



IBM UPS 3U Extend Run Battery Pack Operation and Setup Guide

Safety

Before installing this product, read the Safety Information.

قبل تركيب هذا المنتج، يجب قراءة الملاحظات الأمنية

Antes de instalar este produto, leia as Informações de Segurança.

在安装本产品之前，请仔细阅读 **Safety Information** (安全信息)。

安裝本產品之前，請先閱讀「安全資訊」。

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Před instalací tohoto produktu si přečtěte příručku bezpečnostních instrukcí.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

Ennen kuin asennat tämän tuotteen, lue turvaohjeet kohdasta Safety Information.

Avant d'installer ce produit, lisez les consignes de sécurité.

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

Πριν εγκαταστήσετε το προϊόν αυτό, διαβάστε τις πληροφορίες ασφάλειας (safety information).

לפני שתתקינו מוצר זה, קראו את הוראות הבטיחות.

A termék telepítése előtt olvassa el a Biztonsági előírásokat!

Prima di installare questo prodotto, leggere le Informazioni sulla Sicurezza.

製品の設置の前に、安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

Пред да се инсталира овој продукт, прочитајте информацијата за безбедност.

Les sikkerhetsinformasjonen (Safety Information) før du installerer dette produktet.

Przed zainstalowaniem tego produktu, należy zapoznać się z książką "Informacje dotyczące bezpieczeństwa" (Safety Information).

Antes de instalar este produto, leia as Informações sobre Segurança.

Перед установкой продукта прочтите инструкции по технике безопасности.

Pred inštaláciou tohto zariadenia si pečítajte Bezpečnostné predpisy.

Pred namestitvijo tega proizvoda preberite Varnostne informacije.


Antes de instalar este producto, lea la información de seguridad.


Läs säkerhetsinformationen innan du installerar den här produkten.


WARNING: Handling the cord on this product or cords associated with accessories sold with this product, will expose you to lead, a chemical known to the State of California to cause cancer, and birth defects or other reproductive harm. ***Wash hands after handling.***


ADVERTENCIA: El contacto con el cable de este producto o con cables de accesorios que se venden junto con este producto, pueden exponerle al plomo, un elemento químico que en el estado de California de los Estados Unidos está considerado como un causante de cancer y de defectos congénitos, además de otros riesgos reproductivos. ***Lávese las manos después de usar el producto.***



 **CAUTION! Handling Safety** - Use safe practices when lifting.

 <18 kg (<40 lb)

 32–55 kg (70–120 lb)

 18–32 kg (40–70 lb)

 >55 kg (>120 lb)


  >10°

  **CAUTION! Electrical Safety**

Electrical Current from power, telephone, and communication cables is hazardous. Please read the following safety statements.

- Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.
- Connect all power cords to a properly wired and grounded electrical outlet.
- Connect to properly wired outlets any equipment that will be attached to this product.
- When possible, use one hand only to connect or disconnect signal cables.
- Never turn on any equipment when there is evidence of fire, water, or structural damage.
- Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.
- Connect and disconnect cables as described in the following steps when installing, moving, or opening covers on this product or attached devices.



To Connect: <ol style="list-style-type: none">1. Turn everything OFF.2. First attach all cables to devices.3. Attach signal cables to connectors.4. Attach power cords to outlet.5. Turn device ON.	To Disconnect: <ol style="list-style-type: none">1. Turn everything OFF.2. First remove power cords from outlet.3. Remove signal cables from connectors.4. Remove all cables from devices.
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------
- Do not work alone under hazardous conditions.
- High current through conductive materials could cause severe burns.
- Check that the power cord(s), plug(s), and sockets are in good condition.
- When grounding cannot be verified, disconnect the equipment from the utility power outlet before installing or connecting to other equipment. Reconnect the power cord only after all connections are made.
- Do not handle any metallic connector before the power has been disconnected.
- Connect the equipment to a three wire utility outlet (two poles plus ground). The receptacle must be connected to appropriate branch circuit/mains protection (fuse or circuit breaker). Connection to any other type of receptacle may result in risk of electrical shock.
- In order to maintain compliance with the EMC directive for products sold in Europe, output cords attached to the UPS should not exceed 10 meters in length.

  **CAUTION! De-energizing Safety**

- The UPS has an internal energy source, the battery. The output may be energized when the unit is not connected to a utility power outlet.
- To de-energize the UPS, press the OFF button to shut the equipment off. Unplug the UPS from the utility power outlet. Disconnect the external batteries where applicable and disconnect the internal battery (see *Operation and Setup Guide*). Push the ON button to de-energize the capacitors.

  **CAUTION! Battery Safety**

- **This equipment contains potentially hazardous voltages.** Refer to your product documentation to determine which parts are user-replaceable.
- Do not dispose of batteries in a fire; they may explode.
- Do not open or mutilate batteries. They contain an electrolyte that is toxic and harmful to the skin and eyes.
- To avoid personal injury due to energy hazard, remove wristwatches and jewelry such as rings when replacing the batteries. Use tools with insulated handles.
- Replace the battery module with the same number and type as originally installed in the equipment.

  **Be sure to deliver the spent battery to a recycling facility.**

1: INSTALLATION

Introduction

The IBM® UPS 3U Extend Run Battery Pack, for use with the IBM *UPS 7500XHV* and *UPS 10000XHV*, provides extended load protection and extra security during the uninterruptible power supply battery replacement.

The IBM *UPS 7500XHV* and *UPS 10000XHV* can support up to four external battery packs. Both units use the 3U Extend Run Battery Pack and are designed to operate in the rack-mount and tower configurations.

Battery pack connectors are color-coded and keyed to prevent improper connection.

For battery replacement and service information, see the *Uninterruptible Power Supply Operation and Setup Guide*.

Unpacking

Attention: Read the Safety Instructions before you install the battery packs.

Note: The illustrations in this document might differ slightly from your hardware.

Inspect the battery pack upon receipt. Accidents and damage can occur during shipment. Notify the carrier and your IBM marketing representative or authorized reseller if there is damage.

The packaging is recyclable; save it for reuse or dispose of it properly.

Check the package contents:

- Battery pack
- Front bezel
- Rail kit
- Tower conversion kit
- Accessory kit containing:
 - Quick Installation Guide
 - Documentation CD
 - Warranty flyer
 - Rack-mounting brackets
 - Hardware

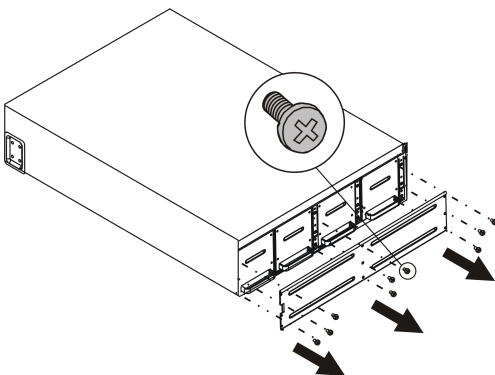
You will need the following tools to install the battery pack:

- Utility knife or scissors
- Two Philips screwdrivers (#1 and #2)
- Two wrenches (7/16" and 1/4")
- Cage nut insertion tool or flat-blade screwdriver (for installing cage nuts in some rack cabinets)

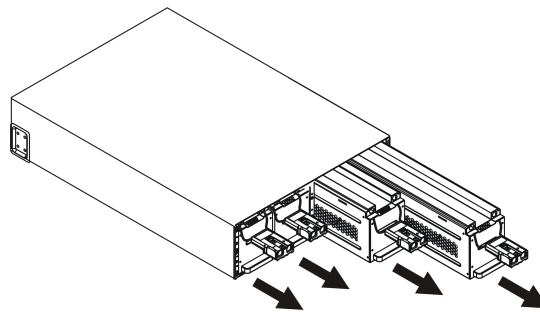
Removing the Battery Modules

Attention: The battery pack is heavy. To lighten the weight of the unit, remove the battery modules.

❶ Remove the battery door.



❷ Remove the battery modules.



Positioning the Battery Pack



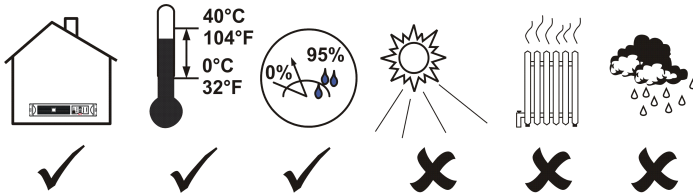
18–32 kg
(40–70 lb)

Attention: The unit will remain heavy without the batteries. Select a location sturdy enough to handle the weight.

Do not operate in excessive dust or in temperature and humidity conditions outside the specified limits.

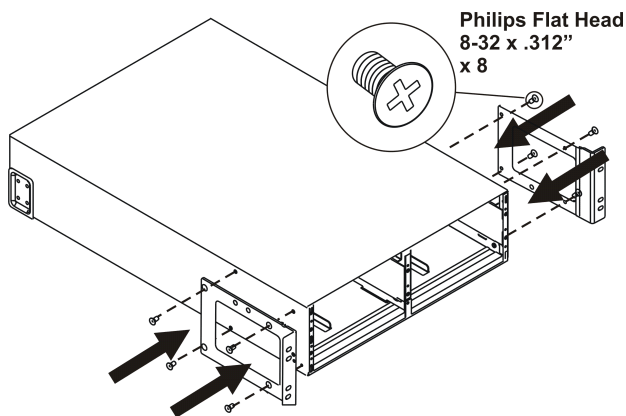
Make sure that the air vents on the front and rear of the unit are not blocked.

Placement of the unit should correspond with the following graphical depiction.

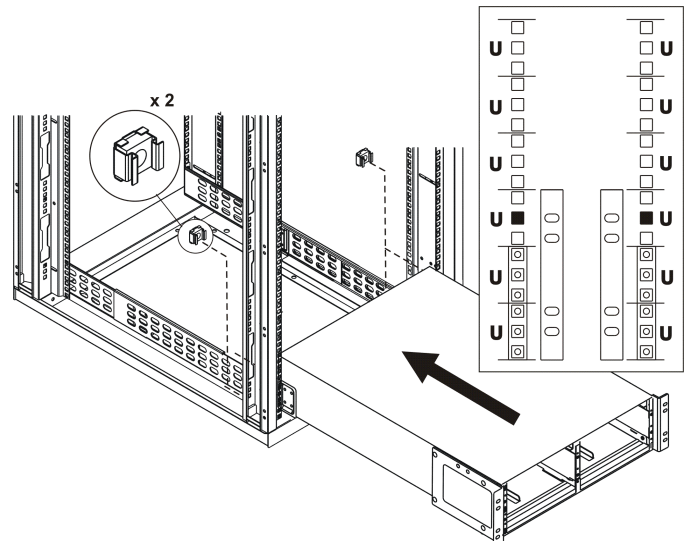


Mounting the Battery Pack in the Rack

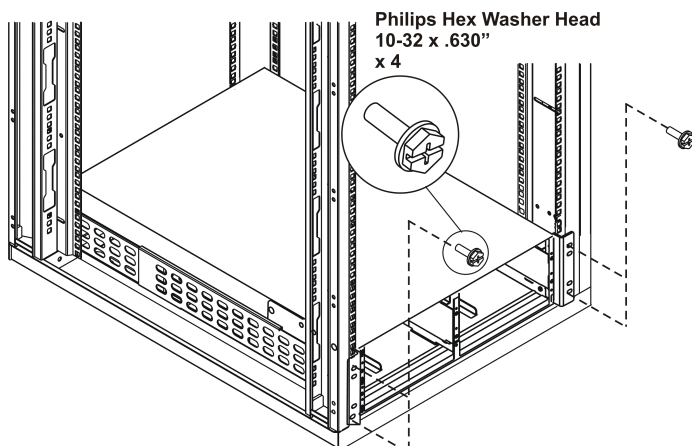
1 Attach the mounting brackets.



2 Install the rails per the rail installation diagram in the Rail Kit. Referencing the chart below, Install the cage nuts (or clip nuts). The solid squares indicate the cage nut or clip nut locations. Mount the battery pack in the rack. **Note:** The battery packs must be mounted below the uninterruptible power supply.



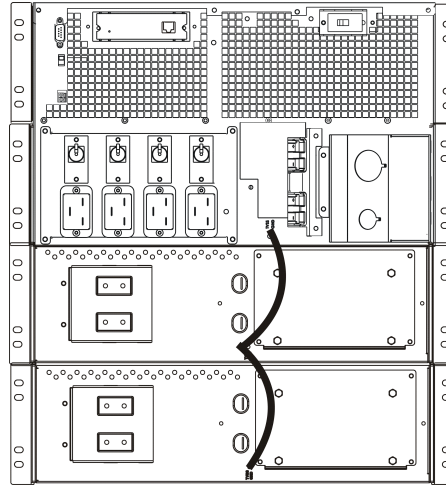
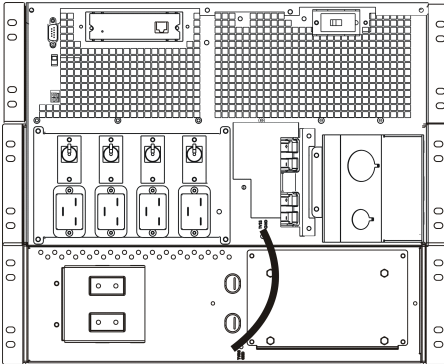
3 Secure in the rack.



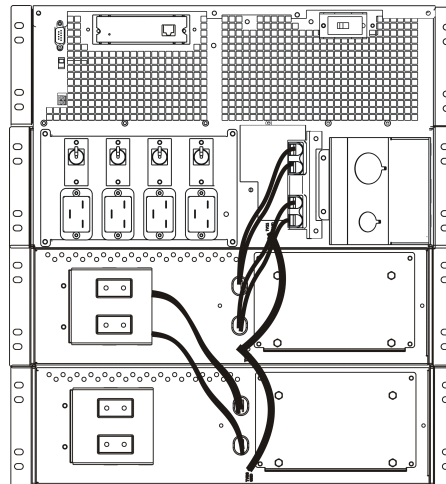
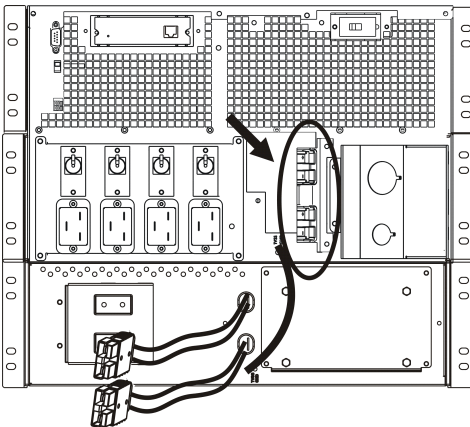
Connecting the Battery Pack(s) to the Uninterruptible Power Supply

Attention: To set the uninterruptible power supply to recognize the battery packs, see *Setting the Uninterruptible Power Supply to Recognize the Battery Packs via Terminal Mode*.

- 1 Connect the green/yellow ground wire hanging from the battery pack to the TVSS screw on the uninterruptible power supply. For multiple battery packs, connect the wire to the TVSS screw on the nearest battery pack.

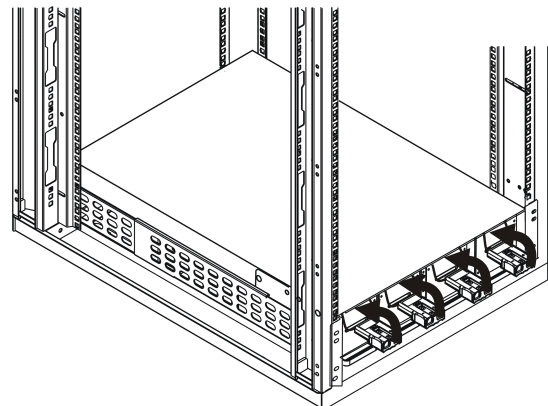
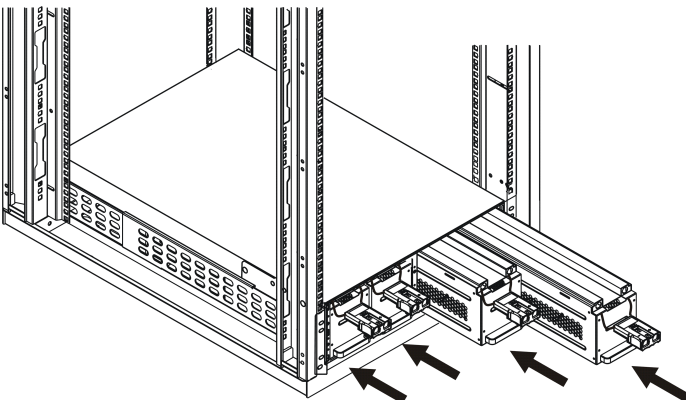


- 2 Connect to the uninterruptible power supply battery pack outlets (indicated below) using rear panel battery connectors. For multiple battery packs, connect the rear panel battery connectors to the outlets on the nearest battery pack.

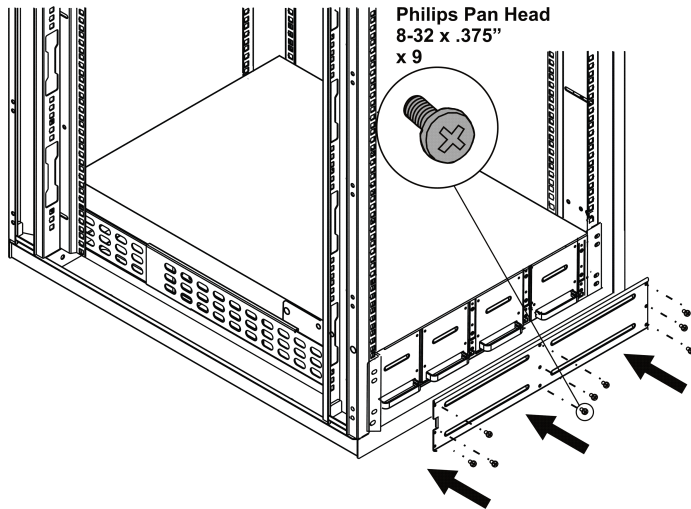


Installing and Connecting the Battery Modules and Attaching the Bezel

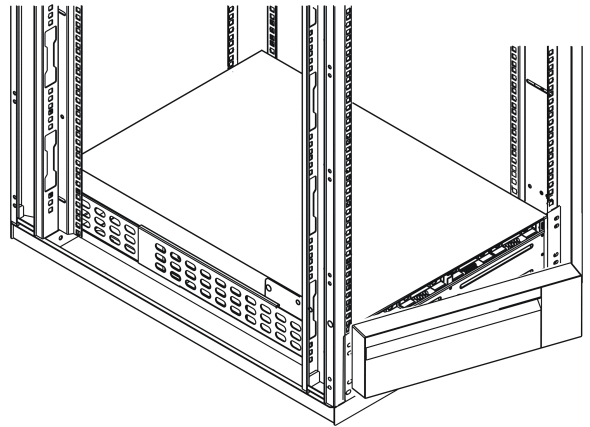
- 1 Reinstall the battery modules.
- 2 Connect the batteries.



- 3 Reinstall the battery door. Make sure that the cords are positioned so that they do not get pinched.



- 4 Attach the bezel.

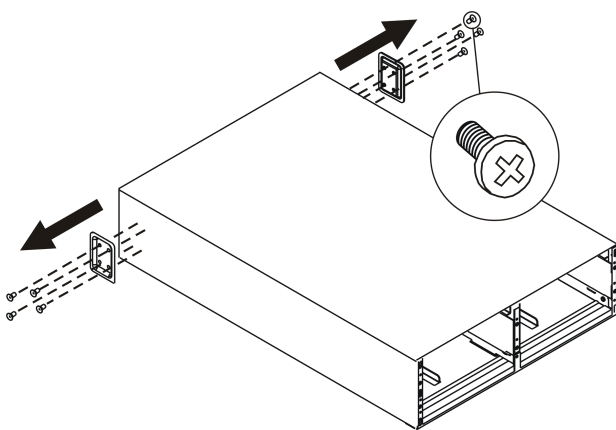


Tower Configuration and Connecting to the Uninterruptible Power Supply

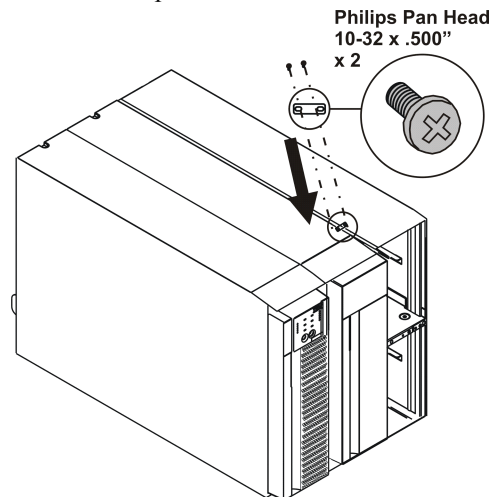
Attention: Before converting to tower configuration, remove the battery modules (see *Removing the Battery Modules*).

Note: The external battery packs must be installed to the right of the uninterruptible power supply when facing the front of the units.

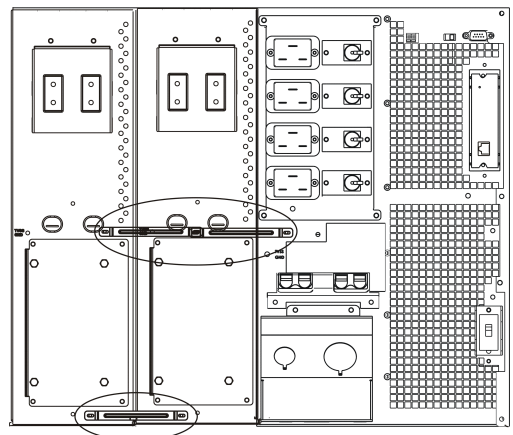
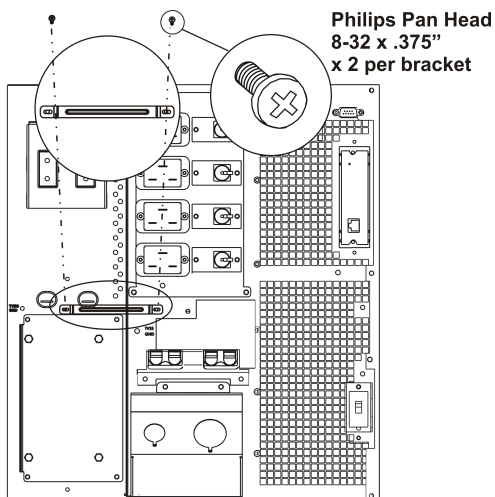
- 1 Remove the rail guides.



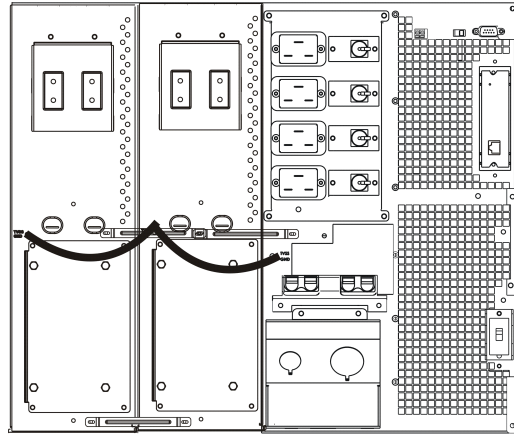
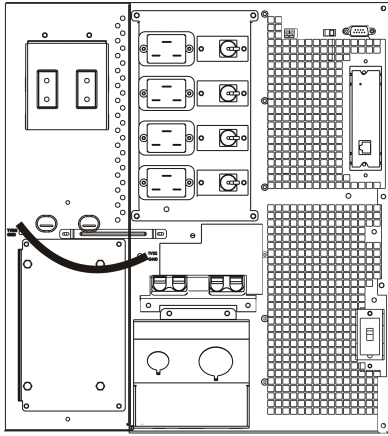
- 2 Install the top tie bracket.



- 3 Install the rear tie brackets. **Note:** Tie brackets on the center battery pack share a common screw.

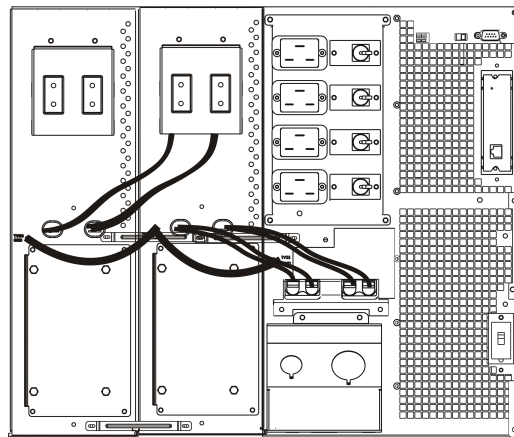
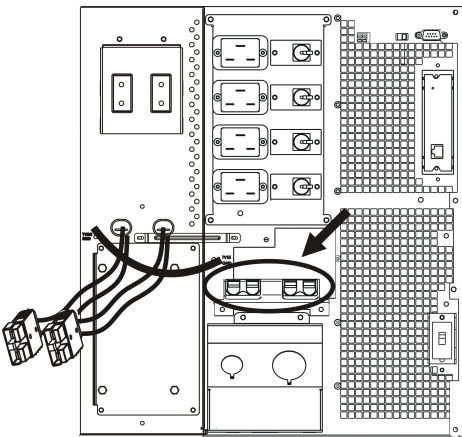


- 4 Connect the green/yellow ground wire hanging from the battery pack to the TVSS screw on the uninterruptible power supply. For multiple battery packs, connect the wire to the TVSS screw on the nearest battery pack.

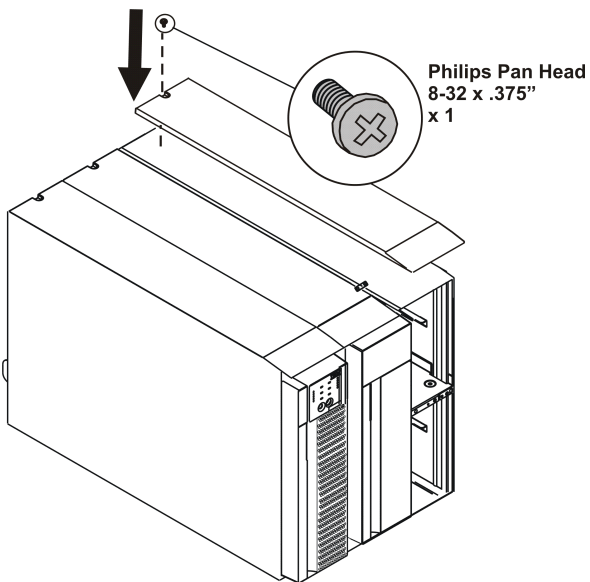


- 5 **Attention:** To set the uninterruptible power supply to recognize the battery packs, see *Setting the Uninterruptible Power Supply to Recognize the Battery Packs via Terminal Mode*.

Connect to the uninterruptible power supply battery pack outlets (indicated below) using rear panel battery connectors. For multiple battery packs, connect the rear panel battery connectors to the outlets on the nearest battery pack.

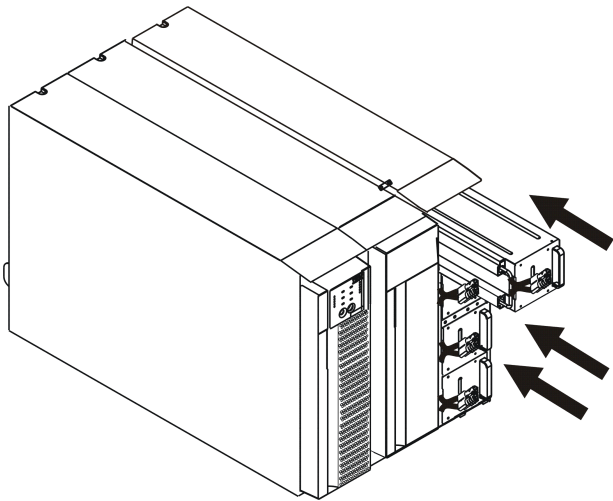


- 6 Install the top panel.

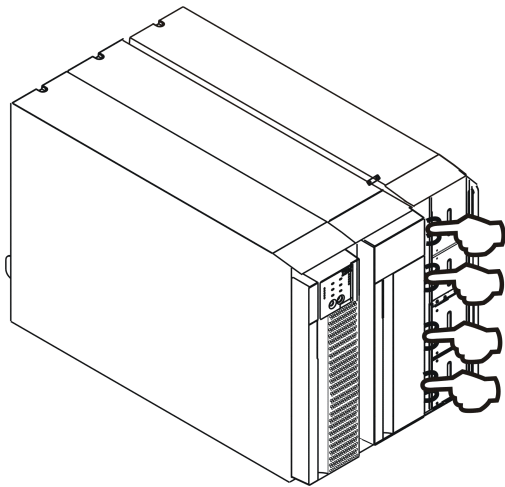


Installing and Connecting the Battery Modules and Attaching the Bezel

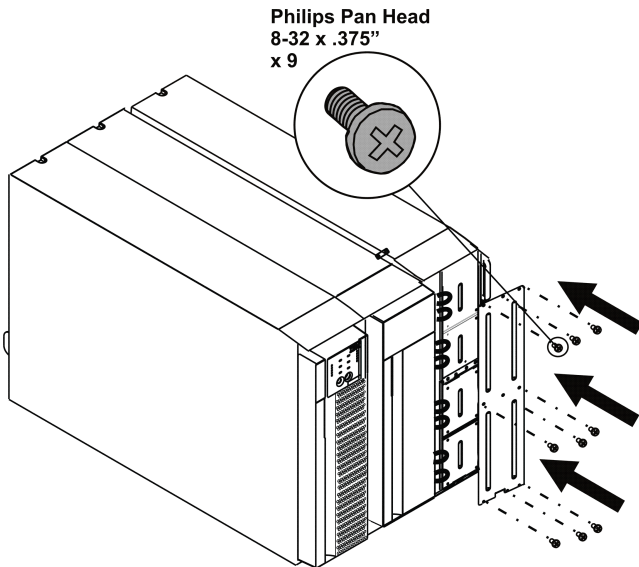
1 Reinstall all battery modules. Start installation at the bottom and work upward.



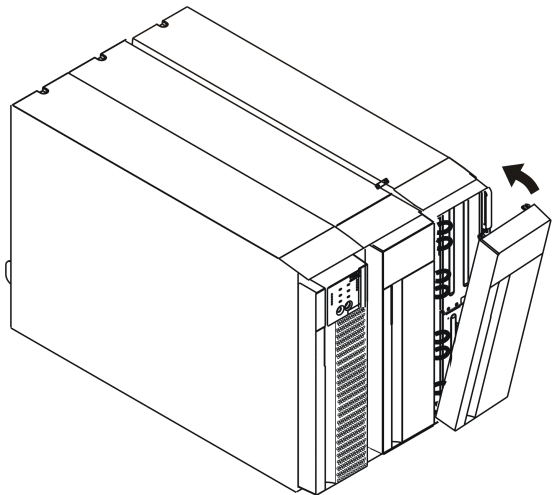
2 Connect the batteries.



3 Reinstall the battery door. Make sure that the cords are positioned so that they will not get pinched.



4 Attach the bezel.



Determining On Battery Runtime

The battery pack charges when connected to an uninterruptible power supply. See the battery runtime tables for corresponding recharge times. Do not expect full battery run capability during the initial charge period.

Battery Runtime Tables

The dark gray shaded areas in the charts represent minutes; the other areas represent hours.

Note: The recharge time is the approximate time it takes to get to 90% capacity from a complete discharge at a 50% load.

UPS 7500XHV Model:

Load (W)	Number of Battery Packs			
	Internal	+1	+2	+4
50	7.56	13.83	21.50	37.68
100	6.00	10.93	17.06	29.83
200	4.16	7.65	11.93	20.90
300	3.16	5.83	9.11	16.00
400	2.51	4.68	7.36	12.89
500	2.11	3.91	6.12	10.75
600	1.80	3.33	5.25	9.23
700	1.56	2.90	4.52	8.00
800	1.38	2.56	4.01	7.03
900	1.23	2.30	3.61	6.38
1000	1.10	2.08	3.28	5.78
1200	55	1.73	2.74	4.83
1400	47	1.50	2.35	4.16
1600	41	1.28	2.05	3.63
1800	36	1.13	1.81	3.23
2000	32	1.00	1.61	2.90
2500	24	48	1.28	2.28
3000	19	39	1.05	1.88
3400	17	34	55	1.65
4000	13	28	46	1.36
5000	10	21	35	1.06
6000	7	16	28	52
Recharge Hours	3	7	10	17

UPS 10000XHV Model:

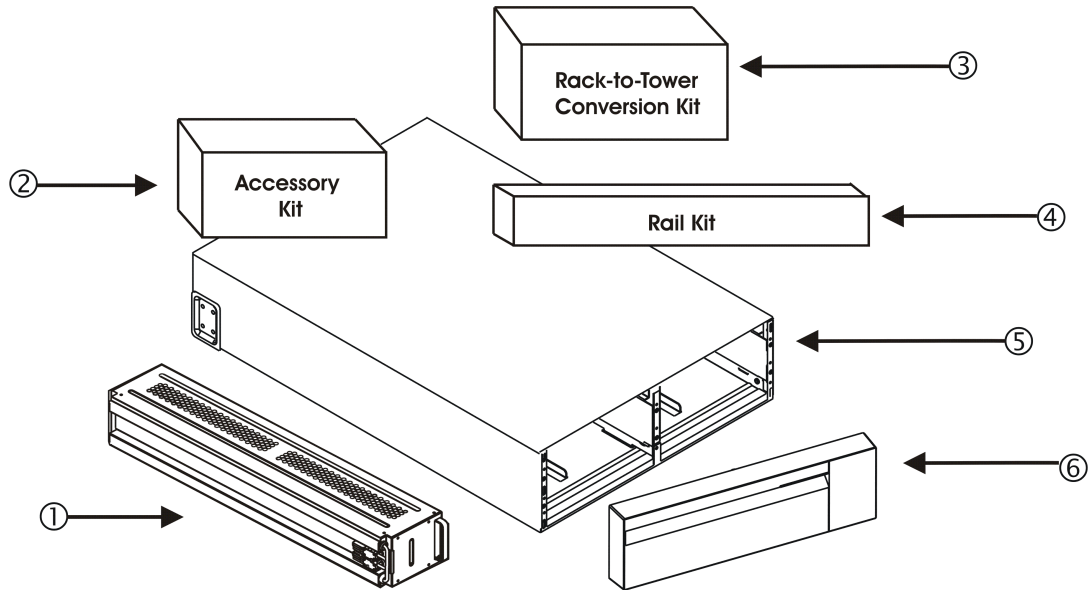
Load (W)	Number of Battery Packs			
	Internal	+1	+2	+4
50	7.56	13.83	21.55	37.68
100	6.00	10.93	17.06	29.83
200	4.16	7.65	11.93	20.90
300	3.16	5.83	9.11	16.00
400	2.55	4.68	7.35	12.88
500	2.11	3.91	6.12	10.75
600	1.80	3.33	5.24	9.21
700	1.56	2.90	4.56	8.03
800	1.38	2.56	4.05	7.11
900	1.23	2.30	3.61	6.38
1000	1.16	2.08	3.28	5.78
1200	55	1.73	2.73	4.85
1400	47	1.50	2.35	4.16
1600	41	1.28	2.05	3.63
1800	36	1.13	1.81	3.23
2000	32	1.00	1.61	2.90
2500	24	48	1.28	2.28
3000	19	39	1.05	1.88
3400	17	34	55	1.65
4000	13	28	46	1.36
5000	10	21	35	1.06
6000	7	16	28	52
7000	5	13	23	44
8000	4	11	20	37
Recharge Hours	3	7	10	17

2: HARDWARE MAINTENANCE INFORMATION

This chapter contains information about IBM customer replaceable unit (CRU) availability for the IBM UPS 3U Extend Run Battery Pack.

Customer Replaceable Unit Part Numbers

IBM CRU part numbers are subject to change without notice. This section contains a listing of the CRU part numbers available at the time this document was published.



INDEX	CRU PART #	DESCRIPTION
1	25R5591	Replacement Battery Module
2	25R5600	Accessory Kit
3	25R5597	Rack-to-Tower Conversion Kit
4	73P5769	Rail Kit
5	25R5588	Battery Pack Chassis
6	25R5595	Battery Pack Bezel

3: SETTING THE UNINTERRUPTIBLE POWER SUPPLY TO RECOGNIZE THE BATTERY PACKS VIA TERMINAL MODE

Terminal Mode is a menu driven interface that enables enhanced configuration of the uninterruptible power supply.

Connect the serial cable to the serial port on the back of the uninterruptible power supply.

When using PowerChute® Network Shutdown software:

1. Exit the PowerChute Business Edition agent and server using the following steps:
 - a. From the desktop, click **Start=> Settings=> Control Panel=> Administrative Tools=> Services**.
 - b. Select **PCBE Server and PCBE Agent**; then, right click the mouse and select **Stop**.
2. Open a terminal program, for example HyperTerminal.
From the desktop, click **Start => Programs => Accessories => Communication =>HyperTerminal**.
3. Double-click on the **HyperTerminal** icon.
 - a. Follow the prompts to choose a name and select an icon. Disregard the message, must install a modem, if it is displayed. Click **OK**.
 - b. Select the **COM** port that is connected to your uninterruptible power supply. The port settings are:
 - ✓ **bits per second - 2400**
 - ✓ **data - bits 8**
 - ✓ **parity - none**
 - ✓ **stop bit - 1**
 - ✓ **flow control - none**
 - c. Click Enter.
4. To set the number of external battery packs (IBM 3U Extend Run Battery Packs):
 - a. Press Enter to initiate terminal mode. Press Enter multiple times, until the **User Name** prompt is displayed. Follow the prompts. Type slowly, waiting until each character is displayed on the screen before typing the next character.
Network Management Card defaults:
 - User Name: **apc**
 - Password: **apc**
 - b. Press 1 and Enter to select **Device Manager**.
Select the model by entering the corresponding number, then press Enter.
 - c. Press 3 and Enter to select **Configuration**.
 - d. Press 1 and Enter to select **Battery**.
 - e. Press 2 and Enter to change the **Battery Settings**.
Type in the number of external battery packs (four battery modules per pack), then press Enter. (Number of packs: 1= internal battery module, 2 = 1 IBM 3U Extend Run Battery Pack, 3 = 2 IBM 3U Extend Run Battery Packs, etc.)
 - f. Press 3 and Enter to **Accept Changes**.
 - g. Press Esc multiple times to return to the main menu.
 - h. Press 4 and Enter to log out.

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