

SECTION 16722
INTRUSION DETECTION AND SECURITY ACCESS SYSTEM

PART 1 GENERAL

1.1 SECTION INCLUDES:

- A. Main cabinet.
- B. Terminal cabinets.
- C. Conduit and boxes.
- D. Power wiring.

1.2 SYSTEM DESCRIPTION

- A. Security system shall include the furnishing and installation of main and distribution terminal cabinets, conduit system and power feeds.
- B. Knox Box for Melbourne Fire Department and University Security.

1.3 SUBMITTALS

- A. Submit under the provisions of Section 01300.
- B. Shop Drawings: Indicate layout, raceway diagrams, and equipment dimensions.
- C. Product Data: Provide data sheets for each item of equipment, depicting equipment capacity.

1.4 RECORD DRAWINGS

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

PART 2 PRODUCTS

2.1 MAIN CABINET

- A. Steel construction #14 gauge, 24" x 24" x 4" cabinet with hinged, lockable cover, ½" thick plywood backboard, painted light gray.
 - 1. Also allow a 4' x 4' empty space above or to either side of the main cabinet at a centerline of 7' for additional security equipment.
- B. Main cabinet shall be surfaces mounted.
- C. Locate the Main Security Cabinet in the Video Control room; however Section 2.3A has priority.
- D. The location of the main, Ahead-end@, security terminal cabinet shall not exceed 95' from the antenna weather head.

2.2 BUILDING & FLOOR DISTRIBUTION CABINETS

- A. Steel construction #14 gauge, 12" x 18" x 6" cabinet with hinged lockable cover, ½" thick plywood backboard, painted light gray.
- B. All distribution cabinets shall be surfaces mounted.

2.3 CONDUIT AND BOXES

- A. Provide & install a building distribution cabinet for each building.
 - 1. Provide & install a separate 2" raceway from the main Ahead-end@ cabinet for each building distribution cabinet.
 - 2. For buildings with more than one level, provide a floor distribution cabinet for each additional floor level.
 - 3. Feeding each of these cabinets with a separate 2" conduit, from the building distribution cabinet.

4. If any floor level area is greater than 20,000 sq ft, provide additional floor distribution cabinets; with no one cabinet feeding more than 20,000 sq ft.
5. Raceway shall not exceed 400' without a pull box.
- B. Provide & install ¾" conduits from the distribution cabinets and distribute to feed all junction and mounting boxes in the distribution area. Each ¾" conduit shall feed no more than 16 wall sensor mounting box locations. Each of these conduit runs shall leave and return to the cabinet, (looped).
- C. Provide & install a separate ¾" conduit from the main security terminal cabinet to the fire alarm main terminal cabinet.
- D. Provide & install a separate ¾" conduit from the nearest security distribution cabinet to all walk-in refrigeration units, and terminate this conduit to the unit's temperature sensor relay enclosure.
- E. Provide & install a separate ¾" conduit from the nearest security distribution cabinet to the emergency electric generator control panel.
- F. Provide & install a recessed mounted 4-11/16" x 4-11/16" x 2-1/8" boxes with flush single gang ring and single gang cover; mounted with the opening vertical, located 12" to the side of the intercom speaker or clock; in rooms where clocks or speakers are designated.
 1. If a projection screen will block the security device in this location move the security junction box to clear the blockage to either side of the projection screen.
- G. Provide & install recessed mounted 4-11/16" x 4-11/16" x 2-1/8" sensor mounting boxes with single gang ring and single gang cover; mounted with the opening vertical, 90" above the floor and 15' from any exterior doors or exterior glass (susceptible to entry) at the following locations:
 1. All interior corridors
 2. Rooms that do not have a clock or speaker but have exterior doors or glass.
 3. Electrical rooms, mechanical rooms, storage rooms, etc. That may allow access through them to the interior of the building.
- H. Provide & install recessed mounted 4-11/16" x 4-11/16" x 2-1/8" sensor mounting boxes with single gang ring and single gang cover; mounted with the opening vertical, 90" above the floor and 15' from the entry/exit doors in the following areas:
 1. Coordinate with FIT Security Dept.
- I. Provide & install an additional 4-11/16" x 4-11/16" x 2-1/8" box above suspended ceiling directly above each wall sensor-mounting box.
 1. Locate the box no higher than 36" above the ceiling, in the same room as the wall mounted boxes.
- J. Provided and install two recessed mount Knox-Box with UL listed tamper switches, ¼" plate steel housing, ⅛" thick door with interior gasket seal. Both boxes and locks shall have 2" steel dust cover with tamper seal mounting capability. Finish color shall be Aluminum for Police and Black for Fire. Mount boxes at 4 feet AFF.
 1. The Following Knox-Box is recommend: Manufactured by The Knox Company, Model 3221 for Fire Department and 3225 for Police Department with the recessed mounting kit (3240). All recessed mounting kit shell housings, including the cover plate and screw heads, is flush with the finish wall. The housing must be plumbed to insure vertical alignment of the vault.
 2. Provided and install a ¾" conduit from the back of the Knox Box to a 4-11/16" x 4-11/16" x 2-1/8" box with cover, located above the nearest removable ceiling tile. Continue the conduit run to the nearest security terminal cabinet.
 3. The University's Project Manger shall coordinate with the FIT Security Department and the Contractor to transmit the AKnox@ authorization forms which will be provided by the University to assure it is keyed to the F.I.T.. AMaster@. The AKnox@ authorization form for the Fire Department Knox box must be obtain from the Fire Department having jurisdiction.
- K. Provide & install a separate ¾" conduit from the back of the Fire Departments (Knox Box) enclosures to a 4-11/16" x 4-11/16" x 2-1/8" box with cover, located above the nearest removable ceiling tile. Continue the conduit run to the nearest security distribution cabinet.

- L. Provide & install a separate ¾" conduit from the main security cabinet to the main telephone room terminal board.
- M. Provide & install a ¾" conduit between all security distribution cabinets and all card access distribution cabinets at all terminal cabinet locations.
- N. Provide & install six additional recessed mounted 4" x 4" x 2-1/8" sensor mounting boxes with flush single gang ring and single gang cover; with the opening mounting vertical with ¾" conduit run to nearest security junction box, (Estimate 100' of conduit for each run.) Wall mount locations to be directed in field during construction prior to final above ceiling inspection.

2.4 POWER FEED

- A. Provide & install a dedicated 120-volt normal power duplex outlet located adjacent to the upper portion of the main security system's cabinet.
- B. Provide & install a dedicated 120volt duplex outlet fed from the optional branch of the generator power source, adjacent to the normal power receptacle.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install system in accordance with NECA "Standard of Installation" and Section 16010.
- B. Obtain a detail book from the Universities Security Department for system specifics.
- C. Permanently label all conduits as to plan room number destination, at all terminal cabinets.
- D. Paint all Security system junction box covers black.
- E. Install ½" (black round indicators) of paper construction on ceiling tile grid work at all locations where security system boxes are located above the drop ceiling.
- F. Permanently label all the security system terminal cabinets, "Security System".
- G. Install 200 lb strength pull string throughout the raceway system.
- H. All junction boxes mounted above ceiling shall be mounted with the opening facing down, and shall have a reasonable immediate access pathway provided. Note: (removal of a light fixture or other similar ceiling equipment) is not considered as a reasonable access pathway).
- I. The Security system raceway shall be a separate raceway system and shall not interconnect with or be used by any other system without the authorization of the University, and/or per DMS sections 16720, 16723, 16724, and 16725.
- J. All conduit runs shall be as direct as possible in order to save on wiring cost and to reduce poor performance due to cable voltage loss.

END OF SECTION