



# Zone Paging System

## PCM2000



### Features

- One zone to 99 zones of simultaneous high-power and low-power paging
- Up to 32 paging zone groups
- Universal analog telephone interface designed for direct connection to loop start and ground start trunks, to PBX or KEY paging ports which supply DTMF capability, and to analog T/R lines
- Modular integration assures reconfiguring and expansion with minimum time and expense
- Optional talkback paging and time-triggered signaling events with PCMTBM module
- Field programmable using DTMF and switches
- Signaling features include night ringer zone group, emergency/shift change zone group, code call zone group
- Emergency All-Facility Override Paging
- Background music assigned per zone; Local Background music sourcing capability
- Relay drivers and AUX contacts included
- Allows total system amplifier power of up to 250W
- Mounting Kit for 2 to 6 modules available as an accessory (RPK84)
- Mounting Kit for up to 10 modules available as an accessory (RPK88)

### Technical Specifications

#### Registered under Part 68 of FCC Rules

<b>Ringer Equivalence:</b>	1.0B
<b>Operating Voltage:</b>	12V DC
<b>Operating Current (max.):</b>	1.5A (9-zone system)
<b>Audio Power Capability:</b>	250W
<b>Operating Temperature:</b>	25 to 100°F
<b>Operating Humidity:</b>	0 to 90% non-condensing
<b>Dimensions (single module):</b>	1-1/2" W x 7-1/2" H x 4-1/4" D
<b>Shipping Weight (each module):</b>	Approximately 1-2 lb.



Specifications subject to change without notice.

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## Description

The Bogen **PCM2000** is a modular telephone zone paging and control system. By integrating unique, multi-function modules, the PCM2000 offers both incredible flexibility and capability for future expansion.

The Bogen PCM2000 Zone Paging System is designed for direct connection to loop start and ground start trunks, to PBX or KEY paging ports which supply DTMF capability, and to analog T/R lines. The unit allows total system amplifier power of up to 250W.

The PCM2000 is a fully-integrated zone paging and signaling system with an extensive list of features:

- Simultaneous high- & low-power paging
- Zone and zone group paging (32 paging zone groups, each with up to 99 zones)
- Talkback capabilities (requires PCMTBM module)
- Background music assigned per zone
- Local BGM sourcing capability
- Night ringer zone group
- Emergency zone group with choice of built-in tones or outside tone source
- Emergency all-facility page override
- Eight daily time-triggered signaling events (requires PCMTBM module)
- Pattern & echo code calling
- Daily master clock synchronization
- Relay driver per zone
- Auxiliary contacts

The PCM2000 allows for the design of a system that is specifically tailored to the requirements of the facility owner. The basic system supports up to three paging zones and consists of only three modules:

**PCMCPU** – Central processor

**PCMTIM** – Telephone interface

**PCMZPM** – Zone module (3 zones)

The **PCMCPU** module includes a set of DIP switches to set the system ID, a Program/Run switch that allows system programming, a Power jack for 12V DC power, and audio connections for central amplifier, low-power BGM, high-power BGM, emergency/shift change trigger, and auxiliary trigger.

The **PCMTIM** telephone interface module incorporates a universal interface so that connection to any telephone system is rapid and trouble-free. The module connects to the telephone system via a standard RJ11 plug and port type is selected simply by using slide switches. All other connections are made to built-in terminal blocks.

Setup is also easy. Zone group programming, selection of all signaling functions, and all other parameters are set by simply dialing in with a touch-tone telephone.

The telephone interface module is equipped with three RJ11 jacks for Override, Page Port/Trunk, and 90V Night Ring/Station. The Night Ringer feature can be activated from 90V ring signal or contact closure. The Page Port/Trunk jack can be used to program the system locally and provides 48V talk battery. The Override feature permits all-zone override paging from a dedicated telephone, trunk, or microphone (with suitable pre-amp).

The **PCMZPM** zone paging module can operate high-power or low-power paging to self-amplified paging systems (only one type per PCMZPM module). For high-power paging, a single amplifier can be used for paging and supplying background music (when not paging). Background music can also be continuously supplied to all zones not being paged with the addition of a second amplifier. For low-power operation, background music is always supplied to zones not being paged. Each module can also be disconnected from the background music bus and connected to a local background music source.

Two additional zone modules can be added to the basic system to increase capacity to 9 zones. When more than 9 zones are required, a central processor module with power supply and up to 3 zone modules can be assembled as a satellite system. Ten additional 9-zone satellite systems can be installed to bring total capacity to 99 zones.

A talkback module (PCMTBM) can also be added to the system to provide hands-free talkback capability. Only one talkback module is required regardless of the number of zones or satellite systems on the PCM2000 system.

Relay driver outputs are provided for each zone. Two C-form contact sets are also provided to control the activation of accessory equipment.

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## DTMF Programmable Features:

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| <ul style="list-style-type: none"><li>• Privacy Beep</li><li>• Pre-announce Tone</li><li>• Confirmation Tone</li><li>• Emergency Override Tone</li><li>• All-Call</li><li>• Dialing Timeout</li><li>• Trunk Disconnect</li></ul> | <ul style="list-style-type: none"><li>• 1 Amp BGM</li><li>• Default Timer</li><li>• VOX Timer</li><li>• Zone Groups</li><li>• Emergency/Shift Change</li></ul> | <ul style="list-style-type: none"><li>• Night Ring</li><li>• Code Call</li><li>• Clock Set</li><li>• Clock Sync.</li><li>• Time Trigger 1-8</li><li>• Reset Default</li><li>• Setup Tone</li></ul> |
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## Modules Required For Zone Paging Applications:

		Total Number of Zones in System										
		3	6	9	12	15	18	21	24	27	More Than 27 Zones	99 Zones
PCMTIM		← 1 Module Required For Each Total System →										
PCMCPU*		1			2			3			1 PCMCPU for every 9 Zones	11
PCMZPM		1	2	3	4	5	6	7	8	9	1 PCMZPM for every 3 Zones	33
PCMTBM		← 1 Module Required For Each Total System (optional module for talkback or time tone options) →										

\*Note: One PCMPS2 Power Supply (not included) is required for each PCMCPU Module.

## Architect & Engineer Specifications

The zone paging system shall be the Bogen PCM2000 Zone Paging System, designed for direct connection to loop start and ground start trunks, to PBX or KEY paging ports which supply DTMF capability, and to analog T/R lines. The unit shall allow total system amplifier power of up to 250W.

The unit shall include flanges with keyhole slots for wall-mounted installation. Operation shall require a 12V (1.5A) DC power supply. A suitable power supply shall be provided (PCMPS2 power supply).

The system shall consist of the appropriate modules as specified and shall be registered under Part 68 of FCC rules.

### Modules

All modules shall be designed for wall-mount installation. All modules shall be equipped with a ribbon cable and connector and power cable with connector to permit them to be interconnected to each other. The face plates of each module shall be finished in black, with each control/connector clearly labeled in white. Each face plate shall have knockouts to facilitate cable and wire dressing. All connections shall be made using a small regular screwdriver or common jacks (RJ11 or RCA).

The following modules shall be available:

**PCMTIM** - Telephone Interface Module. One PCMTIM module shall be provided per PCM2000 system. The module shall provide for telephone interface selection via slide switches. It shall include a volume control for tone and BGM source, and RJ11 jacks for Override, Page Port/Trunk, and 90V Night Ring/Station inputs. A connector block, using screw terminal connections, shall be provided for BGM source, and two (2) C-form relay contact sets. A power-on LED indicator shall be provided to indicate power-applied status.

**PCMCPU** - Central Processing Module. One PCMCPU module shall be provided for the first nine (9) zones in the system. One PCMCPU module shall be needed for each satellite system.

The module shall provide for satellite system identification via built-in DIP switches. It shall include a locking program/run selector switch (with program LED), satellite data link RCA jack, and 12V DC power source jack. A connector block, using screw terminal connections, shall be provided for paging amplification connection, low-power and high-power BGM connections, emergency/shift change signal activation, AUX contact closure, and 12V DC power source connection. A power-on LED indicator shall be provided to indicate power-applied status.

**PCMZPM** - Zone Paging Module. One PCMZPM module shall be provided for each three (3) paging zones in the system. Up to three (3) PCMZPM modules may be connected to the master system, for a total zone capacity of 9 zones. Up to three (3) additional PCMZPM modules may be connected with a PCM-CPU module to form a satellite system to further increase zone capacity.

The PCMZPM module shall provide built-in DIP switches to set talkback on/off for each zone. It shall include a power-on LED, low-power background music volume control, background music out/in jumper field, local BGM selection jumpers, and high-power/low-power operation selector switch. A connector block, using screw terminal connections, shall be included to connect local background music, zone wiring, and relay driver outputs.

**PCMTBM** - Talkback Module. One PCMTBM talkback module shall be provided per system (including any satellite systems). The module shall provide for talkback operation in centrally-amplified zones (only). The module shall provide a power-on LED, talkback volume control, and talkback switching delay control. A connector block, using screw terminal connectors shall be included for paging amplification wiring.

## Architect & Engineer Specifications, cont.

The PCM Zone Paging System shall supply the following features and functions:

1. Simultaneous high-power and low-power paging. Total system high-power audio capacity of 250W.
2. A minimum of three paging zones and maximum zone capacity of ninety-nine (99) paging zones. The system shall be expandable in groups of three zones.
3. Up to 32 field-programmable paging zone groups, each consisting of 1 to 99 zones.
4. Field-programmable Night Ringer Zone Group, consisting of from 1 to 99 zones. This feature shall be activated by high-voltage ring signal or contact closure.
5. Field-programmable Emergency/Shift Change Zone Group, consisting of from 1 to 99 zones. This feature shall require activation by a customer-supplied contact closure, and sound a user-selected tone. The user shall have the choice of no tone (allowing use of outside tone source), tone burst (1-7 sec. duration, user-selected), single chime, or quad beep.
6. Emergency All-Facility Page Override. This feature shall be activated through a loop start trunk or through contact closure and dry audio input. It shall override the normal paging features of the system, sound a user-defeatable alert tone in all zones, and open an audio channel for a voice page.
7. Built-in, talkback amplification of central-amplified zones. This feature shall require the addition of the PCMTBM module.
8. Background music assigned per zone and local background music sourcing capability.
9. Field programmable Code Call Zone Group, consisting of from 1 to 99 zones. The user shall have the choice of pattern or echo code calls, and repeat functions.
10. Eight daily time-triggered signaling events. This feature requires the use of the PCMTBM module.
11. Two (2) C-form relay contact sets for activating external equipment. The contacts shall change state when the unit is activated.
12. Capability of providing uninterrupted background music to all zones not being paged.
13. Non-volatile RAM shall be included to allow for retention of programming information during power interruptions
14. Screwdriver-adjustable volume control of confirmation, pre-announce, error, and shift change/emergency-call tones.

## Mounting Accessories

### RPK84 Rack Mount Kit

- Holds up to 6 Modules in one assembly
- Fits in a standard rack, 4 rack spaces high



### RPK88 Rack Mount Kit

- Flush mounts up to 10 Modules in two assemblies
- Fits in a standard rack, 6 rack spaces high
- Includes wiring saddles and knockouts for wire management

