



SUMMARY

This document includes both installation and user guides of the 4E-CMP, the push-button microphone station for the Compact 500 Voice Evacuation System. It explains how the 4E-CMP should be installed and configured. Installation instructions are addressed to trained technical personnel, such as installers, service technicians and commissioning engineers. User instructions explain how to operate the 4E-CMP and how to interpret indications by the end users as well as technical personnel, such as service technicians.

REVISION AND APPROVAL

Rev.	Date	Nature of Changes	Approved By
01	31-07-2017	Original draft	DD
02	04-06-2020	Corrections	TvdH



Hacousto Holland bv Industrieweg 87 2651BC Berkel & Rodenrijs		
4E-CMP installation and user guide	Author:	DD

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Thank you for choosing 4EVAC as your Voice Evacuation System solution.

4EVAC Compact 500 is an all-in-one Voice Evacuation System box. The box contains a completely integrated Voice Evacuation System, capable of both standalone and network operation. 4EVAC Compact 500 is certified in accordance with EN54-16 and EN54-4, which are harmonized standards under the Construction Products Regulation, mandatory in the European Union.

1. What is the 4E-CMP?



4E-CMP is a desktop or wall mounted microphone paging station with pushbutton panel. It can address up to 6 zones for general purpose paging. 4E-CMP includes a gooseneck microphone and dedicated TALK button, which can operate in PTT or toggle mode.

4E-CMP is connected to the L-Net interface of the Compact 500 main unit and may be daisy-chained with more L-Net devices. 4E-CMP is dedicated to general purpose / commercial paging and does not offer fault monitoring or EVAC functionality, thus is not suitable as an emergency microphone.



2. Where do I start?

First, make sure that you are officially allowed to access the hardware of Compact 500 system devices. This is usually the case if:


-  you are an authorized representative of 4EVAC;
-  you have been trained by 4EVAC or one its authorized representatives for installation, service and commissioning of the Compact 500 Voice Evacuation System.

Unauthorized hardware and/or software modifications are against the law and outside of the manufacturer's responsibility. If you have doubts about your status and access level permissions, please contact the 4EVAC main office.

Important note: Access level 3 explanation

Opening the device housing or tampering with the network cabling is restricted. This gives access to all interfaces, internal system connections and sensitive hardware settings that are of high importance to system operation mode, hardware reliability and safety (Access Level 3 according to EN54-16, Annex A). This access level (and higher) is strictly protected by the manufacturer and reserved only for service personnel which is trained, approved and officially certified by the manufacturer. Any actions carried out in Access Level 3 without the manufacturer's explicit approval may lead to incorrect settings or hardware damage, causing serious system malfunction, and therefore are strictly prohibited and void manufacturer's warranty.



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3. Configuration settings

Settings for the 4E-CMP are included in the configuration file located on the micro SD memory card installed in the Compact 500 main unit.

This configuration file includes user-defined settings, such as:

- zone selection buttons,
- microphone volume level,
- TALK button mode (PTT/toggle), etc.

The configuration file should be prepared in the C500 Manager. C500 Manager is GUI software running on Windows OS. More information about the C500 Manager can be found in the software manual "C500 Manager guide".

 **NOTE:** Please make sure that configuration file is prepared with the version of the C500 Manager compatible with firmware of the Compact 500.

The installation file of the latest 4EVAC Manager and the manual are available on our website at www.4EVAC.com

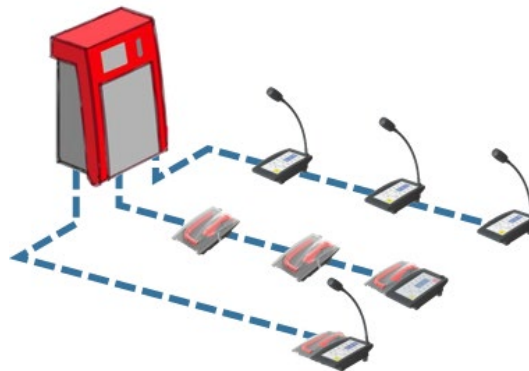
4. Hardware installation and settings

4.1. L-Net

4E-CMP is a remote station connected to the L-Net port of the C500 main unit. Multiple 4E-CMP stations may be used in the same L-Net, with the following limitations:

- ❏ A maximum of 8 stations per L-Net port
- ❏ A maximum of 16 stations per single C500 main unit (total sum of all 3 L-net ports)

The microphone station may also be daisy-chained together with other L-Net devices



Compact 500 L-Net (local network)

4.1.1. Network ports

4E-CMP offers 2 L-Net ports (RJ-45) for network connections to the C500 main unit and distributed parts of the 4EVAC Voice Evacuation System. Both L-Net ports are equal, therefore it makes no difference which port is connected to which side of the L-Net daisy-chain.



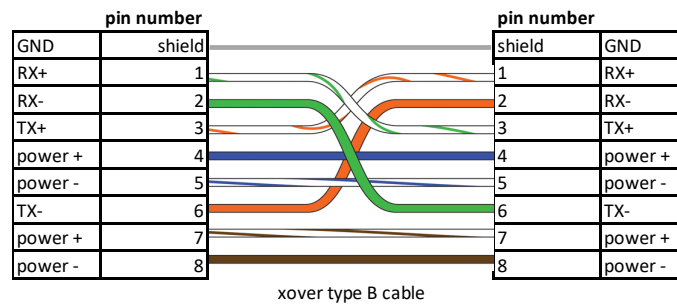
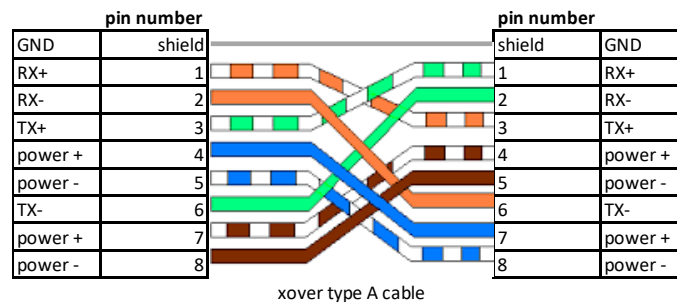
L-Net ports on the back side of 4E-CMP

4.1.2. Network cabling

4EVAC network features a full duplex RS-422 data link and 24V DC power to remote devices.

If you're building a distributed system using the 4EVAC network, you should make physical links between devices using the right cables. Cabling should meet the following requirements:

1. Crossover twisted-pair cable (compatible with Ethernet crossover)



2. CAT5e or higher for maximum distance of 250m.
3. Non-CAT / lower than CAT5e: 250m not guaranteed.
4. Shield required (at least FTP)



NOTE: If you use a straight cable, the device will power up but the Tx/Rx data terminals will not be properly connected. This will result in a communication fault between the L-Net device and the C500 main unit. The L-Net device will not be able to initialize, thus will remain in boot-sequence, not operational.



Caution! Use only crossover cables and keep the correct pinout! Connecting power pins to data pins will damage the network port.

4.2. Device ID

The microphone station needs an ID setting in order to be properly recognized in the network and operate.

If the device ID is duplicated or set to a wrong value, the device will not receive the correct configuration settings from the master Compact 500 main unit. In this case the remote station will be stuck in its boot sequence and remain non-operational.

The device ID is set by means of two rotary switches, which define the two-digit hexadecimal value of the ID.

In order to check or set the Device ID, you must access the rotary switches on the back side of the unit:

1. Remove the steel plate covering back of the station
2. Identify the high-significant and low-significant rotary switches. The Device ID is a combination [HI LO] of those two digits.
3. Make sure the ID value exists in your configuration settings, relates to the right device type and is not duplicated on another device. Allowed values: 01-FE
4. Set the Device ID value according to the configuration settings of the Compact 500 system.
5. Plug-in the L-Net cable connecting the station with the C500 main unit.
6. Observe the boot sequence which should see the unit automatically entering normal operating mode afterwards.
7. Assemble the back plate (and optionally the rubber feet).



4E-CMP bottom view: Device ID setting

5. Front Panel



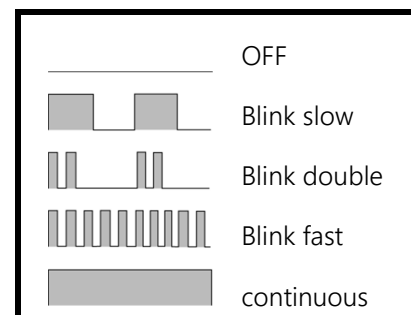
4E-CMP button panel

5.1. LED indicators

5.1.1. Zone indicators –blue LED

Zone busy / zone selection LED.


- Continuous: indicates that the zone is manually selected via a zone selection button on local panel
- Blinking fast: the zone is occupied by an audio signal, but is in SILENCE mode (triggered by the SILENCE input or manual SILENCE button)
- Blinking slow: indicates that the zone is currently transmitting an audio signal (except BGM) from another device.
- Blinking double: indicates that the zone is currently transmitting an audio signal from this microphone station.



LED indication time chart

i NOTE: BGM transmission is not indicated.

Zone indicators are strictly related to the corresponding zone button. If a button is not attached to any zone, then zone indicators for this button are disabled.

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5.2. Manual controls

5.2.1. ZONE selection button



Press to select a zone, press again to deselect.

NOTE: Zone selection will clear automatically after the timeout defined in the configuration settings.

5.2.2. TALK

This button starts voice transmission to selected zones.


Depending on configuration settings, the TALK button works in one of two ways:

-  PTT (push to talk)
-  Toggle

5.3. Zone labels


The front panel of the 4E-CMP has an opening dedicated for a sheet with zone labels. The text sheet, 120 x 50 mm in size, is meant to be inserted (slide-in) via the opening in the upper part of the panel, all the way down the available space.

Text labels will be visible through transparent windows.

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6. Technical specifications

4E-CMP	
Number of zones	max. 6 zones (global network access)
Controls and indications	6 x configurable zone selection button, zone SELECT/BUSY LED indicators
Microphone	Integrated commercial purpose mic
Type	Condenser, gooseneck
Power consumption	
24V (L-Net)	max. 50mA
Audio	
Frequency response	100 Hz – 12 kHz
Digital audio format	24 kHz sampling, ADPCM compressed
Audio processing	Fixed BP filter, fixed dynamics compression
Local network interface	
Architecture	Master-slave, up to 16 slave devices per C500 main unit
Connection	RJ-45, powered daisy chain, digital audio & control data
Cabling	X-over FTP CAT5e (or higher)
Current rating via single link	max. 500 mA (up to 8 slave devices) via L-Net port,
Max. length of L-Net link	250 m
Mechanical	
Dimensions HxWxL)	6 x 13 x 21 cm
Gooseneck mic length	31.5 cm
Weight	520 g
Housing material	Steel / ABS
IP rating	IP 30
Mounting	Desktop wedge / wall-mounted (incl. wall bracket)
Operating conditions	
Temperature	10–40°C
Relative humidity	max. 90% (non condensing)
Storage temperature	-40–70°C

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4EVAC is a trade name of:

Hacousto Holland bv
 Industrieweg 87
 2651BC Berkel & Rodenrijs
 The Netherlands

www.4EVAC.com