

1. Set the first tube on the ground or prep work surface with one of the 3" walls touching the surface. Mark the top-left corner of the tube with "TL" to create a starting point for the panel-interference jigs (Daktronics part number 0M-3955274). Use the jigs to ensure the screws do not land in a KEEP-OUT zone.

- a. Hand-bend the top three bracket tabs on the jigs (if not already bent). Refer to **Figure 1**.
- b. Align the top-left ("TL") corner of the tube face with the top-left corner of the first jig at START.
- c. Use a marker to mark the outline of the KEEP-OUT slots and fill in the three 1/8" vertical slots. Refer to **Figure 2**.

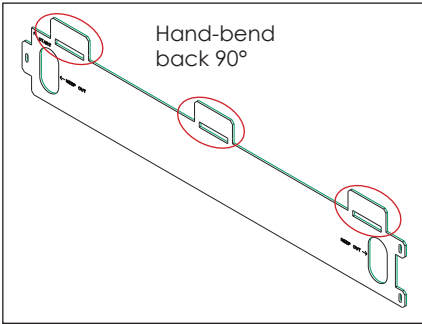


Figure 1: Hand-Bend Bracket Tabs

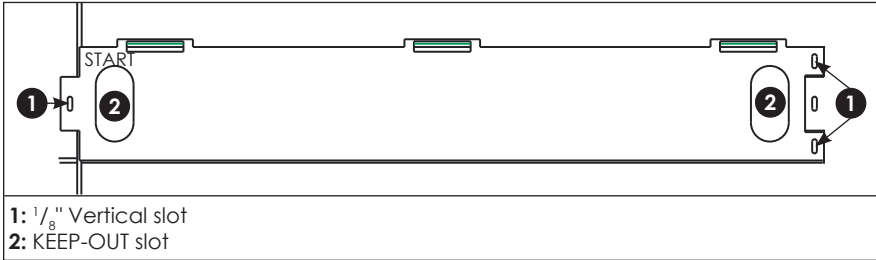


Figure 2: Panel-Interference Jig

- d. Place another jig to the right of the first jig and piece them together.
- e. Remove the left jig and continue down the tube, using as many jigs as supplied/necessary. Refer to **Figure 3**.
2. Mark the wall for tube placement. Refer to **Figure 4**. A horizontal line represents the bottom of a tube, and a vertical line represents the end of a tube or the side of a display.

Except for the top row of the display, each row of panels has only one tube. The tube will be undersized by 1/4" at each end of the display. Refer to the contract-specific Shop Drawing for site-specific dimensions.

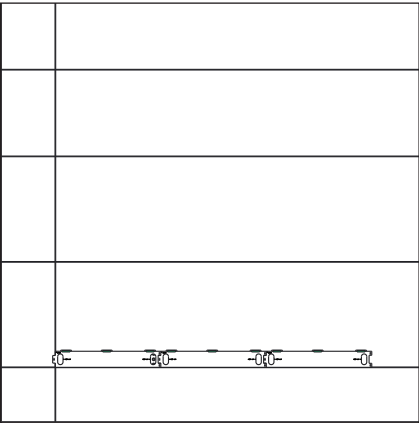


Figure 3: Use Jigs

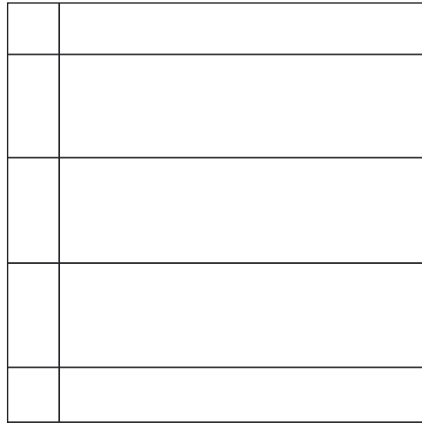


Figure 4: Mark Tube Locations

3. Find and mark the stud on the wall closest to the vertical tube edge line along the horizontal tube line within 16" from the edge of the tube. Continue down the horizontal tube line, marking stud locations at 32" increments. Measure the distance from the vertical tube line on the wall to the edges of the first stud. Go back to the marked-up tube and use the measurement to mark the stud limits on the tube. Continue down the tube, marking the stud locations at 32" increments.
4. Mark new stud locations at 16" increments on both sides of the stud if a stud location directly overlaps with a KEEP OUT slot. Refer to **Figure 5**. If a stud location overlaps with a KEEP OUT slot but not enough to reach the center of the stud mark, do not consider this an interference.

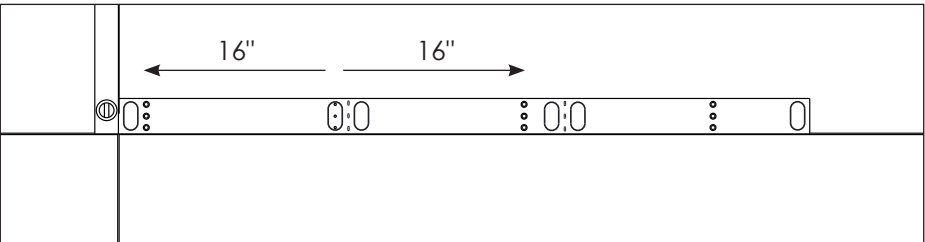


Figure 5: Move Studs at Interference Locations

5. Drill three 0.266" (~17/64") clearance holes through the front and rear walls of the tube at each marked stud location. Refer to **Figure 6**.

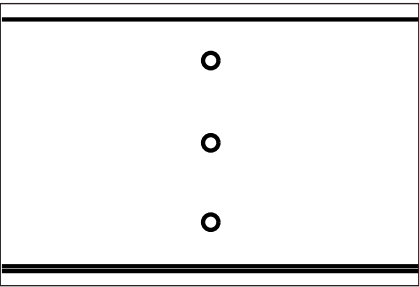


Figure 6: Drill Clearance Holes

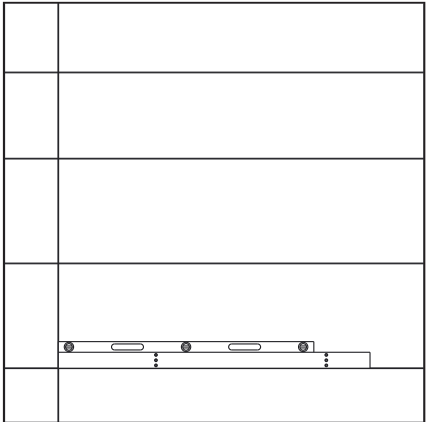


Figure 7: Place Tube

6. Place the marked-up bottom tube on the wall so the bottom horizontal line aligns with the bottom of the tube, the vertical line aligns with its respective edge, and "TL" is in the top-left corner. Refer to **Figure 7**. Use a level (digital is recommended) to fine-tune the tube position, which has a ±1/4" tolerance in all directions.
7. Screw the supplied hardware into the wall as shown on the contract-specific Shop Drawing, but do not tighten the hardware all the way. Ensure the holes are properly aligned in the front and rear tube walls so they are not out of plane by more than 1/16" and install screws in the center of the stud flange. Repeat this for all stud locations along the bottom row of tube(s).

8. Move up to the next row of tubes and repeat the stud attachment pattern from the bottom row. Refer to **Figure 8**. Verify the tube is horizontally level and the tubes are plumb and level to each other by a tolerance of ±1/4" in the X-axis and by +1/4"-1/2" in the Y-axis. Y-axis tolerance for the top tube is ±1/4" to prevent the tube from extending above the top of the display.

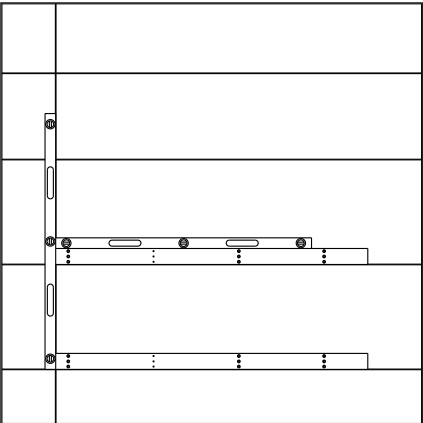


Figure 8: Repeat Stud Attachment Pattern

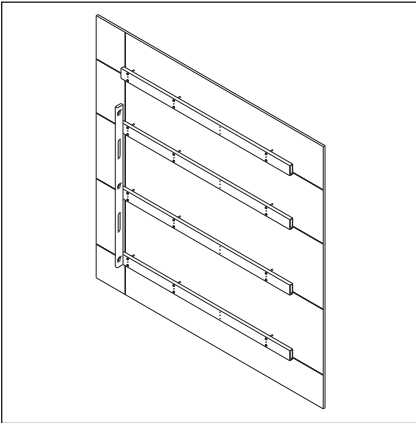


Figure 9: Ensure Plumb & Flat Tube Faces

9. Use a level to ensure the tube faces are plumb to the wall and flat to each other. Refer to **Figure 9**. If the tubes need Z-axis adjustment, add shims between the wall and the tube to adjust by 1/2" maximum. Ensure the shims bear the full height of the tube as shown in **Figure 10**. Tighten down the hardware.



Figure 10: Add Shims between Wall & Tube