

SECTION 27 11 19 COMMUNICATIONS TERMINATION BLOCKS AND PATCH PANELS

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes patch panels, cross-connect hardware, cable management, and associated termination hardware in telecommunications rooms (MDF/IDF).

1.2 SUBMITTALS

A. Product data for patch panels, fiber enclosures/panels, cable management, shelves, and accessories.

B. Submit proposed rack elevation/layout for review by KU IT prior to installation where required by the Contract Documents (review for conformance per §27 05 00 §1.11.C).

PART 2 – PRODUCTS

2.1 MDF/IDF TERMINATION HARDWARE – COPPER PATCH PANELS

A. Copper Patch Panels: Provide patch panels from the same manufacturer/system family as the selected structured cabling system and eligible for the manufacturer's registered system warranty. KU Campus Standard: Ortronics Model No. OR-PSDHJU48 (HDJ series — unloaded flat panel, accepts rear-loading HDJ snap-in jacks, 2RU). The patch panel family shall match the jack/outlet system selected for the project. Note: OR-PHD6AU48 (Clarity 6A series — loaded flat panel with integrated 6-port 110-style IDC modules, 2RU) is listed for reference only and is applicable solely when Clarity 6A 6-port module jacks are selected as an 'project-specific deviation' outlet system in lieu of HDJ jacks; OR-PHD6AU48 is NOT a TracJack product. Since the Basis of Design outlet and jack system throughout this specification is HDJ, OR-PSDHJU48 is the applicable Basis of Design patch panel for all standard installations. HDJ-series and Clarity 6A 6-port module panels shall not be mixed on the same project unless specifically approved in writing by KU IT.

B. Provide 48-port panels (T568B wired). Provide quantities sufficient to terminate all required cables plus a minimum of 25% spare ports in patch panels.

C. Cable Manager: KU Campus Standard: Ortronics model no. OR-SHMC1RU-X or OR-SHMC2RU-X (X=B for Black or X=W for White).

D. Vented Equipment Shelf: Install one (1) shelf on each rack in each wiring closet. KU Campus Standard: Ortronics model no. OR-604045081; project-specific deviation vented shelf sized for standard 19-inch racks and suitable for the intended load.

2.2 MDF/IDF TERMINATION HARDWARE – FIBER OPTIC

- A. Fiber Optic Enclosures and Panels: Provide enclosures/panels from the same manufacturer/system family as the selected structured cabling system and eligible for the manufacturer's registered system warranty. KU Campus Standard: Ortronics EQ0XU-CHC (X=RU; 1/2/4RU). Multimode connector panels: OFP-LCD12LC (aqua, ceramic sleeves) for laser-optimized OM4 Data Center terminations, and OFP-LCD12MB (beige, phosphor-bronze sleeves) for legacy OM1 fire-alarm terminations. Single-mode connector panels: OFP-LCD12AC.

2.3 MDF/IDF TERMINATION HARDWARE – VOICE [DELETE IF NOT APPLICABLE]

PROJECT DECISION REQUIRED BEFORE BID. Conditional section — retain this voice termination hardware whenever analog telephone endpoints are active on the project, resolved per the analog telephone provisions of Section 27 32 26 and Issue Checklist C.5; otherwise delete this section in its entirety.

- A. 110-style cross-connect blocks: Provide 110-style cross-connect blocks where required for building entrance protection, inter-building copper voice backbone termination, existing copper reuse, or as otherwise designated by KU IT before bid (Section 27 05 00 §1.11.B). Basis of Design where 110-style blocks are required: Ortronics Model No. OR-110ABC6100. 110-style blocks are not required solely for the low-density MDF Gateway direct-patch method described in Paragraph F unless designated by KU IT before bid (Section 27 05 00 §1.11.B).
- B. Patch cord quantities, colors, and length distributions (required): Provide patch cords in accordance with Section 27 15 00 §2.5 (master patch cord requirements).
- C. Grounding of voice termination hardware: Where 110-style cross-connect blocks or other voice termination hardware requiring grounding are provided, bond/ground that hardware to the telecommunications grounding busbar with #6 AWG copper conductor or as required by the manufacturer and applicable codes. Provide matching grounding kit where required.
- D. Future-proof voice terminations: Terminate station voice cables on Category 6A patch panels (RJ-45) in the MDF/IDF to provide a consistent termination platform. Where analog service is required, connect the Category 6A patch panel port to the serving analog voice gateway using the gateway interface method specified in Paragraph F; for the low-density RJ-11 FXS gateway that is KU's new-work basis, this is a direct patch from the patch panel port to a gateway FXS port, with no 110-block cross-connect in the gateway path. The 110-style cross-connect field is used to land building entrance protection (Section 27 11 19 §2.4) and where KU IT designates a punch-down cross-connect before bid (Section 27 05 00 §1.11.B) (for example, a legacy or higher-density gateway). If the device is later converted to an IP-based endpoint, KU IT will re-patch from the same patch panel port to the network switch without re-terminating the horizontal cable. Deliverable: Document the final voice cross-

connect/patching scheme (port-to-port mapping and a simple diagram) in the closeout/as-built records per Section 27 08 00.

E. Voice Administration: Voice outlets shall remain identified and administered as voice (labeling and patching) regardless of cable jacket color.

F. Analog voice gateway interface components: Where an Owner-furnished analog voice gateway is provided by KU IT, provide the passive gateway interface components required to connect the gateway to the Category 6A voice patch-panel/termination field. KU's basis for new analog telephone service is a low-density analog voice gateway using RJ-11 FXS interfaces. Unless otherwise directed by KU IT, analog gateway ports shall be connected from the Category 6A voice patch panel to the gateway RJ-11 FXS ports using appropriate RJ-45-to-RJ-11 line cords or adapter leads. Provide labels, documentation, and any adapter leads or patch cords required for a complete connection. Coordinate exact gateway model, active FXS port count, connector orientation, cable length, pinout/adapter method, and termination layout with KU IT prior to ordering and installation.

2.4 BUILDING ENTRANCE PROTECTION [DELETE IF NOT APPLICABLE]

PROJECT DECISION REQUIRED BEFORE BID. Conditional section (matched set) — retain or delete per the analog telephone serving option designated in Section 27 32 26 §2.1.F, and resolve together with the inter-building copper voice backbone (Section 27 13 00 §2.4) as a matched set per Issue Checklist C.5; otherwise delete this section in its entirety.

A. Building Entrance Protection: KU Campus Standard: Circa Model No. 1880ECA1.

B. Provide solid state 5-pin protectors, 300V nominal clamping voltage, with positive temperature coefficient technology for sneak current protection. Provide ten (10) spare protectors. Provide listed/recognized protectors suitable for telecom entrance protection applications.

C. Provide 110-style cross-connect blocks required to connect building entrance protection to the voice cabling system, where required in accordance with Section 27 11 19 §2.3.A.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Install patch panels, fiber enclosures, cable managers, and accessories in accordance with manufacturer instructions and the approved rack layout.

B. Coordinate exact rack elevation and port assignments with KU IT prior to final terminations.

C. Maintain minimum bend radius and provide strain relief/cable management for all terminated cables.

D. Bond/ground metallic telecommunications hardware in accordance with Section 27 05 26 and ANSI/TIA-607.

E. Label patch panels and termination fields in accordance with Section 27 05 53, including horizontal cable/outlet and patch panel port label content requirements, and the project labeling legend/template where provided.