-up state.
⏹ or H[ELP]	Lists DECserver 90L+ commands.

¹The characters in brackets [] are optional and do not need to be entered for the DECserver 90L+ to recognize the command.

²M represents a MOP session.

Operating the DECserver 90L+

DECserver 90L+ Information and Error Codes

The DECserver 90L+ interface provides you with an informational message or an error message about any commands issued to the unit. Each message is made up of a message number and the message. Table 3-2 lists each message number and its message.

Table 3-2 DECserver 90L+ Information and Error Codes

Message Number	Message
%DS90L-100	Parameters Have Been Changed
%DS90L-101	Parameters Have Not Been Changed
%DS90L-102	Authorized Mode Cleared
%DS90L-103	Power Down DS90L within 1 minute to Enable Authorized Mode
%DS90L-104	Power Down DS90L within 1 minute to Clear Authorized Mode
%DS90L-105	Manager Mode Enabled
%DS90L-106	Manager Mode Disabled
%DS90L-107	MOP session disconnected
%DS90L-107	<Service Name> session <session number> disconnected
%DS90L-108	<Service Name> session <session number> established
%DS90L-109	Password Changed
%DS90L-110	Port Has Been Reset
%DS90L-111	Server Has Been Reset
%DS90L-112	MOP session resumed
%DS90L-112	<Service Name> session <session number> resumed
%DS90L-113	Console connected (press Ctrl/D when finished)
%DS90L-114	Port Enabled
%DS90L-115	Port Disabled
%DS90L-116	Autobaud/Default Characteristics Enabled
%DS90L-117	Autobaud/Default Characteristics Disabled
%DS90L-118	Dedicated/Preferred Service Set
%DS90L-119	Dedicated/Preferred Service Cleared
%DS90L-120	On-Demand Loading Enabled

(continued on next page)

Operating the DECserver 90L+

Table 3-2 (Cont.) DECserver 90L+ Information and Error Codes

Message Number	Message
%DS90L-121	On-Demand Loading Disabled
%DS90L-200	User requested halt
%DS90L-204	This Port is not in Manager Mode
%DS90L-205	Authorized Mode not Enabled
%DS90L-206	Authorized Mode is Already Enabled
%DS90L-207	Another Port is in Manager Mode
%DS90L-208	System Shutdown in Progress
%DS90L-209	Service In Use
%DS90L-210	Service Unavailable
%DS90L-211	Service Disabled
%DS90L-212	Entry is Not in the Queue
%DS90L-213	Immediate Access Rejected
%DS90L-214	Access Denied
%DS90L-215	No Session Active
%DS90L-216	No Default Session Active
%DS90L-217	Console response size too large, data loss may occur
%DS90L-300	Host Stopped Responding
%DS90L-302	Insufficient Information
%DS90L-303	Insufficient Host Resources to Satisfy Request
%DS90L-304	Reason Unknown
%DS90L-305	Maximum Session Limit Exists
%DS90L-306	Invalid Syntax
%DS90L-307	Invalid LAT Name
%DS90L-308	Invalid Ethernet Address
%DS90L-309	Invalid Password
%DS90L-310	Data Overflow

(continued on next page)

Operating the DECserver 90L+

Table 3–2 (Cont.) DECserver 90L+ Information and Error Codes

Message Number	Message
%DS90L–311	Illegal message
%DS90L–312	Protocol Error—Server Circuit Timer is Out of Range
%DS90L–313	Protocol Error—Number of Virtual Circuits Exceeded
%DS90L–314	Illegal Port Name
%DS90L–315	Port Name is Used by Another Port
%DS90L–316	Port In Use
%DS90L–317	Cannot Change Device Type While Printer is Busy
%DS90L–318	Invalid Character in Password
%DS90L–319	Password Not Verified
%DS90L–320	Cannot Perform Operation While Changing Authorized Mode
%DS90L–321	Connection Not Established—Network Not Connected
%DS90L–322	Disconnected—Network Not Connected
%DS90L–323	Protocol Error—Invalid Slot Received
%DS90L–324	Protocol Error—Invalid Service Class
%DS90L–326	No Such Service
%DS90L–327	Service is Not Offered by Requested Port
%DS90L–328	Port Name is Unknown
%DS90L–330	Password Length Exceeds 8 Characters
%DS90L–331	Invalid Port Speed
%DS90L–332	Illegal Server Name
%DS90L–333	Password Required
%DS90L–334	Cannot Use Default Port for Console
%DS90L–335	Cannot Put Subject Port into Test Mode
%DS90L–336	Maximum Circuits per Box Reached
%DS90L–337	Illegal Prompt
%DS90L–338	Console carrier protocol not available
%DS90L–339	Console carrier protocol already in use
%DS90L–340	Cannot Set Dedicated Service on Subject Port

(continued on next page)

Operating the DECserver 90L+

Table 3-2 (Cont.) DECserver 90L+ Information and Error Codes

Message Number	Message
%DS90L-341	Cannot Perform on Subject Port
%DS90L-342	Target does not respond
%DS90L-343	Cannot Set Dedicated/Preferred Service for Printer

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Managing the DECserver 90L+

The DECserver 90L+ requires very little in the way of management. It does not use or require the configuration of group codes. It requires that service ad timers be set to 60 seconds (the default) or less. Reducing the interval for service ad time improves the response of the DECserver 90L+ when making new connections. The DECserver 90L+ can work with systems whose service ad timer interval is greater than 60 seconds if:

- A response is received from a node's LAT software. (LAT Protocol Version 5.2 or later supports the service responder feature. This is a standard with VMS Version 5.5 or later and optional with VMS Version 5.4-2 or 5.4-3.)
- The system's service ad happens to be received within 60 seconds.

The time required for the DECserver 90L+ to establish a connection can be reduced to a minimum of two seconds for any "service" when any node in your network has enabled the service responder feature of its LAT software (LAT Protocol Version 5.2 or later). See your system manager for more information.

The DECserver 90L+ can be managed locally or from a remote device on the network. Local management is done using a terminal connected to one of the ports on the DECserver 90L+. Remote management is done using maintenance operations protocol (MOP) console carrier. This can be done from another DECserver 90L+ or another remote device. In addition, the DECserver 90L+ can be used to manage other members of the DEChub 90 family.

Managing the DECserver 90L+

Managing the DECserver 90L+ includes:

- Examining port and server parameters and network counters
- Setting port parameters
- Setting server name, prompt, and zeroing counters
- Security
 - Setting and clearing authorized mode
 - Enabling and disabling manager mode
 - Changing the password

Local Management

Local management of the DECserver 90L+ is performed with a terminal connected to one of its eight ports and using the SET, SHOW, and RESET commands of the DECserver 90L+.

Remote Management

The DECserver 90L+ can be managed from a remote node on the network using MOP console carrier. Once the MOP console carrier session is established, the SET and SHOW commands are used to examine and set the various port and server parameters. The RESET command is used to reset ports and the server to the power-up state.

Accessing MOP from VMS

On a VMS operating system, the MOP console carrier is included as part of the network control program (NCP) facility, which requires a DECnet license.

You do not need increased user privileges to use NCP to establish a console carrier session. To establish a console carrier session, you must know the:

- Ethernet address of the DECserver 90L+ to be managed
- Ethernet name of the circuit that contains the DECserver 90L+

The Ethernet address should be on the label on the DECserver 90L+ front panel. The circuit name is needed because a VMS operating system may have more than one Ethernet interface. Table 4-1 is a partial list of Ethernet circuit names, based on system type.

Managing the DECserver 90L+

Table 4-1 Ethernet Circuit Names for VMS-Based Systems

System	Ethernet Circuit Name
VAX 6000 and VAX 9000 XMI computers	MNA-0
BI-based systems (VAX 6300 and VAX 6400 computers)	BNA-0
VAX 4000 computers	ISA-0
MicroVAX/3600/3900 computers	QNA-0
VAXstation 2000 and 3000 computers	SVA-0
VAX-11/780 and VAX-11/785 computers (UNIBUS)	UNA-0

The following VMS command is used to establish a console carrier session from a VAXstation 3100 system to a DECserver 90L+. The Ethernet address of the DECserver 90L+ in this example is 08-00-2B-08-32-2B, and SVA-0 identifies the system's Ethernet circuit name.

```
$ MCR NCP
$ NCP> CONNECT VIA SVA-0 PHY ADDR 08-00-2B-08-32-2B
Console connected (press CTRL/D when finished)
-> (DECserver 90L+ PROMPT)
```

Accessing a DECserver 90L+ Repeatedly

If you need to access a specific DECserver 90L+ repeatedly, you can enter the Ethernet address for it in the NCP database. This is usually done by choosing an arbitrary address in area 13. DECserver names in the NCP database can have a maximum of six characters. The user must have privileges to modify the NCP database.

For example, if you define your DECserver 90L+ as DS90L on address 13.87 and then access it from a VAX 6400 (Ethernet circuit name BNA-0), you would use the following commands:

```
$
NCP> DEFINE NODE DS90L ADDRESS 13.87 HARDWARE 08-00-2B-08-32-2B SERVICE CIR BNA-0
NCP> SET NODE DS90L ALL
```

To access the DECserver 90L+, type the following:

```
$ NCP CONNECT NODE DS90L
```

Managing the DECserver 90L+

Accessing MOP from ULTRIX

On ULTRIX operating systems, the console carrier is a separate utility included as part of the MOP option. The option is part of the regular distribution but is not selected by default and is not included in the basic installation. You can install MOP from the original distribution media by using the `setld` utility. You must have superuser privileges to invoke console carrier.

After the MOP option is installed, each DECserver 90L+ to be managed must be given a name and a dummy node number, using the `addnode` utility. For example:

```
# addnode 13.1 DS90L
```

After the name and node number is assigned, you can establish the link at any time by using the `ccr` command:

```
# ccr -n DS90L -h 08-00-2B-08-32-2B -c sva-0
```

In this example, the `-h` qualifier is followed by the station address of the DECserver 90L+ unit to be attached. The `-c` qualifier is followed by the name of the Ethernet circuit to use for the connection. Table 4-2 is a partial list of Ethernet circuit names, based on system type.

Table 4-2 Ethernet Circuit Names for ULTRIX-Based Systems

System	Ethernet Circuit Name
VAX 6000 and VAX 9000 XMI computers	mna-0
BI-based systems (VAX 6300 and VAX 6400 computers)	bna-0
VAX 4000 computers	isa-0
MicroVAX/3600/3900 computers	qna-0
VAXstation 2000 and 3000 computers	sva-0
DECstation 3000 and 5000 computers	sva-0
VAX-11/780 and VAX-11/785 computers (UNIBUS)	una-0

Managing the DECserver 90L+

Security

Security for the DECserver 90L+ is provided by a password protected management mode. This mode of operation is called *authorized mode* and can be set and cleared as required. When authorized mode is set, the following conditions exist:

- Users can set the parameters of only their own port and show the server's parameters.
- Manager mode must be enabled (password required) to set server parameters or port parameters on a port other than the one you are connected to.
- Manager mode must be enabled to change the password.

When the DECserver 90L+ is first installed, authorized mode is not set and any port can be used to set any other port's parameters and the server's parameters. To set authorized mode requires physical access to the unit and entering and verifying a password. The unit's power must be cycled (turned off and then on) within one minute of entering the password for authorized mode to be set. The cycling of the power verifies that you have access to the unit and causes the password to be saved in the unit's non-volatile RAM (NVRAM).

Note

The self-test LED will flash during the minute that the user has to power cycle the DECserver 90L+ in order for the change to authorized mode to take effect. This helps identify the unit when it is installed in a DEChub backplane.

Managing the DECserver 90L+

Management Commands

The commands used to manage the DECserver 90L+ are the SET, SHOW, and RESET commands. The SET and SHOW commands can be used from the menu to show or set parameters. A command line mode is available for use by network management software or by users that want to bypass the menu interface. Refer to the Command Line section at the end of this chapter, for more detailed information on command line mode.

The following sections show how to enter the SET, SHOW, and RESET commands using the menu and the command line.

SET Command

The SET command allows you to set port or server parameters, zero network counters, and enable and use the DECserver 90L+ security features.

Setting Port Parameters

The following port parameters can be set for each port:

- Port name
- Port speed (baud rate)
- Input flow control
- Output flow control
- Device type (terminal or printer)
- Local or remote break
- Remote modify
- Test (loopback) operation

Table 4–3 describes each of the port parameters that can be set.

Port parameters can be set from the menu or by a command line entered at the prompt. If authorized mode is set and the port parameters to be set are for a port other than the one you are connected to, then you must first enable manager mode.

Managing the DECserver 90L+

Table 4-3 Port Parameters

Field	Description
Port Name	Maximum of six characters. You can use the hyphen (-), underscore (_), dollar sign (\$), or alpha-numeric characters.
Speed	Sets the receive/transmit speed of the port. When a terminal is connected to a port, the DECserver 90L+ automatically sets the speed through autobaud. For use with printers or other such devices the speed can be set to one of six values. 1 = 38400 baud 2 = 19200 baud 3 = 9600 baud 4 = 4800 baud 5 = 2400 baud 6 = 1200 baud
Input Control	Enables and disables input flow control (XON/XOFF). E = Enable D = Disable C = Clear (send XON)
Output Control	Enables and disables output flow control (XON/XOFF). E = Enable D = Disable C = Clear (send XON)
Terminal /Printer	Selects the type of device connected to the port. The port that issues the SET command cannot set its device type to printer. T = Terminal P = Printer
Break	Determines whether a break is acknowledged locally or remotely. L = Local R = Remote
Remote Modify	Enables and disables modification of the port's characteristics by the host system. E = Enable D = Disable
Test	Places the selected port into loopback mode. Loopback mode can be used to verify that a port is receiving and sending characters. A port cannot put itself in loopback mode. Y = Yes (loopback mode) N = No

Managing the DECserver 90L+

Setting Port Parameters from the Menu

To set port parameters from the menu:

1. Enter **SET** at the DECserver 90L+ prompt and press `[Return]`. The asterisk (*) in the menu indicates the port to which you are connected.

The following example shows how to set port 8 for use with a printer (user entries are bolded). The following port parameters are set in this example.

```
Port name: PRINT
Speed: 9600
Input control: Remains unchanged
Output control: Remains unchanged
Terminal/Printer: Printer
Break: Remote
Remote modify: Remains unchanged
Test: Remains unchanged
```

2. Select the port by entering a number (1 through 8) and press `[Return]`.
3. Set the parameters in response to the prompts. The asterisk (*) indicates the current setting of the parameter for the selected port. The setting of each parameter is terminated with a `[Return]`. Entering a `[Return]` with no input for a parameter leaves the field unchanged. If an incorrect entry is made, the DECserver 90L+ signals the error and waits for a correct entry.

Setting Port Parameters By Command Line

Command line mode allows a port's parameters to be set with a single entry. If you do not want to change a parameter, an entry in that field is not required.

The format for the command line is as follows:

```
-> SET <port>,<name>,<speed>,<IFC>,<OFC>,<device>,<break>,<rem_mod>,<test>
```

Managing the DECserver 90L+

The following example shows how to set port parameters from the menu.

-> **SET**

```
1 PORT_1*
2 PORT_2
3 PORT_3
4 PORT_4
5 PORT_5
6 PORT_6
7 PORT_7
8 PORT_8
AUTH Authorized
AUTO AutoConfigure
D Dedicated Service
M Manager
O On-Demand Loading
PA Password
PO Port
PR Preferred Service
S Server
```

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Name	Speed	Input Control	Output Control	Terminal/Printer	Break	Remote Modify	Test
PORT_8*	1 38400*	E Enable*	E Enable*	T Term*	L Local*	E Enable	Y Yes
	2 19200	D Disable	D Disable	P Printer	R Remote	D Disable*	N No*
	3 9600	C Clear	C Clear				
	4 4800						
	5 2400						
	6 1200						
Print	3 9600	E Enable	E Enable	P Printer	R Remote	D Disable	N No

-> %DS90L-100, Parameters Have Been Changed

->

Managing the DECserver 90L+

The following example shows how to set port 8 for use with a printer (user entries are bolded). The following port parameters are set in this example.

Port name: PRINT
Speed: 9600
Input flow: Remains unchanged
Output flow: Remains unchanged
Device type: Printer
Break: Remote
Remote modify: Remains unchanged
Test: Remains unchanged

```
-> SET 8,PRINT,9600,,,P,R,, 
-> %DS90L-100, Parameters Have Been Changed
->
```

Setting and Clearing Authorized Operation

The SET command is used to set and clear authorized operation. To set authorized operation, you must have physical access to the unit because the unit's power must be cycled.

Setting the Authorized Operation by Menu

To set the authorized operation from the menu:

1. Enter **SET** at the DECserver 90L+ prompt and press . The asterisk (*) indicates the port to which you are connected.
2. Select Authorized by entering AUTH and press .
3. Select Set by entering S and press .
4. Enter the new password. The password is not echoed.
5. Enter the password again to verify. The verify password is not echoed.

Setting the Authorized Operation by Command Line

The command line for setting authorized mode operation is:

```
-> SET AUTH,S,<password> 
```


Managing the DECserver 90L+

The following example shows how to set the authorized operation from the menu.

```
-> SET 
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
| AUTH Authorized
| AUTO AutoConfigure
| D Dedicated Service
| M Manager
| O On-Demand Loading
| PA Password
| PO Port
| PR Preferred Service
| S Server
|
| AUTH 
| S Set
| C Clear
|
| S 
|
| New | Verify
| Password | Password
|
| <not echoed> | <not echoed>
-> %DS90L-103, Power Down DS90L+ within 1 minute to Enable Authorized Mode
```

Note

The password is echoed when using command line entry.

Managing the DECserver 90L+

Clear Authorized Mode by Menu

Clearing authorized mode disables the security on the DECserver 90L+. To clear authorized mode, your port must be in manager mode or you must have physical access to the unit. Physical access to the unit is required when the unit's password is not known.

To clear authorized mode from the menu:

1. Enter **SET** at the DECserver 90L+ prompt and press `[Return]`. The asterisk (*) indicates the port to which you are connected.
2. Select Authorized by entering AUTH and press `[Return]`.
3. Select Clear by entering C and press `[Return]`.
4. If the port you are connected to is not in manager mode, the unit's power will have to be cycled off and then on, within a one minute timeframe.

Clear Authorized Mode by Command Line

The command line for clearing authorized mode is:

```
-> SET AUTH,C [Return]
```

Managing the DECserver 90L+

The following example shows how to clear the authorized mode from the menu.

-> **SET**

```
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
| AUTH Authorized
| AUTO AutoConfigure
| D Dedicated Service
| M Manager
| O On-Demand Loading
| PA Password
| PO Port Authorized
| PR Preferred Service
| S Server
```

AUTH

```
| S Set
| C Clear
```

C

-> %DS90L-102, Authorized Mode Cleared

or

-> %DS90L-104, Power Down DS90L+ within one minute to Clear Authorized Mode

Managing the DECserver 90L+

Enabling and Disabling AutoConfigure

Terminal ports on the DECserver 90L+ are set from the factory to support autobaud and AutoConfigure for flow control, break mode, and remote modification. While these parameters can be changed, only the port name for a terminal is saved in NVRAM. The break mode and remote modification values are port login volatile. Flow control checking is automatically enabled on session logout. The AutoConfigure feature can be disabled so that all values for these parameters will be stored in NVRAM. Personal computer users would want to disable the AutoConfigure and flow control checking to transfer binary files.

The port AutoConfigure state is shown in a show port screen.

Note

All port parameters for printers are always saved in NVRAM.

Enable AutoConfigure by Menu

To enable AutoConfigure from the menu:

1. Enter **SET** at the DECserver 90L+ prompt and press `[Return]`. The asterisk (*) indicates the port to which you are connected.
2. Select AutoConfigure by entering AUTO and press `[Return]`.
3. Select the Port by entering a number (1 through 8) and press `[Return]`.
4. Select Enable by entering E and press `[Return]`.

Enable AutoConfigure by Command Line

The command line for enabling AutoConfigure is:

```
-> SET AUTO,<port>,E [Return]
```

Managing the DECserver 90L+

The following example shows how to enable AutoConfigure from the menu.

```
-> SET 
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
| AUTH Authorized
| AUTO AutoConfigure
| D Dedicated Service
| M Manager
| O On-Demand Loading
| PA Password
| PO Port
| PR Preferred Service
| S Server
|
| AUTO 
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
|
| 2 
| E Enable
| D Disable
|
| E 
-> %DS90L-116, Autobaud/Default Characteristics Enabled
->
```

Managing the DECserver 90L+

Disable AutoConfigure by Menu

To disable AutoConfigure from the menu:

1. Enter **SET** at the DECserver 90L+ prompt and press `[Return]`. The asterisk (*) indicates the port to which you are connected.
2. Select AutoConfigure by entering **AUTO** and press `[Return]`.
3. Select the port by entering a number (1 through 8) and press `[Return]`.
4. Select Disable by entering **D** and press `[Return]`.

Disable AutoConfigure by Command Line

The command line for disabling AutoConfigure is:

```
-> SET AUTO,<port>,D [Return]
```

Managing the DECserver 90L+

The following example shows how to disable AutoConfigure from the menu.

```
-> SET 
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
| AUTH Authorized
| AUTO AutoConfigure
| D Dedicated Service
| M Manager
| O On-Demand Loading
| PA Password
| PO Port
| PR Preferred Service
| S Server
|
| AUTO 
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
|
| 2 
| E Enable
| D Disable
|
| D 
-> %DS90L-117, Autobaud/Default Characteristics Disabled
->
```

Managing the DECserver 90L+

Enabling and Disabling Dedicated Service

The SET command is used to enable and disable dedicated service for a port. Dedicated service allows a system manager to create a captive account, which includes the option of defining a specific service, node, and port. This feature is useful in situations where it is best for the user to have direct access to a specific service, for example, shipping and receiving areas, clerical areas, and so on.

If dedicated service has been enabled for a port, the user of that particular port will not see the DECserver 90L+ prompt or user interface. When the user types `[Return]` (after the autobaud sequence), the DECserver 90L+ will immediately attempt to connect to the service chosen previously as the dedicated service. Breaking to the DECserver 90L+ user interface is not allowed on a dedicated service port.

If a dedicated service has been enabled, it will be listed in a show port screen with the other port parameters.

Enable Dedicated Service by Menu

To enable dedicated service from the menu:

1. Enter **SET** at the DECserver 90L+ prompt and press `[Return]`. The asterisk (*) indicates the port to which you are connected.
2. Select Dedicated Service by entering D and press `[Return]`.
3. Select the Port by entering a number (1 through 8) and press `[Return]`.
4. Select Enable by entering E and press `[Return]`.
5. Set the parameters in response to the prompts. The setting of each parameter is terminated with a `[Return]`. Entering a `[Return]` with no input terminates the command. If an incorrect entry is made, the DECserver 90L+ aborts the command sequence.

Enable Dedicated Service by Command Line

The command line for enabling dedicated service is:

```
-> SET D,<port>,E,<service>[,<node>[,<port>]] [Return]
```


Managing the DECserver 90L+

The following example shows how to enable dedicated service from the menu.

```
-> SET 
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
| AUTH Authorized
| AUTO AutoConfigure
| D Dedicated Service
| M Manager
| O On-Demand Loading
| PA Password
| PO Port
| PR Preferred Service
| S Server
|
| D 
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
|
| 3 
| E Enable
| D Disable
|
| E 
| Service | Node | Port
| VMS | VAX1 | OSF
-> %DS90L-118, Dedicated/Preferred Service Set
->
```

Managing the DECserver 90L+

Disable Dedicated Service by Menu

To disable dedicated service from the menu:

1. Enter **SET** at the DECserver 90L+ prompt and press `[Return]`. The asterisk (*) indicates the port to which you are connected.
2. Select Dedicated Service by entering D and press `[Return]`.
3. Select the port by entering a number (1 through 8) and press `[Return]`.
4. Select Disable by entering D and press `[Return]`.

Disable Dedicated Service by Command Line

The command line for disabling dedicated service is:

```
-> SET D,<port>,D [Return]
```

Managing the DECserver 90L+

The following example shows how to disable dedicated service from the menu.

```
-> SET 
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
| AUTH Authorized
| AUTO AutoConfigure
| D   Dedicated Service
| M   Manager
| O   On-Demand Loading
| PA  Password
| PO  Port
| PR  Preferred Service
| S   Server
|
| 
|
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
|
| 3 
|
| E Enable
| D Disable
|
| 
-> %DS90L-119, Dedicated/Preferred Service Cleared
->
```

Managing the DECserver 90L+

Enabling and Disabling Manager Mode

Manager mode is used to modify server characteristics as well as characteristics of other ports. The SET command invokes Manager mode. The DECserver 90L+ password is required to invoke manager mode. Only one port can be in Manager mode at a time.

Manager mode can be explicitly disabled using the SET command. In addition, it is implicitly disabled either by powering down the terminal server or the terminal, or by disconnecting the terminal from the server (long space disconnect).

Enable Manager Mode by Menu

To enable manager mode from the menu:

1. Enter **SET** at the DECserver 90L+ prompt and press `[Return]`. The asterisk (*) indicates the port to which you are connected.
2. Select Manager by entering M and press `[Return]`.
3. Select Enable by entering E and press `[Return]`.
4. Enter password. The password is not echoed.

Enable Manager Mode by Command Line

The command line for enabling manager mode is:

```
-> SET M,E,<password> [Return]
```

Note

The password is echoed when using command line entry.

Managing the DECserver 90L+

The following example shows how to enable manager mode from the menu.

```
-> SET 
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
| AUTH Authorized
| AUTO AutoConfigure
| D   Dedicated Service
| M   Manager
| O   On-Demand Loading
| PA  Password
| PO  Port
| PR  Preferred Service
| S   Server
|
| M 
|
| E Enable
| D Disable
|
| E 
|
| Password
|
| <not echoed>
-> %DS90L-105, Manager Mode Enabled
->
```

Managing the DECserver 90L+

Disable Manager Mode by Menu

To disable manager mode operation for a port, you must be attached to the port and use the SET command.

To disable manager mode from the menu:

1. Enter **SET** at the DECserver 90L+ prompt and press `[Return]`. The asterisk (*) indicates the port to which you are connected.
2. Select Manager by entering M and press `[Return]`.
3. Select Disable by entering D and press `[Return]`.

Disable Manager Mode by Command Line

The command line for disabling manager mode is:

```
-> SET M,D [Return]
```

Managing the DECserver 90L+

The following example shows how to disable manager mode from the menu.

```
-> SET 
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
| AUTH Authorized
| AUTO AutoConfigure
| D Dedicated Service
| M Manager
| O On-Demand Loading
| PA Password
| PO Port
| PR Preferred Service
| S Server
|
| M 
|
| E Enable
| D Disable
|
| D 
-> %DS90L-106, Manager Mode Disabled
->
```

Managing the DECserver 90L+

Enabling and Disabling On-Demand Loading

The On-Demand Loading option allows on-demand loading of fonts, composed of a large number of characters, for Asian terminals. The default for the option is disabled. When on-demand loading is enabled, the XON/XOFF processing and the detection of break characters can be affected.

The port on-demand loading state is shown in a show port screen.

Note

If an attention slot arrives for the session that contains font data and on-demand loading is not enabled, the slot will be considered illegal and the circuit will be stopped.

Enable On-Demand Loading by Menu

To enable On-Demand Loading from the menu:

1. Enter **SET** at the DECserver 90L+ prompt and press . The asterisk (*) indicates the port to which you are connected.
2. Select On-Demand Loading by entering O and press .
3. Select the Port by entering a number (1 through 8) and press .
4. Select Enable by entering E and press .

Enable On-Demand Loading by Command Line

The command line for enabling On-Demand Loading is:

```
-> SET 0,<port>,E 
```


Managing the DECserver 90L+

The following example shows how to enable On-Demand Loading from the menu.

```
-> SET 
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
| AUTH Authorized
| AUTO AutoConfigure
| D Dedicated Service
| M Manager
| O On-Demand Loading
| PA Password
| PO Port
| PR Preferred Service
| S Server
| 0 
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
| 5 
| E Enable
| D Disable
| E 
-> %DS90L-120, On-Demand Loading Enabled
->
```

Managing the DECserver 90L+

Disable On-Demand Loading by Menu

To disable On-Demand Loading from the menu:

1. Enter **SET** at the DECserver 90L+ prompt and press `[Return]`. The asterisk (*) indicates the port to which you are connected.
2. Select On-Demand Loading by entering O and press `[Return]`.
3. Select the port by entering a number (1 through 8) and press `[Return]`.
4. Select Disable by entering D and press `[Return]`.

Disable On-Demand Loading by Command Line

The command line for disabling On-Demand Loading is:

```
-> SET 0,<port>,D [Return]
```

Managing the DECserver 90L+

The following example shows how to disable On-Demand Loading from the menu.

```
-> SET 
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
| AUTH Authorized
| AUTO AutoConfigure
| D Dedicated Service
| M Manager
| O On-Demand Loading
| PA Password
| PO Port
| PR Preferred Service
| S Server
| 0 
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
| 5 
| E Enable
| D Disable
| D 
-> %DS90L-121, On-Demand Loading Disabled
->
```

Managing the DECserver 90L+

Changing Password by Menu

The SET command is used to change the password of the DECserver 90L+. The password can be a maximum of eight characters. To change the password, the port you are using must be in manager mode.

To change the password interactively:

1. Enter **SET** at the DECserver 90L+ prompt and press . The asterisk (*) indicates the port to which you are connected.
2. Select password by entering PA and press .
3. Enter the old password. The old, new, and verify password entries are not echoed by the DECserver 90L+.
4. Enter the new password.
5. Enter the new password again to verify it.

Changing Password by Command Line

The command line for changing the password is:

```
-> SET PA,<old_password>,<new_password> 
```

Note

The old and new passwords are echoed when using the command line entry.

Managing the DECserver 90L+

The following example shows how to set the password from the menu.

```
-> SET 
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
| AUTH Authorized
| AUTO AutoConfigure
| D Dedicated Service
| M Manager
| O On-Demand Loading
| PA Password
| PO Port
| PR Preferred Service
| S Server
|
| PA 
| Old Password | New Password | Verify
| <not echoed> | <not echoed> | <not echoed>
-> %DS90L-109, Password Changed
->
```

Managing the DECserver 90L+

Enabling and Disabling Ports

The SET command is used to enable and disable a port from operation. If the system manager wants to disable a user's port for security reasons, it can be done through software using the command line mode.

The factory default is that all ports are enabled. Enabled port status will be either OFF, LOCAL, or CONN. A disabled port status will be DIS. The port status is shown in a show port screen.

Enable a Port by Menu

To enable a port from the menu:

1. Enter **SET** at the DECserver 90L+ prompt and press . The asterisk (*) indicates the port to which you are connected.
2. Select Port by entering PO and press .
3. Select the Port by entering a number (1 through 8) and press .
4. Select Enable by entering E and press .

Enable a Port by Command Line

The command line for enabling a port is:

```
-> SET PO,<port>,E 
```

Managing the DECserver 90L+

The following example shows how to enable a port from the menu.

```
-> SET 
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
| AUTH Authorized
| AUTO AutoConfigure
| D Dedicated Service
| M Manager
| O On-Demand Loading
| PA Password
| PO Port
| PR Preferred Service
| S Server
| PO 
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
| 6 
| E Enable
| D Disable
| E 
-> %DS90L-114, Port Enabled
->
```

Managing the DECserver 90L+

Disable a Port by Menu

To disable a port from the menu:

1. Enter **SET** at the DECserver 90L+ prompt and press `[Return]`. The asterisk (*) indicates the port to which you are connected.
2. Select Port by entering PO and press `[Return]`.
3. Select the Port by entering a number (1 through 8) and press `[Return]`.
4. Select Disable by entering D and press `[Return]`.

Disable a Port by Command Line

The command line for disabling a port is:

```
-> SET PO,<port>,D [Return]
```


Managing the DECserver 90L+

The following example shows how to disable a port from the menu.

```
-> SET 
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
| AUTH Authorized
| AUTO AutoConfigure
| D Dedicated Service
| M Manager
| O On-Demand Loading
| PA Password
| PO Port
| PR Preferred Service
| S Server
| PO 
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
| 6 
| E Enable
| D Disable
| D 
-> %DS90L-115, Port Disabled
->
```

Managing the DECserver 90L+

Enabling and Disabling Preferred Service

The SET command is used to enable and disable preferred service. A preferred service is a network service that is connected if a CONNECT command is issued without specifying the service name.

If a preferred service is enabled for a port, you need only to type the CONNECT command to initiate a connection to the service name stored in NVRAM. You also have the option of defining a preferred node and port name.

Note

If no preferred service is set, the DECserver 90L+ will use the last number redial feature.

Enabling Preferred Service by Menu

To enable preferred service from the menu:

1. Enter **SET** at the DECserver 90L+ prompt and press . The asterisk (*) indicates the port to which you are connected.
2. Select Preferred Service by entering PR and press .
3. Select the Port by entering a number (1 through 8) and press .
4. Select Enable by entering E and press .
5. Set the parameters in response to the prompts. The setting of each parameter is terminated with a . Entering a with no input terminates the command. If an incorrect entry is made, the DECserver 90L+ aborts the command sequence.

Enable Preferred Service by Command Line

The command line for enabling preferred service is:

```
-> SET PR,<port>,E,<service>[,<node>[,<port>]] 
```

Managing the DECserver 90L+

The following example shows how to enable preferred service from the menu.

```
-> SET 
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
| AUTH Authorized
| AUTO AutoConfigure
| D Dedicated Service
| M Manager
| O On-Demand Loading
| PA Password
| PO Port
| PR Preferred Service
| S Server
|
| PR 
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
|
| 7 
| E Enable
| D Disable
|
| E 
| Service | Node | Port
| ULTRIX | DECSTATION |
-> %DS90L-118, Dedicated/Preferred Service Set
->
```

Managing the DECserver 90L+

Disable Preferred Service by Menu

To disable preferred service from the menu:

1. Enter **SET** at the DECserver 90L+ prompt and press `[Return]`. The asterisk (*) indicates the port to which you are connected.
2. Select Preferred Service by entering PR and press `[Return]`.
3. Select the Port by entering a number (1 through 8) and press `[Return]`.
4. Select Disable by entering D and press `[Return]`.

Disable Preferred Service by Command Line

The command line for disabling preferred service is:

```
-> SET PR,<port>,D [Return]
```

Managing the DECserver 90L+

The following example shows how to disable preferred service for a port from the menu.

```
-> SET 
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
| AUTH Authorized
| AUTO AutoConfigure
| D Dedicated Service
| M Manager
| O On-Demand Loading
| PA Password
| PO Port
| PR Preferred Service
| S Server
|
| PR 
| 1 PORT_1*
| 2 PORT_2
| 3 PORT_3
| 4 PORT_4
| 5 PORT_5
| 6 PORT_6
| 7 PORT_7
| 8 PRINT
|
| 7 
| E Enable
| D Disable
|
| D 
-> %DS90L-119, Dedicated/Preferred Service Cleared
->
```

Managing the DECserver 90L+

Setting Server Parameters

The following server parameters can be set:

- Server name
- Prompt
- Zero counters
- Reset server and ports to factory default settings
Note: Resetting the server disconnects all sessions

Table 4-4 describes each of the parameters that can be set.

Server parameters can be set from a menu or by a command line entered at the prompt. The following sections describe how to set the server parameters using both methods.

If authorized mode is set, you must first enable manager mode.

Table 4-4 Server Parameters

Field	Description
Name	Maximum of 16 characters. You can use the hyphen (-), underscore (_), dollar sign (\$), or alpha-numeric characters.
Prompt	Maximum of 16 characters. Any character including leading and trailing spaces. Alphabetic characters appear uppercased. During a MOP connection, the default prompt "->" is used.
Actions	N = No action taken Z = Zero network counters F* = Reset all settable parameters to factory default settings

*All sessions are disconnected

Managing the DECserver 90L+

Setting Server Parameters from the Menu

To set server parameters from the menu:

1. Enter **SET** at the DECserver 90L+ prompt and press `[Return]`. The asterisk (*) in the menu indicates the port to which you are connected.
2. Select Server by entering S and press `[Return]`.
3. Set the parameters in response to the prompts. The asterisk (*) indicates the current setting of the parameter. The setting of each parameter is terminated with a `[Return]`. Entering a `[Return]` with no input for a parameter leaves the field unchanged. If an incorrect entry is made, the DECserver 90L+ signals the error and waits for a correct entry.

Setting Server Parameters By Command Line

Command line mode allows server parameters to be set with a single entry.

The format for the command line is as follows:

```
-> SET S,<name>,<prompt>,<action> [Return]
```

The following example shows how to set the server name to MYSERVER, set the prompt to MYPROMPT>, and zero the counters from the menu.

```
-> SET S,MYSERVER,MYPROMPT>,Z [Return]
```

```
-> %DS90L-100, Parameters Have Been Changed  
MYPROMPT>
```

Managing the DECserver 90L+

The following example shows how to set the server name to MYSERVER, set the prompt to MYPROMPT>, and zero the counters (user entries are bolded).

```
-> SET 
1 PORT_1*
2 PORT_2
3 PORT_3
4 PORT_4
5 PORT_5
6 PORT_6
7 PORT_7
8 PRINT
AUTH Authorized
AUTO AutoConfigure
D Dedicated Service
M Manager
O On-Demand Loading
PA Password
PO Port
PR Preferred Service
S Server

S 
Name | Prompt | Actions
LAT_08002B08322B* | -> * | N No Action*
| | | Z Zero Counters
| | | F Factory Defaults
MYSERVER | MYPROMPT> | Z Zero Counters
-> %DS90L-100, Parameters Have Been Changed
MYPROMPT>
```


Managing the DECserver 90L+

SHOW Command

The SHOW command allows you to show port or server parameters, status, and counters.

SHOW PORTS

The SHOW PORTS command displays the status for each of the eight ports of the DECserver 90L+. Table 4-5 describes each of the fields in the port status display.

Table 4-5 Port Status Description

Field	Description
Name	Shows the name of each port.
Speed	Shows the receive/transmit speed.
In Flow	Tells if the input flow control is enabled or disabled and gives its current state (on/off).
Out Flow	Tells if the output flow control is enabled or disabled and gives its current state (on/off).
Type	Tells if the device type is set for a terminal or printer.
Break	Tells if the port is set for local or remote break.
Rem Mod	Tells if remote modify is enabled or disabled.
Test	Tells if the loopback test is active.
AutoConf	Tells if AutoConfigure is enabled or disabled.
ODL	Tells if On Demand Loading of fonts is enabled or disabled.
Status	Tells if the port is connected to a service, local (the terminal is at the DECserver 90L+ prompt), or off.
Service	Tells the name of the service to which a port is connected.
Node	Gives the name of the node to which a port is connected.
Port	Gives the name of the port to which the DECserver 90L+ is connected.
MOP CC	Gives the address to which a port is connected if a remote console carrier session exists.
Dedicated	Displays the service, node and port parameters if a dedicated service is set.
Preferred	Displays the service, node and port parameters if a preferred service is set.

(continued on next page)

Managing the DECserver 90L+

Table 4–5 (Cont.) Port Status Description

Field	Description
Frame Err	A counter that gives the number of framing errors for a port.
Queued	Printer ports only. Lists jobs queued to the port (maximum of seven plus one active).

The **SHOW** command allows you to examine the status of all ports or a selected port. The DECserver 90L+ provides additional information when examining an individual port. The **SHOW PORTS** command can be entered from the menu or by a command line.

Managing the DECserver 90L+

SHOW PORTS by Menu

The following example shows the SHOW PORTS command used to examine the status of all the ports. The example shows the command entered interactively.

1. Enter **SHOW** at the DECserver 90L+ prompt and press **Return**. The asterisk (*) indicates the port to which you are connected.
2. Select Ports by entering **P** and press **Return**.

-> **SHOW** **Return**

```
1 PORT_1*
2 PORT_2
3 PORT_3
4 PORT_4
5 PORT_5
6 PORT_6
7 PORT_7
8 PRINT
P Ports
S Server
D Dedicated/Preferred Service
```

P **Return**

Name	PORT_1	PORT_2	PORT_3	PORT_4	PORT_5	PORT_6	PORT_7	PRINT
Speed	38400							9600
In Flow	ENA/on	ENA/on	ENA/on	ENA/on	ENA/on	ENA/on	ENA/on	ENA/on
Out Flow	ENA/on	ENA/on	ENA/on	ENA/on	ENA/on	ENA/on	ENA/on	ENA/on
Type	TERM	TERM	TERM	TERM	TERM	TERM	TERM	PRINTER
Break	LOCAL	LOCAL	REMOTE	LOCAL	LOCAL	LOCAL	LOCAL	LOCAL
Rem Mod	DIS	DIS	DIS	DIS	DIS	DIS	DIS	DIS
Test	NO	NO	NO	NO	NO	NO	NO	NO
AutoConf	ENA	ENA	ENA	ENA	ENA	ENA	ENA	DIS
ODL	DIS	DIS	DIS	DIS	DIS	DIS	DIS	DIS
Status	LOCAL	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Fram Err	0	0	0	0	0	0	0	0

SHOW PORTS by Command Line

The command line to show ports is:

-> **SHOW P** **Return**

Managing the DECserver 90L+

Show Status of Selected Port by Menu

The following example shows how to examine the status of a selected port using menu mode.

1. Enter **SHOW** at the DECserver 90L+ prompt and press `[Return]`. The asterisk (*) indicates the port to which you are connected, in this case Port 1.
2. Select 1 and press `[Return]`.

```
-> SHOW [Return]
1 Port_1*
2 Port_2
3 Port_3
4 Port_4
5 Port_5
6 Port_6
7 Port_7
8 PRINT
P Ports
S Server
D Dedicated/Preferred Service

1 [Return]

Name      Port_1
Speed     38400
In Flow   ENA/on
Out Flow  ENA/on
Type      TERM
Break     LOCAL
Rem Mod   DIS
Test      NO
AutoConf  ENA
ODL       DIS
Status    CONN
Service   RED*          YELLOW          GREEN          BLUE
Node      MYNODE        MYNODE        YOURNODE      YOURNODE
Port      LTA123         LTA456         LTA789        LTA790
MOP CC    08-00-2B-12-35-56
Preferred ULTRIX          DECSTATION
Fram Err  0
```

Show Status of Selected Port by Command Line

The command line to show status of a selected port, in this case Port 1, is:

```
-> SHOW 1 [Return]
```

Managing the DECserver 90L+

SHOW SERVER

The SHOW SERVER command displays the server type, protocol it runs, Ethernet address, server name, network counters, current prompt, status of security, NVRAM, and the network connection.

SHOW SERVER by Menu

The SHOW SERVER command can be entered interactively or by a command line. The following example shows the SHOW SERVER command entered interactively.

1. Enter **SHOW** at the DECserver 90L+ prompt and press . The asterisk (*) indicates the port to which you are connected.
2. Select Server by entering S and press .

SHOW SERVER by Command Line

The command line to show server is:

```
-> SHOW S 
```

Managing the DECserver 90L+

The following example shows how to show the server from the menu.

```
-> SHOW 
1 PORT_1*
2 PORT_2
3 PORT_3
4 PORT_4
5 PORT_5
6 PORT_6
7 PORT_7
8 PRINT
P Ports
S Server
D Dedicated/Preferred Service

S 
DECserver 90L+ V2.0 BL4.0                Address: 08-00-2B-XX-XX-XX
Protocol: LAT V5.2                       Name: MYSERVER

Frames Received:          4430  Seconds Since Zeroed:      394
Frames Sent:              710   Send Failures:              0
Multicast Frames Rcv'd:  3333  Receive Failures:          0
Multicast Frames Sent:    5     Unrecognized Destination:   0
Frames Sent, Deferred:    4     Data Overrun:               0
Frames Sent, 1 Collision: 0     User Buffer Unavailable:     0
Frames Sent, 2+ Collisions: 0   System Buffer Unavailable:   0

Messages Received:       170   Duplicates Received:        0
Messages Transmitted:    98   Messages Re-Transmitted:    0
Solicitations Accepted:  8    Illegal Messages Rcv'd:     0
Solicitations Rejected: 0    Illegal Slots Rcv'd:        0
Multiple Node Addresses: 0    Illegal Multicasts Rcv'd:   0

Keepalive Timer:         20    Security:                    Disabled
Retransmit Limit:        8    NVRAM:                       OK
Prompt:                  MYPROMPT> Network:                          OK
```

Managing the DECserver 90L+

SHOW DEDICATED/PREFERRED SERVICE

The SHOW DEDICATED/PREFERRED SERVICE command displays the dedicated and preferred services that have been enabled for each port.

Show Dedicated/Preferred Service by Menu

The SHOW DEDICATED/PREFERRED command can be entered interactively or by a command line. The following example shows the SHOW DEDICATED/PREFERRED command entered interactively.

1. Enter **SHOW** at the DECserver 90L+ prompt and press `[Return]`. The asterisk (*) indicates the port to which you are connected.
2. Select Dedicated/Preferred by entering D and press `[Return]`.

```
-> SHOW [Return]
1 PORT_1*
2 PORT_2
3 PORT_3
4 PORT_4
5 PORT_5
6 PORT_6
7 PORT_7
8 PRINT
P Ports
S Server
D Dedicated/Preferred Service

D [Return]

PORT_1
PORT_2
PORT_3      Dedicated   VMS           VAX1         OSF
PORT_4
PORT_5
PORT_6
PORT_7      Preferred   ULTRIX        DECSTATION
PRINT
```

SHOW DEDICATED/PREFERRED SERVICE by Command Line

The command line to show dedicated/preferred service is:

```
-> SHOW D [Return]
```

Managing the DECserver 90L+

RESET Command

The RESET command allows you to reset individual ports or server parameters to their power-up state and run the unit's self-test. Resetting the server sets all port and server parameters to their power-up state, disconnects all sessions, and runs a self-test. When the DECserver 90L+ is in authorized mode, the port you are using must be in manager mode to reset another port or the server.

Ports that have not had their speed set using the SET command will be returned to the non-autobaud state (no speed set). After being reset, press the key twice to autobaud a port and set the speed.

RESET Command by Menu

The following example shows the RESET command used to reset port 1. The example shows the command entered interactively.

1. Enter **RESET** at the DECserver 90L+ prompt and press . The asterisk (*) indicates the port to which you are connected, in this case Port 1.
2. Enter 1 and press .

```
-> RESET 
1 PORT_1*
2 PORT_2
3 PORT_3
4 PORT_4
5 PORT_5
6 PORT_6
7 PORT_7
8 PORT_8
S Server

1 
-> %DS90L-110, Port Has Been Reset
->
```

RESET Command by Command Line

The command line to reset is:

```
-> RESET 1 
-> %DS90L-110, Port Has Been Reset
->
```


Managing the DECserver 90L+

Command Line

The DECserver 90L+ user interface provides a command line interpreter as an alternate means to set and show port and server parameters. The command line interpreter helps with the control of the DECserver 90L+ by network management software and by users who want to bypass the menu interface.

For command line entries, the commands and parameters are not entered through a menu on the terminal screen. The user's input is echoed and the complete command is processed after a is entered. Note that any error in parsing a command will cause the entire command to be ignored.

A space is required between the command (set or show) and its parameters. The command line interpreter uses a comma (,) as a delimiter to separate the different fields in a command line. To make the command line interpreter easier to use, the current value (default) for a field will be used when:

1. There is no entry for a field.
2. A is entered before all the parameters have been entered.

The following are the command lines that can be entered at the DECserver 90L+ prompt (->) to set, show, or reset parameters.

Set Port Parameters:

```
->SET <port>,<name>,<speed>,<IFC>,<OFC>,<device>,<break>,<rem_mod>,<test>
-----
      1          1200    E    E    T    L    E    Y
      2          2400    D    D    P    R    D    N
      3          4800    C    C
      4          9600
      5          19200
      6          38400
      7
      8
```

Set Server Parameters:

```
-> SET S[erver],<name>,<actions>
-----
          N
          Z
          F
```

Managing the DECserver 90L+

Set Authorized Mode:

```
-> SET AUTH[orized],S[et],<password>
```

Clear Authorized Mode:

```
-> SET AUTH[orized],C[lear]
```

Enable AutoConfigure Mode:

```
-> SET AUTO[configure],<port>,E[nable]
```

Disable AutoConfigure Mode:

```
-> SET AUTO[configure],<port>,D[isable]
```

Enable Dedicated Service Mode:

```
-> SET D[edicated],<port>,E[nable],<service>[,<node>[,<port>]]
```

Disable Dedicated Service Mode:

```
-> SET D[edicated],<port>,D[isable]
```

Enable Manager Mode:

```
-> SET M[anager],E[nable],<password>
```

Disable Manager Mode:

```
-> SET M[anager],D[isable]
```

Enable On-Demand Loading Mode:

```
-> SET O[n-demand],<port>,E[nable]
```

Disable On-Demand Loading Mode:

```
-> SET O[n-demand],<port>,D[isable]
```

Set Password:

```
-> SET PA[ssword],<old_password>,<new_password>
```

Enable Port Mode:

```
-> SET PO[rt],<port>,E[nable]
```

Disable Port Mode:

```
-> SET PO[rt],<port>,D[isable]
```

Enable Preferred Service Mode:

```
-> SET PR[eferred],<port>,E[nable],<service>[,<node>[,<port>]]
```

Disable Preferred Service Mode:

```
-> SET PR[eferred],<port>,D[isable]
```

Managing the DECserver 90L+

Show Port Parameters:

-> SHOW P[orts]

Show Server Parameters:

-> SHOW S[erver]

Show Dedicated/Preferred Parameters:

-> SHOW D[edicated]

Reset Port Parameters:

-> RESET <port>

Reset Server Parameters:

-> RESET S[erver]

Command Line Recall and Editing

The DECserver 90L+ supports command line recall and editing of the command line. Only insert mode is supported. Lines can be recalled and edited using the keys described in Table 4-6.

Table 4-6 Command Line recall and editing

Keys	Function
Ctrl U	Cancels input
Ctrl H	Moves to the beginning of the field
Ctrl E	Moves to the end of the field
←, →	Moves backward and forward within the buffer
↑, ↓	Recalls previous and subsequent commands in the buffer

Managing the DECserver 90L+

Using a Printer

The installation requirements for a printer are dependent on the system environment in which it is installed. However, there are three basic steps that need to be performed when setting a DECserver 90L+ port for use by a printer.

1. Choose the port to be used.
 - a. Set the server name if it has not already been done.
 - b. Set the port for use by a printer. The following port parameters should be set:

- Name = port name you want to use
- Speed = speed of printer
- Input flow = as required by printer (usually enabled)
- Output flow = as required by printer (usually enabled)
- Device type = Printer
- Break = as required by printer (usually don't care)
- Remote Modify = enabled if host needs to be able to change printer characteristics (usually disabled)

2. Set up the system so it can access the printer port. Refer to your system documentation for information on this procedure.

For example, on a VMS system you would use LATCP to map LTA1234: to the server name and port name on the DECserver 90L+. A typical VMS setup is as follows:

```
$ MCR LATCP
LCP>CREATE PORT LTA1234
Local Port Name = LTA1234:      <application>
LCP>SET PORT LTA1234:/NODE=MYSERVER/PORT=PRINT
Specified Remote Node Name = MYSERVER
Specified Remote Port Name = PRINT
Link Name = LAT$LINK
LCP>EXIT
$
```

Managing the DECserver 90L+

3. Set the LTA device to the same speed as the DECserver 90L+ port:

```
$ SET TERM /NOBROAD/PERM/SPEED=9600 /WID=80 LTA1234:
```

4. Configure the print queue.

For example, assuming that the queue manager has been started, the VMS commands to create a queue named LASER1 that is spooled to the system disk are as follows:

```
$ SET DEVICE/SPOOL=(LASER1, SYS$SYSDEVICE:) LTA1234:
$ INIT/QUEUE /START/PROC=LATSYM /SEP=(NOFLAG,NOTRAILER)-
  LASER1 /ON=LTA1234:
```

Note

If you want to set all eight ports for use by printers, the eighth port's parameters must be set using a MOP console carrier session.

The print queue configuration is only in effect until the host is rebooted. To save the configuration, enter steps 2,3, and 4 into the LAT\$SYSTARTUP.COM file. The LAT\$SYSTARTUP.COM file configures the service node and its services and maps an application port on the service node to a remote printer on a server. Ensure that LAT\$SYSTARTUP.COM is invoked from SYSTARTUP_V5.COM. The call to invoke LAT\$SYSTARTUP.COM should be after DECnet is up and running.

The DECserver 90L+ can interpret LAT codes to output a timed break condition from a terminal port. Using this feature, the DECserver 90L+ can be used to manage a VAX system through its console port.

5

Troubleshooting the DECserver 90L+

This chapter describes how to troubleshoot the DECserver 90L+. To troubleshoot your unit:

1. Verify that the unit is properly installed.
2. Note the fault condition.
3. Isolate the problem. Use Table 5-1 as a guide to determine the probable cause and the suggested solution.

Table 5-1 DECserver 90L+ Troubleshooting

If...	Then...	Do this...
The power LED is not "on"	The DECserver 90L+ is not receiving proper voltage.	Check the AC power connection and verify that the AC outlet is working. Check the power connection on the DECserver 90L+. If the problem still exists, replace the power supply.
The self-test LED is not "on"	The unit did not pass self-test.	Replace the unit.
The network LED is not "on"	The unit's network connector is not properly terminated.	Check network connection. Check if the segment is properly terminated. Disconnect unit from network. Connect T-connector with two 50 ohm terminators. If the LED lights, then it is a network problem. Otherwise, replace the unit.

(continued on next page)

Troubleshooting the DECserver 90L+

Table 5–1 (Cont.) DECserver 90L+ Troubleshooting

If...	Then...	Do this...
There is no response from the terminal server	The port and terminal baud rates are not compatible.	Shut off and turn on the terminal. Press Return twice to set the port baud rate (autobaud). Terminal transmit and receive speeds must be the same.
	The terminal flow control is disabled by XOFF.	Use the terminal's setup to clear communications.
	The port type is set to printer.	Set port to term.
	The port is disabled.	Contact the system manager.
	There is faulty wiring between the terminal and the DECserver 90L+.	While watching the activity LED on the DECserver 90L+, the LED should blink when characters are typed at the terminal. If not, check that the activity LED blinks when characters are typed on terminals connected to other ports. If the activity LED does blink for other ports, the wiring between your terminal and the DECserver 90L+ or the terminal itself is faulty.
You cannot connect to the service	The service is not available.	Check for service availability.
	LAT is not installed on the host system.	Verify that LAT Version 5.0 or higher is running on the host system.
	It is a network problem.	Check the network LED, it should be on. If not, check the network connection. If the LED is on, you can check network connectivity by running MOP loopback or a MOP console carrier session.

(continued on next page)

Troubleshooting the DECserver 90L+

Table 5-1 (Cont.) DECserver 90L+ Troubleshooting

If...	Then...	Do this...
The printer does not work	The port is not set for a printer.	Set the port for the printer.
	The baud rates are incompatible.	Check printer and port baud rates.
	The flow control is not set as required by the application.	Check flow control.
	The port and/or server name does not match with the host.	Verify that the names match.

A

Specifications and Parts List

Specifications for the DECserver 90L+ are divided into the following categories:

- Physical dimensions
- Environmental specifications
- Electrical specifications
- LAT specifications

Physical Dimensions

The physical dimensions of the DECserver 90L+ are as follows:

Dimension	Value
Height	3.18 cm (1.25 in)
Width	27.31 cm (10.75 in)
Depth	12.70 cm (5.0 in)
Weight	.77 kg (1.7 lb)

Specifications and Parts List

Environmental Specifications

The DECserver 90L+ is designed to operate in an office environment or equipment room environment such as, telephone closets or satellite equipment rooms. It is not intended to operate in an air plenum.

Operating Environment

The operating environment for the DECserver 90L+ is as follows:

Item	Value
Temperature	5° C to 50° C (41° F to 122 ° F)
Maximum rate of change	20° C/hr (68° F/hr)
Relative humidity	10 % to 95 % (non-condensing)
Wet-bulb temperature	32° C (90° F) maximum
Dew point	2° C (36° F) minimum
Altitude	Sea level to 2.4 km (8000 ft)
Air flow	Convectively cooled. A minimum of 10 cm(4 in) of space must be provided on both ends of the unit for adequate air flow.

Shipping Environment

The shipping environment for the DECserver 90L+ is as follows:

Item	Value
Temperature	-40° C to 66° C (-40 ° F to 151 °F)
Relative humidity	10 % to 95 % (non-condensing)
Altitude	Sea level to 4.9 km (16000 ft)

Specifications and Parts List

Power Specifications

The following sections describe the power specifications for the DECserver 90L+.

Power Supply

Item	Value
Voltage (North American)	104 VAC to 128 VAC (nominal 120 VAC)
Voltage (International)	208 VAC to 256 VAC (nominal 240 VAC)
Current at 120 volts	.25 A
Current at 240 volts	.125 A
Frequency	50 Hz to 60 Hz
Power consumption	16 Watts
Output voltage	5.1 VDC
Output current	1.8 A

DECserver 90L+

Item	Value
Input voltage	4.75 to 5.25 VDC
Input current	1.0 A

Connector Pin Out

Table A-1 describes the pin out of the MMJ connectors on the DECserver 90L+.

_____ **Note** _____
The DECserver 90L+ does not provide modem control signals.

Specifications and Parts List

Table A-1 MMJ Pin Out

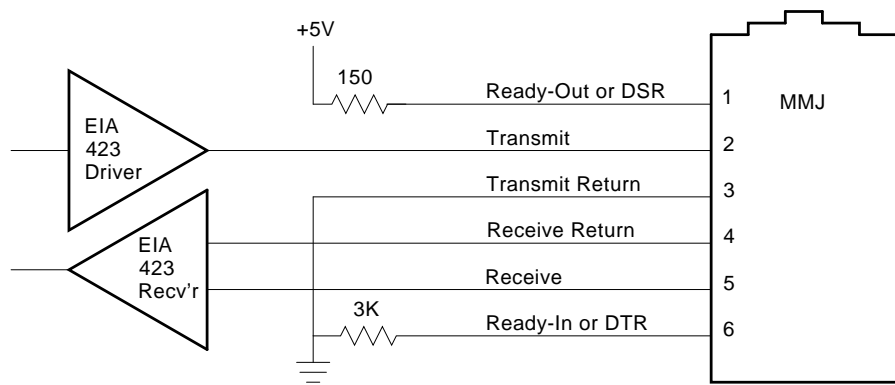
Pin	Signal Name
1	Ready-Out or DSR ¹
2	Transmit (TXA)
3	Transmit return (RC)
4	Receive return (RXB)
5	Receive (RXA)
6	Ready-In or DTR ²

¹This signal is pulled high when power is applied to the DECserver 90L+.

²This signal is tied to ground through a 3K ohm resistor.

Figure A-1 shows the circuit connections for each port.

Figure A-1 Port Circuit



LJ-00562-TI0.DG

Specifications and Parts List

LAT Specifications

This section provides a description of the LAT implemented by the DECserver 90L+. Table A-2 lists the server characteristics.

Table A-2 LAT Server Characteristics

Characteristic	Setting
High protocol	5.2
Low protocol	5.0
Product type code	35
Node type	Master
Keepalive timer	20s
Master circuit timer	80ms
Local cache node limit	24
Password	8 characters maximum
Prompt	16 characters (settable)
Queue limit	7 per port
Retransmit limit	8
Session limit	4 per port
MOP session limit	1 per port
Server name	16 characters (settable)

Specifications and Parts List

Table A-3 lists the port characteristics.

Table A-3 LAT Port Characteristics

Characteristic	Setting
Character size	8
Flow control	XON/XOFF or disabled
Parity	None
Speed (Input = Output)	1.2K to 38.4K
Name	6 characters (settable)
Break	Local, remote (settable)
Session limit	4

Parts List

Table A-4 lists the kit contents for a standalone installation.

Table A-4 Standalone Installation Kit Contents

Part	Order Number
DECserver 90L+ kit:	DSRVG-AA
<ul style="list-style-type: none">• Wall mountable power supply with 2.4 m (8ft) DC power cable attached (H7082)• DECserver 90L+ (DSRVG-MA)• Owner's Manual (EK-DSRVG-OM)	

Specifications and Parts List

Table A-5 lists the kit contents for the installation in a DEChub 90 Ethernet backplane.

Table A-5 DEChub 90 Ethernet Backplane Installation Kit Contents

Part	Order Number
DECserver 90L+ kit:	DSRVG-MA
• DECserver 90L+	
• Owner's Manual (EK-DSRVG-OM)	

Table A-6 lists the related parts for the DECserver 90L+.

Table A-6 Related Parts

Part	Length	Order Number
ThinWire Coaxial Cables	6ft (1.8m)	BC16M-06
	15ft (4.7m)	BC16M-15
	30ft (9.3m)	BC16M-30
Terminal Interconnection Cables	2ft (0.6m)	BC16E-02
	10ft (3.1m)	BC16E-10
	25ft (7.6m)	BC16E-25
	50ft (15.2m)	BC16E-50
	100ft (30.4m)	BC16E-A0
T-Connector		H8223-00
Barrel Connector		H8224-00
ThinWire Terminator		H8225-00

B

Related Documentation

Document Title	Order Number
DECbridge 90 Owner's Manual	EK-DEWGB-OM
DEChub 90 Owner's Manual	EK-DEHUB-OM
VMS LAT Control Program (LATCP) Manual	AA-LA32B-TE
Open DECconnect Building Wiring Components Applications Catalog	EB-K2407-42
DECconnect System Planning and Configuration Guide	EK-DECSY-CG

Ordering Information

Customers can order documents by phone or mail.

Continental USA and Puerto Rico

Call 800-258-1710 or mail to:

Digital Equipment Corporation
Peripherals and Supplies Group
P.O. Box CS2008
Nashua, NH 03061

New Hampshire, Alaska, and Hawaii

Call 1-603-884-6660.

Outside the USA and Puerto Rico

Mail to:

Digital Equipment Corporation
Attn: Accessories and Supplies Business Manager
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Related Documentation

Digital Personnel

Digital personnel can order these documents from:

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Northboro, MA 01532
Attn: Publishing and Circulation Services (NRO2)
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