

# CLOUD PAGING MICROPHONES WITH BUILT-IN SPOT ANNOUNCER

Models PM4-SA & PM8-SA

## General Description

The Cloud PM-SA range of Digital Paging Microphones have been developed from the recently-introduced PM range, which were themselves designed to improve on the well-known CDPM Series. As well as being a simple-to-use and elegant paging mic, the PM-SA models incorporate a digital sound store for pre-recorded messages. These can be triggered either manually, or via external contacts from third-party equipment, such as PIR sensors, timing systems, or similar. The PM-SA models have a powerful range of options that make them suitable for almost any situation, yet are easy to install and configure.

Two PM-SA models are available:

- PM4-SA – paging and messaging to up to four zones, with internal storage for four messages and chimes
- PM8-SA – paging and messaging to up to eight zones, with internal storage for eight messages and chimes

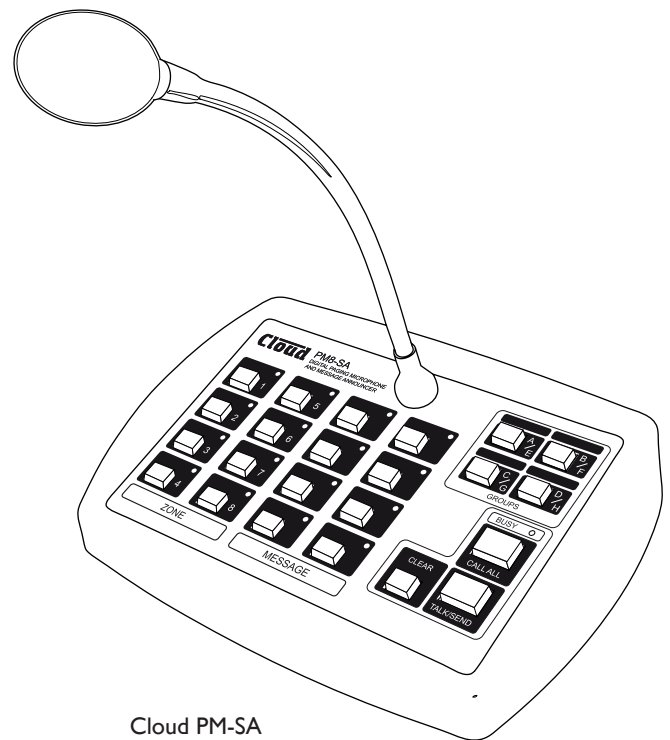
Spot Announcer messages are stored on a standard SD memory card, and can be in the form of either WMA or MP3 files, at most common sample and bit rates. Pre-announcement chimes are also stored on the card in the same formats, and the unit may be configured to precede paged and pre-recorded announcements with different chimes.

An important feature of the PM-SA is its ability to store specific messages (and chimes, if wished) as part of the PM's zone group feature. A zone group allows multiple zones to be selected for paging or messaging with a single key press. When a message is programmed as part of a group definition, the message may be triggered by an external command, when it will be automatically broadcast in all the zones forming that group. This opens up many possibilities for automatic messaging, such as connecting the external trigger inputs to third-party timers to automatically repeat messages at fixed time intervals, or to PIR sensors for security applications.

The PM-SA is designed to interface directly with recent Cloud products - such as the DCM-1 - via the Cloud Digital Paging Interface, which uses standard CAT-5 cable and RJ45 connectors. It is also provided with an analogue interface, permitting it to be used with any other audio system equipped with 'short-to-ground' paging access for selecting the zone(s) to be paged. This includes the following current\* Cloud products:

- Z4II and Z8II Venue Mixers
- CX163 and CX263 Mixers
- 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 [www.cloud.co.uk](http://www.cloud.co.uk).



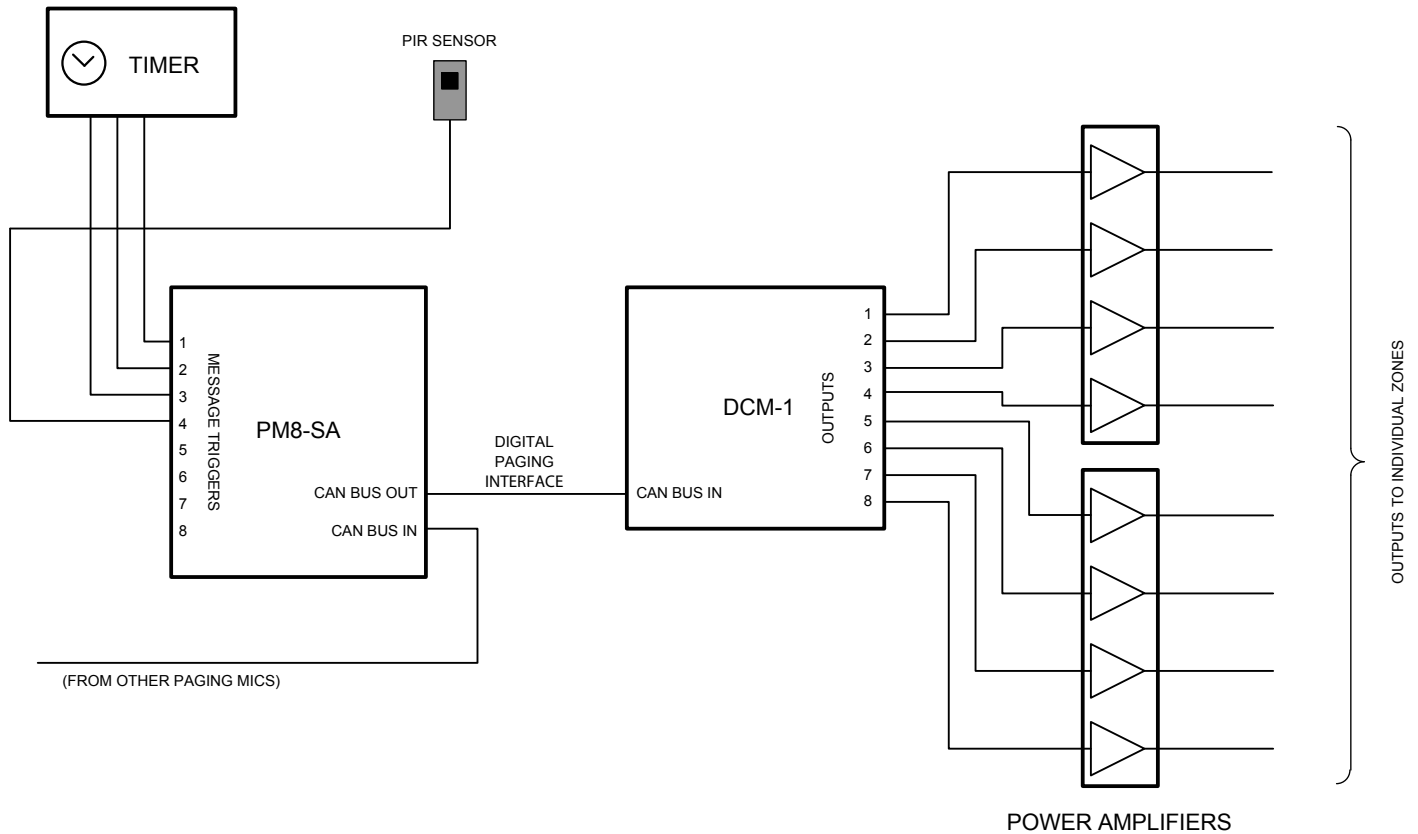
Cloud PM-SA

The Digital Paging Interface may also be used to interconnect up to 32 PMs and/or PM-SAs to permit paging from more than one location, with a total allowable cable run of up to 1 km. Different models of PM and/or PM-SA may be intermixed on a single network. Overall network connection to the audio system may be via either interface method.

The PM-SA is directly compatible with the earlier Cloud CDPM range. PM, PM-SA and CDPM microphones may be freely intermixed on the Digital Paging Interface. It is also possible to configure a PM-SA microphone to address only a subset of the available zones.

- Integral high quality gooseneck microphone
- Storage of up to eight message files (of any length) on internal SD card
- Individual and multiple zone selection for both paging and messages
- External NC/NO message triggering
- Up to 8 definable zone groups with group selection
- Assignment of specific messages and/or chimes to zone groups
- 'TALK/SEND' and 'CALL ALL' buttons
- SD card holds up to 8 chime sound files
- Internal chime sounder
- Zone Disable function
- 'BUSY' LED to indicate unit or network activity
- Configurable two-layer paging priority system
- Optional automatic zone reset after paging/messaging
- Suitable for free-standing or wall mounted operation

## System Example



The example shows a PM8-SA connected to a DCM-1 Digitally Controlled Mixer via the Digital Paging Interface. The interface is a single CAT-5 cable which carries power, audio and zone selection commands. Other PM paging microphones (elsewhere in the building) may be daisy-chained to the PM8-SA with further single runs of CAT-5, and all microphones can access all the DCM-1's zones, if wished.

Messages on the PM8-SA's sound card may either be selected manually, and directed to any zone(s) required, or triggered by external devices. In the example shown, four of the external message triggers are used; three to a third-party relay timer and a fourth to a PIR sensor. Depending on how the messages are assigned to zone groups, the timer and paging microphone could be set up to trigger:

- three different messages to three different zones,
- the same message to three zones, but at different times,
- or, three different messages to the same zone or zones.

A fourth message trigger is wired to a PIR sensor; this could be used for security purposes, automatically triggering a message in a zone to warn an intruder that they were being recorded on CCTV, for example.

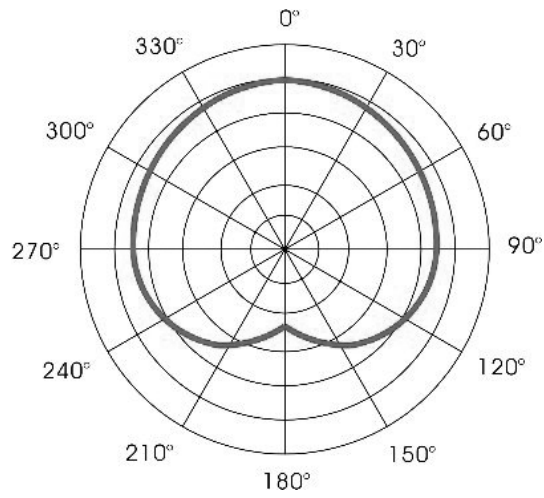
## Technical Specifications

		PM4-SA, PM8-SA
<b>Microphone</b>	Capsule Type	Condenser
	Polar Pattern	Cardioid
	Gooseneck length	300 mm (standard); 140 mm (alternative Part No. M1100166)
<b>Zones</b>	Number of Zones	4 or 8
<b>Chime</b>	Number of Chimes	4 or 8 (derived from SD card); internal speaker
<b>Interface</b>	Digital	Cloud Digital Paging Interface (RJ45)
	Analogue	Zone Access Output (Short to Ground), Audio Output
<b>Messages</b>	Number of messages	4 or 8; internal speaker
	Card format	SD/SDHC MiniSD/SDHC* MicroSD/SDHC*
	File system	FAT16 or FAT32
	File types	MP3 or WMA
<b>Power input</b>	Voltage range	9 - 17VAC, 12 - 24VDC
	Current consumption	120 mA (PM4-SA, idle mode) 220 mA (PM4-SA, message mode) 150 mA (PM8-SA, idle mode) 250 mA (PM8-SA, message mode)
<b>Dimensions</b>		245 wide x 65 high (less gooseneck mic) x 170 deep (mm)
<b>Net Weight</b>		1.2 kg

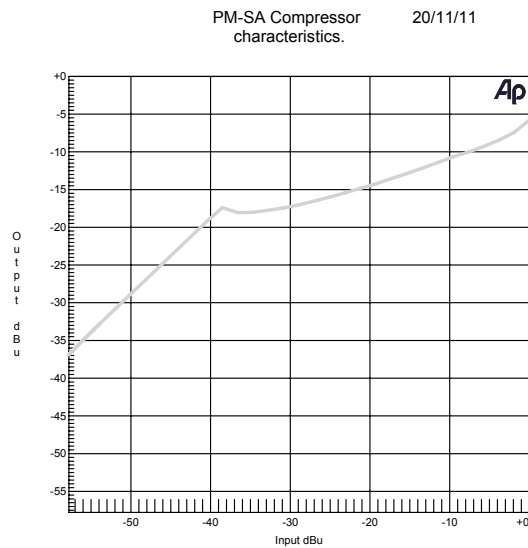
\* Mini and Micro cards require a suitable adaptor.

Graphs

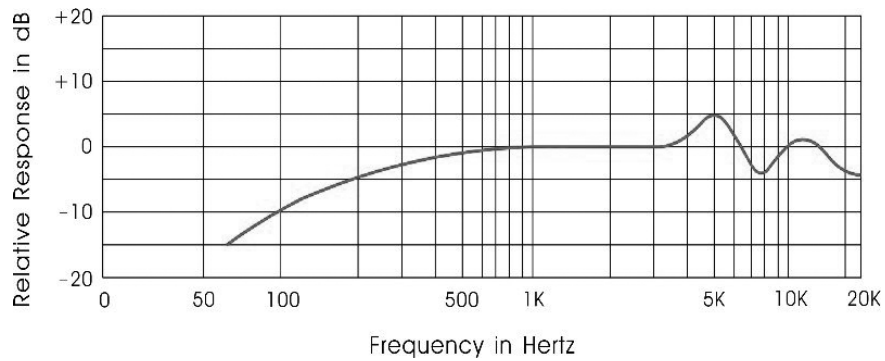
Polar Response



Compressor Characteristics



Capsule Frequency Response



## Architect's and Engineer's Specification

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

The microphone shall become active when a non-latching 'TALK/SEND' button is pressed. Zone selection shall be by electronically latching buttons, with selection confirmed by an LED. A non-latching 'CALL ALL' button shall also be provided, selecting paging to all supported zones. A 'CLEAR' button will be provided to cancel incorrect zone selections. There shall be four 'GROUP' buttons allowing selection of multiple zones, and it shall be possible to program each with any combination of zones. There shall be four zone groups on the 4-zone version and eight on the 8-zone version, the second set of four being selected by a double-press. Each button shall have an adjacent legend area for user's zone identification. It shall be possible to adjust the paging audio level by an internal adjustment.

The microphone shall have an internal message facility able to replay up to eight digital audio files from a removable memory device. Compatibility with WMA and MP3 format files at a range of sampling rates from 8 kHz to 48 kHz shall be provided as a minimum. There shall be a dedicated set of buttons, with LED indication, to select each sound file from the front panel. The selected message will be routed to the same audio output as the paging microphone when the 'TALK/SEND' button is pressed. It shall be possible to adjust the message audio level by an internal adjustment.

It shall be possible to include a message as part of a zone group definition. A set of external trigger inputs shall be provided, which when active, cause the programmed message to be routed to the zones comprising the group it has been programmed to. It shall be possible to configure the trigger inputs as either normally-open (NO) or normally-closed (NC).

It shall be possible to configure the microphone to output a pre-announcement chime when the 'TALK/SEND' button is pressed. The chime shall be derived from a separate set of audio files on the memory device. It shall be possible to precede pre-recorded

messages with either the same chime or an alternative chime. The memory card shall be able to store up to eight chime files, and it shall be possible to assign any one to each zone group, whether or not a message is assigned to it as well. It shall be possible to adjust the chime level by an internal adjustment.

The microphone itself shall be mounted on a gooseneck and be non-removable.

The paging microphone will interface directly to compatible mixers 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 mixers 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 (12-24V) and AC (9-17V) 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 (but 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) disabling one or more zone select buttons so that the user does not have paging access to certain zones.

The paging microphone shall be built in a compact steel housing with a non-slip base for desktop use. It shall also be possible to mount the microphone on a wall, and an alternative, shorter gooseneck microphone shall be available as an option to facilitate this.

The paging microphone shall be the Cloud PM-SA Series; Model PM4-SA (4 zones, 4 messages, 4 chimes) or the PM8-SA (8 zones, 8 messages, 8 chimes).