d. Verify these UPS `terminal profile` parameters:
   - Baud rate 1200.
   - No parity.
   - Terminal type 10.
   - First (and only) device class name HPUPSDEV.

e. Power-cycle the DTC to force the DCC (Data Comm Configurator) to download the DTC as the system finishes booting. This is needed to get the baud rate changed from its DTC-firmware default of 9600 baud to the NMMGR configured 1200 baud value.

f. Call the HP Response Center if none of the above resolves the problem.

Power Failing the UPS

Before forcing an AC input power failure to test the UPS and its communication with the system, wait for the system to establish communication and initialize the UPS.

On a MPE/iX system, it takes the system about 30 seconds from the time it finishes downloading the DTCs with their firmware to be ready to respond to UPS events. As the system is finishing its boot up process, watch the system console for the message:

```
nmev #'00@234 dtmc c0000303 code download completed for DTC address 080009281E05.
```

Wait 30 seconds after that message appears, and then perform the power fail test.

For either HP-UX or MPE/iX systems, use this procedure to power fail a system:

1. Check that the system is not performing critical processes.
2. Use the wall breaker to cut the power for the circuit that is supplying power to the UPS. **Do NOT use the rear panel circuit breaker to power fail the system.**
3. Wait one (1) full minute.
4. Verify that messages are displayed on the console.
5. Verify that the indicators are normal for battery power:

   (AC Output) lit
   (Battery Power) lit
   (Attention) not lit
   Alarm 1 beep

6. Use the wall breaker to return power to the UPS AC input circuit.

Caution

- Do *NOT* pull the power cord. This would compromise the electrical fault protection because it provides grounding.

Notice

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The information contained in this document is subject to change without notice.

Printing History

New editions are complete revisions of the manual. The dates on the title page change only when a new edition is published. No information is incorporated into a reprinting unless it appears as a prior update; the edition does not change if an update is incorporated.

Many product updates and fixes do not require manual changes and, conversely, manual corrections may be done without accompanying product changes. Therefore, do not expect a one-to-one correspondence between product updates and manual updates.

Edition 1 ..... May 1997

Safety and Regulatory Information

IMPORTANT SAFETY INSTRUCTIONS. SAVE THESE INSTRUCTIONS.

For your protection, this product has been tested to various national and international regulations and standards. The scope of this regulatory testing includes electrical/mechanical safety, radio frequency interference, ergonomics, acoustics, and hazardous materials. Where required, approvals obtained from third-party test agencies are shown on the product label. In addition, various regulatory bodies require some information under the following headings.

Safety Considerations

This product and related documentation must be reviewed for familiarization with safety markings and instructions before operation. The following shows some of the safety symbols used in this document and on the product to indicate various safety considerations.

Warning

The WARNING sign denotes a hazard. It calls attention to a procedure, practice, or the like, which if not done correctly or adhered to, could result in injury. Do not proceed beyond a WARNING sign until the indicated conditions are fully understood and met.

A WARNING sign with this symbol denotes a hazard related to high voltage.

Caution

The CAUTION sign denotes a hazard. It calls attention to an operating procedure, practice, or the like, which if not done correctly or adhered to, could damage or destroy part or all of the product. Do not proceed beyond a CAUTION sign until the indicated conditions are fully understood and met.

Please read all safety considerations carefully. You should understand all **WARNINGS** and **CAUTIONS** before using your PowerTrust UPS.

Physical Safety Considerations

- Each PowerTrust UPS consists of an Electronics Unit weighing about 78kg (171 lbs) unpacked.
- The PowerTrust UPS also includes a Battery Box weighing about 180kg (396 lbs) unpacked with batteries and 30kg (66 lbs) unpacked without batteries. Included in the Battery Box are ten field replaceable battery packs, each weighing about 33 pounds.

Warning

Be very careful when lifting or moving either the Electronics unit or the Battery box. Follow the unpacking (Chapter 2) and installation (Chapter 3) instructions carefully.

- Each PowerTrust UPS contains powerful batteries and large capacitors. Therefore, the unit may contain hazardous voltages, even when it is disconnected from the input AC source receptacle, or when the AC power has failed.

Warning

Batteries can present a risk of electrical shock and/or burn from high short circuit current. Observe proper precautions. Do not stack battery trays on top of each other. Do not allow anything to touch the battery terminals. Do not pierce battery pack wiring insulation. Do not allow conductive tools or jewelry to touch battery packs or battery terminals.

Electrical Safety Considerations

- *DO NOT* use an extension cord or multiple outlet power strips to provide electrical power to the unit, or any other computer equipment.
- *DO NOT* install the unit next to open windows or where uncontrolled environmental conditions could affect it.

Warning

- **To reduce the risk of fire, connect the A3589A PowerTrust UPS North American unit only to a circuit provided with 50 amperes maximum branch circuit overcurrent protection in accordance with the National Electrical Code, ANSI/NFPA 70.**

  The hardwired (worldwide) version may be connected to a circuit provided with 63 amperes maximum branch circuit overcurrent protection in accordance with local codes.

Caution

- Do not place magnetic media on the UPS.
- Avoid plugging the unit into a wall outlet controlled by a switch. If the outlet is controlled by a switch, cover or protect the switch from being turned off accidentally. The switch will not turn off the PowerTrust UPS; instead, the PowerTrust UPS will go to battery mode, allowing electrical current to continue to flow to its outputs until the batteries are discharged.
- During power failure conditions, the PowerTrust output will be nominal 230 volts.

Caution

- The PowerTrust UPS should *NOT* be operated from line stabilizers, ferro-resonant transformers, or other types of line conditions. AC waveform distortion caused by these devices may cause unexpected transfer from line operation to UPS battery operation.
- These units should *NOT* be operated from non-sinusoidal AC voltage sources. AC input waveforms having distortion caused by large phase controlled devices, poor utility power, or poor site power may cause unexpected transfer from line operation to UPS battery operation.

FCC Statement (USA only)

FCC rules part 15, subpart A, class A devices.

Information to User (section 15.105)

Note

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used *in accordance* with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

EMI Statement (Canada Only)

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Japanese Radio Frequency Interference

注意

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づく第一種情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

upsg008

Japanese VCCI Radio Frequency Notice

EMI Statement (European Union)

Warning: This is a Class A product. In a domestic environment, this product may cause radio interference, in which case, the user may be required to take additional measures.

Acoustics (Germany)

Laermangabe (Schalldruckpegel LpA) gemessen an Arbeitsplatz bei normalem Betrieb nach DIN 45635, Teil 19: Acoustic Noise (A-weighted Sound Pressure Level LpA) measured at operator's position, normal operation, to ISO7779.

A3589A: On-line = 56 dBA

On-battery = 57 dBA

EMI (Australia and New Zealand)

UPS model A3589A meets the applicable requirements of the Australia and New Zealand EMC Framework.

Product Warnings

Warning

- **Serious injury can occur if the unit enclosure is opened by unqualified personnel. There is a risk of electric shock and/or burn. Hazardous live parts inside the unit are energized from the battery supply even when the input power is disconnected. Do not remove the cover; there are no user-serviceable parts inside. Refer repair to qualified service personnel.**
- **The PowerTrust unit is capable of supplying AC voltage even if there is no input power present. Although the output enable switch on the front of the unit is protected from accidental actuation, do not allow the unit to become enabled without the operator's knowledge.**
- **A battery can present a risk of electrical shock and/or burn from high short-circuit current. Observe proper precautions.**
- **Both the Mains and Bypass circuit breakers are the Mains disconnect when the Service Bypass switch is in the NORMAL position. The facility branch circuit is the Mains disconnect when the Service Bypass switch is in the BYPASS position.**

  Both the UP/BATTERY switch and the battery cable are the battery disconnect devices.
- **To disconnect AC mains and battery power or to put the UPS into Service Bypass mode prior to servicing, refer to Chapter 4.**
- **DO NOT touch uninsulated battery terminals.**

Battery Notices

The products described in this manual contain sealed, lead acid batteries. Replace batteries only with the same type and part number.

When recycling used batteries, adhere to local codes or follow the return instructions included with the replacement battery pack.

Warning **Fire, explosion and severe burn hazard!**

DO NOT crush, disassemble, heat, incinerate, or expose the battery to water.

DO NOT puncture or subject batteries to mechanical shock.

United Kingdom General Approval

UPS Model A3589A is approved under Approval No. NS/G/1234/100003 for indirect connection to public telecommunication systems within the United Kingdom.

IT Power System

Warning

This product has not been evaluated for connection to an IT power system (an AC distribution system having no direct connection to earth according to IEC 950/EN50091-1).

Leakage Current

Warning

To reduce the risk of electric shock, never operate this product with the input or output ground conductors disconnected. An earth connection is essential before connecting the supply. Due to the types of products that can be connected to this product, there is a risk of high leakage current (>3.5mA). Reliable ground circuit continuity is vital for safe operation of this product.

Symbol Definitions	
Symbol	Description
	ATTENTION or CONSULT ACCOMPANYING DOCUMENTS
	Dangerous voltage
	On (power: connection to the mains) or Output Enabled
	Off (power: disconnection from mains) or Output Disabled
	Stand-by
	Alternating current
	Direct current
N	Connection for the neutral conductor on PERMANENTLY INSTALLED EQUIPMENT
	Earth (ground)
	Protective earth (ground)
	Noiseless (clean) earth (ground)
	Battery Check
	Output Receptacle
	Silence Alarm
	Battery Power
	Flashing LED

hnceX01

Preface

This edition of the *PowerTrust System Guide (5.5 kVA Rack-Mounted UPS)* contains technical information about the HP Model A3589A 5.5 kVA rack-mounted Uninterruptible Power Supply (UPS).

Warning

Some of the procedures described in this manual present the risk of serious physical injury and/or damage to the PowerTrust UPS. They should be performed by trained service personnel only. See Table 1-1.

Other Reference Documents

- *HP 3000 Configuring Systems for Terminals, Printers, and other Serial Devices*
- *HP-UX System Administration Task Manual*