

# **AlphaServer Management Station**

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## **Adding a GS80, GS160, or GS320 to an AMS Environment**

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**Product Version:**                      **AlphaServer Management Station  
Version 3.0**

This document describes how to add a GS80, GS160, and GS320 to an existing AMS environment.

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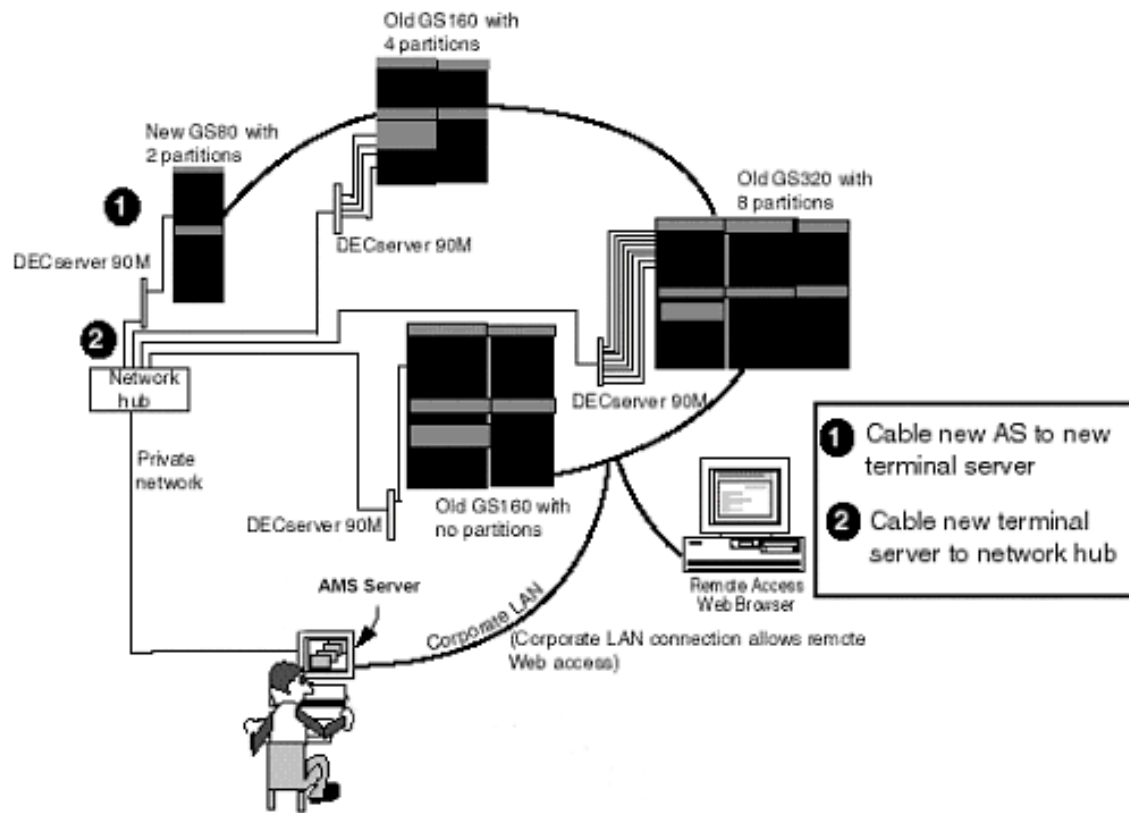
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# Adding a GS80, GS160, or GS320 to an AMS Environment

## Overview

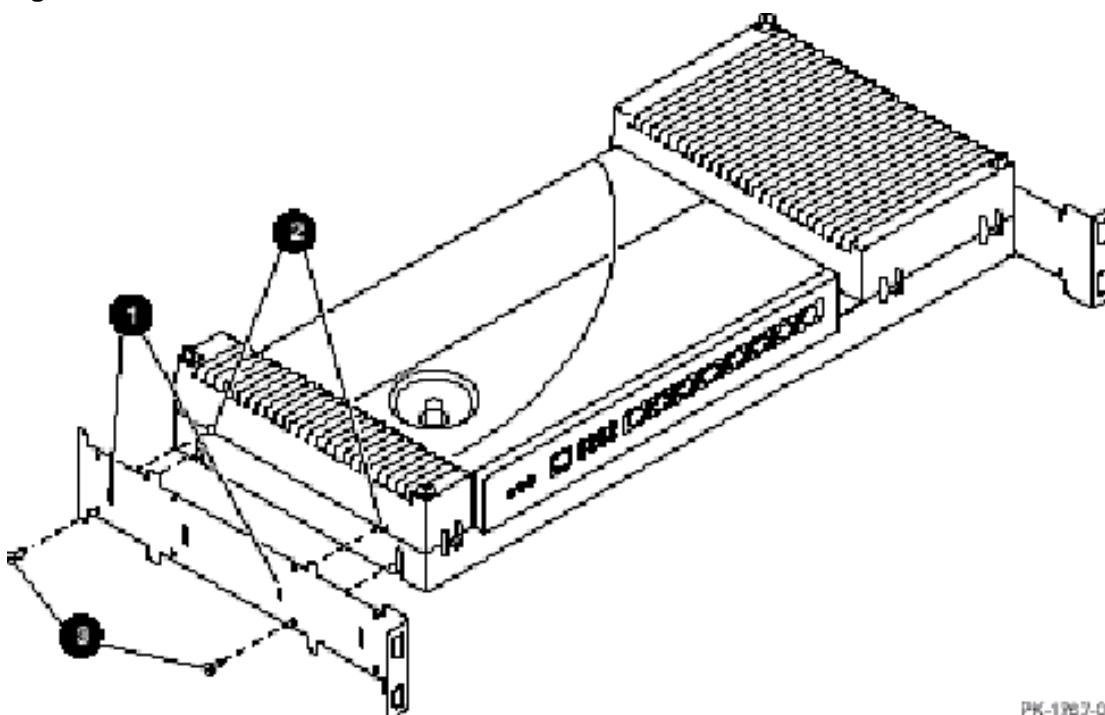
Each GS80, GS160, and GS320 platform must be connected to its own terminal server because the AMS uses the IP address of each terminal server to designate the GS80, GS160, and GS320 platform. If multiple platforms are connected to a single terminal server, the SPM and APW applications may give unpredictable results for those platforms.

Figure 1



## Attach Mounting Brackets

Figure 2



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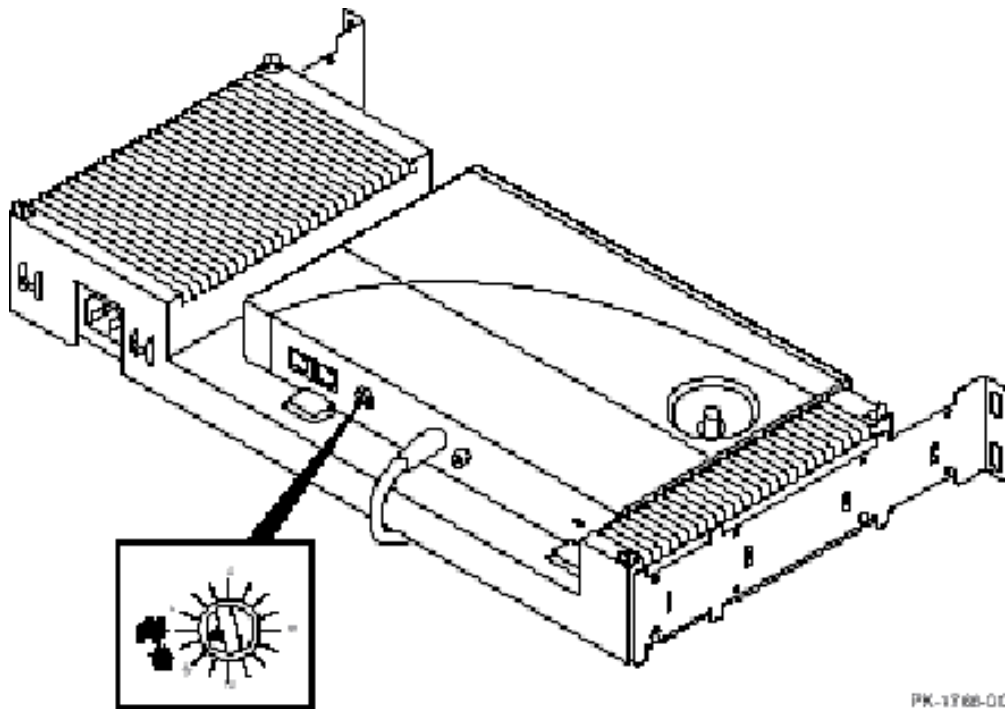
To attach the mounting brackets you:

1. Position the holes in the bracket (indicated by **(1)** in *Figure 2*) over the alignment pins **(2)** on the terminal server tray. The front end of the bracket should be 2 inches (5 cm) from the front of the terminal server. (The front is the face that has the port connectors.)
2. Fasten the bracket to the terminal server with the M5 screws **(3)**.
3. Repeat with the bracket on the other side.

position the top rear holes over the alignment pins and fasten the brackets with the M5 screws.

## Set Position Identifier Dial and Install Server

Figure 3



1. Set the position identifier dial at the rear of the terminal server to management agent (the position after 14; see *Figure 3*).
2. Attach the power cord to the rear of the terminal server power supply. Do not plug the other end into the power source yet.
3. From the rear of the GS160/320 power cabinet, install the U-type fasteners in holes 14 and 16 from the bottom on both side rails, above the AC input boxes (*Figure 3*).
4. Install the terminal server in the power cabinet (*Figure 4*).



Figure 4

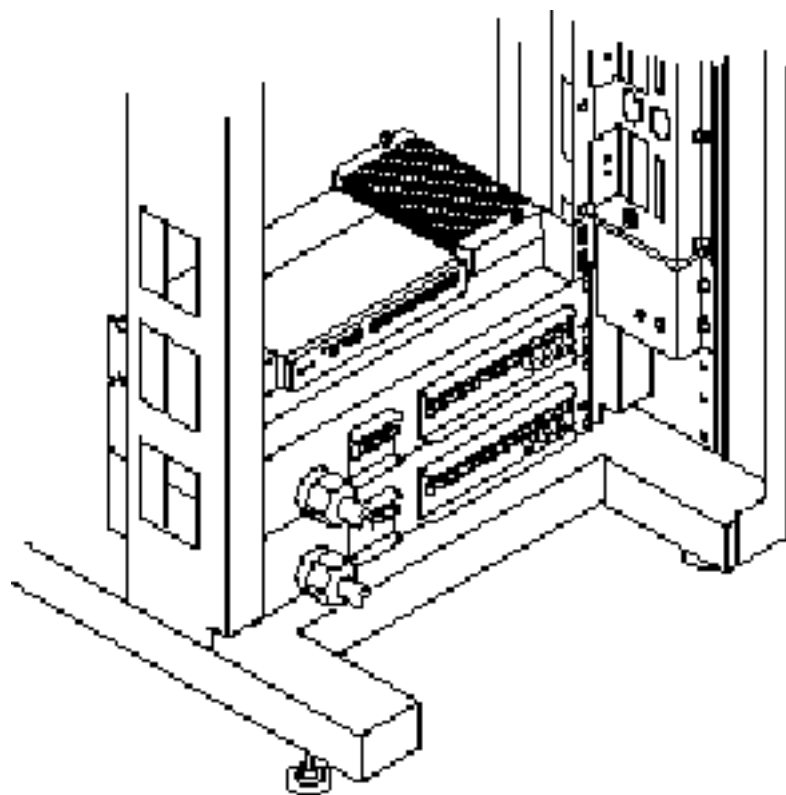


FIG 1 790-00

Figure 5

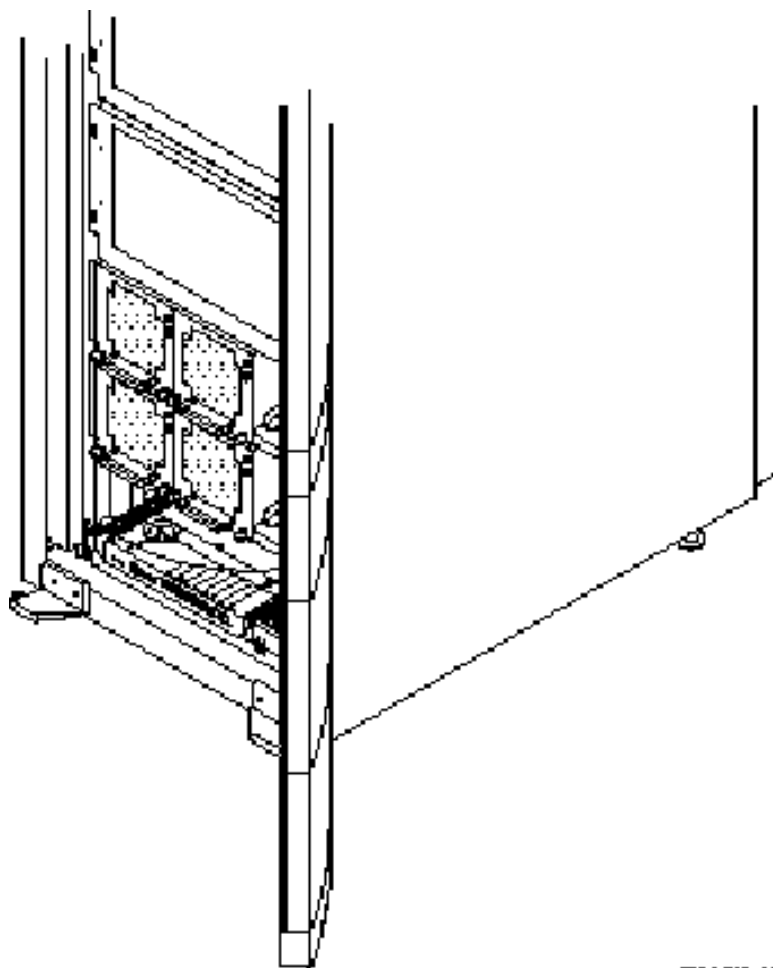
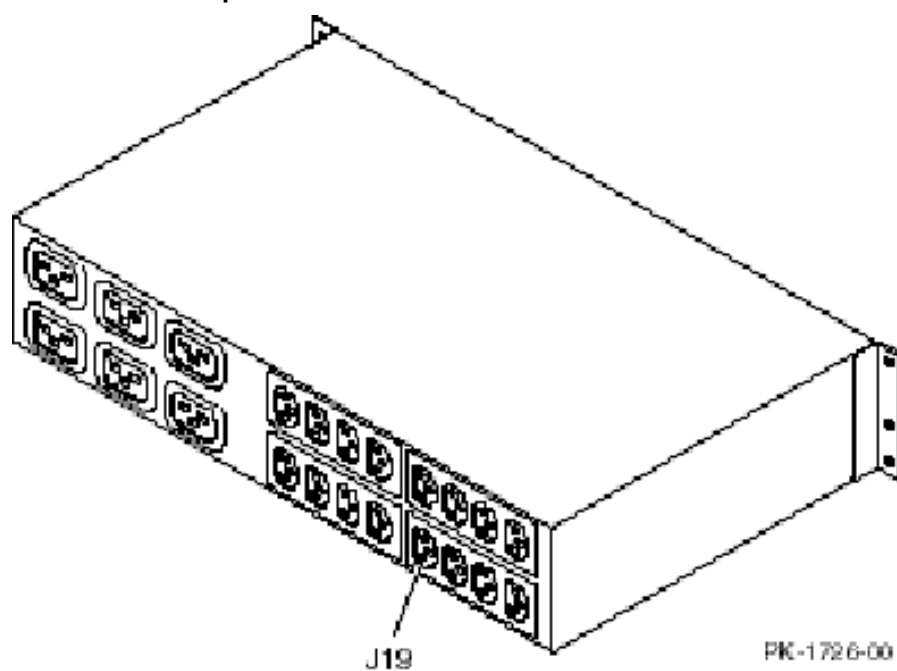


FIG. 1 291 -00

## Connect Power Cord to J19 of AC Input Box (GS160/320)

GS160/320 AC Input Box

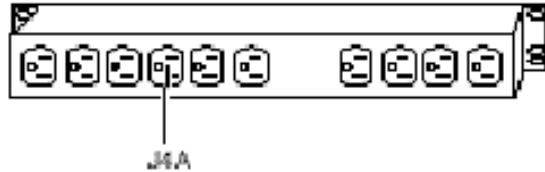


Plug the power cord of the terminal server into J19 of AC input box 1 (the bottom AC input box) in the GS160/320 power cabinet. If the GS160/320 system is powered up, the terminal server powers up when it is plugged in

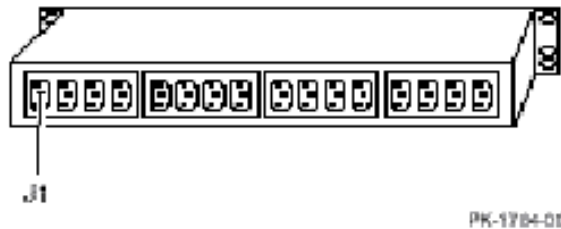
## Connect Power Cord to J5A or J1 of AC Input Box (GS80)

Figure 6

North America



Europe and Japan



Plug the power cord of the terminal server into AC input box 1 (the bottom AC input box) in the GS80 rack:

- North America systems (-CA variant), use outlet J4A.
- Europe and Japan systems (-CB and -CC variants), use outlet J1.

Figure 6 shows the location of these outlets.

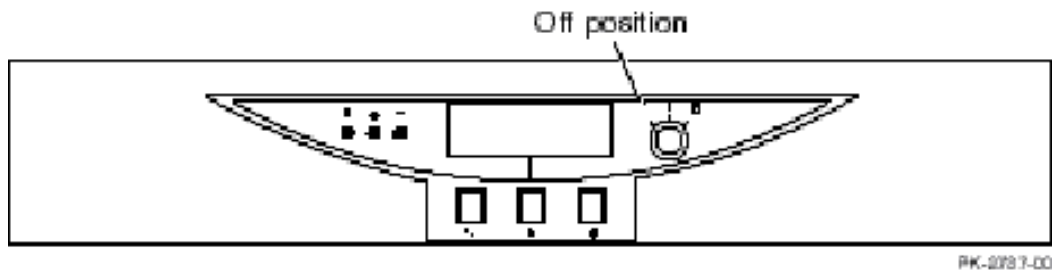
If the GS80 system is powered up, the terminal server powers up when it is plugged in

## Cable a GS80/260/320 System to Terminal Server

To cable a GS80, GS160, or GS320 platform to a terminal server you need a DECsystem 90 Terminal Server (3x-DS8AA-aa) and a network hub:

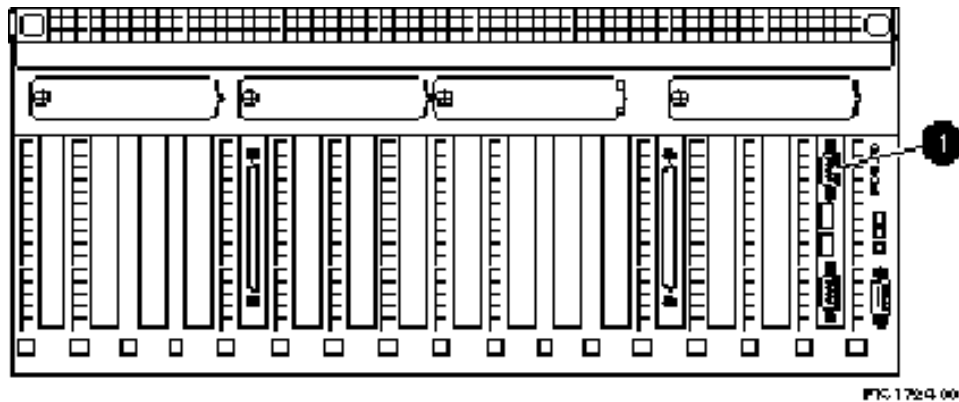
1. Power the AS system to Vaux, and cable it to the terminal server.
2. Turn the keyswitch to Off (*Figure 7*).

**Figure 7**



3. Turn on the AC input box breakers. The breakers are accessible from the rear of both the GS80 cabinet and the GS160/320 power cabinet.
4. Cable the local port of each PCI box with a standard I/O module in the new system to the appropriate port on the terminal server with a BN25G cable.

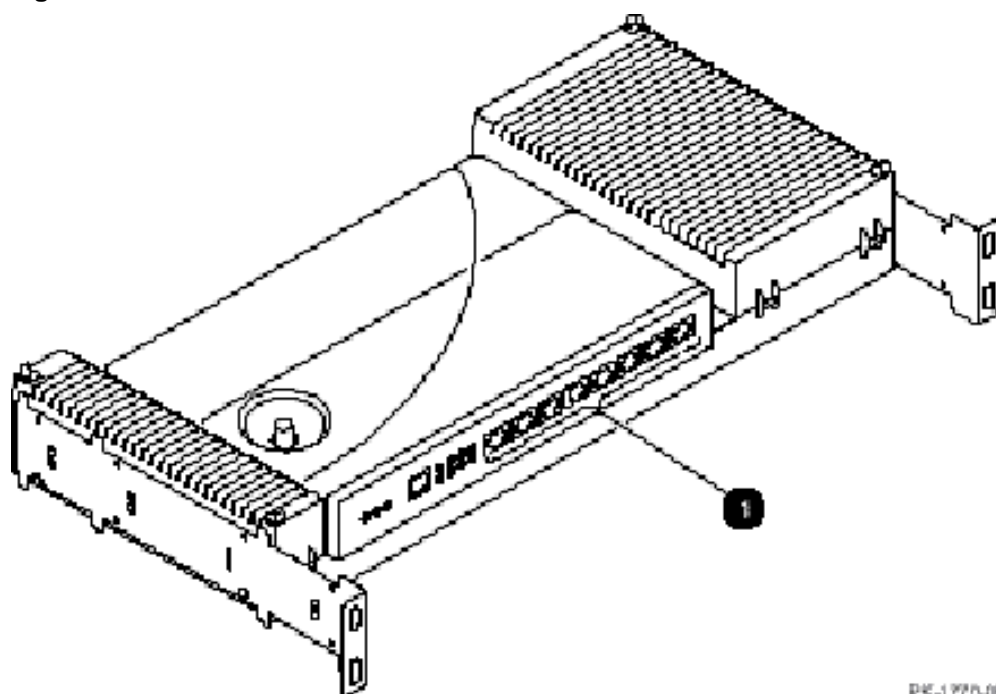
**Figure 8**



The cable connections are made at the factory from the standard I/O modules in PCI boxes in the GS160/320 power cabinet and in the GS80 cabinet. For PCI boxes in expander cabinets, an H8585-AA connector (12-36054-01) is installed on the local port ((1) in *Figure 10*) and a BN25G cable (17-03212-05) is labeled and attached at the factory.

Make the connection to each console (PCI box with a standard I/O module) in an expander cabinet. Attach the BN25G cable to the port on the terminal server ((1) in *Figure 9*).

Figure 9



PK-177D-00

## Dress the Cables

Figure 10

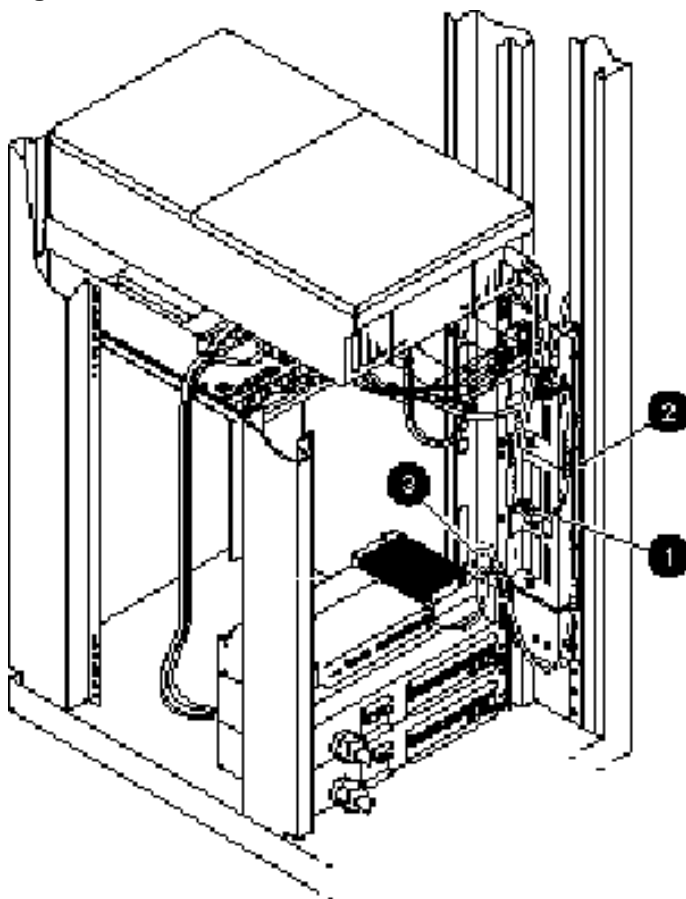


FIG 1725-00

1. At the PCI box end, tie wrap the BN25G cable (17-03212-05) to the CSB junction cable (17-04936-xx) to form a service loop ((1) in *Figure 10*).
2. Tie wrap the BN25G cable down the rail of the expander cabinet (2).
3. At the bottom of the rail, coil the BN25G cable and place the extra length in the rail (3).

## Cable New Terminal Server to Network Hub

Figure 11

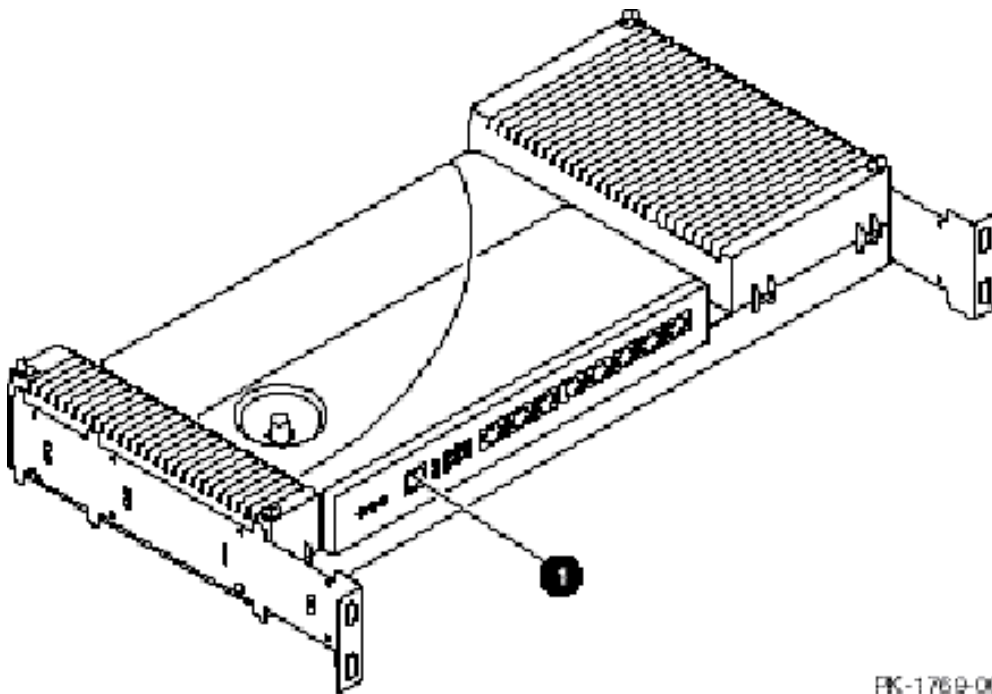
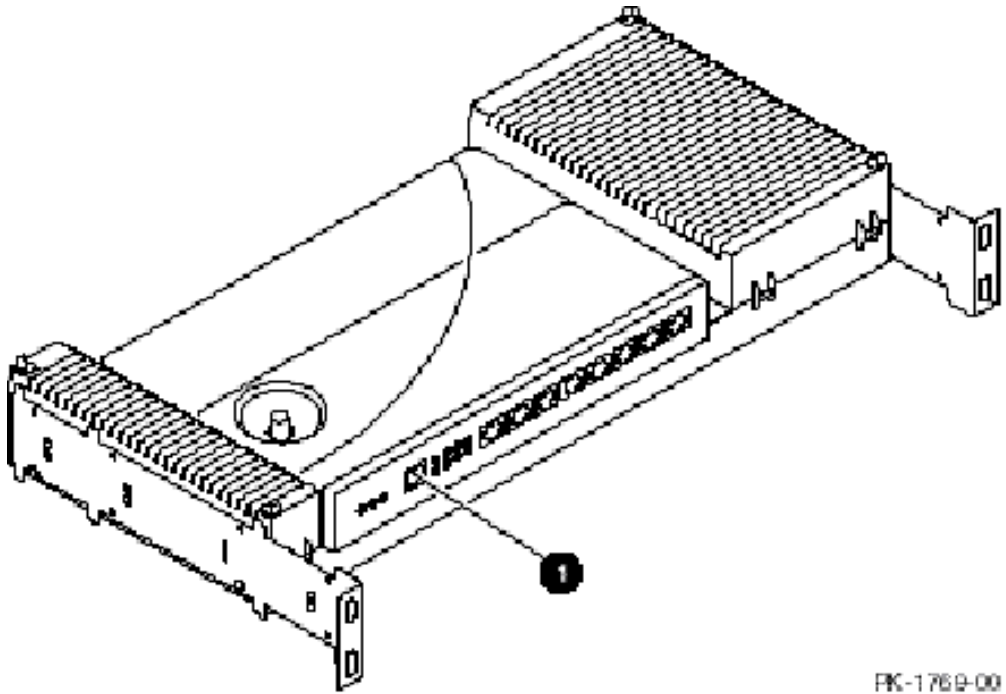


FIG-1769-00



**Figure 12**



PK-1769-00

1. Connect one end of the BN25G cable (17-03212-05) to the management channel connector on the terminal server ((1) in *Figure 11*).
2. Connect the other end of the cable to a port on the network hub. (See *Figure 12* for an example of an 8-port hub. Yours may be different.) If you need to extend the hub by adding another hub, daisy-chain them together as described in the hub installation documentation.

## Initializing Port Configuration and Network Settings

Initializing the terminal server's network settings and port configuration is necessary if the terminal server's IP address must be changed or if you have not used the terminal server with a GS80, GS160, or GS320 platform.

When reset to factory defaults, the terminal server uses the BOOTP protocol to learn its IP address and then stores the IP address for the next power cycle. BOOTP is supported on both Linux and Tru64 UNIX, but the

procedure you must follow is different. On either operating system, you must obtain the following information before beginning:

1. Obtain the Ethernet address of the terminal server. This number is listed on the front left of the DECServer 90M, and is a number like 00-60-6D-1D-71-D8, which is used in the example below.
2. You will need the IP address, host name, and netmask of the terminal server. If you want to specify additional network settings, such as default router or domain name server you can use the following procedure to help you get started. The example in the procedure assumes the terminal server will be called `tserv1` and has IP address 90.0.0.1 and netmask 255.0.0.0.

## RedHat Linux 7.3

The BOOTP protocol is supported by `/usr/sbin/dhcpd`. This software is configured through `/etc/dhcpd.conf`. Follow these steps when using BOOTP on Linux:

1. A complete installation of RedHat Linux 7.3 will include `dhcpd`. Use the package manager to verify that `dhcp` is installed.

```
# rpm -q dhcp dhcp
-2.0p15-8
```

2. Edit the file `/etc/dhcpd.conf`, creating it if necessary. Add a section for each subnet, and a section for a new terminal server. For example:

```
# AMS private network
subset 90.0.0.0 netmask 255.0.0.0 {
}
# Corporate network
subset 192.168.0.0 netmask 255.255.0.0 {
    not authoritative;
}

# AMS terminal servers
group {
    use-host-decl-names on;
    allow bootp;
    host tserv1 {
        hardware ethernet 00:60:6D:1D:71:D8;
        fixed-address 90.0.0.1;
    }
}
```

3. Enable `dhcpd` to start when Linux is coming up. Do this by entering the following commands while logged in as root:

```
# chkconfig --level 345 dhcpd on
```

4. 4. Start `dhcpcd` by entering the following commands while logged in as root:  

```
# /usr/sbin/dhcpcd
```
5. Power cycle the terminal server by removing the power cable briefly. As the terminal server performs self-tests, the Test LEDs will each turn on.
6. Power cycle the terminal server by removing the power cable briefly. As the terminal server performs self-tests, the test indicators will turn on as the terminal server performs self-tests.
7. Before all test indicators have turned on, press the reset-to-factory button until the System OK and Network OK indicators flash rapidly, and then let go
8. Once all test indicators are off and the Network OK indicator is on, run the `/usr/opt/ams/bin/tsport` utility to verify and initialize the terminal server. You must provide the terminal server's IP address as follows:  

```
# /usr/opt/ams/bin/tsport -init 90.0.0.1
```

*Verifying PCI Box Connections to a Terminal Server* provides the `tsport` reference page.

## Tru64 UNIX Version 5.1B

The BOOTP protocol is supported by `/usr/sbin/joind`. This software is configured through `/etc/bootptab`. Follow these steps when using BOOTP on Tru64 UNIX:

1. Edit the file `/etc/bootptab`, creating it if necessary. If no AMS terminal servers are installed, add a line at the top of the file:  

```
.ams:hn:vm=rfc1048
```

Add a new line for the new terminal server as follows:  

```
tserv1:tc=.ams:ht=ethernet:ha=00606D1D71D8:ip=90.0.0.1:
```
2. Edit `/etc/inetd.conf` to enable `joind` to start from the `inetd` super-server. Uncomment the following line for `joind` BOOTP support:  

```
bootps dgram udp wait root /usr/sbin/joind joind
```
3. Use the `ps` utility to find the currently running copy of `inetd`:  

```
# ps -ed | grep inetd
1245 ??      I          0:00.00 /usr/sbin/inetd
```

```

1246 ??      I      0:00.12 -child (inetd)
96511 pts/4  S  +    0:00.01 grep inetd

```

4. Ask inetd to reload /etc/inetd.conf by sending a HUP signal:

```
# kill -HUP 1245
```

5. Power cycle the terminal server by removing the power cable briefly. As the terminal server performs self-tests, the test indicators will turn on as the terminal server performs self-tests.
6. Before all test indicators have turned on, press the reset-to-factory button until the System OK and Network OK indicators flash rapidly, and then let go.
7. After all test indicators are off and the Network OK indicator is on, run the /usr/opt/ams/bin/tsport utility to verify and initialize the terminal server. You must provide the terminal server's IP address as follows:

```
# /usr/opt/ams/bin/tsport -init 90.0.0.1
```

*Verifying PCI Box Connections to a Terminal Server* provides the tsport reference page.

## Online Support for Terminal Servers

Digital Networks provides online support for your terminal server including PDF manuals and Windows software for terminal server management. You can get more information from the following Web site:

<http://www.dnpg.com/dr/hubs/servers/>

## Verifying PCI Box Connections to a Terminal Server

*tsport Utility Configuration* shows the terminal server configuration the tsport utility performed in *Initializing Port Configuration and Network Settings*.

### tsport Utility Configuration

Network Port Number (for telnet access)	Physical Port Number
2001	1
2002	2
⋮	⋮
2008	8

For each terminal server port, verify the connection using the following command:

```
# /usr/opt/ams/bin/t sport -verify 90.0.0.1 3
Connected to port 2003 on terminal server 90.0.0.1
Port 2003 is connected with PCI Drawer 1
```

## Adding a GS80, GS80, or GS320 Platform to the AMS

After you configure the terminal server and connect the PCI Drawers, you can add the platform to the AMS software as follows:

1. Open a browser to the AMS or start the SPM from the AMS graphical console.
2. Login as root or any other user with Administrator privileges within the AMS software.
3. Right-click on the Platforms icon, and open the Add Platform submenu. Choose the second menu item for GS80, GS160, or GS320 platforms.
4. Fill in the form with the terminal server's IP address, a name, and the first and last port used on the terminal server. Typically, 2001 corresponds to port 1 on the back of the terminal server, and 2008 corresponds to port 8 on the back of the terminal server.
5. Within 10 minutes, the status icon should change to indicate the status of the platform. A red cross, indicating an error, may mean that the platform is not properly configured, but it could also mean, for instance, that a CPU on the platform is faulted. A yellow, warning status can also indicate a configuration or status problem. If any configuration errors are shown, you can use the `tsport` utility to troubleshoot port access.
6. After you add the platform, partitions should appear underneath the platform in the navigation tree. Right click each partition and choose Configure... to create a virtual console for the partition. You cannot access the partition's console until you configure a partition, giving the console a name.

Enable the Configure... option for all soft partitions and for hard partitions without soft partitions.

If you cannot connect all of the PCI Drawers with a Standard I/O Module to the terminal server, you can instead connect PCI Drawer 0. When you add the platform to the AMS, the AMS software may display the following error message:

PCI Drawer 11 should be connected to the terminal server:  
it is a partition's console

If you see this message, connect the indicated PCI Drawers, use the `tsport` utility to verify that the ports are accessible, and right-click the platform and choose Refresh from the context menu. This will rediscover the terminal server

## tsport Reference Page

### NAME

`tsport` - DEC Access Server management utility

### SYNOPSIS

```
/usr/opt/ams/bin/tsport [ -access password ] [ -priv password ]  
  {-init address [ numports ] |  
  -verify address port |  
  -users address |  
  -clear address port |  
  -reset address [ -from {network|flashram} ] }
```

### GLOBAL OPTIONS

`-access password`

`-priv password`

A DEC terminal server has an access and privileged password, and each has a default value. If the access password has been changed from the default, then use the `-access` option to specify the password. If the privileged password has been changed from the default, use the `-priv` option to specify the password.

### DESCRIPTION

A DEC terminal server has an access and privileged password, and these have defaults. If the password has been changed from these defaults, you can use the `-access` and `-priv` options to specify the passwords.

#### Resetting and Reinitializing a terminal server

These commands require the access and privileged password for the terminal server. If these are not specified on the command-line, then the defaults will be used.

The `-reset` command connects with the management port for the terminal server and issues the 'INITIALIZE' command. Use this command with an existing terminal server that must be reinitialized and rebooted to be used in the AMS environment, or for a terminal server that is malfunctioning but is still accessible over the network. The terminal server can be booted from the network using BOOTP or from FlashRAM. You may need to wait for a minute or two before the terminal server has reinitialized itself.

The `-init` command connects with the management port for the terminal server and configures port 1 through 8 to be available externally through telnet to ports 2001 through 2008. This

command is meant to be used after a terminal server has been re-initialized. This is the standard configuration for a terminal server in the AMS environment.

#### **Verifying ports connected to a GS80, GS160, or GS320**

The `-verify` command tries to determine the prompt given by the console attached to the specified port. If the console attached is a GS80, GS160, or GS320 with the standard SCM escape sequence, then the utility displays a line like the following:

Connected to port 2004 on terminal server 90.0.0.1

Port 2004 is connected with PCI Drawer 3

If the console attached is some other device, then the utility displays the prompt:

Connected to port 2005 on terminal server 90.0.0.1

Port 2005 has the following prompt: HSG\_T>

If nothing is attached to the port, or the hardware attached to the terminal server is not responding, then the utility displays a line like the following:

Connected to port 2008 on terminal server 90.0.0.1

Port 2008 is not responding

#### **Showing other hosts using the terminal server**

The `-users` command connects with the management port for the terminal server and issues the `'SHOW USERS'` command. This command requires the access password for the terminal server. If the access password is not specified on the command-line, then the default will be used.

#### **Disconnecting other hosts using the terminal server**

The `-clear` command connects with the management port for the terminal server and issues the `'LOGOUT PORT port'` command. If the other host is a console manager, it will reconnect after you disconnect it. To disconnect another console manager, change the console manager's configuration to remove the console.

This command requires the access and privileged password for the terminal server. If these are not specified on the command-line, then the defaults will be used.

#### **EXIT STATUS**

0 Success.

Non-zero Failure.

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