



UPSilon for Unix

UPS Monitoring & Controlling Software
User's Manual

for

*SUN OS, SUN Solaris, SUN Solaris x86, HP HP-UX,
DEC OSF/1, IBMAIX, SCO Unix, SCO XENIX,
UnixWare, Linux, SGI IRIX, FreeBSD, Motorola AIX*

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◆ Hardware Installation(see p4)

1. Connect the DB-9 male connector of the cable to the UPS interface.
(A DB-9 female connector of RS232 protocol type.).
2. Connect the female connector of DB-9 cable to the dedicated RS232 serial port (If there is only a DB-25 connector on your computer, uses a DB-9 to DB-25 converter).

◆ Software Installation(see p4)

1. Log in as the super-user.
2. Insert UPSilon for Unix CD in CD-ROM Driver.
 - (1) Mount the UPSilon for Unix CD into Unix file directory '/cdrom'. For instance, in Linux, type:

```
# mount -t iso9660 /dev/hdd /mnt/cdrom
```


(Please use device name of your system. Reference Appendix B for more information.)
 - (2) Copy the files in directory '/cdrom' into '/tmp'

```
# cp /cdrom/unix/* /tmp
```
3. Execute the installation program:

```
# cd /tmp  
# chmod 555 install  
# ./install
```
4. Select the target system from the menu, and configuration the UPSilon for Unix (make sure no other process uses the same serial port), the installation program will launch the UPSilon for Unix daemon process automatically.

Note: If the UPSilon has been installed in the FreeBSD v4.x by the 'UPSilon bsd-3.Z,' please install the "patch/FreeBSD_4.x/compat3.x/install.sh" of the setup CD. For even higher version, please update the system with 'compat3.x' from the WEB site).

◆ How to give command

- Start the UPSilon for Unix daemon process
`/etc/upsilon/upsilon start`
- Stop the UPSilon for Unix daemon process
`/etc/upsilon/upsilon stop`
- Configure the parameters:
`/etc/upsilon/upsilon config`
- Event Notice by Pager
`/etc/upsilon/upsilon.pgr`
- Event Notice by Email
`/etc/upsilon/upsilon.eml`
- Monitor the UPS status:
`/etc/upsilon/upsilon status`
- Send Commands Directly to the UPS
`/etc/upsilon/upsilon issuer`
- Read Online Documentation
`/etc/upsilon/upsilon help`
- History Information
`/etc/upsilon/rupslog`

----For More Parameters, Please Reference Other Topics--

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1. Introduction

1.1 Overview

During an extended power outage, the UPS batteries could become depleted before the administrator can shut down the computer system. If this happens, the system will crash as if no UPS were present. UPSilon for Unix software ensures that the system is safely shut down before battery backup power is exhausted, even if the system is unattended.

With UPSilon, you could effectively monitor, configure and control a Smart UPS connected to a serial port on your system or to the network using an SNMP agent. You also have the ability to collect UPS/power status information from the SNMP Agents and Adapters at various points throughout your network and graphically display that information on your NMS station for fast problem diagnosis.

UPSilon automatically responds to protect system/data integrity during power crisis situations such as utility or UPS battery failure. Users would receive warning messages about the power problem. They would also receive periodic alerts about the time remaining until shutdown. If a battery low condition occurs during a power outage, the delay time before system shutdown would be shortened to prevent the system from crashing. If power returns, the shutdown process would immediately stop. If power returns after system and UPS shutdown then the UPS will turn on and the system will boot up automatically. All power events are recorded in a log file.

UPSilon can be configured to automatically shut down and reboot the system before the workday or week begins. This feature results in added system security and electrical energy cost savings. Users could easily modify startup and shutdown schedules for every day of the week through a full-screen editor.

2 Introduction

1.2 Features

Power Crisis Management

- Utility Failure and Battery Low Detection
- Programmable System and UPS shutdown delay time
- Automatic system and UPS shutdown on power outages or before battery exhaustion
- Warning Messages sent to users at regular intervals prior to system shutdown
- Event Messages sent to manager by email or pager
- Unattended and scheduled system shutdown and automatic reboot
- User-defined batch job execution before system shutdown
- Power event notification for users and administrators

UPS Management

- *UPS Preventive Maintenance* - Initiate Self-tests to ensure the health of the UPS.
- *UPS Battery Conservation* – Put a network UPS on battery to sleep before the battery becomes depleted.
- Turn on, turn off, reboot or put the UPS to sleep straight from your console.

POWER MANAGEMENT UTILITIES

- Automatic installation procedure.
- Automatic background process initialization on startup
- Real-time graphical display of power/UPS status
- UPS power event logging
- Intuitive Parameter Configuration Editor
- Batch Job Execution before System Shutdown
- Simultaneous monitoring of several remote network UPSs
- Automatic Communication Port name detection
- Local monitoring through a cable attached to the system's RS232 serial port
- Local Network UPS monitoring through an SNMP agent (MIB OID {iso(1) org(3) dod(6) internet(1) private(4) enterprises(1) ppc(935)})

1.3 System Requirements

UPSilon for Unix requires the following environment:

- Unix operating system running on the computer.
- A dedicated RS232 serial port on your system.
- A UPS with an available RS232 protocol port.
- An SNMP Agent if you intend to monitor a network UPS.

1.4 Operating Systems Supported

- SUN OS 4.x
- SUN Solaris 2.x(SUN OS 5.x)
- SUN Solaris x86
- HP HP-UX 11.x,10.x, 9.x, 8.x
- DEC OSF/1 3.x, 4.x
- IBM AIX 4.x, 3.x
- SCO Unix 5.x, 4.x, 3.x
- SCO XENIX 2.x
- SCO UnixWare 2.x,7.0
- Linux 2.x
- SGI IRIX 6.x
- FreeBSD 2.x, 3.x
- Motorola AIX 4.x

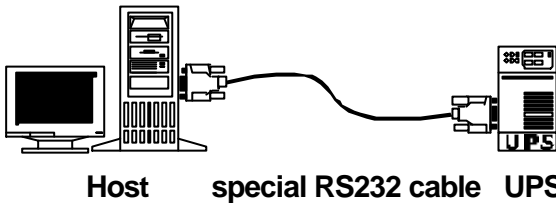
1.5 Package Contents

- UPSilon for Unix CD.
- One special RS232 Cable.
- 9M/25F adapter
- 25M/25M adapter
- 25F/25M adapter
- UPSilon for Unix User's Manual. (This manual)

2. Installation

2.1 Hardware Installation

For UPS monitoring through the system's serial port only. Skip to chapter 2.2 if you intend to monitor a network UPS SNMP agent. It is not necessary to shut down the computer before hardware installation.



1. Connect the DB-9 male connector of the cable to the UPS interface. (A DB-9 female connector of RS232 protocol type.).
2. Connect the female connector of DB-9 cable to the dedicated RS232 serial port (If there is only a DB-25 connector on your computer, uses a DB-9 to DB-25 converter).

2.2 Software Installation

1. Log in as the super-user.
2. Insert UPSilon for Unix CD in CD-ROM Driver.
 - (1) Mount the UPSilon for Unix CD into Unix file directory '/cdrom'. For instance, in Linux, type:

```
# mount -t iso9660 /dev/hdd /mnt/cdrom
```

(Please use device name of your system. Reference Appendix B for more information.)
 - (2) Copy the files in directory '/cdrom' into '/tmp'

```
# cp /cdrom/unix/* /tmp
```

3. Execute the installation program:

```
# cd /tmp
# chmod 555 install
# ./install
```

The installation program will not execute in some shell scripts. If this happens, change to another shell script and try again.

4. Select the target system from the menu. Installation program will automatically copy files to the default location: "/etc/upsilon" and modify the system startup file to contain the UPSilon for Unix daemon process.

5. Press [enter]. The configuration set up screen appears. Follow instructions in *chapter 3* to configure UPSilon.

6. After configuration, press [q]. The installation program will launch the UPSilon for Unix daemon process automatically.

```
Installation of UPSilon 1.3 for UNIX
-----
1. IBM OS 3.x
2. IBM Solaris 2.x
3. IBM Solaris 3.x
4. HP HP-UX 11.x
5. DEC OS/2 3.x
6. DEC OS/386 3.x
7. IBM AIX 3.x
8. SCO UNIX 3.x
9. SCO UNIX 2.x
10. SCO Redware 2.x
11. Linux 2.x
12. Netware 386x
13. Netware 486
14. ICL ICL 3.x
15. FreeBSD 2.x
16. Fujitsu PC/99
17. NEC
18. Quit.

Please Select One:
-
```

```
15. FreeBSD 2.x
16. Fujitsu PC/99
17. NEC
18. Quit.

Please Select One:
0

Extracting files :
Program files: OK
tar: blocksize = 20
Help files: OK
SCD UNIX INSTALL FOR UPSilon
UPSilon version 1.3 will be installed to the directory /etc/upsilon.
Create /etc/upsilon directory...
Moving files from /tmp/ups2 to /etc/upsilon .....
Creating help subdirectory...
OK
Backup /etc/rc2.d/S94ups to /tmp/ups2/S94ups.ald.ups
Add startup command to /etc/rc2.d...OK.
Press ENTER to continue...
```

```
UPSilon UPS Configuration Utility, Ver. 1.3
Copyright(C) 1998 Mega System Technologies, Inc. 99-01-16, 17:02 Wed.
-----
[0] System Shutdown Delay Time When AC Power Failed: 1.0 Min.
[0] System Shutdown Delay Time When Battery Low : 1.0 Min.
[0] UPS Turn Off Delay Time : 1.0 Min.
[0] Factory Setting Backup(if not provided by UPS) : ---- Wait.
[0] Communication Port : COM1/2/3/4
[0] Shutdown Event Name Display: ON
[0] Scheduling function : OFF
[0] Run off UPS after System Shutdown: YES
[0] Time Scheduling(On/Off)
-----
Sun. Mon. Tue. Wed. Thu. Fri. Sat.
Start-Up: -----
Shutdown: -----
[0] Change UPS Monitoring? Monitor UPS from local serial port
[0] Save Configuration.
[0] Quit.
-----
Press the letters in brackets to select items.
Press [r], [t], or [i], [d] to change values.
Press [q] to redraw screen.
```

```
Installation completed
-----
Start UPSilon background process...
<UPSilon>
Copyright(C) 1998 Mega System Technologies, Inc.
Ver. 1.3
Start Running
#
```

If your system does not have a CD-ROM drive, you could use the 'ftp' utility in MS-DOS to copy files into the system directory 'tmp'. Follow the same procedure to install the software. If there is no network connection in your system, please let your dealer know what kind of media you could use to copy files into your system.

Note: If the UPSilon has been installed in the FreeBSD v4.x by the 'UPSilon_bsd-3.Z,' please install the "patch/FreeBSD_4.x/compat3.x/install.sh" of the setup CD. For even higher version, please update the system with 'compat3.x' from the WEB site).

3. Configuration

3.1 Configure UPSilon for Unix

Before using UPSilon for Unix, make sure the following items are all correct or appropriate:

1. Communication port name (chapter 3.2) *or*
2. IP Address and Community Name (chapter 3.3)
3. Shutdown delay time (chapter 3.3)
4. Event notice by Email (chapter 3.4)
5. Event notice by Pager (chapter 3.5)
6. System shutdown command (chapter 3.6)

UPSilon provides a full-screen editor for setting the parameters. The function key descriptions are at the bottom of the screen. You can type `/etc/upsilon/upsilon config` at any time to configure UPSilon for Unix

```
(UPSilon) UPS Configuration Utility, Ver. 1.3
Copyright(C) 1998 Mega System Technologies, Inc.      98-01-14, 17:02 Wed.

-----
[d] System Shutdown Delay Time When AC Power Failed: 5.0 Min.
[u] System Shutdown Delay Time When Battery Low      : 1.0 Min.
[u] UPS Turn Off Delay Time                          : 3.0 Min.
[v] Battery Rating Voltage(if not provided by UPS) : --- Volt.
[c] Communication Port: /dev/ttya

[n] Shutdown Count Down Display: ON
[i] Scheduling Function          : OFF
[a] Turn off UPS after System Shutdown: YES
[t] Time Scheduling(hh:mm)

      Sun.  Mon.  Tue.  Wed.  Thu.  Fri.  Sat.
Start-up:  --:--  --:--  --:--  --:--  --:--  --:--  --:--
Shutdown:  --:--  --:--  --:--  --:--  --:--  --:--  --:--
[r] <<Change UPS Monitoring>> Monitor UPS from local serial port
[s] Save Configuration.
[q] Quit.

-----
Press the letters in brackets to select items.
Press [*, ], -, or [i], [n] to change values.
Press [r] to redraw screen.
```

Detailed Description of Each Option :

[d] System Shutdown Delay Time When AC Power Failed:

This is the allotted time for users to save files and

```
-----
[d] System Shutdown Delay Time When AC Power Failed: 19.0 Hrs.
[h] System Shutdown Delay Time When Battery Low      : 1.0 Min.
```

logout before the system shutdown when utility failure occurs. UPSilon for Unix will send periodic alerts to users to inform them about the impending system shutdown every minute based on this setting. When countdown ends, the system will be shut down. Maximum value is 24 hours, minimum value should not less than the battery low delay time.

[b] System Shutdown Delay Time When Battery Low:

This is the delay time when a battery low condition occurs during power failure countdown. This is usually shorter than the utility failure delay time since the UPS battery is almost depleted. Minimum value is 1 minute, maximum value should not be greater than the delay time when AC power fails.

```
[b] System Shutdown Delay Time When AC Power Failed. : 3.0 Min.
[b] System Shutdown Delay Time When Battery Low      : 1.0 Min.
[u] UPS Turn Off Delay Time                          : 3.0 Min.
[ul] Battery Rating Voltage(if not provided by UPS) : --- Volt
```

[u] UPS Turn Off Delay Time:

This is delay time before the UPS stops providing output power. It has to be long enough to make sure the Unix system can be shut down completely. The turn off command is issued to the UPS at the same time when system begins the shutdown process. This delay time can be: 0.2, 0.3, ... 0.9, 1.0, 2.0, 3.0, ...10.0 minutes.

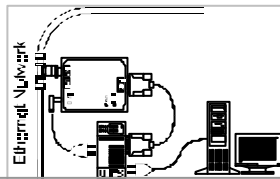
[k] <<Change UPS Monitoring>>

Set this value to *Monitor UPS from local serial port* if the UPS providing your computer's power is connected to your system's serial port.

```
Shutdown.
[k] <<Change UPS Monitoring>> Monitor UPS from local serial port
[el] Save Configuration
```

See chapter 3.2 for more information.

Set this value to *Monitor local UPS SNMP agent* if the UPS providing your computer's power is connected to an SNMP agent on the network.



```
Shutdown.
[k] <<Change UPS Monitoring>> Monitor local UPS SNMP agent
[el] Save Configuration
```

See Chapter 3.3 for more information

[n] Shutdown Count Down Display:

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Set this value to ON if you want users to receive periodic alerts before system shutdown. Set this value to OFF if otherwise.

[l] Scheduling Function:

Set this value to ON if you want to schedule unattended system shutdown and automatic reboot. Set this value to OFF if otherwise. Setting this value to OFF will also stop an impending scheduled system shutdown.

```
[P] IP address . . . 200.10.07.299
[n] Shutdown Count Down Display: ON
[l] Scheduling Function . . . : OFF
[a] Turn off UPS after System Shutdown: YES
[t] Time Scheduling(hh:mm)
```

[a] Turn off UPS after System Shutdown

Set this value to YES if you want UPSilon to turn off the UPS after shutting down the system. Set this value to NO if you want the UPS to continue providing output power until its batteries get drained. UPSilon would not be able to reboot the system automatically if this value was set to NO.

[t] Time Scheduling(hh:mm)

Set various startup and shutdown times for every day for the week. UPSilon for Unix powers down and reboots the system based on this preset weekly schedule. When the scheduled time to shutdown approaches, UPSilon for Unix will send periodic alerts to inform users to save files, close jobs and log out of the system.

```
[t] Time Scheduling(hh:mm)
          Sun.   Mon.   Tue.   Wed.   Thu.   Fri.   Sat.
Start-Up: 04:00 04:00 06:00 14:00 14:00 21:00 18:00
Shutdown: 03:15 15:05 13:45 20:10 06:25 ---- ----
(UP) <<Change UPS Monitoring>> Monitor Local UPS SMP reboot
```

[s] Save Configuration.

Saves all modified parameters.

```
[k] <<Change UPS Monitoring
[s] Save Configuration.
[q] Quit.
```

[q] Quit.

Quit configuration without saving changes.

3.2 Communication Port Configuration

Set option [k] to *Monitor UPS from local serial port* if you intend to use UPSilon to monitor a UPS attached to your system's serial port.

```

Shutdown. -----
[k] <<Change UPS Monitoring>> Monitor UPS from local serial port
[c] Save Configuration
  
```

[c] Communication Port:

This is the device name of the serial port connected to the UPS. The default port name should be right for most systems. You can set this to any name that your system actually uses. Serial port names differ between each operating system. If you are not sure of the correct port name, please check your system documentation or refer to Appendix B for the correct serial port name.

UPSilon would try to auto-detect your Serial Port Name if you happen to enter a wrong one. If auto-detection fails then the message "*UPS Adapter No Response*" would appear.

```

[u] UPS turn off delay time : 3.0 min.
[v] Battery Rating Voltage(if not provided by UPS) : 60.0 Volt.
[c] Communication Port: /dev/tty1a
  
```

[v] Battery Rating Voltage (if not provided by UPS):

This option appears only when UPS monitoring is done through the system's serial port. Set this value only if your UPS does not provide this information. You could get this value from your UPS operation manual. This value will be used to calculate the battery level displayed on the status screen.

Trouble Shoot the Communication Port

What to do when a "*UPS adapter no response*" message appears after running UPSilon for Unix. (Sun OS was used as an example). Please refer to the system documentation if you do not have the same Unix system as serial port setup procedures may vary from system to system.

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1. Make sure no other process uses the same serial port.
2. Turn off function 'getty' of the serial port.

For Sun OS, check the file '/etc/ttytab' for the line below:

```
ttya "/usr/etc/getty std.9600" unknown off local secure
```

Execute this command if you modified the '/etc/ttytab' file. This will force an initial process that closes and re-opens the terminals.

```
kill -hup 1
```

3. Change the file permission of '/dev/ttya'
chmod 666 /dev/ttya

3.3 Community Name and IP Address Configuration

Set option [k] to *Monitor local UPS SNMP agent* if you intend to use UPSilon to monitor a UPS attached to a local SNMP agent. The host computer (this computer's IP address) should have read-write access right to the SNMP agent.

```
Shutdown.  
[k] <<Change UPS Monitoring>> Monitor local UPS SNMP agent  
Let Save Configuration
```

[o] Community Name

The community name should correspond to a community known to the UPS SNMP agent.

[p] Ip Address

The target SNMP Agent IP address.

```
[o] Community Name : public  
[p] Ip Address : 203.73.69.244  
Let Shutdown Count Down Display: ON
```

3.4 Event Notice by Email

UPSilon for Unix provides event notice functions. These functions enable you to know the newest power events by email or pager(chapter 3.5).

When power event occurs , UPSilon will sends necessary message to the email address(es) recorded in the file named

`/etc/upsilon/upsilon.eml`

This is a plain text file , adding any email address in a new line will enable UPSilon sending necessary message to it when power events occur .These power events include Utility Fail, Utility Recovery, Battery Low and Battery Recovery .

3.5 Event Notice by Pager

This function is likely to the function of 'Event Notice by Email' . When power event occurs , UPSilon will try to dial telephone or pager numbers according to the file named

`/etc/upsilon/upsilon.pgr`

This is also a plain text file , words in the first line denotes the pager port UPSilon will use when power event occurs , line(s) between the first and the second lines with a '~' mark leading to denote the pager number(s) UPSilon will dial when utility is fail , line(s) between the second and the third lines with a '~' mark leading to denote the pager number(s) UPSilon will dial when utility recover , line(s) between the third and the fourth lines with a '~' mark leading to denote the pager number(s) UPSilon will dial when battery capacity is about to deplete , line(s) below the fourth line with a '~' mark leading to denote the pager number(s) UPSilon will dial when battery capacity recover , so , the content of upsilon.pgr will looks like

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```
/dev/ttyS0
~AC FAIL
0957608176,,,,#1331111#
~AC RECOVER
0957608176,,,,#1332222#
0931726768,,,,#1332222#
~BATTERY LOW
0957608176,,,,#1333333#
~BATTERY LOW RECOVER
0957608176,,,,#1334444#
```

3.6 Shutdown Batch Job

UPSilon for Unix provides a batch job function. This function enables you to execute some processes before system shutdown. The filename is:

```
/etc/upsilon/preshut.bat
```

This is a plain text file. Use any editor to add or modify commands in this file. Add comments by placing a leading '#' to the line.

3.7 Shutdown Command File

This file contains the command needed to shut down the system. The filename is:

```
/etc/upsilon/shutdown.ini
```

This file contains only one line of command. Please refer to your system's operation manual before making any modifications. **Be sure the command could actually shut down your system.**

4. Using UPSilon for Unix

4.1 Using the "upsilon" program

After a successful installation, UPSilon for Unix will become a background process at system startup. It is not necessary to start the background process manually. UPSilon for Unix automatically detects and applies the modifications made in the configuration menu.

Use these commands to execute any of the six options provided in the upsilon program.

- Start the UPSilon for Unix daemon process:

`/etc/upsilon/upsilon start`

```
#
# upsilon start
# <UPSilon>
Copyright(C) 1998 Mega System Technologies, Inc.
Ver. 1.3
Start Running!
```

- Stop the UPSilon for Unix daemon process:

`/etc/upsilon/upsilon stop`

- Configure the parameters:

`/etc/upsilon/upsilon config`

(see Ch. 3)

```
#
# upsilon stop
# Daemon Process Stops!
#
```

- Monitor the UPS status:

`/etc/upsilon/upsilon status`

(see Ch. 5)

- Send Commands Directly to the UPS

`/etc/upsilon/upsilon issuer`

(see Ch. 6)

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- Read Online Documentation
/etc/upsilon/upsilon help

Help is just a few keystrokes away. Press the letters or numbers and follow the instructions at the bottom of the screen to reach a particular help topic.

```
(UPSilon) UPS ONLINE HELP, Ver. 1.3
Copyright(C) 1998 Mega System Technologies, Inc.          98-01-15, 17:18 Thu.
-----
1.) Introduction
2.) Installation
3.) Configuration
4.) Using UPSilon for UNIX
5.) Monitoring the UPS Status
6.) Control your UPS
7.) History Information
a.) Appendix A - File List and Disk Contents
b.) Appendix B - System Parameters
c.) Appendix C - RUPS II FAQ
-----
Press the corresponding letters or numbers to know more about the
topics listed on your screen.
Press [q] to quit
```

In case you forgot any of the commands, just type “*upsilon*”. A short description of each program option would appear on the screen.

```
#
# upsilon
One argument needed!
Usage: upsilon [start|stop|config|status|issuer|help]

upsilon start    - Start the Daemon process
upsilon stop     - Terminate Resident Daemon process
upsilon config   - Modify Time Settings
upsilon status   - Monitor UPS status
upsilon issuer   - Send Commands to the UPS
upsilon help     - Display Online User Manual
#
```

4.2 Uninstall UPSilon for Unix

Follow these steps to uninstall UPSilon for Unix.

1. Stop the UPSilon for Unix daemon process.
(type “/etc/upsilon/upsilon stop”).

2. Remove the directory '/etc/upsilon'.
3. Remove the UPSilon for Unix startup process from the system.

If your Operating System is:

A. Sun OS 4.x

Remove or mark the whole line containing this string in the file '/etc/rc.local':

/etc/upsilon/upsilon start

**B. Sun Solaris, Solaris x86, SCO Unix, SCO UnixWare,
SGI IRIX**

Remove the file '/etc/rc2.d/S96rups'.

C. HP-UX, IBM AIX and Motorola AIX

Remove or mark the whole line containing this string in the file '/etc/inittab':

/etc/upsilon/rupsd

D. DEC OSF1

Remove the file '/sbin/rc3.d/S86rups'.

E. DEC Ultrix and Free BSD

Remove or mark the whole line containing this string in the file '/etc/rc':

/etc/upsilon/upsilon start

F. SCO XENIX

Remove or mark the whole line containing this string in the file '/etc/rc.d/8/userdef':

/etc/upsilon/upsilon start

G. LINUX

Remove or mark the whole line containing this string in the file '/etc/rc.d/rc.local':

/etc/upsilon/upsilon start

5. Monitor the UPS Status

The Upsilon Status screen provides a visual status-check of important operating data such as input/output voltage, current, battery capacity, power loading and much more. You could monitor your local UPS while simultaneously monitoring several network UPSs.

To Monitor Your Local UPS

1. Type "/etc/upsilon/upsilon select" to bring up the initial select screen. A short description and function key definitions appear at the bottom of the screen.
2. Press <enter>. Upsilon Status checks the configuration settings.
 - This screen appears if you configured Upsilon to monitor the UPS from the local serial port. Function key descriptions are at the bottom right corner of the screen.
 - This screen appears if you configured Upsilon to monitor the UPS through a local SNMP Agent.

Press [m] to know more information such as system contact, system name and system location.

Press [b] to return to the first screen.

```
(Upsilon) UPS Status Screen, Ver. 1.3          98-02-09, 14:10 Wed
-----
[ ] MONITOR LOCAL U P S
-----
[ ] MONITOR REMOTE U P S

<< Monitor a UPS which provides your computer's power >>
<< UPS may be connected to the NETWORK or to the SERIAL PORT >>
Press [Enter]/Proceed, [r] Monitor Remote UPS, [q] Quit

System: megapac[megapac]
```

```
(Upsilon) UPS Status Screen, Ver. 1.3          98-01-16, 12:54 Fri.
-----
UPS Type : On Line           UPS Input Voltage: 187.5 Volt
UPS Rating Output: N/A       78 88 98 108 118 128 138
UPS Rating Normal: N/A      100 110 120 130
UPS Line Frequency: N/A
Communication Port: /dev/ttya

Input AC Power : Normal     UPS Output Voltage: 187.5 Volt
Battery Status : Normal     100 110 120 130 138
UPS Functioning: Normal     UPS Power Loading: 65
Bios/Beep : ON
UPS Temperature: 25.0 C
UPS Self-Test : Stop

Count Down Function: Off
Scheduling Function: Off
Next Shutdown Time: ---
Next Reboot Time: ---
UPS Input Frequency: 59.9 HZ
Normal Shutdown Delay: 3.0 Min.
UPS Turn Off Delay : 3.0 Min.
UPS Output Voltage: 116.0 Volt
UPS Battery Level: 100%

Type 'r' to Reboot, type 'q' to Quit
System: megapac[megapac]
```

```
(Upsilon) UPS Status Screen, Ver. 1.3 "happy" Intelligent 3KVA
Copyright(C) 1998 Mega System Technologies, Inc. 98-02-03, 13:24 Tue
-----
IP Address : 203.72.63.244
Community Name : public
UPS Input Voltage: 100.0 Volt
Input AC Power : Normal
Battery Status : Normal
Bios/Beep : Normal
UPS Temperature: 26.0 C
UPS Self-Test : Stop
UPS Output Voltage: 116.0 Volt
UPS Power Loading: 65
Battery Voltage : 54.0 Volts
Battery Voltage : 52.0 Volts
Load Size : 100.0 Volts
Load Size : 8.0 Volts
Load Size : No Transfer
UPS Battery Level: 100%
Next Shutdown Time: Sun 08:05
Next Reboot Time: Sun 07:18
UPS Input Frequency: 59.9 HZ
Normal Shutdown Delay: 3.0 Min.
UPS Turn Off Delay : 3.0 Min.
UPS Output Voltage: 116.0 Volt

Type 'r' to Reboot, type 'q' to Quit
System: megapac[megapac] [r]-Reboot, [m]-More, [q]-Quit
```

```
(Upsilon) UPS Status Screen, Ver. 1.3 "happy" Intelligent 3KVA
Copyright(C) 1998 Mega System Technologies, Inc. 98-02-03, 13:26 Tue
-----
System Contact : "moped me"
System Name : "happy"
System Location : "here"

Agent Rev : "Ver 1.00"
Batt Replare Data : "000000"
Input Phase : 1
Output Phase : 1
Devices Attached : 4
Diagnostic Showed : 4

Type 'r' to Reboot, type 'q' to Quit
System: megapac[megapac] [r]-Reboot, [m]-More, [q]-Quit
```


6. Control your UPS

UPSilon for Unix gives you the ability to shut down, restart, initiate self-tests and issue other commands to your local UPS. Just type “/etc/upsilon/upsilon issuer” to bring up the screens shown below. The screen displayed would depend on the UPSilon configuration.

UPSilon configured to monitor the UPS from the serial port

```
(UPSilon) UPS COMMAND CENTER, Ver. 1.3
Copyright(C) 1998 Mega System Technologies, Inc.          98-01-15, 16:34 Thu.
-----
[s] 10 Seconds Test
[b] Test until Battery Low
[t] Test for a Specified Time Period
[c] Cancel Test Command

[n] Shut Down UPS
[a] Cancel Shut Down Command

[r] Redraw
[q] Quit
-----
Test for <n> minutes.
Duration of Self Test : 12 Minutes

Press [+] to increase,
[-] to decrease duration of Self Test

Press [p] to proceed, [Esc] to cancel
-----
```

Short Description of Each Option

- **[s] 10 Seconds Test**
UPS performs a 10 seconds self test then returns to utility.
- **[b] Test until Battery Low**
UPS performs self test until battery becomes low.
- **[t] Test for a Specified Time Period**
Specify the duration of Self-Test by using the [+] and [-] keys.
UPS performs Self-Test according to this time setting.
- **[n] Shut Down UPS**
UPS stops providing output power after a few seconds.

- **[a] Cancel Shut Down Command**
Cancels an impending UPS shutdown or turns on the UPS if utility is present.

UPSilon configured to monitor the UPS from an SNMP Agent

```
(UPSilon) UPS COMMAND CENTER, Ver. 1.3
Copyright(C) 1998 Mega System Technologies, Inc.          98-01-15, 16:21 Thu.
-----
[ s ] Shut Down UPS          [ f ] Flash and Beep
[ c ] Cancel Shut Down Command [ i ] Test Indicators
[ o ] Turn On UPS

[ u ] Reboot UPS
[ l ] Put UPS to Sleep
[ n ] Simulate Power Fail
[ b ] Conserve Battery

[ d ] Diagnostic Self Test   [ r ] Redraw
[ t ] Test Run Time Calibration [ q ] Quit
-----
Put UPS to sleep.
Duration of Sleep : 12 Minutes
Press [+] to increase,
Press [-] to decrease Sleep Time

UPS Status ( With Utility power.With output power.)
Press [p] to proceed, [Esc] to cancel
```

Short Description of Each Option

- **[s] Shut Down UPS**
UPS stops providing output power after a few seconds.
- **[c] Cancel Shut Down Command**
Cancels an impending UPS shutdown.
- **[o] Turn On UPS**
Turns on the UPS if utility is present.
- **[u] Reboot UPS**
UPS shuts off then turns back on.
- **[l] Put UPS to Sleep**
Specify the duration of sleep using [+] and [-] keys. UPS will not provide output power while in sleep mode.

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- **[m] Simulate Power Fail**
UPS switches to battery power.
- **[b] Conserve Battery**
UPS on battery goes to sleep mode.
- **[d] Diagnostic Self Test**
UPS performs a short diagnostic self test.
- **[t] Test Run Time Calibration**
The UPS discharges it's batteries until capacity is less than 25%
- **[f] Flash and Beep**
UPS lights all indicators and beeps.
- **[I] Test Indicators**
UPS performs a front panel lights test.

7. History Information

UPSilon for Unix records all power events in the file `/etc/upsilon/rupslog`. You could review this information to check if there was any occurrence of power failure.

Use any text editor to open the file `"/etc/upsilon/rupslog"`.

```
System will be shut down in 1316 Minutes! - Mon Jan 12 15:51:10 1998
System will be shut down in 1315 Minutes! - Mon Jan 12 15:52:10 1998
System will be shut down in 1314 Minutes! - Mon Jan 12 15:53:10 1998
System will be shut down in 1313 Minutes! - Mon Jan 12 15:54:10 1998
System will be shut down in 1312 Minutes! - Mon Jan 12 15:55:10 1998
System will be shut down in 1311 Minutes! - Mon Jan 12 15:56:10 1998
System will be shut down in 1310 Minutes! - Mon Jan 12 15:57:10 1998
UPS Battery low!! - Mon Jan 12 15:57:25 1998
System will be shut down in 1 Minute! - Mon Jan 12 15:57:26 1998
Preshut processes all done! - Mon Jan 12 15:58:26 1998
AC Power Fails! UPS provides power! - Mon Jan 12 16:08:07 1998
System will be shut down in 26 Minutes! - Mon Jan 12 16:08:09 1998
AC Power recovered! - Mon Jan 12 16:08:32 1998
Shutdown Stops! System Returns to Normal State! - Mon Jan 12 16:08:32 1998
Scheduled time to shutdown! - Mon Jan 12 16:11:23 1998
System will be shut down in 1 Minute! - Mon Jan 12 16:11:27 1998
Shutdown Stops! System Returns to Normal State! - Mon Jan 12 16:12:02 1998
Scheduled time to shutdown! - Mon Jan 12 16:14:54 1998
Preshut processes all done! - Mon Jan 12 16:15:02 1998
AC Power Fails! UPS provides power! - Wed Jan 14 18:29:19 1998
System will be shut down in 5 Minutes! - Wed Jan 14 18:29:52 1998
AC Power recovered! - Wed Jan 14 18:29:54 1998
Shutdown Stops! System Returns to Normal State! - Wed Jan 14 18:29:54 1998
```

Appendix A – Files List and CD Contents

Operating System	File Name
Linux	linux.Z
HP HP-UX	hpux.Z
SUN Solaris(SPARC)	sol.Z
SUN Solaris(X86)	x86.Z
DEC osf/1	osf.Z
SCO Unix	sco.Z
SCO UnixWare	uware.Z
SGI IRIX	sgi.Z
IBM Aix	aix.Z
Motorola Aix	
SUN OS	sun.Z
SCO Xenix	xen.Z
FreeBSD 2.x	bsd-2.Z
FreeBSD 3.x	bsd-3.Z

Appendix B– Instruction to mount CD-ROM

Operating System	command	parameters	device name	directory
Linux	mount	-t iso9660	/dev/hdd	/mnt/cdrom
Solaris	mount	-F hsfs	/dev/dsk/c0t6d0s0	/cdrom
HP-UX	mount	-t cdfs	/dev/dsk/c1d1s0	/cdrom
IRIX	mount	-t iso9660	/dev/scsi/sc0d210	/cdrom
SUNOS	mount	-t hsfs	/dev/sr0	/cdrom
OSF/1	mount	-t cdfs	/dev/rz3c	/cdrom
FreeBSD	mount	-t cd9660	/dev/acd0c	/mnt/cdrom
AIX	mount	-t cdrfs	/dev/cd0	/mnt/cdrom
SCO	mount	-t HS	/dev/cd0	/mnt/cdrom

Appendix C – System Parameters

Operating System	COM Port	Shutdown Command	Start up file
SUN OS	/dev/ttya	/etc/halt	/etc/rc.local
SUN Solaris	/dev/ttya	/usr/sbin/halt	/etc/rc2.d/S96rups
SUN Solaris(X86)	/dev/ttyb	/usr/sbin/halt	/etc/rc2.d/S96rups
HP HP-UX	/dev/tty00	Shutdown -y -h 0	/etc/inittab
DEC osf/1	/dev/tty00	init 0	/sbin/rc3.d/S86rups
DEC Ultrix	/dev/tty01	Shutdown -h now	/etc/rc
IBM Aix	/dev/tty0	Shutdown -h now	/etc/inittab
SCO Unix	/dev/tty1a	sync;sync;haltsys	/etc/rc2.d/S96rups
SCO Xenix	/dev/tty1a	sync;sync;haltsys	/etc/rc.d/8/userdef
SCO UnixWare	/dev/tty01	init 0	/etc/rc2.d/S96rups
Linux	/dev/ttyS1	/sbin/halt	/etc/rc.d/rc.local
Motorola Aix	/dev/tty0	Shutdown -h now	/etc/inittab
SGI IRIX	/dev/ttyd1	/etc/shutdown -y -g 0	/etc/rc2.d/S96rups
FreeBSD	/dev/ttyd1	Shutdown -h now	/etc/rc

Appendix D – UPSilon FAQ

Q1. UPSilon for Unix works fine when manually activated but an error message "UPS adapter no response!" appears when the system activates it at start-up.

Answer:

Make sure no other process uses the same serial port as UPSilon for Unix daemon.

Q2. I want to install UPSilon for Unix on Solaris 2.5 for x86 but the system responds 'Device busy' when I execute the command "tar xvf /dev/fd0".

Answer:

Execute the command "/etc/init.d/volmgt stop" first.

Q3. Is there any command to turn-off the system power after shutdown for the SUN OS?

Answer:

There is no command to turn-off the system power automatically after system shutdown on the SUN OS. You could only halt the system with the 'halt' command and turn-off system power manually. However, UPSilon for Unix could turn off the system power by turning-off the UPS power.

Q4. Could the 'tip' command be used to observe the communication status of UPSilon for Unix?

Answer:

No, because the communication protocol is different between RUPS and UPSilon.

Q5. I tried running the UPSilon for Unix on FreeBSD Unix system, but it doesn't work, why?

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Answer:

UPSilon for Unix uses Unix IPC (Inter Process Communication) functions. FreeBSD does support System V IPC primitives, but you must install this option first. Add the following lines to your kernel config to enable Inter Process Communication.

```
options SYSVSHM
options "SHMMAXPGS=64" # 256Kb of sharable memory
options SYSVSEM      # enable for semaphores
options SYSVMSG      # enable for messaging
```

Recompile and install.

Please refer to **FreeBSD WebSite** for detailed information about these subject.

Q6. The message “Cannot Initialize the SNMP Session!!” appears after running UPSilon for Unix

Answer:

- a. Check if the IP Address and Community Name is correct.
- b. Check if all the cables are properly connected

Q7. I can't use UPSilon for network monitoring on Xenix.

Answer:

Xenix does not provide the socket interface support which UPSilon needs for network monitoring.

For the latest Q&A, please visit our Web Site

(www.megatec.com.tw)

