UPSilon 2000

Uninterruptible Power Supply Software

User's Manual

For
MS-Windows 98
MS-Windows NT
MS-Windows 2000
MS-Windows Me
MS-Windows XP
MS-Windows 2003
MS-Windows Vista
Novell NetWare, Linux, FreeBSD

COPYRIGHT ANNOUNCEMENT

LIMITED WARRANTY

LIMITATION OF REMEDIES

TECHNICAL SUPPORT

UPSilon 2000 is developed by Mega System Technologies, Inc. If there is any question or comment about this product, please feel free to contact us.

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SIMPLE INSTALLATION   Windows 98,NT,2000,Me,XP,2003,Vista

♦   Hardware Installation (see p2)
   1. Connect UPSilon 2000 cable to UPS communication port.
   2. Connect UPSilon 2000 cable to RS-232 port of PC.
   3. USB solution is optional offer.   Whenever use USB interface, only MegaTec specific USB cable useable. Contact our service center for details.

♦   Software Installation (see p4)
   1. Insert UPSilon 2000 CD to the CD-ROM, UPSilon 2000 will display the installation menu, or your can select **'run'** from windows start menu and execute **'setup.exe'**. UPSilon 2000 files will be copied into the directory you appointed. When UPSilon been lunched, the operating system will select the local language in UPSilon for displaying. If there is no preferred language in UPSilon, it will use English interface instead.
   (Default:C:\Program Files\Megatec\UPSilon 2000\)
   2. After installation. For Windows 95/98, check if there is a '**Rupsmon Daemon'** icon in task bar. For Windows NT, go to 'control panel->service' and check if 'Rupsmon' service has started
   3. Click **'UPSilon 2000 for Windows'** for parameter settings.
   4. Click **'Select UPS'** to monitor local or remote UPS.
   5. Click '**Settings'** to set **'Communication Type'** and **'Select Comm Port'.** If **'Communication with UPS'** on the main screen, this means you have connected with UPS.

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

♦ Hardware Installation(see p2)

  1. Connect male connector of UPSilon 2000 cable to UPS communication port .
  2. Connect female connector of UPSilon 2000 cable to RS-232 communication port of system. If there is only a 25 pin RS-232 connector, you can use the 9 pin to 25-pin adapter to convert it

♦ Software Installation (see p27)

  1. Login the file server as a SUPERVISOR or a user with access rights in sub-directory SYS: SYSTEM.

     F:\>LOGIN SUPERVISOR
  2. Put the UPSilon CD in CD ROM.
  3. Execute INSTALL.EXE in CD ROM.

     A:\>INSTALL
  4. After installation, please shutdown NetWare operating system and restart again. The system will load the UPSilon.NLM and execute it.
  5. When UPSilon for NetWare has been loaded, server screen shows the successful loading message. You could switch to the UPSilon with key ALT+ESC.
  6. After installation, if **"Connect"** is showed at **"Comm. Status"**, it means you have connection with UPS.
  7. If you have more than one com port on your File Server, please insert two or more "LOAD AIOCOMX" command in the system AUTOEXEC.NCF file after UPSilon 2000 installation.

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

♦ **Hardware Installation** (see p2)

  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 p47)

  1. Log in as the super-user.
  2. Insert UPSilon CD in CD-ROM Driver.

    (1) Mount the UPSilon 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 (make sure no other process uses the same serial port), the installation program will launch the UPSilon daemon process automatically.

> Note: If the UPSilon has been installed in the FreeBSD v4.x by the 'UPSilon bsd-3.Z,' please install the "unix/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).

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

CONTENTS

1. Introduction

UPSilon 2000 is a smart UPS monitoring and controlling software. UPSilon displays the status of UPS (e.g. input & output voltage, line frequency, load, temperature and battery capacity) in digital and graphic, which can help the users monitor the quality of power supply. Simultaneously, the users can remotely monitor UPS via network and manage the power more effectively. On AC failure or UPS battery low, UPSilon 2000 will perform its monitoring function without people around. UPSilon 2000 has some new ways to send the warning messages, auto dialing and by E-mail. In addition, UPSilon 2000 has a new Windows NT service function, which allows the monitoring program to be executed automatically before log in. UPSilon is available in many languages, you can select the one that is most familiar for you to carry out the software configuration and operation. Today the Internet is widely used, not only for PC but also for Server, coming into the times of receiving and sending information 24 hours a day. The power management without people has been a necessary function of UPS. UPSilon 2000, with full functions will be the best partner of your smart UPS.

1.1. Packing including

♦ One UPSilon 2000 software CD

♦ One UPSilon 2000 cable,

♦ UPSilon 2000 user's manual (For standard version)

1.2. System requirements

UPSilon 2000 hardware and software requirements as follows:

♦ Computer system RS232 communication port: COM1 ～ COM4 or USB port.

♦ Match True RS-232 communication UPS.

♦ Microsoft Windows 98

♦ Microsoft Windows NT v4.0

♦ Microsoft Windows 2000

♦ Microsoft Windows Me

♦ Microsoft Windows XP

♦ Microsoft Windows Vista

♦ Novell NetWare v3.1x,v4.x,v5.x,v6.x

♦ Linux

♦ FreeBSD

2. Hardware Installation

Please go by the following steps:

1. Connect male connector of UPSilon 2000 cable to UPS communication port.

PC   UPSilon 2000 CABLE   UPS

2. Connect the female connector of UPSilon 2000 cable to RS-232 communication port of system. If there is only a 25 pin RS-232 connector, you can use the 9 pin to 25-pin adapter to convert it.

3. COM Port Definition in NetWare:

	I/O Address	IRQ
COM1	3F8	4
COM2	2F8	3
COM3	3E8	4
COM4	2E8	3

WARNING

- **In Novell NetWare printer setting (PSERVER.NLM), do not select the RS-232 port for UPS communication.**

- **UPSilon 2000 cable M2502 or M2505 is specially design, Do not use any other RS-232 CABLES to connect UPS.**

- **When select USB interface as communication port, only Windows 95/98/NT/2000/Me workable.**

3. UPSilon 2000 for Windows

3.1. Features

♦ Support Windows NT Service function.

♦ Support multiple shut down.

♦ Support multiple languages.

♦ Sending warning message by e-mail automatically.

♦ Calling pager for the warning message automatically.

♦ Remote monitoring UPS via TCP/IP or Internet.

♦ Detect AC fail and UPS battery low automatically.

♦ Scheduling turn on/off timing.

♦ Displaying the UPS status at graphic, such as the temperature, voltage, load, line frequency etc.

♦ Broadcasting warning message.

♦ Setting the countdown timing and the interval of each warning.

♦ Setting UPS diagnostic and self- test time.

♦ Before removing the system, automatically close and store the applicable programs.

♦ Recording and analyzing the UPS status.

3.2. Software Installation

The SETUP program is required for UPSilon installation. After installation, the files will be copied to the "MegaTec\UPSilon 2000" directory.

Following the steps below:

1. Turn on UPS and PC.

2. Place the UPSilon 2000 CD into CD ROM. UPSilon 2000 will display the installation menu, or you can select '**run**' from windows start menu and execute '**setup.exe**'.

3. After installation, UPSilon 2000 files will be copied into the directory you appointed. When UPSilon been lunched, the operating system will select the local language in UPSilon for displaying. If there is no preferred language in UPSilon, it will use English interface instead.

   (Default:C:\Program Files\Megatec\UPSilon 2000\ , When UPSilon executes, it will displays in the same language as the system. If cannot find the compatible language, English will be shown.)

3.3. Start-up and Uninstall UPSilon 2000

3.3.1. Start-up UPSilon 2000

After installation, please restart the computer. For Windows 95/98/Me, check if there is a '**Rupsmon Daemon'** icon in task bar. For Windows NT/2000/XP, go to 'control panel->service' and check if 'Rupsmon' service has started.

 UPSilon 2000 is operating normal

 UPSilon 2000 service is not operated or UPSilon 2000 cable is disconnected

If you want to change the function configuration, please run the UPSilon in the task bar directly or select "UPSilon for Windows" from "UPSilon" in program group of start menu in Windows.

3.3.2. Uninstall UPSilon 2000

After installation, there is 6 selection as below under "UPSilon" in Windows start menu. If you want to remove the UPSilon from the system, please select "UPSilon Uninstall".
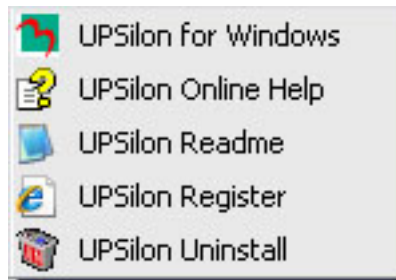
- ♦ UPSilon for Windows：Enter into UPSilon main function figure

- ♦ UPSilon OnLine Help：UPSilon introduction

- ♦ UPSilon Readme：UPSilon simple introduction

- ♦ UPSilon Uninstall：Remove UPSilon from Windows system

- ♦ UPSilon Register：UPSilon register form

3.4. Functions

After entering UPSilon, a functional chart displays as below.
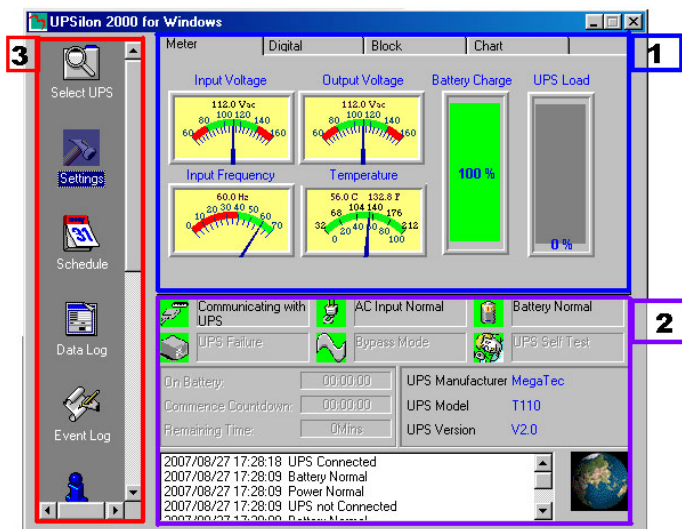
1. UPS dynamic display area (3.4.1)
2. UPS Status Area (3.4.2)
3. Function selection area (3.4.3)

3.4.1. UPS dynamic display area

This area displays some relevant information of the UPS. Users could select different display mode, such as meter, digital, block and chart. The information includes input voltage, output voltage, line frequency, battery capacity, load, temperature etc.

3.4.2. **UPS Status Area**

After the UPSilon software installed, check whether the UPS is connected to the computer, AC power is in normal, status of UPS power supply and some relevant information of the UPS.

3.4.3. **Function selection area**

After a successful installation, you can start to configure the parameter value. Each parameter value will affect the normal operation of the UPSilon program. Please configure the parameter value of the different function options, according to the following chapter.

3.4.3.1. **Select UPS**

Configure UPSilon: Monitor local UPS or Monitor remote UPS. The method: press "select UPS" for the selection. Shown as below.
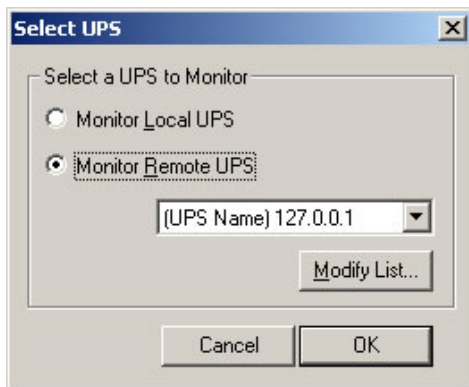
♦ **Monitor Local UPS**

Select monitor local UPS.

♦ **Monitor Remote UPS**

(1)Select monitor remote UPS.

(2)You can modify or insert the remote UPS data to the form and then exit.

(3)Select the UPS which you want to monitor and control in drop-down menu.

(4)Start to execute the function to monitor remote UPS.

3.4.3.2. Settings

After selecting a UPS, other parameters may be configured on the other Settings dialogue box tabs. If parameter values are incorrectly set UPSilon 2000 may have problems functioning properly.

Please click on icons listed below to get more information for its functions.

♦ General Settings **:** Defines location of UPS COM port ,communication protocol, and sets password for remote monitor enters.

♦ Computer Shutdown Sequence Settings : Set the functions you want to execute when UPSilon 2000 detects AC failure or UPS battery low.

♦ Broadcast Settings:Enable /disable braodcasting warning message when UPSilon 2000 detects AC failure or UPS battery low.

♦ Automatic Shutdown Time Parameters:Set the time for UPSilon 2000 to shutdown operating system and UPS when an AC failure or UPS battery low is detected.

UPSilon 2000 "Settings" windows :
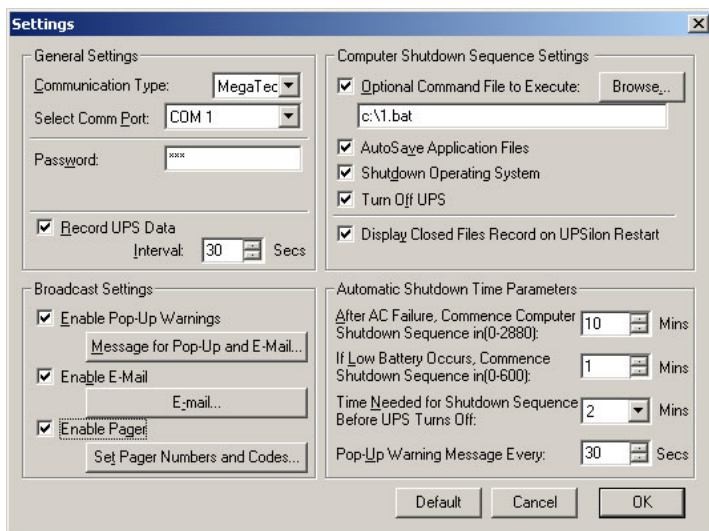
A. General Settings

♦ Communication Type : MegaTec/Demo/Mega(USB)
/SEC(2400bps) /SEC(9600bps)

♦ Select Comm Port: Configure communication port to connect
with the UPSilon 2000 cable. (COM1-COM4).

♦ Password: Set the password of the remote connection of the
UPSilon 2000. The connection would be successful only if
the right password is provided. The password prevents the
remote unconfirmed computer from connection.

♦ Record UPS Data : Set the record time interval about input &
output voltage, line frequency, load, battery capacity and
temperature.

B. Computer Shutdown Sequence Settings

In this section, you can set the functions you want to execute when the UPSilon 2000 detects the signal for closing the computer.

♦ Optional Command File to Execute: Set the file name to be executed before the system shutdown. (the full path and filename given.)

> **Attention:If the program which you execute can not quit automatically, you would not be able to shutdown Windows and turn off UPS.**

♦ Auto Save Application Files: Configure auto saving all the opened applications and files before the system shut down. If not given filename, UPSilon will auto save in TMP(e.g. ~Wnnnn.TMP). Check the closed filename in "Close Files Record" in function menu.

> **Attention: UPSilon will try to close general applications and store files by artificial intelligence mode, but UPSilon can not ensure that all the applicable software will be stored normally.**

♦ Shut Down Operating System: Set to shut down it's own operating system.

♦ Turn Off UPS: Set to turn off the UPS power supply.

> **Attention: After shutting down system and turning off UPS, please do not cut the power supply. Otherwise, UPS and computer would fail to start automatically when AC power restores.**

♦ Display Closed Files Record on UPSilon Restart: Display the closed record on UPSilon restart if the auto saving function was set before closing the computer. Shown as below.

C. Broadcast Settings

Enable /disable broadcasting warning message when UPSilon2000 detects AC failure or UPS battery low.

♦ Enable Pop-Up Warnings: The users can set whether or not appear the pop-up warning on the screen when the UPSilon 2000 detected AC power failure, UPS battery low or the signal of closing the computer. You can use the default message or you can set or modify the message on your own.
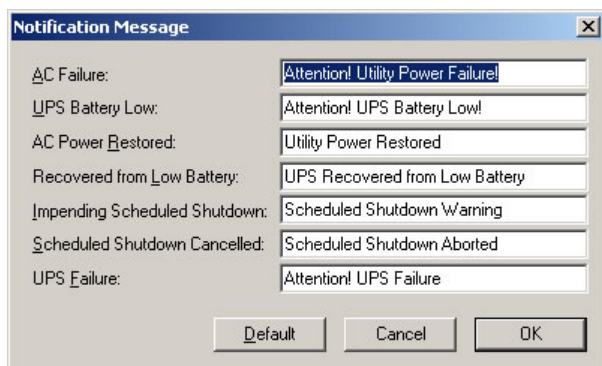
♦ Enable E-Mail: In this configuration, the messages could be sent to the administrator by e-mail. Shown as below.
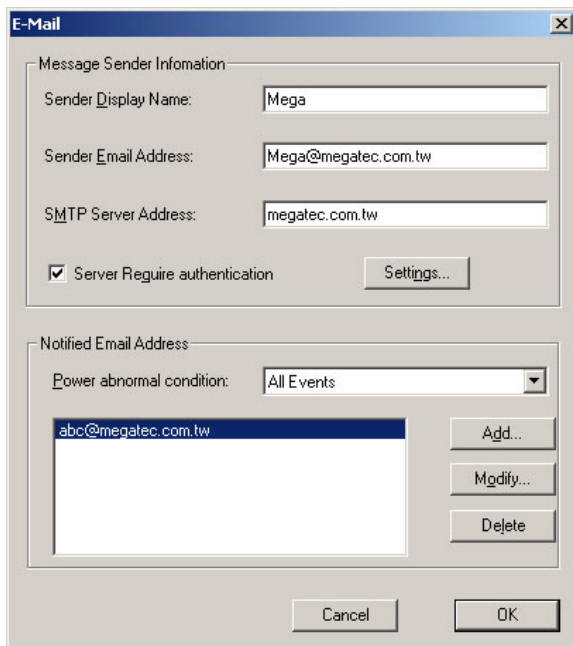
- Sender Display Name：Setting name for message "Sender".

- Sender Email Address：Setting the email address for sending message.

- SMTP Server Address：Set-up SMTP mail server address by IP or server-name.(e.g. 210.71.130.1 or megatec.com.tw)

- Server Require Authentication：Some Email Server required authentication by password, user can set the password here.

- Notified Email Address：Select the event item for sending first, and set the email address for receiving message. Press "OK" to save all the setting .E-mail may be sent in response to different events. More than one E-Mail address can be specified in the form of a list separated by commas. There is no limit on the number of mail recipients.

- Power abnormal condition : All Events/AC Failure/AC Power Restored/UPS Battery Low/Recovered from Low.

- Please Press "Add/Modify/Delete" button to edit email address.

- For sending all events to the same email account, select "All Events" and type the receiving email address.
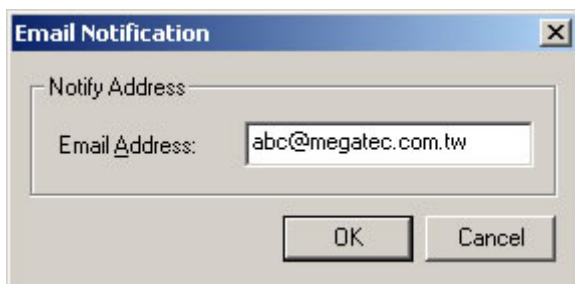
- Following picture is the email contents that sent automatically by "UPSilon 2000":
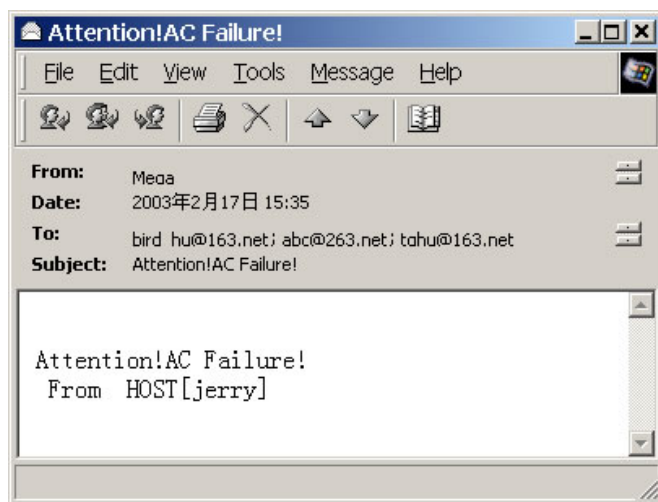
♦   Enable Pager:

   In this function, the users can set the messages to the system administrator by pager. The configuration's mode and screen is as below.

- Modem connected to: set the communication port, which connects with the Modem. The setting value is COM1-COM4.

- Event:As listed above.

- Pager number: Input the pager number . If necessary, please input the prefix code for outside line first , then add "," for 0.5 second delay time, the full pager numbers at last.

- Code to send: you can input the event code for sending.

- Send Notification to the same pager number：Select this check box to send all messages to the same pager and enter the relevant pager number in the AC Failure field.

For instance: Set the Modem connect to COM2 and dial "0" to access an outside line, and pager number is "0,947123456" and "#1234#"means AC power failed. **(Attention: The action should be done within 20 seconds from calling pager number to sending code transmission.)**

D. Automatic Shutdown Time Parameters

UPS allows the users some time to shut down system before the UPS battery is exhausted. The characteristic configuration of UPS makes it to be sure that system can be restarted and operated normally.

♦ After AC Failure, Commence Computer Shutdown Sequence in: Set the continuous time for system operation after AC power fails. Please refer to the UPS hardware manual or consult to the UPS supplier before your configuration.

.settings range:0~2880 mins

.default value:10 mins

♦ If Low Battery Occurs, Commence Shutdown Sequence in: Set some time for system's continuous operation when battery low. For the setting value, the smaller is the better.

.settings range:0 ~600 mins

.default value:1 mins

♦ Time Needed for Shutdown Sequence Before UPS Turn Off: Set time interval from Windows shutdown to UPS power supply turn-off. It should be considered whether the time is enough for archiving before the system shutdown. The time

for archiving would be different for the amount and the size
of the opened files .

 .settings range：0.2 ～99 mins

 .default value:2 mins

♦ Pop-Up Warning Message Every: Set the time interval of
displaying the warning messages.

 .settings range:10~600 secs

 .default value:30 secs

3.4.3.3. Schedule

UPSilon can set the scheduled time for UPS turn on /off and
self-test. Therefore, the system could be operated without the
management from system supervisor. You can set what and how
often the schedule execution is. The setting category and
operating frequency are as below.
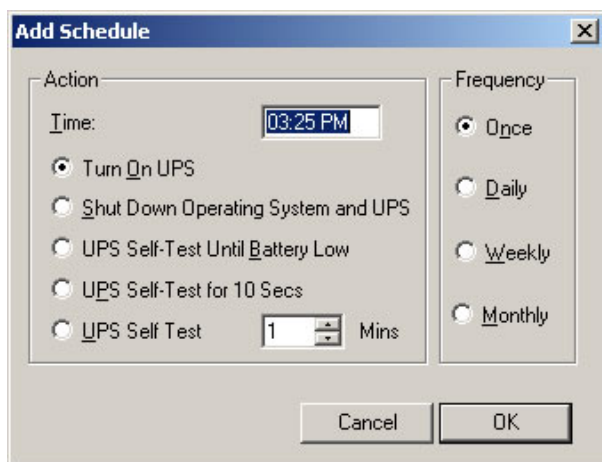
♦ Actions

.Turn on UPS

.Shutdown Operating System and UPS

.UPS Self-Test Until Battery Low

.UPS Self-Test for 10 Secs

.UPS Self-Test n mins

♦ Frequency

.Once

.Daily

.Weekly

.Monthly

Setting method: press "Schedule" in function menu. Select the date in the upper of left corner, then press the key "Add" for the "schedule Configuration". After the action and frequency's selection, press "OK" and back to the "Schedule" screen, then the new schedule could be seen in the record. If you want to set more records, repeat the above. After configuration, press "save" for archiving or select the item then press "remove" for taking out the record. Shown as below.
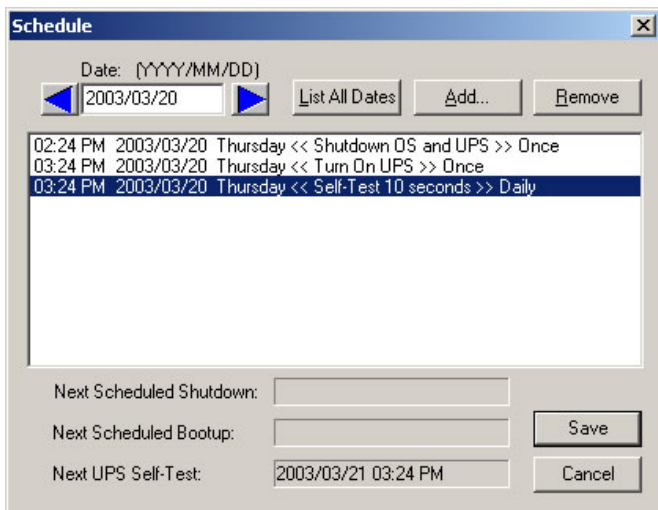
3.4.3.4. Data Log

The UPS data could be recorded in this section, such as the input and output voltage, line frequency, load, battery capacity and temperature etc. The record interval could be altered in the area of " Automatic Shutdown Time Parameters" in "settings" of the function menu. In the section of "Data Log", press "Update" for data refreshing and press "Clear" for data deletion. The maximum number of data could be recorded in this file is 2000. Shown as below.

3.4.3.5. Event Log

You can check the date, time, and description of events in Event Log. The maximum number of data could be recorded in this file is 2000. Shown as below.

3.4.3.6. History Calendar

In this section, you can check the monthly event, including AC fail, battery low, OS and UPS shutdown, UPS self-test etc. Different color stands by different category. press the block, the specific date will be displayed in the bottom of your right hand side. Press "PREV" for last month event record. Press "NEXT" for event record of the next month. Press the button "Exit" for quitting.
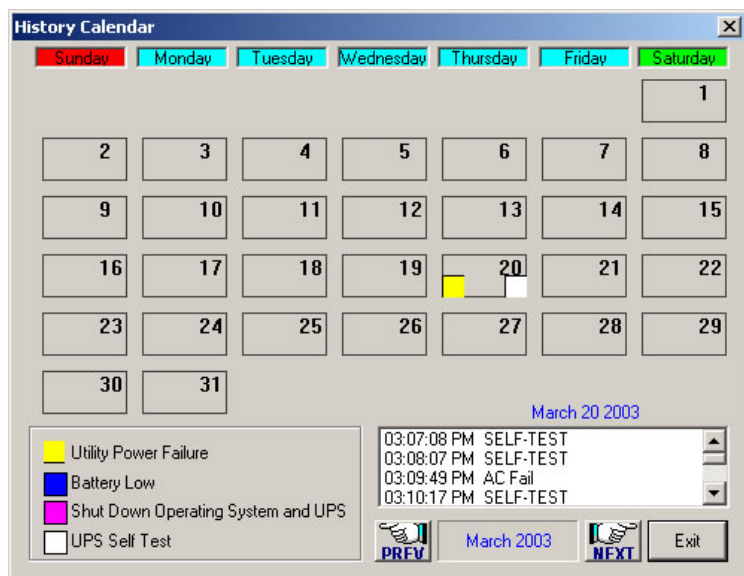
3.4.3.7. Control

Command UPS directly for the following test.

♦ UPS Self-Test for 10 Secs

♦ UPS Self-Test n Mins

♦ UPS Self-Test Until Battery Low

♦ Cancel UPS Self-Test

♦ UPS Beep On/Off (the UPS supports command "Q")

♦ Shut Down Operating System

3.4.3.8. Closed Files Record

In this section, you can check the closed applications and saved files. Method: select "Closed Files Record" in the function menu. It only records the latest saved information. Shown as below.

3.4.3.9. About UPSilon 2000

Clicking on "About" in the UPSilon 2000 main screen displays copyright and version information on UPSilon 2000.

3.4.3.10. Exit UPSilon 2000

Select "Exit UPSilon" in function menu to close the UPSilon. (UPSilon2000 will still execute the monitoring function in the background.)

4. UPSilon 2000 for NetWare

4.1. Features

♦ Auto sending warning messages by e-mail.

♦ Auto sending warning messages by pager.

♦ Auto detecting AC power failure and UPS battery low.

♦ Providing the UPS expected time setting of power supply.

♦ History data recording.

♦ Auto shutting down the system and turning off the UPS when AC power failed.

♦ Broadcasting the warning messages to all the workstations.

♦ Display the system shutdown countdown.

♦ Able to operate on server and workstation.

♦ Schedule on/off in a week

♦ Programmable UPS auto-testing period.

♦ UPS status reporting on server screen, including the input/output voltage, load, line frequency, temperature and so on.

♦ Local Network UPS monitoring through an Net Agent or SNMP Agent.

4.2. Software Installation

UPSilon for NetWare is a NetWare Loadable Module (NLM). The installation will copy files into: SYS: SYSTEM and modify the file AUTOEXEC.NCF. All these software installation procedures require the user is able to read and write files in sub-directory SYS: SYSTEM.

4.2.1. Software Installation Procedure

1. Login the file server as a SUPERVISOR or a user with access rights in sub-directory SYS: SYSTEM.

    F:\>LOGIN SUPERVISOR

2. Put the UPSilon CD in CD ROM.

3. Execute INSTALL.EXE in CD ROM.

    A:\>INSTALL

4. After installation, please shutdown NetWare operating system and restart again. The system will load the UPSilon.NLM and execute it.

5. When UPSilon for NetWare has been loaded, server screen shows the successful loading message. You could switch to the UPSilon with key ALT+ESC.

6. If you have more than one com port on your File Server, please insert two or more "LOAD AIOCOMX" command in the system AUTOEXEC.NCF file after UPSilon 2000 installation

After installation, the main screen of UPSilon for NetWare is as below.

4.3.1 Schedule Display Area

4.3.2 UPS Status Display Area

4.3.3 Bar Chart Display Area
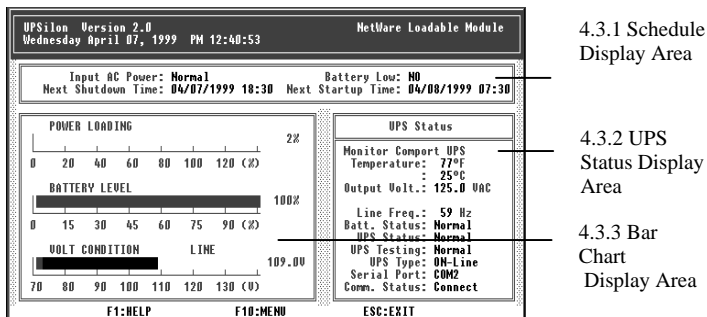
4.2.2. File Descriptions

File Descriptions of UPSilon for NetWare

UPSilon.NLM	UPSilon for NetWare execution program
UPSilon.LOG	UPS status history file
UPSilon.SCH	Schedule ON/OFF time configuration file
UPSilon.PRN	UPS data analysis file, this file could be operated with LOTUS or EXCEL for UPS status analysis.
UPSilon.CFG	UPSilon for NetWare configuration file

Installation program will copy these files into the sub-directory of SYS: SYSTEM.

4.3. Main Screen Description

4.3.1. Schedule Display Area

```
     Input AC Power: Normal                    Battery Low: NO
 Next Shutdown Time: 04/07/1999 18:30  Next Startup Time: 04/08/1999 07:30
```

♦ Input AC Power

Status of AC power: when AC power failed, UPS will start to supply the power to system. UPSilon will broadcast the warning message of AC power failure to all the workstations. This will also show the system shutdown countdown. UPSilon will make all the workstations off-line if AC power has not restored in the setting time. After operating system has been shut down, the UPSilon will turn-off UPS and the system will be restarted when AC power restored.

♦ The meanings of input AC Power are :

.Normal : AC Power Normal
.Failed : AC Power Failed

♦ Battery Low

This shows whether the UPS battery is getting exhausted. When UPS battery power low, the UPS could supply system with power. The UPSilon will broadcast the battery low situation to all the workstations, and the system would be shut down in a minute.

♦ The meanings of Battery Low are:

.NO: UPS Battery Normal

.YES: UPS Battery Low

♦ Next Shutdown Time

Next system shutdown time in the schedule setting.

♦ Next Startup Time

Next start time of system in the schedule setting.

4.3.2. Bar chart display area
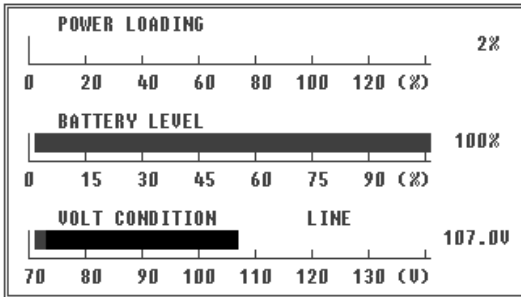
♦ POWER LOADING

Percentage of power loading. When loading is more than 90 percent, the bar will turn red to show the warning signal.

♦ BATTERY LEVEL

Percentage of UPS Battery power. When the battery power level drops below 20 percent. The bar will turn red to show the warning.

♦ VOLT CONDITION

Input voltage of AC Power

4.3.3. UPS Status Display Area

```
┌─────────────────────────────────────┐
│            UPS Status               │
├─────────────────────────────────────┤
│  Monitor Comport UPS                │
│    Temperature:   80°F              │
│                :  27°C              │
│  Output Volt.: 125.0 VAC            │
│                                     │
│    Line Freq.:   60 Hz              │
│  Batt. Status: Normal               │
│    UPS Status: Normal               │
│   UPS Testing: Normal               │
│      UPS Type: ON-Line              │
│   Serial Port: COM2                 │
│  Comm. Status: Connect              │
└─────────────────────────────────────┘
```

♦ Temperature   the interior temperature of UPS

♦ Output Volt.   The output voltage of UPS

♦ Line Freq.   The line frequency of input voltage

♦ Batt. Status   UPS battery status

   .Normal : UPS Battery Normal

   **.Failed : The UPS Battery Failed, Please Examine and
               Repair.**

♦ UPS Status

   .Normal: Online UPS In a Normal Condition

   .Batt. Mode: UPS supply the system with power.

   .Bypass: AC power bypasses the system power directly.

.Boost: system power voltage is too low, UPS boosts the system power.

♦ UPS Testing

This shows whether the UPS is doing the self-testing

.Normal: UPS had done or did not do self-testing

.Testing: UPS self-testing

♦ UPS Type

.On-line: On-line Type UPS

.Off-line: Off-line Type UPS

♦ Serial Port

Shows which communication port is used for UPS communication.

♦ Comm. Status

Show the status of UPS communication

.Connect: System connects to UPS

.Disconnect: System did not connect to UPS

4.4. Main Menu Functions

Press F10 in the main menu of UPSilon for NetWare and this will be shown on the screen as follows.

```
      Main Menu

   Configuration
   Configure E-mail
   Configure Pager
   Schedule ShutDown
   Setup SNMP
   ShutDown UPS
   Test Until Batt_Low
   UPS 10Sec Test
   UPS Auto Test
   View History File
   View Log File
```
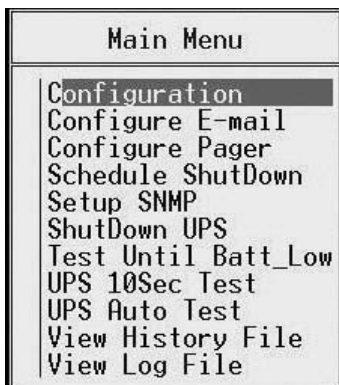
4.4.1. Configuration

```
                 Configuration

   Time Between AC Power Fail and
              initial warning message : 5    Sec
      Delay of Shutdown Server
              when AC Power Failed : 2    Min
         Delay Between Warning Message : 10   Sec
Delay of Shutdown Server when Battery Low : 1    Min
       Duration of UPS Auto Testing : 10   Min
       Communication Serial Port    : 0
       Time of History Recording    : 1    Min
       Period of UPS Auto Testing   : 2    Week
       Battery Voltage Rating       : 24   Volt
          Enable Pager(y/n)         : n
          Enable E-mail(y/n)        : n
```

♦ Time Between AC Power Fail and initial warning message

This option sets the delay time between AC power failure and initial warning message to all the workstations.

Sometimes, the AC line power has a surge or temporary unstable voltage input, and this setting will prevent this situation. Therefore, we set this delay time to make sure there is actually an AC power fail happened before we send out the warning message.

.settings range:5~32

.deafult value:10 seconds

♦ Delay of Shutdown Server when AC Power Failed

This option sets the delay time between AC power fail and server shutdown. When line power failed, the UPS will supply the system with power. The setting value should be smaller than the length of the time, which the UPS supply.

.setting range:2~999 minutes

.default value:10 minutes

Attention: Please refer to the UPS power capacity in UPS user's manual for proper delay time setting for your system.

♦ Delay Between Warning Message

When AC power failed, the file server will send warning messages to all the workstations. This option sets the duration between every warning message.

.setting range:5~30 seconds

.default value:20 seconds

♦ Delay of Shutdown Server when Battery Low

This option sets the delay time between UPS battery low and file server shutdown.

When AC power failed, the UPS will supply the power to your system from the UPS battery. But, if the UPS battery is in low capacity, discard what is the setting delay time between AC fail and file server shutdown, the system will shut down the file server in the delay time of this option. This will protect the file server from instant turn-off due to insufficient battery power.

,setting range:0~2 minutes

.default value:1 minute

♦ Duration of UPS Auto Testing

This option is for setting both functions below:

1.The battery discharge time of the UPS when doing the self-testing.

2.This is to set a period of time for executing "RUPSDOWN.NCF" before system shutdown. (See section P40/4.6 for details of these settings.)

.setting range:1~99 minutes

.default value:10 minutes

♦ Communication Serial Port

This option sets the communication port between UPS and file server (RS232 port).

This RS232 port could only be used by UPS, do not shared with other equipment.

.setting range:COM1~COM4

.default value:COM1

♦ Time of History Recording

This option sets the delay time between every system status record in the history file.

.setting range:0~120 minutes

.efault value:1 minute

Attention: System status recording will be turn-off when this option set as 0.

♦ Period of UPS Auto Testing

The battery of UPS would not be last long if it is always in the ample state. Therefore, you should make the UPS testing itself and using the power of battery once in a while. That is exactly what the function of UPS auto testing is doing. This option sets the period of UPS auto testing.

.setting range:1~4 weeks

.default value:1 week

♦ Battery Voltage Rating

This option sets the reference voltage of the UPS battery. The UPSilon could calculate the battery capacity only if the accurate input of the battery voltage. This voltage setting is also the reference for showing UPS capacity. Most of the on-line UPS could provide this information for UPSilon and the users do not have to give the battery voltage setting here. If the status of battery capacity shows incorrect value or you are using off-line UPS, you have to give the voltage rating of

the UPS battery. Please refer to the manual of UPS for battery voltage rating.

♦ Enable Pager(y/n)

This option sets whether to send the warning messages to inform the administrator by pager.

♦ Enable E-mail(y/n)

This option sets whether to e-mail the warning messages to inform the administrator.

4.4.2. Configure E-mail

You can configure to send the messages (i.e. AC power fail, UPS battery low or system shutdown signal) detected by UPSilon to inform the system administrator by e-mail. The setting mode and figure is as below.

1. Postoffice (server IP address): input the server IP address in digital (e.g. 210.71.130.1) and press <Enter> to save.

2. E-MAIL ADDRESS: input the e-mail address for receiving the event messages and you can send the messages to different stuff respectively. You should compart the addresses with comma and press <Enter> to save.

```
                    Email Configuration
Postoffice (xxx.xxx.xxx.xxx): 127.0.0.1

   POWER EVENT                    E-MAIL ADDRESS

AC FAIL                 ¦ maintenance@megatec.com.tw
Battery Low             ¦ maintenance@megatec.com.tw
AC Power Recovered      ¦ maintenance@megatec.com.tw
Battery Low Recovered   ¦ maintenance@megatec.com.tw
Schedule Down           ¦ maintenance@megatec.com.tw
Schedule Down Cancelled ¦ maintenance@megatec.com.tw
```

4.4.3. Configure Pager

You can configure to send the messages (i.e. AC power fail, UPS battery low or system shutdown signal) detected by UPSilon to the system administrator by pager. The setting mode and figure is as below.

1. Modem Connects to Communication Serial Port: configure which communication port connects to Modem. The setting value: 1 ~ 4

2. PAGER NUMBER: input the calling pager number. If necessary, please input the code for outside line first, then add "," for 0.5 second delay time, the full pager numbers at last.

3. Code to send: you can input the sending code that stands for some event.

For instance: Set the Modem to connect to COM1 and dial "0" to access an outside line, and the pager number is "0,,0947123456" and "#1234#"means AC power failed.

```
                        Pager Configuration
Communication Serial Port (0..4) :  1

POWER EVENT                  PAGER NUMBER          MESSAGE

AC FAIL                 | 0,,0947123456      | #1234#
Battery Low             | 0,,0947234567      | #112233#
AC Power Recovered      | 0,,0943456789      | #33221#
Battery Low Recovered   | 0,,0943987654      | #959595#
Schedule Down           | 0,,0959654321      | #19959#
Schedule Down Cancelled | 0,,0959223344      | #43213#
```

4.4.4. Schedule Shutdown

In this function, you can set the ON/OFF time of the file server every week. Before the scheduled shutdown, system will send

out the warning messages to inform users on the network and it would permit users to finish the process on the network. This warning message starts 5 minutes before scheduled shutdown and will be sent out every 1 minute.

The system will shut down file server and UPS at the scheduled shutdown time. The UPS will be in sleeping state and wake up according to the next scheduled turn-on time. The setting figure is as below.

```
┌─────────────────────────────────────────────────────────┐
│              Schedule ShutDown                          │
├─────────────────────────────────────────────────────────┤
│                                                         │
│      Sun    Mon    Tue    Wed    Thu    Fri    Sat      │
│   S  ████  09:00  08:30  09:00  07:30  08:00  08:30     │
│   D        18:00  17:30  18:30  17:30  17:00  12:30     │
│                                                         │
│   S: Start-Up Time        Format:    HH:MM              │
│   D: Shut-Down Time                  24-hour clock      │
└─────────────────────────────────────────────────────────┘
```

♦ S: Start-Up Time：system start-up time

♦ D: Shut-Down Time：system shut-down time

♦ Format：these inputs are in 24 hours format with HH: MM, **be ignored with a blank input**.

For instance: in the scheduled shutdown table shown in the above, the system will be turn-on 9:00 next Monday morning and be turn-off 6:00 at night. The system will be turn-on 8:30 Tuesday morning and be turn-off 5:30 in the afternoon (the rest may be deduced by analogy). The system will not be turn-on or turn-off on Sunday.

Attention: Do not turn off the UPS power switch. That will make the UPS unable to wake up.

4.4.5. Setup SNMP

Choose this function to monitor UPS via Net Agent or SNMP Agent in Lan. The meaning of each field is as detailed below:

```
          SNMP Configuration

Use SNMP to Monitor the UPS?(y/n): y

          IP Address : 192.168.0.1
          Community Name : public
Allow UPS Shutdown?(y/n): y
```

♦ Use SNMP to Monitor the UPS：Set this value to Monitor UPS via Net Agent or SNMP Agent.

♦ IP Address：Set Net Agent or SNMP Agent's IP

♦ Community Name：Set "public" or "private"

♦ Allow UPS Shutdown：Shutdown UPS when power event occurs.

```
UPSilon  Version 2.1                        NetWare Loadable Module
Wednesday January 31, 2001  PM 01:50:36

      Input AC Power: Normal              Battery Low: NO
      Next Shutdown Time: N/A        Next Startup Time: N/A

     POWER LOADING                          UPS Status

                                 3%    Monitor UPS on the Network
  0   20  40  60  80  100  120 (%)      Temperature:   77°F
                                                    :  25°C
     BATTERY LEVEL                       Output Volt.: 110.0 VAC
                                 90%
  0   15  30  45  60  75  90 (%)        Line Freq.:  59 Hz
                                        Batt. Status: Normal
     VOLT CONDITION      LINE            UPS Status: Normal
                                         UPS Testing: Normal
                                 101.0V  Comm. Name:public
  70  80  90  100  110  120  130 (V)    IP Address:192.168.0.155
                                        Comm. Status: Connect

       F1:HELP            F10:MENU          ESC:EXIT
```

4.4.6. Shutdown UPS

Shut down the file server and turn off UPS immediately.

If there is any users on the network with opening files, the system will show a warning message and ask for confirmation to shut down file server. If manager select "YES", the system will enforce the user to disconnect from network, then shut down file server and UPS. The UPS will be in sleeping state and wake up according to the system configuration.

Attention: Do not use the DOMN command in the ":" prompt. In that case, UPS will not be able to enter sleeping state and wake up automatically.

4.4.7. Test Until Batt_Low

This function makes the UPS to do a self-testing of all functions. The testing will last until UPS battery exhausted.

Execution mode: press<Enter> in Main Menu for selecting " Test until Batt_Low" and press "Esc" back to the main screen. This "Testing" will be shown in bar of "UPS Status". In order to stop the test, please go back to "Main Menu"and select "Test until Batt_Low" once again.

4.4.8. UPS 10Sec Test

This function would make the UPS to do a short testing. This testing will last for 10 seconds.

Execution mode: press<Enter> in Main Menu for selecting "UPS 10Sec Test" and press"Esc" back to the main screen. This "Testing" will be shown in bar of "UPS Status". In order to stop

the test, please go back to "Main Menu" and select "UPS 10Sec Test" once again.

4.4.9. UPS Auto Test

This function will make the UPS to discharge the battery and to do the self-testing. The period of battery discharge is according to the setting in configuration menu.

4.4.10. View History File

This function could review the records of system history files. It includes date, time, input/output voltage, line frequency, load, UPS battery capacity, temperature and so on.

DATE	TIME	AC_in	Out	Hz	Load	Batt	°F
"04/06/1999",	"15:01",	107.0,	125.0,	60,	2,	100,	75
"04/06/1999",	"15:02",	107.0,	123.0,	60,	2,	100,	75
"04/06/1999",	"15:03",	107.0,	125.0,	59,	2,	100,	75
"04/06/1999",	"15:04",	107.0,	125.0,	60,	2,	100,	75
"04/06/1999",	"15:05",	107.0,	125.0,	60,	2,	100,	75
"04/06/1999",	"15:06",	107.0,	123.0,	59,	2,	100,	77
"04/06/1999",	"15:07",	107.0,	125.0,	60,	2,	100,	75
"04/06/1999",	"15:08",	107.0,	125.0,	60,	2,	100,	75
"04/06/1999",	"15:09",	107.0,	123.0,	60,	2,	100,	77
"04/06/1999",	"15:10",	107.0,	125.0,	60,	2,	100,	77
"04/06/1999",	"15:11",	107.0,	123.0,	60,	2,	100,	77
"04/06/1999",	"15:12",	107.0,	123.0,	60,	2,	100,	77
"04/06/1999",	"15:13",	107.0,	125.0,	60,	2,	100,	77

4.4.11. View Log File

This function could review the records of system log files. It includes abnormal AC power, status of UPS and so on.

```
                        UPSilon LOG

03/25/1999 22:16:49   *** UPSilon V2.0 ***      STARTED
03/26/1999 21:30:00   *** Shutdown File Server (Schedule) ***
03/27/1999 00:42:34   *** UPSilon V2.0 ***      STARTED
03/27/1999 00:42:53   *** EXIT UPSilon ***
03/27/1999 00:42:58   *** UPSilon V2.0 ***      STARTED
03/27/1999 00:46:16   *** EXIT UPSilon ***
03/27/1999 01:00:47   *** UPSilon V2.0 ***      STARTED
03/27/1999 01:01:15   *** EXIT UPSilon ***
03/29/1999 10:57:17   *** UPSilon V2.0 ***      STARTED
03/29/1999 10:57:26   *** EXIT UPSilon ***
03/29/1999 11:51:33   *** UPSilon V2.0 ***      STARTED
03/29/1999 11:51:41   *** EXIT UPSilon ***
03/29/1999 16:56:31   *** UPSilon V2.0 ***      STARTED
```

4.5. Broadcast Messages

When any power condition is detected, file server will broadcast messages to workstations. Here are the messages below:

<WARNING> AC POWER FAIL, FS1 Shutdown in 10 min.

UPSilon detects AC fail, start shutdown countdown.

<Attention> FS1 will Shutdown in 1 minutes.

Shut down warning of the last one minute.

FS1 AC Power restored, Server won't be Shutdown.

UPSilon detects AC power restored and the server won't be shut down.

<Attention> UPS BATTERY LOW, FS1 Shut down in 1 min.

UPSilon detects UPS battery low and the server will be shut down in one minute.

Battery Low Recovered, Server won't be Shutdown.

UPSilon detects UPS battery power low restored and the server won't be shut down.

Battery Low Recovered, Server Shutdown in 2 min.

UPS battery power low restored, but AC power still failed.

4.6.   Shutdown Procedure

When an AC Failure or Battery Low occurs, or execute the "Scheduled ShutDown" or "Shutdown UPS" function in "Main Menu", UPSilon will execute shutdown procedures.

If you want to execute a command file before system shutdown, please create the file and save it as "RUPSDOWN.NCF" in SYS:SYSTEM. When execute shutdown procedures, UPSilon will execute "RUPSDOWN.NCF" first (if this file has been created). The time needed for executing "RUPSDOWN.NCF" can be set in "Duration of UPS Auto Testing" in " Configuration". (See P30 for details of these settings)

5. UPSilon 2000 for Linux, FreeBSD

5.1. 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)})

5.2. Software Installation

1. Log in as the super-user.

2. Insert UPSilon CD in CD-ROM Driver.

   (1) Mount the UPSilon 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 5.9 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 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 daemon process automatically.

```
Installation completed!
 Start UPSilon background process...
<UPSilon>
Copyright(C) 1998 Hega 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 "unix/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).

5.3. Configuration

5.3.1. Configure UPSilon for Linux, FreeBSD

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

1. Communication port name (chapter 5.3.2) *or*

2. IP Address and Community Name (chapter5. 3.3)

3. Shutdown delay time (chapter 5.3.3)

4. Event notice by Email (chapter 5.3.4)

5. Event notice by Pager (chapter 5.3.5)

6. System shutdown command (chapter 5.3.6)

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.

```
(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.   |
|       [b] 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/tty1a                              |
|                                                                      |
|       [n] Shutdown Count Down Display: ON                            |
|       [l] 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:  --:--  --:--  --:--  --:--  --:--  --:--  --:--     |
|       [k] <<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], [m] 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

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

users to save files and logout before the system shutdown when utility failure occurs. UPSilon 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.

```
[d] System Shutdown Delay Time When AC Power Failed:  9.0 Min.
[b] 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
```

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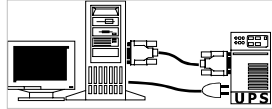
```
Shutdown.    --.-- --.-- --.-- --.-- --.-- --.-- --.--
[k] <<Change UPS Monitoring>> Monitor UPS from local serial port
[s] Save Configuration
```

See chapter 5.3.2 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.
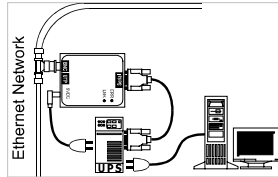
```
Shutdown.    --.-- --.-- --.-- --.-- --.-- --.-- --.--
[k] <<Change UPS Monitoring>> Monitor local UPS SNMP agent
[s] Save Configuration
```

See Chapter 5.3.3 for more information

[n] Shutdown Count Down Display:

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

```
[p] IP Address       : 203.70.07.244
[n] Shutdown Count Down Display: ON
[l] Scheduling Function      : OFF
[a] Turn off UPS after System Shutdown: YES
[t] Time Scheduling(hh:mm)
```

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

[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 it's 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 powers down and reboots the system based on this preset weekly schedule. When the scheduled time to shutdown approaches, UPSilon 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  --:--  --:--
[k] <<Change UPS Monitoring>> Monitor local UPS SNMP agent
```

[s] Save Configuration.

   Saves all modified parameters.

[q] Quit.

Quit configuration without saving changes.

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

5.3.2. Communication Port

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
[s] 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                 : 0.0 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. (Linux 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.

1. Make sure no other process uses the same serial port.

2. Turn off function 'getty' of the serial port.

   For Linux OS, check the file '/etc/ttytab' for the line below, and change "**respawn**" to "**off**":

   ttya:2345:respawn:/sbin/getty 9600 ttys0

   ↗ ↗

   Change this value to "**off**"   Com1

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

   kill -1 1

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

   chmod 666 /dev/ttya

5.3.3. 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
[c] Save Configuration
```

[o] Community Name

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

[p] Ip Address

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

The target SNMP Agent IP address.

5.3.4. Event Notice by Email

UPSilon provides event notice functions. These functions enable you to know the newest power events by email or pager(chapter 5.3.5).

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 .

5.3.5. 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

/dev/ttyS0

~AC FAIL

0957608176,,,,,#1331111#

~AC RECOVER

0957608176,,,,,#1332222#

0931726768,,,,,#1332222#

~BATTERY LOW

0957608176,,,,,#1333333#

~BATTERY LOW RECOVER

0957608176,,,,,#1334444#

5.3.6. Shutdown Batch Job

UPSilon 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.

5.3.7. 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**.

5.4. Using UPSilon for Linux, FreeBSD

5.4.1. Using the "upsilon" program

After a successful installation, UPSilon will become a background process at system startup. It is not necessary to start the background process manually. UPSilon 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 daemon process:

  "/etc/upsilon/upsilon start"

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

- Stop the UPSilon daemon process:

  /etc/upsilon/upsilon stop

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

#
```

- Configure the parameters:

  /etc/upsilon/upsilon config

  (see 5.5.3)

- Monitor the UPS status:

  /etc/upsilon/upsilon status

  (see 5.5.5)

- Send Commands Directly to the UPS

  /etc/upsilon/upsilon issuer

  (see 5.5.6)

- 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
#
```

5.4.2. Uninstall UPSilon for Linux, FreeBSD

Follow these steps to uninstall UPSilon.

1. Stop the UPSilon daemon process.

    (type "/etc/upsilon/upsilon stop").

2. Remove the directory '/etc/upsilon'.

3. Remove the UPSilon startup process from the system.

    If your Operating System is:

    ### A. Linux

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

    /etc/upsilon/upsilon start

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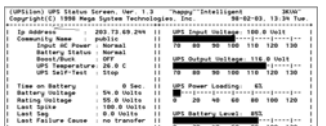
    Remove or mark the whole line containing this string in the file '/etc/rc':

    /etc/upsilon/upsilon start

5.5. 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 status" 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.

☞ **To monitor a remote UPS**

1. Type "/etc/upsilon/upsilon status" to bring up the initial select screen.

2. Press [r]. Fields where you could input the IP Address and Community Name appears.

3. Press [I]. Key in the IP Address of the remote SNMP Adapter. Press [enter] when through.

4. Press [c]. Key in an appropriate Community Name for the remote SNMP Adapter. Press [enter] when through.

5. Press [enter]. A screen displaying the UPS status appears.

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

Press [b] to continue viewing the UPS status.

5.6. Control your UPS

UPSilon 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**

Short Description of Each Option

```
(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                                              |
|    [m]  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,                                  |
|                     [-] to decrease Sleep Time                        |
|                                                                       |
|  UPS Status ( With Utility power.With output power.)                  |
|            Press [p] to proceed, [Esc] to cancel                      |
+-----------------------------------------------------------------------+
```

▪ **[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.

▪ **[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.

5.7. History Information

UPSilon 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
```

5.8. Files List and CD Contents

Operating System	File Name
Linux	linux.Z
FreeBSD 2.X	bsd-2.Z
FreeBSD 3.X	bsd-3.Z

5.9. Instruction to mount CD-ROM

Operating System	command	Parameters	device name	directory
Linux	mount	-t iso9660	/dev/hdd	/mnt/cdrom
FreeBSD	mount	-t cd9660	/dev/acd0c	/mnt/cdrom

5.10. System Parameters

Operating System	COM Port	Shutdown Command	Start up file
Linux	/dev/ttyS1	/sbin/halt	/etc/rc.d/rc.local
FreeBSD	/dev/ttyd1	Shutdown -h now	/etc/rc

5.11. UPSilon FAQ

Q1 UPSilon 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 daemon.

Q2. I tried running the UPSilon on FreeBSD Unix system, but it doesn't work, why?

Answer:

UPSilon 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.