User's Guide

OPTI-SAFE+ for OPTI-UPS

Windows®95/98, Windows®NT, Windows®3.x, Novell Netware®, OS/2® Warp

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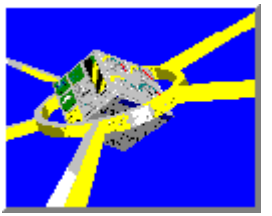


OPTI-SAFE+ for OPTI-UPS

. . . ***closes the loop of power protection for your computer system.*** It works with your OPTI-UPS® uninterruptible power supply (UPS) to provide security from power problems. With OPTI-SAFE+ installed your files and operating system will automatically close during power outages—before the battery runs down and unsaved data is lost.

In a power fail scenario, a system complete with OPTI-SAFE+ responds in this sequence:

1. The UPS detects loss of utility power and instantly switches to battery power.
2. The OPTI-SAFE+ program sends messages to alert you of the power failure. Some versions of OPTI-SAFE+ support e-mail, paging messages, sound alarms, sound messages, and screen flags describing the nature of the failure.
3. OPTI-SAFE+ begins a countdown sequence before it shuts down files, the operating system, and the UPS.

   If the UPS sends a "battery low" signal to the OPTI-SAFE+ program, the countdown is halted and the shutdown procedure begins.
4. When the countdown is completed, open files are saved, the operating system closed, and the UPS is turned off.

   In a network environment, the UPS's can be shutdown in pre-selected sequence.

Features

OPTI-SAFE+ gives you control to . . .

Protect during power fail conditions:

- It senses a change to battery power
- It saves and closes files before the battery runs out
- It shuts down operating systems, computers, and UPS's

Set limits:

- Establish permissible input voltage range (Configurable items vary by UPS model)
- Adjust time delay till computer shutdown
- Select the maximum time allowed for UPS to run when the battery is low

Plan automatic testing of your UPS system:

- Test the response of your UPS
- Check the battery voltage and condition
- Choose the frequency and time of tests

Schedule automatic power on and off of your computer:

- Choose the time to turn on and off your UPS, with automatic file and operating system closure
- Plan a schedule of power on and off for your computer through your UPS

Provide protection for your computer network:

- Plan a network shutdown sequence for emergencies
- Schedule UPS system testing
- Turn on/off any network computer connected to an UPS, from any network computer

OPTI-SAFE+ gives you information . . .

Alerts you to power failure conditions:

- Sets off local audible alarm
- Sends on-screen flag
- Turns on sound-coded warning message
- Transmits e-mail to network addresses
- Pages a pre-selected phone number

Scopes out your site's power graphically—
Displays past and present records of voltage levels:

- AC voltage's amplitude and frequency into and out of the UPS
- Battery condition— voltage level, load capacity, and available run time
- Internal temperature of UPS (not available on some models)
- Power events— including brownouts, power failures, and voltage surges

Provides data in multiple formats:

- Tables, charts, and graphs
- Information is exportable to applications such as Lotus 1-2-3® and Excel™

Presents the Visible UPS:

- Diagrams internal operation of UPS, showing current flow
- Gives status of the battery

Supplies network information:

- All power information is available about any network computer connected to a UPS, from any network computer

Requirements

To use OPTI-SAFE+ you need:

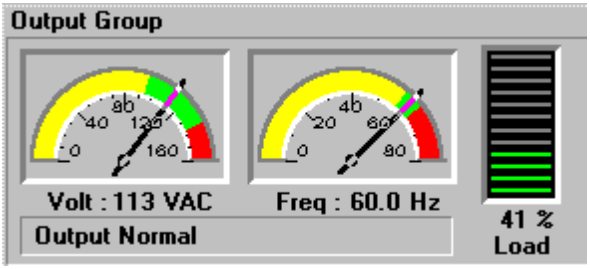
- An IBM compatible PC
- An available serial port
- Compatible operating system
- An OPTI-UPS® model E, ES, or PS uninterruptible power system
- Sound card for audible alarms (optional, if sound warning feature is used)
- TCP/IP protocol installed for network management (optional, for controlling remote UPS's)
- CD ROM drive

Note

To use this manual, you should have a working knowledge of your computer's operating system. If you need help in these areas, please first run through the user's guides or tutorials included with your computer.

2

Installation



Package contents:

- OPTI-SAFE+ Power Management Suite™ CD ROM
- OPTI-SAFE+ for OPTI-UPS User's Guide
- Serial port cable (9 pin male to 9 pin female)

Hardware Installation

Install UPS as directed in your UPS user's guide.

Turn off UPS and computer.

Is your computer serial port 9 pin?

no

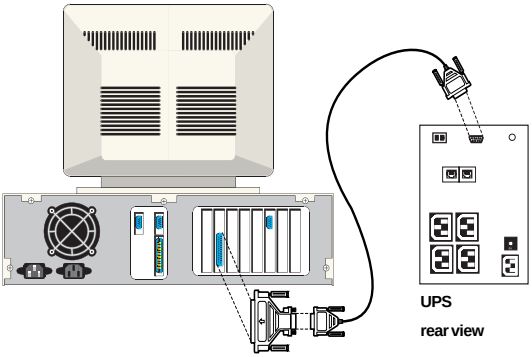
Plug 25 pin adapter into computer serial port*.

yes

Plug the female end of the serial cable into the computer serial port or the adapter.

Plug the male end of the serial cable into the 9 pin port of your UPS.

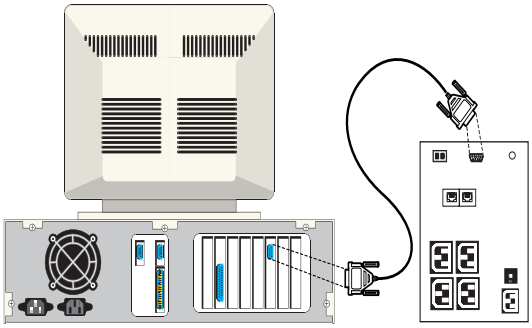
Computer with 25 pin serial port—use adapter



UPS rear view

Note: 25 pin adapter not included, but if needed can be purchased from OPTI-UPS for a nominal charge. Call (714) 674-5080.

Computer with 9 pin serial port



UPS rear view

Software Installation

Operating System	Steps
Windows 95/98 using Plug and Play Installation	When your computer turns on, you will see a dialog box indicating that Windows has found your OPTI-UPS. Insert your Power Management CD into your CD-ROM drive and follow the instructions on the screen. The OPTI-SAFE+ monitor program will be added to the System Registry and will start automatically when the computer starts up. It will appear as a blue circular icon in the System Tray.
Windows 95/98 using standard installation	1. Insert Power Management Suite CD into your CD ROM drive. 2. Start Windows Explorer program and select your CD ROM drive. 3. Open the OSP_95NT folder on the CD-ROM drive. 5. Double click on the file named Setup.exe 6. Follow the instructions on the screen. The OPTI-SAFE+ monitor program will be added to the System Registry and will start automatically when the computer starts up. It will appear as a blue circular icon in the System Tray.
Windows NT	1. Insert Power Management Suite CD into your CD ROM drive. 2. Start Windows Explorer program and select your CD ROM drive. 3. Open the OSP_95NT folder on the CD-ROM drive. 5. Double click on the file named Setup.exe. 6. Follow the instructions on the screen. Next, start the OPTI-SAFE+ monitoring program: 1. Go to the Main menu. 2. Click on Control Panel. 3. Click on Services. 4. Select OPTI-UPS (Manual). 5. Click on Start. 6. Click on Startup. 7. Click on Automatic. 8. Click on OK (you should be back in the Services menu). 9. Click on Close. The OPTI-SAFE+ monitor program will now start automatically when the computer's operating system starts up.

Software Installation

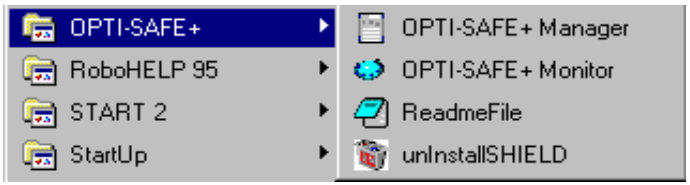
Operating System	Steps
Windows 3.1x	1. Insert Power Management Suite CD into your CD ROM drive. 2. Open the OSP_WIN3 folder using File Manager. 3. Double click on the file named Setup.exe 4. Follow the instructions on the screen. The OPTI-SAFE+ monitor program will start automatically when the computer starts up. It will appear as a blue circular icon on the Windows desktop.
OS/2 Warp	1. Insert Power Management Suite CD into your CD ROM drive. 2. Open the OSP_OS2 folder. 3. Double click on the file named Install.exe 4. Follow the instructions on the screen. The OPTI-SAFE+ monitor program will start automatically when the computer starts up.
Novell Netware	1. Logon to your file server as Supervisor from a workstation. 2. Insert Power Management Suite CD into your CD ROM drive. 3. Open the OSP_NOV folder from the DOS prompt. 4. Type Install <Enter>. 5. Follow the instructions on the screen. Make sure that your Novell Serial Port drivers are loaded before loading OPTI-SAFE+. For example, if you are using standard serial ports, you must use AIO.NLM and AIOCOMX.NLM. You may enter the statements "Load AIO" and "Load AIOCOMX" into your Autoexec.ncf file. The AIOCOMX driver is reentrant, you must load it once for each com port it will service. On the first load it will be identified as Board#0 and Port#0, and the port address is 0x3F8 with interrupt 4. On the second load it will be identified as Board#1 and Port#0, and the port address is 0x2F8 with interrupt 3. If the UPS is connected to com 2, the following should appear in the Autoexec.ncf file: load aio load aiocomx load aiocomx load safemntr.nlm load upsagent.nlm load safemngr.nlm

Installation Check

To test automatic shutdowns:

1. Install hardware and software.
2. Turn on your computer and open a program.
3. Type in a quick entry.
4. Name the new file following the application's file naming procedure.
5. Unplug the UPS power cord from the wall or power strip.
   This simulates a power failure.
6. A warning window with a countdown message should appear.
7. At the end of the countdown time, OPTI-SAFE+ should:
   - save and close open files (OPTI-SAFE+ is designed to save files for most programs)
   - shut down the operating system
   - turn off the UPS and computer.
8. If the new entry was not saved, or the operating system and UPS were not shut down, see **Troubleshooting**, page 39.

Removing OPTI-SAFE+



To delete OPTI-SAFE+ from Windows 95/98

1. Close the OPTI-SAFE+ Monitor and Manager programs. Close the Monitor program by right clicking on icon and then clicking on close.
2. From the Windows' program list, go to the OPTI-SAFE+ group.
3. Select the ***uninstallSHIELD*** program.

To delete OPTI-SAFE+ from Windows NT

1. Close the OPTI-SAFE+ Manager program if open.
2. Go to the MS DOS prompt.
3. Type in ***upssrv -remove***
4. Return to Windows.
5. From the Windows' program list, go to the OPTI-SAFE+ group.
6. Select the ***uninstallSHIELD*** program.

To delete OPTI-SAFE+ from Windows 3.1x

1. Close the OPTI-SAFE+ Monitor and Manager programs.
2. From the Windows' program list, go to the OPTI-SAFE+ group.
3. Select the ***uninstallSHIELD*** program.

To delete OPTI-SAFE+ from OS/2 Warp

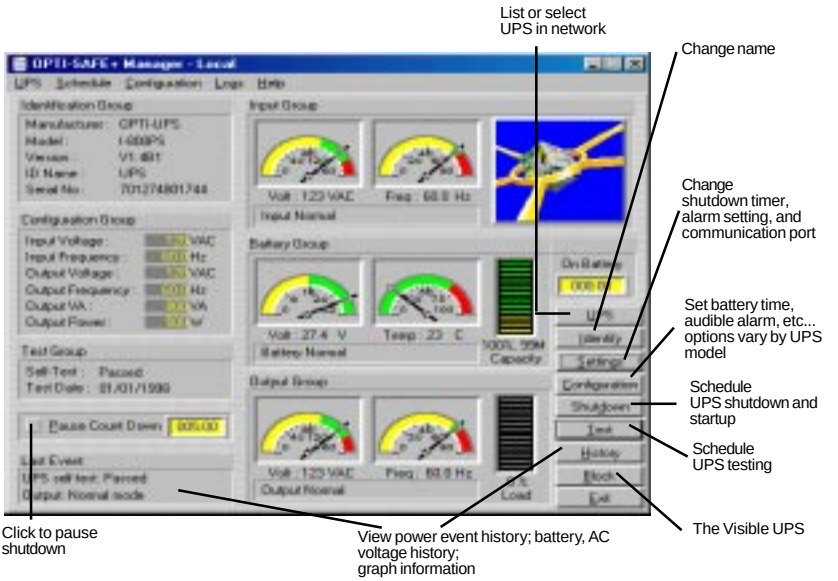
1. Insert the Power Management Suite CD-ROM into your CD-ROM drive.
2. Open the OSP_OS2 folder
3. Double click on the file named ***Install.exe***
4. Select the option ***Delete the installed product and re-install***
5. Follow the Instructions on the screen.

To delete OPTI-SAFE+ from Netware

1. From the server console type ***Load Install.***
2. Select ***Edit the Autoexec.ncf file.***
3. Remove the lines ***Load Safemntr, Load Upsagent***, and ***Load Safemngr***
4. From a workstation, delete the files upsagent.nlm, safemntr.nlm, safemngr.nlm, safeplus.dat, safeplus.cfg, and safeplus.log from the file server's system directory.

3

Setting Up OPTI-SAFE+

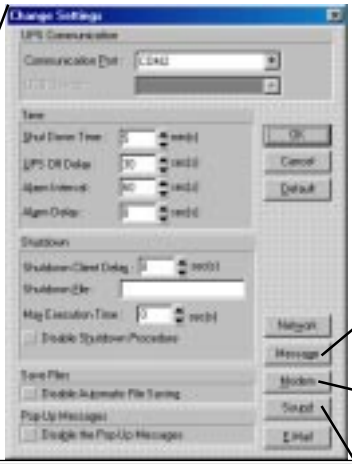


To open the OPTI-SAFE+ program

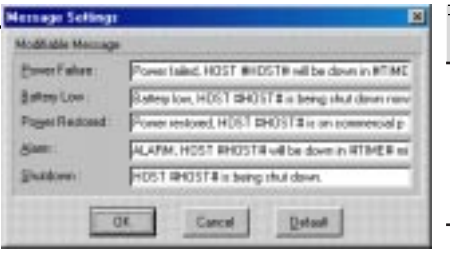
1. Select the OPTI-SAFE+ program group.
2. Select the OPTI-SAFE+ ***Manager*** program.

Note: The OPTI-SAFE+ Monitor will load automatically when your computer starts up. The OPTI-SAFE+ Manager does not need to be running to perform unanttended system shutdowns in the event of an extended power outage.

Setting Up Timers and Alarms



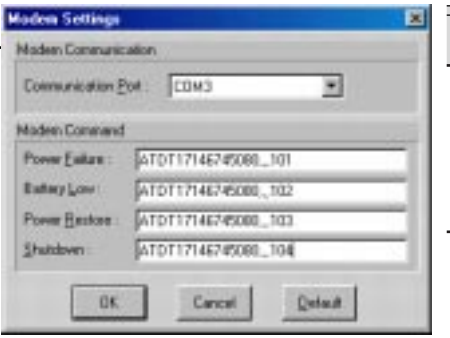
To . . .	Do This . . .	Notes
Select which computer communication port connects to UPS	1. Go to Communications Port. 2. Click on arrow. 3. Highlight choice.	*Range: COM 1 to COM 4* *To connect to a USB port, you must purchase an optional USB adapter.*
Select time interval from power failure to shutdown of operating system	1. Go to Shut Down Time. 2. Click on arrow. 3. Enter the desired time.	*Range: 0 to 540 minutes* *Default: 5 minutes* If battery is low, shutdown will begin immediately.
Select time interval from operating system shutdown to UPS shutdown	1. Go to UPS Off Delay. 2. Click on arrow. 3. Enter the desired time.	*Range: 1-600 seconds* *Default: 30 seconds* Be sure to allow enough time for operating system to close.
Select time interval between alarm messages	1. Go to Alarm Interval. 2. Click on arrow. 3. Enter the desired time.	Range: 30-999 seconds Default: 60 seconds
Select time interval from power failure until start of alarm signals	1. Go to Alarm Delay. 2. Click on arrow. 3. Enter the desired time.	Range: 0-30 seconds Default: 0 seconds
Allow time to shutdown attached workstations	1. Go to Shutdown Client Delay. 2. Enter the time to allow for the clients to shut down.	*Range: 0-120 seconds* *Default: 10 seconds* This setting works together with Dependency Shutdown.
Enter shutdown file for custom shutdown	1. Go to Shutdown File. 2. Type in path and name of file.	Run any .exe, .com, .cmd, or customized .bat file (if needed for shutdown).
Select max time allowed for shutdown file to run before your computer shuts down	1. Go to Max Execution Time. 2. Click on arrow. 3. Enter the desired time.	*Range: 0-300 seconds* *Default: 0 seconds* Pre-empts shutdown file.
Turn off automatic file saving feature	1. Click on Disable Automatic File Saving button.	Shutdown will ocurr more rapidly, but data in open files will not be saved.
Turn off the on-screen pop-up alarms	1. Click on the Disable The Pop-Up Messages button.	You will not receive pop-up messages, but shutdown will still proceed.



Writing screen warning messages

To ...	Do This ...
Change on-screen alarm message	1. Go to the Settings screen. 2. Click on the Messages button. 3. Choose message field. 4. Type in message. 5. Click on OK button.

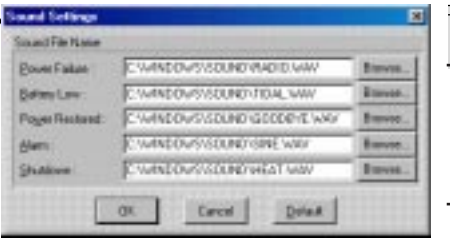
Note:
If you choose the default messages, #Host# will be replaced with the local computer name, and #Time# will be replaced by the countdown time till UPS



Setting up the paging system

To ...	Do This ...
Select which computer communicati-on port connects to modem	1. Go to Settings screen. 2. Click on Modem button. 3. Go to Communications Port. 4. Click on arrow. 5. Highlight choice.
Set up AT commands for different power fail situations	1. Go to Settings screen. 2. Click on Modem button. 3. Choose a Modem Command field. 4. Type in AT command.

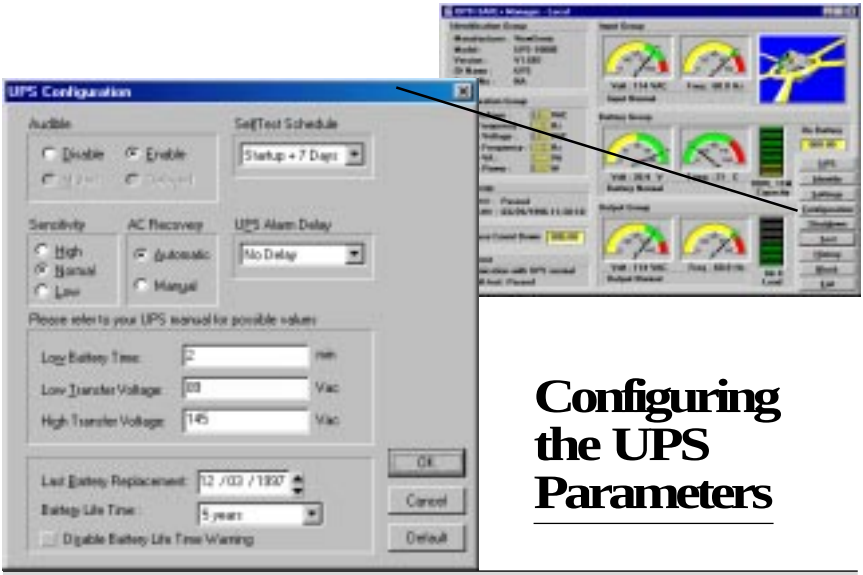
Note:
Use a complete AT command line. Please see your modem manual for commands. These examples shown will dial the phone number shown and send the code 101, 102,103, or 104 after waiting 6 seconds. Define your own code to represent each power event.



Choosing warning sounds

To ...	Do This ...
Select sound files for alarms	1. Go to the Settings screen. 2. Click on the Sound button. 3. Choose message field. 4. Type in or browse to file

Note:
These alarms will sound at the same intervals as the on-screen alarms.
Use .WAV sound files only.



Configuring the UPS Parameters

To . . .	Do This . . .
Turn off, turn on, or delay UPS on-board power fail audible alarm (slow beep)	1. Click on the Configuration button on main menu. 2. Click on Disabled, Enabled, Muted or Delayed under Audible.
To program a self test schedule for the UPS	1. Click on the Configuration button on main menu. 2. Select the SelfTest Schedule field. 3. Select the desired frequency of UPS self test. Once programmed, the software need not be running for the tests to take place.
To adjust the sensitivity of the UPS to power line conditions	1. Click on the Configuration button on main menu. 2. Click on High, Normal or Low under Sensitivity.
To program the UPS to start up automatically when AC power is restored after a power failure	1. Click on the Configuration button on main menu. 2. Click on Automatic, or Manual under AC Recovery.
To set the UPS Alarm Delay after a power failure ocurrs (slow beep)	1. Click on the Configuration button on main menu. 2. Select the UPS Alarm Delay field. 3. Select the desired delay time.
Select minutes left of battery run time before UPS sends low battery condition audible alarm (fast beep)	1. Click on the Configuration button on main menu. 2. Select Low Battery Time field. 3. Type in the desired time (2 or 5 minutes).
Select limits of upper and lower AC voltage peaks before UPS transfers to battery power	1. Click on the Configuration button on main menu. 2. Select Low Transfer Voltage or HighTransfer Voltage. 3. Type in the desired maximum or minimum voltage. (Refer to tables on next page)

Adjustable Parameters:

280E & 420E - Audible (Enabled, Disabled, or Muted), and Battery Replacement Date.

650E, 1000E, 1400E - Audible (Enabled, Disabled, Muted, or Delayed), Low Battery Time, Low Transfer Voltage, High Transfer Voltage, and Battery Replacement Date.

All ES Models - Audible (Enabled, Disabled, Muted, or Delayed), Low Battery Time, Low Transfer Voltage, High Transfer Voltage, and Battery Replacement Date.

All PS Models - Audible (Enabled, or Disabled), Self Test Schedule, Sensitivity Adjustment, AC Recovery, UPS Alarm Delay, Low Battery Time, Low Transfer Voltage, High Transfer Voltage, and Battery Replacement Date, and Battery Life Time .

Note: OPTI-SAFE+ for Novell Netware does not support all of the configurations. You can configure the UPS on another system and it will save the changes.

To adjust the Transfer Point Settings:

Determine your UPS model and rated voltage, then refer to the following tables to determine your allowable transfer point settings.

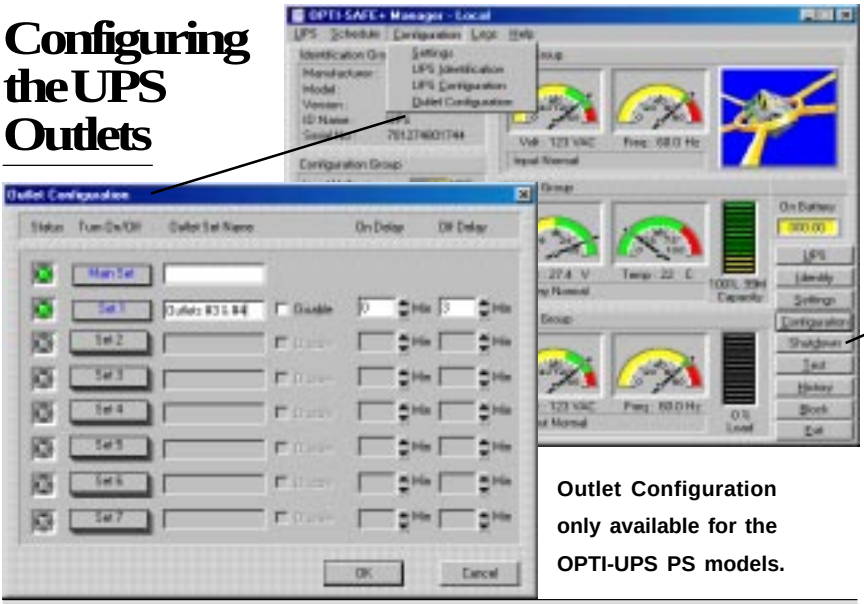
Low Voltage Transfer Point Selections

Model	Rated Voltage	Low Transfer Point (Default Setting)	Low Transfer Point (Available Options)
650E, 1000E, 1400E and all ES models	100V	78V	073, 078
	110V	85V	080, 085
	120V	93V	088, 093
	220V	170V	160, 170
	230V	178V	168, 178
	240V	186V	176, 186
All PS Models	120V	93V	089, 091, 093, 096
	230V	186V	176, 181, 186, 192

High Voltage Transfer Point Selections

Model	Rated Voltage	High Transfer Point (Default Setting)	High Transfer Point (Available Options)
650E, 1000E, 1400E and all ES models	100V	120V	120, 125
	110V	132V	132, 137
	120V	144V	144, 149
	220V	264V	264, 274
	230V	276V	276, 286
	240V	288V	288, 298
All PS Models	110, 115, 120V	145V	141, 145, 148, 151
	220, 230, 240V	290V	282, 290, 296, 302

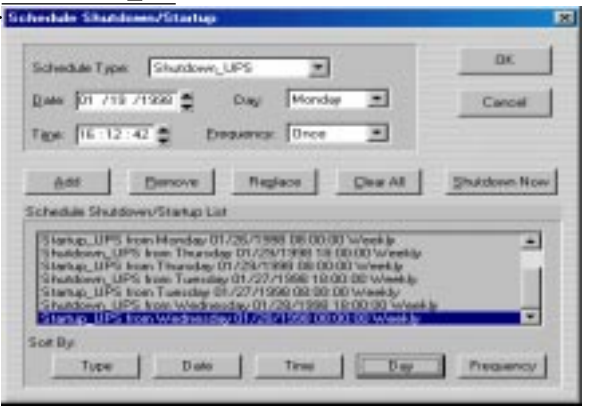
Configuring the UPS Outlets



Outlet Configuration only available for the OPTI-UPS PS models.

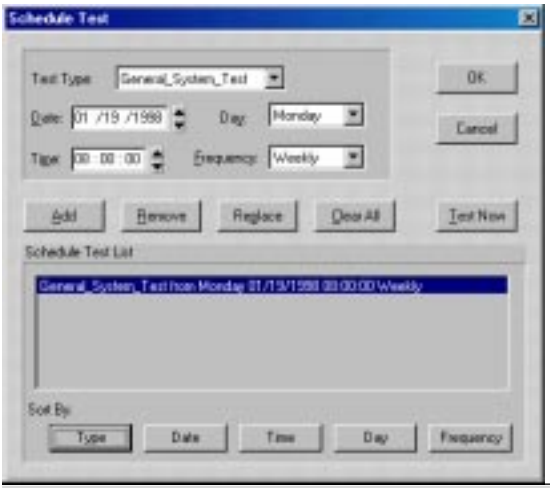
To . . .	Do This . . .	Notes
Turn off individual Outlet Groups now	1. Click on Configuration from the upper Toolbar of the main menu. 2. Click on Outlet Configuration. 3. Click on the Outlet Set you want to Turn Off or On. (A green status light indicates the Outlet Group is currently turned on)	Main: Outlets 1 & 2 on all PS models. Set 1: Outlets 3 & 4 on the 500PS & 800PS ; Group 3 on the 1100PS & 1440PS. Set 2: Group 4 on the 1100PS &1440PS.
Assign names to your Outlet Groups	1. Click on Configuration from the upper Toolbar of the main menu. 2. Click on Outlet Configuration. 3. Select the Outlet Set Name box and type in the name you want to assign for the Outlet Group.	The assigned names are only used for your reference.
Configure the switchable outlet turn on delay time during UPS startup.	1. Click on Configuration from the upper Toolbar of the main menu. 2. Click on Outlet Configuration. 3. Click on the On Delay box next to the Outlet Group you want to set. 4. Select a time for the Outlet On Delay.	During UPS start up, outlets 1 & 2 will turn on after a five second delay. The remaining outlets will turn on after the On Delay time has expired.
Configure the switchable outlet turn off delay time after the UPS switches to battery power.	1. Click on Configuration from the upper Toolbar of the main menu. 2. Click on Outlet Configuration. 3. Click on the Off Delay box next to the Outlet Group you want to set. 4. Select a time for the Outlet Off Delay.	Allows certain outlets to shut off early in order to provide maximum run time for the more critical devices.
Disable the On Delay and Off Delay settings	1. Click on Configuration from the upper Toolbar of the main menu. 2. Click on Outlet Configuration. 3. Click on Disable next to the Outlet Group you want to set.	Allows the individual Outlet Groups to turn on and off together with the main outlets 1 & 2.

Scheduling Shutdowns and Startups



To . . .	Do This . . .	Notes
Shut down the computer and UPS now	1. Go to the main menu. 2. Click on the Shutdown button. 3. Click on the Shutdown Now button.	The 0PTI-SAFE+ program will close files and operating system before turning the UPS off.
Choose shutdown scheduling	1. Go to the main menu. 2. Click on the Shutdown button. 3. Choose Shut down UPS from the Schedule Type box.	
Choose start up scheduling	1. Go to the main menu. 2. Click on the Shutdown button. 3. Choose Start Up UPS from the Schedule Type box.	The UPS will store the start-up time in its non-volatile memory.
Schedule date, day of week, time, and how often to shutdown or start up the UPS	1. Go to the main menu. 2. Click on the Shutdown button. 3. Scroll to or type in the date, time, and frequency buttons at the bottom of the screen.	The information will be added to the Shedule Shutdown/Startup List. Time must be given in 24 hour format.
Add, remove, or replace schedules	1. Go to the main menu. 2. Click on the Shutdown button. 3. Highlight the schedule to be changed. 4. Click on the Add, Remove, Replace, or Replace All button.	
Sort through the currently scheduled shutdowns and startups	1. Go to the main menu. 2. Click on the Shutdown button. 3. Click on the Type, Date, Time, Day, or Frequency buttons.	Use to sort data by Type, Date, Time, Day, or Frequency if your Shutdown / Startup schedule is long.

Click on ***OK*** to save changes



Scheduling Tests

To . . .	Do This . . .	Notes
Test the UPS now	1. Click the Test button on the main menu. 2. Click the Test Now button.	Save files before testing. Test result is displayed on main menu and recorded in event log.
Schedule date, day of week, time, and how often to test the UPS	1. Click the Test button on the main menu. 2. Scroll to or type in the date, time, and frequency. 3. Click the Add button.	The information will be added to the Test Schedule List. Click on OK to save changes.
Remove or replace schedules	1. Click the Test button on the main menu. 2. Highlight the changing schedule. 3. Click on Remove, Replace, or Replace All.	Click on OK to save changes.
Sort through the scheduled tests	1. Go to the main menu. 2. Click on the Test button. 3. Click on the Type, Date, Time, Day, or Frequency buttons at the bottom of the screen.	Use to sort data by Type, Date, Time, Day, or Frequency if your Test schedule is long.

Click on ***OK*** to save changes

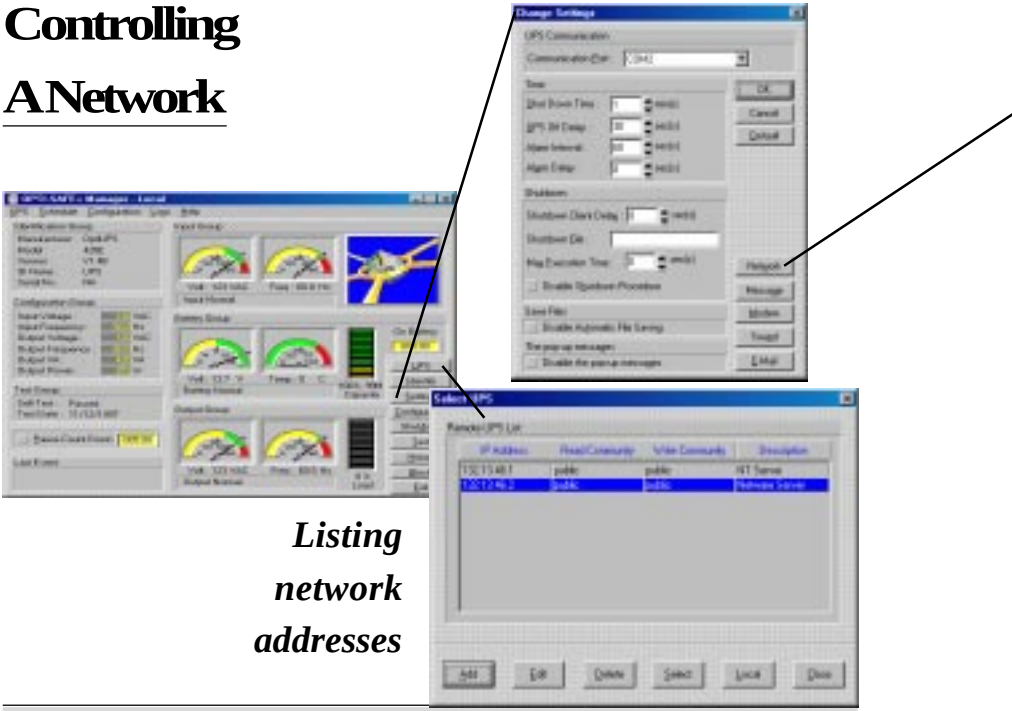
4

Controlling Networks with OPTI-SAFE+

OPTI-SAFE+ provides a powerful tool for network administration that is revolutionary in its scope. It is versatile and open-ended—answering the varied needs of today's diverse computer environments. OPTI-SAFE+ features:

- Manage any network UPS from any network station using OPTI-SAFE+ and the TCP/IP protocol.
- Configure network stations to be shut down depending upon the power conditions critical systems.
- Works in conjunction with popular SNMP NMS programs, such as Hewlett Packard® OpenView, IBM® NetView, or Novell® NMS.
- Supports standard UPS Management Information Base (MIB) RFC 1628 as defined by the Internet Engineering Task Force (IETF).

Controlling A Network



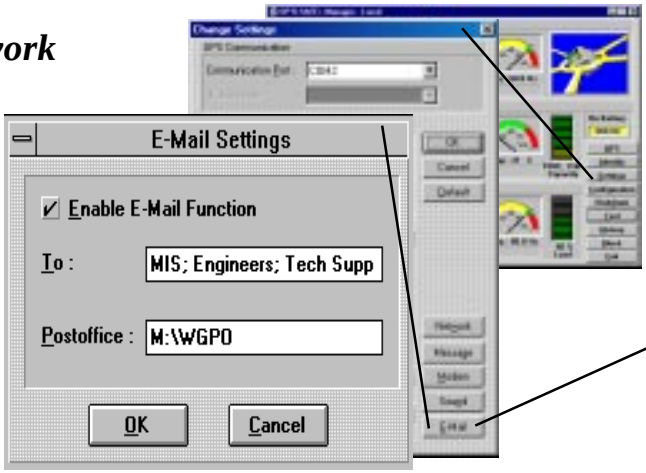
Listing network addresses

To . . .	Do This . . .	Note . . .
Setup network management	1. Install TCP/IP on all systems that will participate in remote management.	Please see your operating system's user guide for instructions.
Add a new IP address with a community string and a description to the list of UPS in your network	1. Go to the UPS screen. 2. Click on the Add button. 3. Type information into the corresponding fields.	The IP address and community names are assigned by your network manager. The description field can be any mix of words and letters.
Delete an address	1. Go to the UPS screen. 2. Highlight the address you want to delete. 3. Click on the Delete button.	
Control another UPS: Test, shutdown, turn on or set alarms	1. Highlight the IP address of the UPS you want to control. 2. Click on the Select button. 3. Go to the appropriate screen and make desired changes.	The remote UPS you want to control must have given write or read/write access to your Community. Please see the next page.
View voltage or power event information about another UPS	1. Highlight the IP address of the UPS you want to view. 2. Click on the Select button. 3. Go to the screen of interest.	The remote UPS you want to view must have given read or read/write access to your IP address. Please see the next page.

Controlling network access

To . . .	Do This . . .	Notes
Give other network computers control of your UPS and/or access to your power data	1. Go to the Settings screen. 2. Click on the Network button. 3. Click on the Authorized Manager button in the Access Control group. 4. Click on the Add button. 5. Fill in the Community Name of the computers you are granting access. 6. Enter as Write Community to give the remote computers control access of your computer. Enter as Read Community to give the remote computers read data access. Enter as Read & Write to give the remote computers control and read access.	See your network manager for IP addresses and community names. The community names must be identical.
Send alarms to other network computers during power events	1. Go to the Settings screen. 2. Click on the Network button. 3. Click on the Trap Receiver button in the Access Control group. 4. Click on the Add button. 5. Fill in the IP Address and the Community of the computer you want to alert.	Only computers that receive the trap will be able to perform a dependency shutdown. To alert all computers in the network of power events concerning your UPS, write 225 for the last three digits in the IP address field. For example: 132.13.46.225
Shutdown your computer if a network computer supporting your computer has power problems	1. Go to the Settings screen. 2. Click on the Network button. 3. Click on the Dependency Shutdown button in the Access Control group. 4. Click on the Add button. 5. Fill in the IP Address and the Community of the network computer that supports your computer.	Set your computer's shutdown time to a shorter time period than the network computer you rely on. Your compute'rs IP address must be entered in the Trap Receiver list of the computer you rely on.

Sending network e-mail

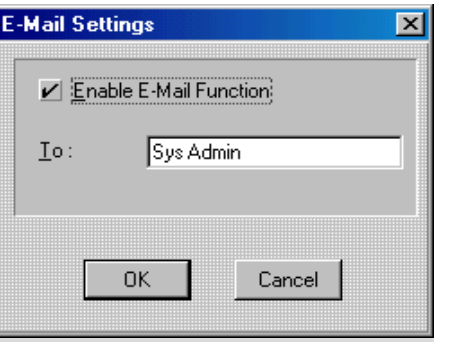


OPTI-SAFE+ can send e-mail concerning power events to other computers in your network. OPTI-SAFE + works with Microsoft Mail in Windows NT, Microsoft Exchange in Windows 95/98/3.x, and Novell MHS in Netware. For OPTI-SAFE+ to access the e-mail system, a new User must be set up in Microsoft Mail Postoffice, and a new Profile set up in the Windows Control Panel.

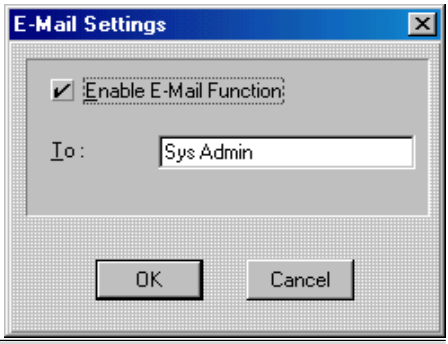
Windows NT

To . . .	Do This . . .
Task 1 Create a new user "safeplus" in Microsoft Mail Postoffice	1. Click on Mail icon. It could be in Main, Startup, Microsoft Mailfolder, or elsewhere. 2. Type in password if requested. 3. Select Mail menu from top of screen. 4. Click on Postoffice Manager. 5. Click on Add User button. 6. Type safeplus into 3 fields: Name, Mailbox, Password. 7. Click on OK. 8. Click on Close.
Task 2 **Enable** OPTI-SAFE+ program's e-mail option	1. Click on the Settings button on OPTI-SAFE+ main menu. 2. Click on the E-Mail button on the Change Settings screen. 3. Click on the Enable E-Mail Function. 4. Type name of person or people to receive mail into To field. Separate names with a semicolon (;). 5. Type postoffice name in Postoffice field. 6. Click OK button.

Windows 95 / 98 & Windows 3.X



To . . .	Do This . . .
Task 1 Create a new user called "safeplus" in Microsoft Mail Postoffice	1. Select Settings from Windows Start menu. 2. Select Control Panel. 3. Click on the Microsoft Mail Postoffice icon. 4. Select Administer An Existing Workgroup Postoffice, then click on Next. 5. Type in your Postoffice Location, or select from Browse. 6. Type in your Mailbox Name and Password. 7. Click on Add User button from Postoffice Manager window. 8. Type safeplus into Name field. 9. Type safeplus into Mailbox field. 10. Type safeplus into Password field. 11. Click on OK. 12. Click on Close.
Task 2 Create a new profile called "safeplus" in the Windows Control group.	1. Select Settings from Windows Start menu. 2. Select Control Panel. 3. Click on the Mail and Fax icon. 4. Click on the Show Profile button. 5. Click on the Add button. 6. Check only the Microsoft Mail in the Inbox Setup Wizard screen, then click on Next. 7. Type safeplus into the Profile Name screen, then click on Next. 8. Type in your Postoffice Location. Use the same location as in Task 1, step 5, then click on Next. 9. Select safeplus, then click on Next. 10. Type safeplus into the Password field, then click on
Task 3 Enable OPTI-SAFE+ e-mail option	1. Click on the Settings button on OPTI-SAFE+ main menu. 2. Click on the E-Mail button on the Change Settings screen. 3. Click on the Enable E-Mail Function. 4. Type name of person(s) to receive mail into To field. Separate names with a semicolon (;). 5. Click OK button.

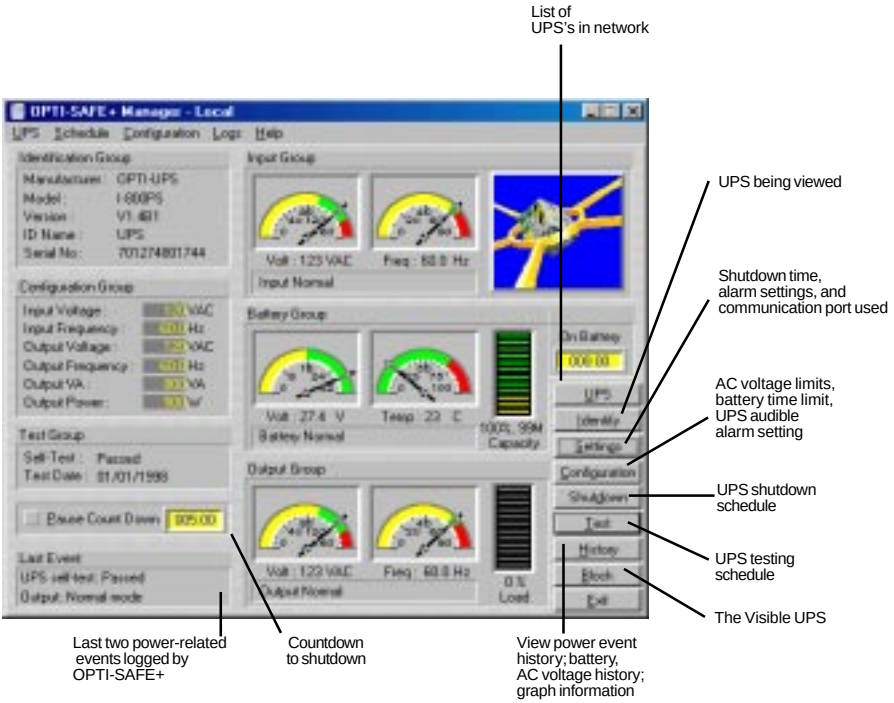


Novell Netware

To . . .	Do This . . .
Enable OPTI-SAFE+ program's e-mail option	1. Selelct the Settings button on the OPTI-SAFE+ main menu. 2. Select the E-Mail button on the Change Settings screen. 3. Check the Enable E-Mail Function (Note: Netware E-Mail requires Novell MHS). 4. Type the name of the person(s) to receive mail into the To field. 5. Type safeplus into the From field. 6. Enter the e-mail path setting of Novell MHS into the Mail Path box. (the default setting is SYS:\MHS\MAIL\SND). 7. Click on OK.

Note: OPTI-SAFE+ for OS/2 does not support the E-Mail function.

5 Viewing Data



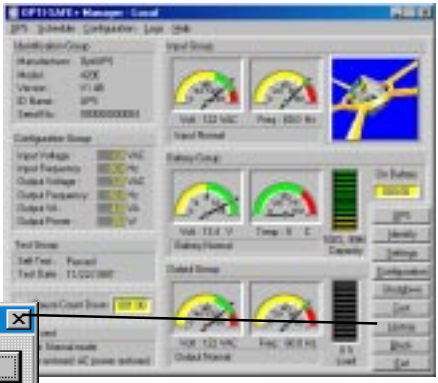
To view information about another UPS in the network:

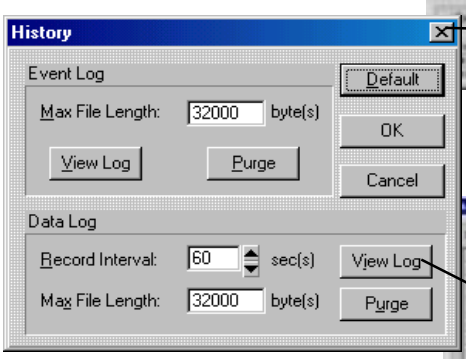
1. Click on UPS button on main menu.
2. Highlight address of UPS you want to view.
3. Click on the select button.

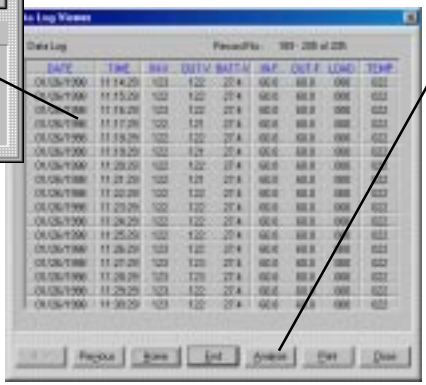
Note

The UPS you want to view must grant access. (Please see page 29)

Viewing Voltage Data History







Events and data history

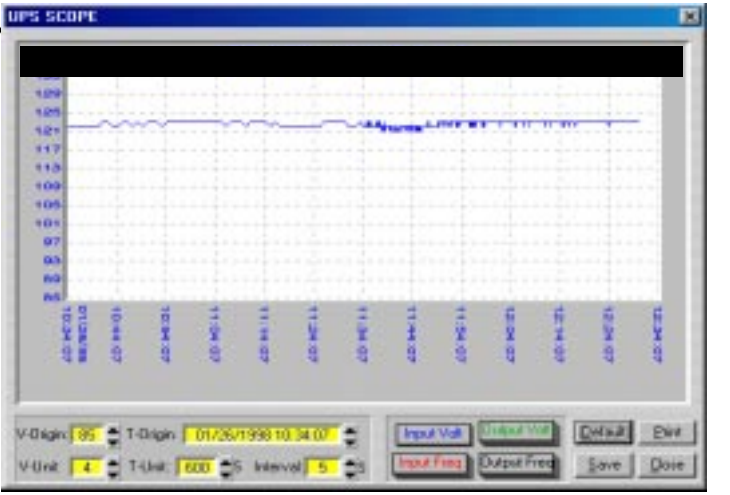
To ...	Do This ...
Set max length of data or event logs	1. Click on History button on main menu. 2. Choose event or data Max File Length and fill in desired length. Range: 1kByte to 2MByte Default: 32kByte
Purge data or event logs	1. Click on History button on main menu. 2. Choose event or data Purge button. 3. Choose Begin and End interval.
Set time interval between data recording	1. Click on History button on main menu. 2. Choose Record Interval field. 3. Fill in desired time length. Range: 0-3600 seconds Default: 60 seconds

Note: OPTI-SAFE+ will delete the oldest third of the data or event file whenever the file exceeds the maximum length that you have set.

Voltage, frequency, load, and temperature log

To ...	Do This ...
View voltage log	1. Click on History button on main menu. 2. Click on View Log button in Data Log group.
Print voltage log	1. Click on History button on main menu. 2. Click on View Log button in Data Log group. 3. Click on Print button.

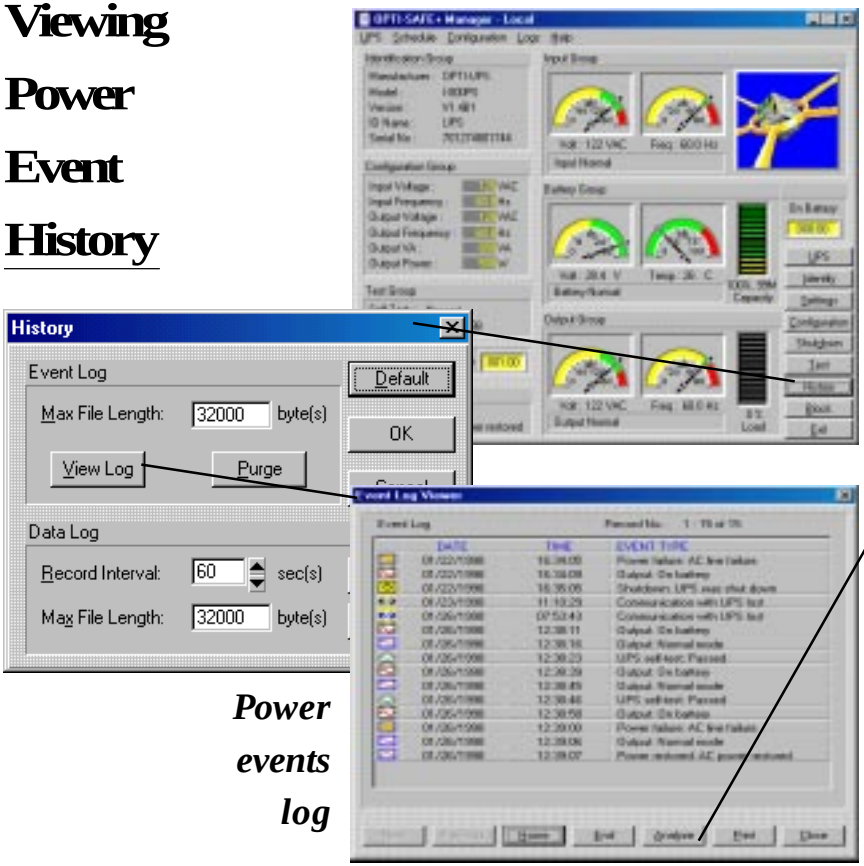
Notes: Use Home button to scroll to the earliest data. Use End button to scroll to the latest data. Some models do not provide temperature readings.



Voltage and frequency scope charts

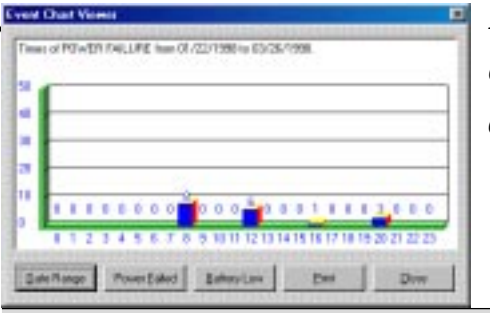
To . . .	Do This . . .	Notes
Chart input and/or output voltage, frequency to UPS	1. Click on History button on main menu. 2. Click on View Log button in Data Log group. 3. Click on Analyze button.	Click any combination of voltage and frequency buttons to graph. Click button again to deselect.
Select time frame to view	1. Click on the yellow field labeled T-Origin. 2. Select desired time frame.	When the Scope screen comes up, it shows the most recent data. Time frame must be within log records' span.
Change graph parameters	1. V-Origin changes voltage or frequency start point on vertical axis. 2. V-Unit changes the voltage interval on the vertical axis. 3. T-Unit changes the time interval on the horizontal axis. 4. Interval changes the rate at which data is updated.	Click on the Default button to return to default graph parameters. Click on Save to save new graph parameters.
Print graph	1. Click on Print button.	

Viewing Power Event History



Power events log

To ...	Do This ...	Notes ...
View event log	1. Click on History button on main menu. 2. Click on View Log button in Event Log group.	Use Home button to scroll to the earliest data. Use End button to scroll to the most recent.
Print event log	1. Click on History button on main menu. 2. Click on View Log button in Event Log group. 3. Click on Print button.	



Power event charts

To . . .	Do This . . .	Notes
Chart power failure or low battery conditions	1. Click on History button on main menu. 2. Click on View Log button in Events log group. 3. Click on Analyze button.	Click on Power Failed button to view power failure chart. Click on Battery Low for chart of low battery condition occurrences.
Select time frame to view.	1. Click on the Date Range button. 2. Select desired time frame.	Time frame must be within log records' span.
Print graph	1. Click on the Print button.	

Exporting data to spreadsheets

Most spreadsheets permit the direct importation of data files into the program. Please check your spreadsheet user's guide for instructions.

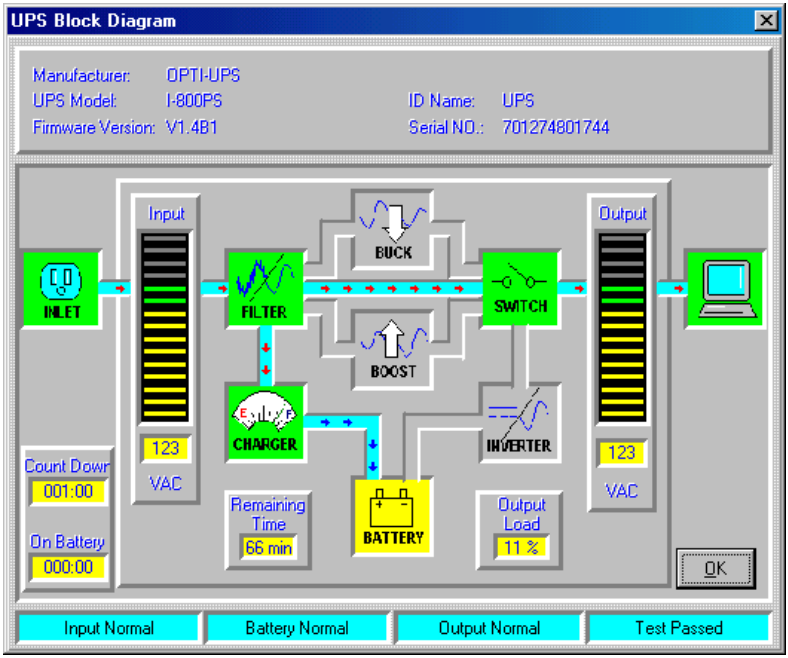
The OPTI-SAFE+ file containing time and voltage data is named ***safeplus.dat.*** It is located in the ***Safeplus*** directory.

The data file is an ASCII file in the comma-delimited format used by most spreadsheet programs. Data sample:

02/25/1998,10:09,108,107,12.7,59.3,67,30
02/25/1998,10:11,108,107,12.7,59.3,67,30
02/25/1998,10:13,108,107,12.7,59.3,67,30

The data fields in order are: date, time, input voltage, output voltage, battery voltage, frequency, percentage of load capability being used, and temperature. (Temperature data not available on all models.)

UPS Block Diagram



UPS information

Click on the ***Block*** button on the main menu.

This animated block diagram gives an instant status report on the voltage levels and operation of the UPS you have selected to view.

Note

This feature is not available for the Novell Netware version of OPTI-SAFE+.

6 Troubleshooting

Problem	Possible Cause	Remedy
OPTI-SAFE+ doesn't save files or close operating system	OPTI-SAFE+ software was not installed correctly.	Re-install program, page 11. Make sure the OPTI-SAFE+ Monitor program is running. *In Windows 95, It will appear as a circular blue icon in the System Tray. *In Windows NT it will run as a Service from Control Panel Services. *In Windows 3.1 it will appear as a circular blue icon on the desktop.
Error message: Error opening COM port, check your COM port settings... Or- Error message: Communication Lost... appears when Windows starts.	OPTI-SAFE+ program is set to wrong com port. Cable is not installed correctly. Computer's com port is not working.	Reset OPTI-SAFE+ program's com port number: 1. Click on Settings button from OPTI-SAFE+ program's main menu. 2. Highlight the com port that the computer uses to connect to the UPS. Install cable, page 12. Make sure the on board serial ports are enabled in your computer's BIOS setup. Make sure no other devices are using the same com port as OPTI-SAFE+. The I/O card could be defective, use a serial port mouse to verify that it is working.
Error message: The TCP/IP Protocol is not installed ...	TCP/IP which is required for network communications is not installed	If you will only be using OPTI-SAFE+ for your local computer, then unclick the "Show this message next time" box.
OPTI-SAFE+ does not shut down the operating system after timer counts down, or when battery is low.	There may be a file open that OPTI-SAFE+ is unable to close, and is keeping the system open as a result.	If this is the cause, turning off the automatic file closing feature will allow the operating system to close. 1. Click on the Settings button on the main menu. 2. Click on the Disable Automatic File Saving button under Save Files heading.
UPS turns off before operating system finishes closing.	The delay time until the UPS is shut down is too short.	To delay the shutdown of the UPS and give the operating system more time to close: 1. Click on the Settings button on the main menu. 2. Type in more seconds delay into the UPS Off Delay field under the Time heading.

Troubleshooting *continued*

Problem	Possible Cause	Remedy
File is not saved after being shut.	The disable automatic file saving option has been selected.	Remove check from disable automatic file saving option: 1. Click on Settings button on main screen. 2. Remove check from Disable Automatic File Saving under Save Files.
	Files are not named.	You should name a file as soon as you start one, so OPTI-SAFE+ can close it and save it in the event of a power failure.
Paging option doesn't work.	The modem command string is incorrect.	Refer to your modem user guide for the correct commands. Be sure to use a complete AT command line. To enter the modem command string: 1. Click on the Settings button on the main menu. 2. Click on the Modem button. 3. Chose a modem command field and type in modem command string.
	Wrong com port listed in the OPTI-SAFE+ program's modem com port setting.	Type in the com port the modem uses: 1. Click on the Settings button on the main menu. 2. Click on the Modem button. 3. Type in the com port the modem uses into the Communication Port Fiield.
Computer does not emit warning sounds during power problems.	Sound files are in incorrect format.	Use only .WAV files.
	The sound files listed in OPTI-SAFE+ alarm sound setting have wrong directory path.	Check sound files' paths. 1. Click on Settings button on the main menu. 2. Click on Sound button. 3. Check files listed.
Error message Battery is older than expected life time ...	Your battery is older than the Battery Life Time indicated in the OPTI-SAFE+ settings.	1. Check you computer system clock. 2. Check the Last Battery Replacement date in the OPTI-SAFE+ Configuration screen. 3. Check the Battery Life Time setting in the Configuration screen. (recommended setting is 5 years)
E-mail is not delivered.	Microsoft Mail or Microsoft Exchange for OPTI-SAFE+ is not set up correctly in Windows.	Please review instructions on pages 30-32.
	MIcrosoft Mail for NT users only: Wrong directory path to your postoffice listed in the OPTI-SAFE+ program's Postoffice setting.	Check postoffice location's path: 1. Click on Settings button on the main menu. 2. Click on the E-mail button. 3. Check file name and directory in the postoffice field.

Problem	Possible Cause	Remedy
Error message: No Remote Agent or You cannot communicate with a remote UPS.	TCP/IP is not installed correctly on your machine, or it is not installed correctly on the remote site (if it is also using the OPTI-SAFE+ program).	Check your operating system's user's guide and make sure the TCP/IP is installed correctly.
	Sites are not using same communication protocol.	The remote site must: Have OPTI-SAFE+ software installed. or Use another SNMP agent software that supports the standard UPS MIB (IETF RFC 1628). or Use any UPS SNMP adapter which supports the standard UPS MIB.
	The remote site has not granted you access.	Go to the remote computer and make sure your computer's IP address and Community, or the blanket IP address of 0.0.0.0 and Community is included in the remote computer's access list . Follow the instructions on page 29. Make sure the community string listed on both computers is identical, even if an IP address of 0.0.0.0 is used.
You can use OPTI-SAFE+ to communicate with a remote UPS, but using another NMS (such as HP OpenView) does not work.	The NMS is using a different network port number.	Change the NMS (such as HP OpenView) network port to 1161. The default network port number for SNMP is 161. If two SNMP agent programs are running on the same computer, the first one can open port 161 successfully, but the second one must open a different port. The management and monitoring modules of the OPTI-SAFE+ program are smart and will sense if port 161 is already in use, and open another port, 1161, automatically. When another NMS (such as HP OpenView) is used, it must have its network port changed to 1161.
You can receive information from a remote UPS and computer, but you cannot test or change the settings.	The remote site has granted you read access but not read/write access.	Go to the remote computer and change the OPTI-SAFE+ program's access settings for your computer's IP to read/write. Follow the instructions on page 29.

Troubleshooting *continued*

Problem	Possible Cause	Remedy
You do not receive power event messages from a computer in your network.	Your OPTI-SAFE+ Manager or other NMS program is not running.	In order for you to receive power event messages from another computer in your network, your OPTI-SAFE+ Manager or other NMS program must be running.
	The remote computer does not have your computer on its list of trap (message) receivers.	Go to the remote computer and add your computer's IP to the remote computer's trap receiver list in the OPTI-SAFE+ program. 1. Click on the Settings button on the main menu. 2. Click on the Network button. 3. Click on the Trap Receiver button in the Access Control group. 4. Click on the Add button. 5. Fill in your IP address and the Community Name of your computer.
The network server shuts down before the network workstation computers shut down.	The delay time until the network server's operating sytem shuts down is too short.	Go to the network server's Shutdown Client Delay setting in its OPTI-SAFE+ program. Add more time to the delay. Please read the instructions on page 20.
	The workstation computers' IP addresses are not listed in the network server's OPTI-SAFE+ program's list of trap (messages) receivers.	Go to the network computer and add the IP address of all the computers that should receive traps to the OPTI-SAFE+ program. 1. Go to the Settings screen. 2. Click on the Network button. 3. Click on the Trap Receiver button in the Access Control group. 4. Click on the Add button. 5. Fill in the IP Address and the Community Name of the computer you want to alert.
	The workstation computers do not have the network server listed in their OPTI-SAFE+ program's Dependency Shutdown list.	Select each workstation computer one at a time to change their settings. (Please see page 28, To Control another UPS.) Or go to each workstation and add the IP address of the network computer to its OPTI-SAFE+ program's dependency Shutdown List: 1. Go to the Settings screen. 2. Click on the Network button. 3. Click on the Dependency Shutdown button in the Access Control group. 4. Click on the Add button. 5. Fill in the IP Address and the Community Name of the network server.

Glossary

These terms are defined in the context used in this manual.

AC Alternating current, the line voltage from the power company.

AC Recovery Refers to the ability of the UPS to turn back on automatically after an extended power failure in which the UPS has been shutdown.

Agent The part of the UPS program that acts as an interface with the UPS. It translates the information from the UPS into the standard SNMP protocol.

Community Computers linked together in a related group, and that belong to the same network under the same server.

Com Port, Communication Port The output port of your computer used to communicate with other devices. It is part of the input/output (I/O) card of your computer.

Communication Protocol A set of rules used for communicating from one device to another. The protocol contains an error checking method that makes sure no data is lost.

Data Log The record of power line data including voltage, frequency, and percent load. The file is called safeplus. dat and is located in the Safeplus directory by default.

Dependent Agent A portion of software that can be controlled by another portion of software, but cannot control the other in return.

Event Log The record of power events including power failures, low batteries, and shutdowns. The file is called safeplus. log and is located in the Safeplus directory by default.

File Server The computer attached to a network that runs the network operating system. It regulates communications among the computers

connected to it and manages any shared devices.

High Transfer Voltage The level at which the incoming voltage is too high for the UPS to condition anymore. The UPS must then switch to battery power.

IETF Internet Engineering Task Force, institutes protocol standards.

IP Address Internet Protocol Address. Each computer in a network must have an unique address. The IP address contains 4 fields, each field contains a number from 0 to 255.

Local UPS The UPS connected to the computer you are using.

Low Battery Time The length of time left in the battery before OPTI-SAFE+ begins the shutdown. A lower number in this setting will provide a longer run time before shutdown.

Low Transfer Voltage The level at which the incoming voltage is too low for the UPS to condition anymore. The UPS must then switch to battery power.

MIB (Management Information Base) A data base containing the information needed to control and manage a network.

NMS (Network Management Station) A remote station that can manage the network.

Paging Sending a number coded message over the phone lines with a modem, to a paging device.

Plug and Play A hardware installation feature in Windows 95 that allows easy installation of most peripherals.

Remote UPS An UPS connected to a computer in your network, other than the one you are using.

RFC 1628 A network communication protocol supported by the IETF, used in controlling an UPS.

Sensitivity The main determining factor in how often a UPS will switch to battery power. All PS models have sensitivity adjustment capabilities through the use of OPTI-SAFE+. All other models are factory set to medium sensitivity.

Serial Communication Port The computer port that connects to the UPS. It is part of the computer's serial communication card, and can feature a 9 pin or a 25 pin connector.

Shutdown Client Delay The length of time you allow for the attached dependent clients to shut down. This delay time begins after the shutdown time counter has reached zero.

Shutdown File A file that should run before the operating system shuts down. You can set up OPTI-SAFE+ to automatically run such a file before it shuts down the operating system. For example, you might want to run a file that will close down a remote computer. The file must use one of these extensions: .bat .cmd .exe .com (please see page 20, " (To Select shutdown file...")

Shutdown Time The maximum length of time you will allow for your UPS to run on battery in the event of a power failure.

SNMP (Simple Network Management Protocol) A transmission protocol for TCP/IP based network management.

SNMP adapter A hardware device loaded with an SNMP agent and running SNMP protocol. It allows communication with the UPS without the interface of a computer.

TCP/IP (Transmission Control Protocol/Internet Protocol) A widely accepted communication protocol that is able to connect disparate hosts.

Trap An unsolicited message or status report sent from one computer to another computer in a network.

UPS (Uninterruptible Power System) A device that provides isolated power to a computer. An UPS filters AC spikes, surges, sages, and frequency fluctuations. It switches to battery power in the event of a power failure.

UPS Alarm Delay The length of time you would like the UPS to wait after a power failure before sounding any warning beeps.

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