

SECTION 16906
CEILING PROJECTOR SYSTEM

PART 1 GENERAL

1.1 SECTION INCLUDES:

- A. Conduit, cables, connectors, and boxes.
- B. Power wiring and receptacles.
- C. Provide complete wiring system to operate all electronic equipment in instructional spaces per codes, Florida Tech specifications and approved drawings.

1.2 SYSTEM DESCRIPTION

- A. Ceiling projector system shall include the furnishing and installation of junction boxes, outlets, cables, conduits, connectors and 20 amp receptacles
- B. Refer to details on the drawings for additional information. Architect shall obtain the latest copy of ceiling projector installation detail from the Florida Tech Facilities Management Representative.

1.3 SUBMITTAL

- A. Submit under the provisions of Section 01300.
- B. Shop Drawings: Indicate layout, raceway diagrams, cables, connectors, and other necessary components for a complete ceiling projector system. Work shall not commence, before the shop drawings are approved by Florida Tech
- C. Product Data: Provide data sheets for each item shown on the shop drawings.

1.4 RECORD DRAWINGS

- A. Submit under the provisions of Section 01700.
- B. Accurately indicate actual locations of boxes, cables, and conduit runs.

PART 2 PRODUCTS

2.1 CONDUIT, CABLES, CONNECTORS, AND BOXES

- A. Provide two quad outlets connected to computer power, one data outlet, and one VGA outlet at the teacher station 18 inches AFF. The VGA outlet shall be connected to the 12"x12"x4" ceiling junction box via 1-1/4 inch conduit. Refer to installation detail on the drawings.
- B. In instructional spaces such as science labs where a fixed demonstration desk is provided and the instructor's desk is positioned adjacent to the demonstration desk; install the teacher station outlets mentioned in Item A on the side of the demonstration desk.
- C. Provide three RCA cables, one S-Video cable, one TV outlet, two quad receptacles connected to computer power, and one spare junction box with 1-1/4 inch conduit to ceiling space located 18 inches AFF on the wall behind the multimedia cabinet. Refer to installation detail on the drawings.
- D. Provide three RCA cables, one S-Video cable, and one VGA cables with male connectors and 10 feet slack inside the 12"x12"x4" ceiling junction box.
- E. The RCA cables shall be RG59 Coax A/V.
- F. Provide a 3.5 mm stereo audio cable from a wall box at the teacher station to a wall box on the wall behind the multimedia cabinet with female connectors on both boxes. Cable shall be routed inside the wall. Refer to wiring detail on the drawings.
- G. VGA cable must have three internal coax lines for red, green and blue, 125% Foil shielding, 90% Tinned Copper Braid shielding, and be Ferrites protected against EMI/RFI interference. VGA cable must be constructed with UL2919 certified composite coaxial and twisted pair shielded cables. VGA cable shall be manufactured by "Impact Acoustics" or approved equal.

2.2 POWER FEED

- A. Provide 2#12 AWG, 1#12 GRD at ceiling junction box for projector power. Power will be connected to the projector at the time of projector installation.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install system in accordance with NECA "Standard of Installation" and Sections 16110, 16130 and 16141.
- B. Installation in large areas such as cafeteria and media center will be different than general Classrooms. Submit shop drawings for review prior to installation.
- C. All junction boxes mounted above ceiling shall be mounted with the opening facing down and shall have a reasonable immediate access pathway provided. Removal of a light fixture or other similar ceiling equipment is not considered as a reasonable access pathway.
- D. Install a 12" x 12" x 4" junction box above the ceiling to house five cables with connectors and enough cable slack to reach the projector. Minimum cable slack shall be 10'. Cables shall not be too long to cause signal degradation.
- E. The conduit between the VGA wall junction boxes and the ceiling junction box shall be sized as required to run necessary cables, but not smaller than 1¼ inch.
- F. Keep the row of ceiling tiles in line with the center of the projection screen clear of fire sprinklers, air conditioning diffusers, and light fixtures 4' in each direction from the location of the projector. This will provide some room to adjust the distance between the projector and the projection screen.

END OF SECTION