

# LINE INTERACTIVE UNINTERRUPTIBLE POWER SUPPLY USER MANUAL

MODEL 168212/168229



 **MANHATTAN**

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MAN168212/168229-UM-0606-04

Thank you for purchasing this MANHATTAN® Line Interactive Uninterruptible Power Supply, Model 168212 or 168229. This uninterruptible power supply (UPS) protects your computer hardware from physical damage and will provide emergency battery backup power to prevent data loss in the event of power problems. The main features include:

- Advanced protection for PC and Macintosh systems against power outages, sags, surges and line noise
- Built-in microprocessor maintains proper charge and provides diagnostics to help extend battery life
- Cold start capability provides temporary battery backup during power disruptions
- 220 Joules surge protection
- Circuit breaker protection offers quick recovery from overload and short circuit events
- LED and audible alert system helps monitor critical functions
- \$100,000 connected equipment guarantee (US and Canada only)
- Lifetime Warranty, UPS; Three-year Warranty, battery

## SAFETY INSTRUCTIONS

Prior to its operation, inspect this product for damage. If any damage is found, notify your dealer. Keep the carton and the packing foam in the event the product must be returned to the factory for service.

- Place the device indoors in an area that has adequate airflow and is free from excessive dust. Do *not* allow the UPS to be exposed to moisture, rain, excessive heat or direct sunlight.
- Use of this product in life-support applications — where failure of this device can reasonably be expected to cause failure of life-support equipment or to significantly affect its safety or effectiveness — is *not* recommended.
- Always disconnect the input power cord from the wall outlet before replacing the battery.
- Do *not* dispose of the battery in a fire, as the battery may explode.

- Do *not* open or mutilate the battery, as it contains a toxic electrolyte harmful to both the skin and eyes.
- Proper disposal of the battery is required. Refer to your local laws/regulations regarding battery disposal.
- To avoid personal injury, use tools with insulated handles to replace the battery. Due to energy hazards, remove wrist watches and jewelry such as rings when replacing battery.

## OPERATION & INSTALLATION

This MANHATTAN Line Interactive UPS can protect your equipment from all power problems, including surges, spikes, blackouts, brownouts and line noise. When AC power is present and the UPS is on, it continues to charge the battery and provide the power to the equipment directly from the AC line. The battery can provide stable power to complete your work, save your data and safely shut down your system when the utility power has failed.

The UPS is simple to operate and install:

1. Connect the UPS to a grounded AC power outlet.
2. Charge the battery at least eight hours for a full charge before use.
3. Plug your computer and monitor into the Battery Backup & Surge Protection outlets. (These outlets will provide emergency battery backup power during power problems as well as surge protection from surges and spikes.)

**CAUTION:** Do *not* plug laser printers into any of the Battery Backup outlets.

**CAUTION:** Do *not* plug accessory surge strips into any of the Battery Backup & Surge Protection outlets.

4. Plug your peripheral equipment (printer, scanner, fax, speaker, etc.) into the Surge Protection outlets. (These outlets will *not* provide battery backup power during a utility power failure.)
5. Switch on the device while the connected equipment is off.
6. Turn on your connected equipment when the AC Mode LED is illuminated.

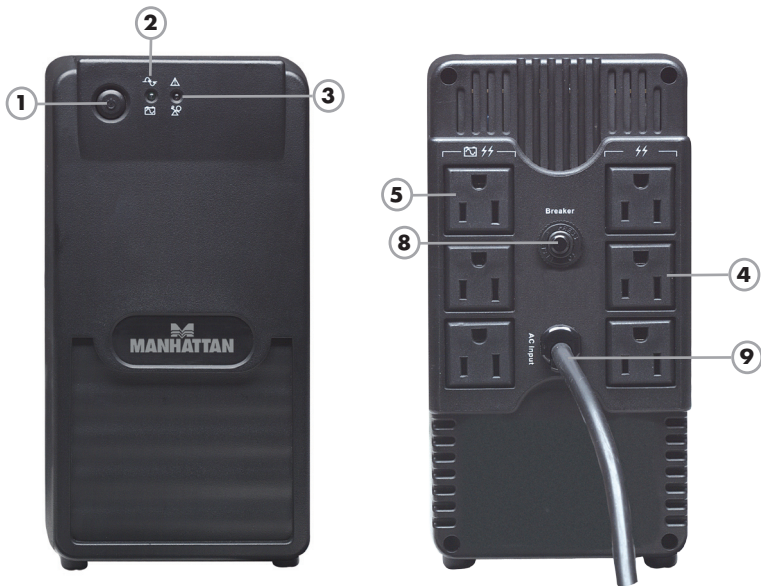
## INDICATORS

1. **On/Off Button:** The On/Off button controls power to your equipment and performs a self-test.

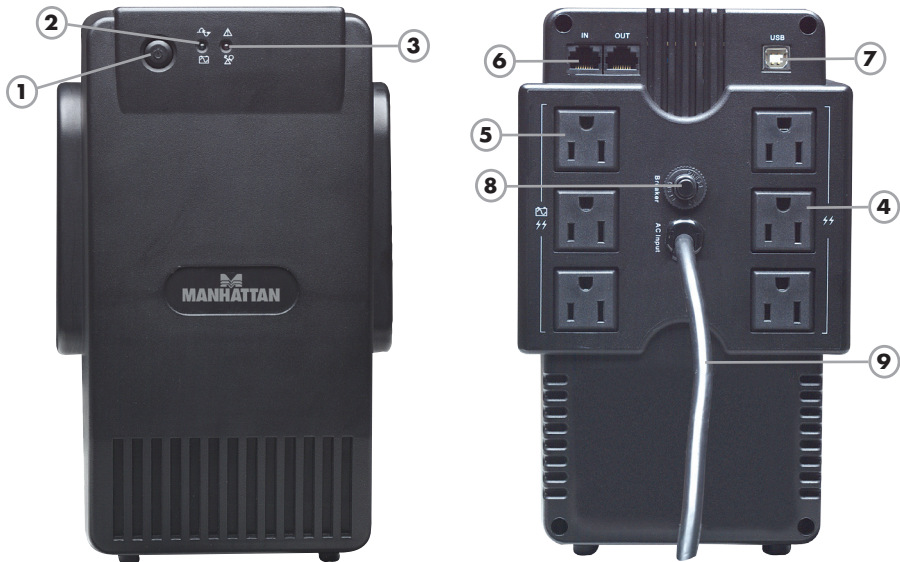
**NOTE:** To turn on the MANHATTAN Line Interactive UPS, press and hold the On/Off button in for at least two seconds, then release the button after the beep.

**NOTE:** To turn off the UPS, press and hold the button in for at least two seconds, then release it. The UPS will shut down completely.

**NOTE:** The Line Interactive UPS will perform a self-test for about 10 seconds whenever it is turned on.



120 V Model 168212 shown. Output ports for 220 V model will vary in number and type. See Specifications.



120 V Model 168229 shown. Output ports for 220 V model will vary in number and type. See Specifications.

2. **Line Battery LED (Green LED):** Indicates the UPS is providing AC power to your equipment. When the LED is blinking, the UPS is providing power from the battery.

3. **Warning LED (Red LED):** When in AC or DC mode, the blinking LED could indicate that the battery should be replaced. When the LED is always on, it indicates an overload condition or UPS fault. For details, see the Indicator Table.
4. **Surge Protection Outlets (Bypass Outlets):** These outlets provide protection from surges and spikes.
5. **Battery Backup & Surge Protection Outlets:** These outlets not only provide surge protection, but also provide emergency battery backup power.
6. **Phone/Fax Protection:** Built-in RJ-11 jacks protect the phone or fax line from surges. (Model 168229 only.)  
*NOTE:* The UPS will operate normally without this connection.
7. **USB Communication Port:** The built-in USB port (Model 168229 only) connects to your computer. The software will shut down your computer automatically in case of power failure and prevent possible file damage due to an abrupt power outage. The software can also provide information regarding the status of your utility power line. Install the software: If auto play is not enabled on the computer, double-click on My Computer on the desktop; double-click on the CD-Rom drive icon and follow the on-screen instructions.
8. **Circuit Breaker:** The button will protrude when an overload occurs. The UPS will switch off of utility power. If the button protrudes, disconnect some non-essential equipment and reset the circuit breaker by pushing the button in.
9. **AC Power Cord:** Complete the necessary power connections. For North American models (120 V), use an existing NEMA-type PC power cord to connect the PC to the UPS. Use the included NEMA-type power cord to connect the UPS to the power source. For all other models (230 V), use the included IEC-type power cord to connect the PC to the UPS. Use one of the existing PC power cords to connect the UPS to the power source.

## INDICATOR TABLE

The UPS has both visible (LED) and audible (alarm) status indicators. One LED indicates AC or DC mode; the other indicates a fault or overload condition.

<b>Green LED</b>	<b>Red LED</b>	<b>Alarm</b>	<b>UPS Status Indication</b>
On	X	X	AC Mode (Operation)
On	On	4 beeps @ 0.25 sec. / per 10 sec.	Self-Test Mode
On	On	1 beep @ 2 sec.	Overload (AC Mode)
Blinking	On	On	Overload 110% (DC Mode)
X	On	On	Overload 120% (DC Mode)
X	On	On	Short (DC Mode)
Blinking	X	4 beeps @ 0.25 sec. / per 10 sec.	DC Mode (Operation)
Blinking	On	1 beep @ 1 sec.	Low Battery Voltage
On	Blinking	1 beep @ 20 sec.	Battery Failure
On	Blinking	X	Charge Mode Abnormal
X	Blinking	X	Battery Voltage Over Spec. ( $\geq 15$ Volts )

# TROUBLESHOOTING

Symptom	Possible Cause	Action to Take
The UPS will not turn on.	UPS is not turned on.  Circuit breaker has tripped.	Switch on the ON/OFF button. If power is not present, make sure your circuit breaker on the building is not accidentally turned off.  Reduce the amount of equipment plugged into the Battery Backup & Surge Protection outlets of the UPS. Next, reset the circuit breaker by pushing it back in.
The UPS is making a continuous sound and the Overload indicator is lit.	The Battery Backup & Surge Protection outlets are overloaded.	Turn off the UPS and reduce the amount of equipment connected to these outlets.
The UPS doesn't provide expected run time.	Due to age, the battery does not hold a full charge.	Remove all connected equipment from the UPS and charge the battery for at least 8 hours.
Devices lose power while connected to the UPS.	The Battery Backup & Surge Protection outlets are overloaded.  The UPS has depleted the battery.  Equipment is connected to the wrong outlet(s).  The UPS may be faulty.	Refer to the Indicator Table.  Allow the UPS to re-charge before continuing use.  Ensure that the equipment you want to stay powered during a failure of utility power is plugged into the Battery Backup & Surge Protection outlets.  Call your dealer for further troubleshooting.



## SPECIFICATIONS

### Model 168212 — Available in 120 V (NEMA) and 220 V (IEC) models

- Outlets: 6 NEMA (120 V), 3 backup + surge / 3 surge only; 3 IEC (220 V), 3 back-up + surge
- Times:
  - Backup: 3 minutes at full load; 7 minutes at 50% load; 25 minutes at varying loads (typical with PC and 15" LCD monitor at 85 W)
  - Recharge: 8 hours typical (12 hours maximum)
  - Transfer: 8 ms typical (10 ms maximum)
- Nominal voltage: input, 100 V / 110 V / 120 V (220 V / 230 V / 240 V); output, 120 V (230 V)
- Voltage range: input, 96 V – 138 V (174 V – 262 V)
- Frequency range: input, 50/60 Hz +/- 5 Hz (auto sensing)
- Voltage regulation: output, +/- 10% (battery mode)
- Frequency regulation: output, 50/60 Hz +/- 1%
- Waveform: simulated sine wave
- Battery: capacity, 12 V / 5 Ah; type, sealed and maintenance-free (lead acid)
- Temperatures (°C): operation, 0 to 40; storage, -15 to 50
- Operation relative humidity: 0 to 95% (non-condensing)
- UL/cUL listed

### Package Contents

- Line Interactive UPS, 600 VA / 300 W
- Power cable, 6 ft. (1.8 m)
- User manual

## Model 168229 — Available in 120 V (NEMA) and 220 V (IEC) models

- Outlets: 6 NEMA (120 V), 3 backup + surge / 3 surge only; 6 IEC (220 V), 3 backup + surge / 3 surge only
- Times:
  - Backup: 5 minutes at full load; 12 minutes at 50% load; 35 minutes at varying loads (typical with PC and 15" LCD monitor at 85 W)
  - Recharge: 8 hours typical (12 hours maximum)
  - Transfer: 4-6 ms typical (10 ms maximum)
- Communications port: USB (120 V); USB (220 V)
- Telephone/fax/network ports: RJ-11/RJ-45 (1 in / 1 out), surge protected
- Nominal voltage: input, 100 V/110 V/120 V (220 V/230 V/240 V); output, 120 V (230 V)
- Voltage range: input, 96 V – 138 V (174 V – 262 V)
- Frequency range: input, 50/60 Hz +/- 5 Hz (auto sensing)
- Voltage regulation: output, +/- 10% (battery mode)
- Frequency regulation: 50/60 Hz +/- 1%
- Automatic voltage regulation(AVR): Available 220 V model only
- Waveform: simulated sine wave
- Battery: capacity, 12 V / 9 Ah; type, sealed and maintenance-free (lead acid)
- Temperatures (°C): operation, 0 to 40; storage, -15 to 50
- Operation relative humidity: 0 to 95% (non-condensing)
- LED indicators: Online, Overload, On Battery and Bad Battery
- Audible alarms: Overload, On Battery, Low Battery and Self-test
- UL/cUL listed

## Package Contents

- Line Interactive UPS, 1000 VA / 500 W
- Power Management Software CD (Windows 98/SE/Me/2000/XP compatible)
- Cables, USB, 6 ft. (1.8 m); Telephone (RJ-11), 6 ft. (1.8 m); Power cable, 6 ft. (1.8 m)
- User manual

## WARRANTY INFORMATION

**Coverage:** For the original purchaser of this MANHATTAN Uninterruptible Power Supply residing in the United States or Canada, the device itself features a lifetime warranty covering material and workmanship (with a three-year warranty on the battery). Should the UPS fail, it will either be repaired or replaced (manufacturer's option).

Should UC-, UL-, CSA- or CE-listed electronic equipment connected to the MANHATTAN Uninterruptible Power Supply be damaged by power or phone line transients such as spikes or surges, the manufacturer has the option of repairing or replacing the damaged equipment or keeping the damaged equipment and paying fair market value for it (not to exceed a total of \$100,000).

This warranty does *not* cover a) damage caused by improper installation, repairs, servicing or alterations; b) damage due to the improper packing or shipping of items returned to the manufacturer; c) damage to electronic equipment that is not UC-, UL-, CSA- or CE-listed; d) damage to UC-, UL-, CSA- or CE-listed equipment not caused by power or phone line transients such as spikes or surges; e) damage caused by a failure to use properly wired and grounded electrical outlets, telephone service and, if applicable, cable TV service; f) damage caused by a failure to install primary protection devices for power and telephone service equipment; g) damage caused by cable TV transients; or h) damage caused during any use of this device for which it was not intended.

**Note:** Some states do not allow the exclusion or limitation of incidental or consequential damages, which means the above may not apply. This warranty gives you specific legal rights. You may also have other rights, which vary from state to state.

**Implied Warranty:** Implied warranties, including the implied warranty of merchantability and the implied warranty of fitness for a purpose, end when the original purchaser no longer owns the product and three years from the date of purchase for the battery.

**Note:** Some states do not allow time limitations on implied warranties, which means the above limitations may not apply.



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