

Power Cabinet Series

User's Manual



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Introduction

Thank you for purchasing this Minuteman Power Technologies cabinet. It has been designed and manufactured to provide many years of trouble-free service.

**IMPORTANT SAFETY INSTRUCTIONS
SAVE THESE INSTRUCTIONS!
CONSIGNES DE SÉCURITÉ IMPORTANTES
SAUVEGARDEZ CES CONSIGNES!**

Please read this manual and comply with all warnings and instructions before installing your cabinet as it provides important information that should be followed during its installation and maintenance, allowing you to correctly set it for maximum safety and performance.

Veuillez lire ce manuel et respecter tous les avertissements et instructions avant d'installer votre armoire car elle fournit des informations importantes qui doivent être suivies lors de son installation et de sa maintenance, vous permettant de la régler correctement pour une sécurité et des performances maximales.

WARNINGS AND CAUTION STATEMENTS:

- Upon arrival, inspect the crate and cabinet for shipping damage. Do not open the crate or use the cabinet if there is any evidence of damage.

- Leave the cabinet in the shipping crate until it has been moved as close to the final installation location as possible. The casters on the cabinet are designed for minor position adjustments within the final installation area only. The casters are not designed for moving the cabinet over longer distances.
- Use caution when opening the crate. The potential for scratching, or damage to, the cabinet exists and is not covered by the product warranty.
- Save all the shipping materials for later use. Repacking and shipping the cabinet without the original packing materials may cause product damage that will void the product warranty.
- **DANGER: STABILITY HAZARD, CABINETS ARE TO BE INSTALLED BY QUALIFIED SERVICE PERSONNEL ONLY.**
- The cabinet is extremely heavy. Use caution when handling and do not attempt to unpack, move or install without assistance. Use a forklift or pallet jack to move the cabinet while in the shipping crate.
- A rolling cabinet can cause personal injury and property damage if not properly supervised. When moving on a ramp or incline use extreme caution. Do not attempt to move on inclines steeper than 1:12.
- When rolling the cabinet on its casters, always push from behind and never pull it toward you.
- Do not push the cabinet using the side panels, it can create a tipping hazard causing property damage or personal injury.
- The casters are not designed to provide long-term support for the cabinet after final its installation. Use the levelers to provide long-term support.
- Install the cabinet in a structurally sound area with a level floor that is able to bear the weight of the cabinet, all the equipment that will be installed in the cabinet.

- Install the cabinet securely to the building structure, using the shipping brackets as illustrated in the **Cabinet Installation** section of this manual.
- Keep the cabinet in a controlled indoor environment, protected from moisture, extreme temperatures, flammable liquids and gasses, conductive contaminants, dust and direct sunlight.
- To prevent overheating, leave adequate space at the front and rear of the cabinet to ensure proper ventilation. Do not block, cover or insert objects into mesh doors or openings in the cabinet.
- Do not place any objects on the cabinet, especially liquid containers.
- When shipping the cabinet, the combined weight of the cabinet and installed equipment must not exceed the load capacity of the pallet. Para Systems is not responsible for any damage that occurs during re-shipment.
- Use of this equipment in life support applications where failure of this equipment can reasonably be expected to cause the failure of the life support equipment or to significantly affect its safety or effectiveness is not recommended.

Overview

Cabinet Models	Rack Units	Load Max	Dimensions (HxWxD)	Weight
MM24UCAB-SD	24U	3,300 lbs.	46.9" x 23.6" x 42.1"	178.6 lbs.
MM42UCAB-SD	42U	3,300 lbs.	78.4" x 23.6" x 42.1"	312.6 lbs.
MM24UCAB-ED	24U	3,300 lbs.	46.9" x 23.6" x 47.2"	196.2 lbs.
MM42UCAB-ED	42U	3,300 lbs.	78.4" x 23.6" x 47.2"	305.3 lbs.

Installation

Package Contents:

Cabinet

(2) Side Panels - 24U models (4) Side Panels - 42U models

(50) M6 Screws

(50) M6 Washers

(50) M6 Nuts

(2) Door Keys

User Manual

Unpacking:

Note: The shipping crate used for the enclosure contains a ramp for removal and placement. Please make sure not to discard any items until the cabinet is located in its final installation site.

- 1** Confirm that the cabinet packaging is upright and stable. Remove the packing materials that surround the cabinet. **WARNING: Do not scratch the enclosure or cut the heavy plastic bag beneath the shrink-wrap. Do not push or pull the enclosure while unpacking.**
- 2** Save all packing materials, (including the pallet, shrink wrap, box cover and hardened corners for later use), unless you are certain they will not be required. The packing materials are recyclable.
- 3** Ramps are included with the pallet and are securely wrapped to the side of the cabinet. Cut the banding straps used to anchor them and set the ramps aside.

4 Examine the cabinet for any damage or loose parts. Confirm that all parts are present. If anything is missing or damaged, contact Para Systems for assistance. Do not attempt to use the cabinet if it has been damaged.

5 Use a 13mm wrench to remove the shipping brackets anchoring the front and rear of the cabinet to the pallet **A** . Be extremely careful, as the cabinet could shift unexpectedly after bracket removal. Save the brackets and bracket hardware for later use.



Figure A

6 Lay the two enclosed ramps on the front or rear of the pallet, aligning the holes on the ramp with the pre-threaded holes on the pallet **B** . Use the bolts removed from the shipping brackets to anchor the ramps to the shipping pallet using the pre-threaded inserts.



Figure B

- 7 With one person at the front and rear of the cabinet, slowly move the cabinet down the installed ramps of the shipping pallet **C** until all four casters are resting solid on the floor.

WARNING: A minimum two individuals are needed to remove the cabinet from the pallet. Be extremely careful.



Figure C

- 8 Use the casters to move the cabinet over a level, smooth, stable surface by pushing it from the front or rear (do not roll over carpet or soft surfaces). Do not attempt to roll the cabinet over long distances. The cabinet should be moved close to its installation location inside its shipping container before it is unpacked. (Use a forklift or pallet jack to move the shipping container.)

Set up:

WARNING: The cabinet must be stabilized and level before attempting to install additional equipment. Use the levelers attached to each bottom corner of the cabinet to provide long-term support. Install the enclosure in a structurally sound area with a level floor that is able to bear the weight of the enclosure and all equipment that will be installed in the cabinet.

- 9 After the cabinet has been moved to its final installation location, use a level to check the slope of the floor. If the floor slopes more than 3%, choose an alternate installation site.

- 10 Use an open-end wrench to lower each leveler **D** until it reaches the floor. (There are 4 levelers, 2 at the front and 2 at the rear.) Make sure each leveler contacts the floor solidly.
Note: Lower a leveler by turning it clockwise; raise a leveler by turning it counter-clockwise.

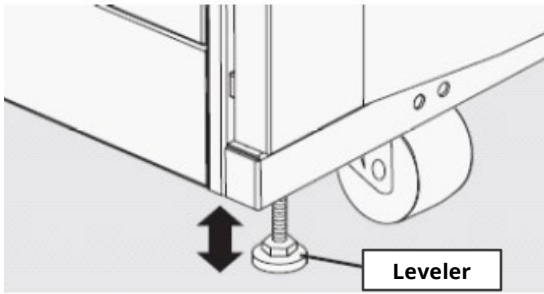


Figure D

- 11** After lowering each leveler, use the carpenter's level to confirm that the cabinet is level in all directions. Adjust the levelers as required until the cabinet is level.

NOTE: For additional cabinet stability, use the two removed shipping brackets to secure the cabinet to the floor of the building structure. Use an open-end wrench to connect the brackets to the mounting points of the cabinet. Use appropriate user-supplied anchors to attach the brackets to the floor of the installation site.

Ground Connection:

All components of the cabinet are grounded to its frame. Use the enclosure's front or rear threaded grounding point and an M6 screw (included) to connect the frame of the cabinet **E** directly to your facility's earth ground connection with an 8 AWG wire. Route the ground wire under the cabinet's frame to ensure unhindered door operation. **WARNING: Do not use the cabinet without an earth ground connection.**

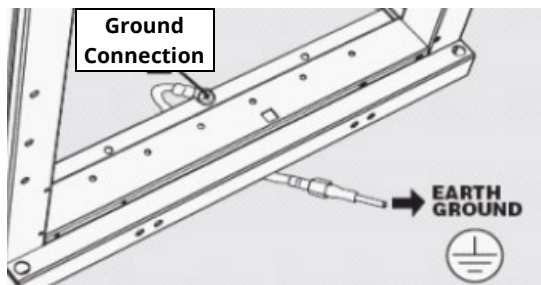


Figure E

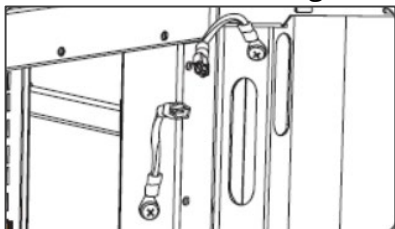
Configuration

Adding or Removing Front and Rear Doors:

WARNING: Do not attempt to add, remove or alter the doors without assistance.

Removing Door:

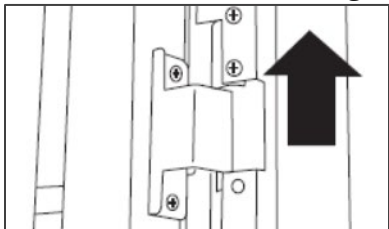
- 1 Disconnect the door's ground wire.



- 2 Open the door until it is perpendicular (90 degrees) to the front of the cabinet.



- 3** Lift the door from the hinges and remove it from the cabinet.

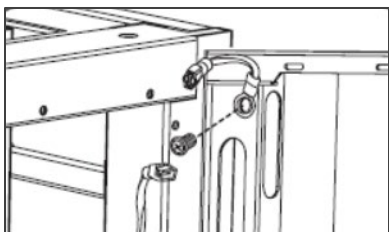


To Reinstall Door, Reverse Steps 1-3

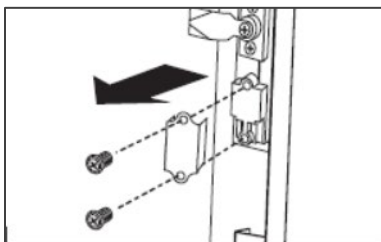
(Optional) If the cabinet is joined to another cabinet, turn the door back toward itself as you lift it from the hinges.

Reversing the Front Door:

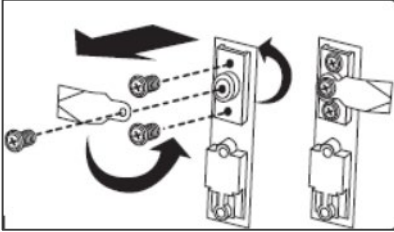
- 4** Remove the screw connecting the ground wire to the inside of the door.



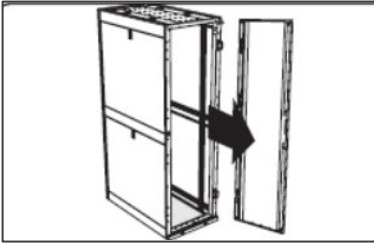
- 5** Remove the 2 screws connecting the door handle to the door. Remove the door handle.



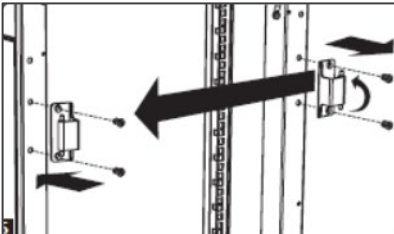
- 6 Remove the screw and washer from the rear of the door handle and remove the latching mechanism. Rotate the latch washer counter-clockwise 90 degrees and reverse the latch so it points in the opposite direction, then use the screw and washer to re-attach the latch to the rear of the door handle.



- 7 Remove the door by following the steps in the "Removing Door" section.

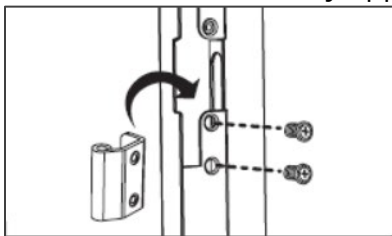


- 8 Remove the door hinges from the cabinet, rotate them 180° and attach them on the opposite side of the cabinet.

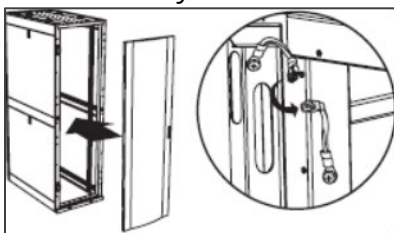


Note: The alternate door hinge attachment points have plastic plugs in the screw holes. Remove the plugs and insert them in the original door hinge attachment points.

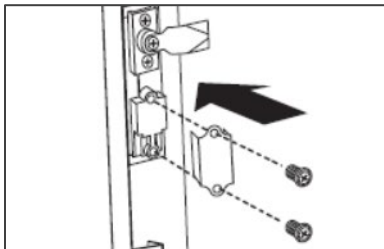
- 9** Unscrew the 2 hinge mechanisms from the hinge openings inside the door, then reattach each of them using the set of screw holes immediately opposite their original position.



- 10** Rotate the door 180° and reinstall it on the cabinet. Remember to connect the ground wire to the inside of the door, using the attachment point nearest the hinge at the top of the door. The attachment point is marked with the ground connection symbol: .



- 11** Reinstall the door handle.

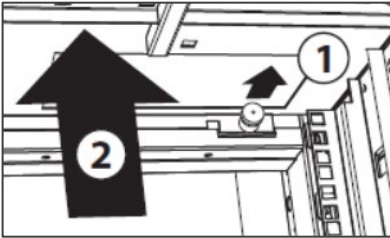


Adding or Removing the Roof Panel:

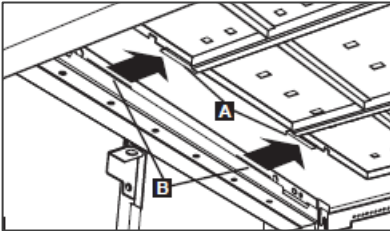
WARNING: Do not attempt to use the roof panel for weight-bearing purposes other than those explicitly described and approved by Para Systems. Do not attempt to add or remove the roof panel without assistance.

Removing the Roof Panel:

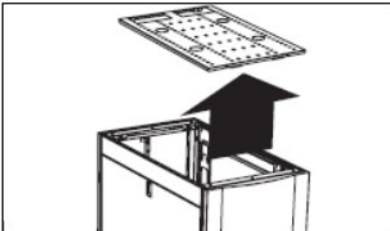
- 12** Pull the 2 pins near the rear of the roof panel. While holding the pins, push the roof panel upward.



- 13** Remove the roof panel tabs **A** from the roof panel attachment slots **B** in the cabinet frame.



- 14** Lift the roof panel from the cabinet.



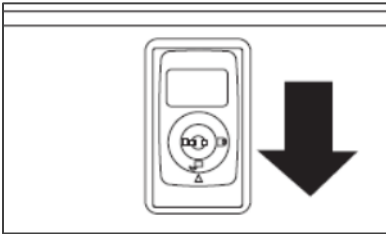
To Reinstall the Roof Panel, Reverse Steps 12-14

Adding or Removing the Side Panels:

WARNING: Do not attempt to add, remove or alter the side panels without assistance.

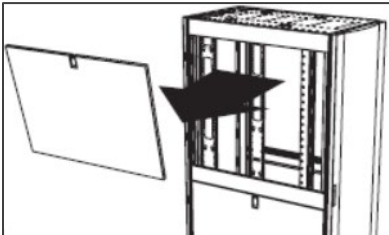
Removing the Side Panels:

- 15** Open the latch by sliding it downward.



- 16** Tilt the top of the panel away from the enclosure.

- 17** Lift the panel away from the brace that supports it.



To Reinstall the Sides Panel, Reverse Steps 1-3

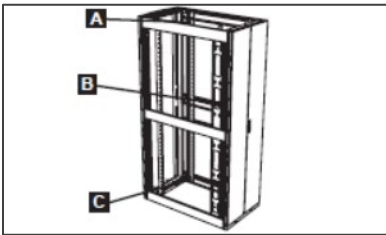
Adjusting Mounting Rails and Cable Management Rails

WARNING: Do not attempt to adjust rails without assistance.

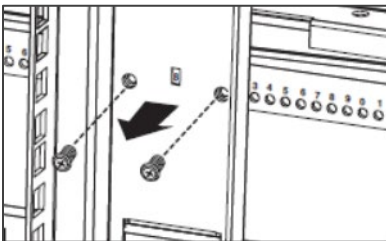
Do not attempt to adjust rails while equipment is installed in the cabinet. Do not attempt to use rails without screws installed (6 per rail).

The 4 mounting rails are pre-installed to accommodate equipment with a mounting depth of 30 inches (762 mm). Do not adjust the mounting rails unless your equipment requires a different mounting depth. The front and rear sets of rails can be adjusted independently in ¼-inch (6 mm) increments for mounting depths between 4 inches (101.6 mm) and 42 inches (1066.8 mm).

- 18** Each rail is connected to the cabinet with 6 screws - 1 pair at the upper beam **A**, 1 pair at the middle beam **B** and 1 pair at the lower beam **C**.



- 19** Remove the screws fastening each of the rear mounting rails to the cabinet. (If adjustment of the front rails is required, you can also remove the screws from the front rails.)



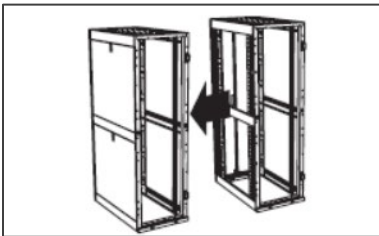
- 20** Slide the mounting rails to the desired depth and reattach them using the screws removed in Step 19. The rail attachment points are numbered to help you align each pair of rails at the same depth.

The depth of the 2 cable management rails can be adjusted using the same method.

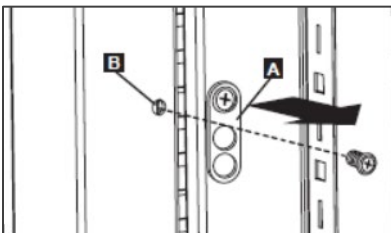
Combining (Baying) Cabinets

WARNING: Combining cabinets is not a substitute for stabilizing the cabinets. Each cabinet in a bay of combined cabinets requires the same stabilizing measures as a standalone cabinet.

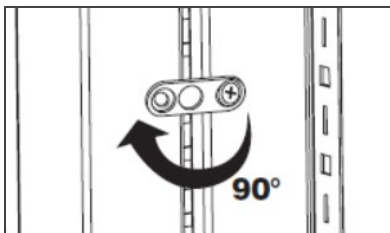
- 21** Arrange the cabinets in the correct position for baying.



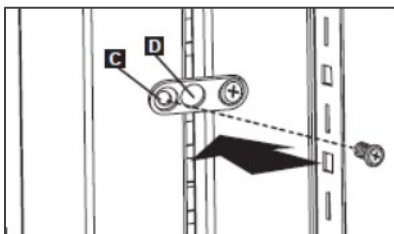
- 22** Each cabinet includes 4 baying brackets **A** that correspond to baying connection points **B** on the adjoining cabinet. The baying connection points already contain screws. Remove the screw from each baying connection point in the adjoining cabinet.



- 23** Loosen the screw in each baying bracket and turn each bracket 90 degrees toward the adjoining cabinet, aligning each bracket with the corresponding baying connection point on the adjoining cabinet.



- 24** Connect each bracket to the adjoining cabinet using the screws you removed in step 22, but do not tighten the screws completely. Adjust the position of the cabinets as needed. If you want the centers of the cabinets to be 24 inches (61 cm) apart/29.9 inches (76 cm) for the MM42UCAB-ED, use the outside hole of the bracket **C**. If you want the centers to be 60 cm (23.6 inches) apart/75 cm (29.5 inches) for the MM42UCAB-ED, use the middle hole of the bracket **D**. After connecting all brackets and confirming that the cabinets do not need further adjustment, tighten all screws.



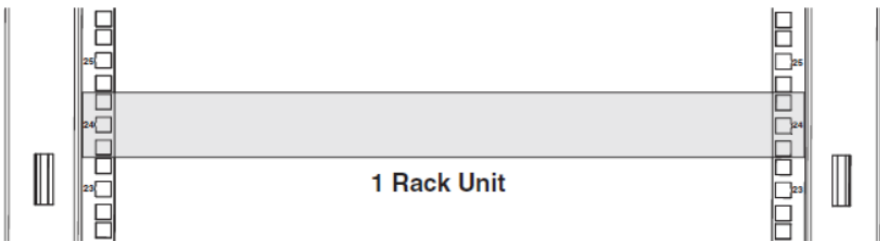
NOTE: Removal of the doors is optional before connecting the cabinets. Reinstallation of the doors afterward is also optional.

NOTE: Remove the interior side panels before baying cabinets for access between the cabinets.

Operation

WARNING: Do not install equipment in the cabinet until it has been stabilized. Install heavier equipment first and in the lowest open bay in the cabinet, working up as it is populated. If using sliding equipment rails, be careful when extending the rails. Do not extend more than one set of sliding equipment rails at one time. Avoid extending sliding equipment rails near the top of the enclosure.

NOTE: The square holes at the middle of each rack unit are numbered and also include a small notch to aid identification. A single rack unit includes the space occupied by the numbered hole and the holes directly above and below.

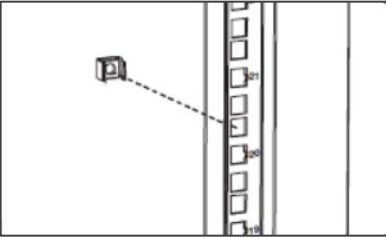


Installing or Removing Cage Nuts:

WARNING: The flanges of the cage nuts should engage the sides of the square opening in the rail, not the top and bottom. Follow the instructions in your equipment documentation to ensure proper installation of your equipment.

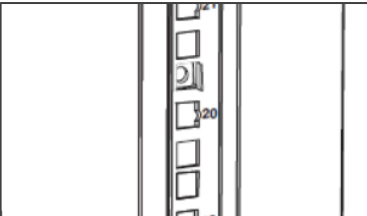
Installing Cage Nuts

- 1 Locate the numbered square openings in the mounting rails where you plan to install your equipment. You will install cage nuts (included) into the square openings in order to provide an attachment point for the mounting screws (included).

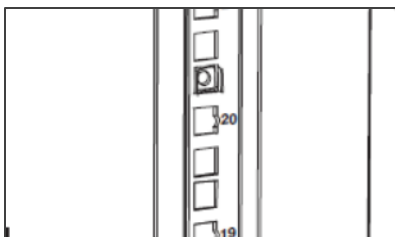


Note: Consult your equipment documentation to determine how many cage nuts will be required and where they will need to be installed.

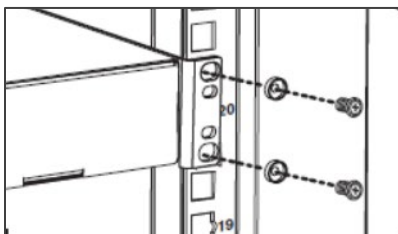
- 2 From the inside of the mounting rail, insert one of the flanges of the cage nut through the square opening. Press it against the side of the square opening. Each flange should engage one side of the square opening, not the top or bottom.



- 3** Compress the cage nut at the sides slightly to allow the remaining flange to fit through the square opening. When the cage nut is properly installed, both flanges will protrude through the square opening and will be visible on the outer surface of the mounting rail. Repeat steps 1-3 until all required cage nuts are installed.



- 4** After installing the required cage nuts, use the included mounting screws and cup washers to secure your equipment to the rack rail. Place the cup washers between the screws and the equipment mounting brackets.



NOTE: Your equipment may also include mounting hardware. Read the mounting instructions that came with your equipment before installing your equipment.

To Remove Cage Nuts, Reverse Steps 1-3

NOTE: You may wish to use a cage nut tool (user-supplied) to aid cage nut installation and removal.

Specifications

Weights and Dimensions:

Model	Unit				Shipping			
	Height	Width	Depth	Weight	Height	Width	Depth	Weight
MM24UCAB-SD	46.9 in.	23.6 in.	42.1 in.	178.6 lbs.	52.8 in.	25.8 in.	45.1 in.	219 lbs.
MM42UCAB-SD	78.4 in.	23.6 in.	42.1 in.	312.6 lbs.	82.9 in.	25.8 in.	45.1 in.	373 lbs.
MM24UCAB-ED	46.9 in.	23.6 in.	47.2 in.	196.2 lbs.	52.8 in.	25.8 in.	50.0 in.	230 lbs.
MM42UCAB-ED	78.4 in.	23.6 in.	47.2 in.	305.3 lbs.	82.9 in.	25.8 in.	50.0 in.	332 lbs.

Warranty:

Para Systems, Inc. (Para Systems) warrants this equipment, when properly applied and operated within specified conditions, against faulty materials or workmanship for a period of three years from the date of purchase. The customer pays for shipping the product to Para Systems. Para Systems pays ground freight to ship the product back to the customer. Replacement parts and warranty labor will be borne by Para Systems. For equipment located outside of the United States and Canada, Para Systems only covers faulty parts. The warranty shall be void if the equipment is damaged by the customer, is improperly used, is subjected to an adverse operating environment, or is operated outside the limits of its electrical specifications.

EXCEPT AS PROVIDED ABOVE, IN NO EVENT WILL PARA SYSTEMS BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF THIS PRODUCT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. Specifically, Para Systems is not liable for any costs, including labor for on-site installation, on-site maintenance or on-site service, lost profits or revenue, loss of equipment, loss of use of equipment, loss of software, loss of data, cost of substitutes, claims by third parties, or otherwise.

Before contacting Para Systems regarding warranty service, please review the troubleshooting section of the user's manual to determine the problem can be resolved without additional assistance. If the problem can't be resolved using the Troubleshooting table, prior to contacting Para Systems customer support, please record the following information about the products in questions:

Model Number: _____

Serial Number: _____

Purchased From: _____

Date of Purchase: _____

After recording this information, please contact Para Systems customer support by phone at 800.238.7272 or by e-mail at: support@minutemanups.com.

Be ready to provide the information above, along with a description of the problem and Para Systems will provide instructions on how to return the unit for service, if necessary.

Life Support Policy

Para Systems does not support the use of any of its products in life support applications where the failure or malfunction of the product can be reasonably expected to cause failure to life support devices or to significantly affect their safety or effectiveness. Furthermore, Para Systems does not recommend the use of any of its products in direct patient care.

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Compliances:

RoHS2

REACH

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