PM SERIES PAGING MICROPHONES

Cloud
Clearly better sound

Models PM4, PM8, PM12 & PM16

General Description

The Cloud PM range of Digital Paging Microphones is a development of the successful CDPM Series. The microphones are designed for general purpose multi-zone applications and have a powerful range of options that make them suitable for almost any situation. They are easy to install and configure, and provide the user with an elegant and simple-to-use unit. The microphones are suitable for use as free-standing units, or may be wall-mounted for security and/or space considerations.

Four models of the PM are available: the PM4, PM8, PM12 and PM16. The models differ only in the number of zone select buttons on the front panel (4, 8, 12 or 16 respectively), and consequently in the maximum of zones that can be supported.

PM paging microphones allow for paging to individual, multiple or all zones; zone groups may also be defined for single-button selection of several zones. A Press To Talk button enables the integral gooseneck microphone. A pre-announcement chime may be enabled if required; an internal chime sounder is provided for local confirmation. A further configuration option allows for paged zones to be cancelled after an announcement, or remain selected.

PM microphones can be integrated into audio systems in two ways – via the Cloud Digital Paging Interface, enabling simple connection to recent Cloud products via CAT-5 cable – or via an analogue interface to any Cloud (or third-party) audio system equipped with industry-standard short-to-ground access connectors.

The Digital Paging Interface may be used to interconnect up to 32 PM Series microphones, to permit paging from more than one location, with a total allowable cable run of up to 1 km. Different models of PM may be intermixed on a single network. Overall network connection to the audio system may be via either interface method. Connection to recent Cloud products - such as the DCM1 – will be via the Digital Paging Interface. PM microphones are also directly compatible with the earlier Cloud CDPM range. PM and CDPM microphones may be freely intermixed on the Digital Paging Interface.

Because PM microphones are also equipped with an "analogue" short-to-ground access port, they may be interfaced with equal ease to other current Cloud products, such as the Z4II and Z8II Venue Mixers, the CX163 and CX263 Mixers and the 36/50 and 46/50 Integrated Mixer Amplifiers. Other, older Cloud products may also be compatible; please contact Cloud's Technical Department for advice or visit the Cloud website (www.cloud.co.uk).

The PM Series provide a configurable two-layer priority system to resolve the possibility of conflicting announcements when more than one paging microphone is installed on a network. In addition, a Busy LED illuminates if an announcement is made from anywhere in the system. Further configuration options include the ability to disable selection of one or more zones from individual microphones, and a "zone offset" facility whereby a microphone with fewer zone buttons (i.e., a PM4) can address higher-numbered zones.

NOTE: PM Series microphones are also available with an integral digital message store capable of holding multiple pre-recorded messages. Please see separate datasheet on the Cloud PM-SA Series Paging Microphones for further information.
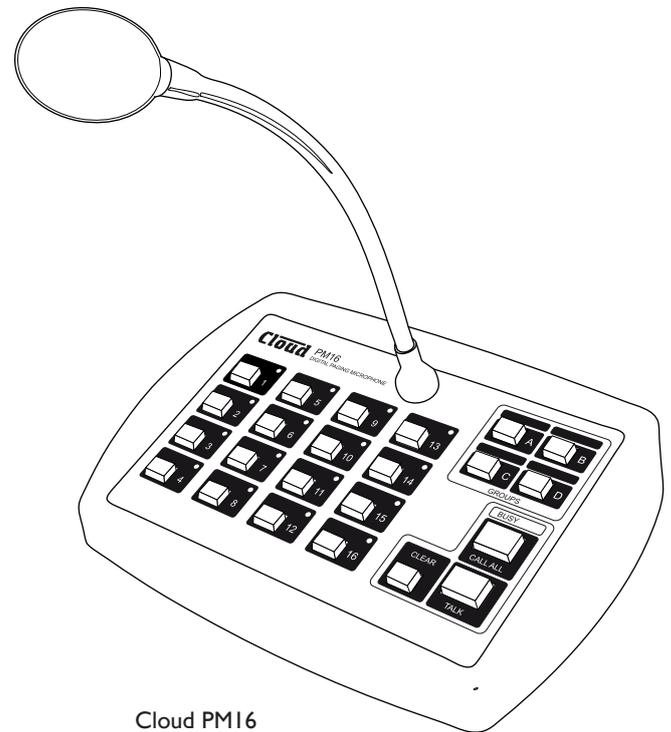
Cloud PM16

- Multiple-zone paging microphone
- High quality electret condenser mic mounted on 300 mm gooseneck – windshield included. (Alternative 140 mm gooseneck also available)
- Individual and multiple zone selection
- User-definable or fixed zone groups with dedicated group selection buttons
- Group lock (internal jumper) prevents alteration of group definitions
- LED confirmation of all zone selections
- Legend area on panel for zone labelling
- 'TALK' and 'CALL ALL' buttons
- Adjustable mic level
- Choice of four pre-announcement chimes, with internal sounder and adjustable level
- 'BUSY' LED
- Configurable two-layer announcement priority system
- Auto zone reset after announcement (installer-selectable)
- Installer-selectable Zone disable function
- Zone offset function – permits PM4/8/12 units to address any consecutive subset of zones
- Cloud Digital Paging Interface (via CAT-5)
- Analogue interface with short-to-ground contacts
- Compatible with Cloud DCM1 Digitally Controlled Mixer (via Digital Paging Interface)
- Up to 32 PM units of any type can be daisy-chained over 1 km of CAT-5
- Compatible with Cloud Z4II, Z8II, CX163 and CX263 Zone Mixers, and 36/50 & 46/50 Multi-zone Mixer Amplifiers (via analogue interface)
- Compatible with third-party equipment equipped with short-to-ground access connectors
- No internal mains - powered by external PSU or via Digital Paging Interface

All Cloud products are exclusively designed in the UK.
Every Cloud product is exhaustively tested for electronic performance and sonic perfection in Sheffield, England.

System Example

Mixer
(with Digital Paging Interface)

IN   THRU   GAIN (dB)
-10 +10

IN
Cat 5   OUT   IN
Cat 5   OUT   IN
Cat 5   OUT   Cat 5

Mixer
(with Analogue Paging Interface)

MIC INPUT   PAGING ACCESS
GAIN (dB) LF HF
50
10
1 2 3   0V Z1 Z2 Z3 Z4 Z5 Z6 Z7 Z8 +12V

IN
Cat 5   OUT   IN
Cat 5   OUT   IN
Cat 5   OUT

AUDIO OUT

ZONE ACCESS CONTROL
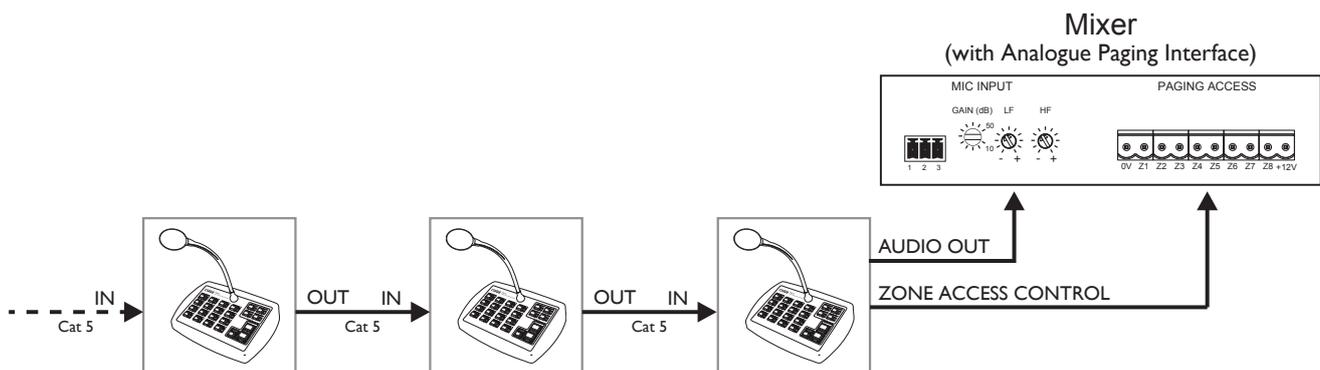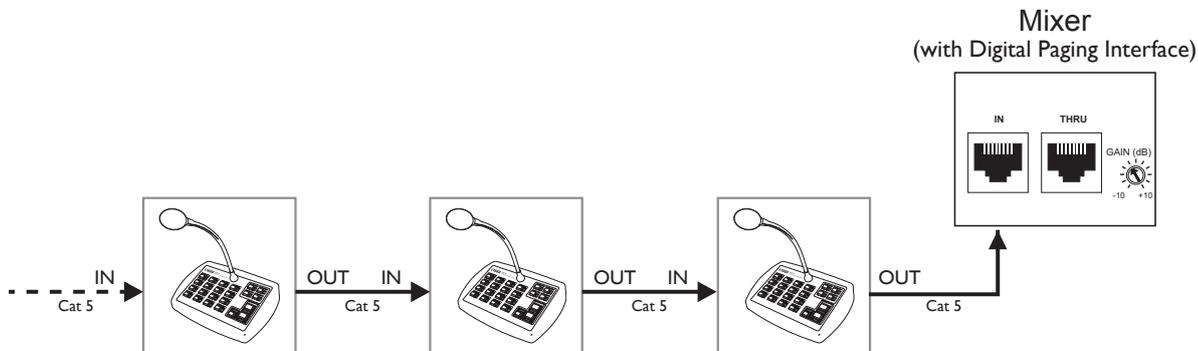
Up to 32 PM Series microphones may be interconnected in a simple "daisy-chain" manner via the Digital Paging Interface, using standard CAT-5 cable and RJ45 connectors. Microphones may be located anywhere in the system, provided that the total cable length does not exceed 1 km.

The "last" microphone on the network may be connected to the host device (zoner, mixer, mixer-amplifier, etc.) in two ways, depending on its type. The upper diagram shows a host device equipped with the Digital Paging Interface; in this case, the connection may be made with another ordinary CAT-5 cable.

The lower diagram shows connection to the host being made via the analogue interface, comprising the audio signal from the microphone itself, and zone selection commands made by short-to-ground contacts. By using the PM's simple analogue connection, a single unit can interface with almost any host equipped for paging from Cloud or other manufacturer. Up to 31 further microphones can then expand the network using CAT-5 cable.

Technical Specifications

Microphone	Capsule Type	Electret Condenser
	Polar Pattern	Cardioid
	Sensitivity	68 dB ±3 dB (0 dB = 1 V/μbar @ 1 kHz)
	Frequency response	80 Hz to 16 kHz
Number of Zones	PM4	4
	PM4	8
	PM4	12
	PM4	16
Chime	Number of Chimes	4 (user-selectable), with Internal Speaker
Interfaces	Digital	Cloud Digital Paging Interface (RJ45)
	Analogue	1) Zone Access Output (Short-to-Ground); 2) Audio output (balanced)
Power Input	Via digital interface	Via RJ45 Digital Paging Interface connector
	Via analogue interface	Via internal screw-terminal access port connector
	Local supply	9 - 17 VAC or 12 - 24 VDC, via rear 2.1 mm coaxial connector
Current Consumption	PM4	55 mA (idle mode), 72 mA (peak)
	PM8	61 mA (idle mode), 83 mA (peak)
	PM12	67 mA (idle mode), 95 mA (peak)
	PM16	73 mA (idle mode), 107 mA (peak)
Dimensions	Base unit	245 wide x 65 high (less gooseneck mic) x 170 deep (mm) 9.65" wide x 2.56" high (less gooseneck mic) x 6.7" deep
	Gooseneck length	300 mm (standard); 140 mm (alternative Part No. MI100166)
	Shipping	250 wide x 200 high x 240 deep (mm) 10" wide x 8" high x 9" deep
Weight		1.0 kg / 2.2 lbs (net); 1.3 kg / 2.9 lbs (gross)

Graphs

PM4-16 Compressor
characteristics.
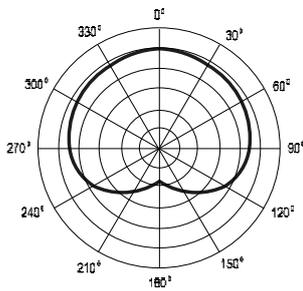
Polar Response
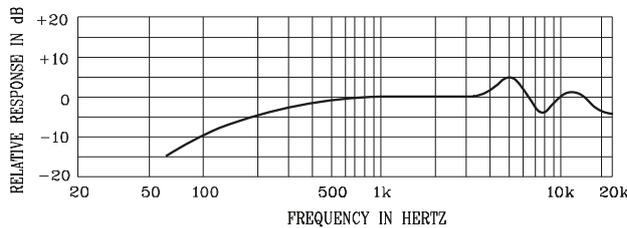
Capsule Frequency Response
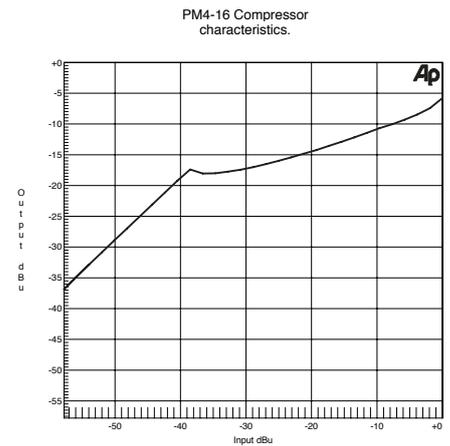
Compressor Characteristics

Architect's and Engineer's Specification

The paging microphone shall be capable of paging up to 16 zones either individually, in user-definable groups, or all zones simultaneously. The microphone shall be available in versions with 4, 8, 12 or 16 zone paging buttons. It shall be possible to interconnect up to 32 similar paging microphones with full operational transparency, via standard CAT-5 cabling.

The microphone shall become active when a non-latching 'TALK' button is pressed. Zone selection shall be by electronically latching buttons, with selection confirmed by LEDs. A non-latching 'CALL ALL' button shall also be provided, selecting paging to all supported zones. Four 'GROUP' buttons shall also be provided, and it will be possible for the user to define a group of zones for each. A 'CLEAR' button will be provided to cancel incorrect zone selections. There shall be a legend area adjacent to each button for user's zone identification.

The microphone itself shall be mounted on a gooseneck and be non-removable. Two lengths of gooseneck shall be available. The microphone level shall be adjustable by an internal control of the preset type.

The paging microphone will interface directly to compatible mixers or other host devices via a digital interface carrying audio, zone selection and power on a single CAT-5 cable. It will also be equipped with an analogue interface consisting of an audio output and a separate short-to-ground control port, permitting its use with any other host devices equipped with this type of access. The analogue zone selection interface shall be able to sense when any paralleled system is active.

The microphone will be capable of being powered via either type of interface, or from a local external PSU. The unit will operate from both DC (12-24 V) and AC (9-17 V) supplies.

It shall be possible to set various configuration options which will not be resettable by the user and which will be reinstated after a power interruption: i) setting zone selection to either remain in place post-announcement, or to self-cancel; ii) offsetting zone numbering, allowing a microphone to address a different (consecutively-numbered) set of zones; iii) locking group definitions so they cannot be altered by the operator; iv) assigning two levels of priority, whereby 'high' priority will take precedence when messages conflict when multiple microphones are in use; v) enabling one of four pre-set internally-generated pre-announcement chimes to be selected and setting the chime level; vi) disabling the selection of one or more zones.

The paging microphone shall be built in a compact housing with a non-slip base for desktop use; the unit shall also be suitable for wall-mounting.

The paging microphone shall be the Cloud PM Series; Model PM4 (4 zones), PM8 (8 zones), PM12 (12 zones) or PM16 (16 zones).