

SECTION 28 51 23.50

EDUCATIONAL INTERCOMMUNICATIONS AND PROGRAM SYSTEMS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This specification section covers the furnishing and installation of local, audio-video door entry intercom system.
- B. Contractor shall furnish and install hardware devices, mounting brackets, power supplies, switches, controls, and other components of the system as shown and specified.
- C. Contractor shall furnish and install access control integration related connections to allow this system reporting.
- D. Furnish and install outlets, junction boxes, conduit, connectors, wiring, and other accessories necessary to complete the system installation. Requirements shall be in accordance with Division 26, Electrical.
- E. Furnish and install connectors, wiring, and other accessories necessary to complete the system installation. Requirements shall be in accordance with Division 27, Communications.

1.02 RELATED WORK

- A. Door Bells:
 - 1. Generally used only for kitchen food service delivery entries.
 - 2. Shall be designed and specified under other Division 26 sections.
 - 3. Coordinate with security system requirements.
 - 4. Electronic door controls (including intercom, electronic door latches, and cameras) are preferred over door bells.

1.03 TECHNICAL REQUIREMENTS LOCAL INTERCOM SYSTEM

- A. Intercom system shall provide communications between the remote calling station and the Master intercom station(s). System shall be hands free at the remote station after initiation and the master station. System shall provide individual selection buttons for each remote station. System shall utilize video capability between remote and master locations.
- B. System Controller:
 - 1. Shall be provided with interface software for programming of selected features.
 - 2. Shall allow master station forwarding of calls when master station is unmanned.
 - 3. Shall connect to the EACS system for door unlock feature.
- C. Intercom master station(s):
 - 1. Shall receive calls from remote stations by selective indication of the calling location.
 - 2. Shall be provided with a door open feature that will allow the intercom master, while in communication with the remote station, unlock the door.
 - 3. Shall be provided with video monitoring of the remote locations where remote locations are equipped with video cameras.
 - 4. Shall automatically annunciate the calling station.
- D. Intercom remote station(s):
 - 1. Shall place calls to selective master stations.
 - 2. Shall be provided with video camera where shown on the plans.

3. Shall have hands free operation upon connection with the master station.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Product Acceptability: The Products section contains lists of acceptable products. If product substitutions are proposed, they must be made based upon a comparison of equivalence to the product specified and compatible with the existing Districts system. Considerations may include but shall not be limited to functional, physical, aesthetic and/or interface aspects. The Owner shall be the sole judge of whether or not a submitted substitution is deemed to be "equivalent" to that specified. Contractor may not use contractor proprietary interface modules for connections between field devices and controller.

2.02 INTERCOM SYSTEM

- A. Video Intercom System (Central Exchange Type):
 1. Provide Remote Stations meeting the following minimum requirements, where shown on the plans.
 - a. Hands Free Remote Audio Station.
 - b. Color camera video component.
 - c. Weather Resistant enclosure.
 - d. LED illuminator.
 - e. RJ45 jack for cable connection.
 - f. Relay interface to Security monitoring system.
 - g. Remote Station to be iPhone Model AX-DVF with stainless steel faceplate for flush mount locations or iPhone Model AX-DV with alum die cast cover for surface mount locations.
 2. Provide iPhone Video Master Station meeting the following minimum requirements, where shown on the plans.
 - a. Master station to be Model AX-8MV or equal to accommodate remote stations shown on the plans plus 25% expansion.
 3. Provide iPhone Central controller at location shown on plan.
 - a. Central controller to be iPhone Model AX084 or larger Model depending upon requirements.
 4. Provide UL power supplies iPhone Model PS-24UL.

2.03 WIRE AND CABLE

- A. General: Cables which are not installed in conduit shall be a version of the specified cable rated for use in plenums.
- B. System cable: Provide cable as shown below, or as recommended by the Manufacturer.
 1. Intercom: Panduit CAT 6.
 2. Network Cable: As required by Owner Infrastructure.
- C. Cable installed below grade shall be rated for immersion in water.

PART 3 - EXECUTION

3.01 ACCESS CONTROL SYSTEM INTEGRATION

- A. Provide EACS integration equipment, software and programming, in accordance with Section 28 07 00, Integration of Electronic Safety and Security or as noted in this section.
- B. EACS Video Integration:
 1. Provide Video surveillance system management solution as an integral part of the EACS environment. Refer to Section 28 23 00, Video Surveillance system.

2. Alarm / event in the EACS shall have the ability to be associated with a digital video clip in real time. The VMS shall support user defined pre and post roll.

C. EACS Intercom System Integration:

1. Where the Intercom system provides a door release for an access controlled door, the Intercom system shall create an event when the door release is used. The EACS shall record the door release activation
2. Integrate the event point with the VMS system through the EACS when a video surveillance camera is associated with the event. (Video Intercom camera is not part of the VMS).

3.02 SYSTEM PERFORMANCE TESTING AND ADJUSTING PROCEDURES

- A. Provide performance testing and adjusting of systems and equipment in accordance with Testing and Commissioning, Section 28 08 00.
- B. Intercom System:
 1. Verify Intercom calls master station(s).
 2. Verify Intercom Master station visual indicator activates when called.
 3. Verify voice communication with called station.
 4. [Include in video intercom system] Verify video is acceptable.
 5. Verify door release function.
 - a. Unlocks door.
 - b. Event is recorded in the EACS.
 - c. Verify VMS system is activated and event recorded.

3.03 TRAINING

- A. Provide training requirements of Common Work Results for Electronic Safety and Security Section 28 05 00.
- B. Contractor shall provide training prior to the final acceptance of the system.
- C. Training shall include:
 1. Building walk-through indicating locations of equipment and their usage.
 2. Operational usage of workstation monitoring and door locking override.
 3. Trouble shooting procedures.

PART 4 - EQUIPMENT SCHEDULE

28 51 23.50 - Educational Intercommunications (EI)		
DESCRIPTION	Manufacturer/Part Number	
	Aiphone	Special Rqmt
8 DOOR AUDIO/VIDEO MASTER CONTROL	AX-8MV	
DESK MOUNT STAND FOR MASTER CONTROL	MCW-S/A	
VIDEO DOOR STATION, SURFACE MOUNT	AX-DV	Use when mounting next to door on same surface.
30 DEGREE ANGLE SURFACE BOX FOR AX-DV	SBX-AXDV30	
VIDEO DOOR STATION, FLUSH MOUNT	AX-DVF	Comes with mounting box.
MAIN CEU FOR 8 DOORS, 4 MASTERS, AX	AX-084C	
24 VDC POWER SUPPLY FOR CEU (2 REQUIRED)	PS-2420UL	
DOOR RELEASE RELAY, 24V DC INPUT	RY-24L	
DOOR STATION, AUDIO ONLY (REPLACES LEDA)	IE-SS	

5.00 ONE LINE DRAWINGS

- A. [27 51 00-1 Security Intercom One Line Diagram](#)

END OF SECTION 28 51 23.50