RMR® Modular Enclosure

RMR® Modular Enclosure
User Manual

CHATSWORTH PRODUCTS

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Contents

RMR Modular Enclosure Overview

The RMR® Modular Enclosure from Chatsworth Products, Inc. (CPI) was developed to meet a wide range of application needs. The RMR Modular Enclosure is available in multiple widths, heights and depths, allowing for precise alignment with the size and capacity requirements for most installations.

The RMR Modular Enclosure accessories, including cable management, power management, thermal management and more, offer additional flexibility, enabling the cabinet to be further configured to support many different applications.

Safety Information

Keep a printed copy of this User's Manual, especially the following safety information, in or near the cabinet.

WARNINGS:

- Improper use of this product or failure to follow these instructions may result in equipment damage, personal injury, or death. Read and understand all instructions for proper installation and use of this product.

- Only trained service personnel or licensed electricians shall install the equipment.

- Be sure to use sufficient personnel to safely remove the cabinet from the pallet.

- Do not attempt to move large cabinets by yourself. Obtain adequate assistance to stabilize the cabinet during movement or hire professional equipment riggers.

- The cabinet shall be level, stable, bolted and appropriately secured to the building structure.

- The cabinet shall be installed in a Restricted Access Location and only used by trained service personnel.

- Suitable for mounting on concrete or other noncombustible surface only.

Safety Information

Intended Use

Keep a printed copy of the Preface of this User Manual in or near the cabinet.

• Use indoors only, in environmentally controlled, nonhazardous areas; do not use outdoors, in harsh environments, or in air-handling spaces.

• Use the cabinet for information technology and telecommunications equipment, including servers and peripherals.

• Allow only qualified service personnel to use the cabinet.

• The cabinets must be anchored to the floor to ensure stability and a safe working environment.

• The RMR Modular Enclosure is available with a standard frame only or an optional 6-slide frame. The standard frame has two roll-form frame front-to-back supports on each side. The optional 6-slide frame has three additional front-to-back supports on each side for a higher load-bearing capacity. The load-bearing capacity of the RMR Modular Enclosure is:

	Standard Frame	With Additional 6-Slide
Static:	2,500 lb (1134 kg)	3,000 lb (1360 kg)

Components of the RMR Modular Enclosure
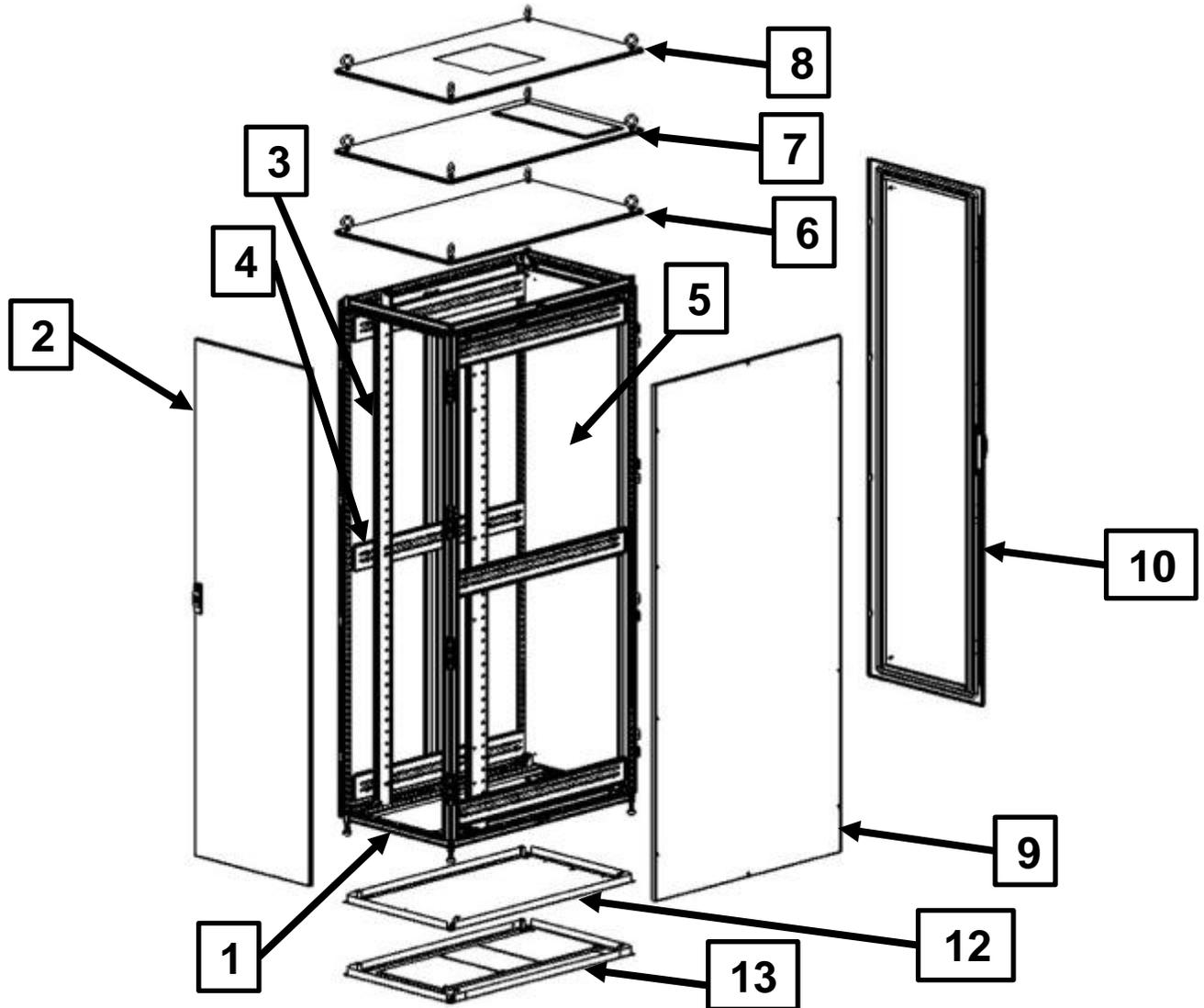
1. Frame

2. Front door (Solid, Window, Filter Kit, Filter Fan or Cooling Unit)

3. Equipment mounting rails

4. Frame Support Slides

5. Full Height Mounting Panel

6. Solid top panel

7. Gland top panel

8. Fan top panel

9. Side panel (Solid, Filter Kit, Filter Fan, or Cooling Unit)

10. Rear door (Solid, Fan, or Filter)

11. Rear panel

12. Solid Bottom Panel

13. Gland Bottom Panel

Included Hardware

1. (2) Double Bit or CH751 Keys

   x 2

   x 2

2. (6) M6 Drop-in Nuts and Screws

   x 6

   x 6

3. (4) M8 Hex Nuts

   x 4

4. Compression Grounding Lug and Hardware
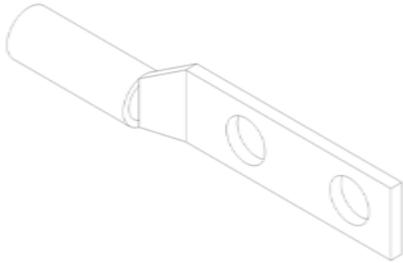
5. (2) Shipping Bracket
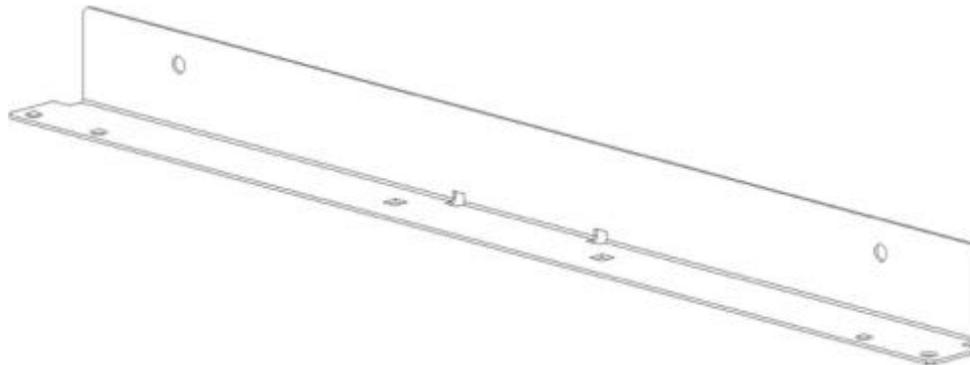
   x 2

Getting Started

Tools Required

1. Utility Knife

    a. For removing stretch wrap from around cabinet

2. 13 mm Socket Wrench

    a. For removing shipping brackets securing cabinet to pallet
    b. For adjusting equipment mounting rail
    c. For installing baying brackets

3. 13 mm Open End Wrench

    a. For adjusting leveling feet

4. 8mm Socket or Open End Wrench

    a. For installing ground terminal block

5. #2 Phillips Screwdriver

    a. For installing M6 screws into cage nuts to secure equipment in mounting rails
    b. For removing and installing door hinges
    c. For removing and installing side panels

6. 10mm Socket Wrench
    a. For removing top panel gland plate

Unpacking

⚠ **CAUTION**: The RMR Modular Enclosure cabinet is heavy. Use a minimum of two (2) people to unpack and remove the cabinet from the pallet.

⚠ **CAUTION:** Move shipping pallet as close as possible to the final installation location before unpacking.

⚠ **CAUTION:** Always level and anchor the cabinet after positioning.

Inspect the cabinet for damage. If any damage to the cabinet is observed, contact your distributor or CPI Customer Service.

1. Carefully remove the plastic wrap surrounding the cabinet using a utility knife. Be careful not to allow the knife to contact the cabinet as this may damage the unit.

2. Remove the four (4) cardboard corner protectors.

3. Inspect inside the cabinet to ensure all items are securely fastened to the cabinet. Remove any items that were shipped inside the cabinet but are not fastened to the cabinet.

4. Remove the (2) shipping brackets that attach the cabinet to the pallet using a 13 mm socket wrench and the shipping brackets under the frame when shipped on levelers.

> **NOTE**: Do not discard the (4) anchor brackets. These brackets may be used to anchor the cabinet to the floor. See "Anchoring the cabinet to the floor".

5. Remove the cabinet from the pallet.

> **RECYCLABLE MATERIALS**: CPI uses only recyclable materials in all of its cabinet packaging. Please save packaging for later use or dispose of properly. All wood components of CPI pallets have been properly treated to comply with the pest-free certifications required by foreign countries.

6. If the cabinet is to be reshipped, save all packaging materials for reuse.

> **DISCLAIMER**: CPI is not responsible for any damage to the cabinet or its contents after the cabinet is repackaged and reshipped.

7. After the cabinet is unpacked, check the cabinet and the hardware kit to insure that all of the components and hardware items have been received with the cabinet. If any components are missing or damaged, email Technical Support at **techsupport@chatsworth.com**, or call toll-free at 800-834-4969 (US & Canada) Monday to Friday, 5 a.m. to 5 p.m., Pacific Time.

Installation

Moving the cabinet

⚠	**CAUTION**: The RMR Modular Enclosure ships with lifting eye-bolts. Improper use of this product or failure to follow these instructions may result in equipment damage, personal injury, or death.

The RMR Modular Enclosure cabinet has been provided with four (4) M10 (7/16") lifting eye bolts on the top panel to allow the cabinet to be moved into position. To avoid equipment damage, personal injury or death, follow rigging practices established in the latest revisions of ASME B18.15 (Forged Eyebolts) and ASME B30.26 (Rigging Hardware).
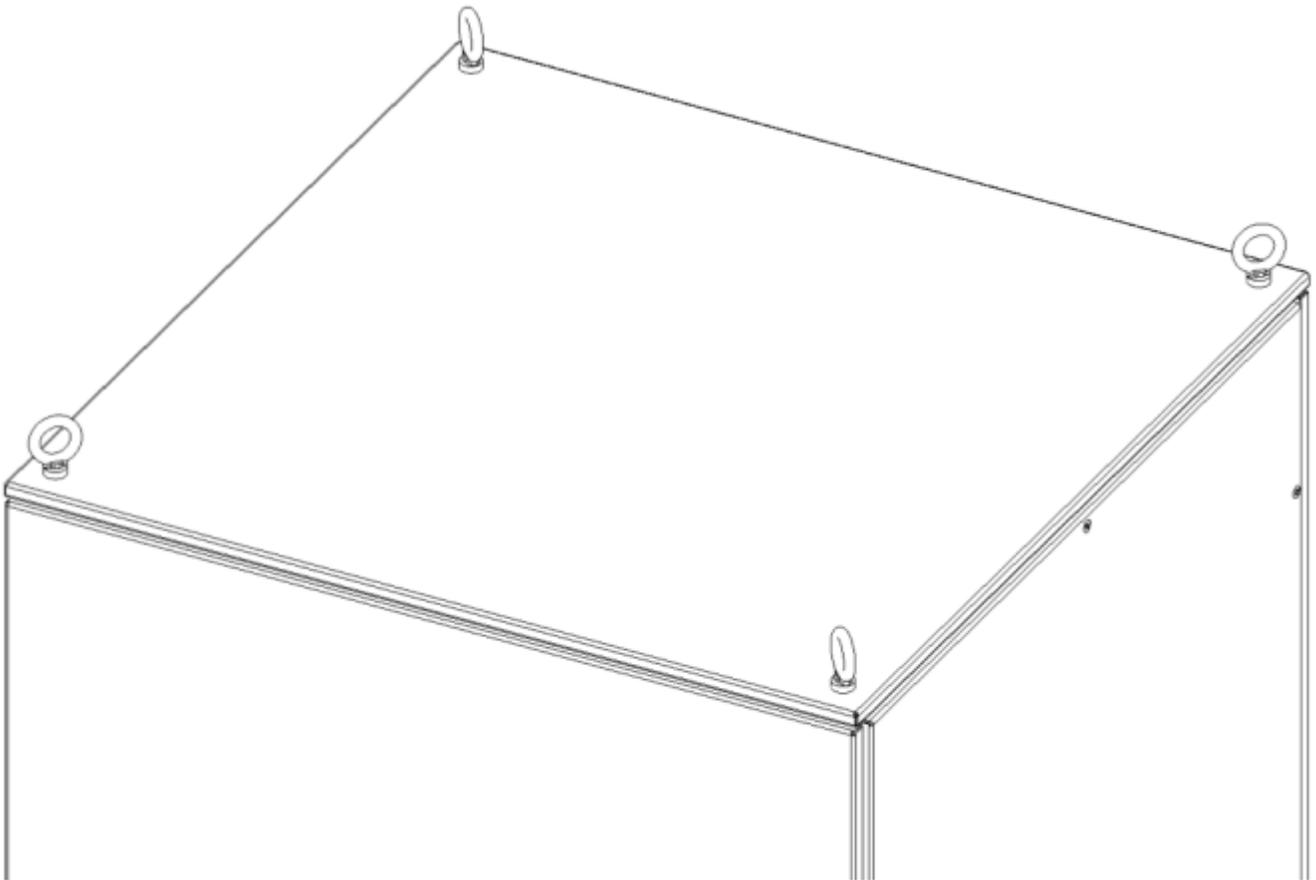
Once the cabinet has been moved to the final location, level and anchor the cabinet according to the instructions below.

Hex Jam nut

13mm Open-Ended Wrench Access
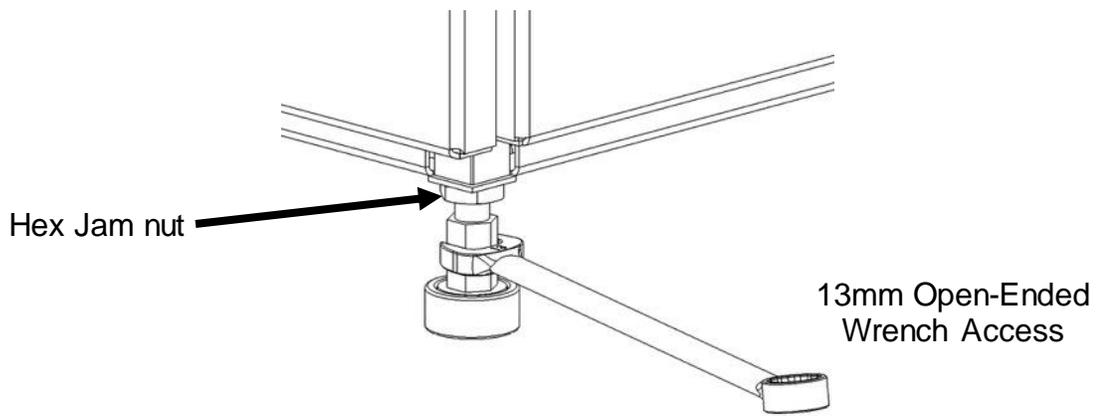
Placing and anchoring the cabinet to the floor

RMR Modular Enclosure, whether bayed together or standing alone, should be anchored to the floor. The plinth base (sold separately, P/N 37830-XXX) provides the most optimal anchoring of the cabinet.

Use the anchor brackets that secured the cabinet to the pallet (shown on the next page) to anchor the cabinet to the floor. First, ensure that the four (4) leveling feet are in firm contact with the floor and the cabinet is not rocking in any direction. A level placed on the cabinet frame should confirm that the cabinet is level. If the cabinet is not level, loosen the hex jam nut beneath the bottom panel to adjust the leveling feet with a 13 mm open-end wrench until the cabinet is level and does not rock in any direction. Retighten the hex jam nut to secure the bottom panel.

Installation of brackets
The brackets attach to the bottom panel (as they were on the pallet). Installation requires four anchors, either 3/8" or M10 hardware.
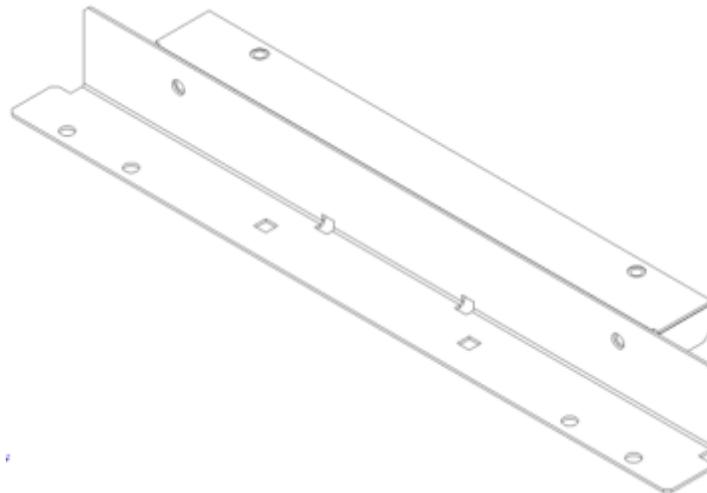
Anchor Bracket

The mounting locations for the anchor brackets are shown in the figure below.
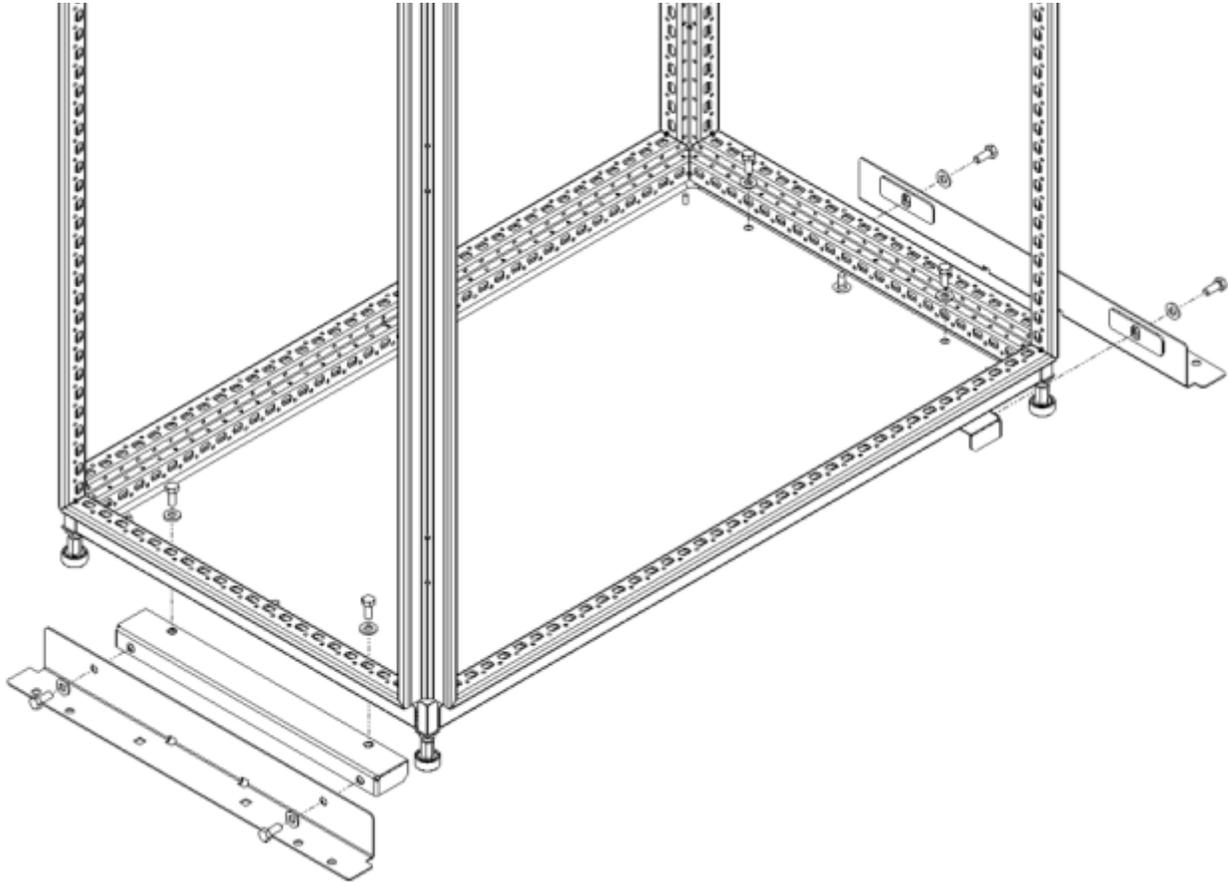
Attach the cabinet to the floor with 3/8" or M10 hardware appropriate for your type of flooring.

Bonding the cabinet to the telecommunications ground

RMR Modular Enclosure should be bonded to the telecommunications ground. The top panel, bottom panel, side panels, doors and mounting rails on the RMR Modular Enclosure are electrically bonded to the frame. A ground strap bonds the panels and doors to the frame. In order to bond the cabinet to the telecommunications ground, use the Compression Ground Lug (included) to connect a bonding conductor to the telecommunications ground or signal reference grid. Remove paint at desired grounding location and apply generous coating of gray antioxidant. Secure grounding wire to the terminal block. Attach the ground lug to the cabinet frame with a 13 mm socket wrench using two M8 hammer head bolts and nuts.
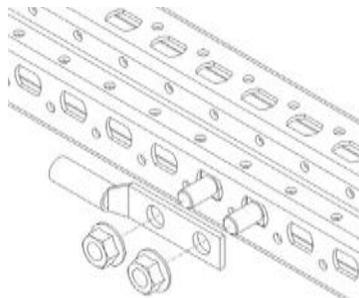
Baying cabinets together

RMR Modular Enclosure can be bayed (fastened) together with no side panels between cabinets using optional baying kits. Cabinets must be the same height and depth. Two baying kit options are available (37820-X01 shown).

1. To fill the gap between enclosures, install the provided microcellular urethane foam seal along one entire cabinet frame side by peeling the tape liner to expose the adhesive backing.

2. Use the supplied hardware and a T25 Torx screw driver to attach the baying brackets to the cabinet frame on the front and rear.
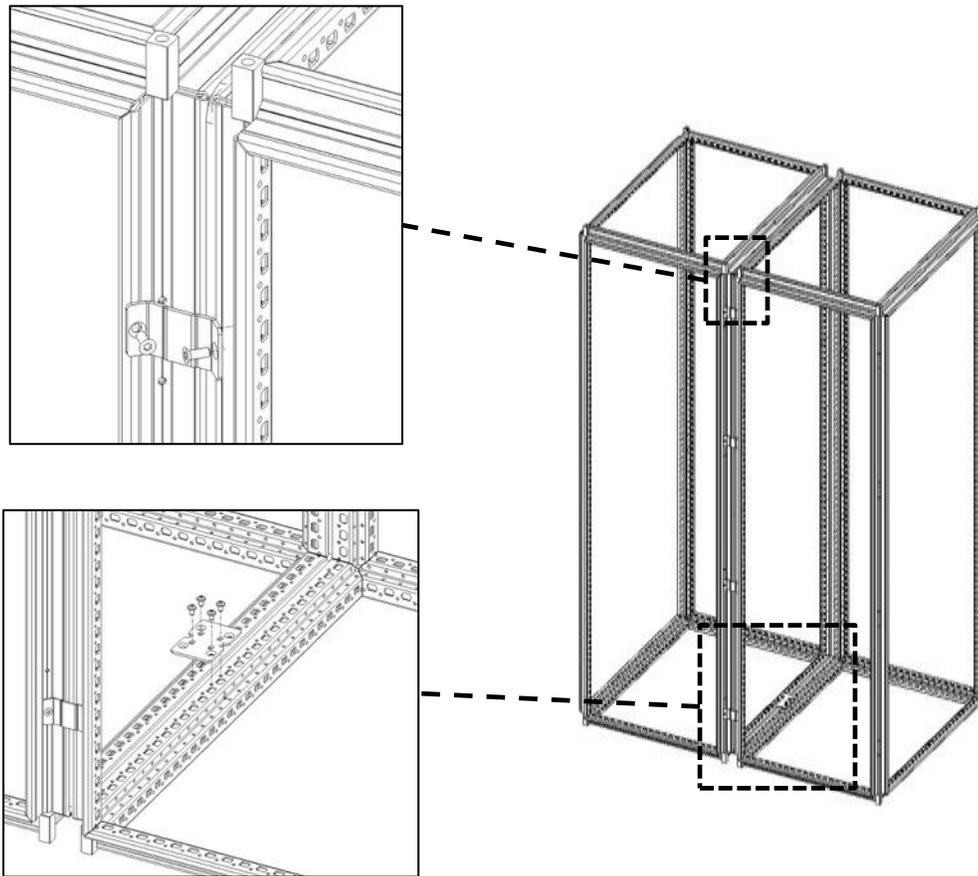
3. Move the second cabinet so that the cabinets are aligned. This may also require adjusting the leveling feet if the second cabinet was not set at the same level as the first cabinet.

4. Use the supplied hardware to attach the baying brackets to the second cabinet.

Configuring the cabinet

The RMR Modular Enclosure can easily be configured for a variety of applications. Not only can the standard cabinet components be adjusted or removed, but a broad range of accessories can be installed to create a cabinet solution that meets all the needs of your installation requirements.

Removing and Installing the Doors

CAUTION: To avoid personal injury and reduce the risk of damaging the door or the cabinet, one person should support the door while another person retracts the hinge pins and removes the door from the frame.

Removing the Door:

1. Open the door to 90 degrees, so that it is perpendicular to the cabinet. The door is perpendicular to the cabinet when it is parallel with the side of the cabinet.

2. Disconnect the ground wire (not shown) from the door.

3. While supporting the door and starting at the bottom, retract the hinge pins from the four hinges. Note: the door, hinge pin and/or hinge may be damaged if the door is not properly supported while being removed. Hold the door so that it does not lean.

4. Move the door off the hinges and toward the side of the cabinet. Support the door while lifting and moving the door.

5. Once the door is free of the hinges, move the door away from the frame.
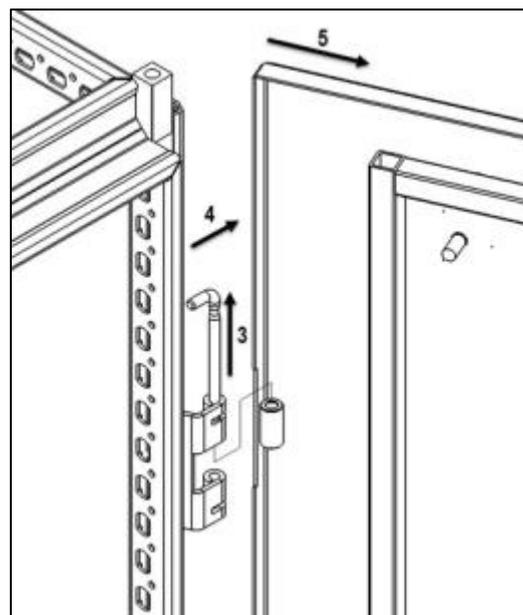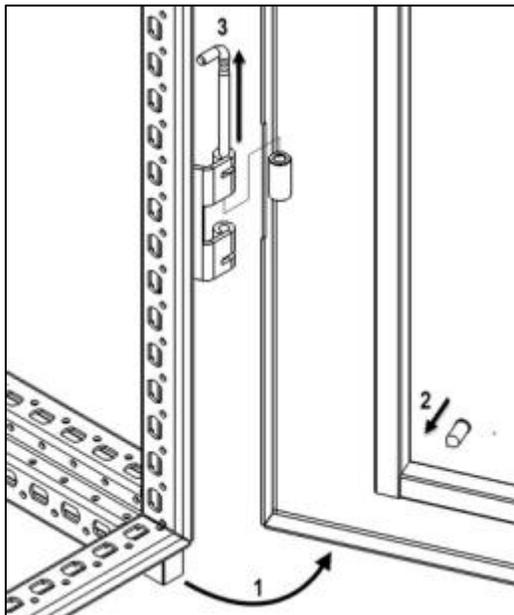
Installing the Door:

1. Retract the hinge pins on the four hinges.

2. Hold the door so that it is perpendicular to the cabinet and align the hinge barrels on the door with the hinge pins on the cabinet. The door is perpendicular to the cabinet when it is parallel with the side of the cabinet.

3. Lift the door and move it toward the hinges. Continue to support the door, keeping it vertically and perpendicularly to the cabinet frame. The door must be supported to prevent damage to the hinges.

4. While supporting the door, engage the upper hinge pin into the upper door barrel. Engage the remaining three hinge pins into the door hinge barrels before releasing the door.

5. Reconnect the ground wire (not shown) to the door.

6. Close the door.
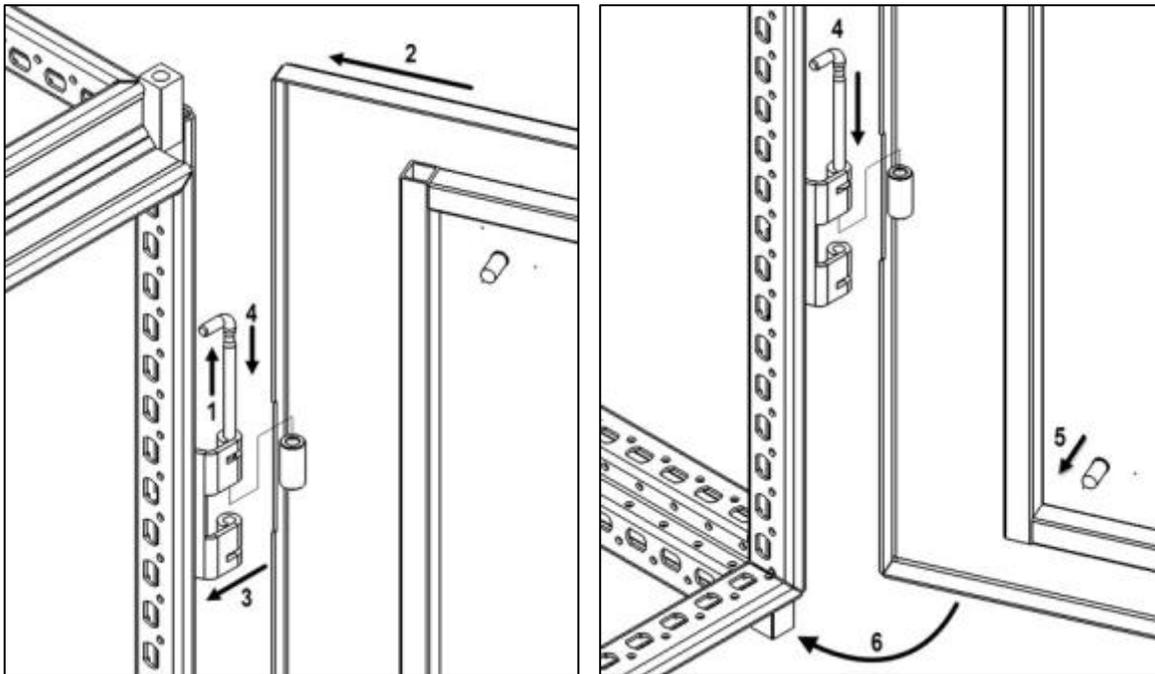
Removing and Installing the Rear Panel

Removing the Rear Panel:

1. Disconnect the grounding wire (not shown) to the rear panel.

2. Remove the M6 flathead screws from the rear panel.

3. Rotate and lift up on the rear panel to remove it from the cabinet.
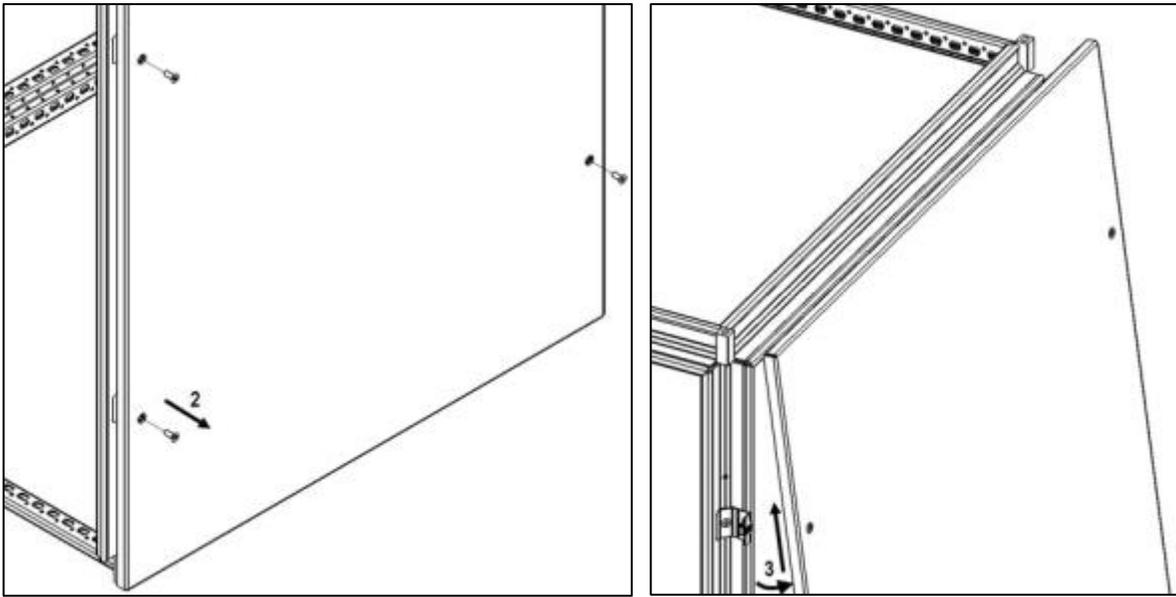
Installing the Rear Panel:

1. Lift and rotate the rear panel and move it towards the cabinet frame.

2. Lower the rear panel onto the cabinet frame so the upper flange rests on the top frame member.

3. Rotate the rear panel bottom towards the cabinet frame. Secure rear panel to cabinet frame with M6 flathead screws.
4. Connect the grounding wire (not shown) to the rear panel.

Removing and Installing the Top Panel

Removing the Top Panel:

1. Remove grounding wire (not shown) from the top panel.

2. Remove the four lifting eyebolts from the cabinet frame.

3. Lift and remove the top panel.
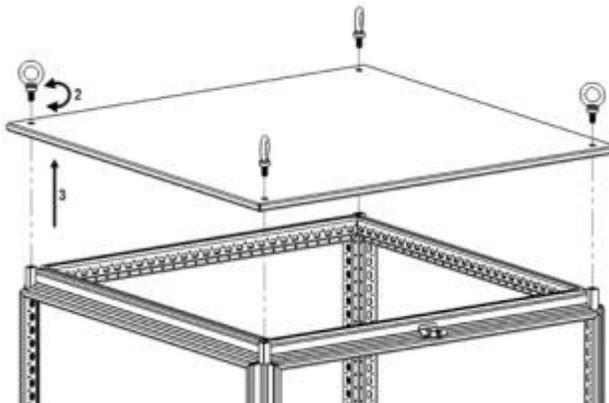
Installing the Top Panel:

1. Orientate the top panel with the ground studs (not shown) adjacent to the side panels.

2. Lower the top panel onto the cabinet frame.
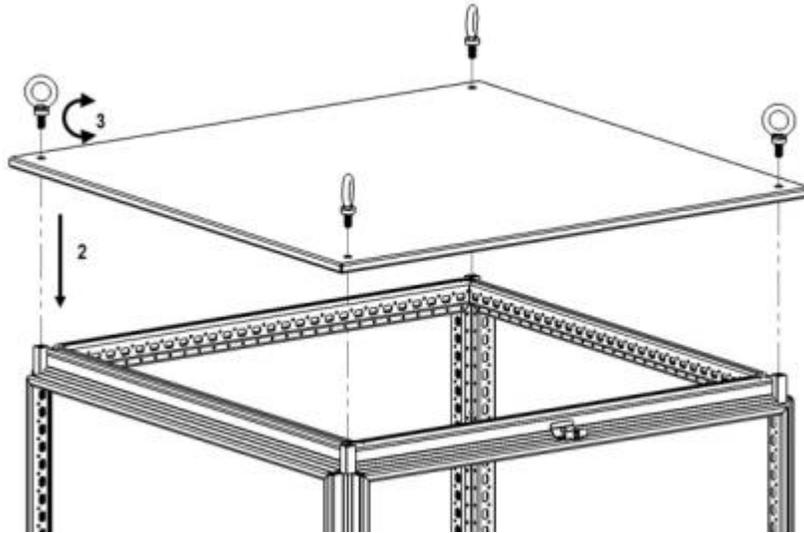
3. Install the four eyebolts to attach the top panel to the cabinet frame.

4. Reconnect the grounding wire to the top panel.

Removing Gland Plate
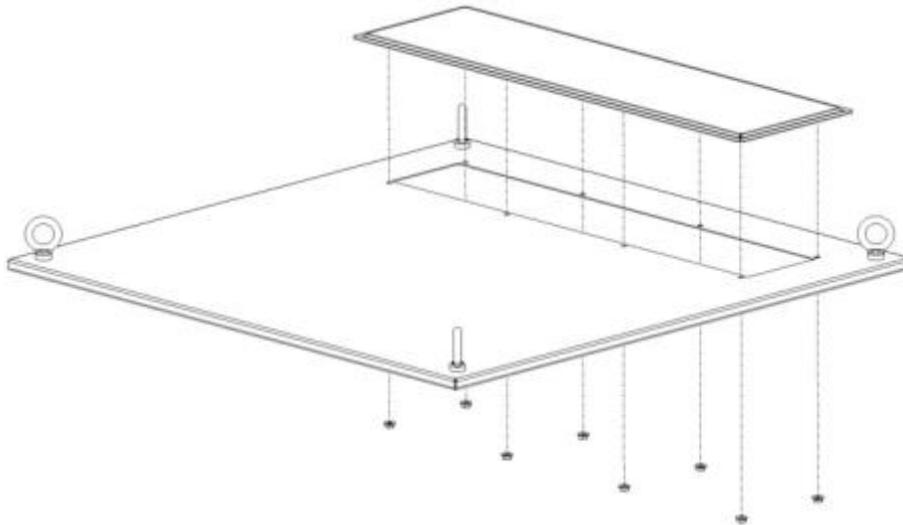
1. Use a 10mm socket wrench to remove or install the gland plate for the top panel if included.

Removing and Installing the Side Panels

Removing the Side Panels:

1. Disconnect the grounding wire (not shown) from the side panel.

2. Remove the M6 flathead screws from the side panel.

3. Rotate and lift up on the side panel to remove it from the cabinet.
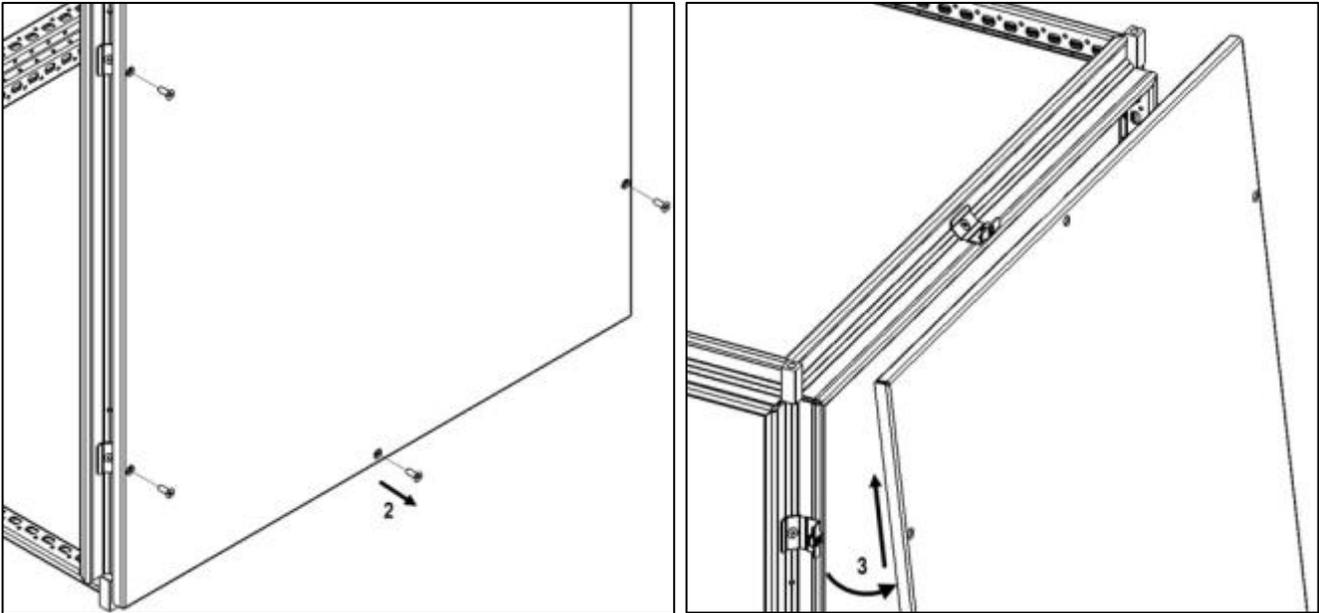
Installing the Side Panels:

1. Lift and rotate the side panel and move it towards the cabinet frame.

2. Lower the side panel onto the cabinet frame to engage the side panel catch on the top center. The side panel upper flange rests on the front-to-back frame member.

3. Rotate the side panel bottom towards the cabinet frame. Secure side panel to cabinet frame with M6 flathead screws.

4. Connect the grounding wire (not shown) to the side panel.

Adjusting the Equipment Rails

1. Use a 13 mm socket wrench to remove the M8 nuts securing the equipment rail to the frame in two (2) locations or six (6) locations if the optional support slides are installed.
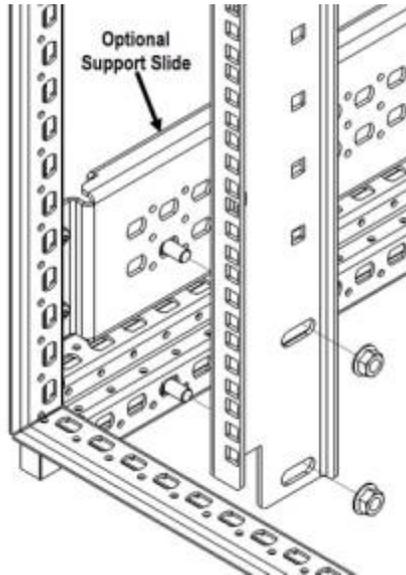
2. Remove the equipment rail.

3. Rotate the M8 hammer head bolt 90 degrees to remove from frame. Insert the bolt into new location and rotate 90 degrees to engage frame.

4. Attach equipment rail and secure using M8 nuts.

Installing Equipment

The RMR Modular Enclosure supports all manufacturers' equipment that conforms to the EIA/ECA-310E standard. Most equipment attaches directly to the equipment mounting rails; however, some manufacturers may provide brackets or slide assemblies that require additional installation.

Rack-mount unit (U) markings are clearly printed on the equipment rails to simplify installation of components. Align equipment with the U markings on each side of the cabinet before securing the equipment.

> **NOTE**: Equipment rails should be adjusted to the desired location (front to rear) prior to installing equipment. See "Adjusting the Equipment Rails" on page 19.

The RMR Modular Enclosure is provided with hardware to secure equipment to the mounting rails. This hardware includes 50 sets of M6 cage nuts and screws. Additional hardware is available for purchase (see "Other Accessories" on page 31).

Adjusting the Mounting Panel

The mounting panel can be adjusted in depth by 1 inch (25mm) increments using a T30 Torx driver, 13mm socket wrench, and #2 Phillips screw driver.

> ⚠️ **CAUTION**: To avoid personal injury and reduce the risk of damaging equipment, two people should support the mounting panel while removing or installing it from the cabinet.
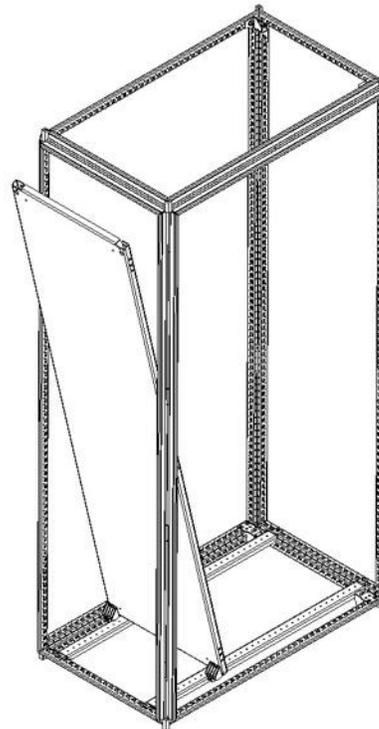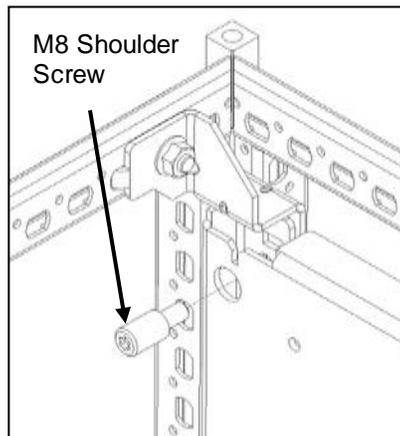
1. Verify the bottom support rails are installed. Do not remove (or install) the mounting panel without the support rails being installed.

2. Remove the two (2) M8 shoulder screws attaching the mounting panel to the top left and right brackets.

3. Angle the mounting panel forward onto the two bottom support rails to remove from cabinet.
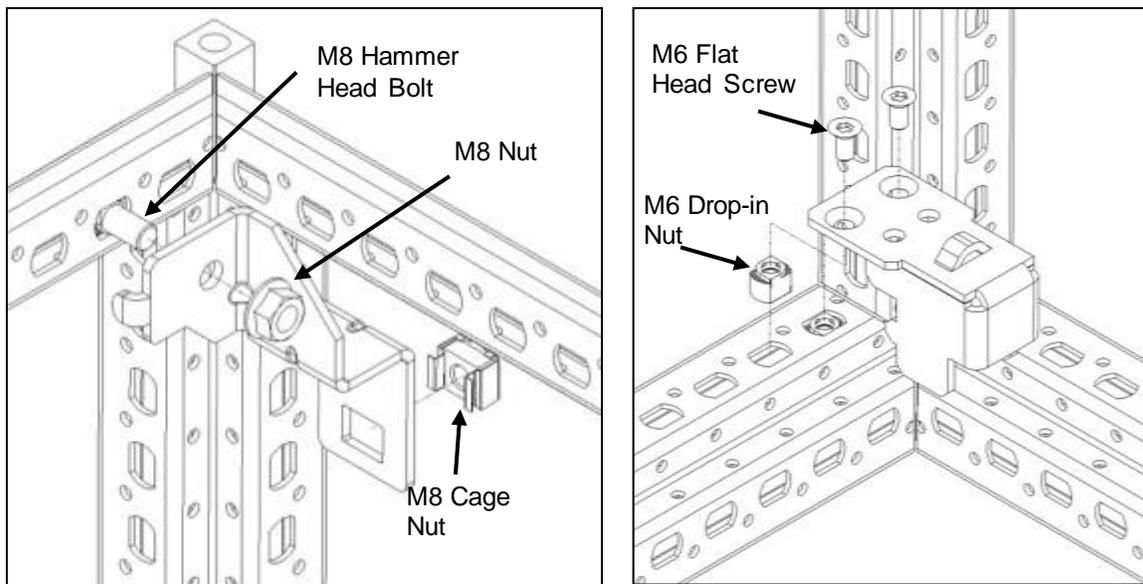
4. Move the top and bottom brackets to the desired frame depth location. To remove the threaded bolts or drop-in nuts from the frame, rotate each 90 degrees to extract from hole. To install brackets at new location, rotate the threaded bolts or drop-in nuts 90 degrees to engage frame.

5. Position the mounting panel onto the support rails to reinstall onto bottom brackets.

6. Attach the mounting panel to the top brackets using the M8 shoulder screws.

Cable Management

CPI cable management products provide the proper cable bend radii for better data transmission; fewer tangled cords and cable damage; and ease in moving, adding and changing connections. The products assist in complying with ANSI/TIA/EIA installation of Category 5/5e/6/6a and fiber cables.

Separate the cables by type, gather into bundles, and fasten loosely with hook and loop fasteners. CPI offers Saf-T-Grip Straps to fasten cable bundles (P/N 0200X-series).

See "Accessories – Cable Management" on page 26 for more information.

Accessories

Cable Management

Finger Cable Manager, Short, no Cover

For 23.6" (600 mm) wide cabinets   1200(24U) x 600 - **37850-X01**
Fingers, attaches to equipment rail   1800(38U) x 600 - **37850-X02**
(Fits other width cabinets also.)   2000(42U) x 600 - **37850-X03**
2100(45U) x 600 - **37850-X04**
2200(47U) x 600 - **37850-X05**
2400(51U) x 600 - **37850-X06**

Finger Cable Manager, Short, with Cover

For 31.5" (800 mm) wide cabinets   1200(24U) x 800 - **37860-X01**
Fingers, Attaches to equipment rail   1800(38U) x 800 - **37860-X02**
2000(42U) x 800 - **37860-X03**
2100(45U) x 800 - **37860-X04**
2200(47U) x 800 - **37860-X05**
2400(51U) x 800 - **37860-X06**

Finger Cable Manager, Short, no Cover

For 23.6" (600 mm) wide cabinets   1200(24U) x 600 - **37865-X01**
Fingers, Attaches to equipment rail   1800(38U) x 600 - **37865-X02**
Frame with Slides   2000(42U) x 600 - **37865-X03**
2100(45U) x 600 - **37865-X04**
2200(47U) x 600 - **37865-X05**
2400(51U) x 600 - **37865-X06**

37850-XXX 37860-XXX 37865-XXX

Cable Lashing Bracket   1200H - **37800-X01**
One (1) full-height panel   1800H - **37800-X02**
Attaches to the cabinet frame   2000H - **37800-X03**
2100H - **37800-X04**
2200H - **37800-X05**
2400H - **37800-X06**

X = Color (C=Black, G=Hammer Gray)
Other heights available.

Cable Management (cont'd)

Ring Cable Manager For 23.6" (600 mm) wide cabinets One (1) full-height section Attached to cabinet frame	1200(24U) x 600 - **37801-X01** 1800(38U) x 600 - **37801-X02** 2000(42U) x 600 - **37801-X03** 2100(45U) x 600 - **37801-X04** 2200(47U) x 600 - **37801-X05** 2400(51U) x 600 - **37801-X06**	
Ring Cable Manager For 31.5" (800 mm) wide cabinets One (1) full-height section Attaches to cabinet frame	1200(24U) x 800 - **37802-X01** 1800(38U) x 800 - **37802-X02** 2000(42U) x 800 - **37802-X03** 2100(45U) x 800 - **37802-X04** 2200(47U) x 800 - **37802-X05** 2400(51U) x 800 - **37802-X06**	37801-XXX 37802-XXX
Ring Cable Manager, 7 RMU Four (4) 7 RMU panels Attaches to equipment rails	**37803-X01**	
X = Color (C=Black, G=Hammer Gray) **Other heights available.**		
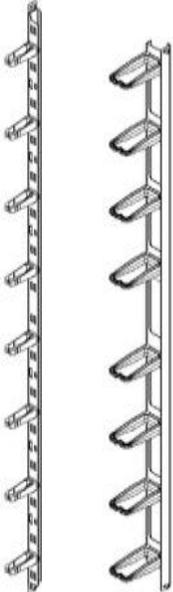
Power Management

Power distribution unit (PDU) brackets are available as well as a wide range of power strips and eConnect® intelligent PDUs, including monitored and switched versions.

Full Height PDU Bracket Attaches to the cabinet frame 2000(42U) - **37808-X03** Dual, 4.8" (121 mm) Wide 2100(45U) - **37808-X04** Supports 2 x 2.2"W (51 mm) PDUs 2200(47U) - **37808-X05** 2400(51U) - **37808-X06**	
Half Height PDU Bracket Attaches to the cabinet frame 1200(24U) - **37809-X01** Dual, 4.8" (121 mm) Wide 1800(45U) - **37809-X02** Supports 2 x 2.2"W (51 mm) PDUs	
X = Color (C=Black, G=Hammer Gray) **Other heights available.**	

Mounting Panel Management

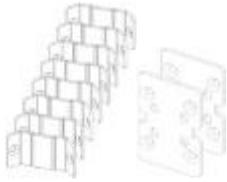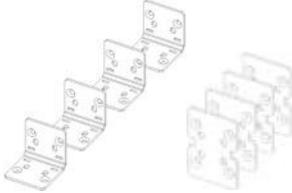|	
Partial Mounting Panel **Half Height** One (1) half-height section Attaches to cabinet frame	1200H x 600 - **37840-X13** 2000H x 600 - **37840-X15** 2100H x 600 - **37840-X16** 2200H x 600 - **37840-X17** 1200H x 800 - **37840-X25** 2000H x 800 - **37840-X27** 2100H x 800 - **37840-X28** 2200H x 800 - **37840-X29** 1200H x 1000 - **37840-X37** 2000H x 1000 - **37840-X39** 2100H x 1000 - **37840-X40** 2200H x 1000 - **37840-X41** 1200H x 1200 - **37840-X49** 2000H x 1200 - **37840-X51** 2100H x 1200 - **37840-X52** 2200H x 1200 - **37840-X53**
Partial Mounting Panel **Quarter Height** One (1) quarter-height section Attaches to cabinet frame	1200H x 600 - **37842-X13** 2000H x 600 - **37842-X15** 2100H x 600 - **37842-X16** 2200H x 600 - **37842-X17** 1200H x 800 - **37842-X25** 2000H x 800 - **37842-X27** 2100H x 800 - **37842-X28** 2200H x 800 - **37842-X29** 1200H x 1000 - **37842-X37** 2000H x 1000 - **37842-X39** 2100H x 1000 - **37842-X40** 2200H x 1000 - **37842-X41** 1200H x 1200 - **37842-X49** 2000H x 1200 - **37842-X51** 2100H x 1200 - **37842-X52** 2200H x 1200 - **37842-X53**
X = Color (C=Black, G=Hammer Gray) **Other sizes available.**	

Baying Mounting Panel Installed between two full-height mounting plates when enclosures are bayed	1200 - **37787-X01** 2000 - **37787-X03** 2100 - **37787-X04** 2200 - **37787-X05**	
X = Color (C=Black, G=Hammer Gray) **Other sizes available.**		

Plinth Management

Plinth, 100H Height Attaches to cabinet frame and bottom panel	600 x 600 - **37830-X13** 600 x 800 - **37830-X25** 600 x 1000 - **37830-X37** 600 x 1200 - **37830-X49** 800 x 600 - **37830-X15** 800 x 800 - **37830-X27** 800 x 1000 - **37830-X39** 800 x 1200 - **37830-X51**	
Plinth, 200H Height Attaches to cabinet frame and bottom panel	600 x 600 - **37830-X13** 600 x 800 - **37830-X25** 600 x 1000 - **37830-X37** 600 x 1200 - **37830-X49** 800 x 600 - **37830-X15** 800 x 800 - **37830-X27** 800 x 1000 - **37830-X39** 800 x 1200 - **37830-X51**	
X = Color (C=Black, G=Hammer Gray) **Other sizes available.**		
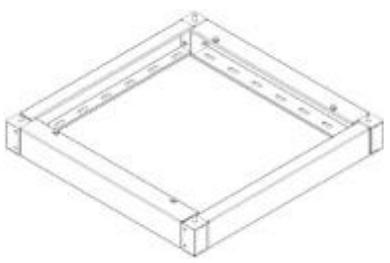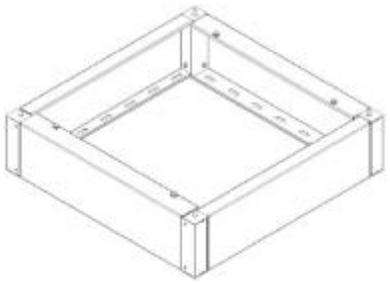
Baying Management

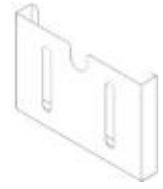|	
External Baying Kit　　　　　　　　　　　　　　　**37820-X01** Eight (8) External Brackets Two (2) Flat Brackets Polyurethane Foam Seal	
Corner Baying Kit　　　　　　　　　　　　　　　　**37825-X01** Four (4) Corner Brackets Four (4) Flat Brackets Polyurethane Foam Seal	
Lifting Baying Kit　　　　　　　　　　　　　　　　**37823-001** Two (2) Lifting Brackets	
X = Color (C=Black, G=Hammer Gray)	

Thermal Management

Snap-In Grommet & Plug Kit　　　　　　　　　**39133-001** For 31.5" (800 mm) wide cabinets Set of 8 grommets that push into equipment rails	
Snap-In Filler Panel　　　　　1U X19, Black, 6 EA - **34537-001** 　　　　　　　　　　　　　2U X19, Black, 6 EA - **34538-001** 　　　　　　　　　　　　　1U X19, Black, 50 EA - **34537-002** 　　　　　　　　　　　　　2U X19, Black, 50 EA - **34538-002** 　　　　　　　　　1U X19, Glacier White, 6 EA - **34537-E01** 　　　　　　　　　2U X19, Glacier White, 6 EA - **34538-E01** 　　　　　　　　　1U X19, Glacier White, 50 EA - **34537-E02** 　　　　　　　　　2U X19, Glacier White, 50 EA - **34538-E02**	
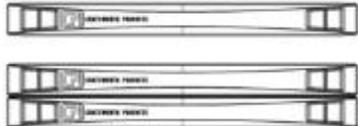
Shelves, Trays and other accessories

Cage Nuts & Screws **12637-001** (25) M6 cage nuts and screws **Clik-Nut Hardware Kit** **76543-001** (25) M6 tool-less cage nuts and screws	
Door Document Holder A4 Size - **37739-X01** Attaches to door A3 Size - **37739-X02**	
Low Profile Fixed Shelf **12610-719** 1U x 19"W Telescopes 20"- 36" (510 mm - 910 mm) in depth	
Rack-Mount Cable Shelf **13517-701** 1U x 19"W brush sealed openings on front for cable pass-through	
Concrete Floor Installation Kit 3/8" - **40604-001** Four (4) floor anchors M10 - **40604-004**	
X = Color (C=Black, G=Hammer Gray)	