PART 1 - GENERAL

1.1 SCOPE OF WORK

A. The work to be provided under these specifications consists of furnishing and installing a complete new CATV compatible cable distribution system.

1.2 SUBMITTALS

A. The following submittals are required:

1. Cables (coax, etc.)
2. Engineering drawings of the system showing all component parts of the system

PART 2 - PRODUCTS

2.1 SINGLE OUTLET

A. For each individual outlet, use a single, flush mounted, modular, “F” type jack.

B. Manufacturer: Ortronics Trackjack P/N OR-63700006-99.

C. Color: Ivory.

2.2 HARD LINE COAXIAL CABLE

A. Provide Parameter III .500 hard-line coaxial CATV-R distribution cable to be installed between TRs. No kinks or damage to the outer sheath are allowable. All connectors shall be terminated with OEM specified tools. At least 10 feet of slack shall be left neatly routed around the perimeter of the termination area in each TR that it is located within. Minimum bend radius restrictions shall be observed for all coaxial backbone cable.

2.3 FLEXIBLE COAXIAL CABLE

A. All station Coaxial feeds under 200 feet shall be RG-6, 75 Ohm Berk-Tek 10073067 or CommScope 2276V and plenum in construction. The following requirements are a minimum in construction:

1. Center Conductors: 18 AWG copper/clad steel.
2. Dielectric: Foam FEP.
3. Shield: Foil/aluminum/polyester tape 90% coverage.
5. CATV rated.
2.4 COAXIAL CABLE CONNECTORS

A. Coaxial cable connectors shall be used to connect to equipment as required. Connectors shall be compression type, F style, 75-ohm impedance and be designed for the specific type of cable used. Splices in any coaxial cable line are not acceptable. Units shall meet FCC specifications on radiation leakage.

B. All station coaxial feeds over 200 feet shall be RG-11, 75 Ohm Berk-Tek 10063457 or CommScope 2285K and plenum in construction. The following requirements are a minimum in construction:

1. Center Conductors: 14 AWG copper/clad steel.
2. Dielectric: Foam FEP.
3. Shield: Foil/aluminum/polyester tape 90% coverage.
4. Jacket: Plenum PVC.
5. CATV rated.

C. Connectors for cable shall be of radiation-proof design and shall be equipped with integral compression sleeve for long-term radiation shielding.

PART 3 - EXECUTION

3.1 INSTALLATION

A. The installation shall be in accordance with the latest requirements of the National Electrical Code, state and local codes, ordinances and regulations of any other governing body having jurisdiction.

B. Installation Practices. All equipment shall be installed in a neat and workmanlike manner and to the satisfaction of an authorized representative.

C. All power wiring and grounding shall conform to the National Electrical Code and applicable local codes.

D. Cable shall be adequately supported and connectors specifically designed for the type cable in use shall be installed.

E. Wiring. Bends shall be kept to a minimum with bending radius not to be less than allowed by cable manufacturer. Install all cable per manufacturer’s recommendations. Cables shall be installed in raceways except in accessible ceiling spaces. Corridor cable runs shall be neatly laid in cable trays above suspended ceilings.

F. All outlets shall be radially fed. Run a separate cable from each TV outlet to the nearest telecommunications room.

3.2 FIELD QUALITY CONTROL

A. Manufacturer’s Field Service: Engage a factory-authorized service representative to inspect field-assembled components and equipment installation and supervise pretesting, testing, and adjusting of television equipment.
C. Inspection: Verify that units and controls are properly installed, connected, and labeled and that interconnecting wires and terminals are identified.

D. Pretesting: Align and adjust system and pretest components, wiring, and functions to verify that they comply with specified requirements. Replace malfunctioning or damaged items. Retest until satisfactory performance and conditions are achieved. Prepare television equipment for acceptance and operational testing as follows:

1. CATV Sources: Connect the receiver to an agile demodulator or CATV set-top converter at the CATV service entrance to the facility.

E. Test Schedule: Schedule tests after pretesting has successfully been completed and system has been in normal functional operation for at least 14 days. Provide a minimum of 10 days' notice of test schedule.

F. Operational Tests: Perform operational system tests to verify that system complies with Specifications. Include all modes of system operation. Test equipment for proper operation in all functional modes.

G. Qualitative and Quantitative Performance Tests: Demonstrate reception quality of color-television program transmissions at each system outlet from each designated channel and source. Quality shall be equal to or superior than that obtained with performance checks specified below, using a standard, commercial, cable-ready, color-television receiver. Level and quality of signal at each outlet and from each designated channel and source shall comply with the following Specifications when tested according to NCTA-02 or 47 CFR 76:

1. RF Video Carrier Level: Between 2 and 12 dB mV.
2. Relative Video Carrier Level: Within 3 dB to adjacent channel.
3. Carrier Level Stability, Short Term: Level does not change more than 0.5 dB during a 60-minute period.
4. Carrier Level Stability, Long Term: Level does not change more than 2 dB during a 24-hour period.
5. Broadband Frequency Response: More than the 54- to 220-MHz frequency range, signal amplitude is plus or minus 3 dB, maximum.
6. Channel Frequency Response: Across any 6-MHz channel in the 54- to 220-MHz frequency range, referenced to video carrier, signal amplitude is plus or minus 1 dB, maximum, unless otherwise indicated.
7. Carrier-to-Noise Ratio: 45 dB or more, unless otherwise indicated.
8. RF Visual Signal-to-Noise Ratio: 43 dB or more.
9. Cross Modulation: Less than minus 50 dB.
10. Carrier-to-Echo Ratio: More than 40 dB.
11. Composite Triple Beat: Less than minus 53 dB.
12. Second Order Beat: Less than minus 60 dB.
15. Hum Modulation: 2 percent, maximum.
16. RF FM Carrier Level: 13 to 17 dB below video carrier level.
17. FM Frequency Response: More than the 88- to 108-MHz frequency range, signal amplitude is plus or minus 0.75 dB, maximum.
18. FM Carrier-to-Noise Ratio: More than 24 dB.

H. Record test results and submit to Owner in organized and labeled three-ring binder.

I. Retest: Correct deficiencies identified by tests and observations and retest until specified requirements are met.

END OF SECTION 17850