

SECTION 13741

INTERCOM AND CLOCK/BELL RACEWAY SYSTEM FOR PLCs

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*NOTE TO SPECIFIER: This section applies to only primary learning centers (PLCs). Contact M-DCPS Maintenance during design phases for assistance regarding equipment requirements and detailed information. Review and implement additional information from M-DCPS Design Criteria as required to suit project conditions.*

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PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: Complete raceway system with wiring and pullstrings for intercom and clock/bell/call button/speaker cables, including necessary accessories. Provide wiring closet, plywood backboard, conduits, pull boxes, and clock/speaker and outlet boxes.
- B. Related Sections:
  - 1. 07270 - Firestopping and Fire and Smoke Barrier Caulking.
  - 2. 13743 - Telephone and Data Raceway System for PLCs.
  - 3. 13745 - Intercom and Clock/Bell System.
  - 4. 16100 - Basic Materials and Methods.
  - 5. 16112 - Raceways and Conduits.
  - 6. 16120 - Wire and Cable.
  - 7. 16131 - Outlet, Pull, and Junction Boxes.
  - 8. 16132 - Floor Boxes.
  - 9. 16450 - Grounding.
  - 10. 16511 - Lighting, Fixtures, and Lamps.

1.02 SUBMITTALS

- A. Submit for review, properly identified product data giving materials, finishes, accessories, and installation directions where required.
- B. Furnish a set of "Record Drawings" to A/E indicating accurate plan layout, conduit runs, and the like, as installed.

Project Name  
Project No.

**M-DCPS MASTER  
SPECIFICATION GUIDELINES**

March 03  
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PART 2 PART PRODUCTS

2.01 MATERIALS

A. Intercom and Clock/Bell Raceway System:

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NOTE TO SPECIFIER: To select and communicate with rooms, intercom systems use either a telephone type handset or mechanical switches in a console. A/E shall provide 2 riser diagrams showing the 2 different systems.

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1. Refer to the intercom and clock/bell riser diagrams shown on the Drawings.
2. Extend one 3/4" riser conduit from the headend unit to antenna structure/pole for wiring connection to FM antenna.
3. Branch conduits to final intercom and clock/bell outlet locations from main location shall be 3/4" minimum and not exceed a length of 250 feet.
4. Where a cellular metal deck is provided (i.e., Walker duct), it shall be used as part of the raceway system.
5. Furnish and install necessary interior conduit, sleeves, strip cabinets, pull boxes, outlet boxes, and other materials for a complete conduit system for intercom and clock/bells as shown on the Drawings.
6. Install the conduit in the same manner as specified for lighting work.
7. Provide pull wires in empty conduits.
8. Where junction boxes are used to distribute the 3/4" conduit runs, conduit feeding the junction box shall be sized as specified.
9. Size conduits as follows:

<u>Conduit size</u>	<u>Number of Cables If Pulled Together</u>
3/4" (minimum)	4
1"	7
1-1/4"	12
1-1/2"	16
2"	22
2-1/2"	36
3"	50

10. Raceways shall contain not more than two 90 degree bends or equivalent. Provide additional junction or pull boxes to meet this requirement.

B. Outlets:

1. Intercom and Bell Outlet Boxes: Four inch boxes.

PART 3 PART EXECUTION

3.01 INSTALLATION

- A. Install materials according to local and national codes.
- B. Conduit from branch intercom and clock/bell outlets shall terminate at the top and bottom of the terminal cabinet, except as noted.
  1. Provide empty conduit with suitable pull wires.
  2. Allow 10 inches minimum slack at each end of pull wire.
- C. Bury underground conduit a minimum of 24 inches below grade.
- D. As indicated on Drawings, provide an insulated No.6 AWG grounding wire terminated on a grounding bar in the main telephone and each satellite telephone room.
- E. Ensure the empty raceway system installed for intercom and clock/bell is clearly marked and is not used for any other purpose.
- F. Call Button, Bell, and Clock/Speaker Outlet Locations:
  1. Instructional spaces.
  2. Staffed administrative areas.
- G. Speaker Outlet Locations:
  1. Self-contained administrative offices.
- H. Conduit Installation:
  1. Install 3/4" conduit from the final outlet box to an accessible junction/pull box or cable tray to the intercom and clock/bell closet backboard within a 250-foot wire run of the outlet.
  2. Conduits from junction boxes to main closet shall be sized according 2.01 A.9. of this section.
  3. Wiring from outlet box to outlet box (daisy-chaining)

is not allowed.

I. Coordination:

1. The contractor, subcontractor, M-DCPS Maintenance, and M-DCPS Information Technology Services - Network Expansion Services (ITS) shall cooperate with each other to resolve any conflicts and to coordinate the use of wall space, cable entrances, and conduit terminations in wiring closets to be shared by the intercom system and telephone and data systems.
2. Coordination and approval by M-DCPS Maintenance is required before conduits and space in wiring closets are used by other trades.

END OF SECTION