

# LCD SERIES USER MANUAL

Thank you for selecting this UPS. It provides you with better protection for connected equipment.

## ***Please read this manual!***

This manual provides safety, installation and operating instructions that will help you derive the fullest performance and service life that the UPS has to offer.

## ***Please save this manual!***

It includes importance instructions for the safe use of this UPS and for obtaining factory service should the proper operation of the UPS come into question.

## ***Please save or recycle the packaging materials!***

The UPS's shipping materials were designed with great care to provide protection from transportation related damage. These materials are invaluable if you ever have to return the UPS for service. Damage sustained during transit is not covered under the warranty.

## 1. INTRODUCTION

LCD-650 / LCD-1000 can instantly switches your computer to emergency battery backup power and allows you to work through brief power outages without data loss or downtime. It continuously conditions the

power coming into your computer and providing power supply for virtually zero interruption. This state-of-the-art UPS is specially designed for PC users and also suitable for computer peripherals or POS. Besides its space-saving compact size, this UPS also impress you with its elegant appearance. The attractive LCD display enables you to check the UPS working status at any time. A microprocessor is used as the controller which renders the product an intelligent UPS capable of self-protection and fault diagnosis. Build-in AVR function automatically adjusts itself to maintain a power supply of stable voltage when the utility power is of extra high or low voltage. High performance surge suppression protects your computer from electrical noise and damaging power surges.

## 2. PERFORMANCE

- Uninterruptible power: protects your data by supplying battery backup when fails.
- Microprocessor control: by means of innovative software control programs, the complicated hardware circuitry is inlaid in the powerful microprocessor. Apart from reduced size, it also lowers the defective rate of UPS.
- LCD display and audible alarms: actively let you know if the unit is on battery, its voltage is low, or the UPS is in an overload condition.
- High quality battery: the selection of high quality sealed lead-acid maintenance free battery maximizes the life span of the battery for enhanced economic benefits.
- Automatic detection: when the UPS is powered on, it immediately performs an inspection of the battery capacity.

## 3. OPERATION

- Switch on: with the UPS plugged in, press and hold the POWER button more than 4 seconds until hearing one beep sound to switch the UPS

on. The UPS will perform self-testing each time when it is switched on.

- Switch off: by pressing and hold the POWER button more than 4 seconds until hearing one beep sound.
- Self-test: in normal utility power, push the POWER button less than 1 second and UPS performs a self-test on the battery capacity. During the self-test, the UPS operates a backup mode, the BATTERY and FAULT icon stay on.
- Silence: in backup mode, push the POWER button less than 1 second to silence the audible alarm.
- Backup (slow alarm): when in backup mode, the BATTERY and FAULT icon illuminates and the UPS emit beep sound every four seconds. The alarm stops when the UPS return to the utility power operation. Press the POWER button to stop the beep.
- Low battery (rapid alarm): in backup mode, when the battery energy runs low, the UPS beeps rapidly until the UPS shuts down from battery exhaustion or return to utility power operation.
- Overload (continuous alarm): when the UPS is overload, the OVERLOAD icon illuminates and the UPS emits continuous alarm for 30 seconds to warn an overload condition. Disconnect nonessential load equipment from UPS to eliminate the overload.

## 4. MAINTENANCE

- With normal use, a UPS battery will last three to six years depend on number of discharge and temperature. Replacement and servicing of the battery should be performed or supervised by personnel knowledgeable of batteries and their precautions. Keep unauthorized persons

away.

- Charge the UPS's battery every 3 months during extended storage.
- Disconnect the power during extended storage to avoid overcharge of the battery.
- Avoid overload or short circuit thought the UPS have build-in overload and short circuit protect function.

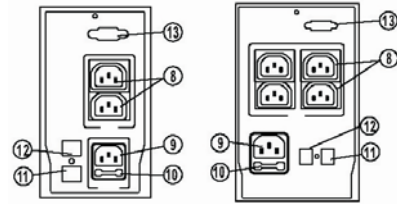
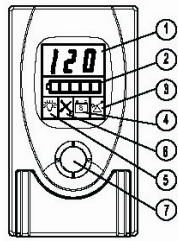
## 5. TROUBLESHOOTING

Problem	Possible Cause	Action to Take
UPS not on, LCD not light	POWER button not pushed or push too short	Press the POWER button and hold more than 4 seconds
	PCB failure	Replace the PCB, call for service
UPS always at battery mode	Power cord lose	Replug the power cord
	AC fuse burn out	Replace theca fuse
	Line voltage too high, too low or black out	No action to take
Buzzer keep beeping	Overload	Replace the PCB, call for service
		Remove the non-critical loads
UPS does not provide expected run time, Low battery warning is sounded prematurely	Battery is weak due to wear or successive mains outages	Allow UPS to recharge battery for a minimum of 8 hours. If UPS sounds low battery warning prematurely, when retested, battery should be replaced.

- Automatic Voltage Regulation: corrects over and under voltage, without draining the battery. This preserves battery resources and ensure your UPS

will provide the optimum runtime during a complete blackout.

- Surge Protection: Shield hardware from damage.
- Automatic Charge: The UPS charge its battery whenever it is connected to utility power.
- Protection for Tel / Modem connection: Protect the Tel / Fax / Modem from lightning and spike disturb.



## 6. INSTALLATION

- Inspection: inspect the UPS upon receipt. The packaging is recyclable. Save it for reuse or dispose of it properly.
- Placement: install the UPS in a protected area with adequate airflow, and away from direct sunlight and excessive dust. Do not operate the UPS where the temperature and humidity is outside the specified limits in the specification table.
- Connect to utility: connect the AC input power connector to utility power to power up the UPS.
- Charge the battery: the battery in the UPS will lose some charge in shipping and storage. It will recharge completely after approximately 8 hours of normal operation. Do not expect full battery run time during this initial recharge period.
- Connect the loads: plug the loads into the output connectors on the rear of the UPS.

LCD INDICATOR	STATUS
1. Output voltage indicator	
2. Battery charge mode and battery capacity indicator	
3. Overload: UPS overload. The buzzer emits continuous alarm for 30 seconds	
4. Battery: UPS transfer to backup or battery test mode. The buzzer emits alarm every four seconds	
5. Normal: Utility power in normal condition	
6. Fault: Utility power unusual or other problem occur	
7. Power switch: power on-off / battery test and buzzer on-off	
8. Output socket: connect with load equipment	
9. Input socket: connect with utility power	
10. Fuse set: build-in fuse avoid damage because of short circuit or overload	
11. Input phone jack: insert the phone line into the jack	
12. Output phone jack: connect to the Tel / Fax / Modem by another phone line	
13. Communication interface port: connect to the computer with the communication cable (option)	

**Caution: Never connect a laser printer or plotter to the UPS with other computer equipment. A laser printer or plotter periodically draws significantly more power than when idle, and may overload the UPS.**

## 7. PRESENTATION