



# Compaq StorageWorks BA370 Enclosure Universal Mounting Kit (DS-BA370-XB) Installation Guide

This document describes how to install a BA370 enclosure in a Enterprise Storage Array (ESA) 12000 or SW600 cabinet using a BA370 enclosure universal mounting kit (DS-BA370-XB). The ESA 12000 cabinet is a RETMA cabinet; the SW600 cabinet is a metric cabinet. Either one or two BA370 enclosures can be installed in each of these cabinets.

Compaq recommends installing the first BA370 enclosure as low as possible in the cabinet for stability purposes. The size of the opening required for installing a BA370 must be at least 30.5 in (774.7 mm) high and 19 in (482.6 mm) wide.

## Universal Mounting Kit Contents

Use Table 1 to verify that all BA370 enclosure universal mounting kit parts required for a RETMA or metric cabinet installation are available.

### Note

Since the BA370 enclosure universal mounting kit is designed for use in cabinets other than those provided by Compaq, there will be parts left over upon completing the installation process.

For easy identification, a component part number is stamped on each bracket and plate.

**Table 1 Mounting Kit Parts List**

Description	Qty	Description	Qty
Left Mounting Plate (70-40038-01)	1	10-32 x 1/2 in Flat Head Machine Screw (90-06073-02)	4
Right Mounting Plate (70-40038-02)	1	6-32 x 3/8 in TRUSS Head Screw (90-11409-03)	1
BA370 Mounting Bracket (70-60052-01)	4	10-32 Clip U-Nuts (90-06073-02)	12
LED Bracket Assembly (70-40039-01)	1	Cable Ties (90-11456-01)	18
Cover Plate (74-60152-01)	1	SEMS Screws: 8-32 x 1/4 in Pan Head (90-09545-00) 10-32 x 5/8 in Pan Head (12-21368-02)	8 31

## BA370 Enclosure Specifics

The following special considerations aid in the proper installation and operation of a BA370 enclosure:

- **Operating Temperature** — 10°C to 40°C (50°F to 104°F) is the recommended operating environment.
- **Overtemperature Automatic Shut-Off** — Internal circuitry monitors the operating temperature of the enclosure. If the operating temperature exceeds allowable limits, audible and visual warnings are provided. Unless the overtemperature condition is resolved within approximately 8 minutes, the enclosure begins an automatic shutdown sequence.

- **Air Flow** — Compaq recommends that no equipment should be mounted behind the enclosure, allowing adequate air flow within the cabinet.
- **Mechanical Loading** — It is essential to maintain the stability of the cabinet during the installation and completion of cabinet configuration. Compaq recommends configuring the cabinet so that each enclosure is installed in the lowest possible location to prevent a mechanical hazard due to uneven loading.
- **Circuit Loading** — Ensure that, for all equipment installed in the rack, the sum of the equipment nameplate ratings do not exceed available supply current. Consideration must be given to the effect that overloading of circuits has on overcurrent protection and supply wiring.
- **Reliable Earthing** — Properly ground the cabinet prior to applying power to the enclosure. Ensure that all grounding paths are reliably connected.
- **Enclosure Weight** — An enclosure with a full compliment of components weighs more than 102 kg (225 lb). To prevent personal injury (1) always install an empty enclosure and (2) use at least two people to lift, align, and install the enclosure in the lowest possible location within the cabinet.

## Preliminary Information

The mounting plates attach to the cabinet vertical rails and the mounting brackets attach to the BA370 enclosure. If the mounting plates and mounting brackets are not installed correctly, the BA370 enclosure cannot be installed properly.

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### WARNING!

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**The full BA370 enclosure weights more than 102 kg (225 lb). To prevent personal injury:**

- **Always mount an empty enclosure into a cabinet prior to installing devices.**
- **Use at least two people to lift, align, insert, and secure the enclosure into a cabinet.**
- **Extend cabinet stabilizer legs, if available, to prevent the cabinet from tipping over while the enclosure is being inserted in the upper location.**

**If installing a BA370 enclosure into an existing operational cabinet, ensure all power is removed from the cabinet prior to installing the enclosure.**

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If installing two BA370 enclosures in the same cabinet, install both the lower and upper enclosure mounting plates prior to installing the lower BA370 enclosure. This process makes it easier to identify the correct vertical rail holes and secure the mounting plates to the rails.

If an ECB shelf will be installed between the enclosures, Compaq recommends installing it prior to installing the second BA370 enclosure in the upper location. Otherwise, it might be difficult to secure the rear ECB shelf mounting brackets.

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### Note

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During the installation process, count only the cabinet rail holes that are 0.281 inch in diameter, beginning at the bottom of the cabinet. DO NOT count the first smaller hole at the very bottom or top of the rail.

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## Installing the Lower Enclosure

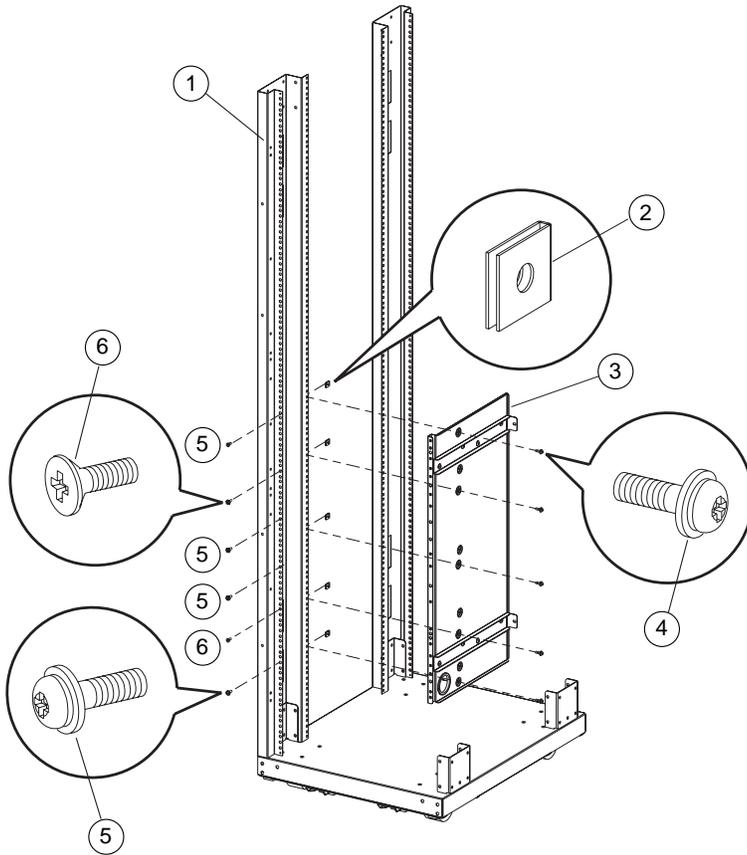
For RETMA cabinets, complete the procedures in Table 2, Table 4, Table 6, and Table 7 to install a BA370 enclosure in the lower location.

For metric cabinets, complete the procedures in Table 3, Table 5, Table 6, and Table 7 to install a BA370 enclosure in the lower location.

## Installing the Left-Lower Mounting Plate

Complete the procedure in Table 2 or Table 3 to install the left-lower mounting plate in the cabinet. Refer to Figure 1 as necessary for clarity.

**Figure 1 Installing the Left-Lower Mounting Plate (RETMA Cabinet Example)**



### Figure CALLOUTS Legend

1. Front rail
2. Clip U-nut (5X)
3. Left mounting plate
4. 10-32 x 5/8 in pan head screw (5X)
5. 10-32 x 5/8 in pan head screw (4X)
6. 10-32 x 1/2 in flat head screw (2X)

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**Table 2 RETMA: Left-Lower Mounting Plate Installation Procedure**

1. Install five clip U-nuts (CALLOUT 2) on the rear leg of the left-front cabinet rail (CALLOUT 1), using vertical rail hole numbers 18, 27, 40, 54, and 65.
2. Holding the left mounting plate (CALLOUT 3), align the front column of dimpled holes on the mounting plate (as shown in Figure 1) with the clip U-nuts (CALLOUT 2) installed in step 1 and install five 10-32 x 5/8 in pan head screws (CALLOUT 4) finger-tight in these locations. <b>DO NOT</b> tighten the these screws at this time.
3. On the front leg of the left-front cabinet rail (CALLOUT 1), install two 10-32 x 1/2 in flat head screws (CALLOUT 6), using vertical rail holes 27 and 53, and fully tighten.
4. Fully tighten all remaining screws installed in step 2.
5. Install four 10-32 x 5/8 in pan head screws (CALLOUT 5) in the front leg of the left-front cabinet rail (CALLOUT 1), using vertical rail holes 17, 35, 44, and 64, and fully tighten these screws.

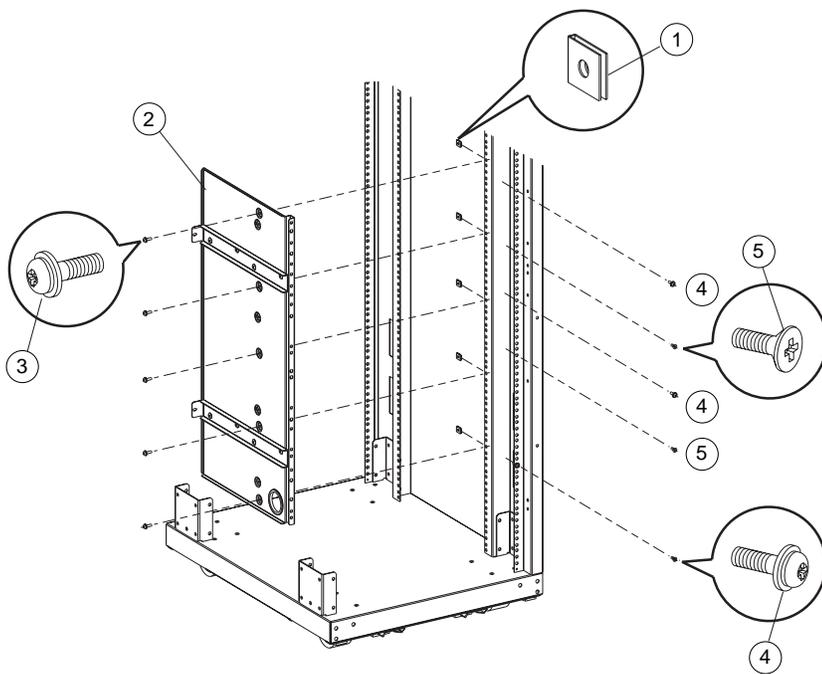
**Table 3 Metric: Left-Lower Mounting Plate Installation Procedure**

1. Install four clip U-nuts (CALLOUT 2) on the rear leg of the left-front cabinet rail (CALLOUT 1), using vertical rail hole numbers 3, 9, 16, and 25.
2. Holding the left mounting plate (CALLOUT 3), align the rear column of dimpled holes on the mounting plate (as represented in Figure 1) with the clip U-nuts (CALLOUT 2) installed in step 1 and install four 10-32 x 5/8 in pan head screws (CALLOUT 4) finger-tight in these locations. DO NOT tighten the these screws at this time.
3. On the front leg of the left-front cabinet rail (CALLOUT 1), install two 10-32 x 1/2 in flat head screws (CALLOUT 6), using vertical rail holes 9 and 24, and fully tighten.
4. Fully tighten all remaining screws installed in step 2.
5. Install three 10-32 x 5/8 in pan head screws (CALLOUT 5) in the front leg of the left-front cabinet rail (CALLOUT 1), using vertical rail holes 2, 16, and 30, and fully tighten these screws.

## Installing the Right-Lower Mounting Plate

Complete the procedure in Table 4 or Table 5 to install the right-lower mounting plate in the cabinet. Refer to Figure 2 as necessary for clarity.

**Figure 2 Installing the Right-Lower Mounting Plate (RETMA Cabinet Example)**



**Figure CALLOUTS Legend**

1. Clip U-nut (5X)
2. Right mounting plate
3. 10-32 x 5/8 in pan head screw (5X)
4. 10-32 x 5/8 in pan head screw (3X)
5. 10-32 x 1/2 in flat head screw (2X)

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**Table 4 RETMA: Right-Lower Mounting Plate Installation Procedure**

1. Install five clip U-nuts (CALLOUT 1) on the rear leg of the right-front cabinet rail, using vertical rail hole numbers 18, 30, 42, 53, and 65.
2. Holding the right mounting plate (CALLOUT 2), align the front column of dimpled holes on the mounting plate (as shown in Figure 2) with the clip U-nuts (CALLOUT 1) installed in step 1 and install five 10-32 x 5/8 in pan head screws (CALLOUT 3) finger-tight in these locations. DO NOT tighten the these screws at this time.

**Table 4 RETMA: Right-Lower Mounting Plate Installation Procedure (Continued)**

3. On the front leg of the right-front cabinet rail, install two 10-32 x 1/2 in flat head screws (CALLOUT 5), using vertical rail holes 35 and 52, and fully tighten.
4. Fully tighten all remaining screws installed in step 2.
5. Install three 10-32 x 5/8 in pan head screws (CALLOUT 4) in the front leg of the right-front cabinet rail, using vertical rail holes 17, 44, and 62, and fully tighten these screws.

**Table 5 Metric: Right-Lower Mounting Plate Installation Procedure**

1. Install four clip U-nuts (CALLOUT 1) on the rear leg of the right-front cabinet rail, using vertical rail hole numbers 3, 10, 19, and 28.
2. Holding the right mounting plate (CALLOUT 2), align the rear column of dimpled holes on the mounting plate (as represented in Figure 2) with the clip U-nuts (CALLOUT 1) installed in step 1 and install four 10-32 x 5/8 in pan head screws (CALLOUT 3) finger-tight in these locations. DO NOT tighten the these screws at this time.
3. On the front leg of the right-front cabinet rail, install two 10-32 x 1/2 in flat head screws (CALLOUT 5), using vertical rail holes 10 and 26, and fully tighten.
4. Fully tighten all remaining screws installed in step 2.
5. Install three 10-32 x 5/8 in pan head screws (CALLOUT 4) in the front leg of the right-front cabinet rail, using vertical rail holes 2, 18, and 30, and fully tighten these screws.

## Installing the LED Bracket and Mounting Brackets on a BA370 Enclosure

Complete the procedure in Table 6 to install the LED bracket assembly and enclosure mounting brackets on a BA370 enclosure. Refer to Figure 3 as necessary for clarity.

**Note**

If the enclosure arrived with an LED bracket assembly previously installed, some procedural steps can be omitted.

**Table 6 LED Bracket and Mounting Brackets Installation Procedure**

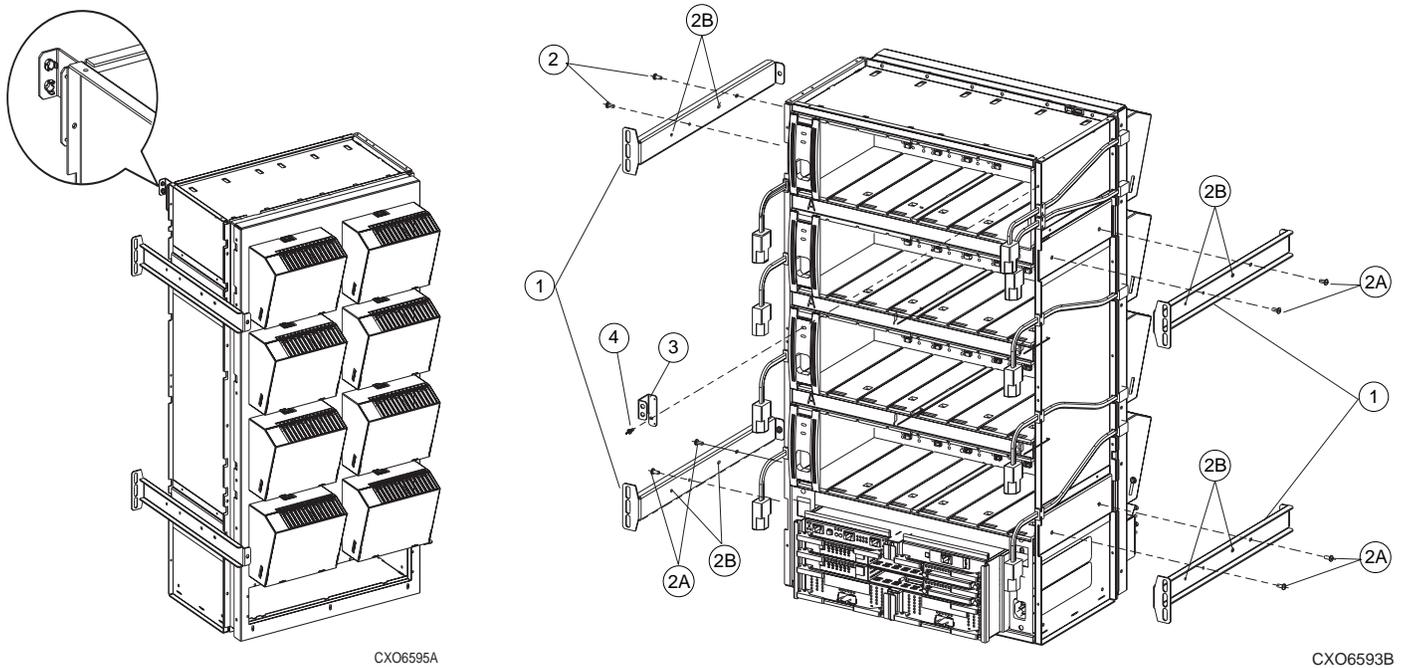
1. Align the two dimples on the back of the LED bracket assembly with the right-front edge of the BA370 enclosure (see left diagram) and secure the bracket (see right diagram, CALLOUT 3) to the cabinet using the 6-32 x 3/8 in TRUSS head screw (see right diagram, CALLOUT 4).
2. Install the LEDs at one end of the LED cable assembly (located and attached on top of the enclosure) by snapping the green LED into the top hole of the bracket and the amber LED into the bottom hole.
3. Attach four mounting brackets (CALLOUT 1) to the BA370 enclosure (two on the left side and two on the right side), using eight 8-32 x 1/4 in pan head screws, and fully tighten the screws.

**Note**

For RETMA cabinets, use the second and fourth holes (CALLOUT 2A) from the front flange on the bracket.

For metric cabinets, use the first and third holes (CALLOUT 2B) from the front flange on the bracket.

**Figure 3 Installing the LED Bracket and Enclosure Mounting Brackets**



**Figure CALLOUTS Legend**

- |   |  |                     |
|---|--|---------------------|
| 1. Mounting brackets (4X)   | 2B. Metric: 8-32 x 1/4 in pan head screws (8X) using holes 1 and 3 | 4. TRUSS head screw |
| 2A. RETMA: 8-32 x 1/4 in pan head screws (8X) using holes 2 and 4 | 3. LED bracket assembly  |                     |

## Installing the Lower Enclosure

Complete the procedure in Table 7 to install the lower enclosure in the cabinet.

**WARNING!**

**The full BA370 enclosure weighs more than 102 kg (225 lb). To prevent personal injury:**

- Always mount an empty enclosure into a cabinet prior to installing devices.
- Use at least two people to lift, align, insert, and secure the enclosure into a cabinet.
- Extend cabinet stabilizer legs, if available, to prevent the cabinet from tipping over while the enclosure is being inserted in the upper location.

**If installing a BA370 enclosure into an existing operational cabinet, ensure all power is removed from the cabinet prior to installing the enclosure.**

**Caution**

For two BA370 enclosure configurations, never install an upper enclosure prior to installing a lower enclosure. Installing the lower enclosure first prevents the cabinet from being top-heavy and unstable.

**Table 7 Enclosure Installation Procedure**

1. Remove all components from the BA370 enclosure being mounted.
2. For cabinets with stabilizer legs:
  - a. Pull out and fully extend the stabilizer legs from beneath the front of the cabinet.
  - b. Adjust the leveling foot on each stabilizer leg so that the foot is firmly pressed against the floor.
3. Using two or more people, carefully lift the BA370 enclosure and insert its mounting brackets into the corresponding mounting plate channels in the appropriate cabinet location, and then slowly slide the enclosure into the cabinet.

**WARNING!**

**Once the enclosure is inserted into the mounting plate channels, DO NOT release the enclosure until it is fully inserted into the cabinet. The mounting brackets and mounting plate channels cannot support an enclosure that is only partially inserted. Damage to equipment and personal injury might result.**

**Note**

If the enclosure does not align or slide smoothly into the cabinet, then the mounting plates within the cabinet might be improperly installed.

4. Secure the enclosure to the cabinet by installing 10-32 x 5/8 in pan head screws through the front flange of the mounting brackets and fully tighten them.

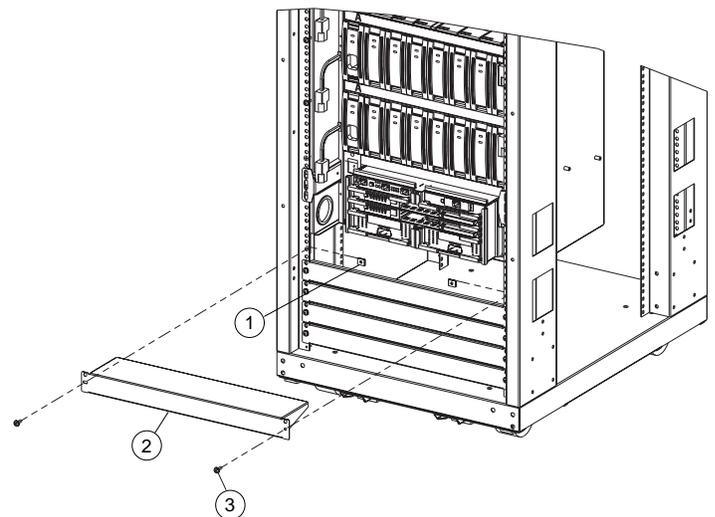
**Note**

For RETMA cabinets, one screw is required in the *middle slot* of each mounting bracket flange.

For metric cabinets, one screw is required in the *top and bottom slots* of each mounting bracket flange.

5. From the rear of the cabinet, secure the mounting brackets to mounting plate channels by installing four 10-32 x 5/8 in pan head screws through the four mounting plate tabs and fully tighten the screws.
6. For RETMA cabinet installations, continue with step 7. For metric cabinet installations, go to step 10 and continue.

7. Install two clip U-nuts (CALLOUT 1) in the first available 1U space below the lower enclosure.
8. Orient the cover plate (CALLOUT 2) so that the extended surface faces upward as shown above.
9. Align the holes in the cover plate (CALLOUT 2) with the two clip U-nuts installed in step 7 and using two 10-32 x 5/8 in pan head screws (CALLOUT 3), secure the plate to the cabinet.



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**Table 7 Enclosure Installation Procedure (Continued)**

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|--|
| 10. On top of the enclosure, connect the other end of the LED cable to the connector from the door-mounted LED cable assembly. |
| 11. Ensure all LED cable connections are firmly seated.  |

## Installing the Upper Enclosure

For RETMA cabinets, complete the procedures in Table 8 and Table 10, and then the procedures in Table 6 and Table 7 to install a BA370 enclosure in the upper location.

For metric cabinets, complete the procedures in Table 9 and Table 11, and then the procedures in Table 6 and Table 7 to install a BA370 enclosure in the upper location.

### Caution

DO NOT install a BA370 enclosure in the upper location without first installing an enclosure in the lower location, or ensuring that the lower portion of the cabinet is sufficiently weighed to provide cabinet stability. To physically install the second enclosure within the cabinet, follow the procedure in Table 7 using the upper enclosure location.

## Installing the Left-Upper Mounting Plate

Complete the procedure in Table 8 or Table 9 to install the left-upper mounting plate in the cabinet. Figure 1 can be used for clarity, but remember to use the correct upper hole numbers, which place the mounting plate high within the cabinet.

**Table 8 RETMA: Left-Upper Mounting Plate Installation Procedure**

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|--|
| 1. Install five clip U-nuts (CALLOUT 2) on the rear leg of the left-front cabinet rail (CALLOUT 1), using vertical rail hole numbers 75, 84, 97, 111, and 122.   |
| 2. Holding the left mounting plate (CALLOUT 3), align the front column of dimpled holes on the mounting plate (as shown in Figure 1) with the clip U-nuts (CALLOUT 2) installed in step 1 and install five 10-32 x 5/8 in pan head screws (CALLOUT 4) finger-tight in these locations. DO NOT tighten the these screws at this time. |
| 3. On the front leg of the left-front cabinet rail (CALLOUT 1), install two 10-32 x 1/2 in flat head screws (CALLOUT 6), using vertical rail holes 84 and 110, and fully tighten.  |
| 4. Fully tighten all remaining screws installed in step 2.   |
| 5. Install four 10-32 x 5/8 in pan head screws (CALLOUT 5) in the front leg of the left-front cabinet rail (CALLOUT 1), using vertical rail holes 74, 92, 101, and 121, and fully tighten these screws.  |

**Table 9 Metric: Left-Upper Mounting Plate Installation Procedure**

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|---|
| 1. Install four clip U-nuts (CALLOUT 2) on the rear leg of the left-front cabinet rail (CALLOUT 1), using vertical rail hole numbers 34, 40, 47, and 56.  |
| 2. Holding the left mounting plate (CALLOUT 3), align the rear column of dimpled holes on the mounting plate (as represented in Figure 1) with the clip U-nuts (CALLOUT 2) installed in step 1 and install four 10-32 x 5/8 in pan head screws (CALLOUT 4) finger-tight in these locations. DO NOT tighten the these screws at this time. |
| 3. On the front leg of the left-front cabinet rail (CALLOUT 1), install two 10-32 x 1/2 in flat head screws (CALLOUT 6), using vertical rail holes 40 and 55, and fully tighten.  |
| 4. Fully tighten all remaining screws installed in step 2.  |

**Table 9 Metric: Left-Upper Mounting Plate Installation Procedure (Continued)**

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| 5. Install three 10-32 x 5/8 in pan head screws (CALLOUT 5) in the front leg of the left-front cabinet rail (CALLOUT 1), using vertical rail holes 33, 47, and 61, and fully tighten these screws. |
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## Installing the Right-Upper Mounting Plate

Complete the procedure in Table 10 or Table 11 to install the right-upper mounting plate in the cabinet. Figure 2 can be used for clarity, but remember to use the correct hole numbers, which place the mounting plate high within the cabinet.

**Table 10 RETMA: Right-Upper Mounting Plate Installation Procedure**

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|---|
| 1. Install five clip U-nuts (CALLOUT 2) on the rear leg of the right-front cabinet rail (CALLOUT 1), using vertical rail hole numbers 75, 87, 99, 110, and 122.   |
| 2. Holding the right mounting plate (CALLOUT 3), align the front column of dimpled holes on the mounting plate (as shown in Figure 1) with the clip U-nuts (CALLOUT 2) installed in step 1 and install five 10-32 x 5/8 in pan head screws (CALLOUT 4) finger-tight in these locations. DO NOT tighten the these screws at this time. |
| 3. On the front leg of the right-front cabinet rail (CALLOUT 1), install two 10-32 x 1/2 in flat head screws (CALLOUT 6), using vertical rail holes 92 and 109, and fully tighten.  |
| 4. Fully tighten all remaining screws installed in step 2.  |
| 5. Install three 10-32 x 5/8 in pan head screws (CALLOUT 5) in the front leg of the right-front cabinet rail (CALLOUT 1), using vertical rail holes 74, 101, and 119, and fully tighten these screws.   |

**Table 11 Metric: Right-Upper Mounting Plate Installation Procedure**

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| 1. Install four clip U-nuts (CALLOUT 2) on the rear leg of the right-front cabinet rail (CALLOUT 1), using vertical rail hole numbers 34, 41, 50, and 59.  |
| 2. Holding the right mounting plate (CALLOUT 3), align the rear column of dimpled holes on the mounting plate (as represented in Figure 1) with the clip U-nuts (CALLOUT 2) installed in step 1 and install four 10-32 x 5/8 in pan head screws (CALLOUT 4) finger-tight in these locations. DO NOT tighten the these screws at this time. |
| 3. On the front leg of the right-front cabinet rail (CALLOUT 1), install two 10-32 x 1/2 in flat head screws (CALLOUT 6), using vertical rail holes 41 and 57, and fully tighten.  |
| 4. Fully tighten all remaining screws installed in step 2.   |
| 5. Install three 10-32 x 5/8 in pan head screws (CALLOUT 5) in the front leg of the right-front cabinet rail (CALLOUT 1), using vertical rail holes 33, 49, and 61, and fully tighten these screws.  |

## Installing the Upper Enclosure

Complete the procedures in Table 6 and Table 7 to install a BA370 enclosure in the upper location.

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### WARNING!

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**The full BA370 enclosure weights more than 102 kg (225 lb). To prevent personal injury:**

- Always mount an empty enclosure into a cabinet prior to installing devices.
- Use at least two people to lift, align, insert, and secure the enclosure into a cabinet.
- Extend cabinet stabilizer legs, if available, to prevent the cabinet from tipping over while the enclosure is being inserted in the upper location.

**If installing a BA370 enclosure into an existing operational cabinet, ensure all power is removed from the cabinet prior to installing the enclosure.**

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### Note

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If the enclosure arrived with an LED bracket assembly previously installed, some procedural steps in Table 6 can be omitted.

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