

Leviton Patch Panel Grounding

Use the following instructions to properly ground Leviton patch panels. Note, depending on the panel, the grounding instructions will vary, please review the installation instructions that accompany the panels for the specific grounding instructions. **All metalwork within the Telecommunications Room must be bonded/grounded - including the metal faces of unshielded patch panels.**

Unshielded

Applies to the following Leviton part numbers:

49255, 5G596, 69586, 6A586, 49256, 5G597, 69587, 6A587

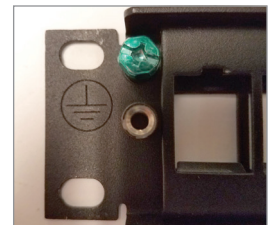
- Unshielded panels bond to the rack or cabinet which is bonded to SBB/PBB via TEBC
- These panels use supplied star washers. The rack mount screws must be tightened sufficiently for the star washers to cut through panel finish to metal, creating patch panel bond to the rack
- Star washers are not to be used for shielded panels



Standard-Density Shielded Patch Panels

Applies to the following Leviton part numbers: **4S255-Sxx, 4S256-Sxx**

- These panels are provided with a grounding stud and green ground screw
- The Unit Bonding Conductor (UBC) is fashioned by installer from installer-provided materials
- #12 AWG is the minimum for UBC, but #6 AWG is considered best practice



High-Density Shielded Patch Panels

Applies to the following Leviton part numbers: **4S255-D48, 4S256-D48**

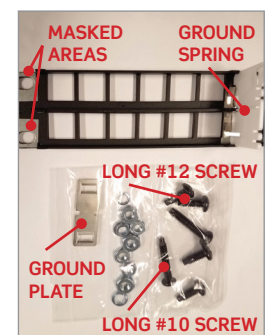
- The included bonding/grounding stud is a long rack-mount screw (#12-24 and #10-32 supplied)
- This long screw bonds the panel in the masked upper right corner
- The long #12 screw is used for 12-24 tapped rails and 12-24 cage nuts
- The long #10 screw is used for 10-32 tapped rails and 10-32, M5, and M6 cage nuts
- The UBC is secured to the long screw with nuts and lock washers



Shielded e2XHD Snap-in Cassette Patching System

Applies to the following Leviton part numbers: **E2X1F-S48, E2X1A-S48, E2X1F-E48, E2X1A-E48**

- Bonding/grounding is accomplished via ground spring, ground plate, and masked areas on rear of panel
- The ground post is a long #12 or #10 rack-mount screw (both are included with these panels)
- The long #12 screw is used for 12-24 tapped rails and 12-24 cage nuts
- The long #10 screw is used for 10-32 tapped rails and 10-32, M5, and M6 cage nuts
- The UBC is secured to the long screw with nuts and lock washers



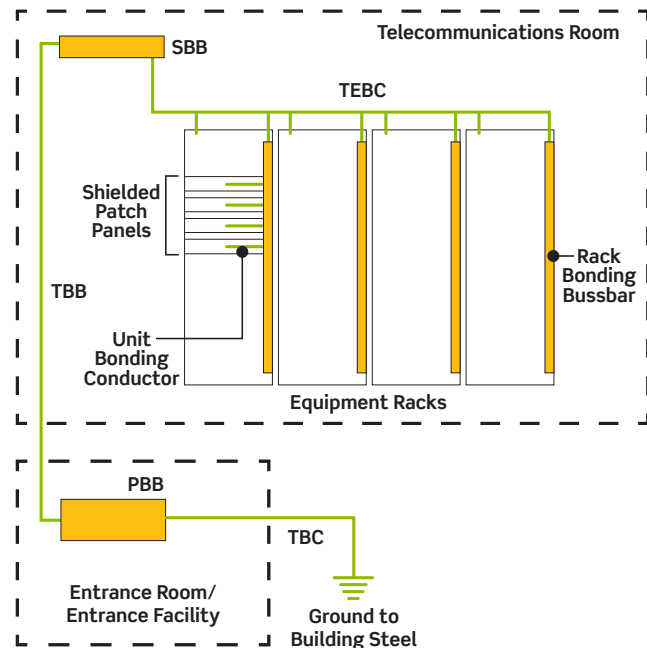
Ensure Shielded Installation Bonding Integrity

The general best practices below highlight the basic grounding/bonding elements within a single telecommunications room. You can download an expanded list of grounding best practices from Leviton (pdf). Refer to the TIA-607-C standard for additional elements required for a larger Telecommunications Grounding System.

- Follow standards-compliant methodology to install and verify an effective telecommunications grounding system
- Follow the manufacturer's instructions to properly install shielded connectors, cables, patch cords, and patch panels
- Finally, install individual #6 AWG Unit Bonding Conductors (UBC) between each shielded patch panel and the rack or cabinet bonding element. While #12 AWG UBCs are the minimum called out by grounding and bonding standards, #6 AWG is the industry best practice.

Install the Telecommunications Grounding System Per TIA-607-C

- Use a Secondary Bonding Busbar (SBB), formerly known as a Telecommunications Grounding Busbar (TGB), within the Telecommunications Room/ Horizontal Cross-connect (TR/HC). The SBB should be bonded to the Primary Bonding Busbar (PBB), formerly Telecommunications Main Grounding Busbar (TMGB). This bonding element is called the Telecommunications Bonding Backbone (TBB).
- Connections of SBB to the PBB should be made with an appropriate-size, UL listed, two-hole crimp style lug and appropriate gauge cable.
- The PBB should be bonded via Telecommunications Bonding Conductor (TBC) to structural steel/ building ground. If a bond to structural steel cannot be obtained, use the electrical system ground point.
- Use recommendations from the TIA-607-C standard for proper conductor gauge for all of the above TBB and TBC connections.
- Racks, Cabinets and Rack Bonding Bussbars are individually bonded to SBB/PBB via connection to a Telecommunications Equipment Bonding Conductor (TEBC)



In Summary

- Install and verify the Telecommunications Grounding System (TBC, PBB, TBB, SBB, and TEBC) Per ANSI/TIA-607-C
- Install and verify all Leviton shielded permanent links or channels
- Use the correct bonding/grounding method for whichever patch panel is chosen for the installation
- Install individual #6 AWG (minimum #12 AWG) equipment Unit Bonding Conductors (UBC) between each shielded patch panel and the rack or cabinet bonding element
- Shielded permanent links or channels are bonded to the Telecommunications Grounding System at one point (the shielded patch panel). No grounding is done at the work area connector (which is typically a jack in a wallplate)
- Bond unshielded panel metal to equipment racks using provided star washers
- Find individual patch panel instruction sheets at Leviton.com

Learn more about Leviton shielded solutions at Leviton.com/Copper.