

## DIVISION 27—COMMUNICATIONS

### 27 15 00 - Communications Horizontal Cabling

#### 1.01 HORIZONTAL DISTRIBUTION CABLING

- A. In all cases the Texas State University requires cable installed in the horizontal distribution cabling (HDC) environment to support low voltage systems including voice and data, and shall be interior rated cable. Exterior rated OSP waterproof cable will not be allowed in any HDC environment. Horizontal distribution cable is the cable that routes from the telecommunications closet to the work-area. The standard configuration for the Texas State University IT to route a minimum of one four (4)-pair cable for voice and one four (4)-pair cable for data to each office or work area. In all new installations, UTP cable (Please see Appendix I Equipment Specification) shall be used for both voice and data. Where additions are made to existing buildings, UTP cable shall be used for voice and data. Additional data cables must be placed to accommodate LAN-attached printers. Splitting cable pairs from one cable to two or more outlets to avoid adding an additional four (4)-pair cable is not allowed—no exceptions. The addition of spare Information Outlet jacks at any given work area, or the addition of spare Information Outlet locations on several walls of a room, is encouraged within the limitations of the project budget.
- B. CABLE TO SUPPORT VOICE SYSTEMS IN NEW INSTALLATIONS
- C. Horizontal distribution cable to support voice services in new installations or major renovations and remodeling shall be plenum 4-pair UTP cable. (Please see Appendix I Equipment Specification)
- D. CABLE TO SUPPORT DATA SYSTEMS
- E. All intra-building TCs will be fed from the ER utilizing fiber optic and UTP backbones. Required cables are as follows:
- F. 12 strands 50 micron laser optimized multi-mode fiber optic cable
- G. All horizontal distribution copper cable and components for LAN use at new or refurbished Texas State University buildings, and Texas State University owned facilities, must be rated and installed to support the IEEE 802.3ab 1000Base-T Gigabit. (Please see Appendix I Equipment Specification) Additionally, the Texas State University IT staff may specify installation of copper cable and components to support Gigabit Ethernet at Texas State University buildings that currently do not have cable capable of supporting these data speeds.
- H. Wherever data cables are used, they must be terminated to specified modular outlets and patch panels. (Please see Appendix I Equipment Specification)
- I. CABLING TO SUPPORT OTHER LOW VOLTAGE SYSTEMS
- J. During planning for horizontal cable installations, consideration shall be given to migrating other low voltage systems such as CATV, CCTV, fire alarm systems, EMS, emergency call boxes and building management systems to the common structured cabling system.

**2.01 CABLING INTERCONNECTION AND TERMINATION HARDWARE**

- A. Cable interconnection and termination hardware used at Texas State University facilities shall meet the following specifications:
1. COPPER BACKBONE INTERCONNECTION HARDWARE
    - a. All inter-building voice backbone cables shall be equipped with a primary protector panel. The protector panel must be equipped with Protector Units that provides sneak-current protection. (Please see Appendix I Equipment Specification)
  2. FIBER OPTIC BACKBONE INTERCONNECTION HARDWARE
    - a. All fiber optic cables shall be terminated in the Texas State University standard Fiber Optic Interconnection Unit patch panel. (Please see Appendix I Equipment Specification)
    - b. In all locations where equipment racks are installed, the rack mountable Fiber Optic Interconnection Units shall be used. (Please see Appendix I Equipment Specification)
    - c. All fiber optic patch cords shall be routed through cable management hardware to prevent the patch cords from becoming tangled or snagged.
    - d. The standard fiber optic connector for Texas State University is the type 568SC. When fiber additions are made to existing facilities where type 568SC connectors are in use, 568SC connectors and new LC patch panels shall be used for the new fiber. (Please see Appendix I Equipment Specification)
    - e. Where electronics equipment is used that has a different type of fiber optic connector, use fiber optic patch cords with the appropriate connectors on each end, for example a LC to LC patch cord.
    - f. Care must be taken to maintain the minimum bend radius (10 times the cable diameter) of the fiber optic patch cord.
  3. HORIZONTAL DISTRIBUTION VOICE COPPER CABLE TERMINATION HARDWARE
    - a. In existing facilities with Category 3, 5 or 5e cabling, Category 6 shall be used for additional installations. Category 6 horizontal distribution voice cables shall be terminated at the Telecommunications Closet on 110 Wiring Blocks. In some instances, voice cabling will be terminated onto patch panels located in the data rack. Category 6 horizontal distribution voice cables shall be terminated at the work area end into modular eight (8)-position jack.
  4. CATEGORY 5 DATA CABLE TERMINATION HARDWARE FOR EXISTING FACILITIES
    - a. Where additions are made to existing Category 5e data cable installations, the following components shall be used:

Category 6 horizontal distribution data cables shall be terminated at the Telecommunications Closet on a Category 6 Modular Jack Panel.

END OF SECTION 27 15 00