DIVISION 27–COMMUNICATIONS

27 05 53   Identification for Communications Systems

1.01   TELECOMMUNICATIONS ADMINISTRATION

A. Administration of the telecommunications infrastructure includes documentation of cables, termination hardware, patching and cross-connection facilities, conduits, other cable pathways, telecommunications closets, and other telecommunications spaces. All Texas State University facilities shall apply and maintain a system for documenting and administering the telecommunications infrastructure.

B. In order to create a consistent environment, Texas State University maintains a campus wide numbering scheme for voice and data outlets and patch panels.

C. All voice and data outlets and patch panels shall be clearly marked using permanent means. Voice and data outlets shall us the following system of numbering:

D. DATA: Actual room number of the IDF/MDF where cable is terminated + the patch panel port number.

E. VOICE: Actual room number of the IDF/MDF where cable is located + punch block position or patch panel port number (whichever is appropriate).

F. When more than one TC is needed per floor, the room number of the TC shall be added to the numbering scheme.

G. When more than one data patch panel is needed per TC, the numbering scheme shall continue consecutively. Example: If two 48 port patch panels are needed, the second patch panel will be labeled starting with port 49.

H. All voice and data outlet and port numbering must match actual room numbers. Careful consideration should be given when developing and maintaining a numbering scheme that the scheme matches exactly the actual room numbers; not builders room number.

I. All voice and data terminations made in the TCs shall be made in a numerical order by room number of each jack.

J. Outlet numbers shall be marked by permanent means on each cable at the outlet and at the TC.

2.01   RECORDS

A. A record is a collection of information about or related to a specific element of the telecommunications infrastructure. Records must be maintained in a computer spreadsheet, or in a computer database. Paper records are encouraged, but are optional. A cable record is prepared for each backbone cable. The record will show the cable name, and must describe the origin point and destination point of the cable. The cable record will record what services and/or connections are assigned to each cable pair or strand. An equipment record is prepared for

services distributed from a certain piece of equipment, such as a router, or a system such as the telephone system PBX.

B.   NOTICE***As-built records of actual telecommunications ports installed are required 2 weeks prior to first fire inspection. Texas State University will NOT provide dial tone to any emergency phone until these records are provided. These records must be in spreadsheet form (or raw test data) and unique identifiers must match final port label. These records are not to be considered final project deliverables.

3.01   DRAWINGS

A.   Drawings are used to illustrate different stages of telecommunications infrastructure planning, installation, and administration.

B.   Installation or Construction Drawings

1.   Installation or construction drawings are the plans that show the installer how the infrastructure is to be installed. The quality of the installation can be directly impacted by the level of detail in the installation drawings and written specifications. Installation drawings for Texas State University projects shall, at a minimum, show pathway locations and routing, configuration of telecommunications spaces including backboard and equipment rack configurations, and wiring details including identifier assignments.

C.   As-built Drawings

1.   The as-built drawings graphically document the installed telecommunications infrastructure through floor plan, elevation, and detail drawings. In many cases, these drawings will differ from the installation drawings because of changes made during construction and specific site conditions. In the as-built drawings, the identifiers for major infrastructure components must be recorded. The pathways, spaces, and wiring portions of the infrastructure each may have separate drawings if warranted by the complexity of the installation, or the scale of the drawings. As-built drawings are a vital component of the telecommunications administration system, and must be kept current as adds, moves, and changes take place. Texas State University requires the installer to provide a complete and accurate set of as-built drawings.

2.   NOTICE: ****As-built drawings of actual telecommunications ports installed are required 2 weeks prior to first fire inspection. Texas State University will NOT provide dial tone to any emergency phone until these records are provided. These records may be delivered as a printed drawing set or as a CAD file. These records are not to be considered final project deliverables.

4.01   LABELING AND COLOR CODING

A.   To be consistent with ANSI/TIA/EIA standards and industry practices, it is important that both labeling and color coding be applied to all telecommunications infrastructure components. Labeling with the unique identifier will identify a particular component. Proper color coding will quickly identify how that component is used in the overall telecommunications infrastructure of the facility (Please see Appendix I Equipment Specification).

B.   Labeling

1.   Labels are generally of either the adhesive or insert type. All labels must be legible, resistant to defacement, and maintain adhesion to the application surface.

2.   Outside plant labels shall be totally waterproof, even when submerged.

3.   All labels shall be machine printed.

4.   Labels applied directly to a cable shall have a clear vinyl wrapping applied over the label and around the cable to permanently affix the label.

5.   Other types of labels, such as tie-on labels, may be used. However, the label must be appropriate for the environment in which it is used, and must be used in the manner intended by the manufacturer.

6.   See Section 27 05 53, 1.01, B, 1, a-g.

C.   Color Coding – Cable Termination Fields

1.   Industry standard (ANSI/TIA/EIA 606) color coding shall be applied to all cable termination fields in Telecommunications Closets, Equipment Rooms, and Entrance Facilities. Color coding may also be used to identify specific cables in a pathway, or the function of specific equipment racks or equipment. The same color is always applied to both ends of any given cable. Cross-connections are generally made between termination fields of different colors. The color may be applied to the plywood backboard behind the termination block, may be the color of a plastic cover on a termination block, or may be the actual color of the insert label on a termination block or patch panel. The following color code shall be used in all Texas State University facilities:

a.   Orange – Reserved for identification of the telecommunication service demarcation point (demarc). Orange may only be used by the telephone company.

b.   Green – Used to identify the termination of network connections on the customer (Texas State University) side of the demarc.

c.   Purple – Used to identify cables originating from common equipment, such as the telephone PBX, LAN hubs, or multiplexer.

d.   White – Used to identify the first-level backbone telecommunications media termination in the building containing the main cross-connect. The main cross-connect is usually in the Equipment Room. In buildings that do not contain the main cross-connect, white may be used to identify the second-level backbone terminations.

e.   Gray – Used to identify the second-level backbone telecommunications media termination in the building containing the main cross-connect.

f.   Blue – Used to identify the termination of horizontal distribution cables routing from the Telecommunications Closet or Equipment Room to the Work-Area. A blue color coding is only required at the TC or ER end, not at the work-area end of the cable.

g. Brown – Used to identify inter-building backbone cable terminations.

h. Yellow – Used to identify termination of auxiliary circuits, alarms, maintenance, security, and other miscellaneous circuits.

END OF SECTION 27 05 53