IBM®

3U EXTEND RUN BATTERY PACK - QUICK INSTALLATION GUIDE

46M5392

1: OVERVIEW

ATTENTION:

- Read the Safety Instructions before installing the uninterruptible power supply.
- The uninterruptible power supply and battery modules are heavy. Select a location sturdy enough to handle the weight.
- Refer to the *Extend Run Battery Pack Operation and Setup Guide* for information on how to obtain service and support for the unit.

NOTE: Illustrations in this document might vary in appearance from the purchased unit.

- Utility knife or scissors
- Two Phillips screwdrivers (#1 and #2)
- One wrench (10mm)
- Cage nut insertion tool or flat-blade screwdriver (for installing cage nuts in some rack cabinets)

2: INSTALLATION

DANGER

To prevent a possible shock from touching two surfaces with different protective ground (earth), use one hand, when possible, to connect or disconnect signal cables. (D001)

DANGER

When working on or around the system, observe the following precautions:

Electrical voltage and current from power, telephone, and communication cables are hazardous. To avoid a shock hazard:

- Connect power to this unit only with the IBM provided power cord. Do not use the IBM provided power cord for any other product.

- Do not open or service any power supply assembly.

- Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.

- The product might be equipped with multiple power cords. To remove all hazardous voltages, disconnect all power cords.

- Connect all power cords to a properly wired and grounded electrical outlet. Ensure that the outlet supplies proper voltage and phase rotation according to the system rating plate.

- Connect any equipment that will be attached to this product to properly wired outlets.

- 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 procedures when installing, moving, or opening covers on this product or attached devices.

To disconnect:

1. Turn off everything (unless instructed otherwise).
2. Remove the power cords from the outlets.
3. Remove the signal cables from the connectors.
4. Remove all cables from the devices.

To connect:

5. Turn off everything (unless instructed otherwise).
6. Attach all cables to the devices.
7. Attach the signal cables to the connectors.
8. Attach the power cords to the outlets.
9. Turn on the devices.

(D005)

DANGER

Uninterruptible power supply (UPS) units contain specific hazardous materials. Observe the following precautions if your product contains a UPS:

- The UPS contains lethal voltages. All repairs and service must be performed only by an authorized service support representative. There are no user serviceable parts inside the UPS.

- The UPS contains its own energy source (batteries). The output receptacles might carry live voltage even when the UPS is not connected to an AC supply.

- Do not remove or unplug the input cord when the UPS is turned on. This removes the safety ground from the UPS and the equipment connected to the UPS.

- The UPS is heavy because of the electronics and batteries that are required. To avoid injury, observe the following precautions:
  - Do not attempt to lift the UPS by yourself. Ask another service representative for assistance.
  - Remove the battery, electronics assembly, or both from the UPS before removing the UPS from the shipping carton or installing or removing the UPS in the rack. (D007)

CAUTION

Energy hazard present. Shorting might result in system outage and possible physical injury.
Remove all metallic jewelry before servicing. (C001)

CAUTION

Lead-acid batteries can present a risk of electrical burn from high, short-circuit current. Avoid battery contact with metal materials; remove watches, rings, or other metal objects, and use tools with insulated handles. To avoid possible explosion, do not burn.

Exchange only with the IBM-approved part. Recycle or discard the battery as instructed by local regulations. In the United States, IBM has a process for the collection of this battery. For information, call 1-800-426-4333. Have the IBM part number for the battery unit available when you call. (C004)

or   >32 kg (70.5 lb)   or   32-55 kg (70.5-121.2 lb)
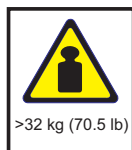
CAUTION

The weight of this part or unit is between 32 and 55 kg (70.5 and 121.2 lb). It takes three persons to safely lift this unit. (C010)
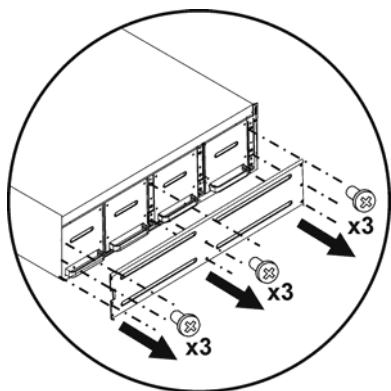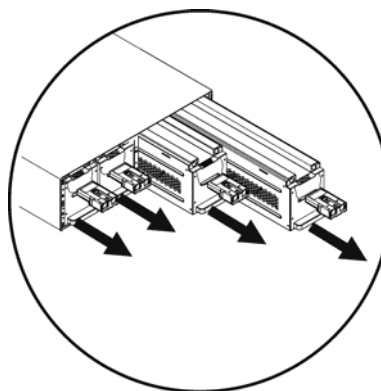
CAUTION

To avoid personal injury, before lifting this unit, remove all appropriate subassemblies per instructions to reduce the system weight. (C012)

Removing the Battery Modules

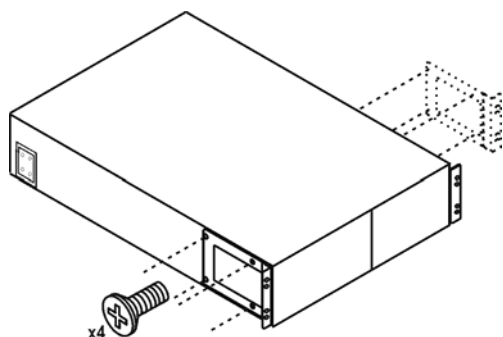❶ Remove the nine screws that secure the battery compartment door.

❷ Remove the battery modules.

Installing the Extend Run Battery Pack in a Rack

❶ Secure the rack-mount brackets to the extend run battery pack.

❷ Refer to the instruction sheet included in the rail kit for rail installation details. Refer to the diagram below for cage nut (clip nut) installation. The solid squares indicate the cage nut (clip nut) locations. Install the extend run battery pack at the bottom of the rack. The uninterruptible power supply must be installed above all of the extend run battery packs utilized in the configuration.
Note: Leave 3 U of space below the uninterruptible power supply for each battery pack to be installed.
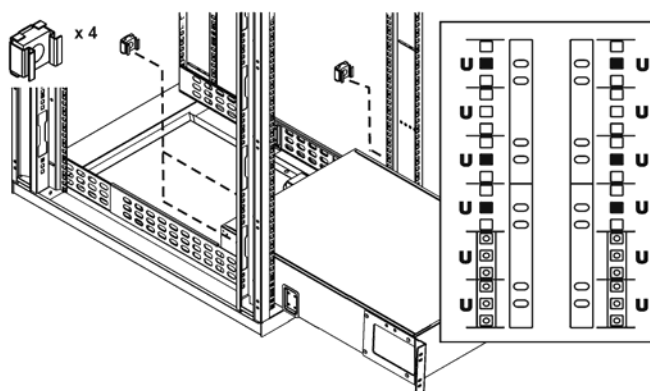
❸ Secure the battery pack in the rack using four Phillips hex screws.
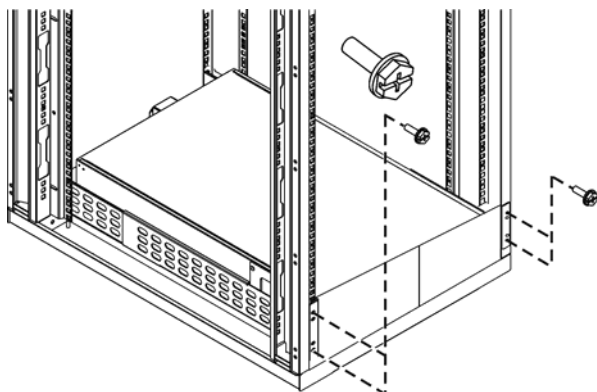
Connecting Extend Run Battery Packs to the Uninterruptible Power Supply

CAUTION

Energy hazard present. Shorting might result in system outage and possible physical injury.
Remove all metallic jewelry before servicing. (C001)

To configure the uninterruptible power supply to recognize the battery packs, refer to *Setting the Uninterruptible Power Supply to Recognize the Battery Packs through Terminal Mode* **section in this manual.**
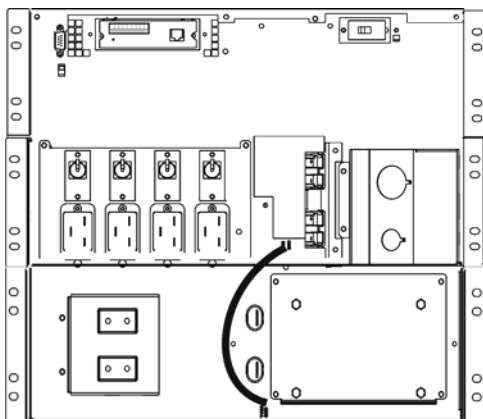
RACK-MOUNT CONFIGURATION

Connecting a single extend run battery pack to the uninterruptible power supply

❶ Locate the TVSS GND screw on the rear panel of the uninterruptible power supply and on the rear panel of each extend run battery pack.
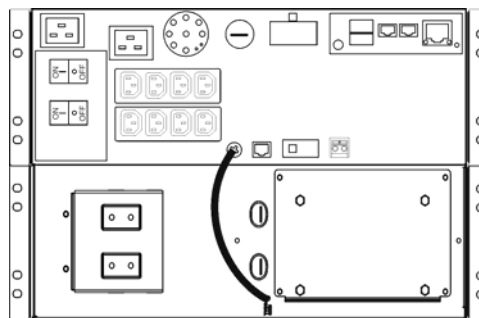
Locate the green/yellow ground wire secured to the rear panel of each extend run battery pack.

Connect the ground wire to the TVSS GND screw as shown in the diagrams below.
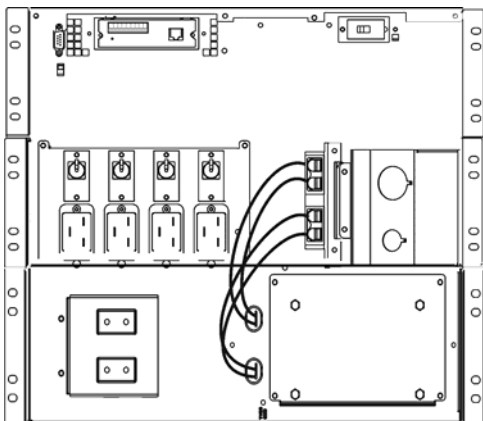
IBM7500/10000XHV   IBM5000XHV

❷ Locate the battery pack connectors on the rear panel of the uninterruptible power supply and the extend run battery pack.
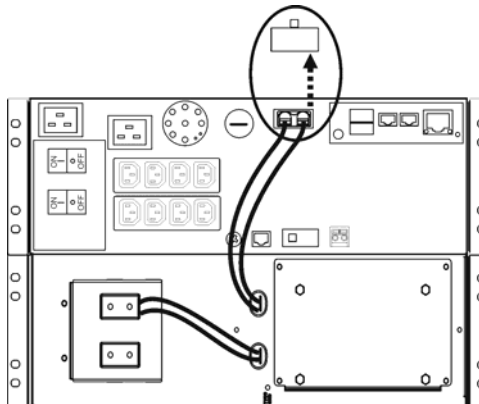
IBM7500/10000XHV

NOTE: The connectors on the 7500/1000XHV models are color coded and keyed to ensure proper battery pack connection.

IBM5000XHV

NOTE: The connectors on the 5000XHV models must be connected exactly as depicted in the diagram to ensure proper battery pack connection. The top connector on the battery pack must be plugged into the top connector on the uninterruptible power supply.

5000XHV models only: There is a cover over the battery connector on the uninterruptible power supply. Remove the screw that secures the cover and remove the cover.
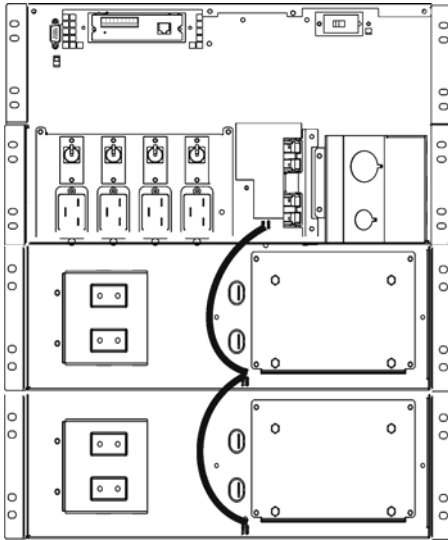
Connecting multiple extend run battery packs to the uninterruptible power supply

❶ Locate the TVSS GND screw on the rear panel of the uninterruptible power supply and on the rear panel of each extend run battery pack.
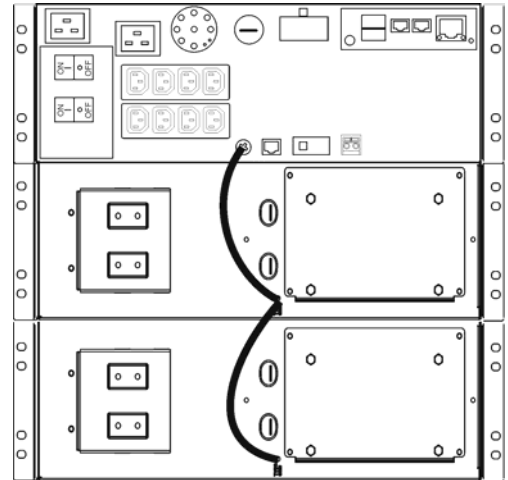
Locate the green/yellow ground wire secured to the rear panel of each extend run battery pack.

Connect the ground wire to the TVSS GND screw as shown in the diagrams below.
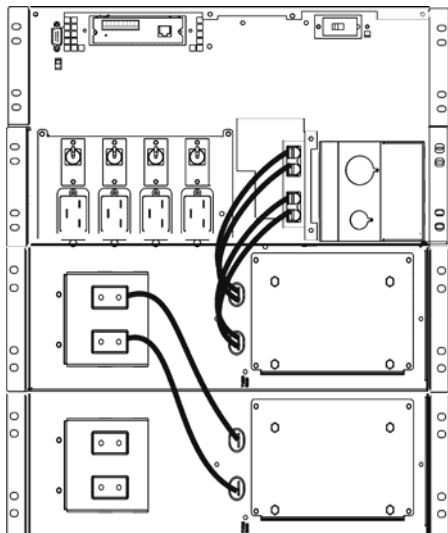
IBM7500/10000XHV   IBM5000XHV

❷ Locate the battery pack connectors on the rear panel of the uninterruptible power supply and the extend run battery pack.
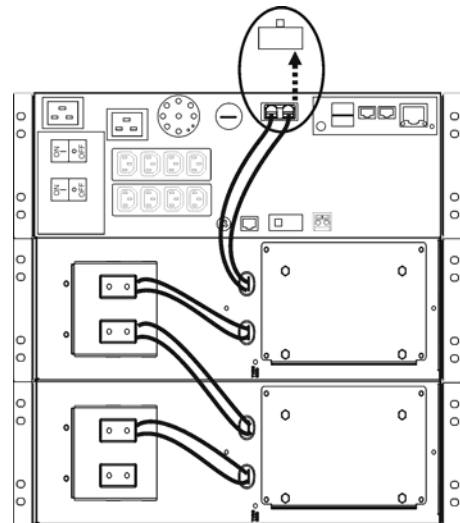
IBM7500/10000XHV

NOTE: The connectors on the 7500/1000XHV models are color coded and keyed to ensure proper battery pack connection.


IBM5000XHV

NOTE: The connectors on the 5000XHV models must be connected exactly as depicted in the diagram to ensure proper battery pack connection. The top connector on the battery pack must be plugged into the top connector on the uninterruptible power supply.

5000XHV models only: There is a cover over the battery connector on the uninterruptible power supply. Remove the screw that secures the cover and remove the cover.
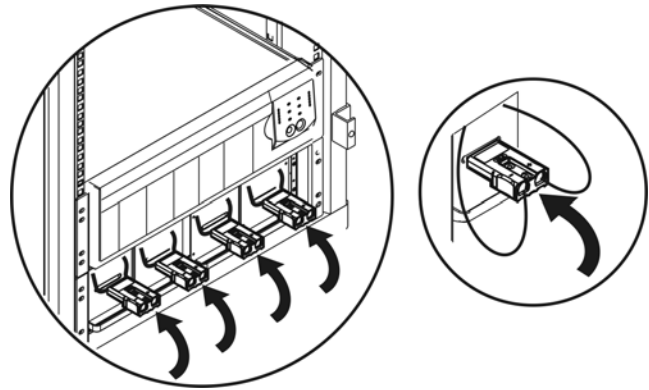
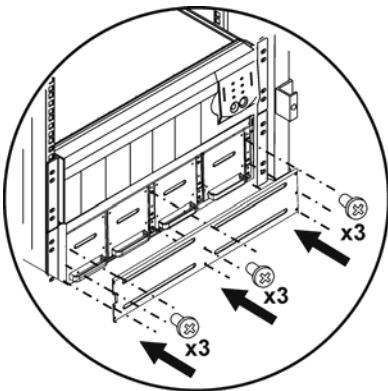## Installing and Connecting the Battery Modules and Attaching the Bezel
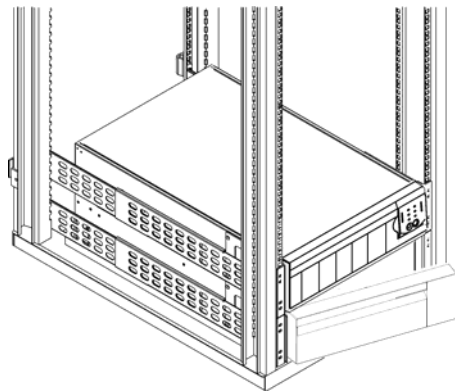
❶ Reinstall all of the battery modules.
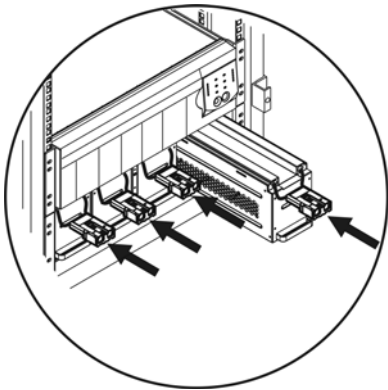
❷ Connect all of the battery modules.

❺ Secure the battery compartment door using all nine screws. Be sure the battery cables are positioned so that they are not pinched.
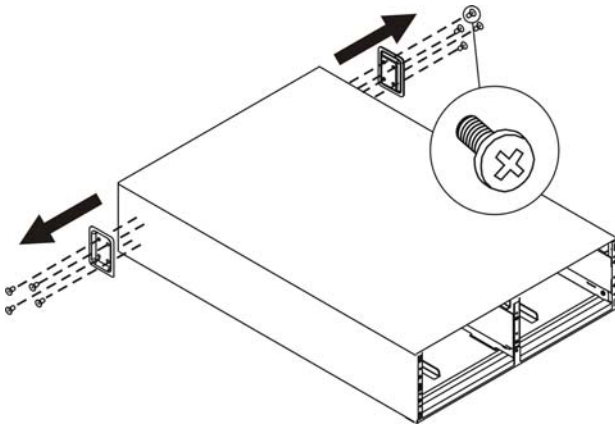
❻ Attach the bezel.

## TOWER CONFIGURATION 7500XHV/10000XHV MODELS ONLY

Before converting to tower configuration, remove the battery modules. Refer to *Removing the Battery Modules* in this manual.

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

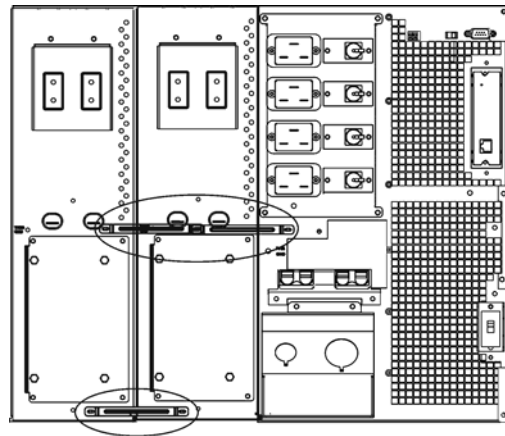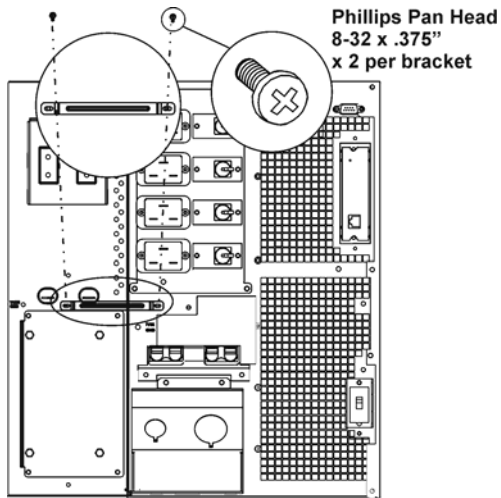❶ Remove the rail guides.

❷ Install the top tie bracket.

Phillips Pan Head
10-32 x .500"
x 2
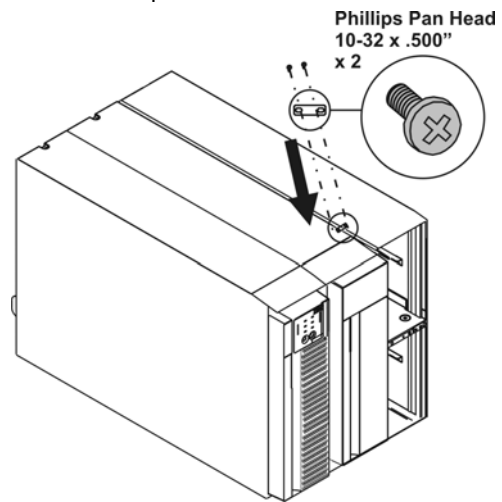
❸ Install the rear panel tie brackets. **Note:** Tie brackets on the center battery pack share a common screw.

Phillips Pan Head
8-32 x .375"
x 2 per bracket

❹ Locate the TVSS GND screw on the rear panel of the uninterruptible power supply and on the rear panel of each extend run battery pack.

Locate the green/yellow ground wire secured to the rear panel of each extend run battery pack.

Connect the ground wire to the TVSS GND screw as shown in the diagrams below. For multiple battery packs, connect the wire to the TVSS screw on the nearest battery pack.
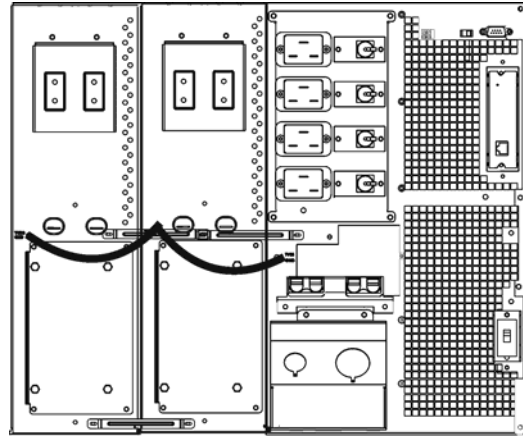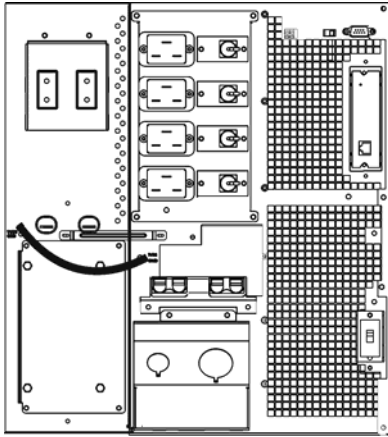
❺ Locate the battery pack connectors on the rear panel of the uninterruptible power supply and the extend run battery pack.
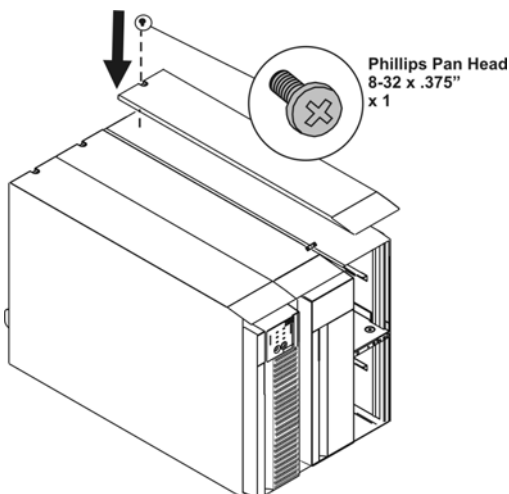
NOTE: The connectors on the 7500XHV/1000XHV models are color coded and keyed to ensure proper battery pack connection.

❻ Install the top panel.

Phillips Pan Head
8-32 x .375"
x 1
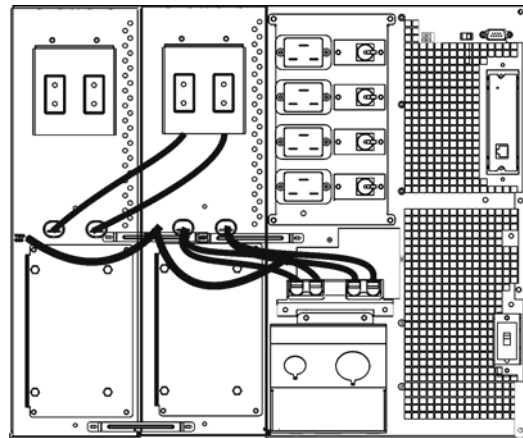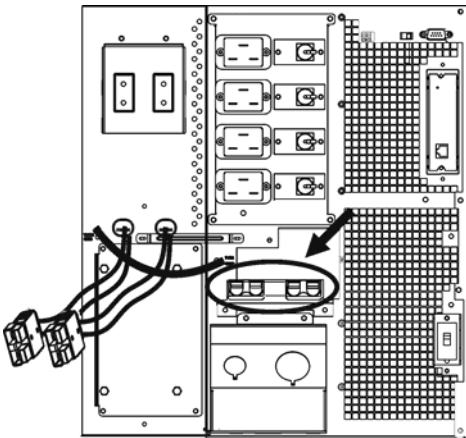
3: CONFIGURE THE UNINTERRUPTIBLE POWER SUPPLY TO RECOGNIZE THE BATTERY PACKS THROUGH TERMINAL MODE

The uninterruptible power supply must be configured to recognize the number of connected external battery packs. Configuration is done through the supplied PowerChute® software, or through terminal mode. Terminal Mode is a menu driven interface that enables enhanced configuration of the uninterruptible power supply through a serial connection.

The uninterruptible power supply must be configured to recognize the number of connected external battery packs. Configuration is done through the supplied PowerChute® software, or through terminal mode. Terminal Mode is a menu driven interface that enables enhanced configuration of the uninterruptible power supply through a serial connection.

5000XHV models only:
Connect the serial cable to the serial port on the rear side of the uninterruptible power supply.

1. When using the PowerChute® Business Edition or Network Shutdown software, stop the PowerChute Business Edition agent and server services using the following steps:

   a. From the desktop, click **Start**=> **Settings**=> **Control Panel**=> **Administrative Tools**=> **Services**.

   b. Select **PCBE Server** and **PCBE Agent** or **APC PBE Agent**, then, right click the mouse and select **Stop**.

2. The Network Management Card (NMC) is factory installed in the IBM 5000XHV SmartSlot located on the rear panel. The NMC must be removed from the SmartSlot prior to uninterruptible power supply terminal mode configuration.
   Remove the two screws that secure the NMC to the uninterruptible power supply chassis. Carefully remove the NMC.

3. Open a terminal program, for example HyperTerminal.

   From the desktop, click **Start** => **Programs** => **Accessories** => **Communication** =>**HyperTerminal.**

4. 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 the uninterruptible power supply. The port settings are:

      - ✓ **bits per second - 9600**
      - ✓ **data - bits 8**
      - ✓ **parity - none**
      - ✓ **stop bit - 1**
      - ✓ **flow control - none**

   c. Click Enter.

5. Once the blank terminal window is open, follow these steps to configure the output voltage:

   a. Press **Enter** to initiate terminal mode.

   a) Press **1** to select uninterruptible power supply **Settings**.
      Wait for the uninterruptible power supply **Settings** menu to appear on the screen.

   c. Press **D** to select **Number of External Battery Packs**.

   d. Select the number external battery packs connected to the uninterruptible power supply, then press **Y** to confirm.

   f. Press **Esc** multiple times until logged out.

6. Reinstall the NMC using the two screws previously removed.

7. Start the PowerChute Business Edition agent and server services using the following steps:

   a. From the desktop, click **Start**=> **Settings**=> **Control Panel**=> **Administrative Tools**=> **Services**.

   b. Select **PCBE Server** and **PCBE Agent** or **APC PBE Agent**; then, right click the mouse and select **Start**.

7500/10000XHV models only:

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.