
PowerMon[®] II

User Manual

for the:

**Microsoft[®] Windows NT[™]
Operating System**

by:



MT-SE-35/03

11-Apr-97

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Conventions Used In This Guide

This guide uses these type style conventions:

Italic print, as shown in this example, indicates chapter or section names in this guide, window or dialog box names, or is used for emphasis.

Bold italic print, as shown in this example, indicates field names or menu items in the software, or is used for emphasis. Words separated by a / vertical bar indicate a series of menu items that must be selected. For example: ***File|Exit***

Bold print, as shown in this example, indicates filenames, directories, or items to be typed exactly as they appear.

Italic print words or letters in braces {} indicate values that must be supplied by the user. For example: *{drive}:\setup*

Italic print words or letters in brackets < > indicate keys to press. If two keys are separated by a + plus symbol, then the first key should be pressed and held down while pressing the second key. For example: *<alt+enter>*

Note: **Notes contain important information set off from the text.**

Warning: **These messages alert you to specific procedures or practices; serious consequences may result including injury if you disregard them.**

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Introduction

PowerMon II is a power monitoring software package that allows UPS monitoring for the Windows NT operating system. The software monitors the UPS through a cable attached to a serial port on the computer and a contact closure interface on the UPS. This cable enables the software to check the status of the UPS (battery warning, power failure, power restored, and low battery) and to perform a graceful shutdown if required.

Through the PowerMon II pull-down menus and dialog boxes, you can configure the user interface and shutdown timers, view and print event logs, view power history and analysis charts, and get help on-line.

If PowerMon II detects a utility power failure or a low battery state, it displays a shutdown warning message. User-specified timers, one for AC fail and one for low battery, let you know how much time you have to save and close your applications before shutdown of your system begins. When the timers expire, your system shuts down. During a utility power failure, PowerMon II can detect power restoration and revert back to a normal monitoring state.

If you have any questions or recommendations regarding this installation guide, please bring them to the attention of our Technical Support Department.

NOTE: Don't forget to mail your PowerMon II registration card; it is your proof-of-purchase.

If you have any questions about PowerMon II or other products from Systems Enhancement Corporation, please contact us at:

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For Technical Support, see the section titled,
Placing a Technical Support Call

Getting Started

System Requirements

PowerMon II supports systems running:

- Windows NT for Intel version 3.5+

This software may not be upward compatible. If you have any questions on the ability of the software to run on other systems, please contact our technical support staff.

PowerMon II requires one dedicated RS-232 serial port on your computer.

User Interface Overview

There are many different types of data entry fields and controls in a Windows NT environment. A short description of the controls used in PowerMon II follows.

Menu Bars

Menu Bars are pull down menus located at the top of the screen (under the title bar). You can select these menu options by clicking on an option with the left mouse button and pulling the mouse down until the option is highlighted. When the desired option is highlighted, release the mouse button to execute the menu option.



Text Entry Fields

Text entry fields are rectangular with no additional controls attached to them. Enter text and numbers into these fields.

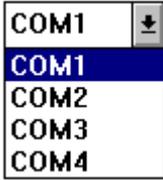


Push Buttons



Push buttons are rectangular with labels that describe their functions. Activate push buttons by clicking on them.

List Buttons (Drop-Down Lists)



List Buttons (drop-down lists) display a list of available options. To display the available options, click on the arrow ↓. Click on an option from the list to select.

Radio Buttons

- Sec
- Min

Radio buttons are small round toggle buttons that appear in groups of two or more. To select an option, click on the desired button. You can select only one option at a time in a Radio Button group.

Check Boxes

- Enable Shutdown

Check Boxes are small squares that you can toggle on and off by clicking on them. If the option is not

enabled, the check box is empty, and if the option is enabled, the check box has an **X** in it.

Scroll Bars

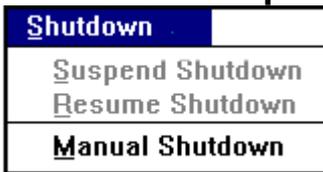


5 seconds

Scroll bars are horizontal or vertical. Vertical Scroll Bars have  and  arrows at each end.

Horizontal Scroll Bars have  and  arrows at each end. When you click on these arrows, the position of the scroll box moves on the Scroll Bar and changes the associated value. The current value displays near the scroll bar. You can also drag the scroll box to either arrow to change the value.

Unavailable Options



If menu options or data entry fields are not available to you, the options display light gray. The program does not permit you to select or enter these fields.

Installation & Configuration

Installation and configuration consists of the following:

- Determining which serial port to use on your computer
- Installing the UPS communications cable
- Installing the PowerMon II application
- Configuring PowerMon II Monitoring Service

Choosing the Serial Port

Refer to your system documentation to find the number and location of the serial ports.

Installing the UPS Interface Cable

To install the UPS interface cable:

1. Locate the interface cable that was shipped with the PowerMon II software.
2. Plug the connector at the end of the cable with the identification label into any dedicated serial communications port on your computer.
3. Plug the connector at the other end of the cable into the communications port on the back of the UPS. (Refer to your UPS operator's manual for help in locating the UPS communications port.)

CAUTION: If you don't have the UPS interface cable connected to the computer and the UPS, your system could shutdown immediately when the software starts.

Installing the Software

Start your Windows NT system and login as the Administrator. Place the installation diskette into the floppy drive and run `install.exe`. You may install the software with the *File Manager* or with the **File|Run** command.

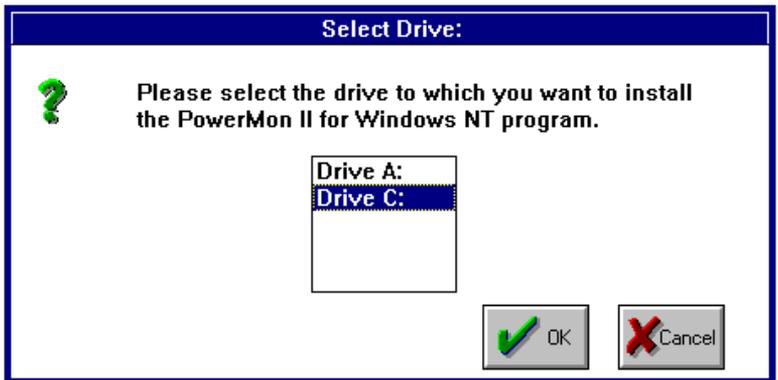
With the File Manager

Select the drive that contains the installation diskette and double click on the `install.exe` file.



File|Run Command

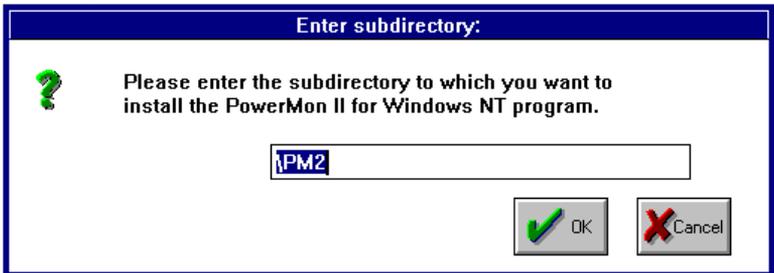
From the **File** drop-down list, choose **Run**. The syntax of the Run command is `{drive}:\install.exe`. Replace `{drive}` with the letter of the disk drive that contains the installation diskette.



The Installation program displays the registration request and product listing. Press **OK** to continue for both windows.

NOTE: If you press *Cancel* during PowerMon II installation, you stop the installation program.

If you press OK, the installation program displays the *Select Drive* dialog box. Select the drive to which you want PowerMon II installed. Accept the highlighted drive or highlight the desired drive and press **OK**. The program then displays the Enter Subdirectory dialog box with default \PM2 subdirectory. Accept it or enter another subdirectory and press **OK**. If the directory does not exist, then it will be created.



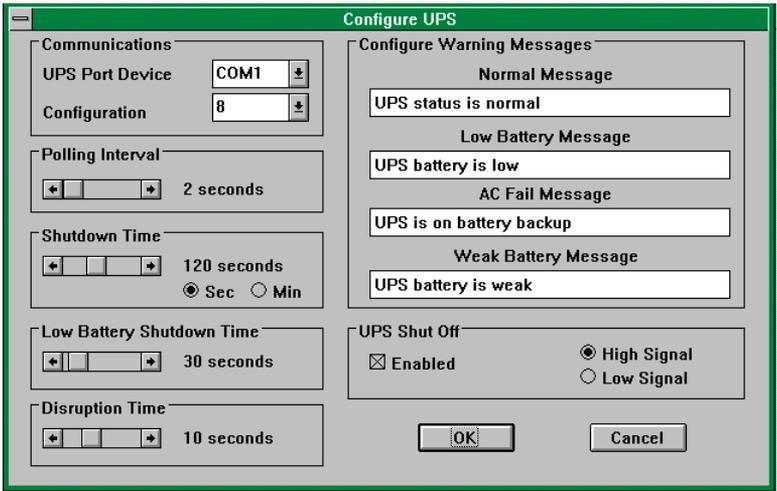
The program then begins decompressing files and writing files to the chosen directory. The current file being installed displays in the box while a progress bar monitors the percentage of the file's installation. At any time, you may abort the installation if you press <Esc>.

When the installation program finishes the install, it creates a Windows group for the product if one doesn't currently exist and places a program icon into that group.

After the PowerMon II group icon window briefly appears, the Configuration options display on your screen. At this point you may remove your installation diskette and store it in a safe place.

Configuring the Software

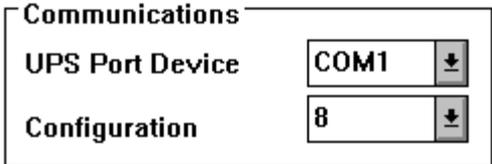
This process creates a configuration file that the PowerMon II Service and the monitoring client use. The program adds the PowerMon II Service to the Windows NT registry and configures the service to start automatically when Windows NT starts.



When you click the **OK** button, the program creates the `pm2.cfg` file. PowerMon II uses these values when it starts the application. The above screen and the following field illustrations show the PowerMon II defaults.

Communications

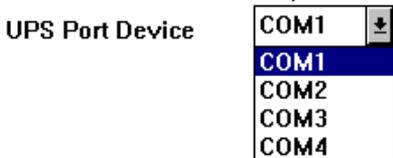
This box contains two fields: the **UPS Port Device** and **Configuration Code**. The options display in drop-down lists.



To select an option, move the mouse to the option you want and click.

Port Device

A drop-down list specifies the serial port to which the UPS communications cable attaches. To choose the Port Device, select the desired COM port.



Configuration Code

From the drop-down list, choose the **Configuration Code** that is stamped on the inside front cover of this manual.

Configuration Code

8	↓
7	
8	
9	
0	

Polling Interval

The **Polling Interval** is the amount of time PowerMon II waits between UPS status checks. The UPS Status graph uses this time interval to display the UPS states.

Polling Interval

←

→

2 seconds

To select the **Polling Interval**, move the scroll box on the horizontal scroll bar or click on the arrows. The selected time displays beside the scroll bar.

Shutdown Time

The amount of time the software waits after the first detection of a power failure before initiating shutdown.

Shutdown Time

←

→

120 seconds

Sec
 Min

If you want to change the default time, click the **Sec(onds)** or **Min(utes)** button and move the scroll box on the horizontal scroll bar or click on the arrows for the numeric value of the shutdown time. The selected time displays beside the scroll bar.

Low Battery Shutdown Time

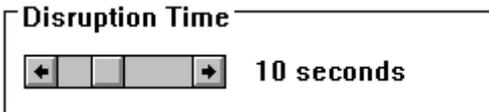
The amount of time when the software detects a low battery condition until shutdown begins.



To increase or decrease the number of seconds, click the arrows or move the scroll box on the horizontal scroll bar. The selected value displays beside the scroll bar.

Disruption Time

The number of seconds that your system needs before it maximizes the UPS status window while on AC fail. The disruption timer keeps short power outages from interrupting you with warning messages. Also, the server broadcasts a network message after the **Disruption Time** expires. The messages are: on battery, low battery, and power return.



To increase or decrease the number of seconds, click the arrows or move the scroll box on the horizontal scroll bar. The selected value displays beside the scroll bar.

Configure Warning Messages

The following messages display for the corresponding conditions. If you want to change any message, you can highlight or delete the current text and type the new text.

Normal Message

UPS status is normal

This message displays when no alarm conditions exist.

Low Battery Message

UPS battery is low

This message displays when a low battery condition exists.

AC Fail Message

UPS is on battery backup

This message displays when an AC power failure condition exists.

Weak Battery Message

UPS battery is weak

This message displays when a weak battery condition exists.

UPS Shut Off

This option enables UPS inverter shut off. This option determines if the software performs a UPS shutdown after the shutdown timer expires. Check the **Enabled** box to shut off the UPS.

UPS Shut Off

Enabled

High Signal

Low Signal

The High or Low Signal radio buttons determine the type of signal to send to turn off the UPS. Check your UPS documentation for the signal required.

Saving Configurations

After you complete all the changes to the configuration parameters, click the OK button to save the information to the configuration file.

An information box opens over the Configuration screen to let you know PowerMon II is “Installing the service! Please wait ...” and a few moments later another one opens with “Starting the service! Please wait ...” After the program finishes the service installation, the following box displays:



At this point, you have completed the installation of PowerMon II. The program returns you to the open *PowerMon II* box on the desktop.

Once you've installed and configured the software, the program no longer displays the **Configuration** screen when you start PowerMon II.

Note: If you don't have the ups interface cable connected to the computer and UPS, your system could immediately shutdown when the software starts.

Using PowerMon II

To start monitoring the UPS, double click on the PowerMon II icon. The UPS Status Screen displays.

UPS Status Screen

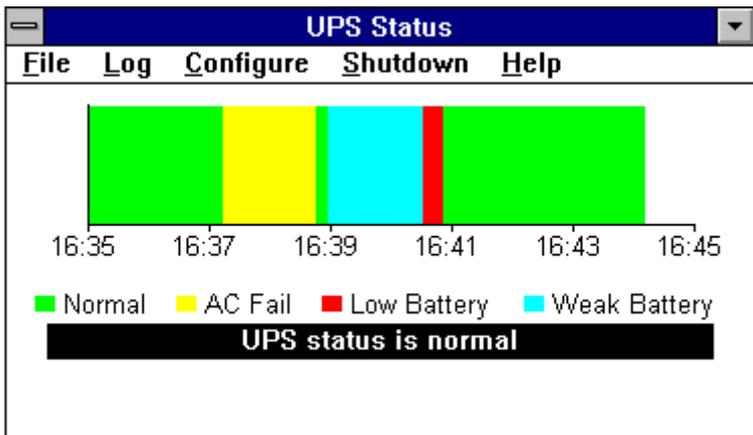
This screen displays the status of the UPS and contains the Menu Bar Options. The screen displays a graph and message to reflect the state of the UPS. Use the Menu Bar to access the PowerMon II options.

UPS Status

The real-time graph displays the current state of the UPS. A color coded bar indicates the UPS state:

Green	Normal
Yellow	AC Fail
Red	Low Battery
Light Blue	Weak Battery

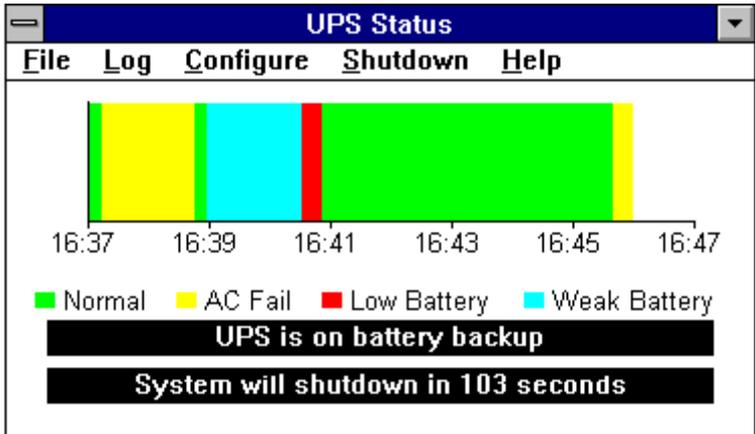
The following screen illustration shows a normal UPS Status screen. Notice the time intervals reflect the configured Polling time.



Note: Your message may be different if you changed the default message in the configuration screen.

When the status of the power changes, the color and displayed message change to reflect the new conditions. (The event log also records any change in the UPS state.)

If either the AC Fail or Low Battery condition occurs, a timer indicates the amount of time until the shutdown begins. Use the configuration options to set this time.

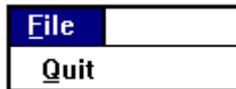


Menu Bar Options

When you select any menu bar option, a drop down list displays additional options from which you can choose. To select an option, place the pointer on it and click the mouse button. The options on the *UPS Status* screen are:



File



The *File* option contains the *Quit* option. To quit the program, click on the *Quit* option.

Log

<u>L</u>og
<u>V</u> iew Log File <u>C</u> lear Log File
<u>E</u> vents by Month <u>P</u> ower Analysis

The **Log** menu contains **View Log File**, **Clear Log File**, **Events by Month**, and **Power Analysis** graph. See the *Log File Reporting* section for more information on log file options.

Configure

<u>C</u>onfigure
<u>U</u> PS Configuration

The **UPS Configuration** option allows you to reconfigure all software parameters. Use this

option to revisit the configuration screen described in the *Installation & Configuration* section.

Shutdown

<u>S</u>hutdown
<u>S</u> uspend Shutdown <u>R</u> esume Shutdown
<u>M</u> anual Shutdown

This menu performs a manual shutdown of your system, suspends a shutdown in progress, and resume a suspended shutdown. See the *Shutdown* section for more information.

Help

<u>H</u>elp
<u>C</u> ontents <u>S</u> earch for help on... <u>H</u> ow to use help
<u>A</u> bout

This menu contains **Contents**, **Search for help on**, **How to use help** and **About** options. For further information on these options, refer to the section on *Help Options*.

Log File Reporting

The Log File options provide a variety of methods to view the performance of your system. If you choose Log from the main menu bar, you can select from the following options: **View Log File**, **Clear Log File**, **Events by Month**, and **Power Analysis**

View Log File

Choose the *View Log File* option to print a log file or to view a log file. The most current day's events display by default on the Viewing Log File screen.

Viewing Log File pm2.log for 05/16/1995		
Date	Time	Event
05/16/1995	16:17	UPS status is normal
05/16/1995	16:21	UPS battery is low
05/16/1995	16:21	UPS Battery Charge is Okay
05/16/1995	16:21	UPS status is normal
05/16/1995	16:23	UPS monitoring started
05/16/1995	16:39	UPS is on battery backup
05/16/1995	16:41	Utility Power Restored
05/16/1995	16:41	UPS status is normal
05/16/1995	16:41	UPS battery is weak
05/16/1995	16:43	UPS battery is low
05/16/1995	16:44	UPS Battery Charge is Okay
05/16/1995	16:44	UPS status is normal
05/16/1995	16:49	UPS is on battery backup
05/16/1995	16:50	Utility Power Restored

Date:

Start:

End:

To view a another log file, click the **Select Log** file button. The screen displays the *Select Log File to View* dialog box.

To change the date range on the *Viewing Log File* menu, enter the start and end dates using the *mm/dd/yyyy* format. After you select a new date range or another log file, click **View Log** to view the events. To print the log, click the **Print Log** button. A print setup window allows you to configure your printer. To close, click **Close**.

Clear Log File

This option clears the current log file to another name. On the *Viewing Log File* menu, choose the **Clear Log File** option to archive the existing log file and to create a new, empty one. A confirmation box displays.

Select **Yes**. The program generates a name for your archived log file. For example, `pm951350.log` the **yyddd#** format translates—year is 95 (current year), Julian date is 135 (the 135th of the year), and the number of files archived for the day is 0. Click **OK** to close.

Events by the Month

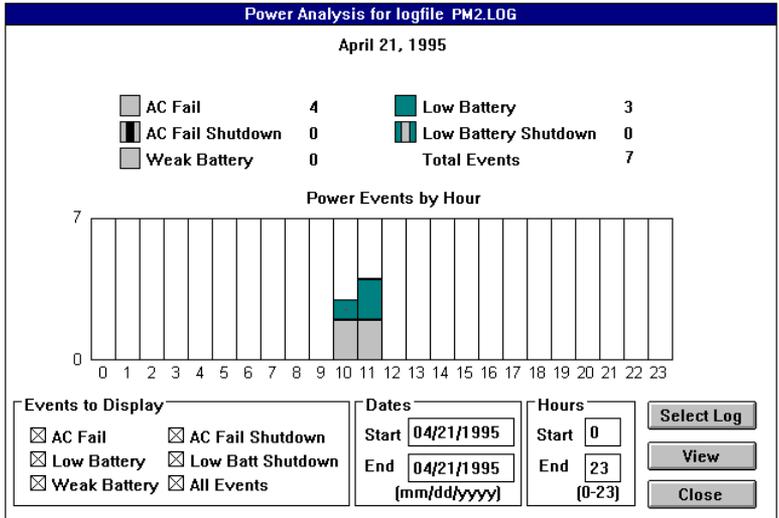
The Events by Month option displays a calendar that shows the type and number of power events for each day of the month. The current month displays by default.



If you want to see the previous month's power events, click the **Prev Month** button. Continue to click the **Prev Month** button to see past months. Press **Next Month**, to advance the display one month at a time. To close, click on **Close**.

Power Analysis

The **Power Analysis** option displays the power analysis for the logfile `pm2.1log`.



The screen displays a graph that shows the distribution and type of power events for a given time period. The legend above the graph identifies each type of power event. The legend also displays the total number of occurrences of each type of event for the given time period.

You can select the type of events to display, the starting and ending dates, and the time of day. To view an event, click in the accompanying checkbox. To select the day or days for which you want to see the cumulative power event statistics, enter the dates in the **Dates** group using the *mm/dd/yyyy* format. To select, enter the starting and ending hours in the **Hours** group.

NOTE: All times must be entered in 24-hour format

Shutdown Options

The Shutdown options allow you to suspend a shutdown, resume a shutdown, or perform a manual shutdown.

Suspend Shutdown

This option pauses the shutdown timer if it is currently running. At any other time, it is not available. To pause the shutdown timer, select ***Suspend Shutdown***.

Resume Shutdown

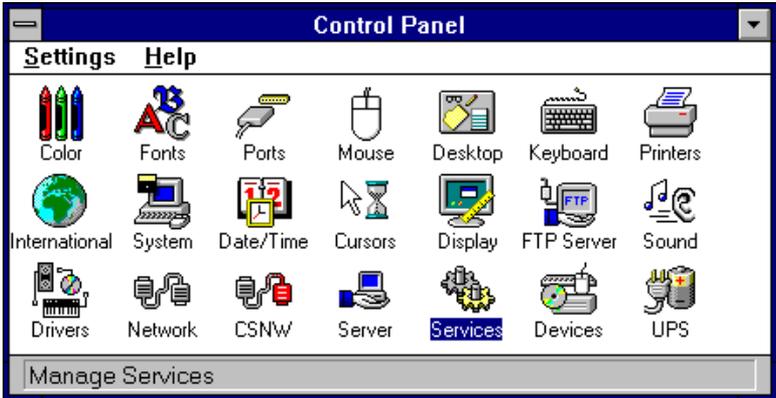
This option restarts the shutdown timer if it is currently suspended. This is the only time it is available. To restart the shutdown timer, select ***Resume Shutdown***.

Manual Shutdown

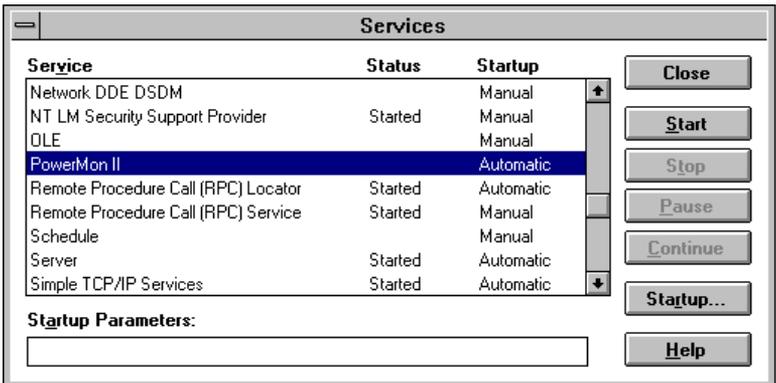
The Manual Shutdown performs a manual shutdown of the Windows NT system. The program displays a confirmation box to verify your action.

Using The PowerMon II Service

To start and stop the PowerMon II service, go to the *Control Panel* and click on the **Services** icon. The *Services* window opens displaying all of the installed services with their current status.



Select **PowerMon II**. Notice in the following example the *Status* column is blank. The **Startup** column reflects how the program starts. (If **Started** is in the *Status* column then the PowerMon II service is already running.)



To start the PowerMon II service, click **Start**, to stop the service, click **Stop**. Click on **Startup...** to open the *Service* window where you can configure the startup.

To Add The PowerMonII Service

If the PowerMon II service does not appear in the *Services* window, you must add the service in order for the PowerMon II program to protect your system. You can run `addserv.bat` in the PowerMon II directory from the *Command Prompt* or *File Manager*. With either method, the program informs you, "service installed...update existing source information."

The batch file adds the PowerMon II service to the NT Registry and configures the service to startup automatically. You must configure the Administrator's password, and start the service.

Remove The PowerMon II Service

Use the *Command Prompt* or *File Manager* if you want to remove the PowerMon II service from the NT Registry. To remove the service, run `del serv.bat` in the PowerMon II directory. With either method, the program informs you, "stopping service...service removed."

The batch file stops and removes the service from the NT Registry.

PowerMon II Files

The following files are the core of the PowerMon II application. Unless you changed the default directory during the setup program, these files reside in the `c:\pm2` directory.

FILE NAME	FILE DESCRIPTION
<i>addserv.bat</i>	A batch file that adds the PowerMon II service to the NT registry.
<i>addsvc.exe</i>	A program file that adds PowerMon II to the NT registry. This file is called by running <i>addserv.bat</i>
<i>delserv.bat</i>	A batch file that removes PowerMon II service from the NT registry.
<i>delsvc.exe</i>	A program file that removes PowerMon II from the NT Registry. This file is called by running <i>delserv.bat</i>
<i>pm2svc.exe</i>	A program file that is the PowerMon II UPS service monitoring program.
<i>pm2.exe</i>	PowerMon II client monitoring program.
<i>pm2.hlp</i>	PowerMon II help file.
<i>xnmba410.dll</i> <i>xnmhn410.dll</i> <i>xnmte410.dll</i>	These files are system DLLs (libraries), installed to the <i>Windows NT</i> directory
<i>pm2.cfg</i>	PowerMon II configuration file
<i>pm2.log</i>	Event log file
<i>pmyydd#</i> <i>g</i>	Archived (cleared) log files. Use this format: <i>yy</i> = current year (95,96) <i>ddd</i> = Julian date (001-365); <i>#</i> = a unique number (0-9).

Troubleshooting

We have made every effort to ensure an easy and straight forward PowerMon II installation. If you should experience problems or unexpected results during the installation or execution, please verify your system setup and configuration using the following checklists:

Pre-installation Checklist

- Positively identify the name of the serial port to which the PowerMon II communications cable is connected. (Consult computer/operating system documentation if necessary.)
- Verify that no other hardware or software is using/accessing this serial port, including your mouse. PowerMon II **must** have a dedicated port.
- Verify that you are using the cable supplied with the PowerMon II software and that it is securely connected to the serial port.
- Verify that the other end of the supplied cable is securely attached to the UPS interface port. This end should not require any adapters.

Windows NT Event Viewer

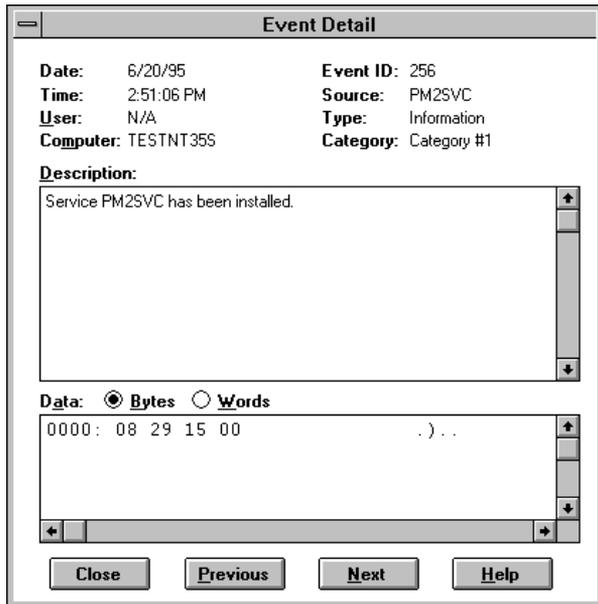
You may find additional help in solving your problems with the *Event Viewer*. The *Event Viewer* is in the *Administrative Tools* folder.



The *Event Viewer* lists each occurring event. To display a list of event log messages, select **Applications** under the **Log** menu. To view more details for the event, double-click on the event.

Date	Time	Source	Category	Event	User
6/19/95	9:28:25 AM	Service Control Mar	None	7026	N/A
6/19/95	9:27:35 AM	BROWSER	None	8033	N/A
6/19/95	9:26:43 AM	BROWSER	None	8033	N/A
6/19/95	9:24:43 AM	BROWSER	None	8033	N/A
6/21/95	9:23:56 AM	PM2SVC	Category #1	256	N/A
6/7/95	9:24:12 AM	Service Control Mar	None	7026	N/A
6/7/95	9:23:30 AM	NETLOGON	None	5719	N/A
6/7/95	9:22:41 AM	EventLog	None	6005	N/A
6/7/95	9:20:48 AM	BROWSER	None	8033	N/A
6/7/95	9:20:48 AM	BROWSER	None	8033	N/A
6/7/95	9:20:46 AM	BROWSER	None	8033	N/A

The *Event Detail* dialog box displays the **Date** and **Time** of the **Event**, and a brief description of the event under **Source**. At times, the PowerMon II service fails to start when other services on which it depends fail to start.



Windows NT provides the event descriptions and ID's. See the *Common Problems and Solutions* section for a list of service related events.

Common Problems and Solutions

The following table lists common problems with solutions.

Problems	Solutions
Can't start service! Start Service error: 1056	The PowerMon II service is already running. Verify the service is running. See <i>Using the PowerMon II Service</i> for more information.
Can't start service! Start Service error: 1060	The PowerMon II service is not an installed service. To install the service run addserv.bat See <i>Using the PowerMon II Service</i> for more information.
Can't start service! Start Service error: 1072	The PowerMon II service is marked for deletion. Remove the service by running delserv.bat Install the service by running addserv.bat See <i>Using the PowerMon II Service</i> for more information.
Can't start service! Start Service error: 1073	The PowerMon II service already exists as an installed service. If you are reinstalling or upgrading PowerMon II, remove the currently installed service and remove the files from the PowerMon II directory. See <i>Using the PowerMon II Service</i> for more information.
When you load PowerMon II, communications cannot be established.	Make sure the PowerMon II service is started.
When you start PowerMon II, a message displays immediately to inform you that a power failure or low battery is occurring.	Make sure the cable is plugged into the UPS and the Computer Make sure you have correctly identified the serial ports. You may have connected the cable to the wrong port. Ports may be mislabeled.
When you test PowerMon II, the program does not display any power failure or power restored messages.	Make sure the serial port is enabled. Make sure the port is operational. Perform another test on it, such as attaching a modem and attempting to dial out. A conflict may occur with hardware devices or other software.

Serial Port Testing

Use the following procedure to test if PowerMon II can communicate properly through the specified serial port on your computer. This procedure tests the serial port independently from the supplied PowerMon II cable and the UPS. Follow the steps below:

- Stop the Service. See *Using The PowerMon II Service* for more information.
- Disconnect the supplied PowerMon II cable from your computer's serial port. You may leave the other end connected to your UPS.
- From the *File Manager* **File|Run** menu, run **PM2 /SETUP**.
- The *Configure UPS* window appears. Change the **Configuration Code** to **7**; click **OK**.
- Turn your computer so you can work on the serial port on the back and still see the screen.
- Make sure the **UPS Status** window is on the screen.
- Use a "jumper wire" or a paper clip to touch pins together (at the same time).

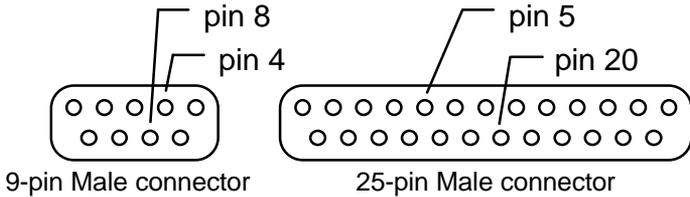
For a **25-pin serial port**, touch numbers **20** and **5** together.

For a **9-pin serial port**, touch pins number **4** and **8** together. (See the following diagrams for pin numbering.)

- Continue to hold the two pins jumpered together.

Serial Port Connectors

As depicted, you are looking straight into the connector. For standard serial ports, you should see **pins** and not holes.



- After holding pins **5** and **20** together, the UPS Status window displays “On Battery Backup.”
- Remove the jumper from the pins. Another message displays, “UPS status is normal.”

Serial Port Test Results

If you receive the messages “UPS is on battery backup” and “UPS status is normal,” PowerMon II can communicate through your computer’s serial port properly.

If your system passes this test follow these steps:

- Stop the PowerMon II service.
- Reconnect the PowerMon II cable.
- Run **PM2 /SETUP**.
- Change the configuration code to your code.
- Choose **OK** to save the configuration and restart the service.

If you continue to have problems, place a technical support call.

If you do **not** receive the messages, there is a problem with your serial port. You should:

- Ensure that your serial port is properly installed and configured to your system.
- Ensure that you are testing the correct port. Ports may be mislabeled.
- Check that no other adapter setups conflict with the port.
- Check that no other applications are accessing the port.
- Perform another test on the serial port using another method such as connecting to an external modem.

PowerMon II for will **not** function properly until the serial port passes the test described above.

Placing a Technical Support Call

In order to diagnose the problem you are having, our technicians need the following information from you:

Installation Site:

Company Name: _____

Address: _____

City: _____

State: _____ ZIP code: _____

Installation Site Contact:

Full Name: _____

Phone Number: _____

Fax Number: _____

If you are a consultant,

Consultant Name: _____

Phone Number: _____

Fax Number: _____

Computer System:

Operating System Version: _____

System Manufacturer: _____

System Model Number: _____

Type of Serial Port Connector
(How many pins, male or female, etc.): _____

Address of the Port: _____

UPS:

Manufacturer: _____

Model Name/Number: _____

Type of Port Connector

(How many pins, male or female, etc.): _____

PowerMonII for Windows NT Configuration:

Configuration Code: _____

Cable's Part Number (From tag on end of cable): _____

Are any adapters connected to the cable? _____

If yes, what type? _____

What are the symptoms?

Technical Support

Have the information listed above ready. You can reach us by calling:

US & World (314) 532-2855

by fax at (314) 532-2037

or by E-mail at: support@sechq.com

Europe +44 1600 716400

or by fax at +44 1600 772026

Systems Enhancement Products

SensiMon™

SensiMon is the power monitoring and shutdown package designed to work with any Uninterruptible Power Supply (UPS) with or without a serial interface. SensiMon incorporates all the monitoring capabilities of PowerMon II by using a custom SensiCable. The SensiCable plugs into the same electrical outlet as the UPS and provides a graceful system shutdown when unfavorable power events occur. SensiMon works with all PowerMon II supported operating systems.

Multi-Interface Units (MIU)

Multi-Interface Units (MIU) are designed to allow more than one computer to monitor a single UPS for a utility power failure or a low battery condition. Multi-Interface Units are necessary since a typical UPS has only one communication interface, making it impossible for multiple computers to simultaneously monitor a single UPS.

One cable is provided to attach the MIU to the UPS interface. A cable is provided for each computer system to attach to the MIU. Each computer will individually monitor the status of the UPS, and all power events that occur, by using PowerMon II, SmartMon (for MIUs that support serial UPSs), or built-in UPS monitoring software. When the MIU detects a change in UPS status, it passes the same status signals to all the attached servers, informing them of the power event.

The following provides more information on Systems Enhancement's family of Multi-Interface Units:

MultiMon™

- Provides 8 ports for basic monitoring and system shutdown.
- Expandable for UPS systems that support more than 8 computer systems.
- Allows each computer system to monitor for utility power failure and UPS low battery.
- Provides support for UPS inverter shutoff. **

MultiMon/400[™]

- Provides 4 ports for basic monitoring and system shutdown.
- Expandable for UPS systems that support more than 4 computer systems.
- Allows each computer system to monitor for utility power failure, UPS low battery, general alarm, and on bypass mode. IBM AS/400 servers use the monitoring capabilities provided by the operating system. Other operating systems require PowerMon II or other UPS (contact closure) monitoring software. PowerMon II does not monitor general alarm or on bypass mode.
- Provides support for UPS inverter shutoff. **

MultiMon Plus[™]

- Provides 9 ports—8 basic and 1 smart/serial port, for power management and system shutdown.
- Expandable for UPS systems that support more than 9 computer systems.
- Allows each computer system connected to the basic monitoring ports to monitor for utility power failure and UPS low battery. Allows one computer system connected to the smart monitoring port to monitor smart UPS data, including frequency, load, and temperature.*
- Provides support for UPS inverter shutoff.**

MicroMon[™]

- Provides 3 ports—2 basic and 1 smart/serial port, for power management and system shutdown. Designed to work with smaller UPS systems.
- Allows two computer systems connected to the basic monitoring ports to monitor for utility power failure and UPS low battery. Allows one computer system connected to the smart monitoring port to monitor smart UPS data.*
- Provides support for UPS inverter shutoff.**
- Cost-effective solution that is less than half the price of other MIUs.

* Basic monitoring requires PowerMon II or other UPS (contact closure) monitoring software. Smart/serial monitoring requires SmartMon or other smart/serial UPS monitoring software.

** UPS inverter shutoff is currently supported for basic monitoring in PowerMon II systems only. UPS inverter shutoff for smart/serial monitoring is normally handled through serial communications.

NetMon SNMP Adapters

Systems Enhancement's NetMon products give you a cost-effective solution for monitoring your uninterruptible power supplies using Simple Network Management Protocol (SNMP). The NetMon adapters receive status data from the UPS, translate this information into SNMP-compliant messages, and send these messages to the Network Management Station (NMS). The NetMon family is compatible with a variety of NMSs—Novell, HP Open View, Sun NetManager, and IBM NetView.

The following NetMon features provide your solution for UPS monitoring.

NetMon—SP™ (Single Port)

- Allows network administrators to manage a single UPS using SNMP.
- Works with contact closure and serial data UPSs.
- Designed for Ethernet networks.
- Small, compact design.

NetMon—MP™ (Multi Port)

- Allows your network administrators to manage up to four UPSs simultaneously using SNMP.
- Works with contact closure and serial data UPSs.
- Provides additional monitoring with up to four input relays for devices such as smoke detectors and security alarms.
- Provides control with two output relay contacts for devices such as air conditioners or cooling fans.
- Measures temperature and humidity with built-in environmental sensors.
- Designed for Ethernet or token-ring networks.

SmartMon™

SmartMon is UPS power management and shutdown software that works with smart/serial data to provide critical information about power conditions and the status of the UPS. SmartMon is designed to monitor a smart UPS for events such as power failure and low battery conditions and provide a graceful system shutdown.

Key features of SmartMon include:

- Multiple brand UPS support
- Configurable user interface—display UPS values, such as:
 - Input Voltage
 - Output Voltage
 - Output Frequency
 - Percent Load
 - Battery Charge
 - Battery Temperature
 - more...
- Configurable real-time graphing
- User-defined events based on UPS value thresholds
- User-configurable actions based on UPS events and data, including:
 - Shutdown the Operating System
 - Shutdown the UPS
 - Log the event
 - Broadcast a warning
 - Page the Administrator
- Scheduled system shutdown
- Scheduled UPS self-test

Contact Systems Enhancement Corporation for more information.