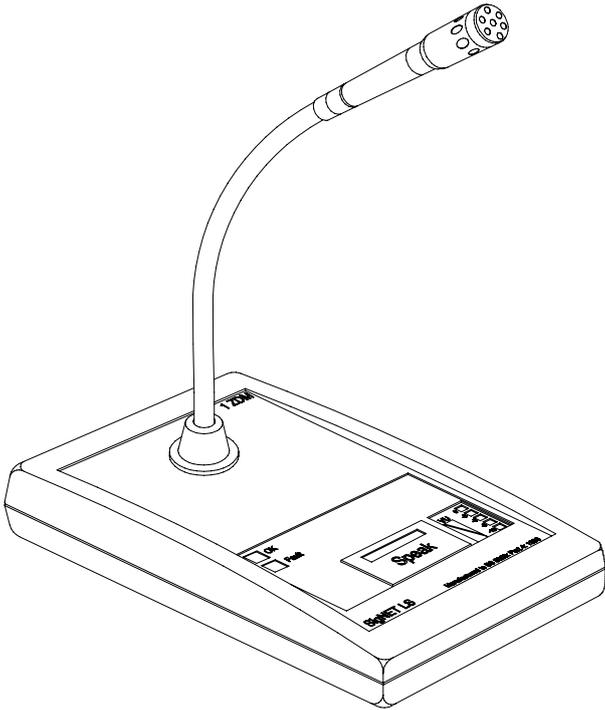


1ZDM Single zone/all-call desk microphone (VA406)

Operation Instruction Manual



Features

The 1ZDM has a compressor, noise gate, equalisation controls and optional chime (none, one, two or three note). The unit is fully monitored and complies with BS5839 part 8.

PTT operation is by pressing the SPEAK bar.

The unit is supplied in a sturdy plastic desk mounting case with a noise-cancelling gooseneck microphone.

Technical Description

Microphone signals are passed to a voltage controlled amplifier under control of a signal derived from rectifying the stage output signals, providing 3:1 compression ratio.

The output of this stage is fed to an LED output level display and a three-band equaliser (100 Hz, 1 KHz, 10 kHz).

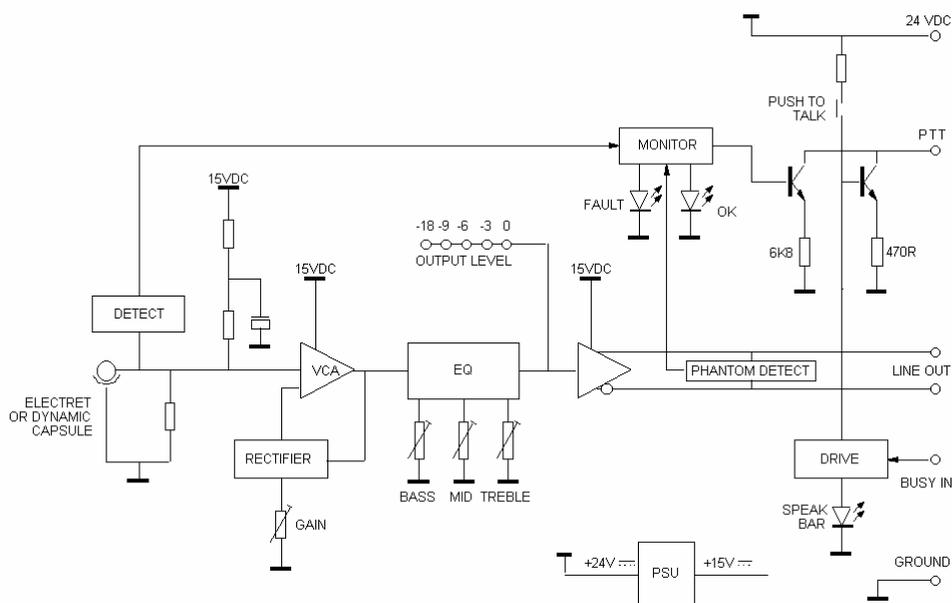
Power is supplied from the routing matrix at nominal 24 VDC; the phantom power on the audio + and audio - being used for fault detection only. A regulator circuit provides 15 VDC for powering the 1ZDM electronics.

To make an announcement, the operator should be 150 mm to 200 mm (6 to 8 inches) away from the microphone.

Front Panel

Name	Function / Description
1 OK	GREEN when power is present and no fault is detected.
2 FAULT	AMBER when a fault is detected.
3 SPEAK	GREEN when the system is ready, FLASHING GREEN when the system is busy.
4 VU	VU meter to show audio level. The VU meter is constantly active and lights in sync with audio peaks to indicate that the audio path to the input stage is intact. This occurs even when the SPEAK bar is not pressed.

Block Diagram



Installation

Unpacking On receipt, please inspect for any damage incurred in transit. If damage is found, notify your supplier and the transport company immediately. State date, nature of damage and whether any damage was noticed on the shipping container prior to unpacking. Please give the waybill number.

The unit should not be installed in areas;

- 1 with poor ventilation
- 2 exposed to direct sunlight
- 3 with high ambient temperature or adjacent to heat generating equipment
- 4 with high humidity or dust levels
- 5 susceptible to vibration

Operation

The 1ZDM can be used on SigNET LS, Integrity, LinX and AVAC voice alarm systems. It has a simple Push-to-Talk (PTT) control and can be set up at the system matrix for either local operation or global all-call operation.

The 1ZDM comprises a gooseneck microphone, speak bar, VU Meter and two status indicators, one for OK and one for fault.

The gooseneck microphone has a high quality electret noise-cancelling condenser capsule which gives good speech reproduction whilst rejecting background noise.

In order to page, the speak bar is pressed and if the system is able to accept paging, the speak bar will light solid green and paging may commence.

The speak bar LED indicator will flash if an equal or higher priority input to the system is in use on one of the selected zones or that access to one of the selected zones is excluded (Not AVAC).

If the zone selection is valid, the speak bar will illuminate steadily and the announcement can be made.

Fault monitoring

The microphone capsule is monitored for impedance and current absorption. Any deviation from the pre-set windows triggers the monitor circuit with the following results:

1. The OK LED is extinguished and the Fault LED illuminated.
2. The monitor circuit removes the 6K8 termination of the PTT. This puts an open circuit condition on the PTT line, signalling a fault to external control equipment.

The audio lines are monitored by the phantom detect circuit which notifies any loss of the 15 V phantom (due to an open circuit or short circuit line) to the monitor circuit. The monitor circuit causes an open circuit condition to be set on the PTT, signalling a fault to external control equipment.

If fault monitoring is not required, it can be disabled at the routing matrix.

DC power operation

The 1ZDM requires a nominal 24V DC supply which is provided through the Cat 5 cabling (see page 3).

Caution

This unit must never be directly connected to a 230V AC power supply.

Cable types and distances

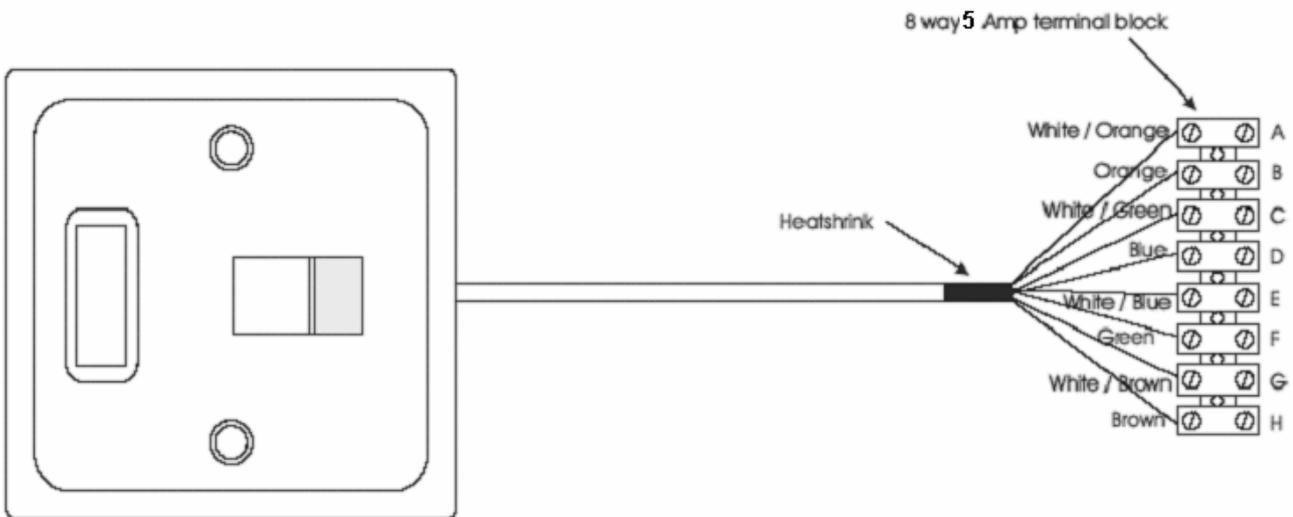
The 1ZDM can be used up to 500 metres from the matrix (SigNET LS, Integrity, LinX or AVAC) that it is connected to.

If it is used as an emergency microphone, we recommend either 3 off 2-core or 2 off 4-core 1.5 mm² standard or enhanced fire-resistant cables. Do not use a single cable as interference may occur between switching and audio signals.

If it is used as a paging microphone, we recommend Cat 5 UTP structured cabling. The design of this kind of cable ensures that interference will not occur between switching and audio signals provided that it is correctly connected.

Connections

The 1ZDM plug is supplied with a standard RJ45 plug that plugs in to the supplied CatCON Plate. The following connections are used:



CatCON Terminals are used as follows

A	=	+24 V
B	=	Ground
C	=	PTT
D	=	Busy
E	=	Unused
F	=	Unused
G	=	Audio + phase (Hot)
H	=	Audio - phase (Cold)

Connect in two-core cable as follows

A & B
C & D
G & H

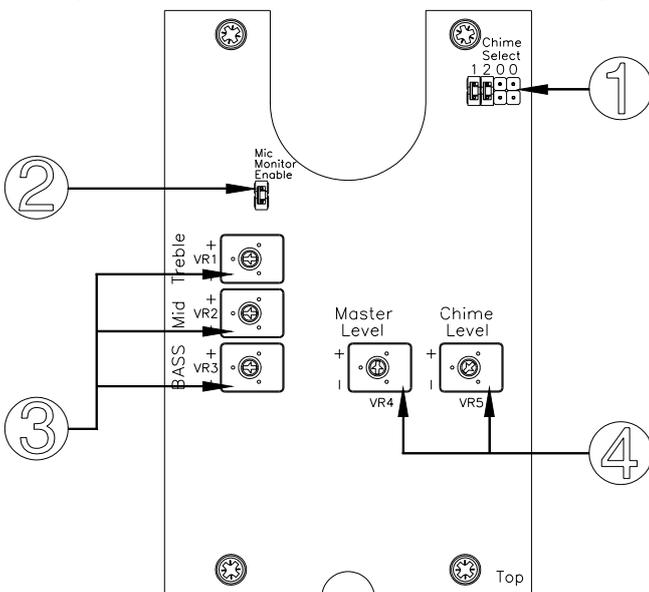
Connect in four-core cable as follows

A, B, G & H
C&D

Internal Adjustments

1 Chime select

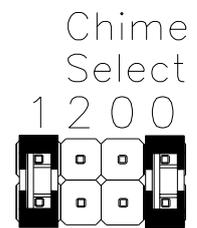
The 1ZDM contains a chime generator that can be set to 0, 1, 2 or 3 note chime dependant on the jumper settings, (this feature is not to be used with SigNET LS systems, as the chime is set with the SS2N).



No chime (default)



1 note chime



2 note chime



3 note chime



2 Mic monitoring

With the header fitted the microphone capsule is monitored for faults. This is the default setting and should **not** be removed for life safety applications.

Removing the header disables mic monitoring and subsequent fault indication on front panel.

3 EQ controls

Bass, Mid and Treble controls are provided. Each provides ± 12 dB of attenuation. Turn fully clockwise for max.

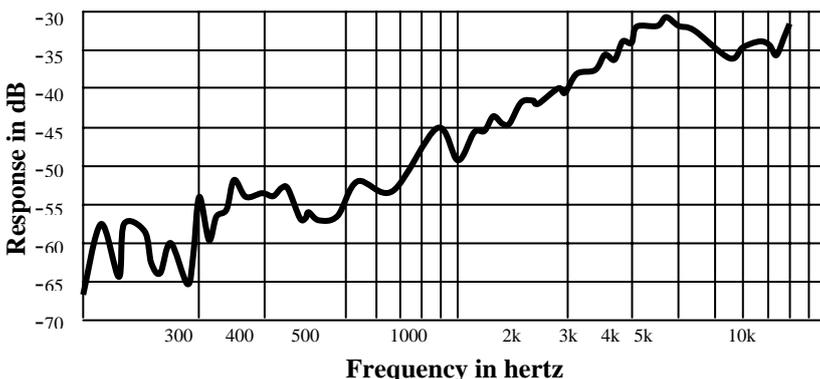
4 Master and Chime levels

Separate audio and chime level controls are provided. Turn fully clockwise for max.

Specification

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE

Mic capsule	Cardioid electret	Power Consumption	<100 mA
Capsule current drain	<400 μ A @ 3 V Vcc	Compression ratio	3:1
Max input SPL	115 dB	Noise gate threshold	-30 dB
Sensitivity	Typically -67 dB <i>re 1 V/μBAR $\pm 4/-1$ dB (Free field 0.5 m)</i>	Master and Chime levels	$-\infty$ to +4 dB
Capsule impedance	Typically 1.6 k Ω +/- 30% @ 1 kHz	Colour	Black
S/N ratio	38 dBA or greater @ 1 kHz near field	Connector type	RJ45
Temperature range	-10°C to +50°C	Weight (grams)	520
Max relative humidity	90%	Width	92
Cap material	17.5% glass-filled ABS	Depth	150
Head material	Brass	Height at front	21
Shaft material	8 mm Flexible brass on sprung steel	Height at back	30
Output	Line level (775 mV)	Length of gooseneck	300
EQ Filters	100 Hz ± 12 dB 1k Hz ± 12 dB 10 kHz ± 12 dB	Length of Cable	2400



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