

PART 1 - GENERAL

- 1.1 REFERENCES .1 Industry Canada - Terminal Attachment Program
.1 CS-03-2010, Compliance Specification for Terminal Equipment, Terminal Systems, Network Protection Devices, Connection Arrangements and Hearing Aids Compatibility, Issue 9, Amendment 4.
- 1.2 SYSTEM DESCRIPTION .1 Public address loudspeaker system to incorporate:
.1 Voice paging.
.2 Additional features as specified.
- .2 Operations:
.1 Paging:
.1 Voice paging from telephone set overrides broadcast or recorded music reproductions.
.2 Selective area page to areas as specified.
.3 Emergency page to all areas.
- .3 Systems in various configurations may be rack mounted or stand alone.
- 1.3 ZONING .1 The public address system shall support 17 zones. The zoning shall be:
.1 One zone for each residential pod (6 zones in total)
.2 One zone for basement
.3 One zone for ground floor core area
.4 One zone for second floor core area
.5 One zone for meeting room area
.6 One zone for administrative offices area
.7 One zone for outdoor speakers
.8 Five spare zones for future use
- 1.4 SHOP DRAWINGS .1 Submit shop drawings in accordance with Section 01 33 00.
- .2 Include, riser diagram, block diagram of complete public address system.
- .3 Public address system design criteria.
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- 1.5 CLOSEOUT SUBMITTALS
- .1 Provide operation and maintenance data for public address system for incorporation into manual specified in Section 01 78 00.
 - .2 Include:
 - .1 Operation instructions.
 - .2 Description of system operation.
 - .3 Description of each subsystem operation.
 - .4 List specifying each piece of equipment in system or subsystem by its original manufacturer name and model number.
 - .5 Part list specifying parts used in equipment by identification numbers that are standard to electronic industry.
- 1.6 WASTE MANAGEMENT AND DISPOSAL
- .1 Separate and recycle waste materials in accordance with Section 01 74 20.
 - .2 Remove from site and dispose of all packaging materials at appropriate recycling facilities.
 - .3 Collect and separate for disposal paper, plastic, polystyrene and corrugated cardboard packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan.
 - .4 Divert unused metal and wiring materials from landfill to metal recycling facility as approved by Departmental Representative.
 - .5 Fold up metal banding, flatten and place in designated area for recycling.
- 1.7 SYSTEM STARTUP
- .1 Manufacturer's factory service engineer to instruct:
 - .1 Maintenance personnel in maintenance of system.
 - .2 Operating personnel in use of system.
 - .2 Arrange with Departmental Representative convenient date for instruction. Arrangement must be made one (1) week in advance of agreed instruction date.
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- 1.8 EXTRA MATERIALS .1 Provide maintenance materials in accordance with Section 01 78 00.
- .2 Include: spare printed circuit boards of each type used in the system, fuses of each type used in the system, cubicle keys and spare DIN rail terminals.

PART 2 - PRODUCTS

- 2.1 MATERIALS .1 Conduits: to Section 26 05 34.
- .2 Communication conductors: to Section 26 05 21.

- 2.2 COMPONENTS .1 Continuous duty cycle.
- .2 Modular system design.
- .3 Solid state, and suitable for rack mounting.
- .4 Maximum operating temperature: 65 degrees C.
- .5 Grounding conductor for system components.

- 2.3 EQUIPMENT RACK .1 Rack, to accommodate system components, enclosed type, steel construction with internal mounting rails, wire and cable entrances with smooth edges protected by rubber edging, four adjustable rack levelling feet.
- .2 Metal outlet raceway with colour coded outlets wired to 120V, 60Hz supply controlled by key type locking switch.
- .3 Louvres and ventilation apertures in sides, top, back of rack for convection ventilation.
- .4 Racks to contain but not necessarily limited to following components.
- .1 Monitor panel.
 - .2 Relay assembly.
 - .3 Page/music selection panel.
 - .4 Timer: program time system with battery backup.
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- 2.3 EQUIPMENT RACK .4 (Cont'd)
- (Cont'd)
- .5 Telephone paging interface equipment.
 - .6 Patch bay.
 - .7 Power amplifiers.
 - .8 Power supplies.
 - .9 Installation and service connections to various panels by plug-in type terminal blocks with barriers and screw type terminals.
- 2.4 MONITOR PANEL .1 Monitor panel to contain VU metre, selector, 150 mm monitor speaker and volume control to provide audible and visual monitoring of sound programmes.
- .1 VU metre to have black scale for normal conditions, and red scale for overload conditions.
- 2.5 PATCH BAY .1 C/w 2 jacks corresponding to input and output of every signal processing equipment that is installed in rack.
- .2 Each jack wired for 'normalised' configuration.
- 2.6 TELEPHONE PAGING EQUIPMENT UNITS .1 Lets person select and page any zone or all areas from their telephone.
- .1 Decodes typical dual tone multifrequencies (DTMF) for selection of area or areas for paging.
 - .2 Has facility to let emergency announcement override page in zones being paged.
 - .3 Automatically ends page when it detects absence of voice signal for specific length of time.
 - .4 Compatible power supply unit.
 - .5 Certified by Industry Canada to CS-03 for direct connection to telephone network.
- 2.7 POWER BOOSTER AMPLIFIER .1 Overload and output short circuit protection.
- .2 Power output: 100 W stated in rms power at 1 % harmonic distortion over frequency range 45 to 18,000 Hz plus or minus 1 dB.
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| 2.7 POWER BOOSTER
AMPLIFIER
(Cont'd) | .3 | Signal and noise level: 80 dB below rated output. |
| | .4 | Maximum gain: 75 dB. |
| | .5 | Outputs: 8 ohm, 70 V balanced or unbalanced line. |
| | .6 | Controls and indicators: |
| | .1 | Volume control screwdriver adjustable. |
| | .2 | ac power switch. |
| | .3 | Fused primary. |
| | .4 | 'on' indicator light. |
| 2.8 POWER SUPPLY | .1 | Power supply unit, well filtered, regulated, constant voltage under load. |
| | .1 | Output: 24 V dc at 4 A. |
| | .2 | Input: 120 V, 60 Hz, nominal. |
| | .3 | Power consumption: 100 W. |
| | .4 | Rectifier, silicon full wave bridge. |
| | .5 | Filter, choke and dual condensers. |
| | .6 | Hook-up (+) (-) terminal strip with terminal screws. |
| | .7 | Line cord: 2 m, 3 conductor with specially constructed strain relief. |
| 2.9 ADDITIONAL
FEATURES | .1 | Leased wire background music source. |
| | .2 | Tone signal generator for time and alarm signals. |
| | .3 | Interface with telephone PBX or Centrex. |
| | .4 | Coded signals of: |
| | .1 | Proprietary fire alarm system. |
| | .2 | Code call paging devices. |
| | .5 | Bridging control to provide facilities between local sound source and sound control rack. |
| | .1 | Three pole, three position, non-shortening type switch with positions marked '1', 'off', '2', to allow programmes to originate, remain in or terminate. |
| | .2 | Volume control to provide local volume regulations of programme received from console. |
| | .3 | Programme control relay. |
| | .6 | Notch filters for accoustic treatment. |
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- 2.10 SOUND
REPRODUCERS
- .1 Cone type.
 - .2 Ceiling and wall mounting.
 - .3 Finish colour: almond.
 - .4 Outdoors and indoors, outdoor to be weather proof enclosure.
 - .5 Faceplate and back box.
 - .6 Connections type: tip-ring-sleeve.
 - .7 Line transformer: 70 V primary with tapped secondary for volume adjustment.
 - .8 Frequency range: 45 Hz to 18,000 Hz.
 - .9 Impedance: 8 ohms.

PART 3 - EXECUTION

- 3.1 INSTALLATION
- .1 Install equipment in accordance with manufacturer's instructions, and as indicated.
- 3.2 FIELD QUALITY
CONTROL
- .1 Perform tests in accordance with Section 26 05 00.
 - .2 Conduct intelligibility test.