500VA Power Protection Unit
IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

WARNING (SAVE THESE INSTRUCTIONS): This manual contains important instructions that should be followed during installation and maintenance of the UPS and battery.

WARNING (Controlled Environment): These units are intended for installation in a temperature controlled, indoors area, free of a conductive environment.

CAUTION: Risk of electric shock. Do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

CAUTION: Do not dispose of battery in a fire. The battery may explode.

CAUTION: Do not open or mutilate the battery. Released electrolyte is harmful to the skin and eyes. It may be toxic.

CAUTION: A battery can present a risk of electric shock and high short circuit current. The following precaution should be observed when working on batteries:

- Remove watches, rings or other metal objects from your person.
- Use tools with insulated handles.
- Wear rubber gloves and boots.
- Do not lay tools or metal parts on top of batteries.
- Disconnect charging source prior to connecting or disconnecting battery terminals.
- Servicing of batteries should be performed or supervised by personnel knowledgeable of batteries and the required precautions. Keep unauthorized personnel away from batteries.
- When replacing battery, replace with same type.
- Do not connect any additional batteries by yourself.

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Thank you for selecting this uninterruptible power system (UPS). It provides you with perfect protection for connected equipment. The manual is a guide to install and use the UPS. It includes important safety instructions for operation and correct installation of the UPS. If you should have any problems with the UPS, please refer to this manual before calling customer service.

Inspect the UPS upon receipt. The packaging is recyclable; keep it for reuse or disposed of properly. Also, please keep this manual for future reference.

1. PRESENTATION

ULT33062

Top View                          Rear View

1.1 LED Indicator Status
Green LED indicator illuminates when power utility is normal. Yellow LED indicator illuminates every 4 seconds in Backup mode. Red LED rapidly flashes (1 sec) when the inner battery needs to be replaced. If Red LED illuminates, the UPS is in overloaded status.

Attention: The internal battery has to be replaced when rapid flash occurs while in AC mode.

AC MODE (Green LED)
BACKUP MODE (Yellow LED)
BATTERY FAULT (Flashing Red LED)
OVERLOAD (Solid Red LED)
1.2 Outlets Design for AC Adapters
Allows 6 AC power adapter blocks to be plugged into the UPS, respectively, without blocking adjacent outlets.

1.3 Battery Power-Supplied Outlets
Provides instantaneous back-up power and full-time bypass protection to your equipment. Ensure temporary uninterrupted operation of your equipment during power failure.

1.4 Full-time Bypass Protection Outlets
Provides full-time Bypass protection to your equipment. Prevents surges from traveling through your system through unprotected peripherals.

1.5 Power button (ON/OFF/TEST/SILENCE)
The UPS can be automatically turned on while connected to the utility power. After the UPS is turned on, it conducts a self-test and enters normal mode. Pressing the power button for 1 second under normal mode will enable the self-test function again. The silence function can be enabled/disabled by pressing the power button for 1 second while under backup mode. In addition, the power button can be used as the master on/off switch of your equipment by leaving your equipment connected to UPS and switched on. To turn off the UPS, please press power button until buzzer stops (about 2 seconds).

1.6 Circuit Breaker
Serves as an overload and fault protection. This is a critical component of the advanced UPS surge protection circuit.

1.7 “Phone Jack” Communications Protection Ports
The UPS’s exclusive communication protection ports protect any standard modem, PBX System or 10/100 Base-T connection. This communication port can accommodate either the phone (RJ-11) or network (RJ-45) type of jack.

1.8 USB Interface port
USB interfaces are provided for using with UPSMON software. Windows 98SE/ 2000/ ME/ XP and Windows 2003 operating systems support communication with the UPS via UPSMON software.

2. INSTALLATION
2.1 Recharge the battery
The UPS may be used right out of the box. The battery is fully charged before it is shipped from the factory. However, the user is encouraged to charge the battery for at least four hours before using the UPS. Energy loss may occur during shipping or storage. To recharge the battery, simply let UPS be plugged into an AC outlet and switch it on.

2.2 Connect the loads
Plug your primary equipment (e.g. computer, monitor and critical data storage device, etc.) to the Battery backup outlets. Plug your peripheral equipment (e.g. printer, scanner, fax, or audio device) to the Full-time Bypass Protection outlets. Do not plug a laser printer to the UPS, as its power demand is much higher than typical peripherals and may cause the circuit breaker (or fuse) to trip.

2.3 Connect the telephone
If you wish to protect a fax or a modem, connect the telephone cable from the wall outlet to the “IN” jack on the UPS. Connect the telephone cable (provided) from the “OUT” jack to the fax or modem. To protect a 10/100Base-T (UTP) network interface, obtain and use a UTP cable to connect the “OUT” jack from the UPS to your computer.

2.4 Connect to the utility power
Plug UPS to a 2-pole, 3-wire grounding receptacle. Make sure the battery supply outlets of the UPS do not service equipment requiring heavy electrical power (e.g. refrigerator, air conditioner, copier, etc.).

ATTENTION: When using extension cords, make sure the total rating of the loads is suitable.

2.5 UPS self-test
UPS will conduct a self-test each time it is turned on. In addition, the UPS will conduct a self-test by switching the UPS on for a second when a load is connected to UPS and utility power is normal.

2.6 Battery auto-charging
The internal battery is charged automatically when the utility power is normal.

2.7 Auto restart feature
UPS will shutdown when the battery voltage is too low, and reactivate automatically when the utility power is normal.

2.8 Overload (continuous alarm)
When the UPS is working under overload condition (the connected loads exceed the maximum rated capacity), the UPS will emit a continuous alarm to warn of the overload condition. In order to protect the unit and the loads, the UPS will automatically turn off. Please disconnect any non-essential devices form the UPS to eliminate the overload alarm.

2.9 Optimal battery status
To maintain the optimal battery status, leave UPS plugged in and switched on at all times.
2.10 No load Shutdown feature  
The UPS is equipped with a no load shutdown function. When the UPS senses no load, the unit will automatically shutdown after 3 minutes.

3. OPERATION

3.1 Simple test  
It is recommended that the user perform a simulation test when using the UPS for the first time or when adding an additional piece of equipment to the UPS. To conduct a simulation test: First, switch the UPS on and wait for the power indicator to light up, then simply unplug the UPS to simulate a power failure.

3.2 Check the power requirement of your equipment  
3.2.1. Make sure the total power of your equipment does not exceed the rating capacity.
3.2.2. Make sure the equipment you plug into the Battery Power-Supplied outlets does not exceed the total power that can be handled by the capacity of the UPS. Otherwise, overload may occur and cause the circuit breaker to trip. If the power requirement of your equipment differs from VA, convert the requirement power into VA by doing the calculations 3.2.3.
3.2.3. If the power requirement of your equipment is not listed in VA, and the power factor is uncertain, assume the power factor of the load is .50 (worst case.) Multiply your load’s total wattage by two for an estimated VA rating.

3.3 Limited rating power of UPS  
When utility power failure occurs, the battery power outlets will supply power to your equipment from its battery. The buzzer will beep once every 4 seconds. Be sure that your equipment is running under the maximum power limit. When utility power is restored, perform the self-test to make sure UPS works properly.

3.4 Checking table for Buzzer, LED and Status.

<table>
<thead>
<tr>
<th>Buzzer</th>
<th>LED</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>Green LED ON</td>
<td>AC MODE</td>
</tr>
<tr>
<td>OFF</td>
<td>Red LED ON: 0.5’s S OFF: 0.5’ S</td>
<td>BATTERY FAULT</td>
</tr>
<tr>
<td>ON: 1’S</td>
<td>Red LED ON</td>
<td>OVERLOAD</td>
</tr>
<tr>
<td>OFF: 4’S</td>
<td>Yellow LED ON: 1’S OFF: 4’S</td>
<td>BACKUP MODE</td>
</tr>
<tr>
<td>ON: 1’S</td>
<td>Yellow LED ON: 1’S OFF: 1’S</td>
<td>BATTERY LOW</td>
</tr>
<tr>
<td>OFF: 0.5’S</td>
<td>Green LED ON</td>
<td>CHARGER</td>
</tr>
<tr>
<td>OFF: 0.5’S</td>
<td>ABNORMAL</td>
<td></td>
</tr>
</tbody>
</table>

4. SOFTWARE AND COMPUTER INTERFACE

4.1 Power Monitoring Software  
The UPSMON software (or other compatible power monitoring software) uses a USB port interface to perform monitoring functions. Furthermore, it provides an orderly shutdown of a computer in the event of power failure. Moreover, UPSMON displays all the diagnostic symptoms on the monitor, such as Voltage, Frequency, Battery level and so on. The software is compatible with Windows 98SE /2000/ ME/ NT/ XP/ 2003 and other operating system.

4.2 Interface Kits  
A series of interface kits is available for operation systems that provide UPS monitoring. Each interface kit includes the special interface cable required to convert status signals from the UPS into signals which individual operating systems recognize. The interface cable must be connected to REMOTE PORT at the UPS side, and USB port at the computer side. For other installation instructions and features please refer to READ.ME file. 

CAUTION: Use only factory supplied or authorized UPS monitoring cable!

4.3 The characteristics of computer interface port  
The computer interface port has the following characteristics:
- To broadcast a warning when power fails.
- To close any open file before the battery is exhausted.
- To turn-off the UPS.

5. BATTERY MAINTENANCE AND REPLACEMENT

5.1 Battery maintenance  
For preventive maintenance, keep the area around the UPS clean and clutter free. Keep the UPS at an ambient temperature of 25℃ (77 ℉). It is recommend that the battery charges for 24 hours after a long period of storage.

5.2 Battery replacement  
The battery should be replaced if the Power-on indicator flashes. To verify if the battery needs to be replaced, conduct a self-test by pressing the Power button. If the Power-on indicator continues to flash, replace the inner battery according to the following procedure.
5.3 Storage
To store the UPS, cover it and store it with the battery fully charged. During extended storage, it is suggested to connect the utility power to the UPS to recharge the battery every three months to ensure battery life.

APPENDIX A TROUBLESHOOTING

<table>
<thead>
<tr>
<th>Problems</th>
<th>Possible Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time Bypass</td>
<td>Circuit breaker button popped up as a result of overload.</td>
<td>Unplug at least one piece of equipment from the Full-time Surge Protection outlets, switch off the UPS, wait for 5 seconds and reset the circuit breaker (press down breaker button, then switch on UPS).</td>
</tr>
<tr>
<td>Protection outlets stop providing power to the equipment</td>
<td>Battery undercharged or depleted due to frequent power outages.</td>
<td>Recharge the battery by leaving the UPS plugged in and switched on.</td>
</tr>
<tr>
<td>UPS doesn’t perform to its expected runtime.</td>
<td>The power required by your equipment slightly exceeds the capacity of the UPS.</td>
<td>Unplug at least one piece of equipment from the UPS outlets.</td>
</tr>
<tr>
<td>The battery is slightly worn-out.</td>
<td>UPS has a circuit breaker designed to prevent damage.</td>
<td>Consider replacing the battery.</td>
</tr>
<tr>
<td>Cannot be turned on.</td>
<td>Mechanical problem.</td>
<td>Contact your sales representative.</td>
</tr>
</tbody>
</table>

APPENDIX B SPECIFICATIONS

<table>
<thead>
<tr>
<th>Port No.</th>
<th>ULT33062</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>RCD-UPS500</td>
</tr>
<tr>
<td>UPS Capacity</td>
<td>500VA</td>
</tr>
<tr>
<td>Total Capacity</td>
<td>1200VA</td>
</tr>
<tr>
<td>No. of sockets</td>
<td>Style A UPSx3, Bypassx3</td>
</tr>
<tr>
<td>Voltage (on battery)</td>
<td>120V +/- 5%</td>
</tr>
<tr>
<td>Frequency (on battery)</td>
<td>50 or 60Hz +/- 0.3Hz</td>
</tr>
<tr>
<td>Transfer Time</td>
<td>2-4 milliseconds, including detection time</td>
</tr>
<tr>
<td>Voltage (single phase)</td>
<td>120V +/-5%-20% at line input</td>
</tr>
<tr>
<td>Frequency</td>
<td>50 or 60Hz +/- 10% (auto sensing)</td>
</tr>
<tr>
<td>Unit Input</td>
<td>Circuit breaker for overload &amp; short circuit protection</td>
</tr>
<tr>
<td>Surge Protection</td>
<td>1140 Joules, 2ms</td>
</tr>
<tr>
<td>Overload Protection</td>
<td>AC Mode: If load exceeds 110% of nominal, Buzzer beeps continuously. If load exceeds 120% of nominal for 30 seconds, 130% for 3 seconds, UPS shuts down automatically. Back up Mode: If load exceeds 105% of nominal for 20 seconds, 120% for 10 seconds, 130% for 3 seconds, UPS shuts down automatically.</td>
</tr>
<tr>
<td>Type</td>
<td>Sealed, maintenance-free lead acid battery, with 3-6 years typical lifetime</td>
</tr>
<tr>
<td>Typical Recharge Time</td>
<td>6 hours (to 90% of full capacity)</td>
</tr>
<tr>
<td>Back-up Time</td>
<td>7-9 minutes (a PC with 15” CRT monitor) 14-16 minutes (a PC with 15” LCD monitor)</td>
</tr>
<tr>
<td>Automatic self-test, Over discharge protection, short circuit protection by fuse</td>
<td></td>
</tr>
<tr>
<td>Net weight Kg (lbs)</td>
<td>2.58(5.67)</td>
</tr>
<tr>
<td>Dimension (W x D x H)</td>
<td>104 x 316 x 85 (4.1” x 12.4” x 3.3”)</td>
</tr>
<tr>
<td>USB</td>
<td>Battery low detecting, UPS on/off scheduling AC input/output power status display.</td>
</tr>
<tr>
<td>Battery Back-Up</td>
<td>Slow beeping sound every 4 seconds</td>
</tr>
<tr>
<td>Battery Low</td>
<td>Rapid beeping sound every second</td>
</tr>
<tr>
<td>Charge Abnormal</td>
<td>AC Mode: Rapid beeping sound every 0.5 second</td>
</tr>
<tr>
<td>Overload</td>
<td>Continuous beeping sound</td>
</tr>
<tr>
<td>Ambient operation</td>
<td>3,500 meters max, elevation, 0-95% humidity non-condensing, 0-40℃</td>
</tr>
<tr>
<td>Audible Noise</td>
<td>&lt;40dBA (1 meter from surface)</td>
</tr>
</tbody>
</table>