

DM-1

Installation & User Guide v 4.0

Cloud Electronics Limited

140 Staniforth Road, Sheffield, S9 3HF England

Tel +44 (0) 114 244 7051

Fax +44 (0) 114 242 5462

E-mail info@cloud.co.uk

Web site <http://www.cloud.co.uk>

DM-1

Installation & User Guide

Contents

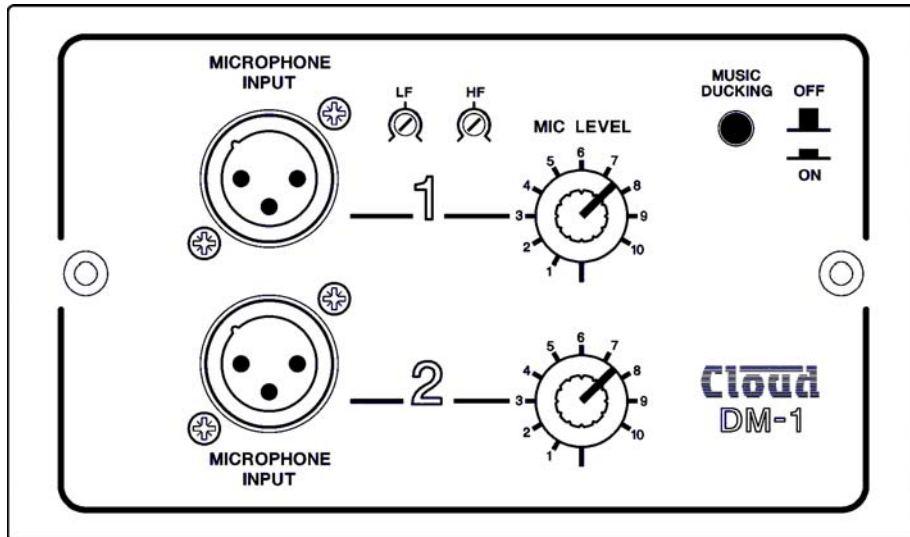
Section	Page
1 Safety Notes	2
2 General	2
3 DM-1A	2
4 Block Diagram	2
5 Installing a DM-1	3
5a Hardware and Wiring Requirements.....	3
5b Connecting a DM-1.....	3
5c Configuring a Z4 or Z8 to a DM-1	3
5d Configuring a 46/50 to a DM-1.....	4
5e Configuring an MPA-626 to a DM-1.....	4
6 Local Connections and Controls	4
6a Microphone Inputs	4
6b Microphone Equalisation	4
6c Microphone Level Control.....	4
6d Music Ducking	4
7 Installing Multiple DM-1's to a Facility Input	5
7a Connecting Two DM-1's to a Single Facility Input	5
7b Configuring a Z4 or Z8 to a DM-1	5
7c Configuring a 46/50 to a DM-1.....	5
7d Configuring an MPA-626 to a DM-1.....	5
8 Solving Problems: Earth Loops & Hum	6
9 Solving Problems: EMC Considerations	6

1 Safety Notes

The Cloud DM-1 active remote input panel must be fitted by a technically qualified person. Do not tamper with any part of the equipment unless you are qualified to do so. Before working on any piece of Cloud equipment turn the power off and remove the mains supply cable from the rear of the unit

2 General

The Cloud DM-1 is an active remote input panel that has been designed for use in conjunction with the Z4 or Z8 zone mixers as well as the MPA-626 mixer amplifier and 46/50 integrated mixer amplifier. With facilities for two balanced microphones the DM-1 further increases the versatility of these products.

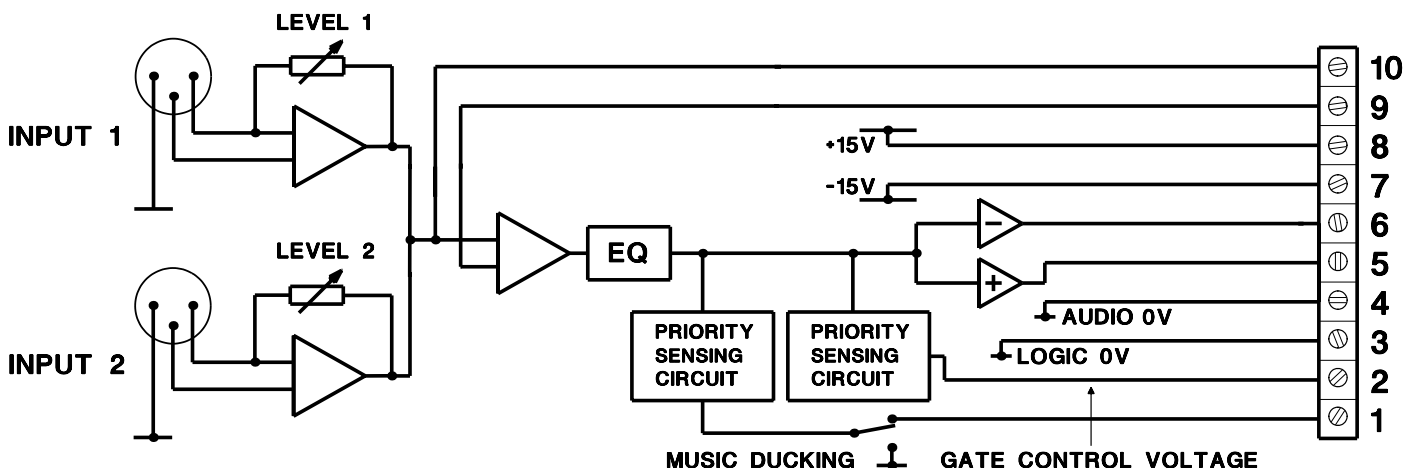


The DM-1 can be used in any application where local connection and control of two microphones is required. The prime application is venues that may require the connection of extra microphones to the house system at any time for speeches, announcements or conferencing etc. A tamperproof EQ common to both microphone inputs is also provided to aid the installer, while the user has access to the separate level controls for each microphone signal and the music ducking facility provides attenuation the background music when a signal is detected within the DM-1.

3 DM-1A

The DM-1A is available for the American market. It has identical operation to the DM-1 but has been designed to fit a 1 1/2" deep US three-gang box. The front panel dimensions of the DM-1A are 4 1/2" x 6 3/8".

4 Block Diagram



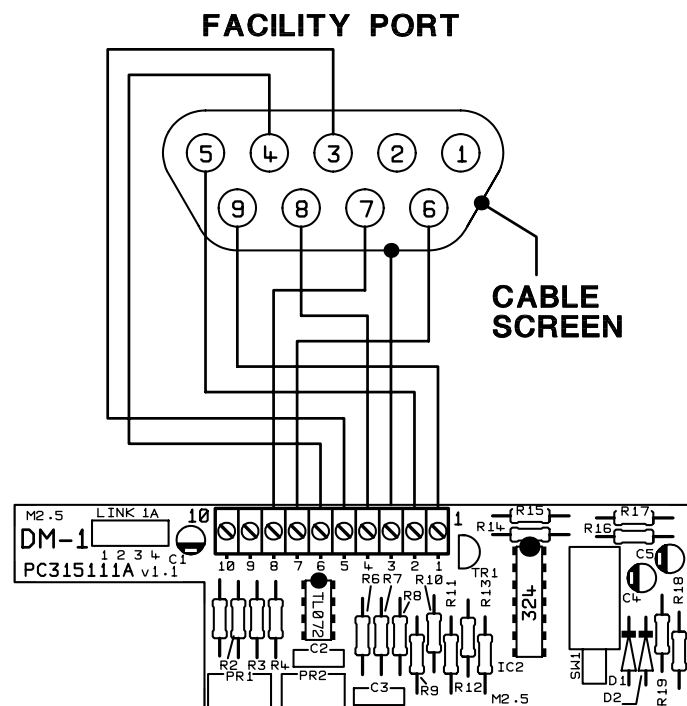
5 Installing a DM-1

5a Hardware and Wiring Requirements

The Cloud DM-1 is the same physical size as a double UK electrical socket (13A Type) and can be mounted in the recessed back box provided or be surface mounted in a standard 35mm deep housing. The DM-1 should be connected to the facility input of the host mixer or amplifier using 7-Core cable with an overall screen. The DM-1 terminations are conventional screw terminals while the facility input on the host unit is a 9-Pin sub-D type connector (sub D-Type connector is supplied with the unit).

It is advised that you are vigilant when wiring the DM-1 as wiring conventions between old and new host units do vary. Since the DM-1 derives its power from the host unit certain wiring errors can cause power supply problems, resulting in temporary shutdown of the host mixer. If a problem such as this is experienced, disconnect the facility connector and double check the wiring against the diagram. The mixer should be switched off for approximately 30 seconds after the initial failure to allow it to reset. Note that we recommend a cable length of no more than 100m (328ft).

5b Connecting a DM-1



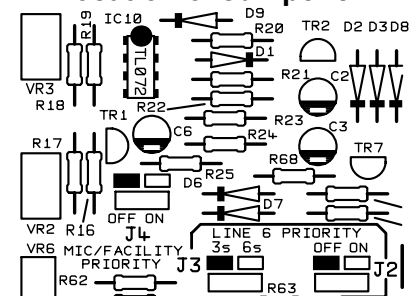
5c Configuring a Z4 or Z8 to a DM-1

If the Z4 or Z8 is in default configuration all mic signals will override LM-1 signals, to remove this priority set internal jumper 'J4' to the 'OFF' position.

When setting the jumper(s) please ensure that you:

- Remove the mains cable from the rear of the product before removing the top panel
- Only reassemble the unit using bolts/screws identical to the original parts

Location of Jumper J4

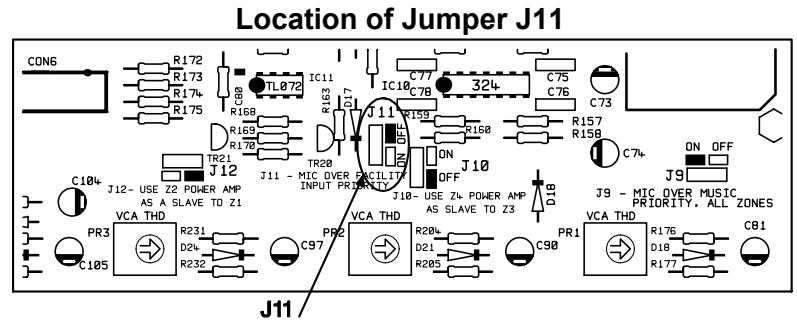


5d Configuring a 46/50 to an DM-1

If the 46/50 is in default configuration all mic signals will override LM-1 signals, to remove this priority set internal jumper 'J11' to the 'OFF' position.

When setting the jumper(s) please ensure that you:

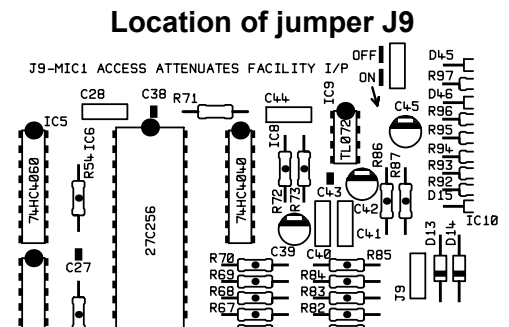
- Remove the mains cable from the rear of the product before removing the top panel.
- Only reassemble the unit using bolts/screws identical to the original parts.

**5e Configuring an MPA-626 to a DM-1**

If the MPA-626 is in default configuration LM-1 signals will be overridden when Mic 1 is accessed, to remove this priority set internal jumper 'J9' to the 'OFF' position.

When setting the jumper(s) please ensure that you:

- Remove the mains cable from the rear of the product before removing the top panel.
- Only reassemble the unit using bolts/screws identical to the original parts.

**6 Local Connections and Controls****6a Microphone Inputs**

Each of the balanced microphone inputs has a standard female XLR connector and the microphone amplifier is an electronically balanced transformerless design. The input impedance is greater than 2kΩ and suitable for microphones of approximately 200Ω-600Ω impedance range. The input cables should be wired as the table on the following page describes:

Microphone Input Wiring			
Mic Type	PIN 1	PIN 2	PIN3
Balanced	SCREEN	+Ve (IN PHASE)	-Ve
Unbalanced	SCREEN	+Ve	LINK TO PIN 1

6b Microphone Equalisation

Equalisation of the Treble ($\pm 10\text{dB}$ @ 5kHz) and Bass ($\pm 10\text{dB}$ @ 100Hz) common to both microphones is provided via preset controls. The characteristics of the equalisation are optimised for the tonal correction of speech signals allowing a natural sound with a high degree of intelligibility.

6c Microphone Level Control

The user is provided with a convenient level control for each microphone on the front panel of the DM-1 allowing the microphone to operate at a suitable level in any zone. The control gives access to a gain range of 0-60dB which allows operation with signals ranging from mic-level to line level. When fully anticlockwise the microphone will effectively be turned off.

6d Music Ducking

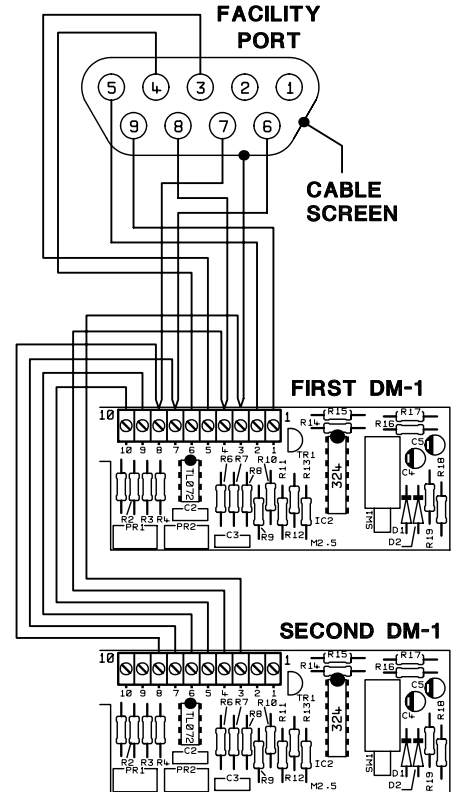
The user can select music ducking, by depressing the 'music ducking' switch. This introduces a 30dB reduction of the music whenever the DM-1 detects a microphone signal; both the attack and hold times are suitably swift.

7 Installing Multiple DM-1's to a Single Facility Input

It is possible to connect more than one DM-1 to a facility input. Two or more panels are connected together in a 'daisy-chain' format as shown to the right.

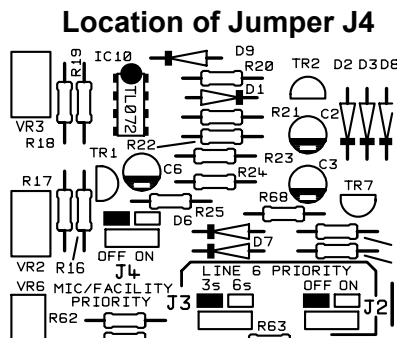
Note: The EQ on the DM-1 'closest' to the host mixer should be used as the master EQ, while all others should be left neutral.

Two DM-1's Wired to a Facility Input



7a Configuring a Z4 or Z8 to a DM-1

If the Z4 or Z8 is in default configuration all mic signals will override LM-1 signals, to remove this priority set internal jumper 'J4' to the 'OFF' position.

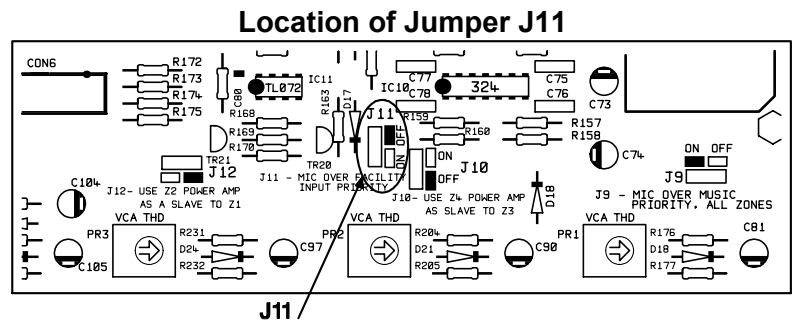


When setting the jumper(s) please ensure that you:

- Remove the mains cable from the rear of the product before removing the top panel.
- Only reassemble the unit using bolts/screws identical to the original parts.

7b Configuring a 46/50 to an DM-1

If the 46/50 is in default configuration all mic signals will override LM-1 signals, to remove this priority set internal jumper 'J11' to the 'OFF' position.



When setting the jumper(s) please ensure that you:

- Remove the mains cable from the rear of the product before removing the top panel.
- Only reassemble the unit using bolts/screws identical to the original parts.

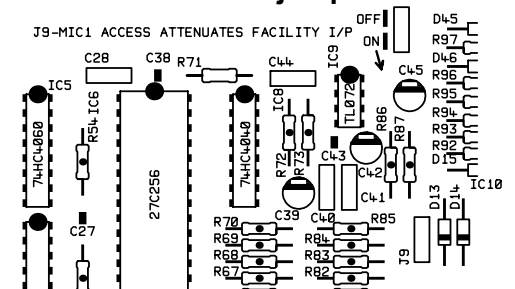
7c Configuring an MPA-626 to a DM-1

If the MPA-626 is in default configuration LM-1 signals will be overridden when Mic 1 is accessed, to remove this priority set internal jumper 'J9' to the 'OFF' position.

When setting the jumper(s) please ensure that you:

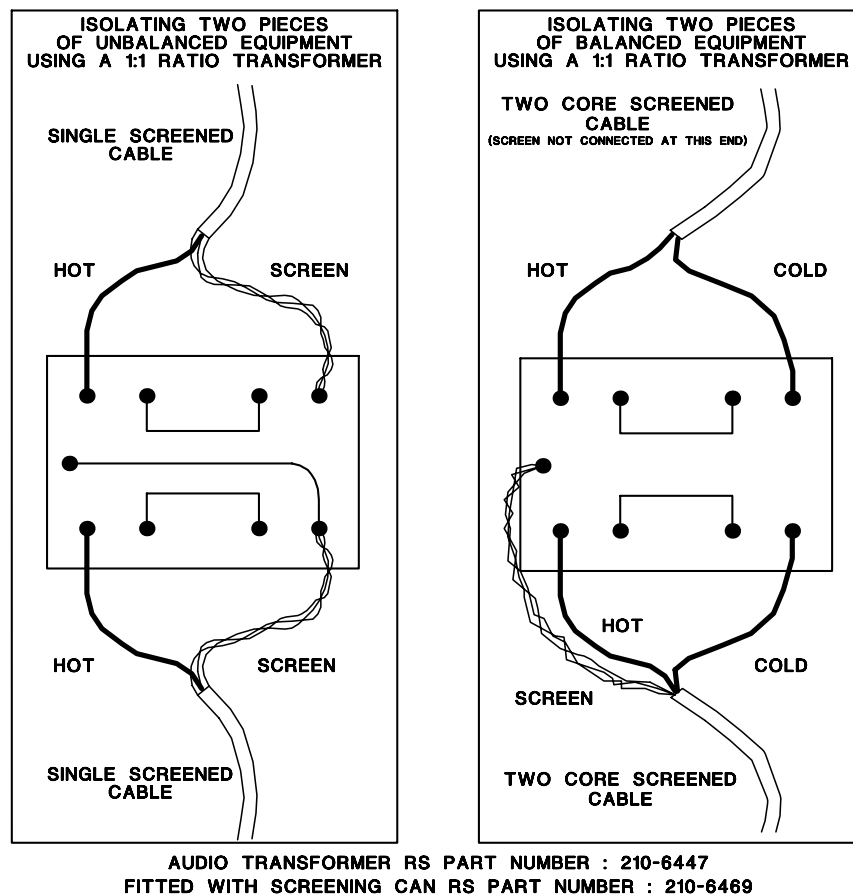
- Remove the mains cable from the rear of the product before removing the top panel.
- Only reassemble the unit using bolts/screws identical to the original parts.

Location of jumper J9



8 Solving Problems: Ground Loops & Hum

Trouble free performance can be expected if the microphone sources are derived from either a standard dynamic microphone or a double insulated mains powered unit (a unit with a two-core power cable that has no connection to mains earth). This will ensure that the main sound system does not have an additional power ground (earth) connection. Having more than one connection to the 'mains power earth' can give rise to problems known as 'earth loops', which cause a constant system 'hum'. The 'hum' is usually independent of any system control settings and will degrade system performance. If a signal source connected to the DM-1 has a three-core connection to the mains supply, and also has a safety earth connected to the metal housing, steps should be taken to isolate this earth termination from the sound system. The best way to isolate the earth termination is to use a high grade, line level audio transformer with no link between the primary and secondary windings. Diagrams can be seen on the following page.



9 Solving Problems: EMC Considerations

When fitted to the Cloud host unit, the DM-1 fully conforms to the relevant electromagnetic compatibility (EMC) standards and is technically well behaved; you should experience no operational problems under normal circumstances, and no special precautions need to be taken. If the unit is to be used within close proximity to potential sources of HF disturbance such as high power communications transmitters and radar stations, the performance of the mixer may be reduced. We suggest that in these circumstances the lead screens be connected to the plate of the remote panel via suitable means and the line input leads be kept as short as possible.

In the interest of continuing improvements Cloud Electronics Limited reserves the right to alter specifications without prior notice.

Cloud Electronics Limited 140 Staniforth Road Sheffield S9 3HF England
Telephone +44 (0) 114 244 7051 Fax +44 (0) 114 242 5462 E-mail: Info@cloud.co.uk