

Communications Closet termination of Data and Voice shall meet the SFVAMC set standards as follows;

- Cable to be installed (outside plant, inside riser, and station cabling) shall conform to meet the requirements of ICEA Publications S-80-576-1988 (Ref.B1.6) as to size and installation.
- 2) All new data cable shall be terminated in the telecommunication closet on appropriate contractor provided Category 6e compliant patch panels with wire management to be provided for both vertical and horizontal management of cables and patch cords. All work to be done in accordance with the existing facility cable plant design.
  - 3) In Communications closet, all cable is to be terminated on patch panels or 8 pair highbands using 568B standard. Patch panels to have a minimum of 24 ports with no one patch panel to exceed 48 ports, with horizontal wire management installed between each of the patch panels. Each patch panel or highband will have its own unique number, starting with the next unused number.
  - 4) All new voice cable shall be terminated in the telecommunication closet on appropriate contractor provided 66-B punch down block with x-connect management. All 4 pairs must be terminated.
  - 5) In Communications closet standard 19" floor or wall mounted, the type of mount to be agreed upon by VAMC IRMS and contractor prior to installation, relay racks with vertical and horizontal wire and cable management are to be supplied and installed.

(d) Telecommunications floor or wall outlets shall be provided as required. At a minimum of 4 Category 6e cables will be provided for each station location. 3 of the Cat 6e cables used for Data and 1 Cat 6e cable used for Voice and shall meet the following SFVAMC standards.

The established color code used at the San Francisco VAMC will be followed.

- 2) Four pair unshielded twisted pair 24 AWG station wiring shall be installed from each voice and data jack to the telecommunication closet and shall be of a type designed to support Category 6e Plenum rated data communications (not less than 200 MHz/1.0 gigabit).
- 3) All Station side voice cable shall be terminated on dual RJ-11 and station side data outlets shall be Category 6e-compliant eight position RJ-45 non-keyed (EIA/TIA 568B) flush mount jacks in a wall plate. The voice and data jack wall plate type and positions shall conform to the existing SFVAMC cable plant scheme.
- 4) Cable length to the farthest station outlet shall be limited to a MAX of 90 meters (295 feet). Cable lengths beyond the MAX specifications can be approved by IRMS.

- 5) The splitting of pairs within a Data cable between different data jacks shall not be permitted. The splitting of pairs within a voice cable shall be permitted only in the same station outlet. The installation of the cable shall conform to appropriate OEM, ANSI/EIA/TIA recommendations, standards and existing VAMC facility scheme. This requirement will insure adequate protection for Electro-Magnetic Interference (EMI) sources.
- 6) All new Data cable shall be labeled on each end. The station side label will consist of patch panel number and port number of the patch panel. An end-to-end certification test will be performed on all data cable in accordance with EIA/TIA TSB 67, using a Level II tester (accurate to 2db) will be conducted on all installations. Test results for all Data wiring shall be provided to the SFVAMC in printed and electronic format that can be read without the need for special software.
- 7) All voice jacks shall be labeled on each end with a unique number and tested for shorts and opens in the cable. Contractor shall provide a written statement of compliance that this requirement is full filled.
- 8) All voice and data cable will conform to the existing SFVAMC's color code.
  - a. White used for Data cables, Cat 6e
  - b. Grey used for Voice cables, Cat 6e
  - c. Orange for Multimode fiber, yellow for Single Mode Fiber Optics

9) SFVAMC Preferred station outlet equipment;		
DESCRIPTION	Part Number	Company
ULTIM8 TERMINATION BLOCKS	6468-2-060-06	ADC OR GRABA
HINGED LABEL HOLDER	6089-2-015-01	ADC OR GRABA
UNIVERSAL MOUNTING BRACKET	6657-2-165-00V40	ADC OR GRABA
KM610 RJ45 UTP modular 568 A/B jack	6830-1-830-60	ADC OR GRABA
KM8 RJ45 PUNCH DOWN UTP MODULAR 568 A/B JACK	6830-1-830-10	ADC OR GRABA
KRONE Four-Port Faceplate, White	6644-1-154-01	ADC OR GRABA
KRONE Six-Port Faceplate, White	6644-1-156-01	ADC OR GRABA
LEVITON RJ11	C22-41106-RW6	GRAYBAR
LINE CORD 26AWG S/S 4 COND 1000 FT	AT4CLC	GRAYBAR
2 PR 24 AWG . DATA CORESS CONNECT WIRE 1000 FT	22208260	GRAYBAR
1 PR 24 AWG . PHONE CROSS CONNECT WIRE 1000 FT	22208250	GRAYBAR
24 Port Patch Panel	6653 1 677-24	ADC OR GRABA
48 Port Patch Panel	6653 1 677-48	ADC OR GRABA
Berk-Tek LAN-1000 Cat 6e Cable	Berk-Tek Lan-1000	ADC OR GRABA

Jack color of choice is Orange for Data and white for phone.

- 10) The Contractor shall provide and ensure that all outlets and associated wiring, copper, coaxial cable, optical fiber, CAT 6E, or other transmission medium used to transmit telecommunications (voice, data, video, internet, or other emerging technologies) service to the workstation shall be safely concealed under raised floors, in floor ducts, walls, columns, or molding. All outlets/junction boxes shall be provided with rings and pull strings to facilitate the installation of cable. Some transmission medium may require special conduit, inner duct, or shielding as specified by the Government.

(e) After the initial installation of any telecommunication, equipment or cabling, the cost of any subsequent changes resulting in additional time and material shall be borne by the government.

- 11) All Demolitioned or legacy wiring is to be removed upon project completion where possible.

- 12) IRM needs 2 copies of As Is Built CAD Data/Voice annotated drawings for cabling reference.

### 3 DATA DISTRIBUTION

The Contractor shall be responsible for purchasing and installing data and voice cable and all related equipment and hardware associated with normal installation of voice and data cable.

#### Local Exchange Carrier Requirements

The Contractor shall provide a four (4) inch entrance conduit, dedicated for local exchange carrier ability to provide the VA with fiber based services, to be in place from the local exchange carrier right-of-way to the building and, a pathway or conduit from the building entrance point to the VA telephone equipment room. This is in addition to any other requirements the local exchange carrier has to provide copper based services.

### 4 TELECOMMUNICATIONS CLOSETS

(a) These rooms shall be provided with heating and/or cooling equipment capable of maintaining the internal space between 32.8 degrees C (60 degrees F) and 22.2 degrees C (72 degrees F), with humidity control. The relative humidity shall not exceed 50 percent. Heating and cooling requirements shall include back-up AC power capabilities. The HVAC equipment shall be stand-alone in design and accommodate a twenty-four hour, seven-day week, year-around operation, and remote alarming (loss of power, cooling and heating) functions. Minimum cooling requirement is 20,000 BT/H. Additional cooling shall be provided according to the actual expected equipment installation and use.

(b) The closets shall support various data equipment (i.e. data multiplexors, data network devices, etc.) and special communications