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, cafetorium, and gymnasium.
- A. Terminate in origination TV outlets (in 75-ohm devices).

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