User's Manual

for**UNIXOperating Systems**Hewlett Packard HP-UX for HP 9000IBM AIX for RISC System/6000Interactive UNIXSCO UNIXSCO UNIX Open DesktopSCO XENIXSunSoft Solaris for SPARC processorsSun SunOSUnixWareUNIX System V Release 4

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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: {*path*}**/install.scr**

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.

TABLE OF CONENTS

1 INTRODUCTION

Sentry is a UPS power monitoring application for UNIX 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 power history graphs, print 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, e-mail, command script 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 otherproducts from Minuteman, please contact us at:Para Systems, Inc.

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Carrollton, TX 75007
Phone: (972) 446-7363
Fax:(972) 446-9011
QuickFax Info System: 1-800-263-3933
Internet: www.minuteman-ups.com

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

2 INSTALLATION & CONFIGURATION

System Requirements

1. To use Sentry, your system must be running one of the following operating systems:

- Hewlett Packard HP-UX for HP 9000 Series 700 & 800
- IBM AIX for RISC System/6000
- Interactive UNIX (Character Based)
- SCO UNIX
- SCO UNIX Open Desktop
- SCO XENIX
- SunSoft Solaris for SPARC processors
- Sun SunOS (Character Based)
- UnixWare (Character Based)
- UNIX System V Release 4 (Character Based)
- Although this manual covers each operating system, the software may be packaged separately.

2. 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 your UPS.
3. Identify the computer end of the cable. The cable will have a label on the computer end.
4. 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.
5. 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, Inc. representative for a different cable. Do not use an adapter.
6. Restart your UPS and computer.

Setting-Up the Serial Port

Setting up your port requires some basic knowledge of your system. Since port set-up varies from system to system, you will have to check your system documentation for more information specific to your system.

- Are ***getty/ttymon*** processes monitoring the port?
- The standard location for port setup information is in **/etc/inittab.** Some systems vary.
- The software only works when the *getty/ttymon* process is disabled for the specified port. Disabling the getty varies from system to system. Also note, you must invoke any changes with the *init* process.

NOTE: The following port set-upsare only examples. Your system may vary.

HP-UX File: **/etc/inittaba0:2:off:/etc/getty -h ttyd00 2400**The key field is the third field **off.** This indicates that the *getty* is disabled. If the *getty* was enabled, this field would be **respawn.** If you edit the file and make changes, you must invoke those changes by typing the following at the prompt:

init q *<enter>*

You may also use ***sam*** to set-up the port. See *your Installing Peripherals* guide *(Setting up HP-UX for terminals and modems Using SAM).* **Set-up the port as a Modem port.**

IBM AIX:

Go into ***SMIT*** and *disable Login* on the port. For more information, see your System Management Guide, Devices chapter, *TTY* section.

SCO UNIX: File: **/etc/inittab**

1A:2:off:/usr/lib/uucp/uugetty -t60 tty1A 2400

The key field is the third field ***"off".*** This indicates that the *getty* is disabled. If the *getty* was enabled, this would be ***"respawn".*** You should be able to disable the getty, and make init invoke the changes, by typing:

disable tty1A *<enter>*

SCO XENIX: File: **/etc/ttys & /etc/gettydefs**

03tty1A

The first character indicates whether or not the getty is enabled (0 = off, 1 = on). If you make changes to the file, you must invoke those changes by typing the following at the prompt:

telinit q *<enter>*

SunOS: File: **/etc/ttytab**

ttya "/usr/etc/getty std.2400" dialup <u>off</u> local

The key field is the fourth field ***"off".*** This indicates that the getty is disabled. If the getty was enabled, this would be ***"on".*** If you edit the file and make changes, you must invoke those changes by typing the following at the prompt:

kill -1 1 *<enter>*

SunSoft Solaris, UnixWare, & System V Release 4:

Use the **pmadm** utility to disable *ttymon* from monitoring the port. In order to disable ttymon, you must type in the following commands:

pmadm -l *<enter>*

This command lists the PMTAG and SVCTAG for each port. You will substitute the values of these tags in the following command:

pmadm -d -p {*PMTAG*} **-s** {*SVCTAG*} *<enter>*

Installing Sentry

Turn on the UPS and start your system. Login to the system as the superuser **(root).** At the prompt, change the working directory to **/tmp** by typing:

cd /tmp <*enter*>

Changing to the **/tmp** directory before you tar the files from the disks or tape is critical. If you are not in **/tmp,** the installation will not be successful.

Tar each diskette or tape. Place the diskette or tape in the appropriate drive on your system. Type:

tar xvf {*device name*} <*enter*>

NOTE: Your system may require a "-" before the arguments to the tar command.

tar Arguments

x Extract the files from the archive. **v** Verbose - causes it to display the names of each file.

f This argument is not required if you are using the system's default device. If you omit this argument, also omit the device name.

{*device name*}

Consult your system documentation for the proper device name for the drive. One physical device can have multiple device names for reading and writing different formats.

To extract the software for Solaris, type the following commands:

volcheck <*enter*>

tar xvf /vol/dev/aliases/floppy0 <*enter*>

Your device name may differ.

Set the absolute directory path in which you wish to install Sentry. By default, Sentry will be installed in the **/etc/smartmon directory.** If you wish to install Sentry in another directory, you must define the environment variable **SM_PATH.** If, for example, you wish to install Sentry in the **/usr/smartmon directory,** enter the following commands:

- The Bourne shell command would be:

  SM_PATH=/usr/smartmon <*enter*> **export SM_PATH** <*enter*>Verify that the environment variable is set by typing:

printenv <*enter*>

- The C shell command would be:

  setenv SM_PATH /usr/smartmon <*enter*>

Verify that the environment variable is set by typing:

setenv <*enter*>

In order for the Sentry help system to work properly, you must add ./ to the **PATH** environment variable.

To to run the install script, type:

./install.scr <*enter*>

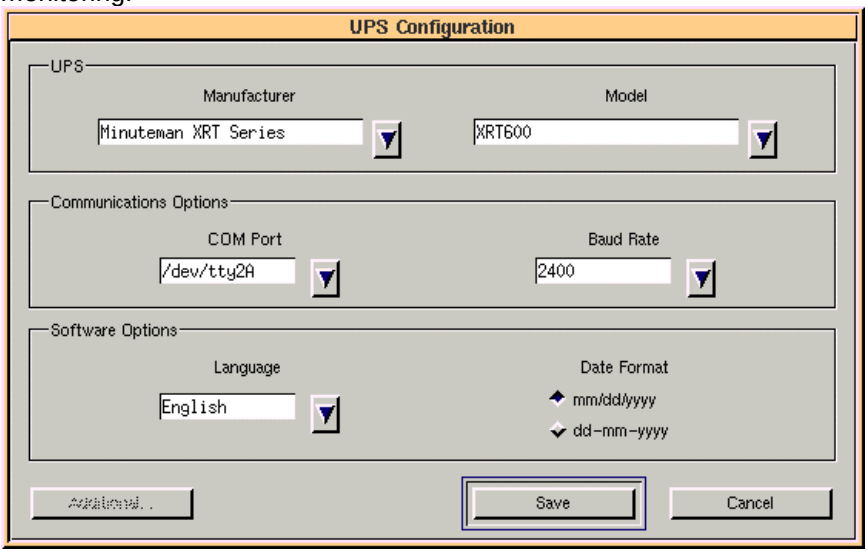
After you enter the install command, the install utility will display the operating system detected. The install utility will ask you if you would like to manually select the operating system.

A message will be displayed stating where the software will be installed. By default, the software will be installed in the **/etc/smartmon** directory. The install utility will then copy the appropriate files from **/tmp** to the install directory, and begin configuration.

Next, the shutdown script for your operating system is installed. Several messages will be displayed indicating which system start up files are being added or modified to allow Sentry to start automatically.

Configuring Sentry Initial configuration of Sentry includes selecting the UPS manufacturer and model, selecting the serial port and baud rate, and selecting the language and date format. Sentry is started automatically by the install script.

The application opens and the *UPS Configuration* window is displayed. Use the *UPS Configuration* window to setup the software for UPS monitoring.



The character based version of this window has the same fields. The ***Save, Cancel, and Additional...*** command buttons are replaced with function keys.

[Esc Cancel] [F1 Help] [F2 Additional] [F5 Refresh] [F8 OK]

A complete table of alternate keys is listed in the Troubleshooting section. 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. Choose the ***COM Port*** to which the UPS interface cable is attached. 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. For character based systems, you can only access additional configuration items after saving the initial configuration.

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, Sentry will exit. To reconfigure UPS communications, choose ***Configure|UPS*** from the menu bar.

Beyond UPS Configuration

After you save the *UPS Configuration,* UPS monitoring begins. 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. If you are using the Motif or OPEN LOOK version, you can configure the ***Readings*** and ***Meters*** from the monitoring center. If you are using the character based version, configure ***Readings*** and ***Meters*** from the ***Configure*** menu option in the Sentry menu bar.

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

- Actions for various events, such as logging, broadcasting, system shutdown, paging, e-mail, and script file execution
- Event & Data log file sizes and Data file content
- Modem setup for paging
- E-mail notification username list
- Monitoring Center Readings and Meters for character based systems only

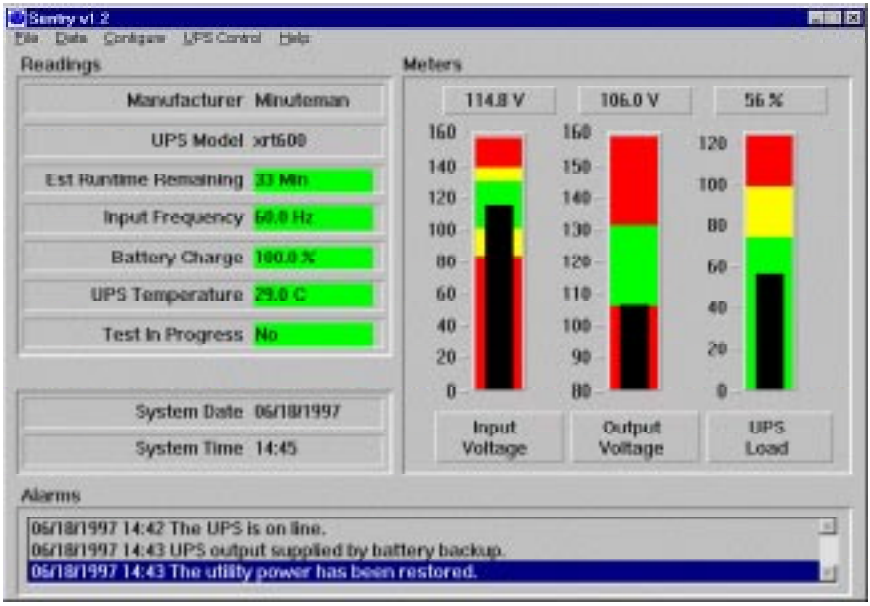
Choose ***UPS Control*** from the Sentry menu bar to schedule system shutdown, restart, and self tests. If your UPS supports additional functions, you may access those functions from the ***Control Options*** menu option.

The following chapters present Sentry on Motif and OPEN LOOK systems, and Character based systems. Chapters devoted to Motif or OPEN LOOK begin with 3. Chapters devoted to character based systems begin with 4. All other parts of the manual are common to both systems.

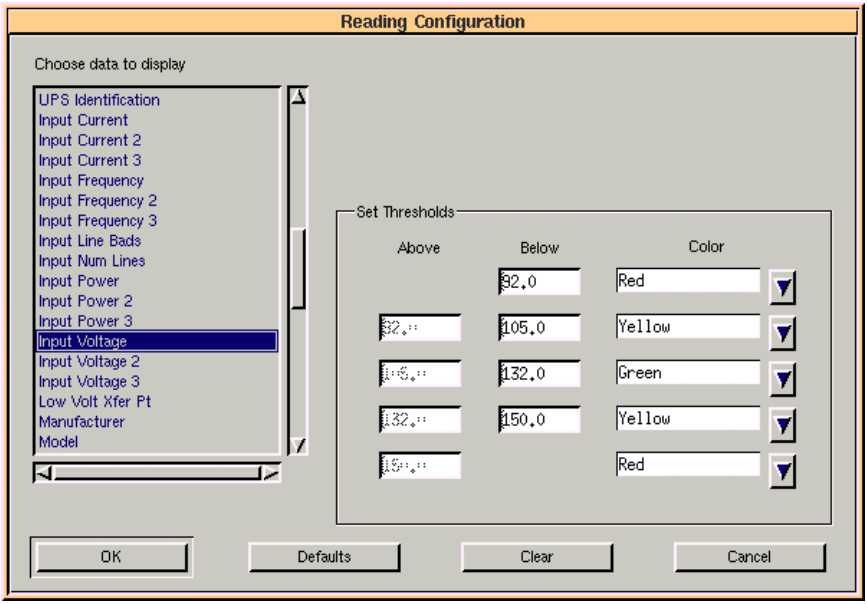
3a MONITORING CENTER CONFIGURATION

To start Sentry, change directories to /etc/smartmon. If your system supports Motif or OPEN LOOK, type: **./XSM** <*enter*>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. When you move the pointer over a reading or meter that allows modification, the arrow changes to a crosshair. To select a reading or meter, just 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 ***Alarms*** 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.

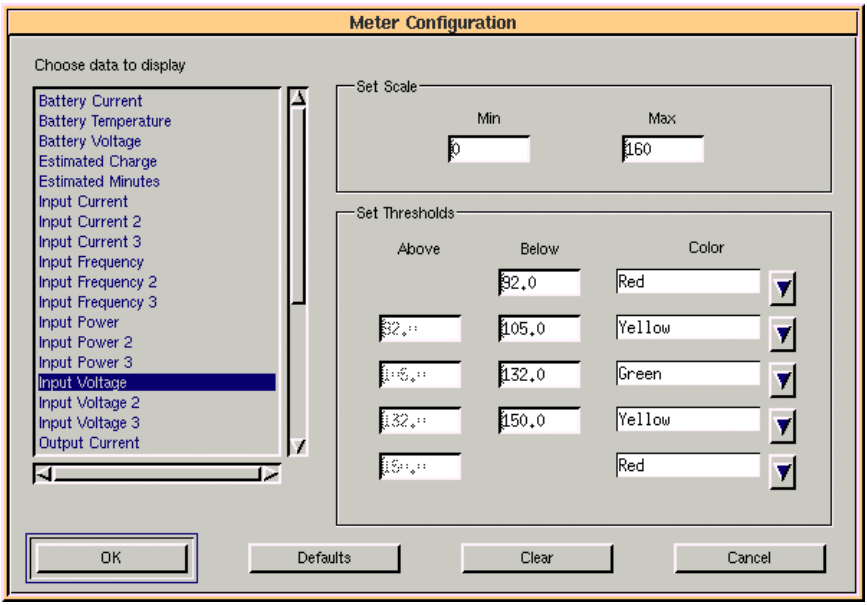


Pick a value from the ***Choose Data to Display*** list box. The values available will vary depending on the model of UPS. Set the thresholds and assign colors to the ranges. When the value is displayed in the ***Readings*** box, the background color will reflect the color of the range. If you also display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

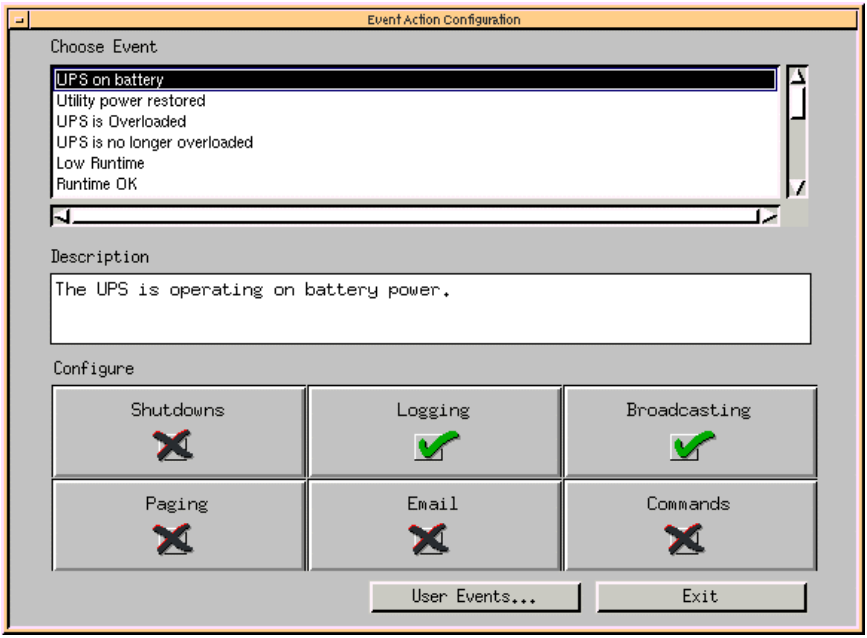
When you finish configuring the meter, press ***OK.*** If you wish to clear the thresholds, press ***Clear.*** If you would like to reset the thresholds to their suggested values, press ***Defaults.*** If you would like to abandon all changes and close the *Meter Configuration* window, press ***Cancel.***

Exiting Sentry If you choose ***File|Exit,*** the monitoring center application will close. UPS monitoring continues. To terminate UPS monitoring, you must stop the background monitoring application **smartmon.** See the chapter titled *Sentry Script Files* for more information.

3b 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,*** sending ***Email*** messages, and executing ***Commands.*** To begin event action configuration, select ***Configure|Action ....***

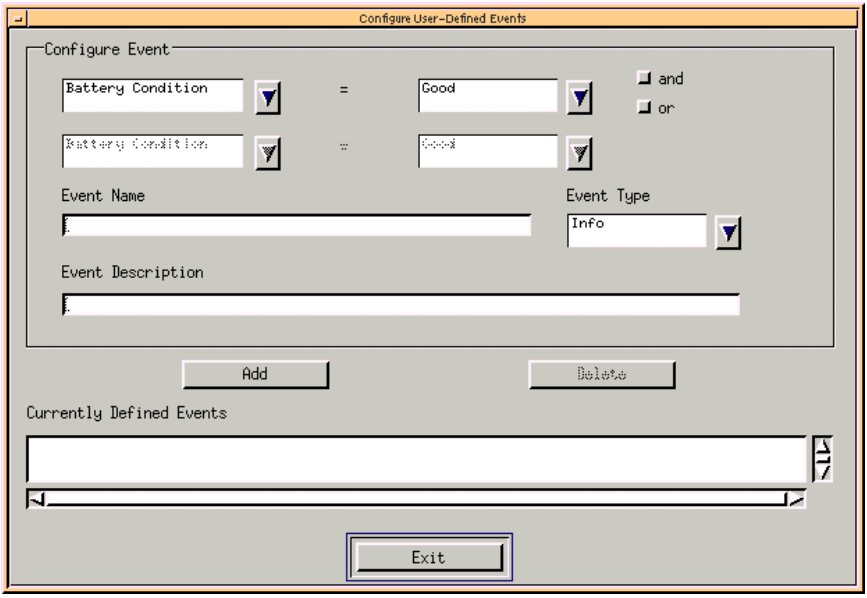
The *Event Action* window provides you with a list of events. Select an event from the ***Choose Event*** list box. You can choose any combination of actions for the event by pressing the action command buttons. Actions already enabled have a check mark below the name of the action on the command button.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

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.***

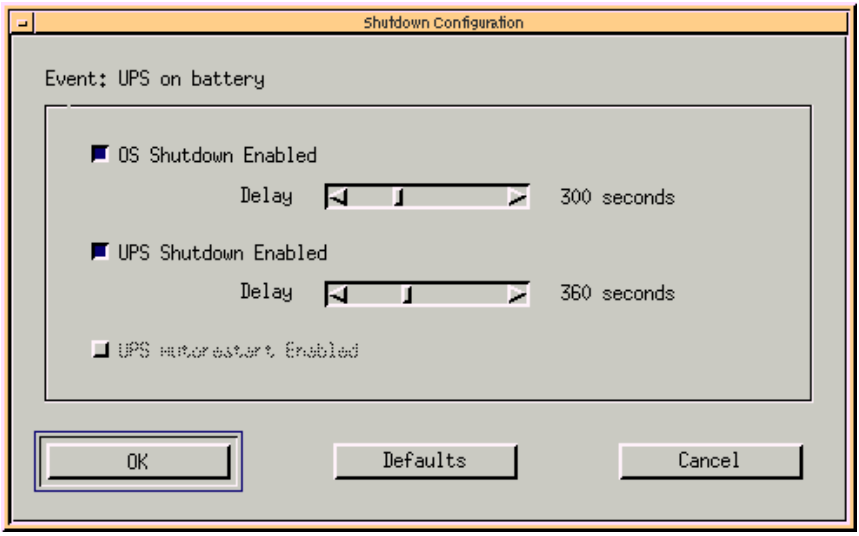
When you are finished adding and deleting events, press the ***Exit*** command button to close the *Configure User-Defined Events* window.

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,*** sending ***Email*** messages, 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. Support for UPS shutdown and auto restart varies by model.



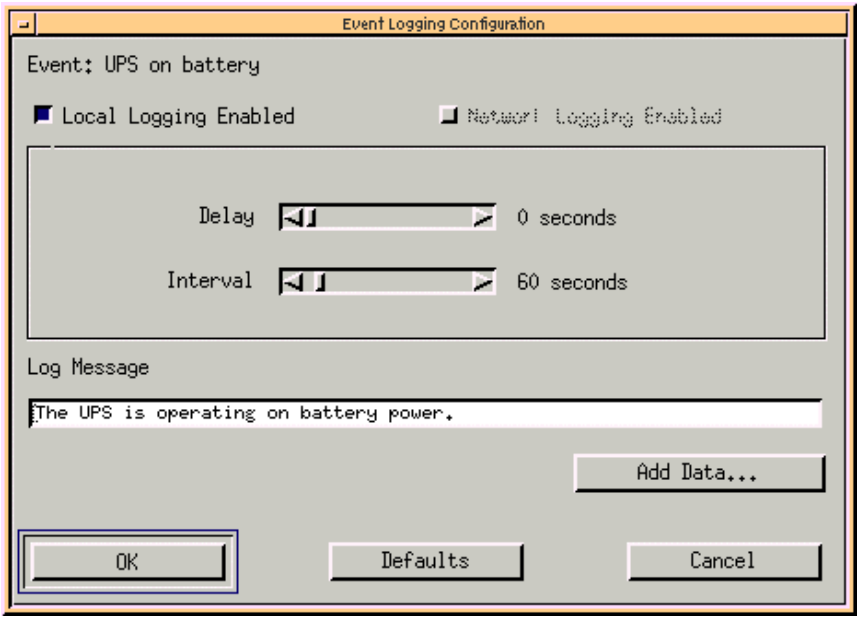
If the event warrants shutting down the system, then select ***OS Shutdown Enabled,*** and configure a ***Delay.*** The delay starts when the event is detected. Next, you may wish to turn UPS output power off. If so, select ***UPS Shutdown Enabled*** and configure a ***Delay.*** The delay starts when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

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

If you would like to automatically restart the UPS after it shuts down due to a utility power failure, select ***UPS Autorestart Enabled.*** 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*** check box, then a check mark will appear on the ***Logging*** command button.

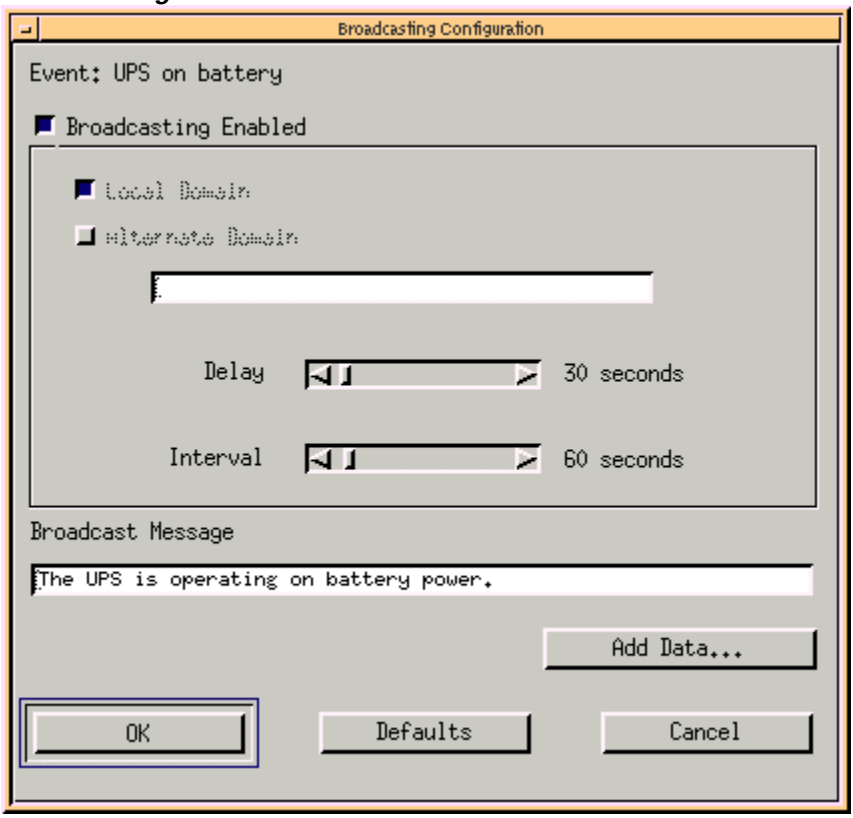


If you want to avoid logging messages for events that last a short duration, set a ***Delay.*** If you want the event log to show one message per event occurrence, then set the logging ***Interval*** to ***0.*** If you want to repeat logging for events that last longer, then set the logging ***Interval***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

BROADCASTINGIf 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, then 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

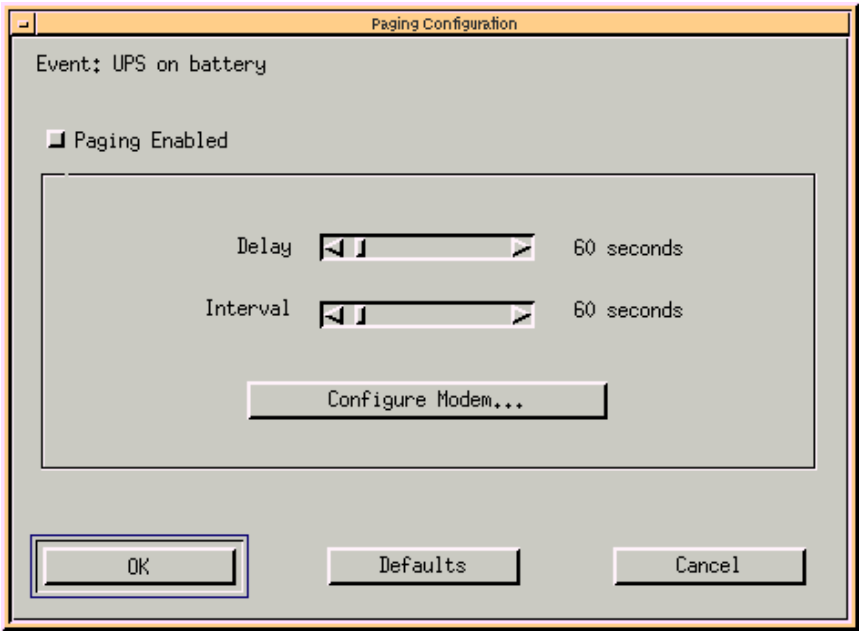
that last a short duration, set a ***Delay.*** If you want to notify users one time, set the broadcast ***Interval*** to ***0.*** If you want the users to be notified at regular intervals, then set the broadcast ***Interval*** to the desired time.

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

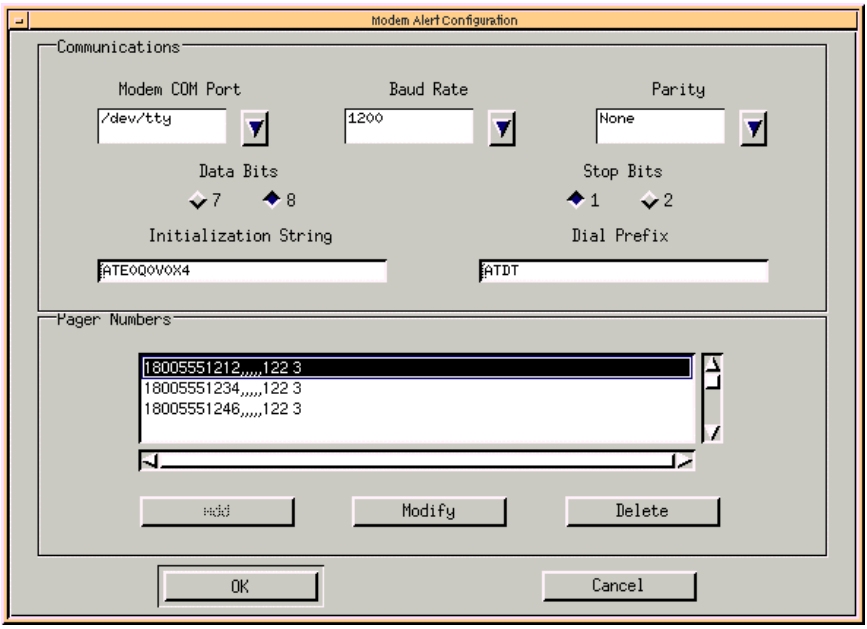
If you haven't already selected ***Configure|Action...*** from the main menu bar, please select it now. In the *Event Action Configuration window,* press the ***Paging*** command button to display the *Paging Configuration* window. If you select the ***Paging Enabled*** check box, then a check mark will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

Sentry requires a dedicated modem for paging, if paging in enabled.

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 process ing 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:

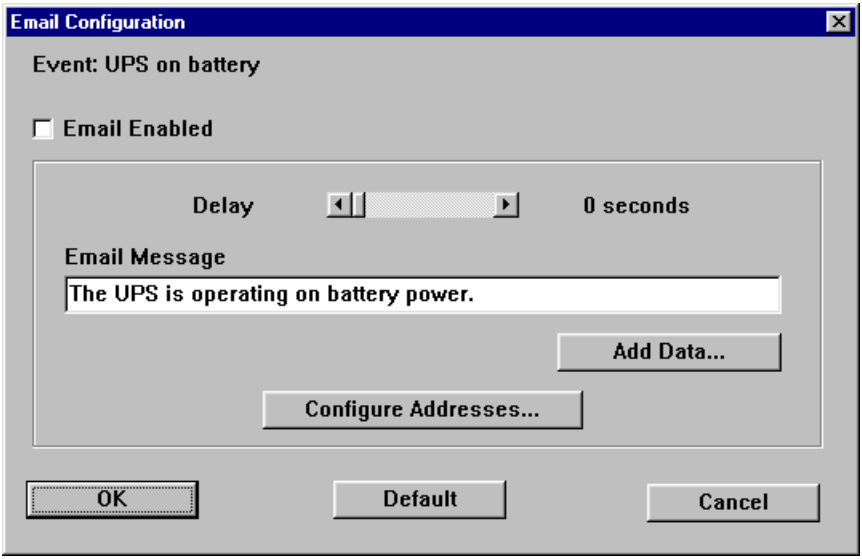
ATDT 9 W 18005551212,,,,,122 3

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.

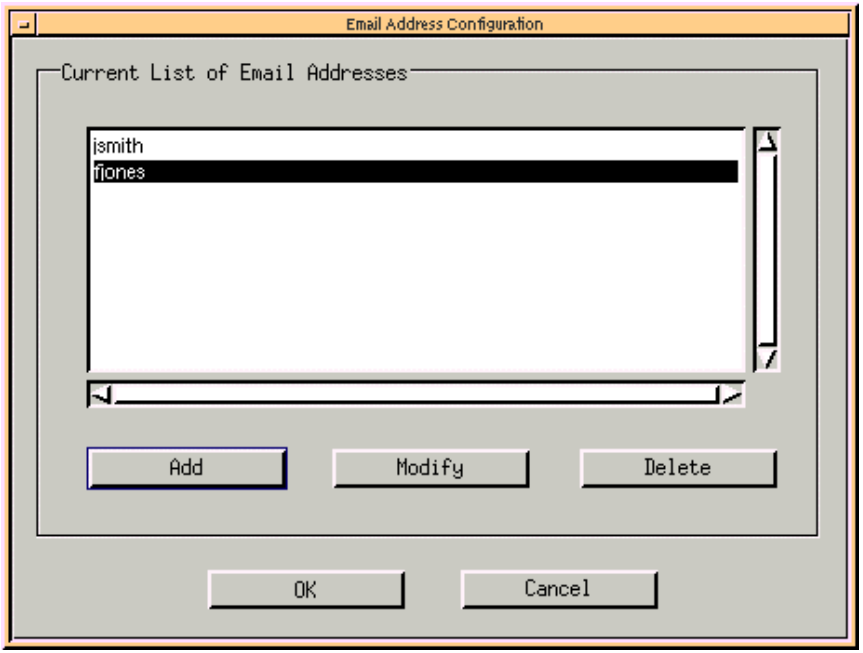
When you are finished configuring ***Paging,*** press the ***OK*** command button. If you want to revert to the suggested values, then press ***Defaults.*** If you want to abandon changes, then press ***Cancel.***

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



If you want to avoid sending Email for events that last a short duration, set a **Delay.**Enter the text of the ***Email 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.

Press ***Configure Addresses...*** to display the *Email Address Configuration* window. The Email configuration can also be displayed by choosing the ***Configure|Email...*** menu option.

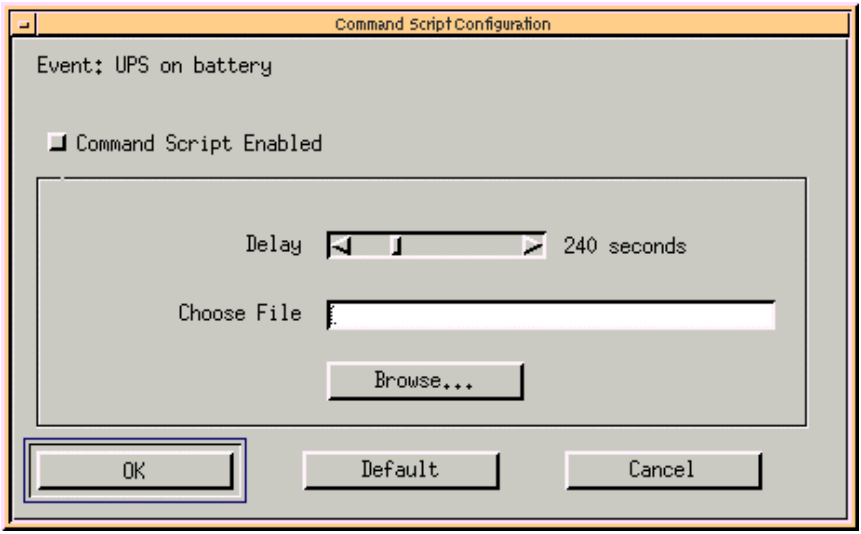


To configure Email addresses, press the ***Add*** command button. To modify an existing Email address, click on the address and press ***Modify.*** To delete an address from the ***Current List of Email Addresses,*** click on the number and press ***Delete.*** Up to five addresses may be configured for all events. Email addresses should be in a form that your native mail program understands.

When you are finished with configuring the Email addresses, press the ***OK*** command button. If you want to abandon changes, then press ***Cancel.***

When you are finished configuring ***Email,*** 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.***

COMMANDSIf 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 script files to perform actions when the event occurs. You may add any script that you wish. The filename must end with a ***.scr*** extension.

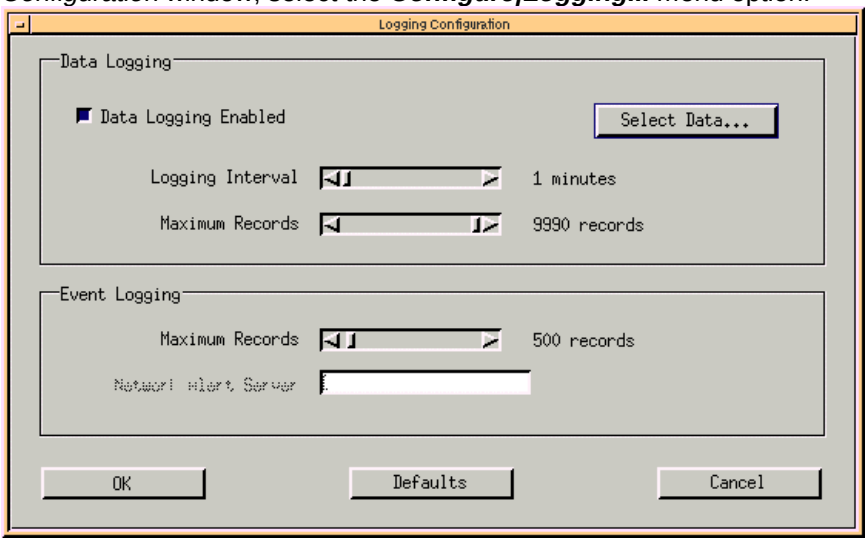
When you are finished configuring ***Commands,*** press the ***OK*** command button. If you want to revert to the suggested values, then press ***Defaults.*** If you want to abandon changes, then press ***Cancel.***

3c DATA & EVENT LOGGING

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.



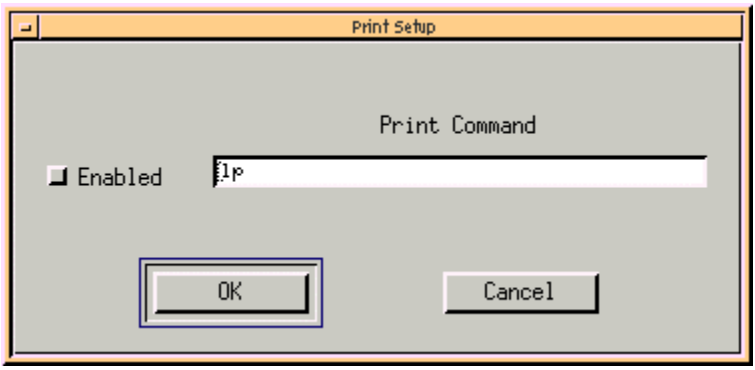
To enable data logging, select the ***Data Logging Enabled*** check box. Press the ***Select Data...*** command button to choose a list of UPS values to log.

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.

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.***

Print Setup

Before you can print data or event log files, you must configure printing.

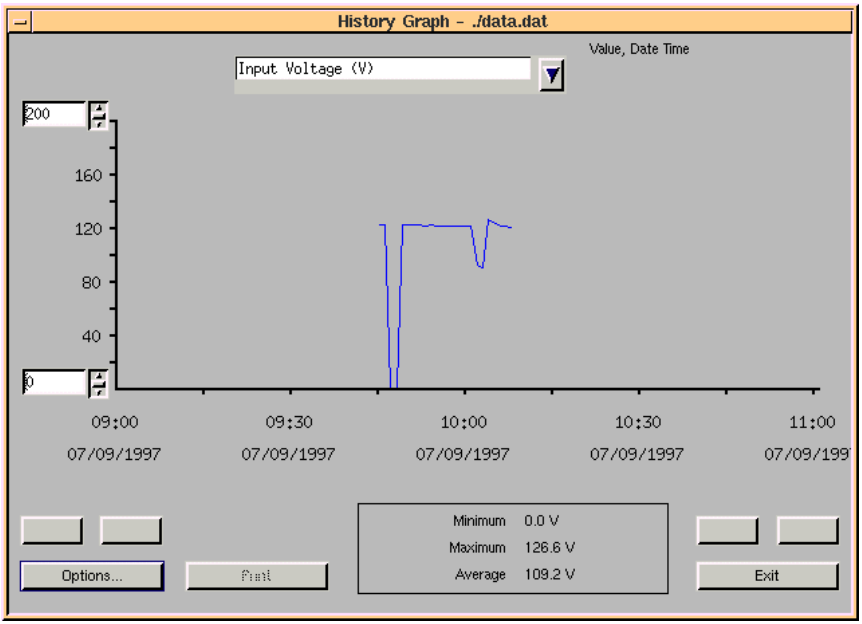


To enable printing, select the ***Enabled*** check box. Enter the ***Print Command*** used to print log files.
When you are finished with *Print Setup,* press the *OK* command button. If you want to abandon changes, then press ***Cancel.***

Data History Graph

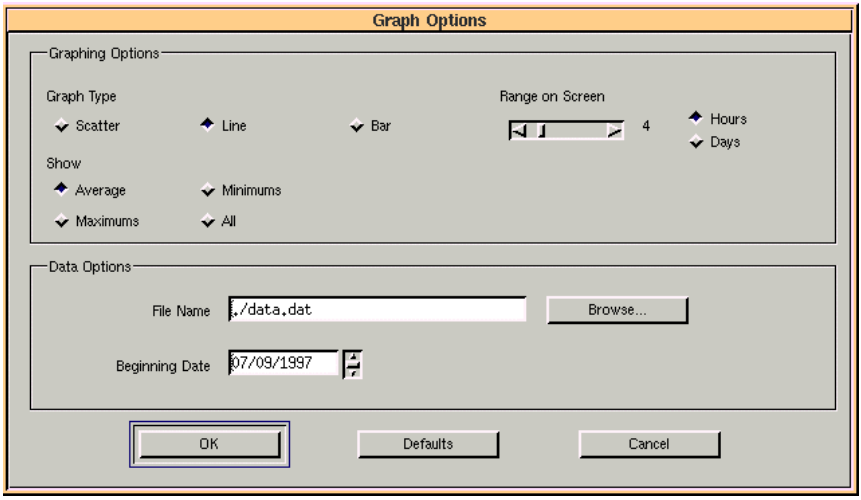
After some data accumulates, you can view a history graph of one of the data types. To display the graph, select the ***Data|View Graph...*** menu option.

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.

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.

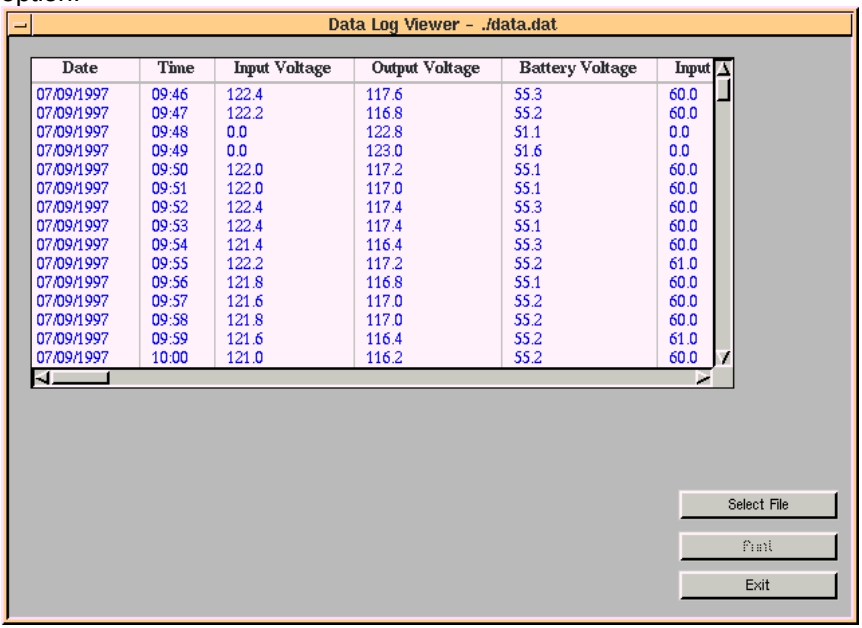
If you would like to view data from an archived data log, enter the ***File Name*** or press ***Browse...*** to search for the file.

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.

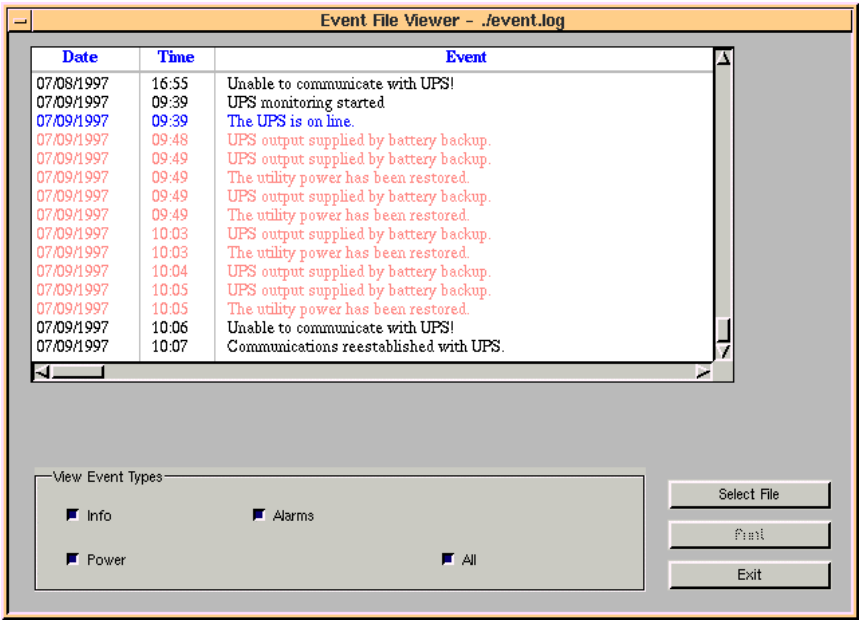
Data Log Viewer After some data accumulates, you can view the data log. To display the log, select the ***Data|View Data Log...*** menu option.



Date	Time	Input Voltage	Output Voltage	Battery Voltage	Input
07/09/1997	09:46	122.4	117.6	55.3	60.0
07/09/1997	09:47	122.2	116.8	55.2	60.0
07/09/1997	09:48	0.0	122.8	51.1	0.0
07/09/1997	09:49	0.0	123.0	51.6	0.0
07/09/1997	09:50	122.0	117.2	55.1	60.0
07/09/1997	09:51	122.0	117.0	55.1	60.0
07/09/1997	09:52	122.4	117.4	55.3	60.0
07/09/1997	09:53	122.4	117.4	55.1	60.0
07/09/1997	09:54	121.4	116.4	55.3	60.0
07/09/1997	09:55	122.2	117.2	55.2	61.0
07/09/1997	09:56	121.8	116.8	55.1	60.0
07/09/1997	09:57	121.6	117.0	55.2	60.0
07/09/1997	09:58	121.8	117.0	55.2	60.0
07/09/1997	09:59	121.6	116.4	55.2	61.0
07/09/1997	10:00	121.0	116.2	55.2	60.0

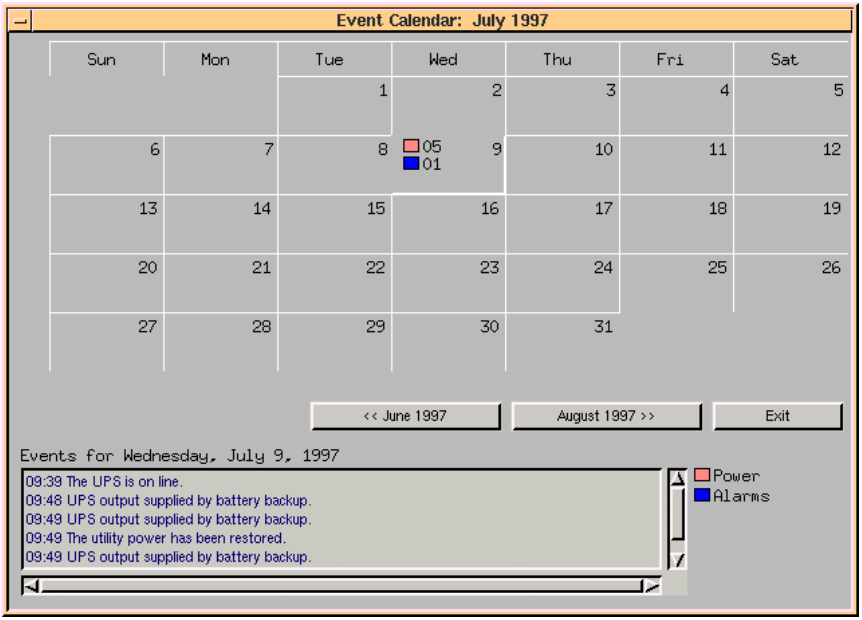
Use the vertical and horizontal scroll bars to view all of the rows and columns in the table. If you want to view an archived file, press the ***Select File*** command button and choose a file. To print a copy of the log file, press ***Print.*** When you are finished viewing the log file, press ***Exit*** to close the window.

Event Log Viewer After some events accumulate, you can view the event log. To display the log, select the ***Data|View Event Log...*** menu option.



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. If you want to view an archived file, press the ***Select File*** command button. 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.

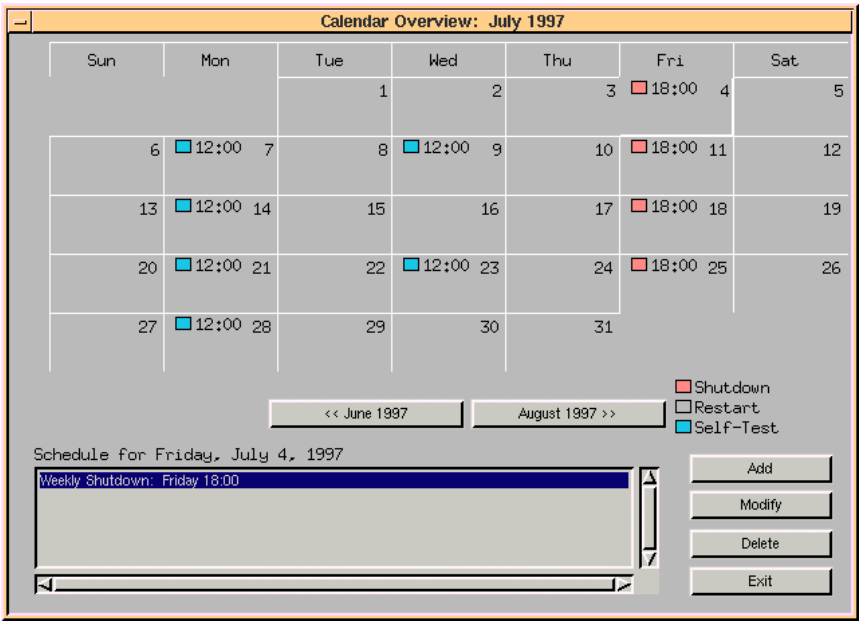


To view a detailed description of the events for any day of the month, click on the day. The events appear in the list box at the bottom of the window. To view other months, press either of the command buttons below the calendar. The command buttons will state the previous and next months. When you are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

3d SCHEDULING

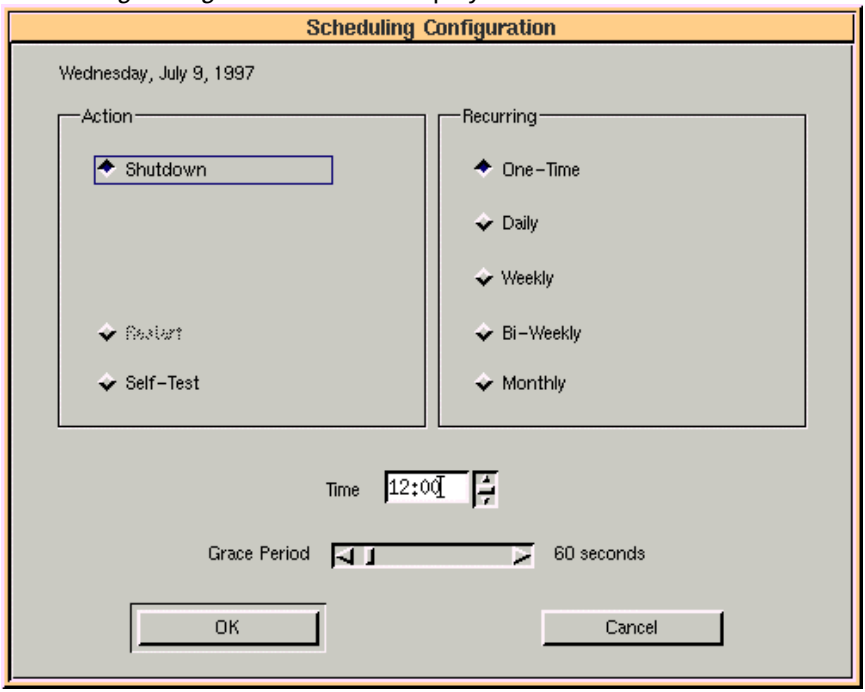
Sentry allows you to schedule operating system and UPS shutdown and restart, and UPS self tests. To schedule actions, select ***UPS Control|Scheduled...*** from the menu bar.

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.



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.

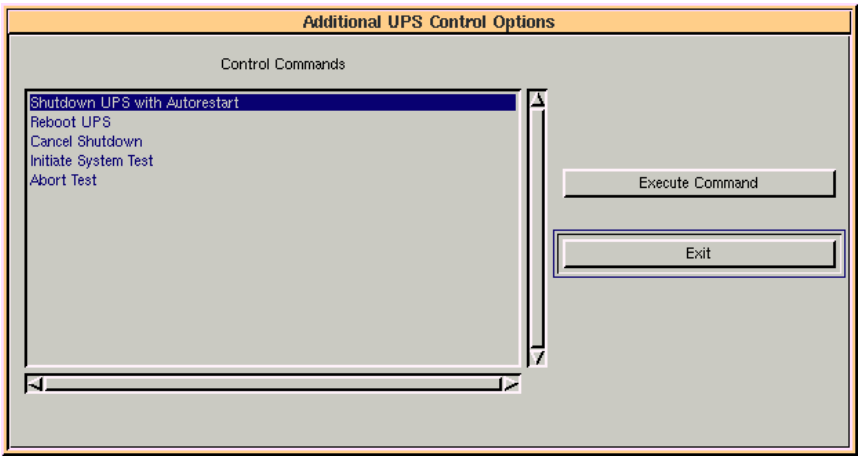
When you are finished with *Scheduling Configuration,* press the ***OK*** command button to close the window. If you want to abandon changes, then press ***Cancel*** to close the window. You will return to the *Calendar Overview* window.

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.

3e UPS CONTROL OPTIONS

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.



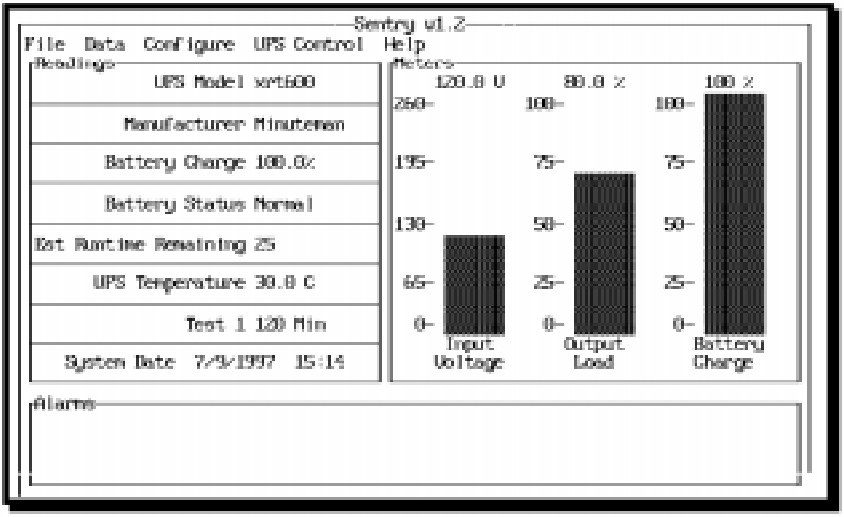
To send a command to the UPS, click on a command in the ***Control Commands*** list box, and select ***Execute Command.*** If the control command requires data to be sent with the command, a data entry window will appear. ***Control Commands*** vary for different UPS models.

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

4a MONITORING CENTER CONFIGURATION

To start Sentry, change directories to ***/etc/smartmon.*** If your system is character based, type: ***./SM*** <*enter*>The monitoring center screen provides you with a view of current UPS values. The monitoring center window displays each time Sentry menu application 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, choose ***Configure|Reading*** or *Configure|Meter.* Configuration is explained in the following sections.

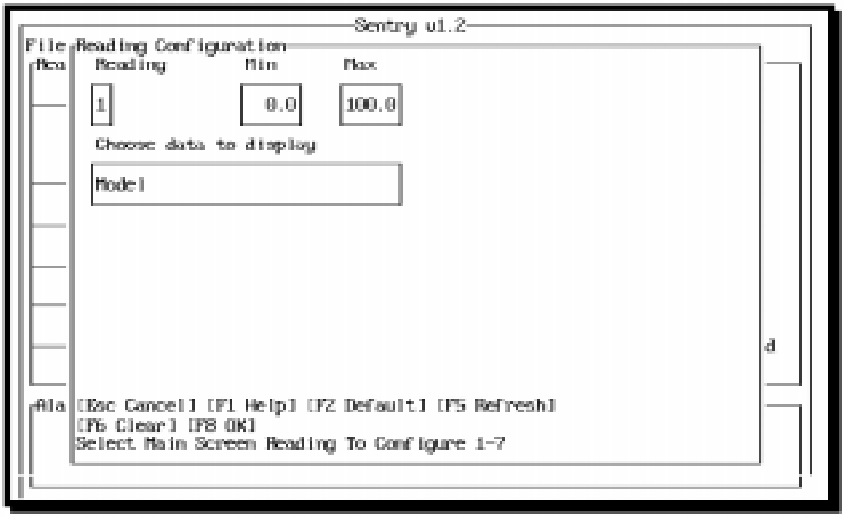


The ***Alarms*** box notifies you of software and UPS events.

NOTE: If you are using SCO Open Desktop, the *Meters* may not display properly. To correct the problem, you must select the *Controls* icon, select *Colors,* and set the palette to *Motif* Colors.

Readings The ***Readings*** group allows you to display seven values from the complete list of UPS values. If you would like to change a

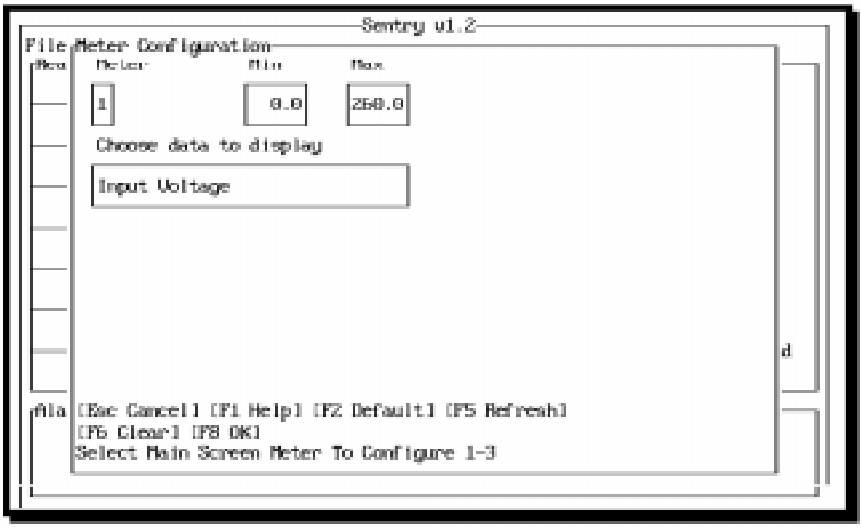
reading, choose *Configure|Reading* from the menu bar. The *Reading Configuration* window displays.



There are 7 readings available. Choose the number of the ***Reading.*** Pick a value from the ***Choose Data to Display*** list box. The values available will vary depending on the model of UPS. Set the ***Min*** and ***Max*** thresholds. If you also display the value as a meter, the same thresholds are used.

When you finish configuring the reading, press *<F8>.* If you wish to clear the thresholds, press *<F6>.* If you would like to reset the thresholds to their default values, press *<F2>.* If you would like to abandon all of the changes you made, and close the *Reading Configuration* window, press *<Esc>.*

Meters The ***Meters*** group allows you to graph three values from a list of UPS values. If you would like to change a meter, choose ***Configure|Meter*** from the menu bar. The *Meter Configuration* window displays.



There are 3 meters available. Choose the number of the ***Meter.*** Pick a value from the ***Choose Data to Display*** list box. The values available will vary depending on the model of UPS. Set the ***Min*** and ***Max*** thresholds. If you also display the value as a reading, the same thresholds are used.

When you finish configuring the reading, press *<F8>.* If you wish to clear the thresholds, press *<F6>.* If you would like to reset the thresholds to their default values, press *<F2>.* If you would like to abandon all of the changes you made, and close the *Reading Configuration* window, press *<Esc>.*

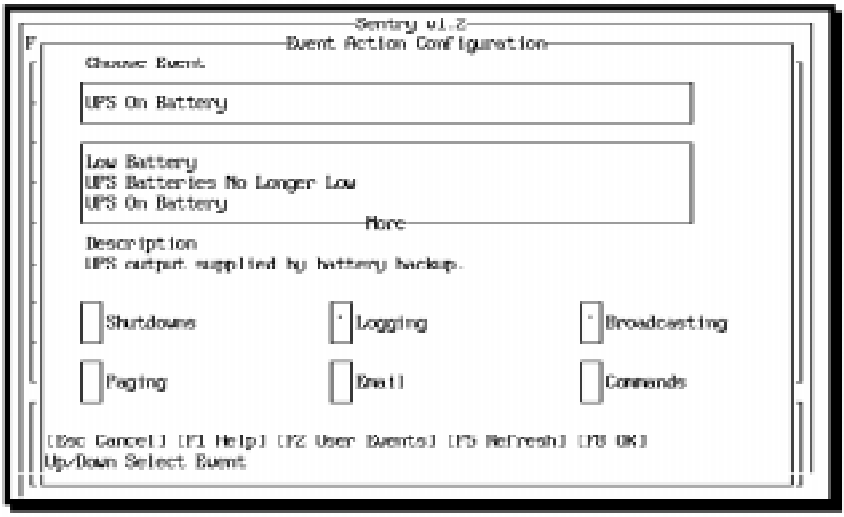
Exiting Sentry If you choose ***File|Exit,*** the monitoring center application will close. UPS monitoring continues. To terminate UPS monitoring, you must stop the background monitoring application **smartmon.** See the chapter titled *Sentry Script Files* for more information.

4b 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,*** sending ***Email*** messages, and executing ***Commands.*** To begin event action configuration, select ***Configure|Action.***

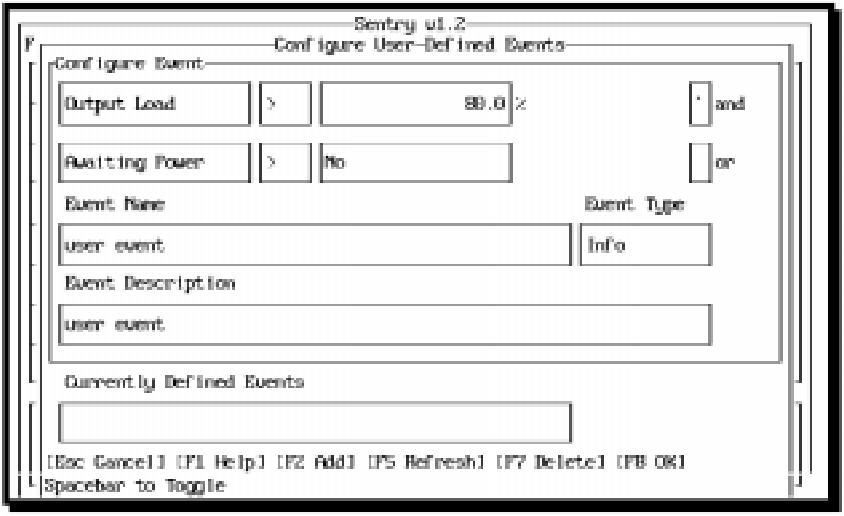
The Event Action window provides you with a list of events. Select an event from the ***Choose Event*** list box. You can choose any combination of actions for the event by selecting the action boxes. Actions already enabled have a mark in the box next to the name of the action.

In addition to the pre-defined events, you can create your own events. Press the ***User Events*** *<F2>* key 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.



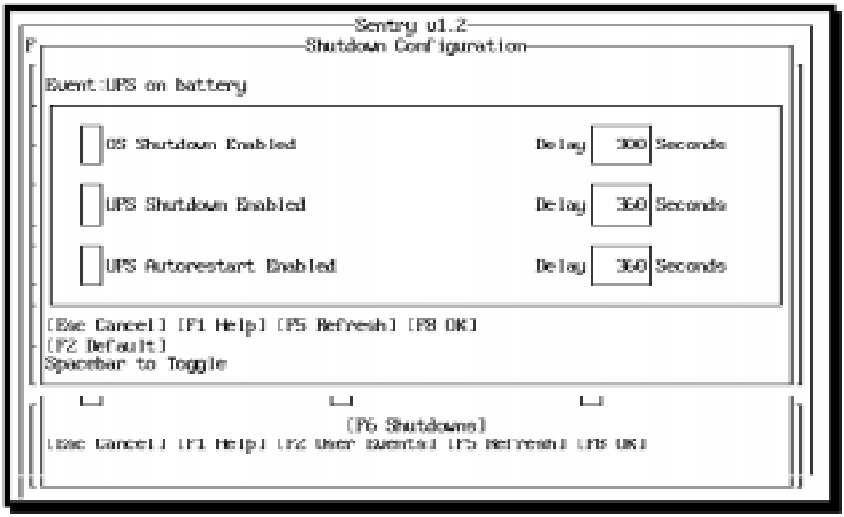
Select a UPS value on which your event will be based. Next, select the criteria that defines when the event occurs. You can use the and or the or check box to combine comparisons of different UPS values to define an event. You can also use the and check box to define a finite range of values for the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

Give the event a descriptive ***Event Name*** and provide an explanation for the event in the ***Event Description*** field. The ***Event Type*** is used to group events in the event log viewer. After you assign an ***Event Type,*** press *<F2>* to ***Add*** the event to the list of ***Currently Defined Events.***

If you wish to ***Delete*** an event, select the event in the ***Currently Defined Events*** list box and press *<F7>.*

When you are finished adding and deleting events, press *<F8>* to close the *Configure User-Defined Events* window.

Shutdowns If you haven't already selected ***Configure|Action*** from the main menu bar, please select it now. In the *Event Action Configuration* window, select an event from the ***Choose Event*** list box. Select the ***Shutdowns*** check box to display the *Shutdown Configuration* window. If you select one of the shutdown enabled check boxes, then a mark will appear in the ***Shutdowns*** box. Support for UPS shutdown and auto restart varies by model.



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.

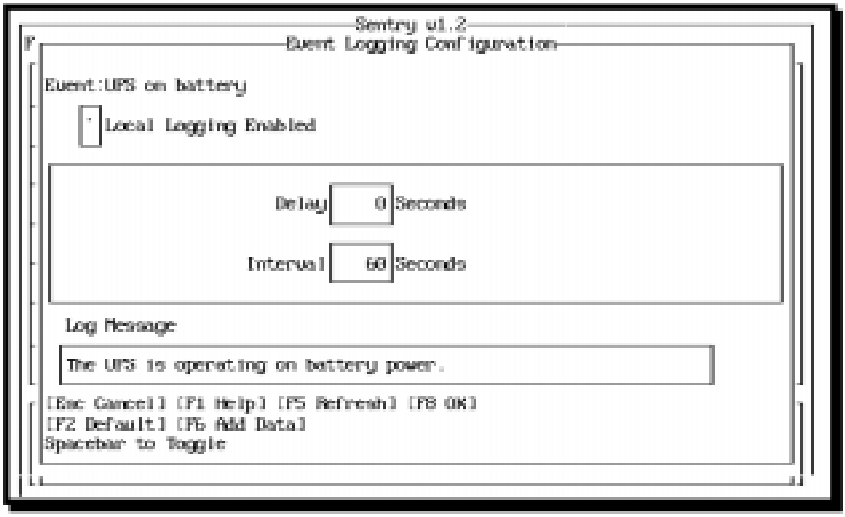
WARNING: Shutting down the UPS without first shutting down the operating system could result in loss of data. Always add enough time for the operating system to shut down before shutting down the UPS output.

If you would like to automatically restart the UPS after it shuts down due to a utility power failure, select ***UPS Autorestart Enabled.***

When you are finished configuring ***Shutdowns,*** press *<F8>.* If you want to revert to the suggested ***Default*** values, then press *<F2>.* If you want to abandon changes, then press *<Esc>.*

Logging

If you haven't already selected ***Configure|Action*** from the main menu bar, please select it now. In the *Event Action Configuration* window, select an event from the ***Choose Event*** list box. Select the ***Logging*** check box to display the *Event Logging Configuration* window. If you select the ***Local Logging Enabled*** check box, then a mark will appear in the ***Logging*** box.

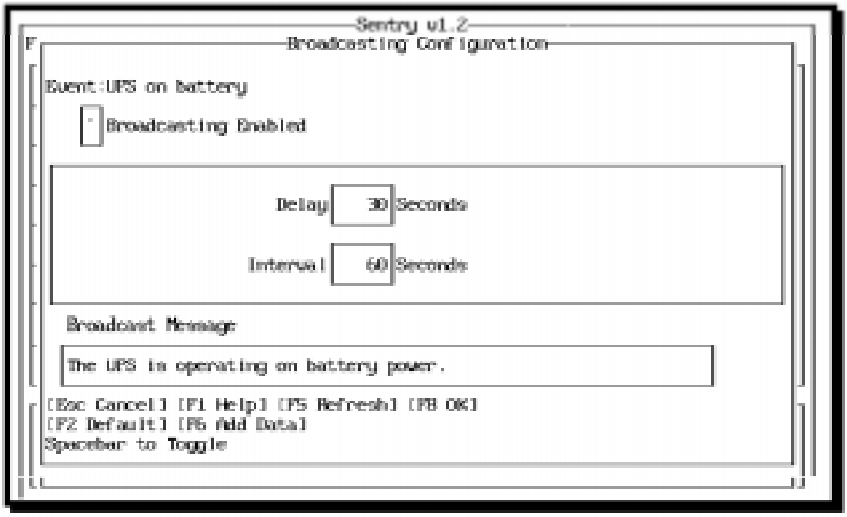


If you want to avoid logging messages for events that last a short duration, set a ***Delay.*** If you want the event log to show one message per event occurrence, then set the logging ***Interval*** to ***0.*** If you want to repeat logging for events that last longer, then set the logging ***Interval***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

Enter the text of the ***Log Message.*** In some cases, you may wish to ***Add Data*** to the message text. Press the *<F6>* key 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 *<F8>.* If you want to revert to the suggested ***Default*** values, then press *<F2>.* If you want to abandon changes, then press *<Esc>.*

Broadcasting If you haven't already selected ***Configure|Action*** from the main menu bar, please select it now. In the *Event Action Configuration* window, select an event from the ***Choose Event*** list box. Select the ***Broadcasting*** check box to display the *Broadcasting Configuration* window. If you select the ***Broadcasting Enabled*** check box, then a mark will appear on the ***Broadcasting*** box.



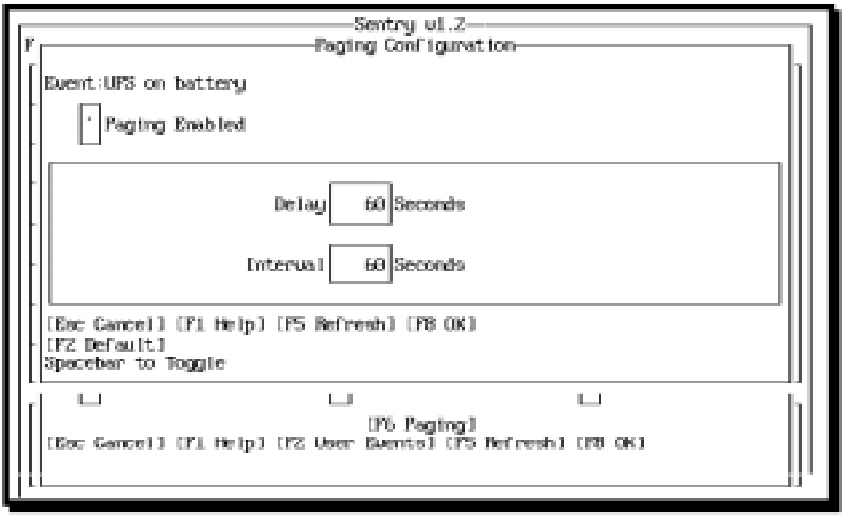
All broadcast messages also appear in the alarm box at the bottom of the monitoring center window. If you want to avoid broadcasting messages for events that last a short duration, set a ***Delay.*** If you want to notify users one time, set the broadcast ***Interval*** to ***0.*** If you want the users 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 Data*** to the message text. Press the *<F6>* key to display a list of UPS values from which to choose. For example, if the UPS is on battery power, you may want to display the current input voltage value. The available UPS values depend on the UPS model.

When you are finished configuring ***Broadcasting,*** press *<F8>.* If you want to revert to the suggested ***Default*** values, then press *<F2>.* If you want to abandon changes, then press *<Esc>.*

Paging

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



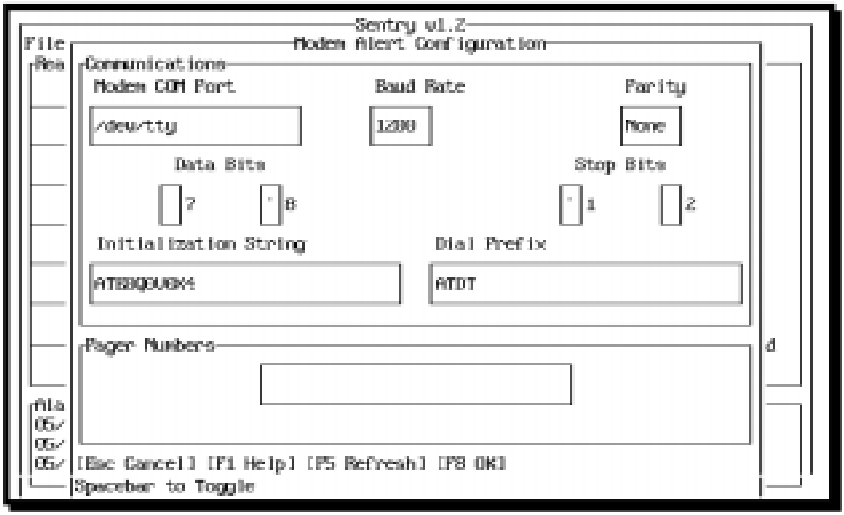
If you want to avoid paging the administrator for events that last a short duration, set a ***Delay.*** If you want to page one time per event occurrence, then set the paging ***Interval*** to ***0.*** If you want to repeat paging for events that last longer, then set the paging ***Interval*** to the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

When you are finished configuring ***Paging,*** press *<F8>.* If you want to revert to the suggested ***Default*** values, then press *<F2>.* If you want to abandon changes, then press *<Esc>.*

CONFIGURING THE MODEM

Choose ***Configure|Modem*** from the menu bar to display the *Modem Alert Configuration* window. 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.

Sentry requires a dedicated modem for paging, if paging in enabled.



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.

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.

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, type the number in the ***Pager Numbers*** field. Scroll to an open space in the ***Pager Numbers*** list box to add additional numbers.

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

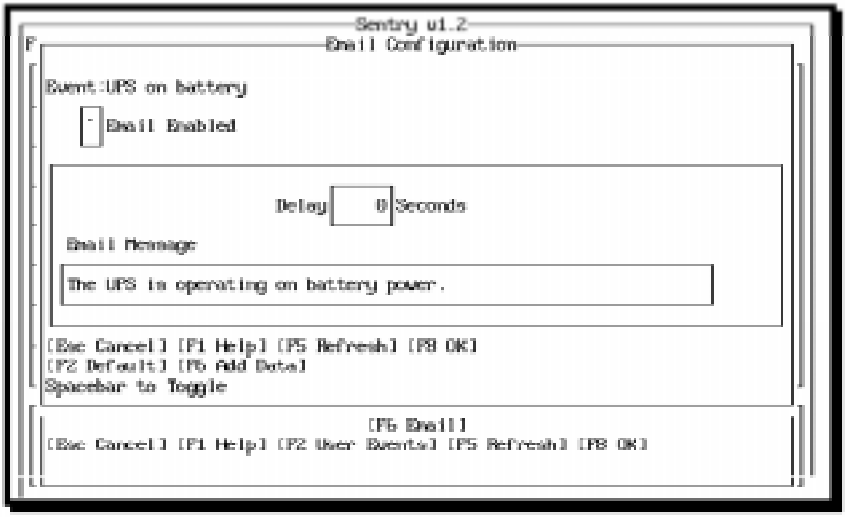
If it took the paging service approximately ten seconds to answer and get ready to accept the paging information, then the paging number would be:
18005551212,,,,,122 3
When you put the Dial Prefix and the Paging Numbers together, you create a complete dial string:
ATDT 9 W 18005551212,,,,,122 3

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 with *Modem Alert Configuration,* press the *<F8>* command button. If you want to abandon changes, then press *<Esc>.*

Email If you haven’t already selected ***Configure|Action*** from the main menu bar, please select it now. In the *Event Action Configuration* window, select an event from the ***Choose Event*** list box. Select the ***Email*** check box to display the *Email Configuration* window. If you select the ***Email Enabled*** check box, then a mark will appear on the ***Email*** box.



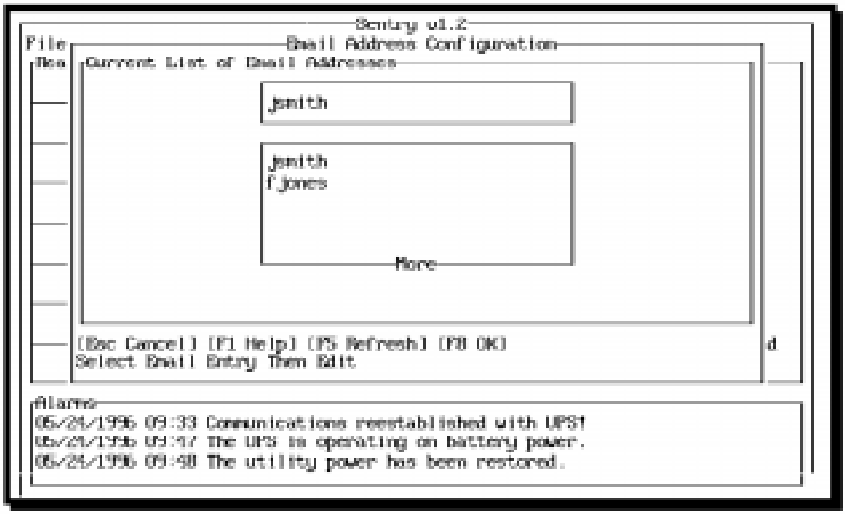
If you want to avoid sending Email for events that last a short duration, set a ***Delay.***

Enter the text of the ***Email Message.*** In some cases, you may wish to ***Add Data*** to the message text. Press the *<F6>* key to display a list of UPS values from which to choose. For example, if the UPS is on battery power, you may want to display the current input voltage value. The available UPS values depend on the UPS model.

When you are finished configuring ***Email,*** press *<F8>.* If you want to revert to the suggested ***Default*** values, then press *<F2>.* If you want to abandon changes, then press *<Esc>.*

CONFIGURING EMAIL ADDRESSES

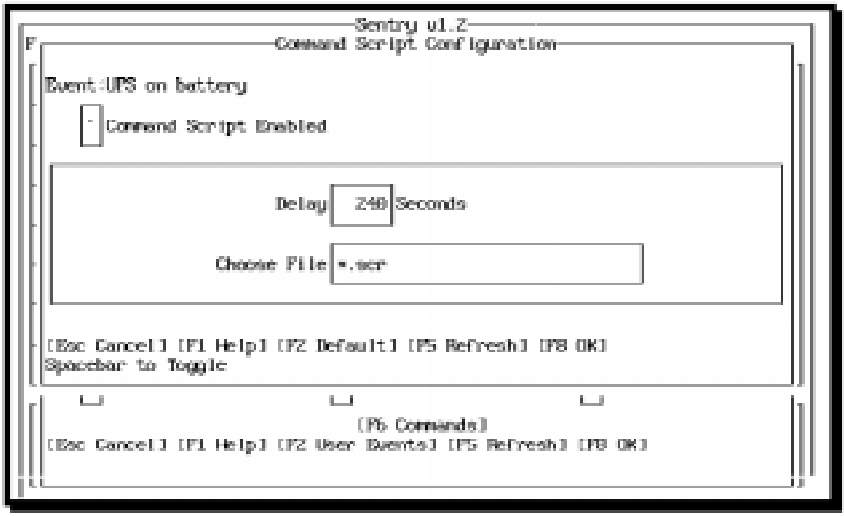
Choose ***Configure|Email*** from the menu bar to display the *Email Address Configuration* window. Up to five addresses may be configured for all events.



To configure Email addresses, type the address in the text field. Scroll to an open space in the list box to add additional addresses. Email addresses should be in a form that your native mail program understands.

When you are finished with configuring the Email addresses, press *<F8>.* If you want to abandon changes, then press *<Esc>.*

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



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

Enter a command script file name in the ***Choose File*** box. Choose script files to perform actions when the event occurs.

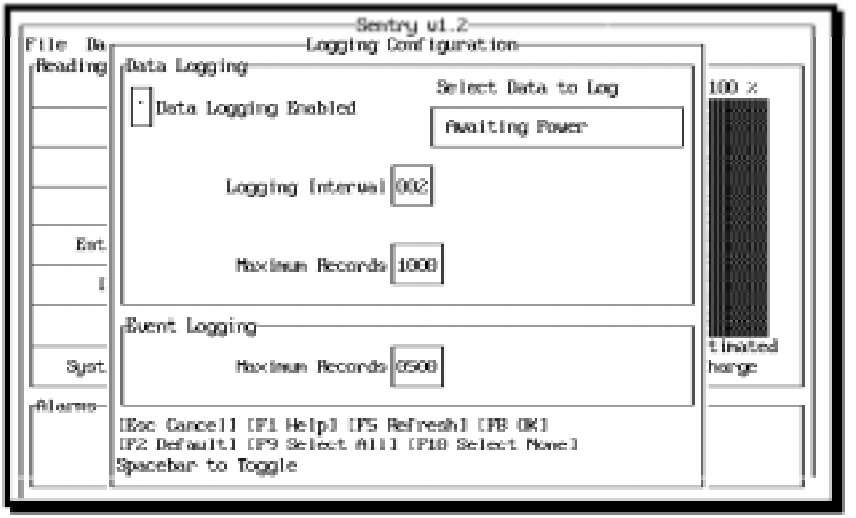
When you are finished configuring ***Commands,*** press *<F8>.* If you want to revert to the suggested ***Default*** values, then press *<F2>.* If you want to abandon changes, then press *<Esc>.*

4c DATA & EVENT LOGGING

Data and Event logs are available for you to track power events and trends. You can view data and 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.



To enable data logging, select the ***Data Logging Enabled*** check box. 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.

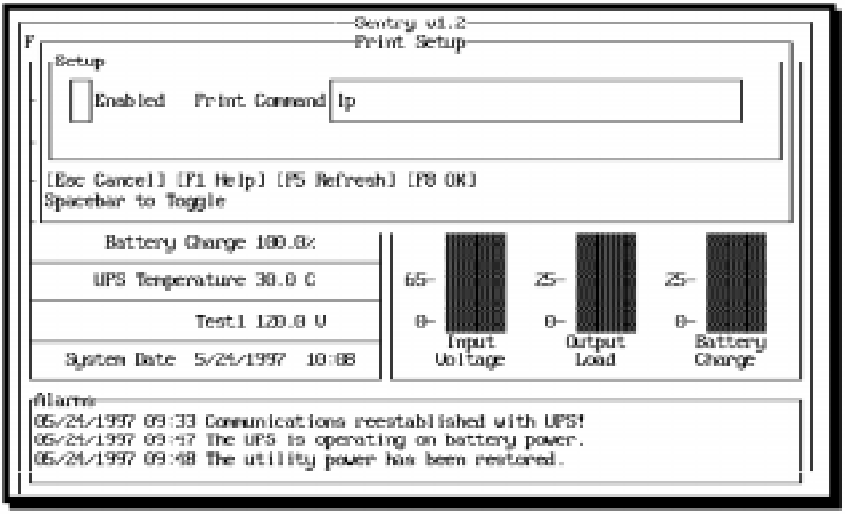
Select data values from the ***Select Data to log*** list box. Press *<F6>* to select the current value. Press *<F7>* to exclude the current value. Press *<F9>* to select all values. Press *<F10>* to exclude all values.

Set the ***Maximum Records*** for the 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.

When you are finished with *Logging Configuration,* press *<F8>.* If you want to revert to the suggested ***Default*** values, then press *<F2>.* If you want to abandon changes, then press *<Esc>.*

Print Setup

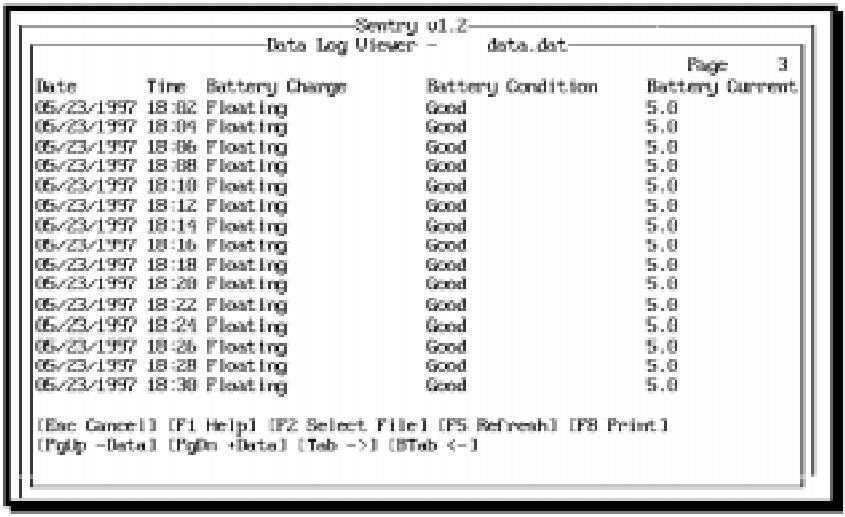
Before you can print data or event log files, you must configure printing.



To enable printing, select the ***Enabled*** check box. Enter ***the Print Command*** used to print log files.

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.



Sentry v1.2

Data Log Viewer - data.dat

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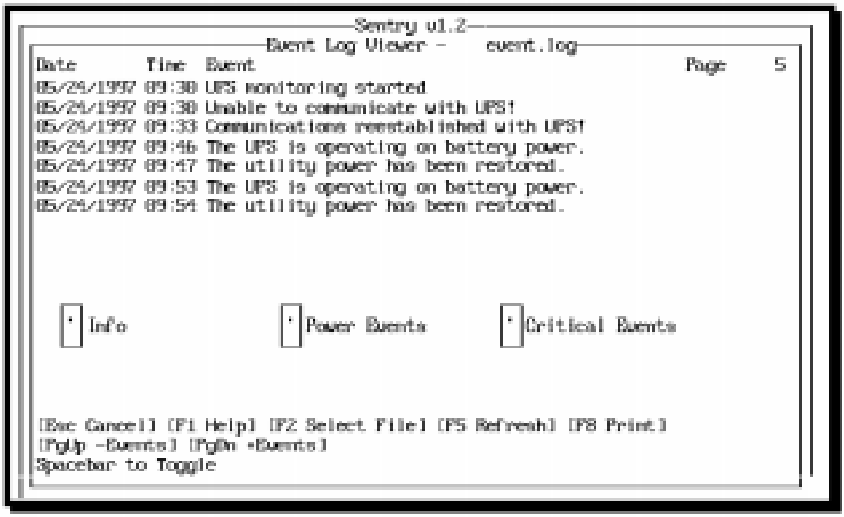
Date	Time	Battery Charge	Battery Condition	Battery Current
05/23/1997	18:02	Floating	Good	5.0
05/23/1997	18:04	Floating	Good	5.0
05/23/1997	18:06	Floating	Good	5.0
05/23/1997	18:08	Floating	Good	5.0
05/23/1997	18:10	Floating	Good	5.0
05/23/1997	18:12	Floating	Good	5.0
05/23/1997	18:14	Floating	Good	5.0
05/23/1997	18:16	Floating	Good	5.0
05/23/1997	18:18	Floating	Good	5.0
05/23/1997	18:20	Floating	Good	5.0
05/23/1997	18:22	Floating	Good	5.0
05/23/1997	18:24	Floating	Good	5.0
05/23/1997	18:26	Floating	Good	5.0
05/23/1997	18:28	Floating	Good	5.0
05/23/1997	18:30	Floating	Good	5.0

[Esc Cancel] [F1 Help] [F2 Select File] [F5 Refresh] [F8 Print]
[PgUp -Data] [PgDn +Data] [Tab ->] [BTab <-]

Use the *<PgUp>* and *<PgDn>* keys to view all of the rows, and the *<Tab>* and *<Shift+Tab>* keys to view all of the columns in the table. If you want to view an archived file, press *<F2>* to ***Select File.*** To ***Print*** a copy of the log file, press *<F8>.* When you are finished viewing the log file, press *<Esc>* to close the window.

Event Log Viewer

After some events accumulate, you can view the event log. To display the log, select the ***Data|View Event Log*** menu option.



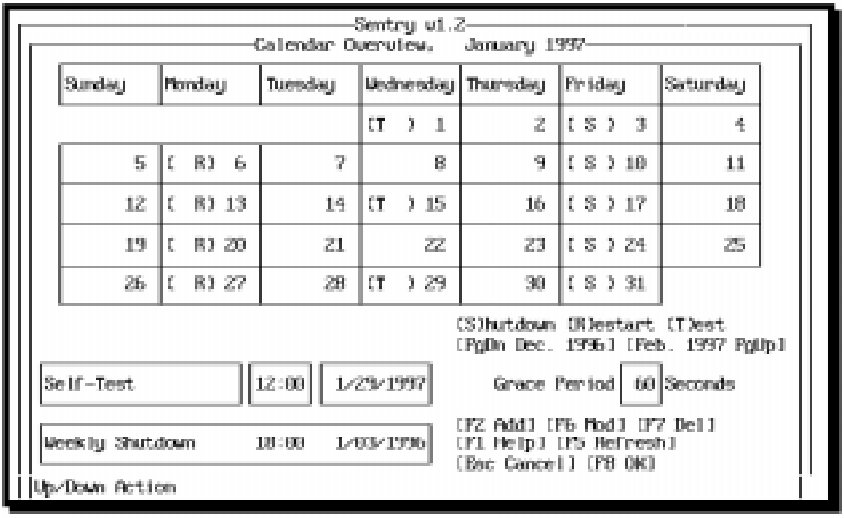
Use the *<PgUp>* and *<PgDn>* keys to view all of the rows in the table. To limit the types of events displayed in the table, select one or more of the event type check boxes. The event type category names and the number of categories vary by UPS model.

If you want to view an archived file, press *<F2>* to ***Select File.*** To ***Print*** a copy of the log file, press *<F8>.* When you are finished viewing the log file, press *<Esc>* to close the window.

4d 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 key to the action types is displayed below the calendar. Actions include: operating system and UPS ***Shutdown,*** UPS ***Restart,*** and UPS ***Test.*** Availability of operating system and UPS ***Shutdown,*** UPS ***Restart,*** and UPS ***Test*** depends on UPS model.



The scheduled actions appear in the list box at the bottom of the window. To view a detailed description of the actions scheduled for the month, open the schedule list box. To view other months, press the *<PgUp>* or *<PgDn>* keys.

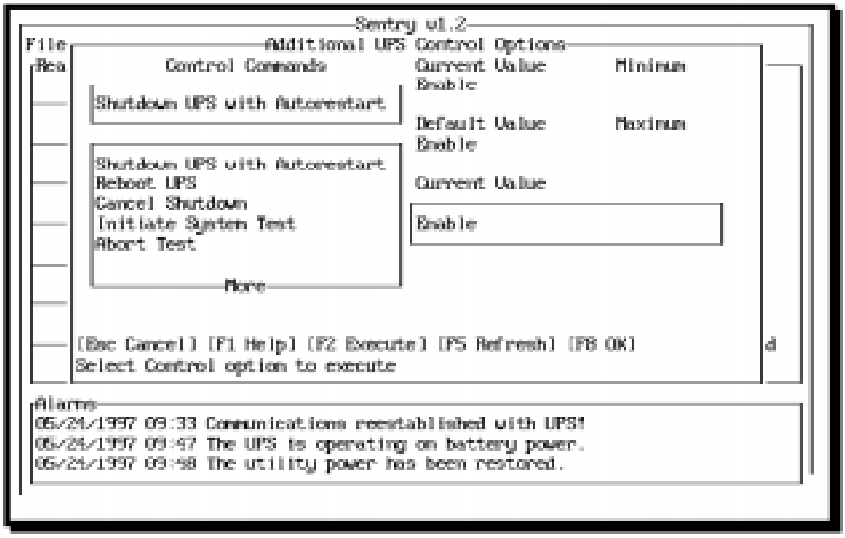
Select an action, time, and starting date. To Add the current selection to the schedule, press *<F2>.* To modify the current selection in the schedule list box, press *<F6>.* To delete the current selection in the schedule list box, press *<F7>.*

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.

When you are finished with the *Calendar Overview* window, press *<F8>* to close the window. If you want to abandon changes, then press *<Esc>* to close the window.

4e UPS CONTROL OPTIONS

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, select a command in the ***Control Commands*** list box, choose or enter a ***Current Value,*** and press *<F2>.* ***Control Commands*** vary for different UPS models.

When you are finished sending commands to the UPS, press the *<F8>* to close the window.

5 SENTRY SCRIPT FILES

Event Action Script Files

This section contains a short description of the script files used to carry out actions related to Sentry events. You can modify scripts to suit your environment. Before you modify a script file, please make a backup copy.

BROADCAST SCRIPT

The broadcast script, **brdcast.scr,** is invoked when an event occurs that requires a broadcast message.

The script can be modified to change the method used to broadcast. By default, the **/etc/wall** command is used.

EMAIL SCRIPT

The E-mail script, **email.scr,** is invoked when an event occurs that requires an E-mail message.

You may need to modify the **email.scr** script to work with your native environment.

SHUTDOWN SCRIPT

The shutdown script, **shutdown.scr,** is invoked when operating system shutdown is required. The script will be called for scheduled system shutdowns and event shutdowns.

You may need to modify the **shutdown.scr** script to work with your native environment.

NOTE: When modifying shutdown.scr, be careful not to introduce delays without ensuring that your UPS system will provide power long enough to complete the script. Otherwise, you run the risk of losing power before the computer is shutdown.

Terminating & Removing

To terminate or remove Sentry from your system, follow the instructions listed below.

TERMINATING THE BACKGROUND PROCESS

By doing this procedure, the active process will be killed. It will restart the next time the system is rebooted.

- Check for active Sentry processes, by typing:
  ps -ef *<enter>* or **ps -ax** *<enter>*
- If a process named **smartmon** exists, find the process ID number (PID).
- Kill the active sentry process by typing:
  kill -9 *{pid#}* *<enter>*
  (where *{pid#}* is the **smartmon PID**)
- Check to ensure that the **smartmon** process has been killed by typing:
  ps -ef *<enter>* or **ps -ax** *<enter>*

The Sentry Pro process is now inactive.

REMOVING ALL SENTRY FILES

By doing this procedure, the active process will be killed, and the Sentry files removed from your system. You will have to reinstall Sentry if you wish to restore it.

- At the prompt, change the current working directory to **/etc** by typing:
  cd /etc/smartmon *<enter>*
- Run the Sentry removal utility by typing:
  ./remove.scr *<enter>*
- Answer the confirmation question.
- Check to ensure that the Sentry process has been killed by typing:
  ps -ef *<enter>* or **ps -ax** *<enter>*
  If a process named smartmon exists, refer back to *Terminating the Background Process.*

The Sentry process is inactive, and all of the Sentry files have been removed from your system.

6 TROUBLESHOOTING

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.)
- 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.
- Common Problems and Solutions

PROBLEMS	SOLUTIONS
When you start Sentry, communications cannot be established.	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. 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. Is the port already in use? Is the getty disabled? If the UPS is charged and seems to be operating properly, and all other procedures have been followed.

PROBLEMS	SOLUTIONS
The modem did not page the administrator after a power failure or other event.	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 dial tone. Make sure you have correctly identified the serial port. Ports may be mislabeled. Make sure the port is operational, by performing another test on it, such as attaching a terminal and attempting to log in. A conflict may occur when other hardware devices or software. Is the port already in use? Test your pager dial string to verify it works.

Keyboard Usage

Some terminals do not support the keystrokes listed on the Sentry screens. Use the following table to choose alternative keystrokes.

Key	Key alternatives, meanings
<Esc>	<Ctrl+X>, <Ctrl+C>= Exit w/o saving
<F1>	<Ctrl+A>= Help
<F2>	<Ctrl+F>= Add box item, Execute, Default
<F5>	<Ctrl+W>= Refresh display
<F6>	<Ctrl+R>= Modify / Activate box item
<F7>	<Ctrl+P>= Delete / Deactivate box item
<F8>	<Ctrl+E>= Save & Exit
<F9>	<Ctrl+T>= Up (top) box item, Activate all
<F10>	<Ctrl+B>= Down (bottom) box item, Deactivate all
<Tab>	<Enter> = Next field
<Shift+Tab>	<Ctrl+U> = Prior field
<PgUp>	<Ctrl+P> = Prior page of data
<PgDn>	<Ctrl+N> = Next page of data

7 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: _____
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:

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