

SECTION 27 41 00
MASTER TELEVISION SYSTEM (MTS)

PART 1 GENERAL

1.1 SCOPE OF WORK

- A. The extent of the master television system (MTS) work is hereby defined to include (but not by way of limitation) the furnishing and installing of a system.

1.2 QUALITY ASSURANCE

- A. Manufacturers: Firms regularly engaged in the manufacture of master television distribution components (MTDC) of the type required, and which have been in satisfactory use for not less than five-years in similar services.
- B. Electrical Standards: Provide tested, listed, and labeled UL electrical products complying with NEMA standards.
- C. Installation and testing of the system shall be verified by a SCTE (Society of Telecommunications Engineers) certified BCT (Broadband Communications Technician) or BDS (Broadband Distribution Specialist) certified installer.

1.3 SUBMITTALS

- A. Submittals on MTDC systems are required as follows
 - 1. Shop Drawings
 - 2. Riser Diagram
 - 3. Wiring Diagram
 - 4. Manufacturer's Data
 - 5. Manufacturer's Product Warranty
 - 6. Operating Instructions
 - 7. Maintenance Manuals

PART 2 PRODUCTS

- 2.1 Provide the required MTDC system products in the sizes and capacities indicated, complying with the manufacturer's published product information.
- 2.2 Apply complete weatherproofing methods at the time of installations.
 - A. Do not leave any coaxial fittings uncovered or exposed at any time during installation.
 - B. Use a non-hardening silicone base compound.
- 2.3 Provide head-end cabinet or equipment rack shall be 48" H x 30" W x 32" D, with locking ventilated front door, to be located in Media Center (see drawings for exact location).
 - A. Cabinet shall have cable management, features like high-flow mesh on all mesh doors, and dual universal PDU mounting brackets, heavy-duty, welded steel construction, and anti-tip legs with standard keyed locks on doors that can be replaced by a combination lock.
- 2.4 Provide a 3-inch conduit with pull-wire from MTS head-end cabinet to the property line for future cable connection. Verify and coordinate exact location of the conduit termination point at property line with local cable television provider.
- 2.5 Install one (1) communication/data outlet in the head-end cabinet.
- 2.6 Install 125 volts, 20 amps quad-receptacle outlet, supplied by building optional branch panel of generator in the head-end cabinet.
- 2.7 Extend 1" conduits with RG-6 cables from head-end cabinet to media center, cafeteria, and gymnasium.
 - A. Terminate in origination TV outlets (in 75-ohm devices).

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- B. Exact termination locations to be determined by The Education Network Senior Logistics Engineer or equivalent personnel from TEN.
 - C. All feeder lines shall have a 30db return loss @ VHF when terminated in 75 Ohm.
- 2.8 RG-6 cables shall be UL rated for indoor/outdoor use, 18AWG, Keystone Cable Model KEYRG6SDDBO.
- 2.9 Provide a Set Top Box, AMINO A140 IPTV Set Top Box, MPEG 2 or 4/H.264 in the head-end cabinet.
- 2.10 Provide a Digital Encoder Blade-QTY 1- VBRICK XPS 9000 Encoding AVM SD 1 CH/SDI/HDMI/YPbPr/Composite, Part number 9300-4211-000 in the head-end cabinet.
- 2.11 Provide a Digital Encoder Blade enclosure-QTY 1- VBRICK 9000 Series Education Enclosure, Part number 9302-0000E000 in the head-end cabinet.

PART 3 EXECUTION

3.1 WIRING OF NEW/REMODELED/RENOVATED BUILDINGS

- A. Extend 1" conduits with RG-6 cables from head-end cabinet to cafeteria, media center, and auditorium.
- B. Signal testing of the head-end trunk lines shall be accomplished prior to contract completion using appropriate test equipment to meet desired specifications.
 - 1 May use a CATV signal of 175 MHZ to 405 MHZ
 - 2 Test all outlets, including origination outlets.
 - 3 Provide the signal readings to the Senior Logistics Engineer or equivalent at The Education Network.
- C. The installer shall have minimum of 5-years successful experience in CATV distribution Cabling and CAT 5e and CAT 6 terminations.

3.2 ADDITIONAL SPECIFICATIONS

- A No cross-modulation, co-channel, or adjacent channel or any type of interference shall be noticeable at any trunk line termination points, using a standard color TV set or equivalent video signal test generator providing 1 V P-P for video viewed by a trained observer.
- B Any substitutions for equipment listed in this specification must have the same degree of repair ability as well as the same technical characteristics or better.
 - 1 School District TEN Department must approve substitutions in writing before installation.
- C Provide a drawing of the grounding system as installed to the Project Manager and a copy sent to the TEN Department.
- D Install a 3" conduit with pull-wire from ITV head-end cabinet to the property for future cable television connection or tower location.
 - 1 Verify and coordinate exact location of the conduit termination point at property line with local cable television provider.

3.3 DEMONSTRATION AND TRAINING

- A Training of the Owner's operation and maintenance personnel is required in cooperation with the Owner's Representative.
- B Provide demonstration and training for all types of MTS installed in this project.

END OF SECTION