

Display Sections

Structure Preparation

- 1. Verify the structure per the DVX/DVS-32XX Series Vertical Mounting Matrix Structure Placement & Verification Quick Guide (DD5549385).

First Display Section

- 1. Remove the display sections from the crates per the DVX/DVS-32XX Series Section Crate Handling Quick Guide (DD5549382).
- 2. Install the M12 lift eyes supplied with the display hardware into the designated locations on the cabinet. Refer to Figure 1 and the DVX/DVS-32XX Series Section Basics Quick Guide (DD5549384).

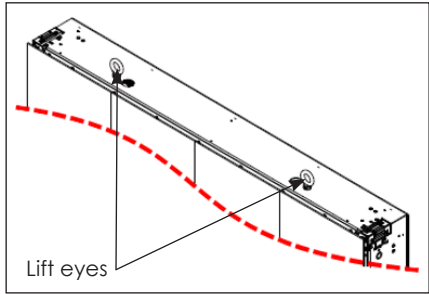


Figure 1: Install Lift Eyes

- 3. Attach the vertical mounting clips onto the top and bottom of the cabinet so the bottom clips align with the bottom perimeter and the top clips extend past the top perimeter. Refer to Figure 2 and Figure 3.

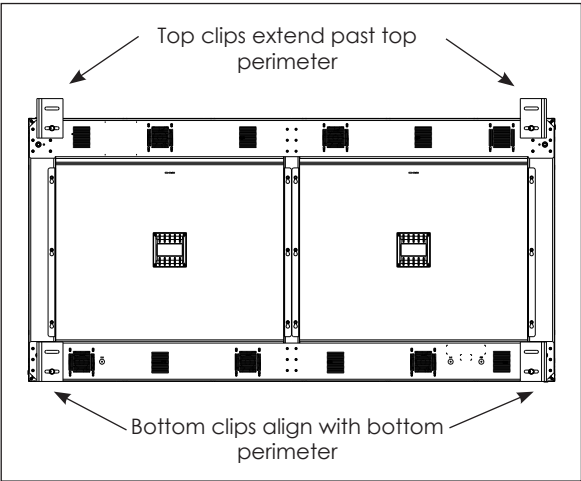


Figure 2: Attach Mounting Clips

If cabinets are factory stitched, mounting clips will need to be installed at the cabinet seam. All clips are attached with one M12 bolt in each slot. Refer to Figure 4.

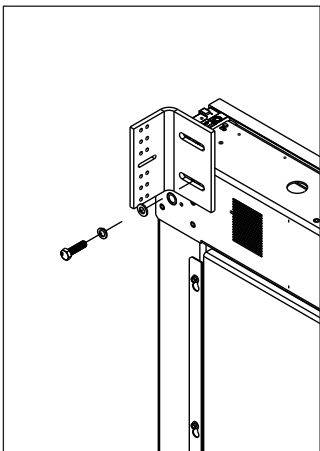


Figure 3: Mounting Clip Detail

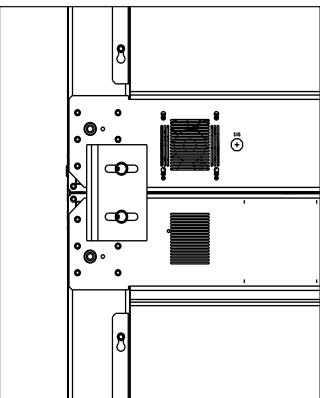


Figure 4: Attach Mounting Clip Across Seam

Mount one set of top and bottom clips a distance equal to half of the vertical member width (a clip should be mounted 1.5" [38.1 mm] from the cabinet edge if a 3" [76.2 mm] vertical is used). Refer to Figure 5. This allows for adjustment in the remaining sections. Mount the remaining clips as far into the center of the cabinet as possible to prevent the clips from spinning while still providing enough clearance for placing on the structure. Finger-tighten the clips.

- 4. Lift the first display section into place per the DVX/DVS-32XX Series Section Lifting Quick Guide (DD5549383).
- 5. Adjust the finger-tight vertical mounting clips flush to the vertical mounting members. Ensure the first section is installed vertically plumb and level before permanently attaching it to the structure.

Refer to Figure 6. If the vertical tube (dimension A) is 4" deep, the recommended cabinet to structure spacing (dimension B) is 1". If the vertical tube (dimension A) is 3" deep, the recommended cabinet to structure spacing (dimension B) is 1.5".

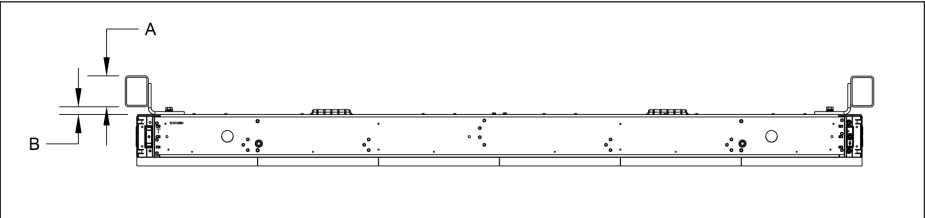


Figure 6: Adjust Mounting Clips (Top View)

For all subsequent sections, install all interconnect hardware in any adjacent sections while the sections are still attached to the crane and before permanently attaching the sections to the structure. Refer to Side-to-Side Connection (p.2) and Top-to-Bottom Connection (p.2) for connection details.

- 6. Leave the crane connected to the section lift eyes until Step 10 is complete and the section is permanently attached to the structure.
- 7. Use one of the following methods to temporarily secure the section and ensure correct placement:
  - Use clamps to hold the angle tight to the vertical tube. This provides a tight fit but allows for adjustment as needed. Refer to Figure 7.
  - Use a self-drilling screw in the slot of the clip angle. The screw can be loosened to provide adjustment as needed. Refer to Figure 8.

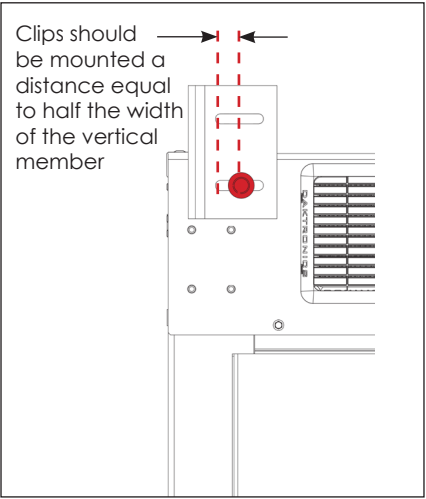


Figure 5: Verify Mounting Clip Distance

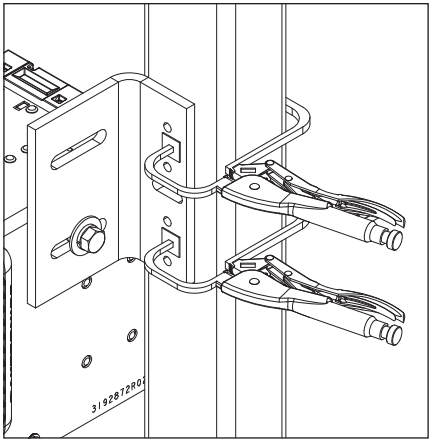


Figure 7: Secure Section with Clamps

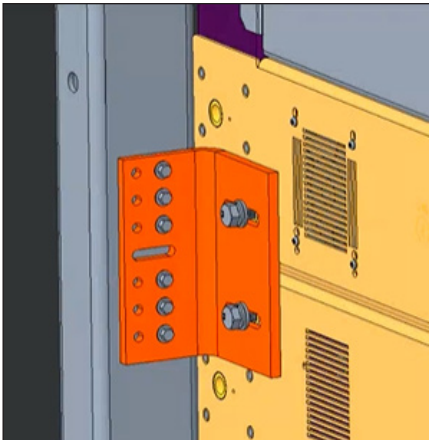


Figure 8: Secure Section with Screw

**Note:** These methods are not permanent solutions, and displays should remain attached to the crane when using these recommended methods.

- 8. Inspect the corner blocks and module faces on the installed sections to ensure the faces shown in Figure 9 and Figure 10 are flush and aligned.

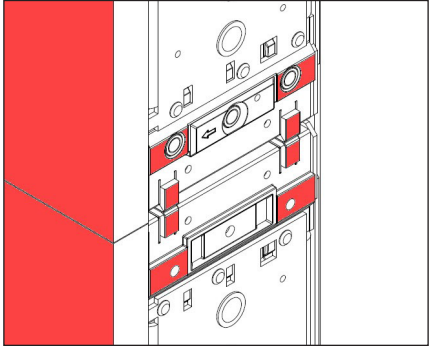


Figure 9: Inspect Corner Blocks

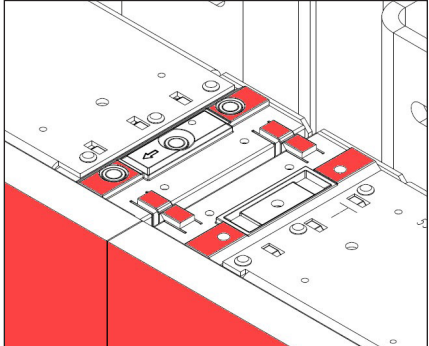


Figure 10: Inspect Corner Blocks

- 9. Place a 4' level at both ends and the middle of the display seam (when possible) to ensure the display faces are flush, plumb, and flat to all adjacent sections. Refer to Figure 11. If the display faces are no longer aligned, loosen the section interconnect hardware and repeat Steps 6-9.

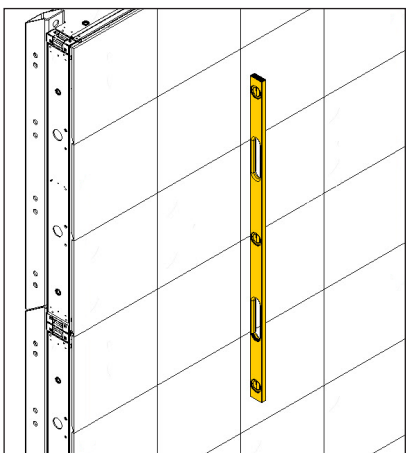


Figure 11: Ensure Display Faces Are Flush

10. Attach the clips to the structure by either welding or installing the self-drilling screws. The number of self-drilling screws required depends on the clip location: clips across cabinet seams require six screws, while clips along the top/bottom of the display require three screws. Refer to **Figure 12**, **Figure 13**, the **Structural Self-Drilling Screws Installation Guide (DD5549390)**, and the **DVX/DVS-32XX Series Vertical Mounting Welded Clip Attachment Quick Guide (DD5549389)**.

**Note:** There are two columns of six holes each available for screw installation. Choose either column of holes. Three screws are used for each M12 bolt. Alternating between columns is not permitted. The center slot connection is intended to be used for initial mounting adjustment only. The slot screw is not considered a structural connection. Refer to **Figure 12**.

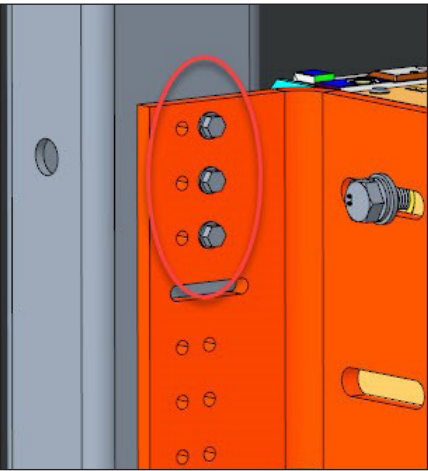


Figure 12: Top Clip

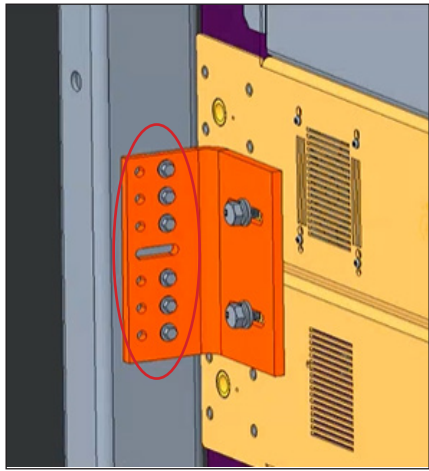


Figure 13: Middle Clip Across Seam

11. Secure the bottom clip locations for stitched sections:
- For front installations, drill a 7/32" pilot hole, then install a self-drilling screw from the front of the cabinet through the rear in the location shown in **Figure 14**. Refer to the **Structural Self-Drilling Screws Installation Guide (DD5549390)**.
  - For rear installations, install the M12 bolt, M12 washer, and M12 split lock washer supplied with the display hardware through the top hole on the display clip into the bottom nutsert location in the stitched section. Tighten to 30 ft-lbs [41 N-m]. Refer to **Figure 15**.

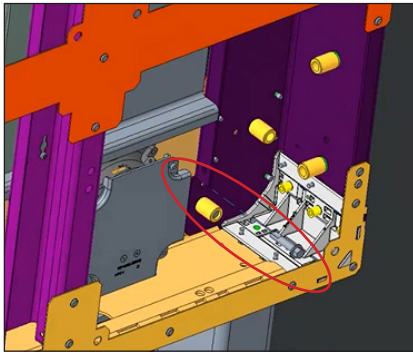


Figure 14: Secure Bottom Clip Location from Front

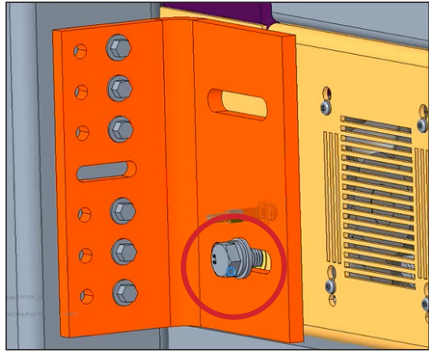


Figure 15: Secure Bottom Clip Location from Rear

12. Tighten the remaining M12 hardware on the cabinet section to 30 ft-lbs [41 N-m].

Top Row Display Sections

Use the supplied hardware to attach the vertical mounting clips *only* at the top of the cabinet so the clips align flush with the top perimeter. Mount the clips as far into the center of the cabinet as possible to prevent the clips from spinning while still providing enough clearance for placing on the structure. Finger-tighten the clips. Refer to **Figure 16** and the **DVX/DVS-32XX Series Section Basics Quick Guide (DD5549384)**.

Middle Row Display Sections

Use the supplied hardware to attach the vertical mounting clips *only* at the top of the cabinet so the clips extend past the top perimeter. Mount the clips as far into the center of the cabinet as possible to prevent the clips from spinning while still providing enough clearance for placing on the structure. Finger-tighten the clips. Refer to **Figure 16** and the **DVX/DVS-32XX Series Section Basics Quick Guide (DD5549384)**.

Bottom Row Display Sections

Use the supplied hardware to attach the vertical mounting clips onto the cabinet so the bottom clips align flush with the bottom of the cabinet. Mount the clips as far into the center of the cabinet as possible to prevent the clips from spinning while still providing enough clearance for placing on the structure. Finger-tighten the clips. Refer to **Figure 16** and the **DVX/DVS-32XX Series Section Basics Quick Guide (DD5549384)**.

Side-to-Side Connection

Connect the sections side-to-side before making any top-to-bottom connections.

- Place the adjacent sections side-by-side so the alignment pyramids in each section nest inside the corresponding recesses.
- Install the M6 bolts (Daktronics part number HC-3464941) supplied with the interconnect hardware horizontally through all of the corner blocks from one cabinet into the adjacent cabinet's corresponding corner block's nutsert. **Install one bolt in the center hole of each corner block.** Refer to **Figure 17**. Finger-tighten the bolts.

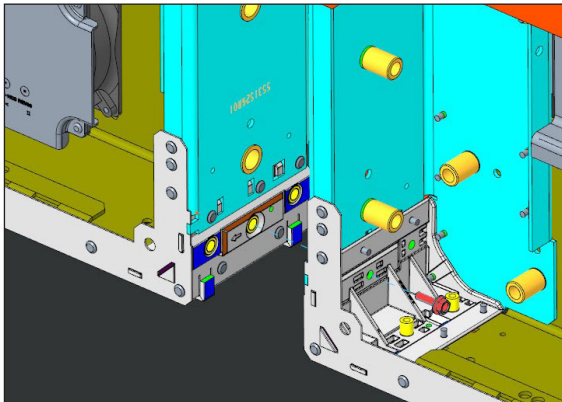


Figure 17: Install Bolt through Corner Block

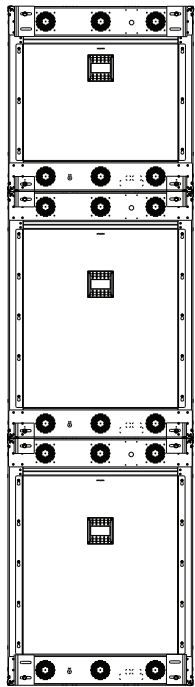


Figure 16: Display Sections

- Use a 10 mm socket/ratchet with extension to tighten the bolts. The minimum torque required is 8.13 N m. Avoid over-tightening the bolts. After the corner blocks are tight together, additional torque will not tighten the seams and can damage the blocks.
- Inspect the corner blocks on the installed section to ensure the faces shown in **Figure 9** and **Figure 10** are flush and aligned. Additional M6 corner block bolts can be added if required to close the cabinet seam.
- Use a 4' level to ensure the display faces are flush and flat to all adjacent sections. Refer to **Figure 11**.

Top-to-Bottom Connection

Connect the sections side-to-side before making any top-to-bottom connections.

- Place the adjacent sections on top of each other so the alignment pyramids in each section nest inside the corresponding recesses.
- Install the M6 bolts (#HC-3464941) supplied with the interconnect hardware vertically through all of the corner blocks from one cabinet and into the adjacent cabinet's corresponding corner block's nutsert. **Install one bolt in the center hole of each corner block.** Refer to **Figure 18**. Finger-tighten the bolts.
- Use a 10 mm socket/ratchet with extension to tighten the bolts. The minimum torque is 8.13 N m. Avoid over-tightening the bolts. After the corner blocks are tight together, additional torque will not tighten the seams and can damage the blocks.
- Inspect the corner blocks on the installed section visually to ensure the faces shown in **Figure 9** and **Figure 10** are flush and aligned. Additional M6 corner block bolts can be added if required to close the cabinet seam.
- Use a 4' level (when possible) to ensure the display faces are flush and flat to all adjacent sections. Refer to **Figure 11**.

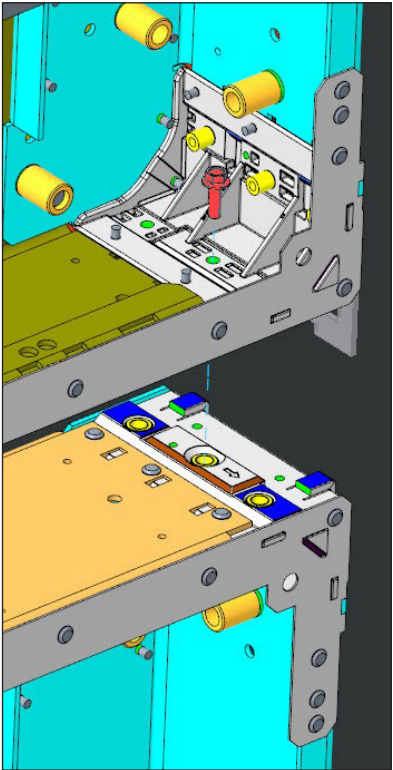


Figure 18: Install Bolt through Corner Block

Border Installation

Attach the display borders after the display sections are secured to the structure per the **DVX/DVS-32XX Series Border Installation Quick Guide (DD5549387)**.



Seam Spacing Adjustment

Perimeter Y-Axis Seam Adjustment

If dark or bright seams are identified between horizontal cabinet seams, install perimeter seam adjustment hardware to correct the seam gaps. Adjustment holes are located in the bottom perimeters of every cabinet.

1. Identify whether the seam is dark or bright.
2. Refer to **Figure 19**. Install #8 tap screws in the bottom perimeter at the locations where adjustment is required, according to the following specifications:
  - For dark seams, install the tap screw in the larger hole.
  - For bright seams, install the tap screw in the smaller hole.
3. Thread the tap screws into the perimeter. Tighten the screws until the seam is no longer visible.

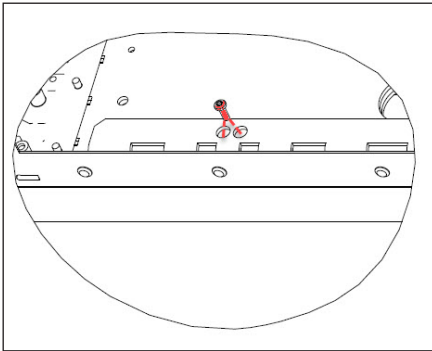


Figure 19: Y-Axis Seam Adjustment

Perimeter Z-Axis Seam Adjustment

Inspect the middle of the horizontal seam between two cabinets. If the faces of the cabinets, shown in red in **Figure 20**, are not in plane with each other, install a self-drilling screw according to the following method:

1. Insert a screwdriver or similar tool through the pry hole near the center of the cabinet where the top and bottom perimeters meet.
2. Use the tool to shift the faces into alignment.
3. Use a straight edge across the modules of the 2 cabinets to check for alignment.
4. Once in alignment, install a 1/4" self-drilling screw (HC-5164221) through the bottom perimeter and into the top perimeter of the cabinet below it to hold the faces in place.

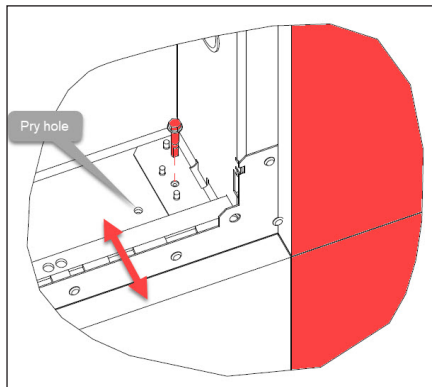


Figure 20: Z-Axis Seam Adjustment

Electrical

Power Interconnection

**Note:** In all factory-assembled cabinets, junction boxes are factory-installed and internal AC power has been connected.

For all other single section cabinet sizes, junction boxes ship separately. Refer to the contract-specific System Riser Diagram for junction box locations. Cabinets with junction boxes installed can be identified by a label below the spec tag. Refer to **Figure 21**.

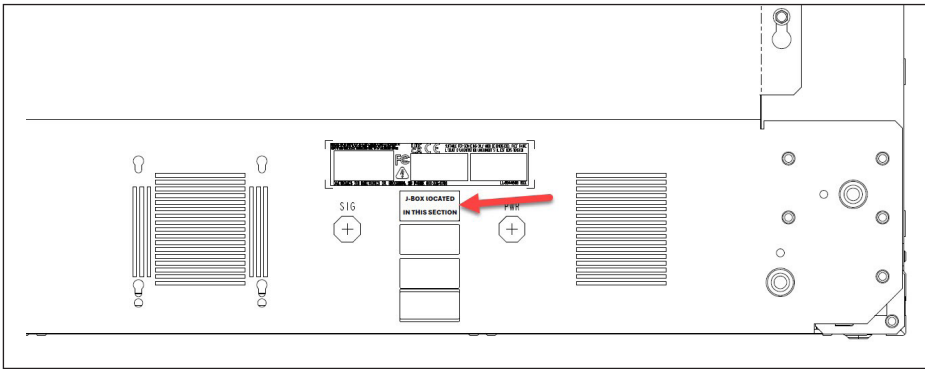


Figure 21: Spec Tag

20 Amp Service

If junction boxes were not factory installed, field power must be terminated at each junction box. The connections from the breaker panel to each junction box must be performed by a licensed electrician. Refer to **Figure 22** and **Figure 23**.

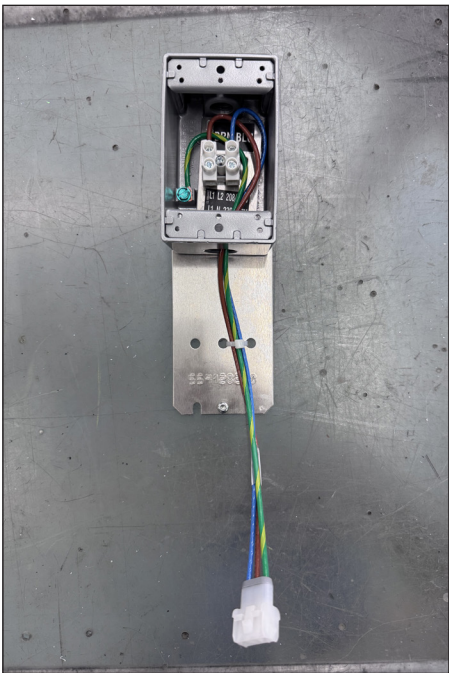


Figure 22: Filter & Junction Box Assembly

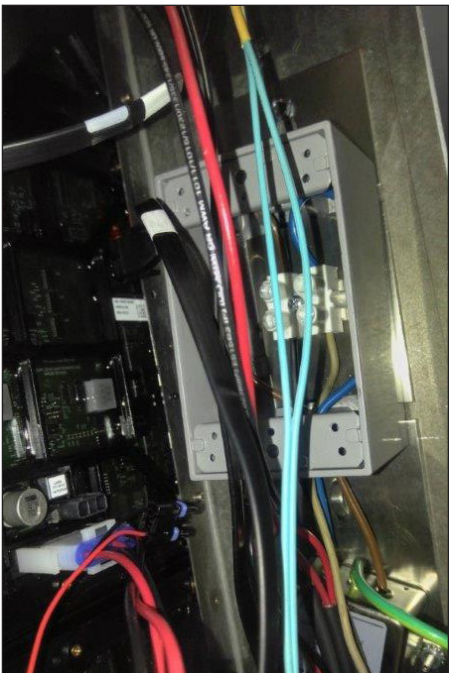


Figure 23: Filter & Junction Box Assembly (Cabinet View)

40 Amp Service

If 40 A service is specified by the contract-specific drawings, the 20 A junction box will be replaced with a 40 A termination panel. Refer to **Figure 24**.

When installing the 40 A termination panel in curved cabinets, it may be necessary to bend the mounting bracket to better align the termination panel with the curve of the cabinet. The mounting bracket is designed to flex at the 90 degree bend. Push or pull on the enclosure to form the bracket to an angle that best fits the curvature of the cabinet.



Figure 24: 40 A Termination Panel

**Note:** If a power supply fails, power-cycle the entire display after the failure has been addressed and corrected.

Either power entrance can power multiple sections on a 20 A or 40 A circuit. Power is connected to the junction box or termination panel with factory-supplied harnessing. For power conduit landing locations, junction box assembly field installation locations, and field power connection details, refer to **DWG-5545302** for 20 A circuits and **DWG-5649536** for 40 A circuits. Refer to the contract-specific System Riser Diagram for field power locations within the display.

Signal Interconnection

1. Use the supplied hardware to place the ProLink Router(s) (PLRs) at the locations specified on **DWG-5545302**, the contract-specific Signal Interconnect Drawing, and the contract-specific System Riser Diagram. Refer to **Figure 25**.
2. Route the field fiber cable (from control location) through the signal entrance, then terminate.
3. Use the supplied power cable (#0A-2539-7003) to connect the accessory jack of the nearest module to the power jack on the PLR. Refer to **Figure 26**.

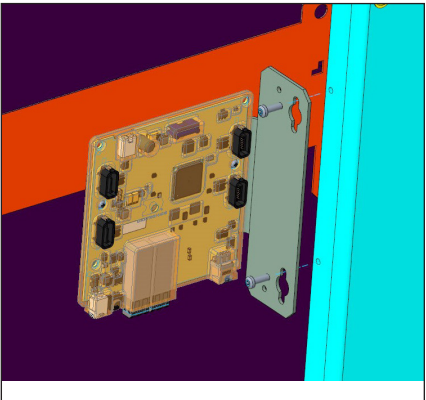
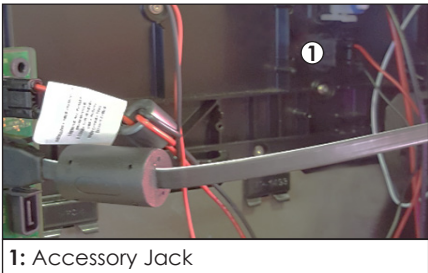


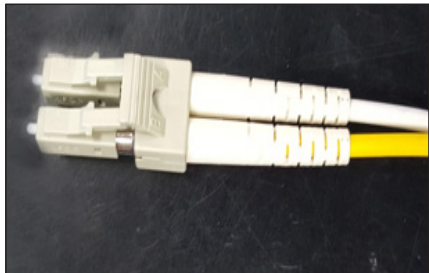
Figure 25: Mount PLR in Display



4. Connect the field-terminated fiber cable to Port A on the first PLR in the system (typically the bottom-right cabinet when viewed from the rear). Refer to **Figure 27**.



**Figure 26:** Connect PLR Power Cable to Accessory Jack on Module



**Figure 27:** Field-Terminated Fiber Cable

5. Route the supplied fiber cables from Fiber Port B on the first PLR to Fiber Port A on the next PLR. Depending on the number of PLRs, this process is continued until Fiber Port A on the final PLR in the chain is connected. Refer to the contract-specific Signal Interconnect Drawing.

**Note:** When installing the PLR in curved cabinets it may be necessary to bend the mounting bracket to better align the PLR with the curve of the cabinet. The mounting bracket is designed to flex at the 90 degree bend. Push or pull on the PLR to form the bracket to an angle that best fits the curvature of the cabinet.

6. Route the supplied SATA cable from SATA Port A on the PLR to SATA Port A on the first module. SATA connection between cabinets may be required depending on the overall display size. Use the supplied SATA cables to connect the cabinets by routing from Port B on the final module in the previous cabinet in the series to Port A on the first module in the next cabinet in the series. Refer to **Figure 28** and the contract-specific Signal Interconnect Drawing. This drawing is needed to understand how data routes in the display.



**Figure 28:** SATA Cable

7. Use the supplied 12' SATA cable to connect the final module in the signal loop to the first PLR in the series. Refer to the contract-specific Signal Interconnect Drawing for proper routing.

Service & Maintenance

Refer to the **DVX/DVS-32XX Series Section Basics Quick Guide (DD5549384)** for component locations.

Fan

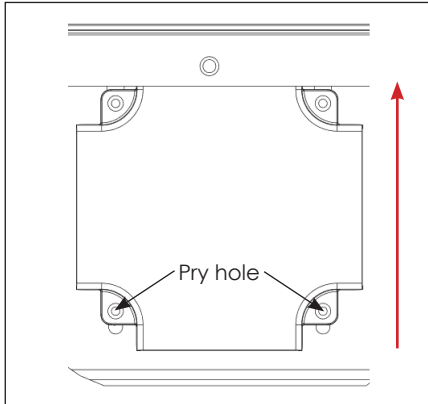
Front-Access

1. Locate the fan to be removed.
2. Disconnect the fan power harness from the modules

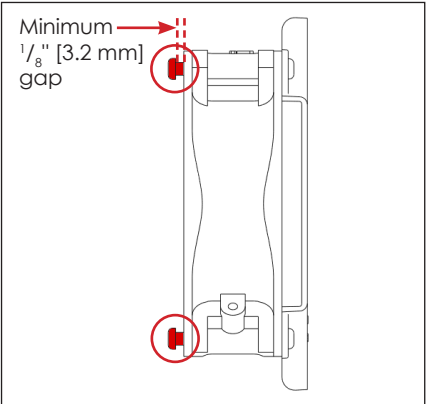
3. Slide the fan up until the hardware extends into the keyhole locations.

**Note:** Fans are mounted with friction-fit hardware. It is recommended to place a screwdriver in both of the provided pry hole locations while removing the fan. Refer to **Figure 29**.

Use new screws to install a fan, starting the screws in the fan housing and tightening to allow a minimum 1/8" [3.2 mm] gap. Place a fan in the keyholes and slide it down into position. Refer to **Figure 29** and **Figure 30**.



**Figure 29:** Remove Front-Access Fan



**Figure 30:** Install Front-Access Fan

Rear-Access

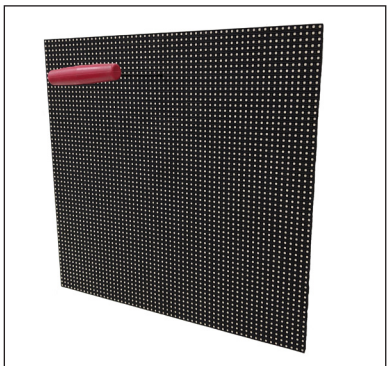
1. Locate the fan to be removed.
2. Disconnect the fan power harness from the modules.
3. Loosen the four TORX®-drive screws on the rear of the cabinet. Slide the fan up and pull it from the keyhole locations. Refer to **Figure 31**.

Reverse these steps to install a fan.

Module

Front-Access

1. Disconnect power to the display.
2. Turn the top latch release a 1/4 turn counterclockwise with an Allen wrench. Refer to **Figure 32**.
  - For a pixel pitch of 8 mm or 10 mm, use a 1/8" Allen wrench.
  - For a pixel pitch of 6 mm, use a 2 mm Allen wrench.



**Figure 32:** Remove Front-Access Module

3. Pull the module (15.7" x 15.7") from the display just far enough to reach around to the back of the unit. Attach one end of a safety lanyard to the rings on either the top or bottom of the module and the other end to a secure location within the display to prevent the module from falling if dropped. Refer to **Figure 33**.

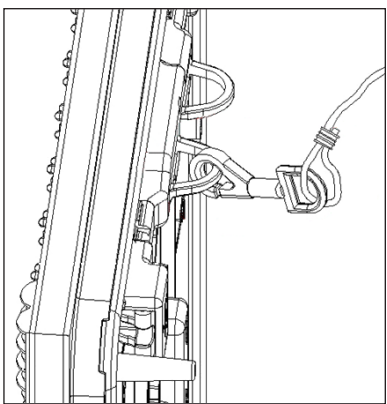
4. Disconnect the power and signal cables from the rear of the module.

Reverse these steps to install a module.

Rear-Access

1. Disconnect power to the display.
2. Remove the access panels to open the display from the rear.
3. Disconnect the power and signal cables from the rear of the module.
4. Attach one end of a safety lanyard to the rings on the top of the module to prevent the module from falling if dropped. Refer to **Figure 33**.
5. Disengage the upper latch release on the back of the module. Maintain a firm grip on the unit and use the supplied safety lanyard. Turn the upper latch release 1/4 turn clockwise. Refer to **Figure 34**.
  - For a pixel pitch of 8 mm or 10 mm, use a 1/8" Allen wrench.
  - For a pixel pitch of 6 mm, use a 2 mm Allen wrench.

**Note:** Other components (i.e. fans or power supplies) may need to be removed prior to module removal.



**Figure 33:** Safety Lanyard



**Figure 34:** Remove Rear-Access Module

6. Maintain a firm grip on the module and push it out and away from the face of the display. Rotate the module so it can be pulled back through its opening or any adjacent module opening that facilitates module removal through the rear of the display.

Reverse these steps to install a module.



Rear-Access with Optional Module Lanyard

In certain instances, often when there is a 2-high cabinet stacked on a 3-high cabinet, there is not adequate space to remove the specified module from the rear. In these cases, a lanyard is used to lower the module to a lower cabinet with pass-through access. Refer to **Figure 35**.

- 1. Disconnect power to the display.
- 2. Remove the access panels to open the display from the rear.
- 3. Disconnect the power and signal cables from the rear of the module.
- 4. Attach the one end of the lanyard to the module and one end to the internal verticals of the cabinet. Refer to **Figure 36** and **Figure 37**.



Figure 35: Module Lanyard



Figure 36: Lanyard on Module



Figure 37: Lanyard on Structure

- 5. Release the module latch. Refer to **Figure 38** and **Service & Maintenance (p.4)**.
- 6. Push the module out and away from the face of the display while holding firmly to the module or lanyard snap clip.. Refer to **Figure 39**.



Figure 38: Release Module Latch



Figure 39: Pass Module Through Cutout

- 7. Lower the module until it reaches an accessible pass-through location. Refer to **Figure 40**.
- 8. Once the module has been lowered to an accessible module pass-through location, rotate the module so it can be pulled through the module opening.



Figure 40: Lower Module (Rear View)

Reverse these steps to install a module.

Power Supply

Front-Access

- 1. Locate the power supply to be removed. Refer to the **DVX/DVS-32XX Series Section Basics Quick Guide (DD5549384)**.
- 2. Disconnect power to the display.
- 3. Remove the required modules to gain access to the power supply to be removed. Refer to **Figure 41**.

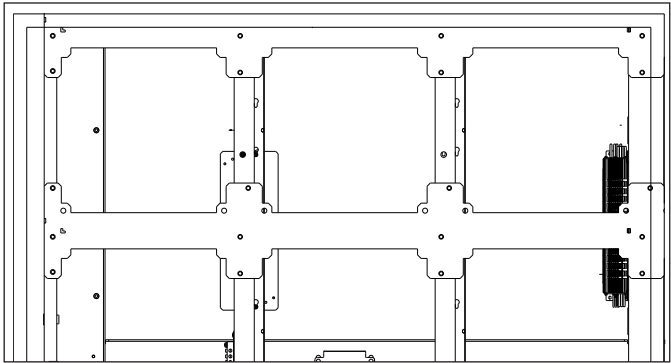


Figure 41: Mounting Screws

- 4. Loosen the TORX® drive mounting screws and life the power supply off of the key holes. Refer to **Figure 42**.
- 5. Disconnect the AC/DC power harness and remove the power supply. Refer to **Figure 43**.

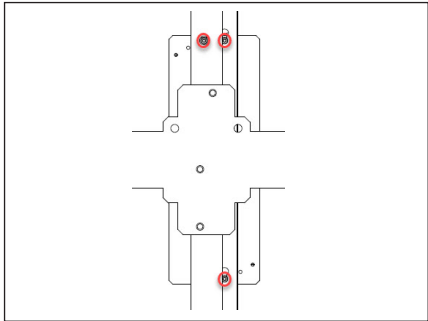


Figure 42: Remove Power Supply

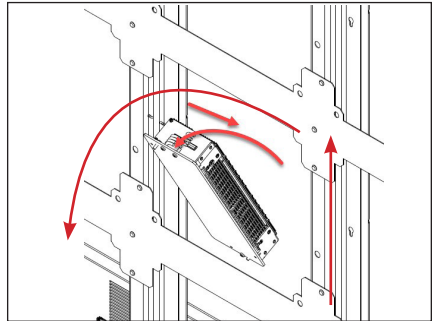


Figure 43: Remove Power Supply

Reverse these steps to install a power supply.

Rear-Access

- 1. Locate the power supply to be removed. Refer to the **DVX/DVS-32XX Series Section Basics Quick Guide (DD5549384)**.
- 2. Disconnect power to the display.
- 3. Disconnect the AC/DC power harness.
- 4. Remove the TORX®-drive mounting screws from the power supply and detach the power supply from the mounting plates. Refer to **Figure 44** and **Figure 45**.

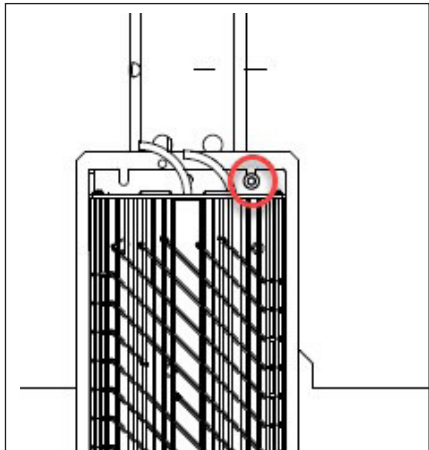


Figure 44: Bulk Mounting Screws

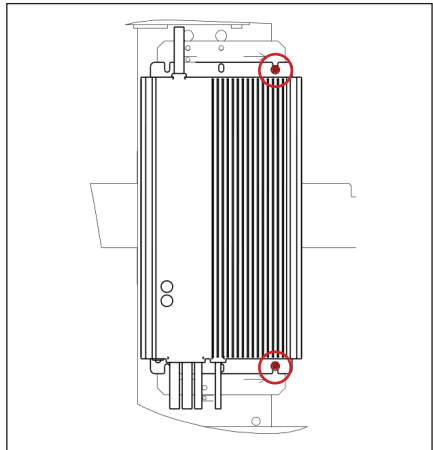


Figure 45: MEAN WELL®, Enedo®, or SL Mounting Screws

Reverse these steps to install a power supply.