Extron

TLCA 1 Adapter • Setup Guide

IMPORTANT NOTE:

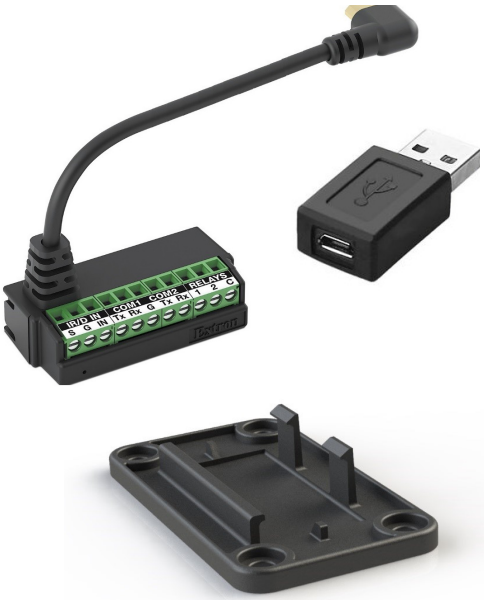
Go to **www.extron.com** for the complete TLCA 1 installation instructions and specifications.

Overview

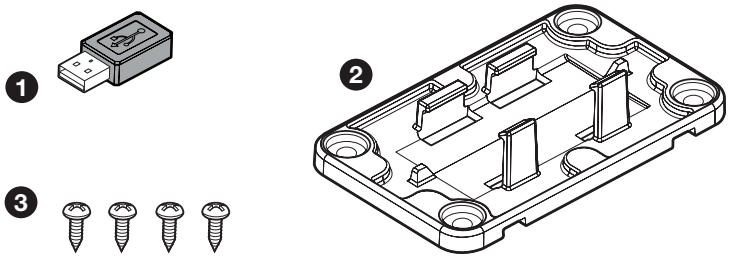
The TLCA 1 is a TouchLink Control Port Expansion Adapter that provides multiple control port options, including an IR port, digital input, two bidirectional RS-232 ports, and two relay ports. This adapter can transform your wall mount, tabletop, and Cable Cubby TouchLink Pro touchpanels into a powerful, all-in-one control system.

This innovative tool adds flexibility and power to our latest TouchLink Pro touchpanels, including the TLP Pro 525 Series, TLP Pro 725 Series, TLP Pro 1025 Series and TLP Pro 300M.

NOTE: The TouchLink Pro touchpanel must have a LinkLicense for TLP Control Processor, purchased separately and applied via Toolbelt, prior to using TLCA 1.



Included



❶ **USB adapter** — USB micro B to USB Type-A connector.

❷ **Mounting Clip** — for tabletop and Cable Cubby installations.

❸ **Four #6 screws** — for tabletop installations.

Figure 1. USB adapter and Mounting Clip

TLCA 1 Features

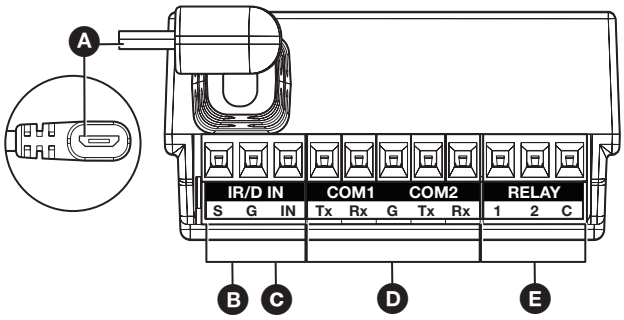


Figure 2. TLCA 1 Adapter — Top View

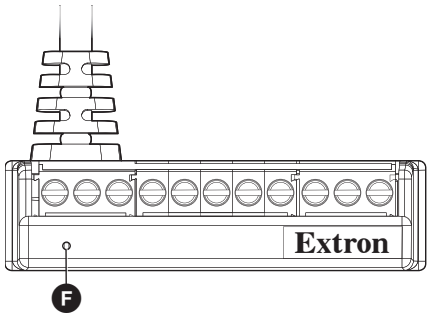


Figure 3. TLCA 1 Adapter — Front View

- **A** **USB micro-B connector** (see **figure 2** on page 1) —
  - Insert into the USB micro-B port of the 525M, 725M, 1025M and 300M wall mount models.
  - Use the included USB adapter (see **figure 1**, **1** on page 1) for use on 525T, 725T and 1025T table top models, or 525C and 725C Cable Cubby models.
- **B** **IR port** (shares the ground pin with **Digital Input** port) — See **IR** below for installation instructions.
- **C** **Digital input** (shares the ground pin with **IR Output** port) — See **Digital Input** on page 3 for installation information.
- **D** **COM ports** (two, with shared ground wire) — See **COM ports** on page 3 for installation information.
- **E** **Relays** (two, with shared common wire) — See **Relays** on page 4 for installation information.
- **F** **Power LED indicator** (see **figure 3** on page 1) — provides the power status of the adapter

Control Ports

IR

1. Insert the wires from an IR emitter into the IR port, and place the head of the emitter over or next to the IR signal pickup window of the device being controlled.
2. Connect two wires to the IR port (see figure 4). If both the IR port and digital input are used, the ground pin must be shared by both devices.

NOTE: Each emitter must be within 100 feet (30.4 meters) of the TLC Pro control system for best IR control results.

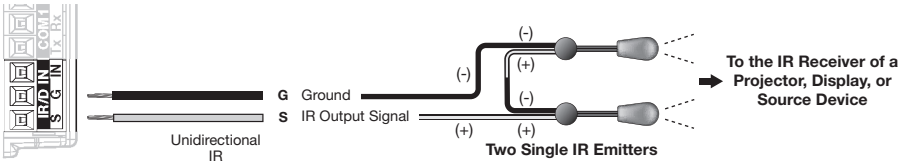


Figure 4. IR Connector

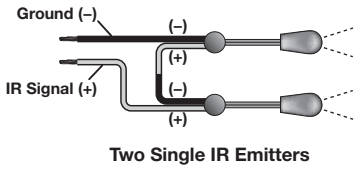
The IR port can accept a single IR emitter (see figure 5), a dual IR emitter (see figure 6) or two single IR emitters, tied in series (see figure 7).

One Single IR Emitter

Figure 5. Installing One Single Emitter

Dual IR Emitter

Figure 6. Installing One Dual Emitter



Two Single IR Emitters

Figure 7. Installing Two Single Emitters

TLCA 1 Adapter • Setup Guide (Continued)

Digital Input

The digital input measures two states: high and low. Digital input is triggered by an external switch or voltage between the digital input pin and ground (see figure 8). The threshold voltages are:

- Low to high — 2.8 VDC
- High to low — 2.0 VDC

If the connected device does not provide its own power, use Global Configurator to configure an internal pull-up resistor (see the *Global Configurator Help File* for details).

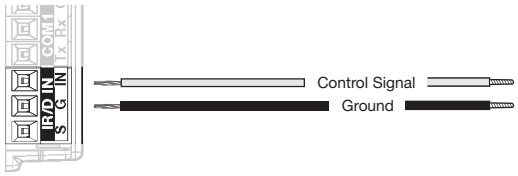


Figure 8. Digital Input Monitoring

COM ports

The TLC Pro Control System has two COM ports, which support software flow control. They share a common ground pin. COM ports control and receive status messages from connected devices, using the following RS-232 protocols:

- 300 to 115200 baud (default = 9600 baud)
- 8 data bits (default) or 7 data bits (Tx only)
- 1 (default) or 2 stop bits
- No parity, even parity, or odd parity (default = no parity)
- This port supports flow control (default = no flow control)

NOTE: The maximum distance from the touchpanel to the device being controlled is usually 200 feet (61 m), but this can vary, depending on factors such as cable gauge, baud rates, environment, and output levels from the touchpanel and the device being controlled.

To wire the ports, see figure 9. If a single port is used, it can be wired using either COM 1 or COM 2. For bidirectional serial communication, the transmit, ground, and receive pins must be wired to both the adapter and the device being controlled. For information about wiring the device being controlled, see the user guide for that device.

If you use cable that has drain wire, the drain wire must be tied to ground at both ends. For best results, insulate the common or drain wires using heat shrink.

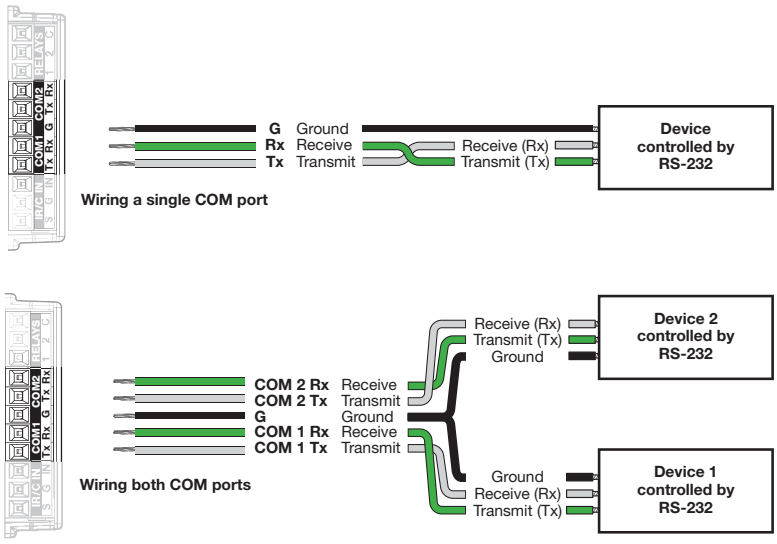


Figure 9. COM Ports

Relays

There are two relay ports, which share a common ground. These ports can be used to control any equipment as long as the contact specifications of a total of 24 V at 1 A are not exceeded for each port. These relays are normally open by default.

When activated, the open contacts close. They can be set up to operate in one of two ways:

- Latching (brief or indefinite period contact) (press to close, press to open), or
- Pulsed (timed cycle) (press to close, timeout to open, with automatic repeat).

  In pulsed mode the default timeout period (hold time) is 0.5 second (500 ms). This time can be changed with Global Configurator.

> **NOTE:** The pulse function is absolute: it always sets the relay state to closed, times out (briefly), then opens the contact. It overrides the previously selected setting (on state, off state, or toggle).

To use a single relay port connect Pin 3 (C) and either Pin 1 (Relay 1) or Pin 2 (Relay 2) to the device being controlled. To use both relay ports, connect the pins as shown in figure 10. Pin 3 (C) must be connected to both devices being controlled.

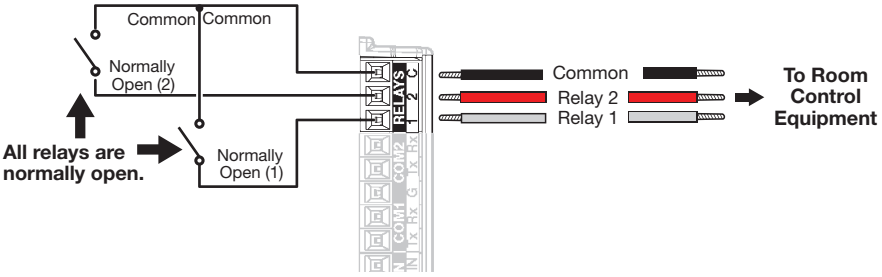


Figure 10. Relay Ports

Adapter Installation

Attaching the TLCA 1 to the Mounting Clip

Insert the TLCA 1 into the mounting clip at an angle, captive-screw side first (see figure 11, ❶), then the back side (❷).

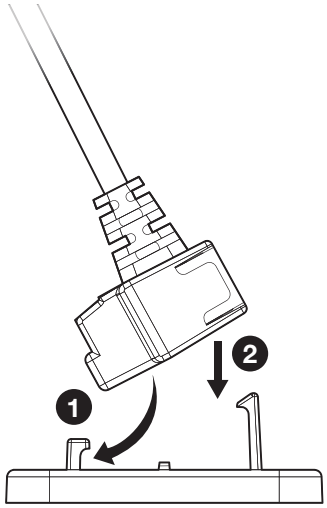


Figure 11. Attaching TLCA 1 to the Mounting Clip

Wall mount Touchpanels (No Mounting Clip)

On the backside of the 525M, 725M, and 1025M touchpanels is a plastic slot (see figure 12, ❶) where a small zip tie (included with the TLP) can be used to secure the cable of the TLCA 1.

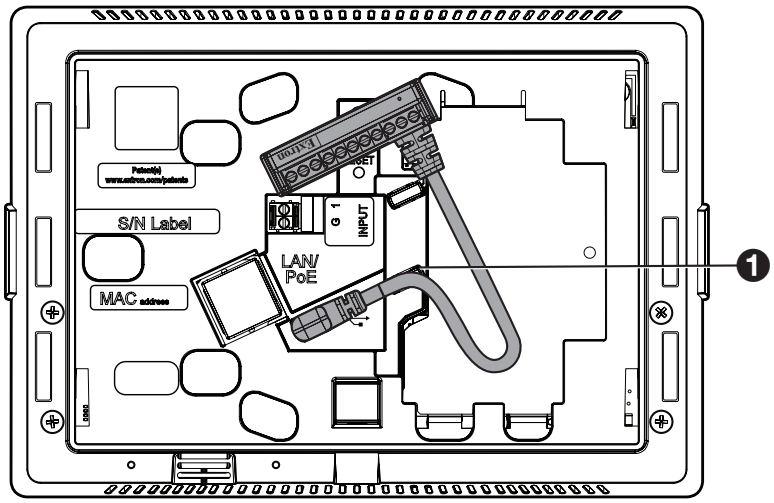


Figure 12. Mounting TLCA 1 to a Wall Mount Touchpanel

Drywall or junction box

Route the TLCA 1 thru the mounting plate opening (see figure 13, ❶) and into the drywall or junction box (if applicable). This also applies to the RM (rack mount) and RWM (recess wall mount).

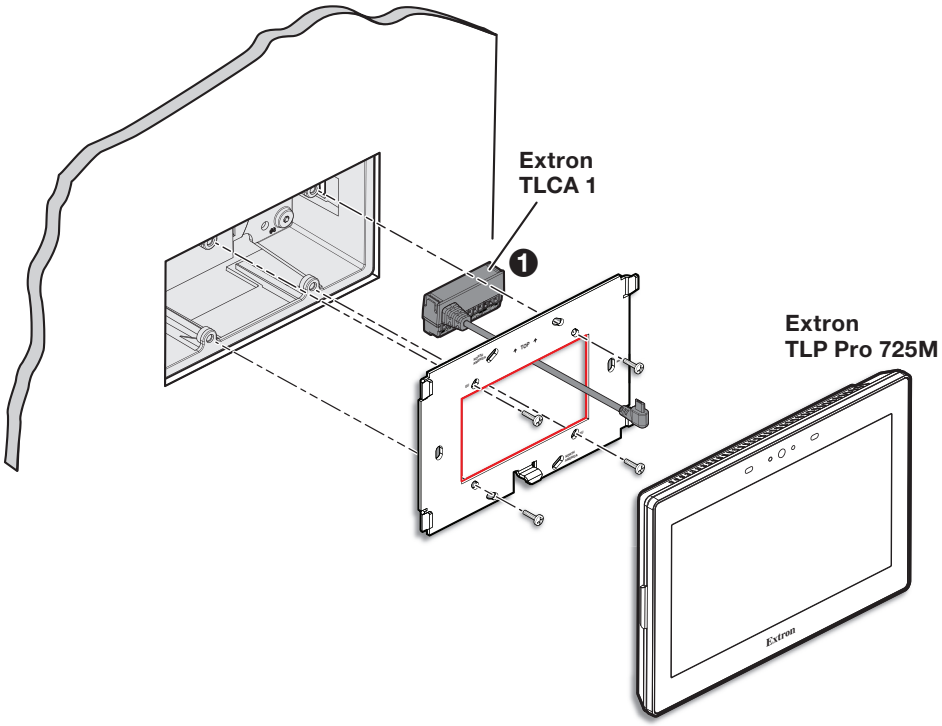


Figure 13. Mounting TLCA 1 to drywall or junction box

Masonry wall, glass wall or mullion mount

Using a micro USB extension cable (not included) (see figure 14, ❶), extend the TLCA 1 to the nearest available mounting location (e.g. to the ceiling).

NOTE: The TLCA will not fit within enclosed mounting accessories such as the SMK (surface mount), AMK (angle mount), MMK (mullion mount).

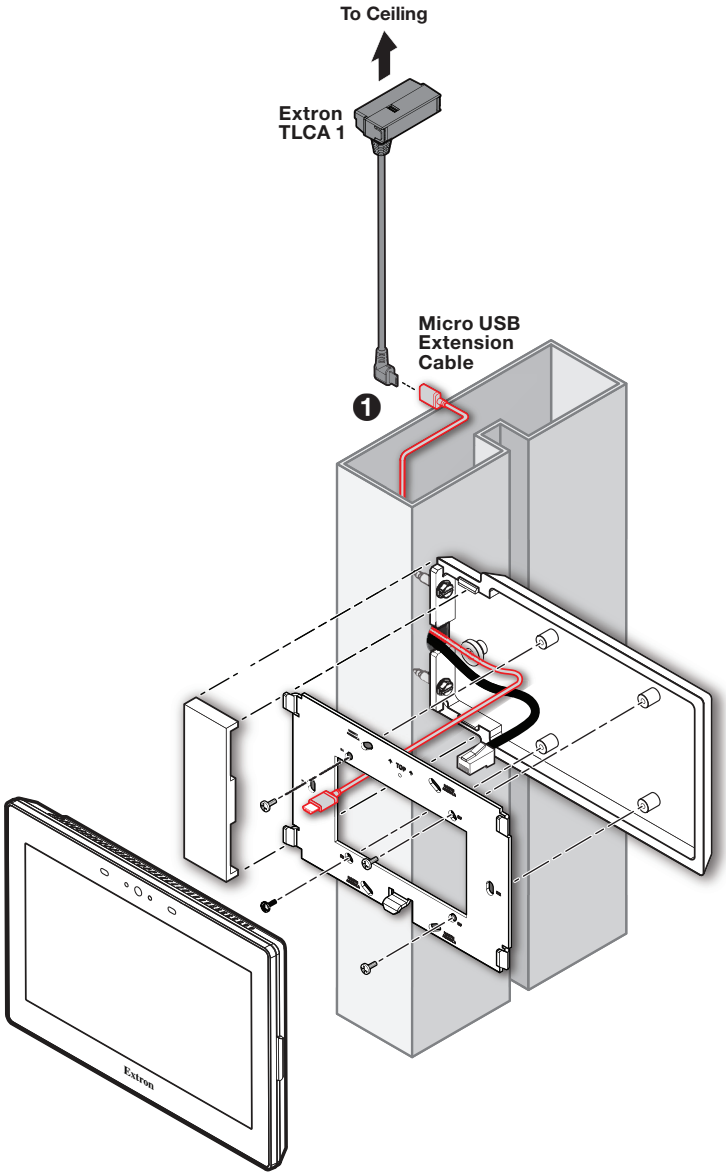


Figure 14. Mounting TLCA 1 to wall, glass wall or mullion mount (with micro USB extension cable)

Mounting Under a Desk (for Tabletop TLP)

To mount the TLCA 1 Adapter under a desk or other furniture, hold the mounting clip against the underside of the furniture. Mark the location of the mounting clip screw holes on the mounting surface.

Drill 3/32 inch (3.28 mm) diameter pilot holes, 1/4 inch (6.3 mm) deep in the mounting surface at the marked screw locations.

Align the mounting clip and the four #6 mounting screws over the screw hole positions (see figure 15, ❶).

Tighten all four screws to secure the mounting clip in place.

Attach the TLCA 1 adapter to the mounting clip (❷, see **Attaching the TLCA 1 to the Mounting Clip** on page 4).

Connect the USB micro-B connector to the included USB adapter (see figure 15, ❸), the USB adapter to the optional USB A extension cable (❹), and connect the USB A extension cable to the tabletop model device (❺).

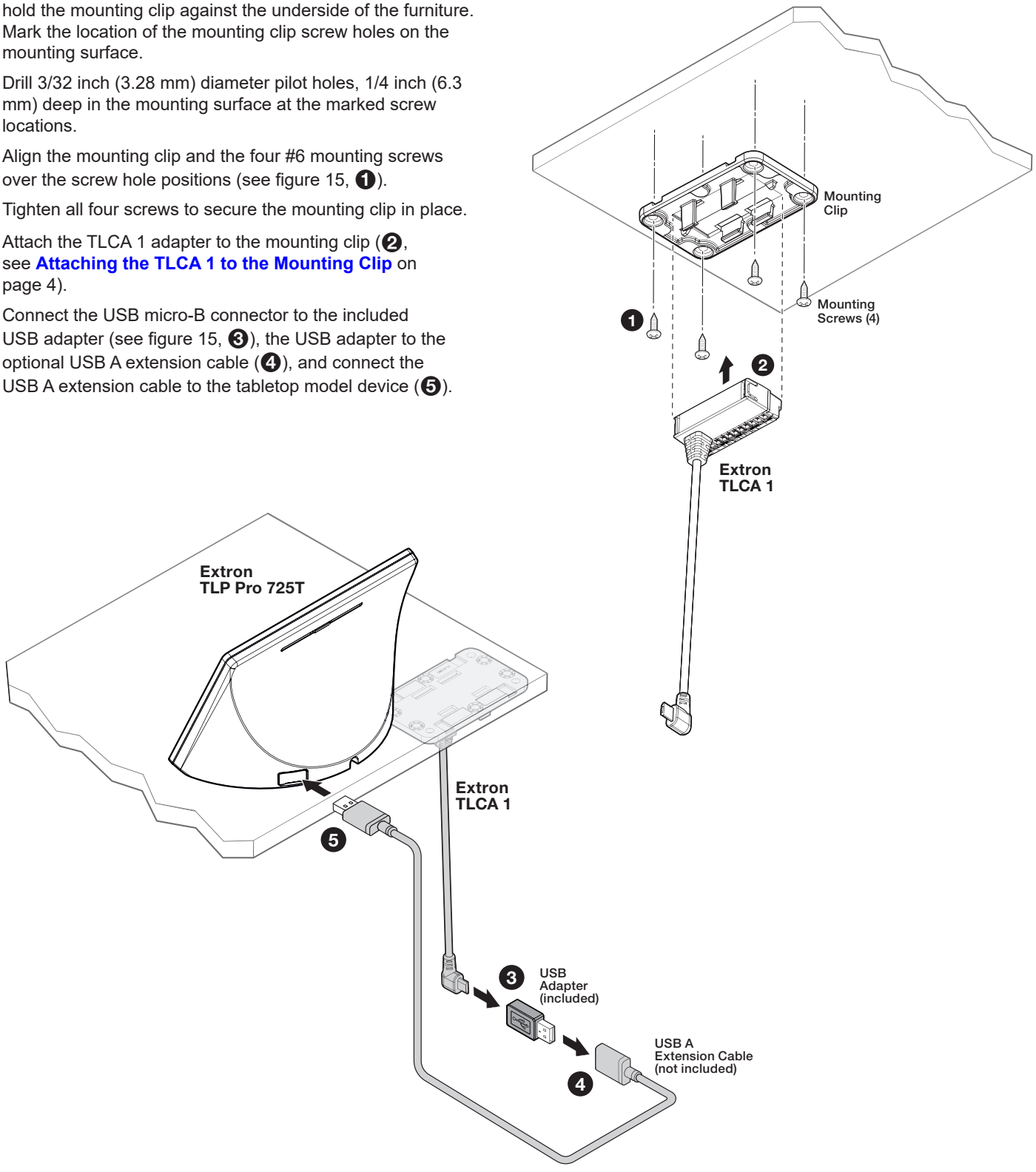


Figure 15. Mounting under a Desk (tabletop TLP with USB A extension cable)

Mounting with Cable Cubby

Attach the TLCA 1 to the mounting clip (see figure 16, ❶, and **Attaching the TLCA 1 to the Mounting Clip** on page 4).

Mount the TLCA 1 and mounting clip against the bottom exterior of the Cable Cubby (see figure 16, ❷). The mounting clip is magnetic, and will hold secure to the metal frame.

NOTE: In figure 16, the mounting clip (❷) is optimally positioned for connecting the TLCA 1 to the Cable Cubby. If the mounting position is flipped 180°, the TLCA 1 USB micro-B cable may not reach the Cable Cubby USB output (❹).

Plug the USB micro-B connector, with the included USB adapter (❸), into the exterior Cable Cubby USB output (❹).

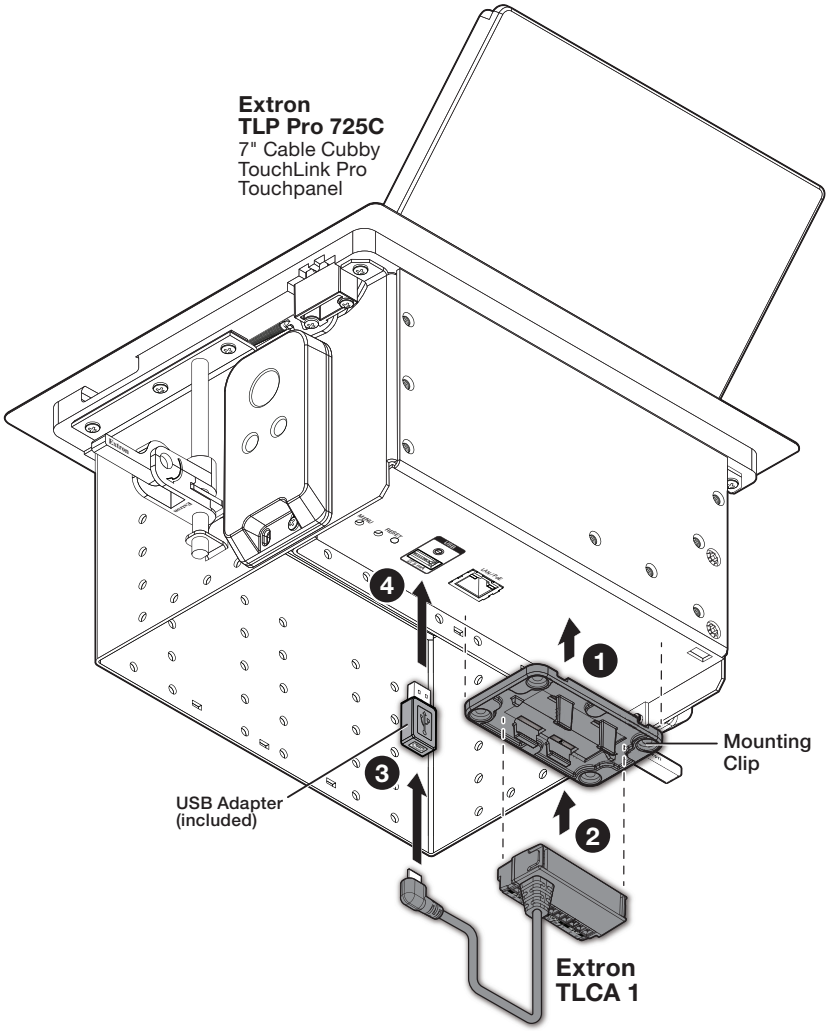


Figure 16. Mounting under a Cable Cubby

For information on safety guidelines, regulatory compliances, EMI/EMF compatibility, accessibility, and related topics, see the **Extron Safety and Regulatory Compliance Guide** on the Extron website.