



User's Manual

for the:

Novell NetWare
Operating Systems

with
Microsoft Windows
Microsoft Windows for Workgroups
Clients



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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}:**install***

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: Warning messages alert you to a specific
procedure or practice which, if not followed correctly,
could cause serious personal injury or loss of data.**

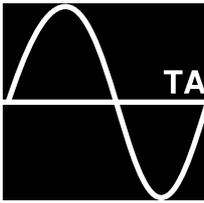


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1 INTRODUCTION

Sentry is a UPS power monitoring application for Novell NetWare operating systems. Sentry monitors the UPS through a cable attached to a serial port on the computer, and the communication interface on the UPS. This cable enables Sentry to check the status of the UPS and to perform a graceful operating system shutdown if required.

Through Sentry's pull-down menus and dialog boxes, you can configure the user interface and shutdown timers, view and print event logs, view and print power history graphs and data logs, and get help on-line.

You can configure Sentry to perform appropriate actions when an event is detected. The user configurable actions include: logging, broadcasting, paging, command file execution, and operating system shutdown. You can set the delays and intervals of these actions. For example, if utility power fails, you may wish to log the event, broadcast a warning message, page the system administrator, and shutdown the system after a delay.

The monitoring screen displays readings and meters for the UPS. You can configure what values are displayed, and color coded ranges for the values.

You can select readings to log for later viewing. The frequency of data logging is user defined. The event log tracks the history of power and UPS related events. The data log can be viewed, graphed, or printed. The event log can be viewed or printed.

You can schedule actions, such as system shutdown, restart, and self-tests. You can schedule actions recurring one-time, daily, weekly, bi-weekly, or monthly. Some actions may not be available because they are not supported by your UPS model.



REMEMBER

Don't forget to mail your Sentry registration card,
it is your proof-of-purchase.

NOTE

If you have any questions about Sentry or other
products from Minuteman, please contact us at:

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



INSTALLATION & CONFIGURATION

2

System Requirements

1. To use Sentry, your server must be running one of the following operating systems:
 - NetWare v4.10
 - NetWare v3.12

Your workstation must be running one of the following:

- Microsoft Windows
 - Microsoft Windows for Workgroups
2. Your workstation must be using NetWare Client VLMs version 1.20 or higher.
 3. Sentry requires one dedicated RS-232 serial port on your computer, for communications with a UPS.

Installing the UPS Interface Cable

Before you attach the cable to the UPS or computer, please perform the following steps:

1. Shutdown and turn off your computer.
2. Locate the UPS interface cable that was provided in the Sentry kit, or with your UPS.

Install the UPS interface cable by performing the following steps:

1. Identify the computer end of the cable. All cables will have a label on the computer end.
2. Plug the connector at the computer end of the cable into any dedicated serial communications port on your computer. If this end of the cable does not match your serial port connector, use an RS-232 adapter.
3. Plug the connector at the other end of the cable into the interface port on the UPS. (Refer to your UPS user's manual for help in locating the interface port.) If this end of the cable does not match the connector on your UPS, contact your reseller or Para Systems representative for a different cable. Do not use an adapter.
4. Restart your UPS and computer.



Serial Port Addresses

Sentry requires one serial s port for UPS monitoring, and an optional second port used for alerting an administrator via a modem. You need the AIO addresses for the ports during installation. Determine the addresses before proceeding with the installation.

Novell has added support for various communications port hardware using their AIO communications driver. The AIO driver method of addressing the serial port consists of a board number and a port number. To identify the ports on your system, you need to load the common AIO driver called `aiom.nlm`, and a hardware specific driver.

You need to load the common AIO driver called `aiom.nlm`, and a hardware specific driver. The hardware specific driver is `aiocomx.nlm`. So for example, type the following commands at the system console:

```
load aio <enter>
```

```
load aiocomx <enter>
```

After you press `<enter>`, you will see the hexadecimal address, IRQ number, and the AIO board and port numbers for those serial ports detected by **`aiocomx.nlm`**.

```
3F8h IRQ 4 is standard for COM1
```

```
2F8h IRQ 3 is standard for COM2
```

The AIO board and port numbers may vary depending how the hardware on your system is setup. For example, on some systems, **`aiocomx.nlm`** installs:

```
3F8h IRQ 4 as Board 0 Port 0
```

```
2F8h IRQ 3 as Board 0 Port 1
```

on other systems, `aiocomx.nlm` installs:

```
2F8h IRQ 3 as Board 1 Port 0
```

So the port at 2F8h IRQ 3 (COM2) could be Board 0 Port 1 or Board 1 Port 0. Even if your serial ports are built in to the motherboard, the ports may be installed with different board numbers. To detect all of your serial ports, you may have to load **`aiocomx.nlm`** more than once, depending on the number of boards installed on your system and the configuration of your hardware.



Installing Sentry

Log in to the server at a workstation as supervisor. Insert the Sentry diskette in the appropriate diskette drive on your workstation. Run install.exe from the diskette.

NOTE: If you press Cancel during Sentry installation, you stop the installation program.

There are two parts to the Sentry package. The Server (NLM) software is installed on the server and the Client software is installed on a workstation. During installation, you can select to install either the Client or Server, or both.

If you select the Client software, you must select the install destination drive and directory. If you select the NLM software, you must select a destination drive that is mapped to the desired server.

During the Client installation process, an icon is placed in the **Sentry** group folder. You must install the Client software to configure the NLM software.

Configuring Sentry

After you install Sentry, you must configure communications between Sentry and your UPS. The steps required to establish communications with your UPS are:

- Determine the AIO board and port address of the serial port
- Load **smartmon.nlm** from the server console
- Run Sentry and save a *UPS Configuration*

After you save the *UPS Configuration*, UPS monitoring begins.

Beyond UPS Configuration

When you save the *UPS Configuration*, you have completed the first step in configuring Sentry.

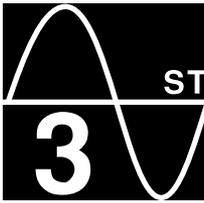
The monitoring center window can be tailored to display the **Readings** and **Meters** of your choice. See the chapter titled Monitoring Center Configuration for more information.



Choose **Configure** from the Sentry menu bar to configure additional features, including:

- Actions for various events, such as logging, broadcasting, system shutdown, paging, and command file execution. See the chapter titled *Event Configuration* for more information.
- Event & Data log file sizes and Data file content. See the chapter titled *Data & Event Logging* for more information.

Choose **UPS Control** from the Sentry menu bar to schedule system shutdown, restart, and self tests. If your UPS supports additional functions, you may access those functions from the **Control Options** menu option.



STARTING & STOPPING SENTRY

Although you have installed the Sentry files in the **sys:system** directory of the file server, Sentry cannot be configured, and will not monitor your UPS until you load it. The following paragraphs concern loading, unloading, and deleting Sentry.

Loading SMARTMON.NLM

Loading will activate the power monitor. After the power monitor is loaded, you can configure UPS communications. In order to monitor your UPS, you have to load several NLMs on the server. At the file server console, *load* the following NLMs.

LOADING AIO DRIVERS

Load the appropriate AIO communications port driver for your hardware as described in the installation chapter. For example:

```
load aiocomx <enter>
```

There are a variety of *AIO* driver NLMs. You may have to load *aiom.nlm* before you load the *AIO* hardware driver NLM.

LOADING SUPPORT NLMS

Load the following NLMs:

```
spxs.nlm  
streams.nlm  
tli.nlm  
.nlm  
after311.nlm
```

LOADING SENTRY

Load Sentry on the server by typing:

```
load smartmon <enter>
```

If you get an “already loaded” error message, then unload and reload **smartmon**. If you get an error message stating “can’t find public symbol,” then review the names of the symbols. If the public symbols listed begin with *AIO*, then you must load *aiom.nlm* and your hardware specific AIO driver.



LOADING AUTOMATICALLY

After you have determined which modules you need to load, add the load statements to your **autoexec.ncf** file. Sentry will automatically monitor your UPS when the file server is started. You can modify **autoexec.ncf** using NetWare's **install.nlm**.

Unloading SMARTMON.NLM

To disable power monitoring, unload Sentry at the file server console by typing:

unload sentry <enter>

You can also unload any support NLMs that are not required by other modules.

If you modified the **autoexec.ncf** file during the install process, and you want to prevent Sentry from loading at system startup, use **install.nlm** to remove the **smartmon** load command. You can also remove any support NLM load commands that are not needed.

Starting the Sentry Client

To start the Sentry Client, double-click the Sentry icon in the *Program Manager*.



Double-click on a server name in the Select Server window. You must provide a login name and password.

If this is the first time the client is started after installing and loading **smartmon.nlm**, then the configuration window will appear. After a *UPS Configuration* is saved, the monitoring center window will be the first window to appear. If the *UPS Configuration* window appears, see the chapter titled *UPS Configuration*.

To configure the monitoring center window, see the chapter titled *Monitoring Center Configuration*.

Deleting Sentry

If you wish to remove Sentry from your system, follow the steps required for your system.

SENTRY SERVER

If you wish to permanently remove Sentry from the file server SYS volume, follow the steps listed under Unloading, then delete the following files from the **sys:system** directory.

```
del \system\smartmon.nlm <enter>
del \system\current.cfg <enter>
del \system\data.dat <enter>
del \system\dataold.dat <enter>
del \system\event.log <enter>
del \system\eventold.log <enter>
del \ups\netevent.log <enter>
del \system\*.ini <enter>
rd \ups <enter>
```

You may also have to remove the load commands entered in the **autoexec.ncf** file.

SENTRY CLIENT

If you wish to permanently remove Sentry from the Client workstation, delete the following files and directories. (Be careful when using *.*.)

```
del \sentry\*.* <enter>
```

Remove the Sentry directory:

```
rd \sentry <enter>
```

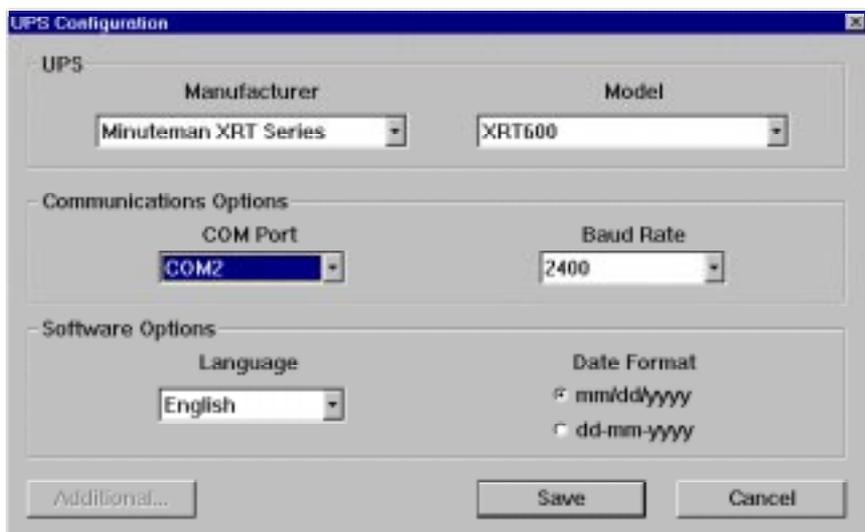
Delete the Sentry group folder from the Program Manager, and delete the group file:

```
del \windows\sentry.grp <enter>
```

UPS CONFIGURATION

4

When Sentry is started for the first time, the *UPS Configuration* window is displayed. Use this window to setup the software for UPS monitoring.



Select Minuteman or your UPS manufacturer from the **Manufacturer** drop-down list box. Next, select the UPS model from the **Model** drop-down list box.

Next, choose the **COM Port** to which the UPS interface cable is attached. Use one of the following **COM Port** numbers that corresponds to a port on your system.

COM Port	Board	Port
COM1	0	0
COM2	1	0
COM3	First Available	0
COM4	First Available	1

If your "COM2" is Board 0 Port 1, you can use **COM4** to match the first available Board with Port 1. Sentry will also find the first available



hardware type that matches the board and port as listed on the previous page.

If your UPS supports more than one baud rate setting, select one from the **Baud Rate** drop-down list box, and set the baud rate on the UPS. See your UPS user's manual for details concerning baud rate configuration.

Select the **Language** that will be used to display menu items, field names, and UPS variables. Also, select the format that will be used to display dates.

Some UPS models may require you to configure **Additional...** items. If the **Additional...** command button is available, press it to open a configuration window.

When you finish configuring UPS communications, language, and date display, press **Save** to record the values and begin monitoring. If you would like to abandon all of the changes you made, and exit Sentry, press **Cancel**.

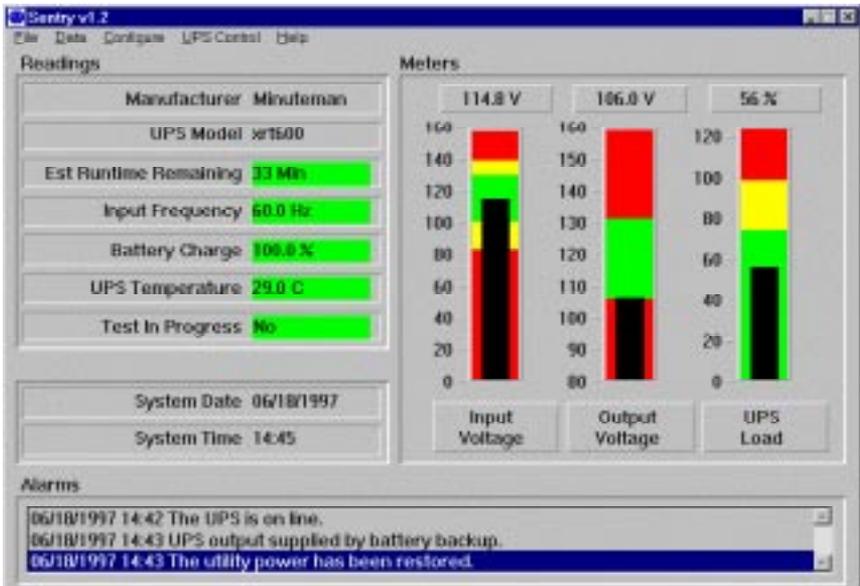
If you cancel configuration and you do not currently have a saved configuration, the Sentry client will exit. To reconfigure UPS communications, choose **Configure|UPS** from the menu bar.

MONITORING CENTER CONFIGURATION

5

The monitoring center window provides you with a view of current UPS values. The monitoring center window displays each time Sentry is started. The reading values and meter graphs are fully configurable and can display any values provided by the UPS.

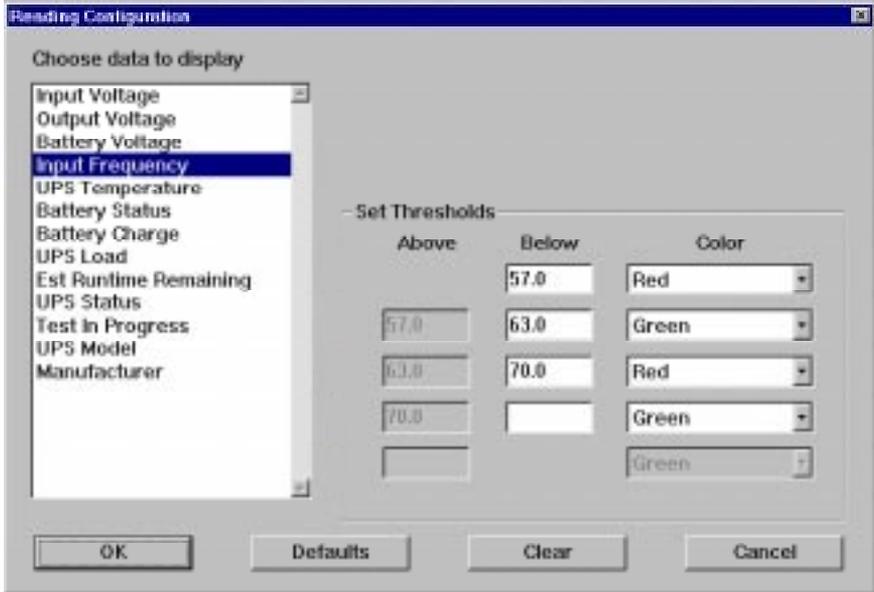
If you would like to see other values in the window, changing them is easy. Configuration is as easy as point and click. You can use color codes to warn when values are out of an acceptable range. Configuration is explained in the following sections.



The **Alarm** box notifies you of software and UPS events.

Readings

The Readings group allows you to display seven values from the complete list of UPS values. If you would like to change a reading or the properties of a reading, just point to the reading and click. The *Reading Configuration* window displays.

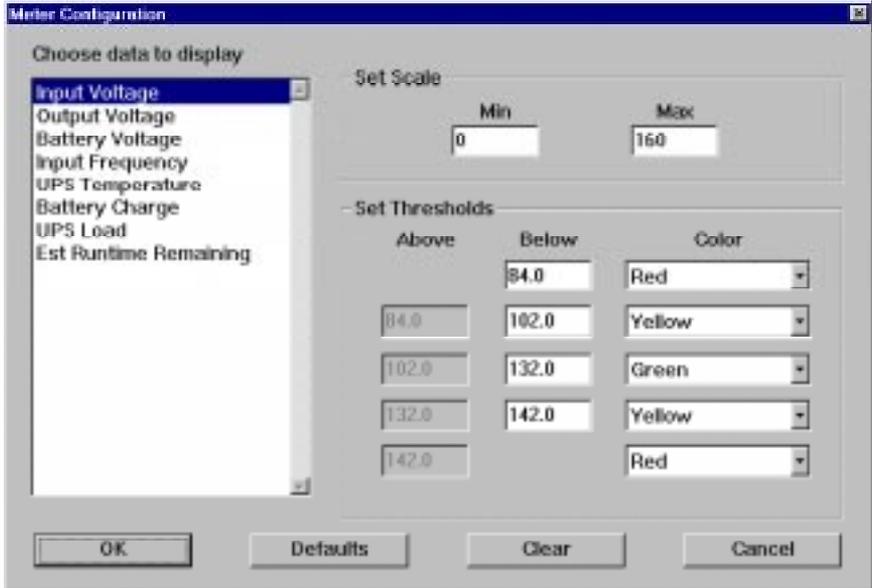


Pick a value from the **Choose Data to Display** list box. The values available will vary depending on the model of UPS. Set the thresholds and assign colors to the ranges. When the value is displayed in the **Readings** box, the background color will reflect the color of the range. If you also display the value as a meter, the same thresholds are used.

When you finish configuring the reading, press **OK**. If you wish to clear the thresholds, press **Clear**. If you would like to reset the thresholds to their default values, press **Defaults**. If you would like to abandon all of the changes you made, and close the *Reading Configuration* window, press **Cancel**.

Meters

The **Meters** group allows you to graph three values from a list of UPS values. If you would like to change a meter or the properties of a meter, just point to the meter and click. The *Meter Configuration* window displays.



Pick a value from the **Choose Data to Display** list box. The values available will vary depending on the model of UPS. This list may be different from the readings list, since some values cannot be displayed in a meter format.

Set the maximum and minimum values for the scale of the graph. Set the thresholds and assign colors to the ranges. When the graph is displayed, the background colors will reflect the thresholds. If you also display the value as a reading, the same thresholds are used.

When you finish configuring the meter, press **OK**. If you wish to clear the thresholds, press **Clear**. If you would like to reset the thresholds to their suggested values, press **Defaults**. If you would like to abandon all changes and close the *Meter Configuration* window, press **Cancel**.

Changing Servers

To monitor the UPS attached to another server, choose **Remote/Select Server** from the menu bar. The Select Server window will display.



Double-click on the server name. The login name and password will be requested. To rescan the list of servers running Sentry, press **Refresh**.

Exiting Sentry

If you choose **File | Exit**, the monitoring center will close, but UPS monitoring continues. To terminate UPS monitoring, you must unload **smartmon.nlm**.

6 EVENT CONFIGURATION

Sentry offers you complete control over UPS system events. The number of events available varies for different UPSs. The actions include: operating system and UPS **Shutdowns**, event **Logging**, message **Broadcasting**, administrator **Paging**, and executing **Commands**. To begin event action configuration, select **Configure/Action....**

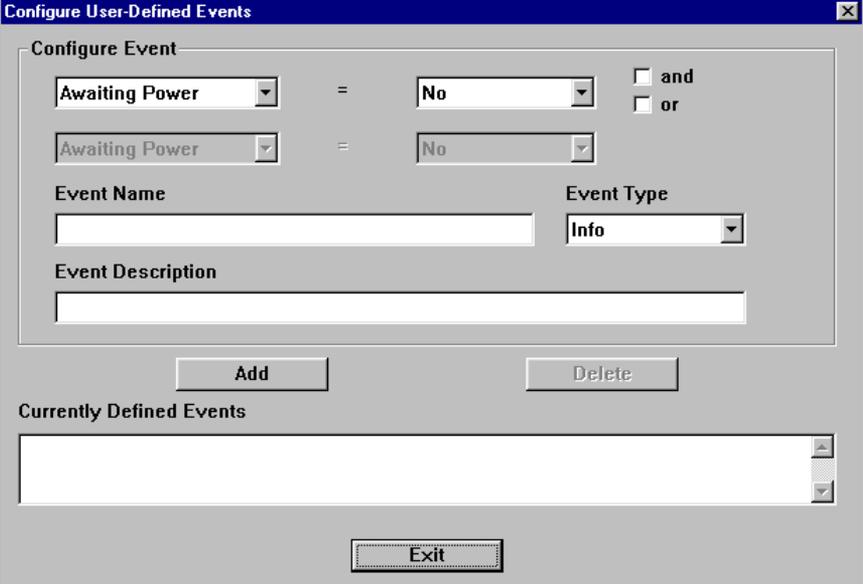
The *Event Action* window provides you with a list of events. Select an event from the **Choose Event** list box. You can choose any combination of actions for the event by pressing the action command buttons. Actions already enabled have a check mark below the name of the action on the command button. You can also check **Popup Main Screen** to display the monitoring center window when an event occurs.



In addition to the pre-defined events, you can create your own events. Press the **User Events...** command button to display the *Configure User-Defined Events* window.

User-Defined Event Configuration

User-defined events are based on UPS values. You can configure a value or range of values to define an event, then use the event to trigger actions.



Configure User-Defined Events

Configure Event

Awaiting Power = No and or

Awaiting Power = No

Event Name: _____ Event Type: Info

Event Description: _____

Add Delete

Currently Defined Events

Exit

Select a UPS value on which your event will be based. Next, select the criteria that defines when the event occurs. You can use the **and** or the **or** check box to combine comparisons of different UPS values to define an event. You can also use the and check box to define a finite range of values for the event.

Give the event a descriptive name and provide an explanation for the event in the description field. The **Event Type** is used to group events in the event log viewer. After you assign an **Event Type**, click the Add command button to add the event to the list of **Currently Defined Events**.

If you wish to delete an event, click on the event in the **Currently Defined Events** list box and press **Delete**.

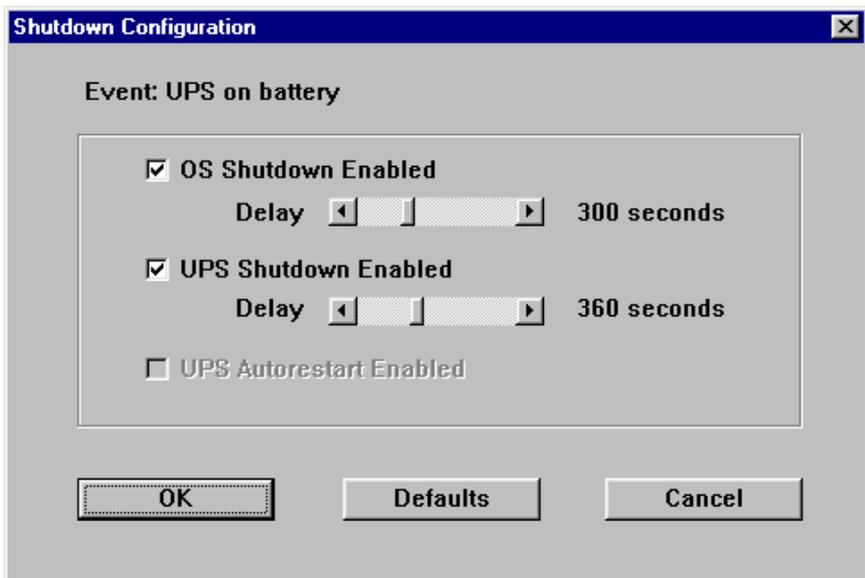
When you are finished adding and deleting events, press the **Exit** command button to close the *Configure User-Defined Events* window.

Event Action Configuration

Select an event from the **Choose Event** list box. The actions include: operating system and UPS **Shutdowns**, event **Logging**, message **Broadcasting**, administrator **Paging**, and executing **Commands**.

SHUTDOWNS

If you haven't already selected **Configure|Action...** from the main menu bar, please select it now. In the *Event Action Configuration* window, press the **Shutdowns** command button to display the Shutdown Configuration window. If you select one of the shutdown enabled check boxes, then a check mark will appear on the **Shutdowns** command button.



If the event warrants shutting down the system, then select **OS Shutdown Enabled**, and configure a **Delay**. The delay starts when the event is detected. Next, you may wish to turn UPS output power off. If so, select **UPS Shutdown Enabled** and configure a **Delay**. The delay starts when the event is detected.

If you would like to automatically restart the UPS after it shuts down due to a utility power failure, select **UPS Autorestart Enabled**. Support for UPS shutdown and autorestart varies by model.

WARNING: Shutting down the UPS without first shutting down the operating system could result in loss of data. Always add enough time for the operating system to shut down before shutting down the UPS output.

When you are finished configuring **Shutdowns**, press the **OK** command button. If you want to revert to the suggested values, then press **Defaults**. If you want to abandon changes, then press **Cancel**.

LOGGING

If you haven't already selected **Configure/Action...** from the main menu bar, please select it now. In the *Event Action Configuration* window, press the **Logging** command button to display the *Event Logging Configuration* window. If you select the **Local Logging Enabled** or **Network Logging Enabled** check box, a check mark will appear on the **Logging** command button.

The screenshot shows a dialog box titled "Event Logging Configuration" with a close button (X) in the top right corner. The dialog is divided into several sections:

- Event:** UPS on battery
- Local Logging Enabled:** A checked checkbox.
- Network Logging Enabled:** An unchecked checkbox.
- Delay:** A slider control set to 0 seconds.
- Interval:** A slider control set to 60 seconds.
- Log Message:** A text box containing the message "The UPS is operating on battery power."
- Buttons:** "Add Data..." (top right), "OK" (bottom left), "Defaults" (bottom center), and "Cancel" (bottom right).

The local event log records events associated with this system. The network event log records events for all systems. The master network event log is configured by selecting **Configure/Logging**.



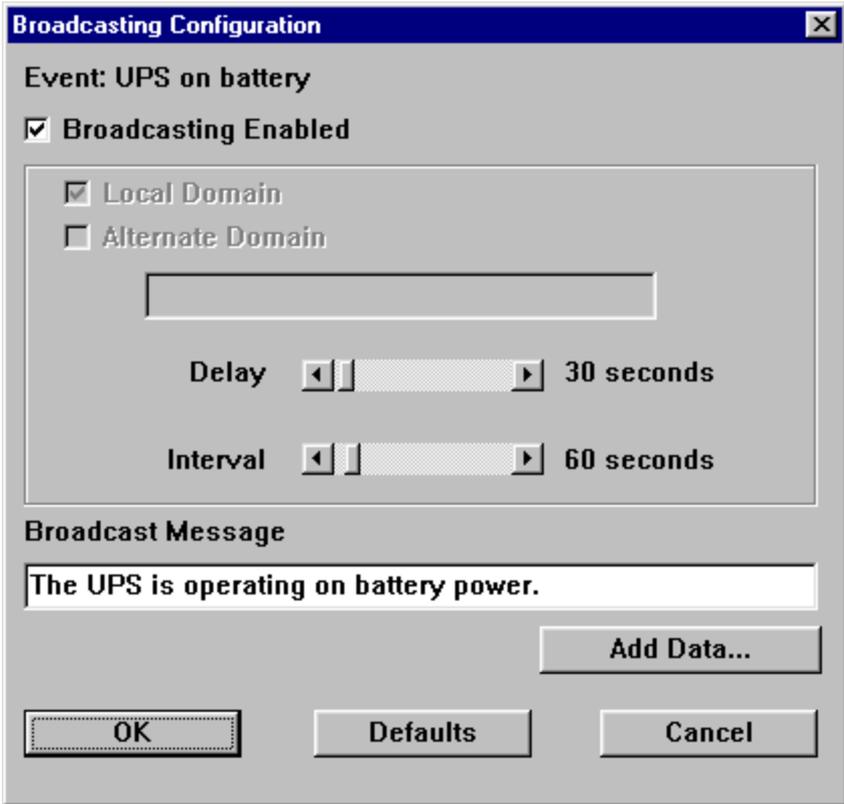
If you want to avoid logging messages for events that last a short duration, set a **Delay**. If you want the event log to show one message per event occurrence, then set the logging **Interval** to **0**. If you want to repeat logging for events that last longer, then set the logging **Interval** to the desired time.

Enter the text of the **Log Message**. In some cases, you may wish to add a current data value to the message text. Press the **Add Data...** command button to display a list of UPS values from which to choose. For example, if the UPS is on battery power, you may want to log the current input voltage value. The available UPS values depend on the UPS model.

When you are finished configuring **Logging**, press the **OK** command button. If you want to revert to the suggested values, then press **Defaults**. If you want to abandon changes, then press **Cancel**.

BROADCASTING

If you haven't already selected **Configure/Action...** from the main menu bar, please select it now. In the *Event Action Configuration* window, press the **Broadcasting** command button to display the *Broadcasting Configuration* window. If you select **the Broadcasting Enabled** check box, a check mark will appear on the **Broadcasting** command button.



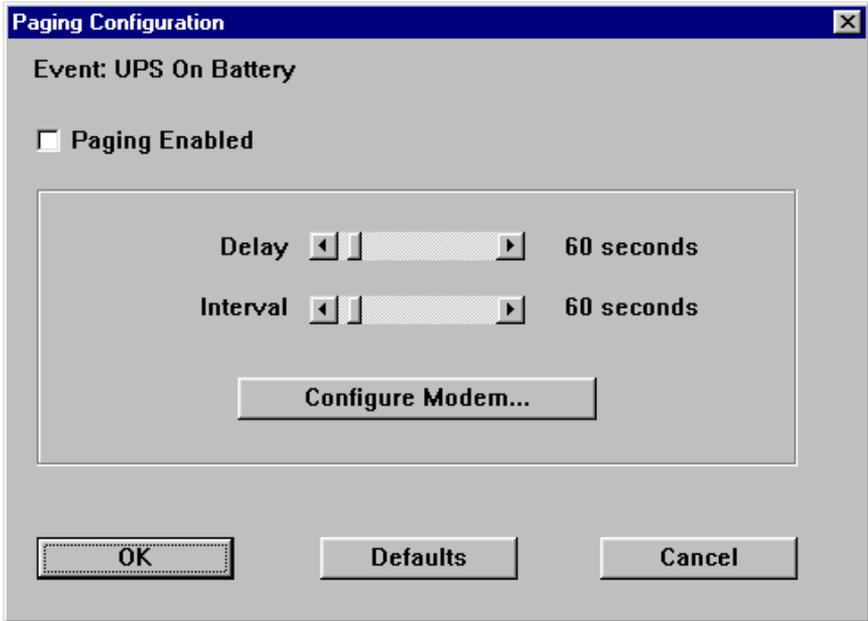
All broadcast messages also appear in the alarm box at the bottom of the main window. If you want to avoid broadcasting messages for events that last a short duration, set a **Delay**. If you want to notify users one time, set the broadcast **Interval** to **0**. If you want the users to be notified at regular intervals, then set the broadcast Interval to the desired time.

Enter the text of the **Broadcast Message**. In some cases, you may wish to add a data value to the message text. Press the **Add Data...** command button to display a list of UPS values to choose from. The available UPS values depend on the UPS model.

When you are finished configuring **Broadcasting**, press the **OK** command button. If you want to revert to the suggested values, then press **Defaults**. If you want to abandon changes, then press **Cancel**.

PAGING

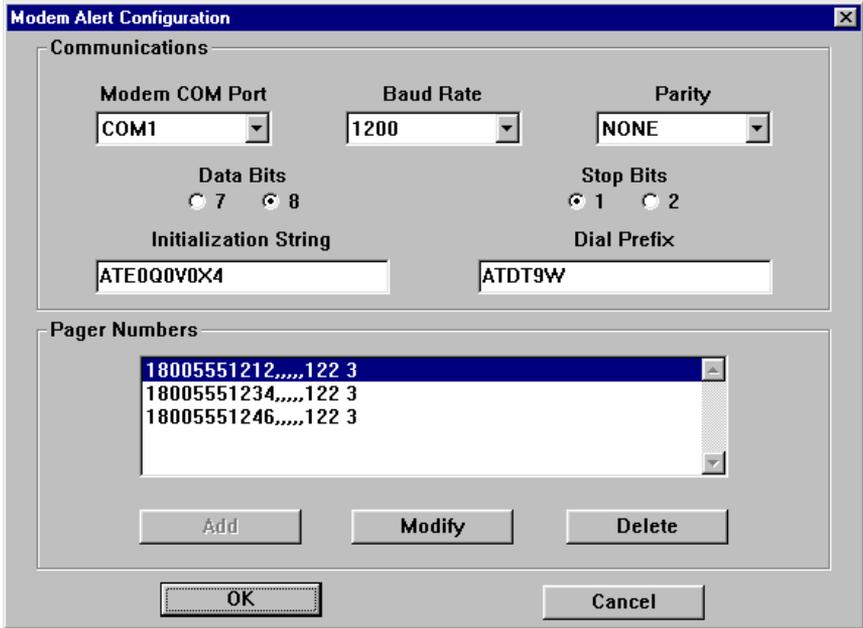
If you haven't already selected **Configure|Action...** from the main menu bar, please select it now. In the *Event Action Configuration* window, press the **Paging** command button to display the *Paging Configuration* window. If you select the **Paging Enabled** check box, a check mark will appear on the **Paging** command button.



If you want to avoid paging the administrator for events that last a short duration, set a **Delay**. If you want to page one time per event occurrence, then set the paging **Interval** to **0**. If you want to repeat paging for events that last longer, then set the paging **Interval** to the desired time

Press **Configure Modem...** to display the *Modem Alert Configuration* window. The modem configuration can also be displayed by choosing the **Configure|Modem...** menu option.

To configure the modem, select the **Modem COM port**, **Baud Rate**, **Parity**, **Data Bits**, and **Stop Bits**. The **Initialization String** is sent to the modem before paging is attempted. The **Dial Prefix** is added to the beginning of each of the **Pager Numbers** before they are sent to the modem.



The **Initialization String** allows you to configure the modem to return result codes. The result codes allow Sentry to determine the status of the page. The default string is ATE0Q0V0X4. The meanings of the codes follow:

- AT** Attention code
- E0** Turns echo off so commands are not echoed back to the computer
- Q0** Enables result code return to the computer
- V0** Enables numeric result codes which allows Sentry to determine the page status
- X4** Enables all of the numeric result codes which allows Sentry to determine dial tone, busy signal, and answer status

See your modem user's manual for more information on modem commands.

The **Dial Prefix** should begin with **AT**, and include any Hayes commands required to acquire a line and begin dialing the telephone number of the paging service. The default prefix is ATDT.

The **Pager Numbers** should include the telephone number for the paging service, and any required pauses and commands to complete the page. Up to three **Pager Numbers** may be configured for all events.

To configure a pager number, press the **Add** command button. To modify an existing pager number, click on the number and press **Modify**. To delete a pager number from the list, click on the number and press **Delete**.

When you are finished with *Modem Alert Configuration*, press the **OK** command button. If you want to abandon changes, then press **Cancel**.

COMMON MODEM COMMANDS

See your modem user's manual for a complete list of dial modifiers.

COMMAND	DESCRIPTION
DT	Dial the following number using Tone dialing.
DP	Dial the following number using Pulse dialing.
W	Wait for Dial tone. It is most often used to wait for the dial tone of an outside telephone line before processing the rest of the dial string. The amount of time to wait is set in the S-Registers of the modem. (S7)
,	A comma, placed anywhere in the dial string, tells the modem to pause before processing the rest of the string. The amount of time to pause is set in the S-Registers of the modem. (S8)
\$	Wait for Bong. It is most often used for calling card calls, but may be used by a paging service.

Paging Example:

XYZ company has 20 systems running Sentry in one building. You are configuring Sentry for the third of five systems located in room 122 of the building. To acquire an outside telephone line from your phone system, you must dial 9 and wait for the dial tone. The telephone number for the paging service is **1 800 555 1212**.



The **Dial Prefix** would be:

ATDT 9 W

If it took the paging service approximately ten seconds to answer and get ready to accept the paging information, then the paging number would be:

18005551212,,,,,122 3

When you put the **Dial Prefix** and the **Paging Numbers** together, you create a complete dial string:

ATDT 9 W 18005551212,,,,,122 3

ATDT 9 W causes the modem to dial 9 and wait for the dial tone of an outside line. 18005551212 is the phone number of the pager. “,,,,,” causes the modem to wait for approx. 10 seconds. 1223 (122-room, 3-computer) is dialed next, and will be displayed on the pager to identify the computer system that is currently reporting the event.

Dial your pager service to determine what you need to do to configure paging. Your paging service may vary from the example.

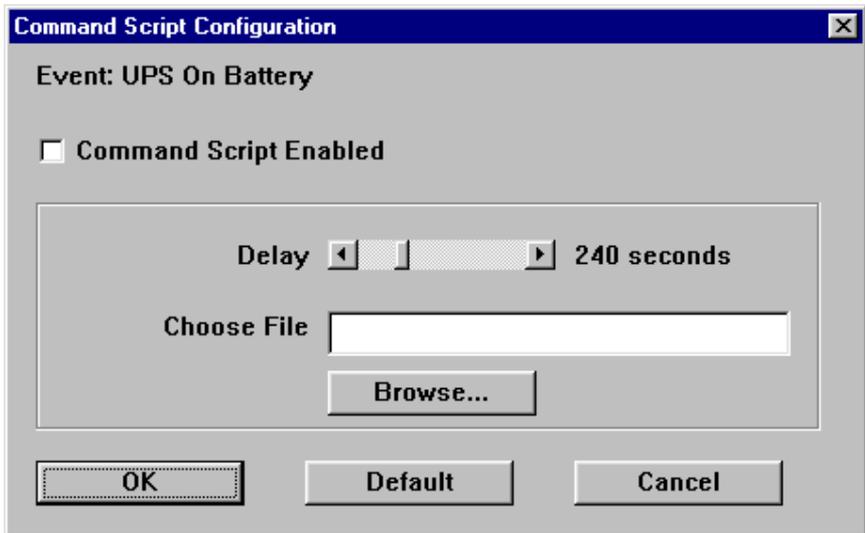
When you are finished configuring **Paging**, press the **OK** command button. If you want to revert to the suggested values, then press **Defaults**. If you want to abandon changes, then press **Cancel**.

EMAIL

Email is not supported.

COMMANDS

If you haven't already selected **Configure|Action...** from the main menu bar, please select it now. In the *Event Action Configuration* window, press the **Commands** command button to display the *Command Script Configuration* window. If you select the **Command Script Enabled** check box, then a check mark will appear on the **Commands** command button.



If you want to avoid command execution for events that last a short duration, set a **Delay**.

Enter a command file name in the **Choose File** box. You can use the **Browse...** command button to search for the file and place the name in the **Choose File** box. Choose programs or batch files to perform actions when the event occurs.

When you are finished configuring **Commands**, press the **OK** command button. If you want to revert to the suggested values, then press **Defaults**. If you want to abandon changes, then press **Cancel**.

DATA & EVENT LOGGING

7

Data and Event logs are available for you to track power events and trends. You can view data in text and graphical form. You can view events in text form. You can print both data and event files.

Logging Configuration

Before Sentry begins data logging, you must configure what data is logged. For convenience, you can also configure the event log from the same window. To display the *Logging Configuration* window, select the *Configure|Logging...* menu option.

Logging Configuration

Data Logging

Data Logging Enabled Select Data...

Logging Interval 2 minutes

Maximum Records 1000 records

Event Logging

Maximum Records 500 records

Network Alert Server

OK Defaults Cancel

To enable data logging, select the *Data Logging Enabled* check box. Press the *Select Data...* command button to choose a list of UPS values to log.

Set the data *Logging Interval* and the *Maximum Records* for the log file. When the data log fills, the current data log, **data.dat**, is moved to **dataold.dat**. The **data.dat** file is reset, and logging continues.

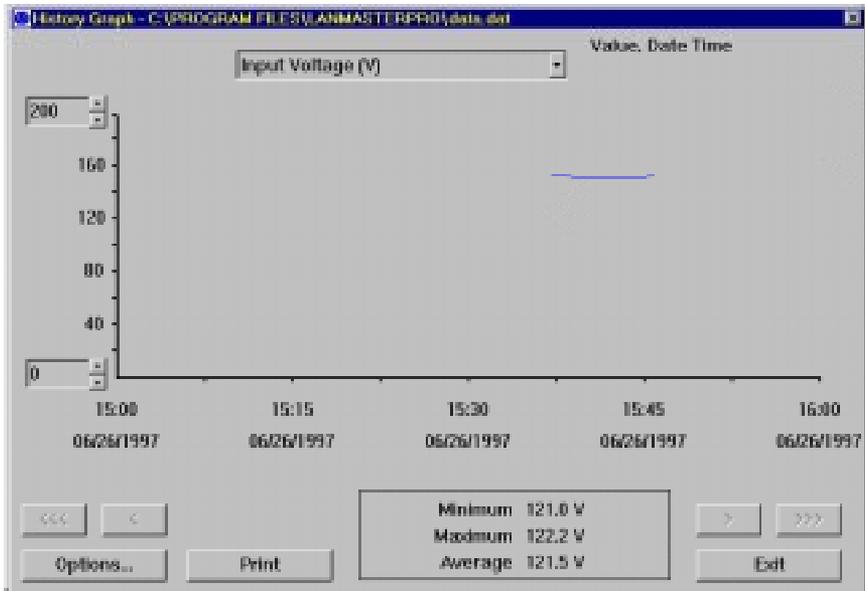
Set the **Maximum Records** for the local event log. When the event log fills, the current event log, **event.log**, is moved to **eventold.log**. The **event.log** file is reset, and logging continues.

The **Network Alert Server** records events for systems across the network. If you plan to log events to a central network alert server, enter the system name of the **Network Alert Server**. You must create a user account on the Network Alert Server named **UPS** with a password of **SENTRY**. Sentry will use this user account to log entries from each server. When you create the **UPS** user account, allow concurrent connections, no expiration, and do not allow the password to be changed. Allow the user access only to the \ups directory in the **SYS** volume.

When you are finished with *Logging Configuration*, press the **OK** command button. If you want to revert to the suggested values, then press **Defaults**. If you want to abandon changes, then press **Cancel**.

Data History Graph

After some data accumulates, you can view a history graph of one of the data types. To display the graph, select the **Data/View Graph...** menu option.



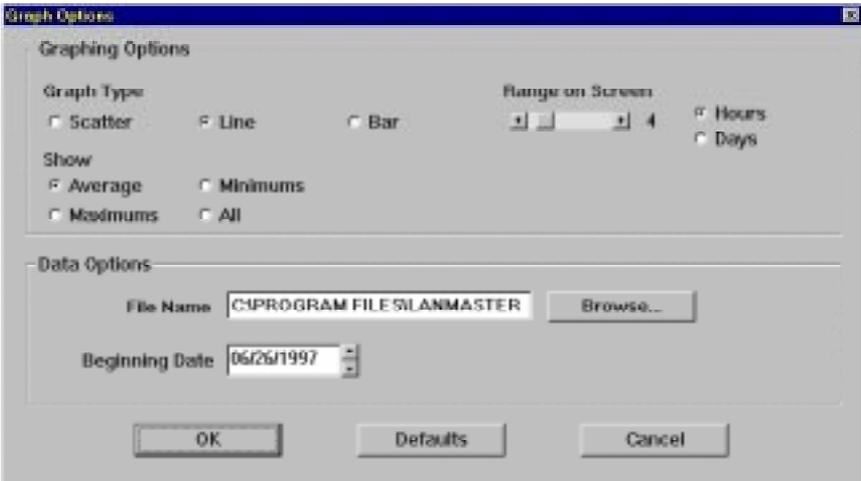
Select the data values from the drop-down list box at the top of the window. The data associated with the UPS value is graphed. The

minimum, maximum, and average values are displayed at the bottom of the window.

Press the <<< or >>> command buttons to move to the beginning or end of the data log. Press the < or > command buttons to move back or forward one full window of data.

Press the **Print** command button to print a copy of the graph.

You can change the graph's Y-axis range by using the spin buttons located on the Y-axis. The X-axis and other properties of the graph can be changed by pressing the **Options...** command button. If you press the **Options...** command button, the Graph Options window displays.



Select **Scatter**, **Line**, or **Bar** for the **Graph Type**. Select the **Range on Screen** and **Hours** or **Days** to define the X-axis range and units. Depending on **Graph Type**, choose to display the **Average**, **Minimums**, **Maximums**, or all three. **Average** values are graphed in blue. **Minimums** are graphed in green. **Maximums** are graphed in red.

If you would like to view data from an archived data log, enter the **File Name** or press **Browse...** to search for the file.

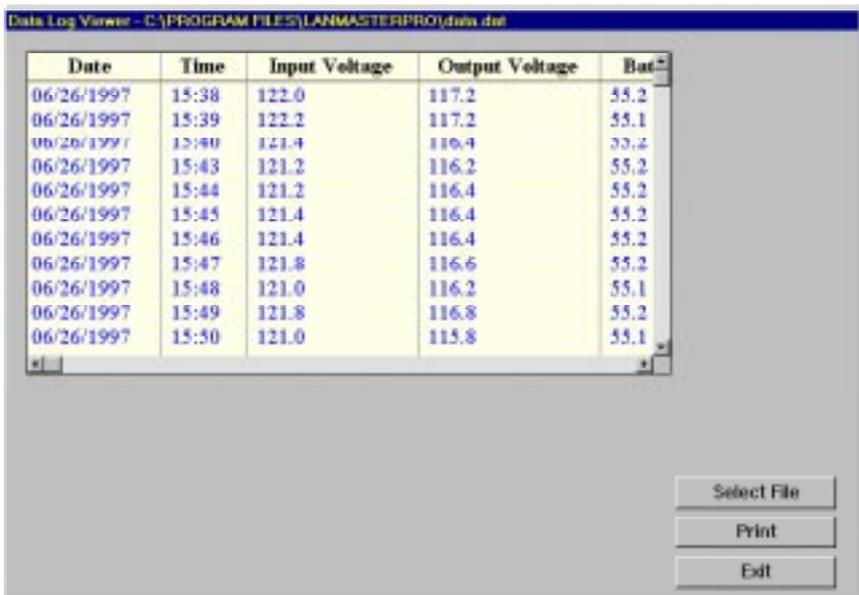
Set the **Beginning Date** for viewing the graph. The **Beginning Date** is the starting point used to determine the maximum, minimum, and average values. The end point is always the end of the data log.

When you are finished with *Graph Options*, press the **OK** command button to close the window. If you want to revert to the suggested values, then press **Defaults**. If you want to abandon changes, then press **Cancel** to close the window.

When you are finished viewing graphs, press **Exit** to close the *History Graph* window.

Data Log Viewer

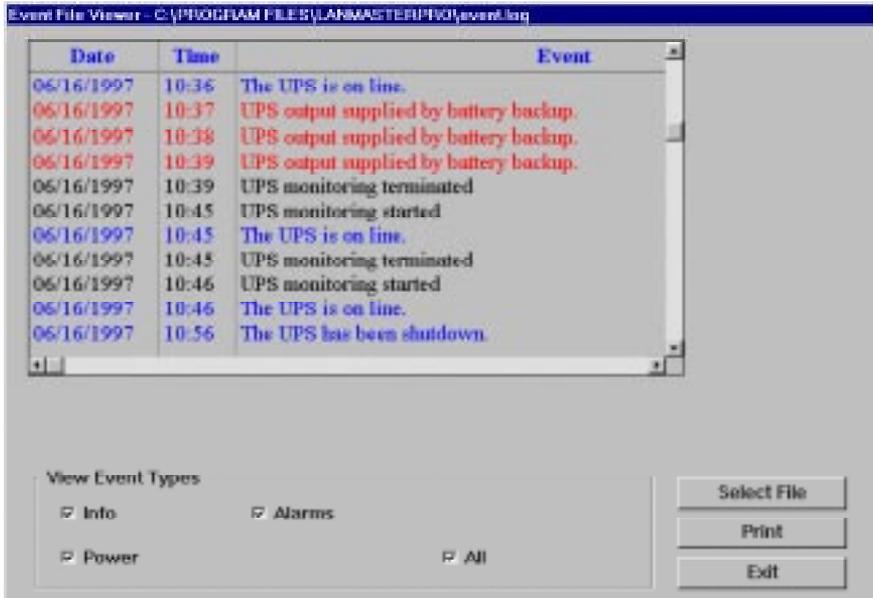
After some data accumulates, you can view the data log. To display the log, select the **Data/View Data Log...** menu option.



Use the vertical and horizontal scroll bars to view all of the rows and columns in the table. To print a copy of the log file, press **Print**. When you are finished viewing the log file, press **Exit** to close the window.

Event Log Viewer

After some events accumulate, you can view the local event log or network event log. To display either log, select the **Data/View Event Log...** menu option, and then select either **Local Event Log** or **Network Event Log**.

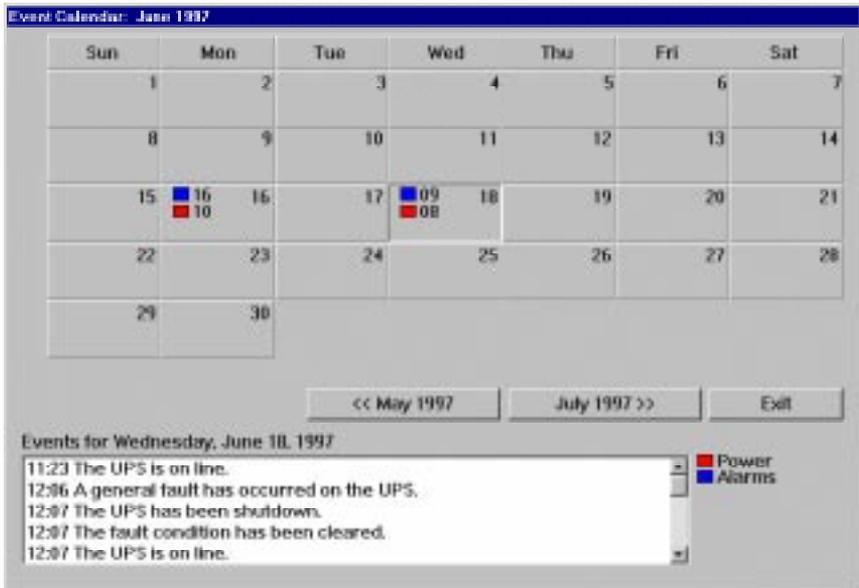


The local event log displays events that occur on the current system. The network event log displays events that occur on all systems on the network. An additional column identifies the system that reported the event. To log an event to the network event log, you must enable logging for the event, and configure a network alert server.

Use the vertical and horizontal scroll bars to view all of the rows and columns in the table. To limit the types of events displayed in the table, select one or more of the check boxes in the **View Event Types** group box. The event type category names and the number of categories vary by UPS model.. To print a copy of the log file, press **Print**. When you are finished viewing the log file, press **Exit** to close the window.

Event Calendar

After some events accumulate, you can view the event calendar. To display the calendar, select the **Data/View Event Calendar** menu option.



Event Calendar: June 1997

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	<div style="display: inline-block; width: 10px; height: 10px; background-color: blue; border: 1px solid black; margin-right: 5px;"></div> 16 <div style="display: inline-block; width: 10px; height: 10px; background-color: red; border: 1px solid black; margin-right: 5px;"></div> 10	16	<div style="display: inline-block; width: 10px; height: 10px; background-color: blue; border: 1px solid black; margin-right: 5px;"></div> 09 <div style="display: inline-block; width: 10px; height: 10px; background-color: red; border: 1px solid black; margin-right: 5px;"></div> 08	18	19	20
22	23	24	25	26	27	28
29	30					

Events for Wednesday, June 18, 1997

- 11:23 The UPS is on line.
- 12:36 A general fault has occurred on the UPS.
- 12:37 The UPS has been shutdown.
- 12:37 The fault condition has been cleared.
- 12:37 The UPS is on line.

■ Power
■ Alarms

To view a detailed description of the events for any day of the month, click on the day. The events appear in the list box at the bottom of the window. To view other months, press either of the command buttons below the calendar. The command buttons will state the previous and next months. When you are finished viewing the calendar, press **Exit** to close the window.

8 SCHEDULING

Sentry allows you to schedule operating system and UPS shutdown and restart, and UPS self tests. To schedule actions, select **UPS Control\Scheduled...** from the menu bar.

The *Calendar Overview* window provides you with monthly calendar of scheduled actions. A color coded key to the action types is displayed below the calendar. Actions include: operating system and/or operating system and UPS **Shutdown**, UPS **Restart**, and UPS **Self Test**. Availability of operating system and UPS **Shutdown**, UPS **Restart**, and UPS **Self-Test** depends on UPS model.



To view a detailed description of the actions scheduled for any day of the month, click on the day. The scheduled actions appear in the list box at the bottom of the window. To view other months, press either of the command buttons below the calendar. The command buttons will state the previous and next months.

To add an action to the schedule, press the **Add** command button. The *Scheduling Configuration* window displays.

Scheduling Configuration

Tuesday, September 3, 1996

Action

- Shutdown
- Operating System
- UPS
- Restart
- Self-Test

Recurring

- One-Time
- Daily
- Weekly
- Bi-Weekly
- Monthly

Time 12:00

Grace Period 60 seconds

OK Cancel

Select an action from the **Action** group box. Select the **Time** and the frequency of the action. The available actions depend on the UPS model.

The **Grace Period** is the time interval between when the operating system shutdown is started, and when the UPS output power is shut off. Make sure the **Grace Period** you select allows your system to shut down properly. **Grace Period** will only be displayed when **Shutdown**, **Operating System**, and **UPS** are selected in the **Action** group.

When you are finished with *Scheduling Configuration*, press the **OK** command button to close the window. If you want to abandon changes, then press **Cancel** to close the window. You will return to the *Calendar Overview* window.

After you have added events, you will be able to modify or delete events using the **Modify** and **Delete** command buttons. Choose an event from



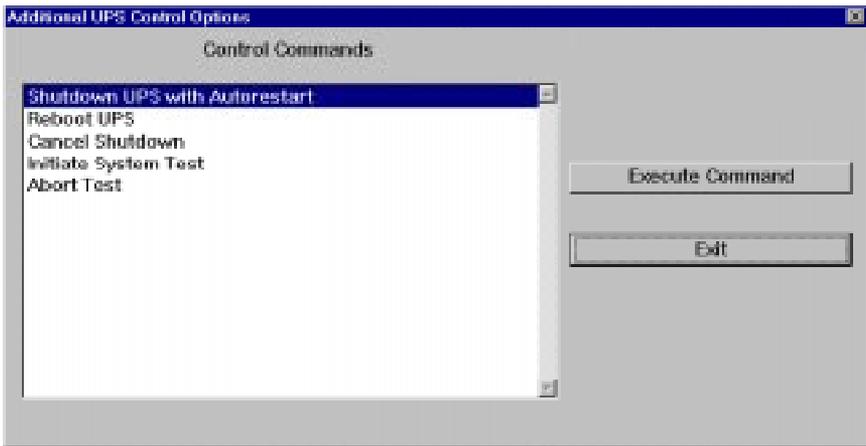
the list box, and press the appropriate command button. If you choose to **Modify** an event, then the *Scheduling Configuration* window displays.

When you are finished with the *Calendar Overview* window, press the **OK** command button to close the window. If you want to abandon changes, then press **Cancel** to close the window.

UPS CONTROL OPTIONS

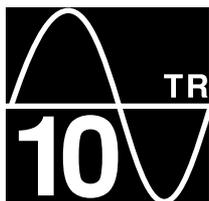
9

UPS control options are special commands sent to the UPS. These commands are dependent on the model of UPS. To display the *Additional UPS Control Options* window, select the **UPS Control|Control Options...** menu option.



To send a command to the UPS, click on a command in the **Control Commands** list box, and select **Execute Command**. If the control command requires data to be sent with the command, a data entry window will appear. **Control Commands** vary for different UPS models.

When you are finished sending commands to the UPS, press the **Exit** command button to close the window.



TROUBLESHOOTING

10

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

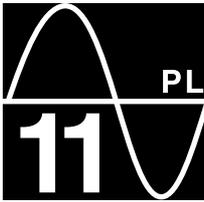
- Positively identify the serial port to which the UPS interface cable is connected. (Consult computer and/or operating system documentation if necessary.) Note the Hex address and IRQ number for each serial port and identify AIO Board & Port values.
- Verify that no other hardware or software is using/accessing this serial port, including your mouse. Sentry requires a serial port dedicated to monitoring the UPS.
- Verify that you are using the UPS interface cable supplied with the Sentry 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.
- During installation, make sure you are logged in to the target server as Supervisor or Admin.

Common Problems and Solutions

Problems	Solutions
When loading my hardware specific AIO driver, it cannot find the serial port or assigns a very high number to the board or port value.	Are your AIO drivers loaded properly? You may have to load the hardware specific driver more than once to find all serial ports. A conflict may occur when other hardware devices or software. Hardware conflicts will appear in DOS as well as Novell, and may be easier to identify (address/IRQ). Software conflicts will only appear in Novell, and may occur with other applications that provide port services, including pserver . Make sure the serial port is enabled. Make sure the port is operational, by performing another test on it, such as attaching a modem and attempting to dial out.

Problems	Solutions
<p>During installation or startup of Sentry, you get the UPS communications failure message</p>	<p>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. Make sure the serial port is enabled. Check your computer's jumpers and/or BIOS. Make sure the port is operational, by performing another test on it, such as attaching a modem and attempting to dial out. A conflict may occur with other hardware devices or software. Is the port already in use? If the UPS is charged and seems to be operating properly, and all other procedures have been followed, you will have to contact technical support.</p>
<p>The modem did not page the administrator after a power failure or other event.</p>	<p>Check the phone line to make sure it is attached to the modem and wall outlet. Check the phone line to make sure that it is working and that there is a dialtone. Make sure you have correctly identified the serial ports. Ports may be mislabeled. Make sure the serial port is enabled. Make sure the port is operational, by performing another test on it, such as attaching a terminal and attempting to Login. A conflict may occur with other hardware devices or software. Is the port already in use? Test your pager dial string to verify that it works. You can use the simulated power failure event.</p>

NOTE: Release notes are available on our World-Wide-Web site. If you don't have access to the World-Wide-Web, contact our technical support department. See Placing a Technical Support Call for more information.



PLACING A TECH 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: _____
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:

Model Number: _____

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

Sentry Configuration:

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:

Para Systems, Inc.

1455 LeMay Dr.

Carrollton, TX 75007

Phone: (972) 446-7363

Fax: (972) 446-9011

E-Mail: Techsupport@minuteman-ups.com

QuickFax Info System: 1-800-263-3933

Internet: www.minuteman-ups.com