Web/SNMP Management SmartSlot Card

AP9606

Installation and Quick Start Manual

APC®

Thank You!

Thank you for selecting the American Power Conversion (APC) Web/SNMP Management SmartSlot Card (AP9606). It has been designed for many years of reliable, maintenance-free service in combination with your APC uninterruptible power supply (UPS). APC is dedicated to the development of high-performance electrical power conversion and control products. We hope that you will find this product a valuable, convenient addition to your computing system.

Please **read this manual!** It provides important safety, installation, and operating instructions that will help you get the most from your Management Card.

Save **this manual!** It includes instructions for obtaining warranty service.

Radio frequency interference

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.

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.

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.

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Contents *continued*

How to Avoid Equipment Damage

Caution

Damage to the UPS or Web/SNMP Management SmartSlot Card (AP9606) can result if you do not remove all AC and DC power from a Smart-UPS® or Matrix-UPS® model UPS, SmartSlot Expansion Chassis (AP9600), or SmartSlot Expansion Triple Chassis (AP9604, AP9604R or AP9604SR) before you install the Management Card.

Smart-UPS

1. Turn off the equipment that connects to the UPS.

2. Disconnect the UPS from its AC input source.
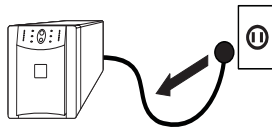
3. Press the OFF button on the UPS for approximately five seconds to turn off the DC (battery) power.
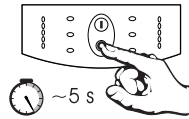
Matrix-UPS

1. Turn off the equipment that connects to the UPS.

2. Turn off the circuit breaker on the rear panel of the UPS.
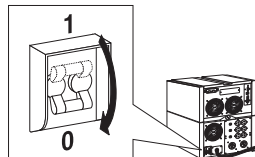
Symmetra
***Power Array* and Silcon DP300E series UPS**

You do not need to turn off a Symmetra® *Power Array*™ or a Silcon™ DP300E series UPS to install the Management Card.

Expansion or Triple Chassis

Make sure that the chassis is disconnected from all power: Disconnect the chassis cable from the UPS and, if the AC-to-DC Adapter (AP9505) option is used, disconnect the adapter from the chassis.

1

How to Recover from a Lost Password

Overview   If the **User Name** or **Password** becomes unknown, you can use a local computer to restore access to a Management Card that uses the APC AOS module, version 3.0 (or later). The latest AOS version is available at the APC web site (www.apcc.com).

Recovery procedure

1. Select a serial port at the computer to be used for a terminal-emulation connection with the Management Card.

2. Disable any service that currently uses that serial port, such as PowerChute *plus* or UNIX Respond.

3. Connect the smart-signaling cable (940-0024) that came with the Management Card to a serial port on the computer and to the serial port on the UPS or chassis.

   Note: If the computer uses smart-signaling PowerChute *plus*, you do not need to perform step 3: A smart-signaling cable (940-0024 or 940-1524) is already installed. For simple-signaling, temporarily replace the PowerChute *plus* cable.

4. Run a terminal program (such as HyperTerminal).

5. Configure the serial port for 2400 bps, 8 data bits, no parity, 1 stop bit, and no flow control, and save the changes.

6. Press ENTER to display the **User Name** prompt (you may need to press ENTER two or three times).

7. Press the reset button on the Management Card.

8. Press ENTER to redisplay the **User Name** prompt.

9. Use **apc** for both the **User Name** and **Password** to log in.

   Note: If you take longer than 30 seconds to log in, you will need to repeat steps 6 through 8.

10. Select **System** from the **Control Console** menu.

11. Select **User Manager** from the **System** menu.

12. Select **Administrator** from the **User Manager** menu and follow the on-screen instructions to change the **User Name** and **Password** settings to the new values.

13. Press CTRL-C to exit to the **Control Console** menu.

14. Log out to save the changes.

15. If necessary, reconnect the simple-signaling PowerChute *plus* cable replaced in Step 3.

16. Restart any service disabled in Step 1.

Preliminary Information

Features of the Web/SNMP Management Card

The following features have been added to the APC Web/SNMP Management SmartSlot Card (AP9606):

- Uses the APC PowerChute Network Shutdown utility to shut down multiple servers
- Provides an event log which is accessible by Telnet, FTP, or a Web browser
- Generates e-mail notifications for UPS and system events
- Limits SNMP traps and e-mail notifications based on the severity level of the events
- Supports using simple-signaling PowerChute *plus* with the same UPS as the Management Card
- Supports using the APC Management Card Wizard with Windows® 2000
- Supports the APC Silcon DP300E series UPS models
- Provides UPS-specific application modules:
  - *sumx*.bin (*Smart-UPS/Matrix-UPS)
  - *sy*.bin* (Symmetra *Power Array*)
  - *dp3e*.bin (*Silcon DP300E series UPS)

  Note: The asterisk (*) stands for the version number. For example, version 3.0.0 of the Symmetra *Power Array* application module would have a file name of *sy300.bin*.

Related documents

The APC Web/SNMP Management Card *utility* CD contains the following documentation:

- *Web/SNMP Management Card User's Guide* (*.\doc\usrguide.pdf*)
- *Management Card addendum* (*.\doc\addendum.pdf*)
- *PowerNet MIB Reference Guide* (*.\doc\mibguide.pdf*)
- *Network Management Station (NMS) Reference Guide* (*.\doc\nms.pdf*)
- CD-ROM contents file (*.\content.txt*)
- *Web/SNMP Management Card Release Notes* (*.\relnotes.txt*)
- Installation instructions in text format (*.\install.txt*)
- Troubleshooting documents (.\trouble*.*)

Preliminary Information, continued

Inventory　　　In addition to this *Installation and Quick Start Guide*, the
Management Card package includes the following items:

- Web/SNMP Management SmartSlot Card (AP9606)
- APC Web/SNMP Management Card *utility* CD
  (991-0166)
- Smart-signaling cable (940-0024)
- *Installation of Multiple SmartSlot Cards* sheet (990-0231)
- Declaration of Conformity (992-0009)
- Warranty registration form
- Web/SNMP Management Card Quality Assurance Test
  slip

  Note: Save the assurance test slip until you have installed
  and configured the Management Card. The slip
  contains the MAC address. You may need to refer
  to this address when performing the procedures
  outlined in this guide's "Quick Configuration"
  section.

Report damage　Inspect the package and contents for any signs of shipping
or missing　　damage, and make sure that all parts were sent. If you find
contents　　　shipping damage, report that damage immediately to the
shipping agent. Also, report any damage, missing contents or
other problems to APC and your APC reseller, immediately.

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

UPS Installation

Overview   The Management Card can be installed in an expansion slot in a Smart-UPS, Matrix-UPS, or Symmetra *Power Array*. For a Silcon DP300E series UPS, the Management Card installs in a Triple Chassis (either an AP9604R or AP9604SR).

Step 1: Install PowerChute *plus*   If you are installing PowerChute® *plus* and a Management Card for the same server, first install PowerChute *plus*. This allows you to make sure that PowerChute *plus* is working properly before you install the Management Card.
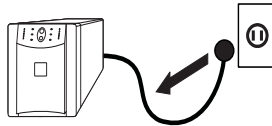
Step 2: Turn off all power (Smart-UPS or Matrix-UPS)

Caution: Damage to the UPS or Management Card can result if you do not remove all AC and DC power from a Smart-UPS or Matrix-UPS model UPS. You do not need to turn power off for a Symmetra *Power Array*.
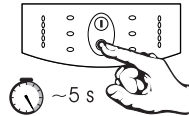
Smart-UPS

1. Turn off the equipment that connects to the UPS.

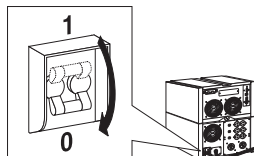2. Disconnect the UPS from its AC input source.

3. Press the OFF button on the UPS for approximately five seconds to turn off the DC (battery) power.

Matrix-UPS

1. Turn off the equipment that connects to the UPS.

2. Turn off the circuit breaker on the rear panel of the UPS.

Continued on next page

UPS Installation, continued

Caution: If you are installing the Management Card in a Symmetra *Power Array* that uses more than one APC management peripheral, see the supplied *Installation of Multiple SmartSlot Cards* sheet. You must install the APC peripherals in the correct order, otherwise the peripherals may fail to operate properly.

1. Use the screws that hold the slot cover in place to secure the Management Card in the UPS expansion slot.
2. Connect a network interface cable to the 10Base-T network connector on the Management Card.
3. If neccessary, reconnect the PowerChute *plus* cable.
4. Reconnect the UPS to its input power source.
5. Turn on the UPS.
6. If neccessary, restart the PowerChute *plus* service.
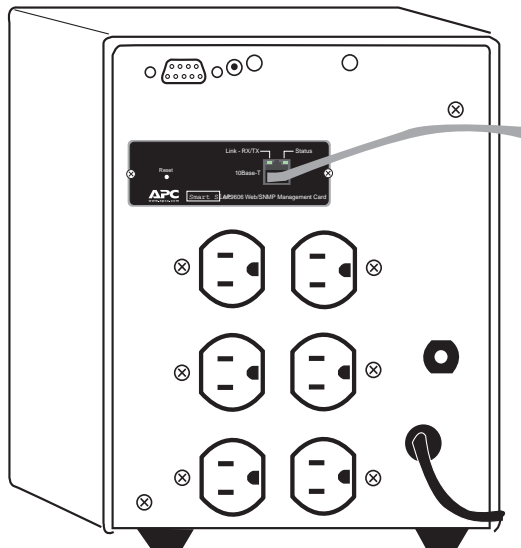7. See "Quick Configuration" on page 9.

Figure 1: Connecting a Management Card in a Smart-UPS

Expansion/Triple Chassis Installation

Overview   You must use an SmartSlot Expansion Chassis or a SmartSlot Expansion Triple Chassis (AP9604, AP9604R or AP9604SR) under the following circumstances:

- The expansion slot or slots are in use for the Smart-UPS, Matrix-UPS, or Symmetra *Power Array*.
- The UPS, such as an older model Matrix-UPS or a Silcon DP300E series UPS, does not have an expansion slot.

  Note: A Silcon DP300E series UPS always uses a Triple Chassis (AP9604R or AP9604SR).

The Management Card installs in the chassis and communicates with the UPS through the cable connection between the chassis and the UPS.

When to Use the AC Adapter (AP9505) Option   You need to use the optional AC Adapter with a chassis under the following circumstances:

- You want to connect the chassis to an independent AC input so that the Management Card can continue to operate if the UPS is turned off or fails.
- The APC management peripherals mounted in a Triple Chassis may use more current than the UPS can provide through the UPS-to-chassis cable. The Management Card uses 110mA. For information about the current used by other APC management peripherals, see the *SmartSlot Expansion Triple Chassis User's Guide*.
  - A Silcon DP300E series UPS provides up to 500 mA.
  - A Matrix-UPS, Smart-UPS, or Symmetra *Power Array* provides up to 200 mA.

Step 1: Install PowerChute *plus*   If you are installing PowerChute® *plus* and a Management Card for the same server, first install PowerChute *plus*. This allows you to make sure that PowerChute *plus* is working properly before you install the Management Card.

Step 2: Disconnect the chassis from all power   Make sure that the chassis is disconnected from any power source: Disconnect the chassis cable from the UPS and, if the AC Adapter (AP9505) option is used, disconnect the adapter from the chassis.

Expansion/Triple Chassis Installation *continued*

Step 3: Install the Web/SNMP Management Card

Caution: If the UPS uses more than one APC management peripheral, see the supplied *Installation of Multiple SmartSlot Cards* sheet. You must install the APC peripherals in the correct order, otherwise the peripherals may fail to operate properly.

1. If PowerChute *plus* is installed, stop the PowerChute *plus* service and disconnect its cable from the UPS serial port.

2. Use the screws that hold the expansion slot cover in place to secure the Management Card in the chassis slot.

3. Connect a network interface cable to the Management Card's 10Base-T network connector.

4. If you are using the optional AC Adapter (AP9505), do the following:

   a. Connect the adapter to the chassis.

   b. Connect the adapter to an independent AC input so that the Management Card can continue to operate if the UPS is turned off or fails.

5. If neccessary, reconnect the PowerChute *plus* cable.

6. If neccessary, restart the PowerChute *plus* service.
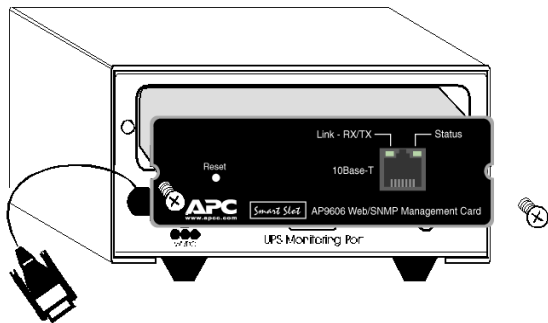
7. See "Quick Configuration" on page 9.

Figure 2: Installing a Management Card in a SmartSlot Expansion Chassis (AP9600)

Quick Configuration

Overview   You must configure three TCP/IP settings before the
                   Management Card can operate on a network:

- The IP address of the Management Card
- The subnet mask
- The Default Gateway

> **Note:** If a Default Gateway is unavailable, use the IP
> address of a computer located on the same subnet
> as the Management Card that is usually running.
> The Management Card uses the Default Gateway
> to test the network when traffic is very light. See
> "Watchdog Features" in the "Introduction" of the
> *Web/SNMP Management Card User's Guide*
> (*.\doc\usrguide.pdf*) for more information about
> the watchdog role of the Default Gateway.

**TCP/IP   If you have access to a computer that uses Windows 95,
configuration   Windows 98, Windows 2000, or Windows NT 4.0, see "APC
methods   Management Card Wizard" on page 10 for information about
                   how to use the Wizard to configure one or more Management
                   Cards.

If you cannot use the APC Management Card Wizard, use the
following information to configure your Management Card:

- To use the Control Console feature from a computer that
  connects to the serial port on the UPS or chassis, see
  "Local (serial) access" on page 10.
- To use the Control Console feature from a computer that
  is on the same subnet as the Management Card. See
  "Address Resolution Protocol (ARP) and Telnet access"
  on page 11.
- To use an RFC951-compliant BOOTP server to configure
  one or more Management Cards on your network, see
  "BOOTP" on page 12.

Quick Configuration *continued*

APC Management Card Wizard

To use the APC Management Card Wizard to configure a Management Card from a computer that uses Windows 95, Windows 98, Windows NT 4.0, or Windows 2000, perform the following steps.

Note: To use the Wizard to configure multiple Management Cards, to download firmware, or to configure a Management Card from a configuration file, see the *Management Card Addendum* (*.\doc\addendum.pdf*).

1. Follow the on-screen instructions to install the Wizard from the APC Web/SNMP Management Card *utility* CD.

2. Launch the Wizard, when prompted, or, if prompted to restart the computer, access the Wizard from the **Start** menu once the computer restarts.

3. Wait for the Wizard to discover the unconfigured Management Card, then follow the on-screen instructions to define the TCP/IP settings.

   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 access the Management Card through your browser.

Local (serial) access

You can use a computer that connects to the Management Card through the serial port at the UPS or chassis to access the Control Console.

1. Select a serial port at the computer to be used for a terminal-emulation connection with the Management Card.

2. Disable any service that currently uses that serial port, such as PowerChute *plus* or UNIX Respond.

3. Connect the smart-signaling cable (940-0024) that came with the Management Card to a serial port on the computer and to the serial port on the UPS or chassis.

   Note: If the computer uses smart-signaling PowerChute *plus*, you do not need to perform step 3: A smart-signaling cable (940-0024 or 940-1524) is already installed. For simple-signaling, temporarily replace the PowerChute *plus* cable.

Quick Configuration *continued*

Local (serial) access, continued

4. Run a terminal program, such as HyperTerminal.

5. Configure the serial port for 2400 bps, 8 data bits, no parity, 1 stop bit, and no flow control, and save the changes.

6. Press ENTER to display the **User Name** prompt (you may need to press ENTER two or three times).

7. Use **apc** for the **User Name** and for the **Password**.

8. See "Control Console" below to finish the configuration.

Address Resolution Protocol (ARP) and Telnet access

You can use ARP and Telnet to access the Control Console from a computer on the same subnet as the Management Card.

1. Use ARP to assign an IP address to a Management Card that has a specified MAC address. For example, to assign IP address 159.215.15.141 to a Management Card that has a MAC address of 00 c0 b7 63 9f 67, the ARP command would be:

   ```
   arp -s 159.215.15.141 00-c0-b7-63-9f-67
   ```

   Note: The Web/SNMP Management Card Quality Assurance slip lists the MAC address.

2. Use Telnet to access the Management Card at its now defined IP address. For the IP address assigned by ARP in the previous step, the Telnet command would be:

   ```
   telnet 159.215.15.141
   ```

3. Use **apc** for the **User Name** and for the **Password**.

4. See "Control Console" below to finish the configuration.

Control Console

Once you log into the Control Console, as described in either "Local (serial) access" on page 10 or "Address Resolution Protocol (ARP) and Telnet access" above, do the following:

1. Choose **Network** from the **Control Console** menu.

2. Choose **TCP/IP** from the **Network** menu.

3. Disable **BOOTP**, if enabled, and select **Accept Changes**.

4. Set the **System IP**, **Subnet Mask** and **Default Gateway** address values and select **Accept Changes**.

5. Press CTRL-C to exit to the **Control Console** menu.

6. Click **Log out** to have the changes take effect.

**Control
Console,
continued**

7. If you disconnected a PowerChute *plus* cable for local access to the Control Console, reconnect that cable.

8. If you disabled any service for local access to the Control Console, restart that service.

   Note: If PowerChute *plus* does not reestablish communications with the UPS, see "How to Correct a Communication Lost Problem" in the "Troubleshooting" section of the *Web/SNMP Management Card User's Guide* (*.\doc\usrguide.pdf*).

BOOTP

You can use an RFC951-compliant BOOTP server to configure the TCP/IP settings the Management Card needs.

1. Enter the Management Card'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.

   Note: See the Web/SNMP Management Card Quality Assurance slip for the MAC address; see Step 2 for more information about using a Bootup file.

2. When the Management Card reboots, the BOOTP server provides it with the TCP/IP settings.

   – If you specified a Bootup File Name, the Management Card will attempt to transfer that file from a TFTP or FTP server residing on the BOOTP server. The Management Card will assume all settings specified in the bootup file.

   – If you did not specify a Bootup File Name, the Management Card can be configured remotely by using Telnet or by using Web interface: **User Name** and **Password** are both **apc**, by default.

   Note: You must use the APC Management Card Wizard or the APC initialization (**.ini*) text file-to-binary configuration (**.cfg*) file conversion utility, *i2c300*, to create the Bootup file. See "APC Management Card Wizard" on page 10 to install the Wizard. For detailed information about how to create a Bootup file, see the BOOTP section in the *Management Card Addendum* (*.\doc\addendum.pdf*).

How to Access the Web/SNMP Management Card

Overview   Once the Management Card is running on your network, you can use several different interfaces to access the Management Card.

> **Note:** For more information about how to use the interfaces identified here, see the *Web/SNMP Management Card User's Guide* (*.\doc\usrguide.pdf*) and the *Management Card Addendum* (*.\doc\addendum.pdf*).

Web interface   You can use Internet Explorer (3.01 or later) or Netscape® Navigator (3.0 or later) to configure Management Card options, or to view the Event log.

1. Address the Management Card by its IP address or DNS name (if configured).
2. Enter the **User Name** and **Password** (**apc** by default).

Telnet   You can use Telnet to view the event log or to configure Management Card options.

1. At a command prompt, type telnet *address* and press ENTER, where *address* is the Management Card's IP address or DNS name (if configured).
2. Enter the **User Name** and **Password** (**apc** by default).

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

FTP   You can use FTP (enabled by default) to download new firmware or to access a copy of the event log.

1. At a command prompt, type ftp *address* and press ENTER, where *address* is the Management Card's IP address.
2. Enter the **User Name** and **Password** (**apc** by default).

APC Management Card Wizard   You can use the APC Management Card Wizard to download new firmware and to reconfigure multiple Management Cards over the network.

Notes

APC

www.apcc.com

Toll-free Customer Support:

U.S. & Canada   1-800-800-4272

Online Customer Support:

U.S. & Canada   http://www.apcc.com/support

Address:

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P. O. Box 278
West Kingston, Rhode Island 02892
USA

N 394