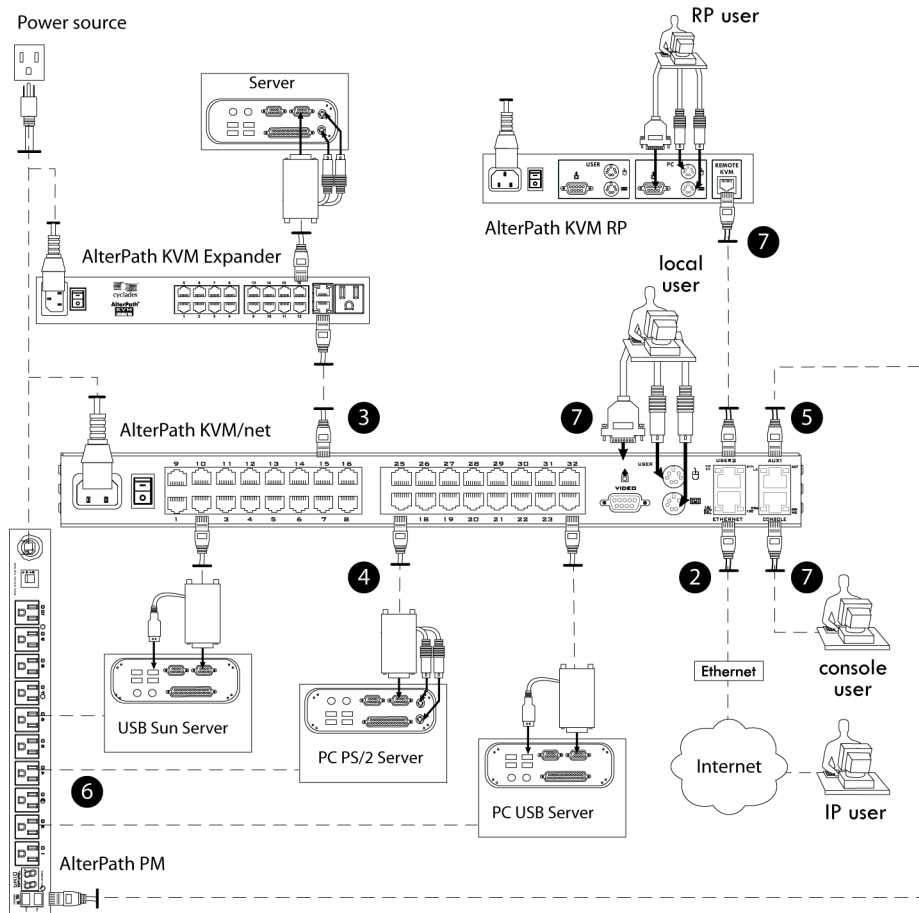


Use this guide to install and configure the Cyclades AlterPath™ KVM/net and related Cyclades™ AlterPath products. Refer to the *AlterPath KVM/net Installation, Configuration, and Users Guide*, located at <http://cyclades.com/support/downloads.php>, for more-detailed information about the KVM/net.

The following graphic illustrates the connections that can be made to the AlterPath KVM/net. The circled numbers in the graphic correspond to the circled numbers in the list of steps in the table below.



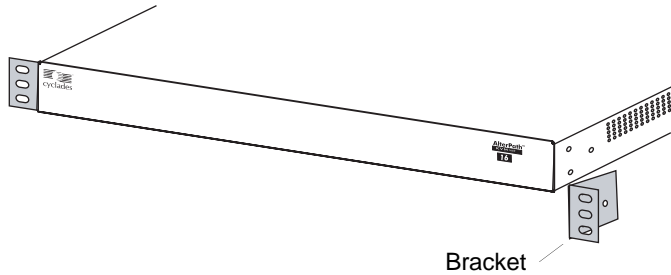
The following table lists the basic installation instructions in the order they should be performed. For more-detailed procedures, see the page number listed for each step.

| | | |
|----|---|--------|
| 1 | Mount the KVM/net. | Page 2 |
| 2 | Make an Ethernet connection. | Page 2 |
| 3 | (Optional) Connect cascaded KVM units to the KVM/net. | Page 2 |
| 4 | Connect servers to be managed through the KVM/net. | Page 2 |
| 5 | (Optional) Connect AlterPath PMs to the KVM/net. | Page 3 |
| 6 | (Optional) Plug servers to be managed through the KVM/net into an AlterPath PM. | Page 3 |
| 7 | Make a direct connection to the KVM/net console, User 1, or User 2 port for network configuration. | Page 3 |
| 8 | Power on the KVM/net and connected devices. | Page 4 |
| 9 | Perform basic network configuration through a direct connection to the console, User 1, or User 2 port. | Page 4 |
| 10 | (Optional) Enable access to the KVM/net without making a direct connection. | Page 6 |
| 11 | Add users, configure ports, and add in-band servers using the web manager. | Page 7 |

1. Mount the KVM/net Plus

Obtain a Phillips screwdriver and appropriate nuts and bolts before starting the following procedure.

1. Decide whether you need to mount the KVM/net by the front or back and locate the appropriate sets of holes on the KVM/net.
2. Connect the two supplied brackets to the KVM/net, connecting one bracket to each side of the box.
3. For each bracket, insert a screw through each of the three holes on the bracket into the appropriate holes at either the front or back of the KVM/net.



4. Use a Phillips screwdriver to tighten the screws.
5. Use the mounting hardware recommended for your rack to mount the KVM/net on a rack.

2. Make an Ethernet Connection

Use an Ethernet cable to connect your local area network (LAN) to the Ethernet port on the KVM/net.

3. Connect Cascaded KVM Units to the Primary KVM/net [Optional]

KVM/net supports the cascading of four types of secondary KVM devices: the AlterPath KVM, the KVM/net, the KVM Expander, and the KVM/net Plus.

1. Power off all KVM hardware and connected devices.
2. To connect the primary KVM/net to the User 2 port of a secondary KVM unit, use a CAT-5 cable to connect a KVM port on the primary KVM/net to the User 2 port on the secondary KVM, KVM/net, or KVM/net Plus.

Warning: In a single user configuration, ensure that the master KVM/net is connected to the User 2 port on a cascaded KVM unit.

3. To connect the primary KVM/net to the User 1 port of a secondary KVM, KVM/net, or KVM/net Plus:
 - a. Use a CAT-5 cable to connect a KVM port on the primary KVM/net to a KVM Terminator.
 - b. Connect the Terminator's VGA and PS/2 connectors to the User 1 port on the secondary KVM, KVM/net, or KVM/net Plus.
4. Repeat steps 1 through 3 for each secondary KVM, KVM/net, or KVM/net Plus to be connected to the primary KVM/net.
5. To Connect a KVM Expander to the Primary KVM/net, use a CAT-5 cable to connect the KVM port on the primary KVM/net to the User A or the User B port on the secondary KVM Expander.

Note: To support two concurrent users accessing the cascaded KVM units, ensure that both of the user ports (User 1 and User 2 or User A and User B) are connected to the master unit.

See Chapter 3, "Installing KVM/net-related Products and Components" in the *AlterPath KVM/net Installation, Configuration, and Users Guide*.

4. Connect Computers to KVM Ports

Note: The KVM/net components are hot-pluggable, but components of connected devices, such as the PS/2 keyboard and mouse ports on a computer, may not be hot-pluggable. Turn off power to all devices before connecting them. Power on connected devices again only after the KVM/net is powered on.

1. Connect the appropriate Terminator for the server to be connected.
2. If you are using a PS/2 Terminator make connections in this order: video, mouse, and keyboard.
3. To extend the connection from the computer to the KVM/net, use an RJ-45 to RJ-45 CAT5 cable up to 500 feet long to connect the Terminator to a KVM port on the KVM/net.
4. Repeat Step 1 and Step 3. for all computers to be connected to the KVM ports.
5. If this is a first-time installation, go to "4 Make a Direct Connection for Network Configuration" on page 2.

5. Connect AlterPath PMs to the KVM/net [Optional]

By daisy-chaining any combination of PM models to the AUX port on the KVM/net, you can control up to 128 outlets from one KVM/net.

1. Use a CAT-5 cable to connect the AUX port on the KVM/net to the IN port of your AlterPath PM.
2. Configure the AUX port for power management.
3. To connect multiple PMs to the KVM/net:
 - a. Use a CAT-5 cable to connect the OUT port of a PM that is already connected to the AUX port of a KVM/net to the IN port of the next AlterPath PM.
 - b. Repeat Step a. until you have connected the desired number of PMs.

You can control up to 128 power outlets in any combination of PM models.

6. Plug Servers to be Managed by the KVM/net Into an AlterPath PM [Optional]

In order to manage power of servers while connected to them through KVM ports, the server must be powered by an AlterPath PM that is connected to the KVM/net. You can manage power of up to two outlets while connected to the server through a KVM port. See the Power Management sections in the *AlterPath KVM/net Installation, Configuration, and Users Guide* for detailed instructions.

7. Access the KVM/net to Perform Basic Network Configuration

To perform necessary basic network configuration, make a direct connection to the KVM/net by doing one of the following: connect a terminal or computer to the console port; connect a keyboard, monitor, and mouse to the keyboard, monitor, and mouse connectors on the KVM/net; or connect the AlterPath KVM RP to the KVM/net's User 2 port.

Optionally, you can access the KVM/net without making a direct connection. See "Access the KVM/net without Making a Direct Connection" on page 6 for instructions.

▼ To Connect to the Console Port

Perform the following steps to connect a computer to the console port of the KVM/net. An RJ-45 to DB-9 crossover adapter is included.

1. Connect an RJ-45 CAT-5 cable to the console port on the KVM/net.
2. Connect the other end of the RJ-45 CAT-5 cable to the DB-9 crossover console adapter that ships with the KVM/net.
3. If your work station has a DB-9 connection, plug the DB-9 console adapter into the DB-9 connection.
4. If your work station has a USB connection, you may need to acquire a DB-9 to USB adapter and plug the USB adapter into a USB port on the computer.
5. Using a terminal emulation program installed on a computer, start a session with the following console port settings:

| | |
|-------------------------------|---------------------------|
| Serial Speed: 9600 bps | Stop Bits: 1 |
| Data Length: 8 bits | Flow Control: None |
| Parity: None | ANSI emulation |

6. Go to "Power On the KVM/net and Connected Devices" on page 4.

▼ To Connect to the User 1 Management Port

Connect a keyboard, monitor, and mouse to the User 1 port on the right back of the KVM/net.

1. Plug the station's monitor, keyboard, and mouse cables to the Keyboard, Video, and Mouse connectors, labelled User 1, on the KVM/net.
2. Go to "Power On the KVM/net and Connected Devices" on page 4.

▼ To Connect the KVM RP to the KVM/net

1. Place the KVM RP on a desk or table up to 500 feet away from the KVM/net.
2. Use a CAT-5 cable to connect the Remote User port on the KVM RP to the User 2 port on the KVM/net.
3. Connect your monitor, keyboard, and mouse cables to the User port on the KVM RP.

4. Optionally, connect the KVM RP to your local work station: Use a KVM cable to connect the VGA port and PS/2 keyboard and mouse ports on the back of your PC to the PC VGA port and PS/2 keyboard and mouse ports on the KVM RP.
5. Plug in the KVM RP's power cord. If you performed Step 4, you can skip this step.
The PC can supply power to the KVM RP.
6. Go to "Power On the KVM/net and Connected Devices" on page 4.

8. Power On the KVM/net and Connected Devices

1. Make sure the KVM/net's power switch is off.
2. Plug in the power cable.
3. Turn on the power switches of the KVM/net, its connected devices, and, if needed, the KVM RP.

9. Perform Basic Network Configuration

Do one of the following to assign a fixed IP address to the KVM/net, and to specify the netmask and other networking parameters:

- Through a console connection to the console port, log in and use the `wiz` command.
See "Configuring Basic Networking Using the `wiz` Command" on page 4.
- Through a local KVM connection to the User 1 or User 2 ports, log into the OSD and configure networking through the network screen.
See "Configuring Basic Networking Using the OSD" on page 5.

Before you start, collect the following network information from your network administrator.

| | |
|---|--|
| <input type="checkbox"/> Hostname: | |
| <input type="checkbox"/> KVM/net's public IP address: | |
| <input type="checkbox"/> Domain name: | |
| <input type="checkbox"/> DNS server's IP address: | |
| <input type="checkbox"/> Gateway IP address: | |
| <input type="checkbox"/> Network mask: | |
| <input type="checkbox"/> KVM/net's MAC address: | |
| <input type="checkbox"/> NTP server' IP address: | |

Configuring Basic Networking Using the `wiz` Command

The following procedures require a hardware connection already made between the KVM/net's console port and the COM or USB port (through a USB to serial adapter) of a computer, as described under "To Connect to the Console Port" on page 3.

▼ To Log Into the KVM/net Through the Console

From your terminal emulation application, log into the console port as root.

```
KVM login: root
Password: cyclades
```

As shown in the previous screen, the default password is "cyclades." If the password has been changed from the default, use the new password.

▼ To Change the Password Through the Console

If the default password "cyclades" is still in effect, change the root password.

Important! Changing the default password closes a security hole that could be easily exploited.

1. Enter the `passwd` command.

```
[root@KVM /]# passwd
```

2. Enter a new password when prompted.

```
New password: new_password
Re-enter new password: new_password
Password changed
```

▼ To Use the `wiz` Command to Configure Network Parameters

1. Launch the Configuration Wizard by entering the `wiz` command.

```
[root@KVM /]# wiz
```

2. At the prompt, enter `n` to change the defaults.

```
Set to defaults (y/n)[n]: n
```

3. Press Enter to accept default hostname, otherwise enter your own hostname.

```
Hostname [KVM]: kvm_hostname
```

4. Press Enter to disable DHCP.

```
Do you want to use DHCP to
automatically assign an IP for your
system? (y/n)[n]: n
```

5. Enter a public IP address to assign to the KVM/net.

```
System IP[192.168.160.10]:
public_IP_address
```

6. Enter the domain name.

```
Domain name[cyclades.com]:
domainname
```

7. Enter the IP address of the DNS (domain name) server.

```
Primary DNS Server[192.168.44.21] :
DNS_server_IP_address
```

8. Enter the IP address for the gateway.

```
Gateway IP[eth0] :
gateway_IP_address
```

9. Enter the netmask for the subnetwork.

```
Network Mask[#] : netmask
```

10. To apply and save these parameter to Flash, see “To Apply and Confirm the Network Parameters Defined Using the wiz Command” on page 5.

▼ **To Apply and Confirm the Network Parameters Defined Using the wiz Command**

This procedure must be completed immediately after defining network parameters using the wiz command as described in “To Use the wiz Command to Configure Network Parameters” on page 4.

1. Review the values of all the network configuration parameters, as shown in the following screen example. The values shown are for example only.

```
Current configuration:
Hostname : kvm
DHCP : disabled
System IP : 192.168.45.32
Domain name : cyclades.com
PrimaryDNSServer:192.168.44.21
Gateway IP : 198.168.44.1
Network Mask : 255.255.252.0
Are all these parameters correct?
(y/n) [n] :
```

2. Enter **y** if the values shown are correct, or press Enter and go back to “To Use the wiz Command to Configure Network Parameters” on page 4 to make any desired changes.

3. The following prompt appears when “y” is entered.

```
Are all the parameters correct? (y/
n)[n]: y
```

4. Enter **y** to save the changes.

```
Do you want to save your
configuration to Flash? (y/n)[n]: y
```

5. To confirm the configuration, enter the ifconfig command.

6. The new network parameters display.

7. Log out from the terminal session.

8. In a HyperTerminal application on a Windows PC, go to “File > Exit”.

9. If performing a first-time installation, go to “Add Users, Configure Ports, and Add In-band Servers Using the Web Manager” on page 7.

Configuring Basic Networking Using the OSD

This procedure requires a hardware connection between the KVM/net’s User 1 port and a local monitor, keyboard, and mouse or a between the KVM/net’s User 2 port and an AlterPath KVM RP. After the KVM/net and monitor are powered on, the following OSD login screen appears.

Note: If your keyboard has a Return key instead of an Enter key, press the “Return” key when you see “Enter.”

▼ **To Log Into the OSD**

1. On the OSD login screen, enter “admin” as the Login name.
2. Enter the password and press Enter.
The default password is “cyclades.” If the password has been changed from the default, use the current password.
3. If you are performing an initial configuration of basic networking parameters, go to “To Change a Password Using the OSD” on page 5; otherwise, go to “To Configure Network Parameters Using the OSD” on page 6.

▼ **To Change Default Password Using the OSD**

1. Log into the OSD.
2. From the Main Menu, select the Configure option.
3. From the Configure Menu, select the Users and Groups option.
4. From the list of users on the User Database screen, select the admin username.
5. On the “Enter the Password” screen, enter the new password.
6. On the password confirmation window, re-enter the password.
7. Select OK.

▼ **To Configure Network Parameters Using the OSD**

1. From the OSD Main Menu, go to Configure > Network.
2. Select the “disabled” option.
3. Enter the IP address for the KVM/net.
4. Enter the netmask (in the form 255.255.255.0).
5. Enter the IP address for the gateway.
6. Enter the IP address for the DNS server.
7. Enter the domain name.
8. Enter the hostname for the KVM/net and save the changes to complete the basic network configuration.

▼ **To Set the Time and Date Using the OSD**

1. From the Main menu of the OSD, go to Configure.
2. Select Date/time.
3. To enable the NTP time and date server, do the following.
 - a. On the Date/time conf. form, select the “enabled” option.
 - b. Enter the IP address of the NTP server.

- c. Save the changes.
4. To enter the date and time manually, do the following.
 - a. On the Date/time conf. form, select disabled.
 - b. Enter the date in the format shown and press Enter.
 - c. Enter the time in the format shown and save the changes.

10. Access the KVM/net without Making a Direct Connection

This section describes additional alternatives for enabling access to the KVM/net Web Manager that do not require making a direct connection. Both of the two following approaches require an experienced administrator to configure:

- The KVM/net ships with a default IP address: 192.168.160.10, which you can use to bring up the Web Manager, assign a fixed IP address to the KVM/net and specify other network parameters without making a direct connection. See “To Use the Default IP Address to Access the Web Manager” on page 6.”
- DHCP is enabled on the KVM/net by default. If you have network access to the DHCP server for the KVM/net, and if you are able to discover the KVM/net’s dynamically-assigned IP address, you do not need to make a direct connection. See “To Use a Dynamic IP Address to Access the Web Manager” on page 7.”

▼ **To Use the Default IP Address to Access the Web Manager**

The default IP address for the KVM/net is 192 . 168 . 160 . 10. This procedure assumes that you are able to temporarily change the IP address of a computer that is on the same subnet as the KVM/net.

1. On a computer that resides on the same subnet with the KVM/net, change the network portion of the IP address of that computer to 192 . 168 . 160 . *NN*, where *NN* is not 10, and change the Netmask to 255 . 255 . 255 . 0.

For example, you could change the computer’s IP address to 192 . 168 . 160 . 44. For the host portion of the IP address, use any number except 10, 0, or 255.

2. Bring up a browser on the computer whose address you changed, enter the KVM/net’s default IP address (<http://192.168.160.10>) to bring up the Web Manager, and log in.
3. To allow subsequent use of the Web Manager from any computer, go to the Wizard: “Step 1: Network Settings” to change the default IP address to a fixed

public IP address and to configure the other basic network parameters and save them to Flash.

4. Restore the computer's IP address to its previous IP address.

▼ To Use a Dynamic IP Address to Access the Web Manager

This procedure assumes that DHCP is enabled on the KVM/net.

1. Set up the AlterPath KVM/net.
See "Mount the KVM/net Plus" on page 2.
2. Connect computers and other devices to be managed through the KVM/net.
See "3 Connect Computers to KVM Ports" on page 2.
3. Power on the KVM/net and connected devices.
See "Power On the KVM/net and Connected Devices" on page 4.
4. To obtain the KVM/net's current IP address from the console port do the following:
 - a. Using the console port, log in as "root."
See "To Connect to the Console Port" on page 3 for instructions if needed.
 - b. Execute the command

```
ifconfig eth0
```

Output similar to the following will appear. The line in bold type face labelled "inet address" lists the IP address of the KVM/net:

```
eth0  Link encap:Ethernet  HWaddr
      00:60:2E:01:4F:FC
      inet addr:192.168.50.72
      Bcast:192.168.51.255
      Mask:255.255.252.0
      UP BROADCAST RUNNING MULTICAST
      MTU:1500  Metric:1
      RX packets:7282803 errors:43
      dropped:0 overruns:0 frame:43
      TX packets:167335 errors:3
      dropped:0 overruns:0 carrier:3
      collisions:0 txqueuelen:100
      RX bytes:539070845 (514.0 MiB)
      TX bytes:18911603 (18.0 MiB)
      Base address:0xe00
```

5. To obtain the KVM/net's current IP address from the DHCP server, supply the MAC address from the bottom side of the KVM/net's chassis. (The address has the form: *NN-NN-NN-NN-NN-NN*, as in this example: 00-60-3D-01-36-B4.)
6. Finish configuring users and to the KVM/net using the Web Manager.

11. Add Users, Configure Ports, and Add In-band Servers Using the Web Manager

You connect to the Web Manager by entering the IP address of the KVM/net in a supported browser. The "admin" user can administer the KVM/net through the Web Manager.

For more information on the KVM/net, see the chapters in the *AlterPath KVM/net Installation, Administration, and Users' Guide* that are listed below.

- Prerequisites for using the Web Manager – Chapter 1, "Introduction"
- How to use the Web Manager to add users, configure ports, and add in-band servers – Chapter 4, "Web Manager for Administrators"
- How to install external modems – Chapter 3, "Installing KVM/net Plus-related Products and Components Installing KVM/net-related Products and Components Installing KVM-related Products and Components"
- How to access servers and devices that are connected to the KVM/net – Chapter 6, "Accessing Connected Devices"
- How to use the Web Manager to manage power and to change your user password – Chapter 5, "Web Manager for Regular Users"

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