zenitel

DATASHEET
PAVA
EMS Range

- ✓ Live, store-and-forward broadcasts, and the ability to trigger pre-recorded messages
- ✓ Fist microphone with integrated Push to Talk (PTT)
- ✓ 0, 10, 20 or 50 physical selection buttons
- ✓ Built-in loudspeaker with listen-in function
- ✓ Wall mount with a lockable enclosure
- ✓ Connectivity supporting both IP or analogue / serial
- ✓ EN 54-16 visual and audible indication
- ✓ EN 54-16 certified part of Zenitel PAVA system

EMS Range

WALL MOUNT EMERGENCY **MICROPHONE**

The EMS01, EMS10, EMS20 and EMS50 are a range of flexible Emergency Microphone Stations (EMS) designed to work seamlessly with Zenitel PAVA audio routers. These microphones can be configured for live or store-and-forward broadcasts and to trigger zonal functions such as pre-recorded messages. Zone selection is facilitated through the physical select buttons or a rotary selector using the LCD display. Each variant in the EMS range includes a fist microphone with built in PTT, and a graphic LCD display. The number of physical buttons varies, with the EMS10 featuring ten Select buttons, and the EMS50 featuring fifty Select buttons. Additionally, a VU bar-graph displays the microphone signal level and this along with the built in AGC ensures optimum live broadcast levels are maintained.

EN 54-16 Certified

The EMS series is EN 54-16 certified as part of the Zenitel PAVA system, ensuring full compliance with industry standards. It features comprehensive monitoring capabilities that cover connectivity, dual power supplies, and the mic capsule. Any detected faults are reported back to the host Audio Router and categorized according to EN 54-16 requirements. Additionally, the built-in loudspeaker and clear front-panel LEDs enable the microphone to display system status as mandated by EN 54-16. To meet the specific 'access level' requirements of EN 54-16, the enclosure is lockable, limiting access to the microphone or pre-recorded message triggers.

Listen IP functionality

The EMS range has a built-in speaker, allowing the user to select a zone or mix of multiple zones and listen in to the live announcement. This innovative feature is a typical mandate for Transportation applications, such as control rooms.

Installation and Maintenance

The EMS enclosure includes knock-outs to provide top, bottom, and rear cable entry points. A set of terminals on the inside rear panel of the back box provides field connections for heavy duty fire tough cables.
Maintenance is also greatly simplified, the gooseneck microphone can be replaced onsite as a line replaceable part.

Hardware Bypass

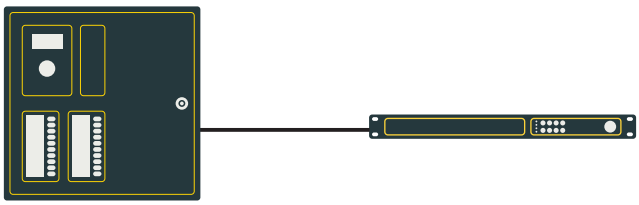
The EMS microphones support 'hardware bypass' operation as defined under BS5839-pt8. When supported by the Zenitel audio router, the microphone continues in an all-call-only mode during an audio router processor failure or DBB connection fault. Hardware bypass operation is local to the host audio router and does not work across the IP network.

TYPICAL ARCHITECTURE

The EMS range offers flexible connectivity options. They can be directly connected to one or two Zenitel audio routers using analogue line audio, a serial link, and 24VDC power, with full monitoring. Distances up to 500 metres are achievable with a typical CAT5 cable, which far exceeds the expected 90 metres over IP. There is also an option for an Ethernet IP connection with Power over Ethernet (PoE) support for IP-based VIPA devices and audio routers.

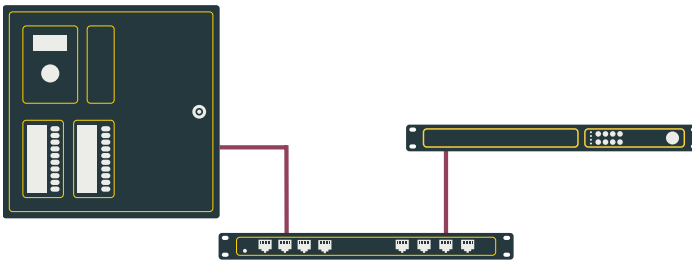
Single Serial / Analogue Audio / DC Connection

Standard connectivity to the audio router is achieved with a single cable connected to Router Port 1 on the microphone's rear panel. This setup provides audio, serial, and DC power, all of which are individually monitored by the audio router.



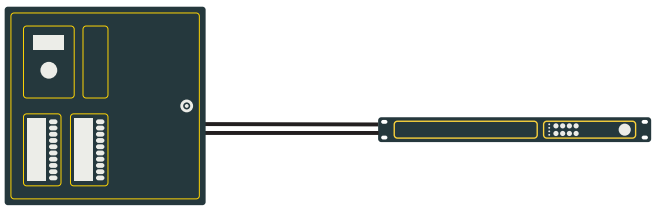
IP Interface (Local PoE Power)

Standard connectivity to the audio router can also be achieved via a single Ethernet IP connection to the Ethernet port on the microphone's rear panel. This connection is fully monitored and relies on a local PoE supply. The functionality mirrors that of the analogue connectivity, but the cable length is limited to less than 90 metres.



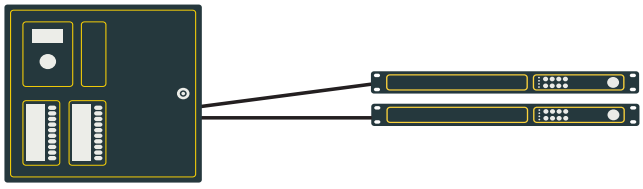
Single Serial / Analogue Audio / Dual DC Connection

For enhanced EN 54-16 compliant connectivity, two cables can be connected to Router Ports 1 and 2 on the microphone's rear panel. This configuration mirrors the standard connection but adds redundancy for the power supply.



Redundant Single Serial / Analogue Audio / DC Connection

To ensure added interconnection redundancy, the standard connection can be duplicated across two separate audio routers. These routers can either be in a DBB stack or devices within the Secure Loop network. All connections are monitored, and the system automatically selects which interface to use, with this information displayed on the MPS graphical display.



IP FALLBACK MODE

The analogue and IP interfaces described, rely on a host device (usually a VIPEDIA or VIPA software module) for operation. If the host device becomes unavailable, it is possible to configure the MPS microphone to continue in limited operation 'Fall-back Mode', whereby it can address zones on multiple devices directly over an Ethernet network without the need for a host device.

The feature set available differs according to type of device which is hosting the microphone. See below:

VIPEDIA Features
- Live Paging
- Store and Forward Paging
- Listen In
- Zone Fixed Route Button
- Zone Selectable Route Button
- EN 54 Mandatory Indications
- Fault Clear

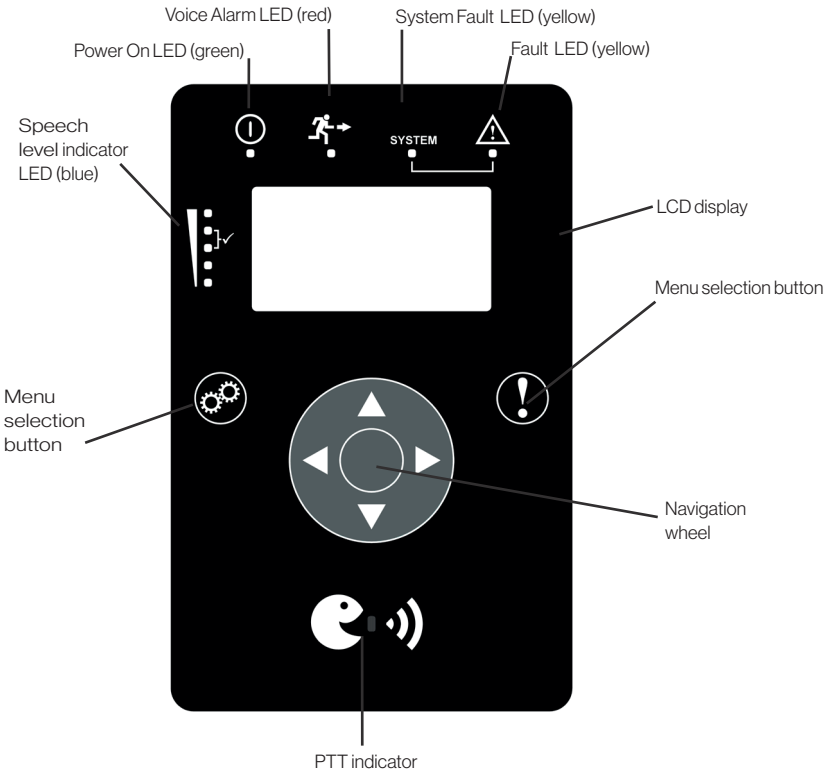
VIPA Features[1]
- Live Paging
- Store and Forward Paging
- Listen In

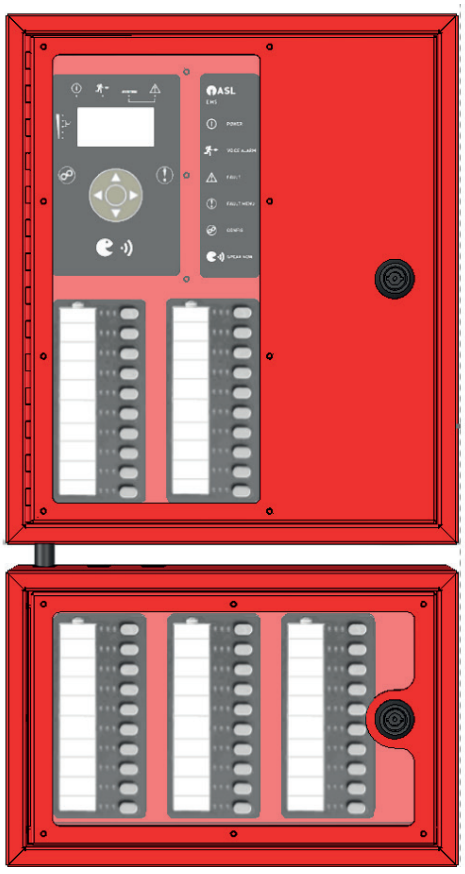
Fall-back IP Features[1]
- Live Paging
- Store and Forward Paging

[1] Non EN 54-16 certified

MECHANICAL

Controls Panel & Buttons





EMS50 (1 x EMS20 + 1 x EMX30)

SPECIFICATIONS

Power Supply	
Input Voltage	18-40 V DC or PoE 42-57V DC
Current Consumption @ 24V (nom.- sounder & LEDs off)	
EMS01	90mA
Each additional 10 physical buttons	5mA
Current Consumption @ 24V (max. - sounder & LEDs on)	
EMS01	165mA
Each additional 10 physical buttons	55mA

Analogue and Serial Connectivity	
Audio	Dual Analogue Balanced Audio/0dBu nominal/220Ω
Control Data	EIA RS485 / 19200 baud
Hardware Bypass Interface	Push-To-Talk switch and Speak Now LED
Listen In Input	1 x Analogue Balanced Audio

IP Connectivity	
Audio and Control Data	1 x 100BASE-T Ethernet (RJ45)
Audio Format (VoIP)	Zenitel's Proprietary PMC
Listen In Inputs and Format	1 x Zenitel's Proprietary PMC

General	
LCD Display	128 x 64 pixels / 58 mm x 29 mm view area
Control Buttons	Capacitive Touch Button
PTT	Fist Microphone with integrated Push to Talk Switch
Physical Buttons Push Buttons	
EMS01	None
EMS10	10
EMS20	20
EMS50	50
Microphone Type	Fist
Microphone Modes	Live and Store and forward (up to 60s)

Mechanical	
Dimensions (H x W x D mm)	
EMS01/EMS10/EMS20	402.4 x 344 x 95mm (Closed)
EMS50	660.8 x 344 x 95mm (Closed)
Weight	
EMS01	5.8kg
EMS10	6.0kg
EMS20	6.2kg
EMS50	9.1kg
EMX30	2.9kg
Format	Wall Mount
Material	Metal
Lockable	Yes
Paint Colour	RAL3020
Cable Knockouts	20 mm

Environmental	
Temperature (Storage)	-20 °C to +55 °C
Temperature (Operation)	-10 °C to +55 °C
Humidity Range	0% to 95% non-condensing
IP Rating	IP30

Compatibility	
Zenitel Audio Routers	VAIA Range, VIPEDIA Range, IPAM Range & VAR Range
Zenitel Control Systems	iVENCS Range & VIPA-WS Range

Approval and Standard Compliance	
Railway	EN 50121-4
Fire Detection and Fire Alarm Systems	EN 54-16
Environmental Directive (Safety)	EN / IEC / UL 62368-1
Environmental Directive (Immunity)	EN 55103-1 / EN50130-4
Environmental Directive (Emissions)	EN 55032 / EN 6100-6-2 / EN 6100-6-3 / EN 6100-6-4 / FCC-47 part 15B Class A
Environmental	RoHS / REACH
Conformity Europe	CE / CPR / UKCA

Compatible Hardware	
EMX30	30 Button Expansion Panel for the EMS01, EMS10 or EMS20

Product Part Codes	
EMS01	Emergency Microphone / Analogue + IP / Fist Mic / 0 Button
EMS10	Emergency Microphone / Analogue + IP / Fist Mic / 10 Buttons
EMS20	Emergency Microphone / Analogue + IP / Fist Mic / 20 Buttons
EMS50	Emergency Microphone / Analogue + IP / Fist Mic / 50 Buttons

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