

Technical data sheet

## VoCall™ 16 US digital area of refuge system

Smart | Adaptable | Intuitive

Eaton VoCall 16 US is a high-specification, digital, loop-driven, intelligent emergency voice communication system offering sophisticated functionality along with a simple and intuitive end-user interface. The system delivers high-quality audio when it matters most.

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## Here is how it works:

### MX16US Main Panel/Call Station:

A 2-way voice auto dialer provides live voice communication from any call station to the monitoring station. The system is hard-wired with an option for a cell communicator kit.

### Network Panel:

One unit accommodates 16 call stations. VoCALL 16 US is designed to ensure the simplicity of future system expansion without additional accessories. The maximum capacity of the system connected to the main panel on the loop is as follows:



### 1MX + 9NX (with 16 call stations each) = 160 call stations

A loop-wired configuration, along with short-circuit isolators, ensures that the network is fault-tolerant.

Continuous fault monitoring ensures high availability. Extensive time-stamped logs, also available on SD cards, ensure ease of debugging.

The system's simplicity of operation, ease of cabling, and competitive pricing makes it suitable for various applications. In combination with our range of soft addressable digital call stations, the stand-alone system reduces labor and material costs and the potential for wiring errors associated with traditional systems.

### Features:

- Up to 16 digital call stations per panel
- UL 62368-1 4 conductor loop configuration
- Soft addressing of call stations
- Extensive time-stamped log on SD card
- Large graphical user interface
- PIN-protected user access
- Cell communicator kit
- Flush mount options

### Benefits:

- Fault tolerant loop wired design
- Simple configuration
- Fast commissioning
- Easy maintenance and extensive logging
- Superior audio quality
- Simple and intuitive operation
- End user graphical interface
- Full range of compatible call stations
- Quick and simple identification of call station in use
- Secure access for standard users

### Installations:

- The panel is designed for ease of installation with a full range of knockouts on all surfaces along with a substantial rear entry cut-out
- Up to 1,000 feet max between call stations
- Up to 12,000 feet total loop length
- Two pairs (TX and RX), 18 - 12 AWG, Shielded Twisted pair, solid core or stranded
- Panels are provided with a keyhole type mounting on the rear for ease of installation and alignment
- Key operated hinged lockable door
- Comprehensive installation and operation manual is provided online

### Capacity:

- Up to 16 digital Type B digital call stations in total, non-networkable system
- All digital call station can be connected on the loop in any order

### Functionality:

- Bi-directional calls ability. Lift the handset or push the button to make a call to panel. Dial the call station number from panel to call the call station
- Loud-speak and listen in ability available with type digital call station
- Three access levels defined - User, Manager, Engineer. Up to 10 personnel accounts with ability to configure access level permissions
- All personnel accounts are accessed with relevant PIN codes enabling security
- PIN access required for view panel information, set panel configuration, log viewing and management, fault management. No PIN access needed to make or receive calls
- Intuitive configuration steps made possible with graphical user interface, well-structured menu options, soft addressing of call stations on the loop
- Indications (LED and buzzer), operation (calls, fault types) and logging. Extensive timestamped logging of all call operations, faults and system events
- Digital audio transmission and automatic volume control to maximize clarity of communication between panel and call station
- In event of occurrence of external short circuit, system will operate integral short circuit isolators on the devices nearest to each side of the short isolating the fault

### User interface:

Large user interface display with adjustable brightness provides comprehensive information. This along with large tactile standard mechanical keypad with acoustic feedback allows for ease of operation in an emergency situation even with gloved hands.

Clear indication with universal symbols, bright LEDs for depicting system health and operation in a glance. Individual LEDs to indicate call and fault state of each call station provides comprehensive information even to an untrained user unfamiliar with the operation of the unit.

## Wiring and installation:



### Panel network loop wiring

Parameter	Specification
Communications	RS485, full duplex
Cable type	Two pairs (TX and RX), 18 - 12 AWG, Shielded Twisted pair, solid core or stranded
Maximum distance between panels	1,000 ft
Maximum loop length	12,000 ft
Maximum capacitance wire-to-wire	60 pF/ft
Maximum capacitance wire-to-shield	100 pF/f

### Call station loop wiring

Parameter	Specification
Communications	CAN, full duplex
Cable type	Two pairs (Power and CAN) 18 - 12 AWG, Shielded Twisted pair, solid core or stranded
Maximum total loop resistance (including return)	3.6 ohms (equivalent to 1700 ft/16AWG)
Maximum resistance between panel and call station	4.8 ohms (equivalent to 600 ft/16AWG)
Maximum resistance between call stations	4.8 ohms (equivalent to 600 ft/16AWG)
Maximum capacitance wire-to-wire	60 pF/ft
Maximum capacitance wire-to-shield	100 pF/ft

### Technical specifications

Power supply	
Power supply	120 Vac (+10%/-15%), 60Hz
Power consumption	
(MX16US) Main panel	2.7 Watts
(NX16US) Network panel	2.7 Watts
Call Station Red and Silver Active	0.65 Watts
Call Station Red and Silver Standby	0.52 Watts

## Technical specifications

Mechanical	
<b>Dimensions (H x W x D inches)</b>	
(MX16US) Main panel	13.9 x 19.2 x 6.1 inches (354 x 487 x 154 mm)
(NX16US) Network panel	13.9 x 13.9 x 5.6 inches (354 x 354 x 143 mm)
Call Station Red and Silver	Surface: 5.4 x 5.4 x 2.2 inches (137 x 137 x 56 mm)
	Flush: 6.4 x 6.4 x 2.2 inches (162 x 162 x 56 mm)
<b>Weight (lbs.)</b>	
(MX16US) Main Panel (without batteries)	18.7 lbs.
(NX16US) Network panel	13.7 lbs.
Call Station Red	1.8 lbs.
Call Station Silver	1.8 lbs.
<b>Environmental</b>	
Temperature (Storage)	32°F to 98°F (0°C to 37°C)
Temperature (Operation)	32°F to 98°F (0°C to 37°C)
Humidity range	95% Non-Condensing

## Product Information

Catalog#	Description
<b>MX16-US</b>	VoCALL 16 Main Panel USA
<b>NX16-US</b>	VoCALL 16 Network Panel USA
<b>MX16RRF-US</b>	Call Station USA Red Flush
<b>MX16RSF-US</b>	Call Station USA Silver Flush
<b>MX16RRS-US</b>	Call Station USA Red Surface
<b>MX16RSS-US</b>	Call Station USA Silver Surface
<b>MX16-SSC</b>	Stainless steel flush mount panel front
<b>MX16-BEZ</b>	Semi flush bezel frame
<b>MX16CELL</b>	VoCALL Cellular Gateway Dialer Option
<b>RAS-INSTRUC</b>	Sign, Instructional - Call Station

## Architect and engineer specification:

- The VoCall 16 USA system by Eaton is a Life Safety product designed to be resilient to failure by providing robust design and advanced features as expected in the Life Safety industry, this system is an Emergency 2-way voice communication system. The system shall consist of a Main control panel and additional Network panels to provide a system call station max capacity of 160.
- The main control panel shall consist of a single-panel solution containing all components required for the system: the main controller, network card, dialer, call station loop card, PSU, and batteries. Both the Main control panel and Network panels shall be fully supervised, providing 18 hours of battery standby power with ability to provide full functionality at the end of the 18-hour period.
- The system shall communicate via 4-conductor in-and-out wiring in a full duplex operation, this shall be in the form of digital audio to ensure advanced clarity of the messages. The system wiring shall be in an Isolated Class N style robust loop providing resiliency for open circuits and shorts.
- The Main control panel shall have the ability to be programmed at the panel via tactile buttons or via a Web based browser with a user GUI. The Main control panel shall have the ability to self-learn all call stations and Network panels in the system loop at power on. The access to the Main panel and Web browser shall be 6-digit pin or password restricted. The system shall employ other cybersecurity features to restrict external tampering, Eaton Product Cybersecurity Approved.
- The system shall have both default and advanced custom addressing via the panel and Web browser. The system shall make use of an advanced text-to-speech engine for custom location information, this shall include multiple user selectable voices and languages. The system shall be supplied with a factory-installed VoIP dialer for external communication to a user selected monitoring service.

**Note:** Due to continuous development of our products, specifications and offerings are subject to change without notice in accordance with Cooper Wheelock Inc., dba Eaton standard terms and conditions apply.

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