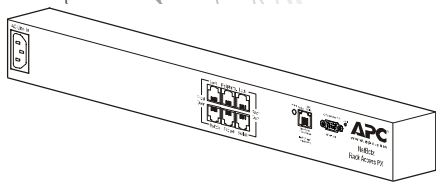


Installation

NetBotz[®] Rack Access PX

AP9360





This manual is available in English on the APC Web site (www.apc.com).

Dieses Handbuch ist in Deutsch auf der APC Webseite (www.apc.com) verfügbar.

Este manual está disponible en español en la página web de APC (www.apc.com).

Ce manuel est disponible en français sur le site internet d'APC (www.apc.com).

Questo manuale è disponibile in italiano sul sito web di APC (www.apc.com).

本マニュアル<各国の言語に対応する>は APC ウェブサイト (www.apc.com) からダウンロードできます。

Instrukcja obsługi w języku polskim jest dostępna na stronie internetowej APC (www.apc.com).

Данное руководство на русском языке доступно на сайте APC (www.apc.com)

Este manual está disponível em português no site da APC (www.apc.com).

Bu kullanım klavuzunun Türkçesi APC web sayfasında (www.apc.com) mevcuttur.

在 APC 公司的网站上 (www.apc.com) 有本手册的中文版。

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Preliminary Information

Overview

Use the NetBotz[®] Rack Access PX to monitor and control access to your NetShelter SX enclosure electronically.

Inventory

Rack Access PX.

Quantity	Item
1	Rack Access PX (AP9360)
1	RS232 configuration cable (APC part number 940-0103)
1	6-ft (1.8-m) IEC-320-C13 to IEC-320-C14 power cord (APC part number 960-0007)
1	6-ft (1.8-m) NEMA 5-15P to IEC-C13 power cord (APC part number 960-0079)

Rack Access PX Lock.



Note

The Rack Access PX ships with two individually packaged Rack Access PX locks.

Quantity	Item
1	Lock with an embedded access card reader and an 8-ft (2.4-m) cable
1	Cam with screw
1	Cam washer
2	Screws
1	Key

Bracket kit.

Quantity	Item
2	Mounting brackets
4	Black 8–32 × 1/4-inch Phillips flathead screws
1	Power cord retainer
1	8-inch black hook-and-loop fastening strap
2	8-inch black wire ties

Door switch kit.

Quantity	Item
2	Door switch magnets
2	Door switches
2	13.75-ft. (4.19-m) RJ-45 door switch cables
4	M3 hex nuts
6	6–32 × 5/16 Roloc [™] screws
20	4-inch wire ties
10	0.75-inch square adhesive cable-tie holders
4	2.5 × 0.5-inch dual adhesive tape

Quick-disconnect kit.

Quantity	Item
2	RJ-45/RJ-45 coupling
20	8-inch black wire ties
2	10-ft (3-m) black CAT5 cables

Additional options

The following options are available for the Rack Access PX:

- Alarm Beacon (AP9324)
- Access Cards (Ten-pack) (AP9369-10)

Additional documentation

For additional information about management interfaces, user accounts, customizing setup, configuration utilities, file transfers, and the Device IP Configuration Wizard, see the Rack Access PX *User's Guide*, available on the supplied *Utility CD* or on the APC Web site: www.apc.com.

For additional security information, see the *Security Handbook*, available on the *Utility CD* or on the APC Web site: www.apc.com.

Please recycle



The shipping materials are recyclable. Please save them for later use, or dispose of them appropriately.

Receiving inspection

Inspect the package and its contents for shipping damage and ensure that the parts included in the shipment match all of the parts listed in the inventory table on page 1. Immediately report any shipping damage to the shipping agent. Report missing contents, damage, or other problems to APC or your APC reseller.

InfraStruXure-certified

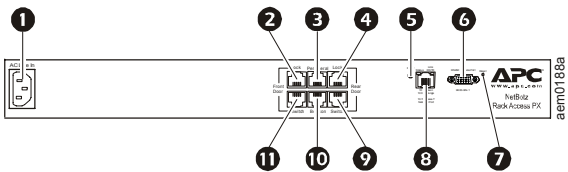
This product is certified for use in APC InfraStruXure systems. If you have InfraStruXure Manager as part of your system, the Quick Configuration instructions in this document do not apply. See the documentation included with your InfraStruXure Manager for more information.

Front and Rear Panel Components

Front panel

Use the toolless mounting pegs on the front panel of the Rack Access PX to install it in an APC enclosure without using any U-spaces.

Rear panel



	Item	Description
1	AC Line Inlet	Provides power to the Rack Access PX; see “Specifications” on page 27 for voltage information.
2	Front Door Lock port	Port used for communication with the front lock.
3	Peripheral port	Connect an optional device.
4	Rear Door Lock port	Port used for communication with the rear lock.
5	Power LED	Indicates whether the unit is receiving power (green—receiving power; dark—not receiving power).
6	RS-232 Console Port	Serial port used to configure initial network settings using the included configuration cable (APC part number 940-0103).
7	Reset switch	Reset the Rack Access PX; this switch does not change configuration data.
8	10/100 Base-T Network Port	Connect the Rack Access PX to the network. The Status and Link LEDs indicate network traffic. <ul style="list-style-type: none"> • Status LED: Blinks orange and green at startup; indicates the status of the network connection (solid green—IP address established; blinking green—attempting to obtain an IP address). • Link LED: Blinks to indicate network traffic (green—operating at 10 mbps; orange—operating at 100 mbps).
9	Rear Door Switch port	Port used for communication with the rear door switch.
10	Alarm beacon port	Connect an optional alarm beacon (AP9324).
11	Front Door Switch port	Port used for communication with the front door switch.

Installation

Rack Access PX

You can install the Rack Access PX in the front or the rear of the enclosure using the rack-mount option, which uses 1 U of enclosure space. You can install the Rack Access PX in the rear of the enclosure using the toolless peg-mount option, which does not use any U-spaces. The toolless peg-mount option is available only with APC enclosures.

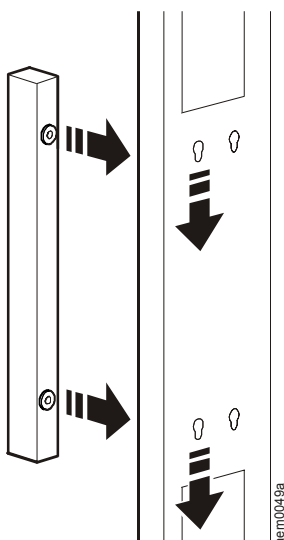
Toolless peg-mount installation.



This option may not be available with all enclosures.

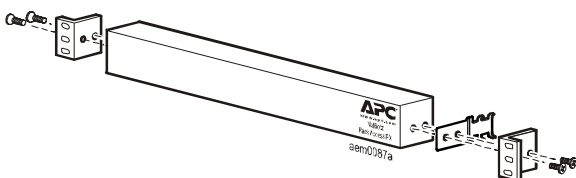
Note

1. Slide both mounting pegs into the holes located in the cable channel in the rear panel of the enclosure.
2. Snap the Rack Access PX into place by pushing it downward until it locks into position.



Rack-mount installation.

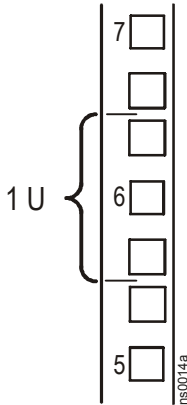
1. Remove the toolless mounting pegs located at the front of the unit.
2. Attach the power cord retainer to the end of the Rack Access PX that is closest to the AC Line Inlet, then attach the brackets (provided) to the Rack Access PX, using two of the provided screws for each bracket.



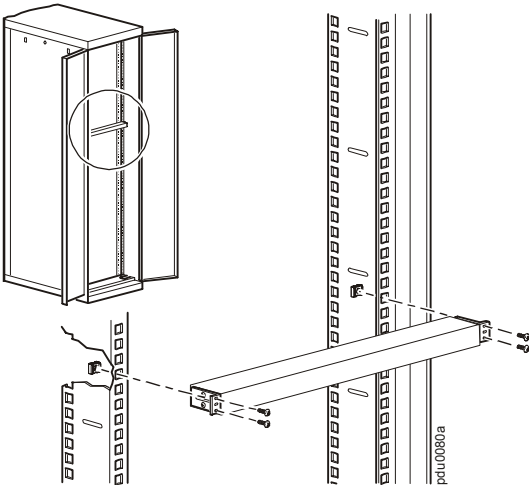
- Choose a location in the enclosure for the Rack Access PX.

**Note**

The Rack Access PX occupies one U-space. A notched hole (or a number, on newer enclosures) on the enclosure's vertical rail denotes the middle of a U-space.



- Insert caged nuts (provided with the enclosure) on the vertical mounting rails above a number (or a notched hole) at the top of a U-space in your enclosure and below the same number at the bottom of the U-space.
- Align the mounting holes of the brackets with the installed caged nuts, and insert four mounting screws (provided with the enclosure) to secure the brackets to the enclosure.



- Apply power to the unit by plugging the appropriate power cord into the AC Line Inlet.

**Caution**

If the doors are closed and the handles are shut when you apply power to the Rack Access PX, it will automatically lock the doors.

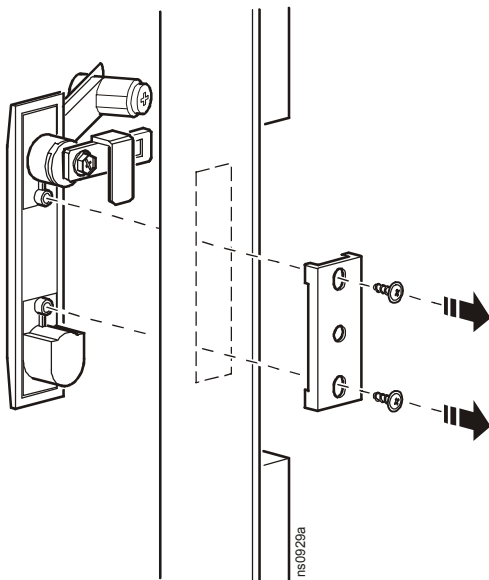
- Use the provided hook-and-loop fastening strap or wire ties to secure the power cord to the power cord retainer.

Rack Access PX Lock

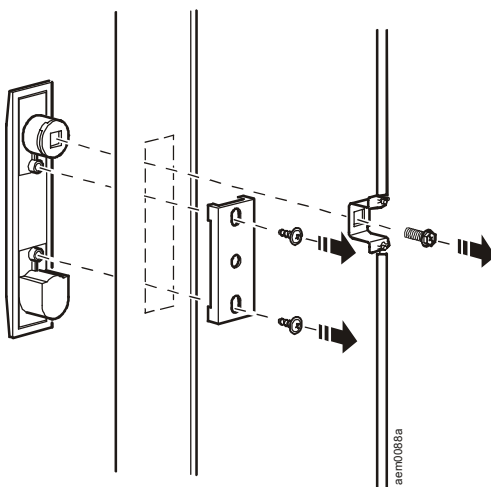
To install the Rack Access PX lock:

1. Remove the existing NetShelter[®] lock.
Remove the cam from the rear door lock, and save it for step 3.

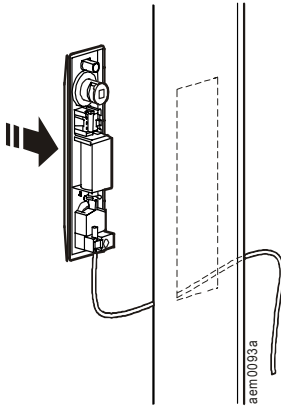
Front door lock



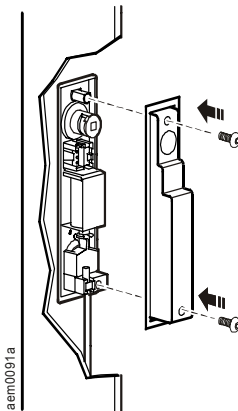
Rear door lock



2. Install the Rack Access PX lock.
 - a. Slide the Rack Access PX lock through the opening in the enclosure door where the original lock was located.

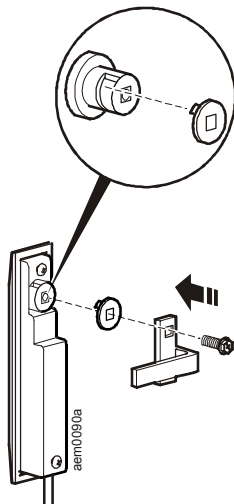


- b. Place the rear cover on the lock and insert the screws to secure the lock in place.

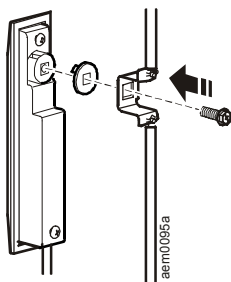


3. Install the cam washer and cam on the Rack Access PX lock. For the rear lock, use the cam removed in step 1.

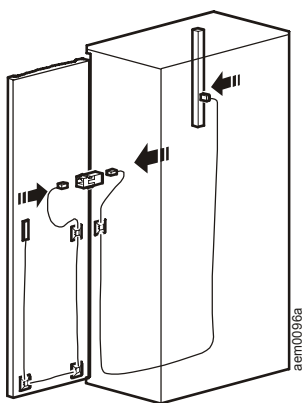
Front door lock



Rear door lock



4. Route the lock cord.
5. At the hinge between the door and the rack, connect the sensor cord to an RJ-45/RJ-45 coupling. Connect a 10-ft black CAT5 cable (provided) to the other side of the coupling.
6. Continue routing the cord, and connect the cord to the appropriate **Door Lock** port.



Installation—Accessories

Door switch

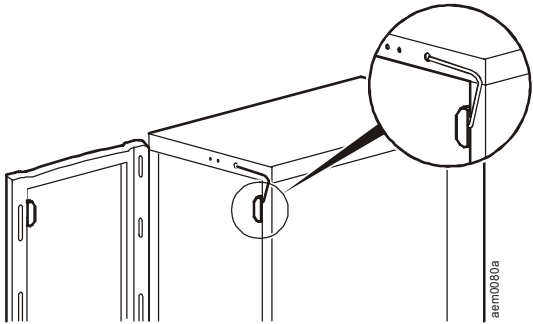


Doors with Rack Access PX locks must have door switches.

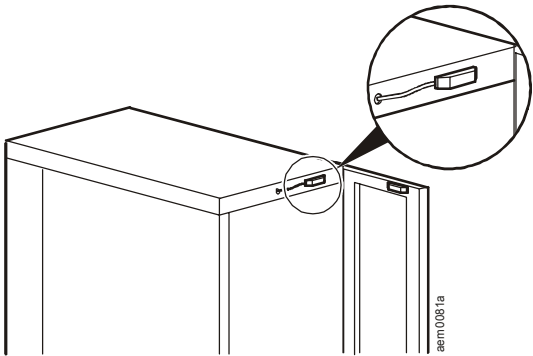
Note

1. Choose a location at the top of the enclosure to install the door switch and door switch magnet.

Front door: Install the front door switch and front door switch magnet perpendicular to the floor.



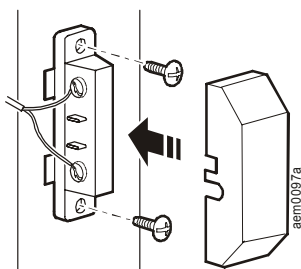
Rear door: Install the rear door switch and rear door switch magnet parallel to the floor.



2. Connect the door switches to the enclosure frame.
 - a. Attach the part of the door switch with the wire connectors to the door frame of the enclosure, using two screws (provided).
 - b. Cut back the covers on the ends of both wires on the RJ-45 door switch cable (provided), and remove a small amount of insulation from the end of each wire. Be careful not to cut through the insulation into the wire itself.



- c. Place the bare ends of the wire under the square metal washers and wrap them clockwise around the screws. Tighten the screws.
- d. Place the plastic cover over the door switch and snap the cover into place. Route the cable out the opening in the cover.



- e. Plug the door switch cables into the ports marked **Front Door Switch** and **Rear Door Switch** on the rear panel of the Rack Access PX.
3. Connect the door switch magnet to the enclosure door.



Note

Do not place the plastic cover over the door switch magnet until the door switch has been installed on the enclosure door.

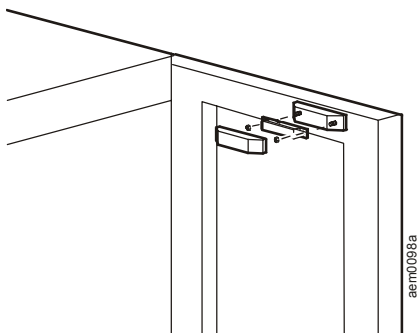
Front door

- a. Attach the door switch magnet to the enclosure door, using two screws (provided).
- b. Cover the door switch magnet with the plastic cover, and snap the cover into place.

Rear door

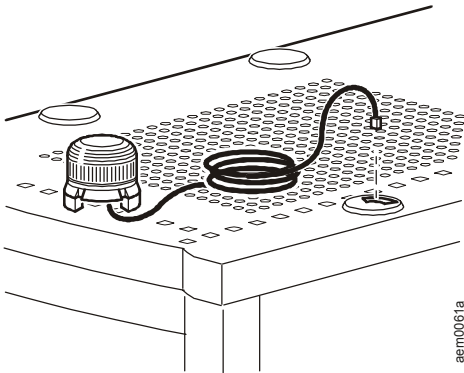
Attach the rear door switch magnet to the enclosure door, using the nuts (provided).

- a. Slide the door switch magnet over the existing pegs and bolt it into place, using two nuts.
- b. Cover the door switch magnet with the plastic cover, and snap the cover into place.



Alarm beacon (optional)

1. Install the alarm beacon in a visible position either on the roof of the enclosure or inside the enclosure. The beacon has a magnetic base.
2. If you install the beacon on the roof, route its cable through the provided holes, as shown in the following illustration.



3. Plug the cable into the **Beacon** port.
4. You can extend the cable to a maximum of 330 ft (100 m), using RJ-45 couplings and standard CAT5 cables.

Quick Configuration



Warning

If you are managing the Rack Access PX on the APC LAN of an InfraStruXure Manager Server, Rack Access PX network and NTP settings will be automatically configured by the BOOTP server of the InfraStruXure Manager Server. If, however, you want the Rack Access PX to be accessible on the User LAN (your corporate network), you must configure the Rack Access PX in the manner described in this section.

Overview

You must configure the following TCP/IP settings before the Rack Access PX can operate on a network:

- IP address of the Rack Access PX
- Subnet mask
- Default gateway



Note

If a default gateway is unavailable, use the IP address of a computer that is located on the same subnet as the Rack Access PX and that is usually running. The Rack Access PX uses the default gateway to test the network when traffic is very light. See “Watchdog Features” in the “Introduction” of the Rack Access PX *User’s Guide* for more information about the watchdog role of the default gateway.

TCP/IP

Use one of the following methods to define the TCP/IP settings needed by the Rack Access PX:

- APC Device IP Configuration Wizard (see “APC Device IP Configuration Wizard” on page 13).
- BOOTP or DHCP server (see “BOOTP & DHCP” on page 13).
- Local computer (see “Local access to the control console” on page 16).
- Networked computer (see “Remote access to the control console” on page 16).

APC Device IP Configuration Wizard

You can use the APC Device IP Configuration Wizard at a Windows[®] 2000, Windows Server 2003, or Windows XP computer to configure the basic TCP/IP settings of the Rack Access PX.



See also

To configure multiple Rack Access PXs, or to configure a Rack Access PX from a user configuration file, see the Rack Access PX *User's Guide*, available on the enclosed *Utility CD*.

1. Insert the *Utility CD* into a computer on your network.
2. When prompted, click the **Device IP Configuration Wizard** link to launch the Wizard, or, if prompted to restart the computer, access the Wizard from the **Start** menu after the computer has restarted.
3. Wait for the Wizard to discover the first unconfigured Rack Access PX, then follow the on-screen instructions.



Note

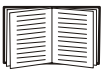
If you leave the **Start a Web browser when finished** option enabled, you can use **apc** for both the **User Name** and **Password** to log on to the Rack Access PX through your browser.

BOOTP & DHCP



Note

BOOTP & DHCP, the default TCP/IP configuration setting for determining how TCP/IP settings are defined, assumes that a properly configured DHCP or BOOTP server is available to provide TCP/IP settings to Rack Access PXs.



If these servers are unavailable, see “APC Device IP Configuration Wizard” on page 13, “Local access to the control console” on page 16, or “Remote access to the control console” on page 16 to configure the needed TCP/IP settings.



See also

To use a user configuration (.ini) file as a BOOTP or DHCP boot file, using an FTP/TFTP server, see the TCP/IP configuration section of the Rack Access PX *User's Guide*, available on the enclosed *Utility CD*, or on the APC Web site, **www.apc.com**.

The default setting, **BOOTP & DHCP**, causes the Rack Access PX to attempt to discover a properly configured server. It first searches for a BOOTP server, then a DHCP server, and repeats this pattern until it discovers a BOOTP or DHCP server.



Note

For more information, see “BOOTP” on page 14 or “DHCP” on page 15.

BOOTP. You can use an RFC951-compliant BOOTP server to configure the TCP/IP settings for the Rack Access PX.



Note

If a BOOTP server is unavailable, see “APC Device IP Configuration Wizard” on page 13, “Local access to the control console” on page 16, or “Remote access to the control console” on page 16 to configure the TCP/IP settings.

1. Enter the Rack Access PX’s MAC and IP addresses, the subnet mask and default gateway settings, and an optional Bootup file name in the BOOTPTAB file of the BOOTP server.



See also

For the MAC address, look on the bottom of the Rack Access PX or on the Quality Assurance slip included in the package.

2. When the Rack Access PX starts, the BOOTP server provides it with the TCP/IP settings.
 - If you specified a bootup file name, the Rack Access PX attempts to transfer that file from the BOOTP server using TFTP or FTP. The Rack Access PX assumes all settings specified in the bootup file.
 - If you did not specify a bootup file name, the Rack Access PX can be configured remotely by using the Web interface or Telnet: **User Name** and **Password** are both **apc**, by default.



See also

To create the bootup file, see your BOOTP server documentation.

DHCP. You can use a RFC2131/RFC2132-compliant DHCP server to configure the TCP/IP settings for the Rack Access PX.



See also

This section briefly summarizes the Rack Access PX communication with a DHCP server. For more detail about how a DHCP server is used to configure the network settings for an Rack Access PX, see “DHCP Configuration” in the Rack Access PX *User’s Guide*.

1. The Rack Access PX sends out a DHCP request that uses the following to identify itself:
 - A Vendor Class Identifier (APC by default)
 - A Client Identifier (by default, the Rack Access PX’s MAC address value)
 - A User Class Identifier (by default, the identification of the Rack Access PX’s application firmware)
2. A properly configured DHCP server responds with a DHCP offer that includes all of the settings that the Rack Access PX needs for network communication. The DHCP offer also includes the Vendor Specific Information option (DHCP option 43). By default, the Rack Access PX will ignore DHCP offers that do not encapsulate the APC cookie in the Vendor Specific Information option using the following hexadecimal format:

```
Option 43 = 01 04 31 41 50 43
```

where

- the first byte (01) is the code
- the second byte (04) is the length
- the remaining bytes (31 41 50 43) are the APC cookies



See also

See your DHCP server documentation to add code to the Vendor Specific Information option. To disable the APC cookie requirement for future DHCP offers, disable the setting **Require vendor specific cookie to accept DHCP address**. This setting is available in the Web interface when you choose the **Administration** tab, the **Network** option on the top menu bar, **TCP/IP** on the left navigation menu, and either **BOOTP & DHCP** or **DHCP** under **TCP/IP**.

Local access to the control console

You can use a local computer that connects to the Rack Access PX through the serial port on the rear of the unit to access the control console.

1. Select a serial port at the local computer, and disable any service that uses that port.
2. Use the configuration cable (APC part number 940-0103) to connect the selected port to the serial port on the rear panel of the Rack Access PX.
3. Run a terminal program (such as HyperTerminal[®]) on your computer and configure the selected port for 9600 bps, 8 data bits, no parity, 1 stop bit, and no flow control, and save the changes.
4. Press ENTER to display the **User Name** prompt.
5. Use **apc** for the **User Name** and **Password**.
6. See “Control console” on page 17 to finish the configuration.

Remote access to the control console

From any computer on the same subnet as the Rack Access PX, you can use ARP and Ping to assign an IP address to a Rack Access PX, and then use Telnet to access that Rack Access PX’s control console and configure the needed TCP/IP settings.



Note

After the Rack Access PX has its IP address configured, you can use Telnet, without first using ARP and Ping, to access that Rack Access PX.

1. Use ARP to define an IP address for the Rack Access PX, and use the Rack Access PX’s MAC address in the ARP command. For example, to define an IP address of 156.205.14.141 for an Rack Access PX that has a MAC address of 00 c0 b7 63 9f 67, use one of the following commands:

– Windows command format:

```
arp -s 156.205.14.141 00-c0-b7-63-9f-67
```

– LINUX command format:

```
arp -s 156.205.14.141 00:c0:b7:63:9f:67
```



See also

For the MAC address, look on the bottom of the Rack Access PX or on the Quality Assurance slip included in the package.

- Use Ping with a size of 113 bytes to assign the IP address defined by the ARP command. For the IP address defined in step 1, use one of the following Ping commands:

- Windows command format:

```
ping 156.205.14.141 -l 113
```

- LINUX command format:

```
ping 156.205.14.141 -s 113
```

- Use Telnet to log on to the Rack Access PX at its newly assigned IP address. For example:

```
telnet 156.205.14.141
```

- Use **apc** for both **User Name** and **Password**.

See “Control console” on page 17 to finish the configuration.

Control console

After you log on at the control console, as described in “Local access to the control console” on page 16 or “Remote access to the control console” on page 16:

- Choose **Network** from the **Control Console** menu.
- Choose **TCP/IP** from the **Network** menu.
- If you are not using a **BOOTP** or **DHCP** server to configure the **TCP/IP** settings, select the **Boot Mode** menu. Select **Manual boot mode**. Set the **System IP**, **Subnet Mask**, and **Default Gateway** address values, and then press ENTER to return to the **TCP/IP** menu. (Changes will take effect when you log out.)
- Press CTRL-C to exit to the **Control Console** menu.
- Log out (option 4 in the **Control Console** menu).



Note

If you disconnected a cable during the procedure described in “Local access to the control console” on page 16, reconnect that cable and restart the associated service.

How to Access a Configured Unit

Log on to the configured Rack Access PX through the following interfaces:

- Web interface (HTTP or HTTPS protocol)
- Telnet or Secure SHell (SSH)
- SNMP
- FTP or Secure CoPy (SCP) to upgrade firmware



See also

For more information on the interfaces, see the Rack Access PX *User's Guide*.

Web interface

As your Web browser, you can use Microsoft® Internet Explorer® 5.5 and higher (on Windows operating systems only), Firefox, version 1.x, by Mozilla Corporation (on all operating systems), or Netscape® 7.x and higher (on all operating systems) to configure the Rack Access PX or to view the event log. Other commonly available browsers also may work but have not been fully tested by APC.

To use the Web browser to configure and monitor Rack Access PX options or to view the event log, you can use either of the following:

- The HTTP protocol (enabled by default), which provides authentication by user name and password but no encryption.
- The more secure HTTPS protocol, which provides extra security through Secure Sockets Layer (SSL) and encrypts user names, passwords, and data being transmitted. It also provides authentication of the Rack Access PX by means of digital certificates.

To access the Web interface and configure the security of your device on the network:

1. Address the Rack Access PX by its IP address or DNS name (if configured).
2. Enter the user name and password (by default, **apc** and **apc** for an Administrator).
3. Select and configure the type of security you want. (This option is available only for Administrators.)



See also

See the *Security Handbook* for information on choosing and setting up your network security. On the **Administration** tab, select the **Network** option on the top menu bar, then the **access** option under **Web** on the left navigation menu to enable or disable the HTTP or HTTPS protocols.

Telnet

You can access the control console through Telnet or Secure SHell (SSH), depending on which is enabled. Select the **Administration** tab, the **Network** option on the top menu bar, and then the **access** option under **Console** on the left navigation menu. By default, Telnet is enabled. Enabling SSH automatically disables Telnet.

Telnet for basic access. Telnet provides the basic security of authentication by user name and password, but not the high-security benefits of encryption. To use Telnet to access a Rack Access PX's control console from any computer on the same subnet:

1. At a command prompt, use the following command line, and press ENTER:

```
telnet address
```

As *address*, use the Rack Access PX's IP address or DNS name (if configured).

2. Enter the user name and password (by default, **apc** and **apc** for an Administrator, or **device** and **apc** for a Device-only user).

SSH for high-security access. If you use the high security of SSL for the Web interface, use Secure SHell (SSH) for access to the control console. SSH encrypts user names, passwords, and transmitted data.

The interface, user accounts, and user access rights are the same whether you access the control console through SSH or Telnet, but to use SSH, you must first configure SSH and have an SSH client program installed on your computer.



See also

See the *Rack Access PX User's Guide* for more information on configuring and using SSH.

SNMP

After you add the PowerNet MIB to a standard SNMP MIB browser, you can use that browser for SNMP access to the Rack Access PX. The default read community name is **public**; the default read/write community name is **private**.



Note

If you enable SSL and SSH for their high-security authentication and encryption, disable SNMP. Allowing SNMP access to the Rack Access PX compromises the high security you implement by choosing SSL and SSH. To disable SNMP, you must be an Administrator. On the **Administration** tab, select the **Network** option on the top menu bar, select the **access** option under **SNMP** on the left navigation menu, and then uncheck the **Enable SNMP access** checkbox and click **Apply**.

FTP and SCP

You can use FTP (enabled by default) or Secure CoPy (SCP) to transfer new firmware to the Rack Access PX, or to access a copy of the Rack Access PX's event or data log. SCP provides the higher security of encrypted data transmission and is enabled automatically when you enable SSH.



Note

If you enable SSL and SSH for their high-security authentication and encryption, disable FTP. Allowing file transfer to the Rack Access PX through FTP compromises the high security you implement by choosing SSL and SSH. To disable FTP, you must be an Administrator. On the **Administration** tab, select the **Network** option on the top menu bar, **FTP server** on the left navigation menu. Uncheck the **Access: Enable** checkbox and click **Apply**.

To transfer files to the Rack Access PX through FTP or SCP, the default user name and password are **apc** and **apc** for an Administrator, or **device** and **apc** for a Device-only user. In the command line, use the IP address of the unit.



See also

See the Rack Access PX *User's Guide* to use FTP or SCP to retrieve log files from the Rack Access PX or to transfer firmware files to the Rack Access PX.

How to Configure an Access Card



Note

To configure an access card, you must be able to view the Web interface or control console of the Rack Access PX. See “Quick Configuration” on page 12 for configuration information. See “How to Access a Configured Unit” on page 18 for information about accessing the Web interface or control console.

Web interface

1. Close and lock the enclosure doors. Hold the access card in front of the Rack Access PX lock until you hear a beep.
2. Log in at the Web interface. Click the **Rack Access** tab. By default, the left navigation menu item **User Access** is selected.
3. Click the card ID number in the “Unregistered Users” section of the Web page.
4. Enter the name and contact information for the card user.
5. Enable account access for the card user. To temporarily deny user access without deleting the card user, disable this option.
6. Assign the doors that the configured access card will open: **Front**, **Back**, or **Both**.
7. Enable the card user’s access for specific days of the week and for a period of time on each of those days.
 - a. To enable access on a day, mark the checkbox next to the day.
 - b. To specify the time period during which the card can unlock the rack on a selected day, enter the time in hours and minutes. Valid times are 00:00 to 23:59.
8. Click **Register User** to apply the configuration settings for the card.

Control console

1. Hold the access card in front of the Rack Access PX lock until you hear a beep.
2. Log in at the control console. Select **Device Manager**, then **User Access**. Select **Unregistered Users**. Select the card to register and type YES.
3. Select **Registered Users**, then select the unconfigured card.
4. Enter the name and contact information for the card user.

5. Enable account access for the card user. To temporarily deny user access without deleting the card user, disable this option.
6. Assign the doors that the configured access card will open: **Front**, **Back**, or **Both**.
7. Enable the card user's access for specific days of the week and for a period of time on each of those days:
 - a. Select the day of the week.
 - b. To specify the time period during which the card can unlock the rack on the selected day, enter a time in hours and minutes for **Start Time** and **End Time**. Valid times are 00:00 to 23:59.
 - c. Select **Access** to enable or disable access for each day.
 - d. Select **Accept Changes** to apply the configuration settings for the day.
 - e. Select **Accept Changes** to apply the configuration settings for the card.

How to Recover from a Lost Password

You can use a local computer or a computer that connects to the Rack Access PX through the serial port to access the control console.

1. Select a serial port at the local computer, and disable any service that uses that port.
2. Connect the serial cable (APC part number 940-0103) to the selected port on the computer and to the RS-232 console port at the Rack Access PX.
3. Run a terminal program (such as HyperTerminal) on your computer and configure the selected port as follows:
 - 9600 bps
 - 8 data bits
 - no parity
 - 1 stop bit
 - no flow control
4. Press ENTER, repeatedly if necessary, to display the **User Name** prompt. If you are unable to display the **User Name** prompt, verify the following:
 - The serial port is not in use by another application.
 - The terminal settings are correct as specified in step 3.
 - The correct cable is being used as specified in step 2.
5. Press the **Reset** switch. The Status LED will flash alternately orange and green. Press the **Reset** button a second time immediately while the LED is flashing to reset the user name and password to their defaults temporarily.
6. Press ENTER as many times as necessary to redisplay the **User Name** prompt, then use the default, **apc**, for the user name and password. (If you take longer than 30 seconds to log on after the **User Name** prompt is redisplayed, you must repeat step 5 and log on again.)
7. From the **Control Console** menu, select **System**, then **User Manager**.
8. Select **Administrator**, and change the **User Name** and **Password** settings, both of which are now defined as **apc**.
9. Press CTRL-C, log off, reconnect any serial cable you disconnected, and restart any service you disabled.

How to Upgrade Firmware

Automated upgrade tool for Microsoft Windows systems

An automated, self-extracting executable tool combines the firmware modules that you need to automate your upgrades on any supported Windows operating system.

You can obtain the current version of the tool at no cost from the support section of the APC Web site, www.apc.com/tools/download. At this Web page, find the latest firmware release for your APC product and download the automated tool, not the individual firmware modules.



Warning

Each upgrade tool is specific to an APC product type. Do not use the tool from one product's CD to upgrade firmware of a different APC product. When you use the version of the tool from the APC Web site, make sure that you use the upgrade tool that corresponds with your APC product type.

Manual upgrades, primarily for Linux systems

If all computers on your network are running Linux, you must upgrade the firmware of your Rack Access PX manually; that is, you must use the separate APC firmware modules (AOS module and application module). You can obtain the individual firmware modules you need for a manual firmware upgrade from the support section of the APC Web site, www.apc.com/tools/download.



Note

If you have a networked computer running a supported Microsoft Windows operating system on your network, you can use the tool described in “Automated upgrade tool for Microsoft Windows systems” on this page to upgrade the firmware of a Rack Access PX automatically over the network. This tool automates the entire upgrade process.



See “Firmware file transfer methods” on page 25 to complete your manual upgrade.

Firmware file transfer methods

To upgrade the firmware of the Rack Access PX:

- From a networked computer running a Microsoft Windows operating system, you can use the automated firmware upgrade tool downloaded from the APC Web site, www.apc.com/tools/download.
- From a networked computer on any supported operating system, you can use FTP or SCP to transfer the individual AOS and application firmware modules.
- For a Rack Access PX that is not on your network, you can use XMODEM through a serial connection to transfer the individual AOS and application firmware modules from your computer to the Rack Access PX.



Note

When you transfer individual firmware modules and do not use the automated firmware upgrade tool to upgrade the firmware for a Rack Access PX, you must transfer the APC Operating System (AOS) module to the Rack Access PX before you transfer the application module.

Use FTP to upgrade one Rack Access PX



See also

See the Rack Access PX *User's Guide*, available on the Rack Access PX *Utility CD* or on the APC Web site, www.apc.com, to transfer a downloaded firmware upgrade to the Rack Access PX.

Use XMODEM to upgrade one Rack Access PX

To use a local computer that connects to the Rack Access PX through the serial port on the rear panel of the unit to transfer a downloaded firmware upgrade:

1. Select a serial port at the local computer, and disable any service that uses that port.
2. Use the configuration cable to connect the selected port to the RS-232 control console port on the rear panel of the Rack Access PX.
3. Run a terminal program (such as HyperTerminal) and configure the selected port for 9600 bps, 8 data bits, no parity, 1 stop bit, and no flow control. Save the changes.
4. Press ENTER repeatedly if necessary to display the **User Name** prompt.
5. Enter your **User Name** and **Password** (both **apc**, for administrators only) and press the ENTER key.

6. From the **Control Console** menu, select **System**, then **Tools**, then **File Transfer**, then **XMODEM**.
7. The system will prompt you with Perform transfer with XMODEM -CRC? Type Yes and press ENTER.
8. The system will then prompt you to choose a transfer rate and to change your terminal settings to match the transfer rate. Press ENTER to set the Rack Access PX to accept the download.
9. In the terminal program, send the file using the XMODEM protocol. Upon completion of the transfer, the console will prompt you to restore the baud rate to normal.



Do not interrupt the transfer.

Caution

The Rack Access PX will reboot when the transfer is complete.

Specifications

Rack Access PX

Electrical

Input voltage, nominal 100–240 VAC; 50/60 Hz

Physical

Dimensions (H × W × D) 1.74 × 17.00 × 1.74 in
(4.42 × 43.20 × 4.42 cm)

Weight 2.20 lb (0.99 kg)

Shipping weight 8.15 lb (3.69 kg)

Shipping dimensions
(H × W × D) 2.62 in × 17.75 × 8.87 in
(6.70 × 45.00 × 22.50 cm)

Lock

Maximum length of lock
cable 330 ft (100 m)

Environmental

Elevation (above MSL)

Operating 0 to 10,000 ft
(0 to 3000 m)

Storage 0 to 50,000 ft
(0 to 15 000 m)

Temperature

Operating 32 to 113°F (0 to 45°C)

Storage 5 to 149°F (–15 to 65°C)

Humidity

Operating 0 to 95%, non-condensing

Storage 0 to 95%, non-condensing

Compliance

Approvals CE, C-UL approved to CSA
C22.2 No. 60950-1, UL
Listed to UL 60950-1, VDE
approved to EN60950–1,
FCC Part 15 Class A, ICES-
003 Class A, VCCI Class A,
EN 55022 Class A, EN
55024, EN 61000-3-2, EN
61000-3-3, AS/NZS CISPR
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Accessories

Beacon

Maximum length of cable 330 ft (100 m)

Door switches

Gap distance Less than 1 in (2.54 cm) in air

Maximum length of cable 330 ft (100 m)

Warranty

Limited warranty

APC warrants the Rack Access PX to be free from defects in materials and workmanship for a period of two years from the date of purchase. Its obligation under this warranty is limited to repairing or replacing, at its own sole option, any such defective products. This warranty does not apply to equipment that has been damaged by accident, negligence, or misapplication or has been altered or modified in any way. This warranty applies only to the original purchaser.

Warranty limitations

Except as provided herein, APC makes no warranties, expressed or implied, including warranties of merchantability and fitness for a particular purpose. Some jurisdictions do not permit limitation or exclusion of implied warranties; therefore, the aforesaid limitation(s) or exclusion(s) may not apply to the purchaser.

Except as provided above, in no event will APC be liable for direct, indirect, special, incidental, or consequential damages arising out of the use of this product, even if advised of the possibility of such damage.

Specifically, APC is not liable for any costs, such as lost profits or revenue, loss of equipment, loss of use of equipment, loss of software, loss of data, costs of substitutes, claims by third parties, or otherwise. This warranty gives you specific legal rights and you may also have other rights, which vary according to jurisdiction.

Obtaining service

To obtain support for problems with your Rack Access PX:

1. Note the serial number. The serial number is printed on a label located on the bottom of the unit.
2. Contact Customer Support at a phone number on the back cover of this manual. A technician will try to help you solve the problem by phone.
3. If you must return the product, the technician will give you a return material authorization (RMA) number. If the warranty expired, you will be charged for repair or replacement.

4. Pack the unit carefully. The warranty does not cover damage sustained in transit. Enclose a letter with your name, address, RMA number and daytime phone number; a copy of the sales receipt; and a check as payment, if applicable.
5. Mark the RMA number clearly on the outside of the shipping carton.
6. Ship by insured, prepaid carrier to the address provided by the Customer Support technician.

Life-Support Policy

General policy

American Power Conversion (APC) does not recommend the use of any of its products in the following situations:

- In life-support applications where failure or malfunction of the APC product can be reasonably expected to cause failure of the life-support device or to affect significantly its safety or effectiveness.
- In direct patient care.

APC will not knowingly sell its products for use in such applications unless it receives in writing assurances satisfactory to APC that (a) the risks of injury or damage have been minimized, (b) the customer assumes all such risks, and (c) the liability of American Power Conversion is adequately protected under the circumstances.

Examples of life-support devices

The term *life-support device* includes but is not limited to neonatal oxygen analyzers, nerve stimulators (whether used for anesthesia, pain relief, or other purposes), autotransfusion devices, blood pumps, defibrillators, arrhythmia detectors and alarms, pacemakers, hemodialysis systems, peritoneal dialysis systems, neonatal ventilator incubators, ventilators (for adults and infants), anesthesia ventilators, infusion pumps, and any other devices designated as “critical” by the U.S. FDA.

Hospital-grade wiring devices and leakage current protection may be ordered as options on many APC UPS systems. APC does not claim that units with these modifications are certified or listed as hospital-grade by APC or any other organization. Therefore these units do not meet the requirements for use in direct patient care.

Radio Frequency Interference



Warning

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

USA—FCC

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this user manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference. The user will bear sole responsibility for correcting such interference.

Canada—ICES

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Japan—VCCI

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may occur, in which case, the user may be required to take corrective actions.

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラス A 情報技術装置です。この装置を家庭環境で使用すると、電波妨害を引き起こすことがあります。この場合には、使用者が適切な対策を講ずるようにより要求されることがあります。

Taiwan—BSMI

警告使用者：

這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會

Australia and New Zealand

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

European Union

This product is in conformity with the protection requirements of EU Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. APC cannot accept responsibility for any failure to satisfy the protection requirements resulting from an unapproved modification of the product.

This product has been tested and found to comply with the limits for Class A Information Technology Equipment according to CISPR 22/European Standard EN 55022. The limits for Class A equipment were derived for commercial and industrial environments to provide a reasonable protection against interference with licensed communication equipment.

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

APC Worldwide Customer Support

Customer support for this or any other APC product is available at no charge in any of the following ways:

- Visit the APC Web site to access documents in the APC Knowledge Base and to submit customer support requests.
 - **www.apc.com** (Corporate Headquarters)
Connect to localized APC Web sites for specific countries, each of which provides customer support information.
 - **www.apc.com/support/**
Global support searching APC Knowledge Base and using e-support.
- Contact an APC Customer Support center by telephone or e-mail.
 - Regional centers:

Direct InfraStruXure Customer Support Line	(1)(877)537-0607 (toll free)
APC headquarters U.S., Canada	(1)(800)800-4272 (toll free)
Latin America	(1)(401)789-5735 (USA)
Europe, Middle East, Africa	(353)(91)702000 (Ireland)
Japan	(0)35434-2021
Australia, New Zealand, South Pacific area	(61)(2)99559366 (Australia)

- Local, country-specific centers: go to **www.apc.com/support/contact** for contact information.

Contact the APC representative or other distributor from whom you purchased your APC product for information on how to obtain local customer support.

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