



Audix Systems,
Station Road,
Wenden,
Saffron Walden,
Essex,
CB11 4LG.
Telephone: +44(0)1799 540888
Facsimile: +44(0)1799 541618
www.tycosafetyproducts-europe.com
www.audixsystems.co.uk

EMERCALL

Fire Telephone & Disabled Refuge
Installation & Commissioning
Manual V1.0

EMERCALL_Installation_&_Commissioning_Manual

Revision History

Version	Modifications	By	Date
1.0	Original	CT	

Checked by	I Twemlow	Approved	G Matthews
-------------------	------------------	-----------------	-------------------

© Copyright Audix Systems 2007

DISCLAIMER

This manual contains information that is correct to the best of Audix Systems knowledge. It is intended to be a guide and should be used as such. It should not be considered as a sole source of technical instruction, replacing good technical judgement, since all possible situations cannot be anticipated. If there are any doubts as to exact installation, configuration and/or use, call Audix Systems at +44 (0)1799 540888

Technical Support

In the unlikely event of you having problems with your EMERCALL please contact our Customer Services Department.

Audix Systems
Station Road
Wenden
Saffron Walden
CB11 4LG
Tel 01799 540888
Fax 01799 541618

Development

Our Research and Development Department are continuously improving the operation and functionality of our products. If you have any comments on future requirements of our products please contact our R & D department at the above address.

EMERCALL_Installation_&_Commissioning_Manual

EMERCALL Emergency Voice Communication System (EVCS)

The EMERCALL EVCS has been designed to comply fully with the recommendations of BS5839 part 9 2003 (abbrev: pt9) which specifies the operation of such systems.

An EVCS is defined as a fixed bi-directional full duplex secure voice communication system for use in emergencies, and covers the operation of both fire telephone systems and disabled refuge systems. Where both systems are to be fitted to a building pt9 specifies these should form a single system.

A EMERCALL EVCS comprises of three system building blocks; these are: Control Handsets (both main & repeater types), 8 way exchanges, and outstations (both A & B types as defined by pt9). Control handsets are supplied in multifunction steel and aluminum enclosures, which can be wall, desk or rack mounted, and contain the following items:

- Monitored phone handset
- A 4 line 20-character LCD display for displaying calls, faults and status
- 12 key keypad for dialing
- 3 menu keys for menu navigation
- 4 Indicator LEDs (General fault, Supply Fault, CPU fault and Supply healthy)
- 2 Network interfaces with supply extraction

The Exchange unit is a compact wall mount enclosure, which links the outstations to the control handsets and contains the following:

- AC Mains supply with a 1.5A monitored maintained battery charger.
- 8 telephone line interfaces.
- Connection Matrix
- Fault Relay Output (either local fault or general fault)
- 2 Network interfaces with supply addition
- Line Fault Indication (8 LEDs, one per line)
- Supply Status (3 Leds, AC Present, DC Present, Supply Fault)
- General Fault Led

Outstations are supplied as either type A (handset) or type B (hands free) as defined by pt9 and the choice of outstation should be made in line with the guidelines of pt9.

Type A Outstations comprise a steel enclosure, which is either flush mounted or surface mounted (separate cases are provided for each type) and has the following features:

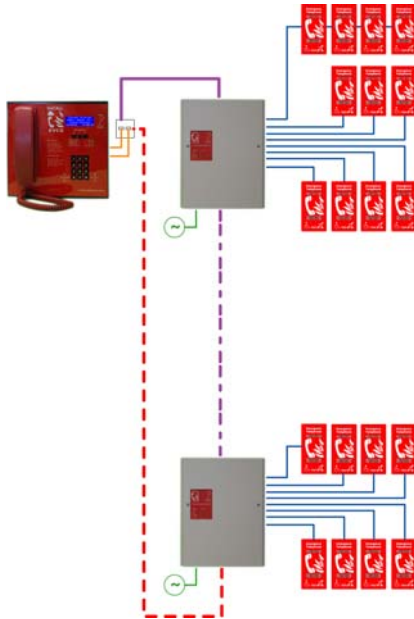
- Monitored phone handset
- Telecoil In handset
- High volume ringer
- Optional Lock
- Optional Strobe (requires additional supply & cables)

Type B Outstations comprise a low profile vandal resistant steel enclosure with an aluminium front plate and the following features:

- Vandal resistant Call Button
- Pulsing Locator LED (0.2Hz)
- 3W speaker
- Omni directional microphone
- DSP echo and noise suppression

EMERCALL_Installation_&_Commissioning_Manual

Typical System Diagram



Using network communications combined with subscriber line telephone techniques, EMERCALL provides large scale cable savings, while not requiring a dedicated rack room to house a central exchange.

Each Exchange unit sits on a data highway and is locally powered, with internal battery backup from a monitored, maintained sealed lead acid battery. Up to eight lines can be connected to each distributed exchange, and each line is fully monitored for Open, Short or Earth faults.

The network comprises a line or ring of 8 cores (see below), each leg can be up to 500M depending on cable type. A ring topology is recommended by 5839 pt9.

Line cables consist of a single two core enhanced cable, either soft skin types or MICC and only 1mm CSA is required.

Up-to thirty-two VCX-8 Exchanges can be fitted to a EMERCALL system giving a maximum system size of 256 independent lines.

The compact case is made from powder coated Zintec and is fitted with 20mm cable knockouts for all cables needed, and also provides space for the system backup 12V SLA b

EMERCALL_Installation_&_Commissioning_Manual

Type A Outstation

The EMERCALL Emergency Voice Communications System (EVCS) is designed to fully comply with BS5839-Part 9:2003 (abb. Pt9) for use as a Fire Telephone system, Disabled Refuge Call system or as a combined system when both Fire Telephones and Disabled Refuge Points are required.



Features

An EVCS is a fixed, secure, bi-directional, full duplex voice communication system to assist fire fighters in an emergency in high rise buildings or large sites where Radio communication may not work, and covers the operation of both fire telephones and disabled refuge systems. Where both systems are fitted to a building pt9 specifies these should form a single system.

A EMERCALL EVCS comprises of three functional blocks, the master handset (VCM) the eight line Exchanges (VCX-8) and outstations, (type A, type B or Jack points), with the quantities of these basic units being adjusted to suit the application.

Mounting The Unit

The Handset should be mounted at a height of either 1200mm from the floor, or on a 1400mm centre line to comply with the requirements of Building Regulations Document M (Access for the Disabled). A cut out of 300mm by 160mm is recommended, the front bezel has adjustments to level the backbox on the wall.

If the unit is to be used as a refuge point suitable space must be left to the side of the unit to allow a wheelchair to be parked for using the system.

Tech Spec

Physical

Height	300mm
Width	150mm
Depth	75mm
Weight	1400 g
Material	Zintec, Texture Powder coated RAL3001 Signal Red

Outstation Cables

Grade	Enhanced
Cable (per Line)	1 off 2 core (twisted for MICC)
Distance (per leg)	500M soft Skin types, 300M MICC
Monitoring	DC open, short & earth

Indication & Controls

Status LEDs	1 off Red (Dim for line monitoring, flashes when Ringing.
Call	Automatic "Off Hook" Dialling

Standards Compliance

EMC	EN55103-1, EN55103-2
LVD	EN60950
Product Family	BS5839-pt9, BS5588-pt8 EN60118-4

Options

Stainless Steel	Part VCSHP-SS
-----------------	---------------

EMERCALL_Installation_&_Commissioning_Manual

Type B Outstation

The EMERCALL Emergency Voice Communications System (EVCS) is designed to fully comply with BS5839-Part 9:2003 (abb. Pt9) for use as a Fire Telephone system, Disabled Refuge Call system or as a combined system when both Fire Telephones and Disabled Refuge Points are required.



Features

An EVCS is a fixed, secure, bi-directional, full duplex voice communication system to assist fire fighters in an emergency in high rise buildings or large sites where Radio communication may not work, and covers the operation of both fire telephones and disabled refuge systems. Where both systems are fitted to a building pt9 specifies these should form a single system.

A EMERCALL EVCS comprises of three functional blocks, the master handset (VCM) the eight line Exchanges (VCX-8) and outstations, (type A, type B or Jack points), with the quantities of these basic units being adjusted to suit the application

Tech Spec

Physical

Height	133mm
Width	133mm
Depth	45mm
Weight	1105 g
Material	Zintec, Texture Powder coated RAL3001 Signal Red

Outstation Cables

Grade	Enhanced
Cable (per Line)	1 off 2 core (twisted for MICC)
Distance (per leg)	500M soft Skin types, 300M MICC
Monitoring	DC open, short & earth

Indication & Controls

Status LEDs	1 off Red (flashes for line location, lights solid for call confirmation.
Call	Press to Call Button
Cancel	Key-switch turn to cancel

Standards Compliance

EMC	EN55103-1, EN55103-2
LVD	EN60950
Product Family	BS5839-pt9, BS5588-pt8 EN60118-4

Options

Stainless Steel	Part VCSHP-SS
-----------------	---------------

EMERCALL_Installation_&_Commissioning_Manual

Roaming Phone/ Style Jack Plate

The EMERCALL Emergency Voice Communications System (EVCS) is designed to fully comply with BS5839-Part 9:2003 Part 9 for use as a Fire Telephone system, Disabled Refuge Call system or as a combined system when both Fire Telephones and Disabled Refuge Points are required.



Features

An EVCS is a fixed, secure, bi-directional, full duplex voice communication system to assist fire fighters in an emergency in high rise buildings or large sites where Radio communication may not work, and covers the operation of both fire telephones and disabled refuge systems. Where both systems are fitted to a building pt9 specifies these should form a single system.

The VCRHS Roaming Phone is used along with the VCSJP Style Jack Plate in the EVCS system, multiple Jack plates can be connected in parallel on a run such as a stair core, calls are initiated when the Roaming phone is plugged into the jack point.

A EMERCALL EVCS comprises of three functional blocks, the master handset (VCM) the eight line Exchanges (VCX-8) and outstations, (type A, type B or Jack points), with the quantities of these basic units being adjusted to suit the application. The entire system is fully monitored to comply to BS5839 part 9 standards.

Mounting The Unit

The Style Jack Plate be mounted at a height of either 1200mm from the floor, or on a 1400mm centre line to comply with the requirements of Building Regulations Document M (Access for the Disabled). It can be installed on a standard MK style 25mm back box.

Tech Spec

Jack Plate

Physical

Height (Bezel)	86mm
Width	86mm
Depth	25mm
Weight	140g
Material	Brushed Stainless Steel

Cables

Grade	Enhanced
Cable (per Line)	1 off 2 core (twisted for MICC)
Distance (per leg)	500M soft Skin types, 300M MICC
Monitoring	DC open, short & earth
End Of Line	10K ¼

Roaming Handset

Physical

Height	210mm
Width	66mm
Depth	45mm
Cable Length	300mm (extends to 1m)

Controls

Call	Automatic "Off Hook" Dialling
------	-------------------------------

Connection

Jack	¼" Mono Neutrik heavy Duty
------	----------------------------

Standards Compliance

EMC	EN55103-1, EN55103-2
LVD	EN60950
Product Family	BS5839-pt9, BS5588-pt8 EN60118-4

EMERCALL_Installation_&_Commissioning_Manual

EVCS Master Handset

The EMERCALL Emergency Voice Communications System (EVCS) is designed to fully comply with BS5839-Part 9:2003 (abb. Pt9) for use as a Fire Telephone system, Disabled Refuge Call system or as a combined system when both Fire Telephones and Disabled Refuge Points are required.



Features

An EVCS is a fixed, secure, bi-directional, full duplex voice communication system to assist fire fighters in an emergency in high rise buildings or large sites where Radio communication may not work, and covers the operation of both fire telephones and disabled refuge systems. Where both systems are fitted to a building pt9 specifies these should form a single system.

A EMERCALL EVCS comprises of three functional blocks, the master handset (VCM) the eight line Exchanges (VCX-8) and outstations, (type A, type B or Jack points), with the quantities of these basic units being adjusted to suit the application.

Tech Spec

Physical

	Desk/Wall	Rack
Height	268mm	6u
Width	275mm	485mm
Depth	85mm	125mm
Weight	1490 g	
Materials	Base: Stainless Steel Brushed Lid: Zintec, black powder coated Sides: Aluminium, Black powder coated	

Power Supply

Source	Network Port x2
Voltage	11V to 18V DC
Current	88mA @ 12V

Processing

Architecture	AVR RISK
Clock	16MHz
Memory	4K Ram 20K EEPROM 128K Flash
Monitoring	125mS Asynchronous Watchdog Checksum on EEPROM & Flash

Network Cables

Grade	Enhanced
Cable (per Leg)	1 off four Pair (eg Draka 91-0245) Or 2 off four core 1mm CSA Soft Skin Or 4 off 1 Pair MICC Twisted
Distance (per leg)	500M soft Skin types, 300M MICC
Monitoring	Data & Phantom Voltage

Indication & Controls

Fault LEDs	4 off yellow (General, Panel, Supply & Exchange)
Status LEDs	4 off green (Healthy, AC, DC & Network)
LCD	High Contrast Blue/White LCD, four line twenty-character 5x8 pixel format
Keyboard	12 Key Telephone Style
Navigation	3 Keys (down/left, Accept, up/right)

Standards Compliance

EMC	EN55103-1, EN55103-2
Product Family	BS5839-pt9, BS5588-pt8

Options

Rack Mount Kit

EMERCALL_Installation_&_Commissioning_Manual

8 Line Exchange

The EMERCALL Emergency Voice Communications System (EVCS) is designed to fully comply with BS5839-Part 9:2003 (abb. Pt9) for use as a Fire Telephone system, Disabled Refuge Call system or as a combined system when both Fire Telephones and Disabled Refuge Points are required.



Features

An EVCS is a fixed, secure, bi-directional, full duplex voice communication system to assist fire fighters in an emergency in high rise buildings or large sites where Radio communication may not work, and covers the operation of both fire telephones and disabled refuge systems. Where both systems are fitted to a building pt9 specifies these should form a single system.

A EMERCALL EVCS comprises of three functional blocks, the master handset (VCM) the eight line Exchanges (VCX-8) and outstations, (type A, type B or Jack points), with the quantities of these basic units being adjusted to suit the application.

Tech Spec

Physical

Height	296mm
Width	210mm
Depth	80mm
Weight	1600 g
Material	Zintec, Texture Powder coated RAL 7032

Power Supply

Voltage	230V AC \pm 20%
Current	11mA
Battery	12V SLA 3.2AH
Charger	1A Controlled Impedance
Monitoring	Open, short & High impedance cell

Processing

Architecture	AVR RISK
Clock	16MHz
Memory	4K Ram 20K EEPROM 128K Flash
Monitoring	125mS Asynchronous Watchdog Checksum on EEPROM & Flash

Network Cables

Grade	Enhanced
Cable (per Leg)	1 off four Pair (eg Draka 91-0245) Or 2 off four core 1mm CSA Soft Skin Or 4 off 1 Pair MICC Twisted
Distance (per leg)	500M soft Skin types, 300M MICC
Monitoring	Data & Phantom Voltage

Outstation Cables

Grade	Enhanced
Cable (per Line)	1 off 2 core (twisted for MICC)
Distance (per leg)	500M soft Skin types, 300M MICC
Monitoring	DC open, short & earth

Indication & Controls

Fault LEDs	10 off yellow (General, PSU, 8 lines)
Status LEDs	2 off green (AC & DC)
Settings	8 way DIP switch

Standards Compliance

EMC	EN55103-1, EN55103-2
LVD	EN61000-3-2, EN61000-3-3, EN60950
Product Family	BS5839-pt9, BS5588-pt8

EMERCALL Installation Guide.

The EMERCALLEVCS is designed to comply with BS5839 pt 9 2003 when correctly installed.

Safety information for exchange units:



Each exchange unit requires a 3A spur, returning to a breaker clearly marked **EVCS DO NOT TURN OFF**. If the units are distributed around a site it is essential all units are on the same mains phase, as they are classified TEN 230V, powering from different phases can mean a 440V potential can be present in a unit during a major fault incident.

Anti-static handling guidelines

Make sure that electro-static handling precautions are taken immediately before handling PCBs and other static sensitive components

Before handling any static-sensitive items, operators should get rid of any electrostatic charge by touching a sound safety earth, such as a radiator. Always handle PCBs by their sides and avoid touching any components. PCBs should be stored in a clean, dry place that is free from vibration, dust and excessive heat.

Storing the PCBs in a suitable cardboard box will also guard them against mechanical damage.

Unpacking the Unit

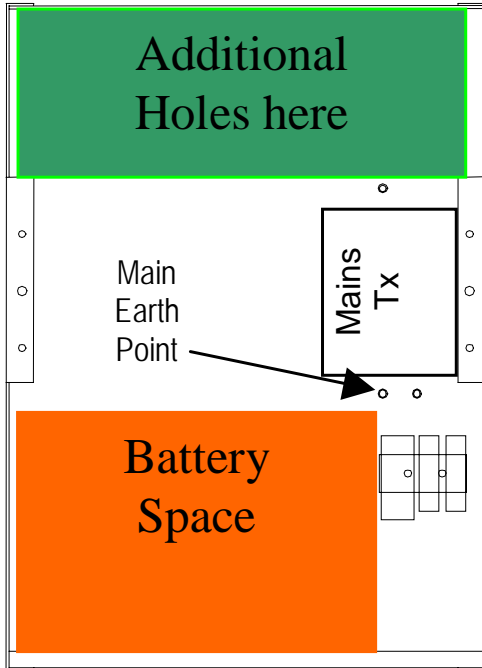
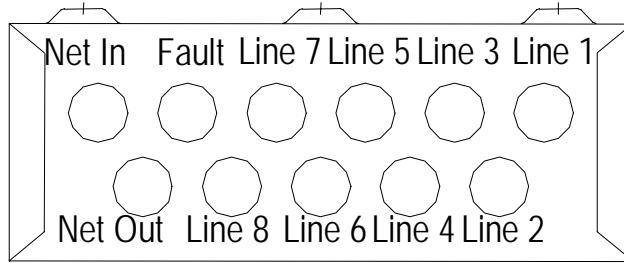
Remove the exchange from its packing, and using the HEX key supplied remove the front cover, being careful to remove the earth lead.

Remove the front panel plate containing the circuit boards, this has a connection to the mains transformer, which needs to be removed, **Exercise static precautions** to prevent damage to the electronics, store the front panel assembly safely until the exchange is mounted and cables have been attached.

Do not remove knockouts while the circuit board is still fitted.

Preparation

Remove knockouts & cut gland holes. Decide how the wiring will be brought into the panel and remove the required knockouts for cable entry. If a knockout is removed fill the hole with a good quality cable gland. 12 knockouts are provided, 11 on the top face from left to right, Network In, Network Out, Fault, and Line 8 thru line 1. On the bottom face a single knockout is for the incoming mains. If additional holes are required, then they can be drilled as shown below, taking care not to obscure the battery or PCB locations. Unused knockouts must be left unopened to comply with the LVD, accidentally knocked out holes should be blanked off. This work must be carried out prior to the re-installation of circuit boards.



Connection Details

Do not test wiring with an insulation tester (Megger) with any equipment connected, as the 500 Volt test voltage will destroy these devices totally. You must observe local wiring regulations. Do not run SELV and LV cables in the same enclosure without adequate insulation between them.

EMERCALL_Installation_&_Commissioning_Manual

Handsets



Line + connector on exchange to Red Phone lead
Line – connection on exchange to Green Phone Lead

Network

The network links either an exchange to an exchange or a master controller to an exchange.

Each unit on the system has a net in and net out. The network connects from the net out of the one unit to the net in on another-all eight core must be connected from the net out to the net in as follows:

Net Out	To	Net In
24v		24v
0v		0v
Line +		Line +
Line -		Line -
TX+		RX+
TX-		RX-
RX+		TX+
RX-		TX-

This cable must be FP200 draka 91-0245 or similar soft skin type cable and should be a maximum of 1mm CSA

The net out connection from the last exchange unit or master handset on a multi exchange system can be brought back to the net in on the first exchange or master handset to form a redundant ring system, so that if the network connection is broken, then no loss of system functionality.

2nd Fix

Replace the front panel PCB plate by attaching the transformer lead and fixing with the four Philips screws.

Attach all plugs ensuring they fit squarely into the connectors.

Do not connect battery until the exchange has been powered up on mains.

Powering Up

Carefully check the network wiring then apply AC power to each exchange unit in turn- DO NOT commission on batteries as the power supply has a large reservoir capacitor which will rupture the battery fuse if the AC is not present when powering up the system. Once the system is powered, the battery leads can be attached to the battery.

The system is now ready to be programmed

EMERCALL_Installation_&_Commissioning_Manual

EMERCALL Configuration

EMERCALL Exchange unit settings

Each exchange unit has an unique network address. This address is set by the dip switches on the exchange unit. The address is a binary number given by the positions of dip switches 1 to 6, with valid addresses lying between 1 and 32 inclusive.

If dip switch 7 is on, then global faults will trigger the local fault relay.

Dip switch 8 is used to protect the exchange unit data. If this dip switch is ON, then the data can be configured normally. If this dip switch is OFF, then the data is protected.

EMERCALL master unit access

The exchange units are configured via the master unit. To log in to the master unit, press the *Accept* button (middle square button below the display) to show the log in screen.

If the system is in fault, pressing the *Accept* button will silence the buzzer, and a silence buzzer message will be shown. Buzzer silenced means that it will give a single beep once every 15 seconds, instead of the continuous cyclic tone that sounds when a fault has occurred. Press the *Accept* button again to show the log in screen.

The log in screen will prompt the user to enter a PIN. The default PIN is 0000. Use the navigation keys to choose the correct number, and then press *Accept* to move to the next number. Repeat until the PIN is entered. Alternatively use the keypad to enter the PIN.

A list of possible menu options is presented. *Log off* will be currently selected. Use the navigation keys to select the option required, and press the *Accept* button.

Network settings

Before any exchange can be configured, the master unit network settings need to be checked. Scroll to the *Network settings* option and press *Accept*.

The screen will show the *Network settings* menu, with the *Present* option currently selected. If this is *No*, the master unit will not communicate to any other unit, and will be effectively isolated. If *Yes*, then the master unit will become part of the network. Use the navigation keys to toggle between the 2 options, and press *Accept* to move onto *Node ID*.

Each master must have its' own unique ID. These ID numbers range from 1 to 8. This node ID is used to uniquely identify the master unit. Use the navigation keys to select the node ID for this master unit, and press *Accept* to move to the *Next* option.

Most configuration menus will have the same options located in the bottom right of the LCD screen: *Next*, *Save*, and *Quit*. Pressing the *Accept* button selects the option chosen: *Next*: moves cursor back to first option on screen.

Save: stores information, and moves back to the previous menu screen.

Quit: discards all information on screen, and moves back to the previous menu screen.

Exchange unit configuration

Scroll to the *Config exchange* menu and press *Accept*. This menu consists of a list of all 32 possible exchange units, plus a *Back* option. The network address of each exchange is shown, along with a symbol:

- Open padlock: this exchange exists and memory is unprotected.
- Closed padlock: this exchange exists and memory is protected.
- Line through circle: this exchange does not exist and will not be used.

EMERCALL_Installation_&_Commissioning_Manual

Select the exchange unit to be configured and press *Accept*. This menu consists of a list of all 8 extensions, a *Back* option, and a *Network faults* option.

Each existing exchange on the network must be configured before use. For each exchange, configure the extension details, where extension 1 refers to the handset(s) attached to line 1, etc. Each extension has a name and a number of handsets per line. All lines to be used must be configured.

The *Back* option on the *Select extension* menu will go back to the *Select exchange* menu, whilst selecting *Back* on the *Select exchange* menu will go back to the root menu.

NOTE: each master unit must be configured separately. When one master unit is configured, it does not pass on any information to the other master unit.

Set extension name and number of handsets per line

Select the extension to be configured and press *Accept*. This will show the details for that extension.

Use the navigation keys to change the first character of the extension name, and press *Accept* to move to the next character. Repeat for all characters. Press *Accept* on the last character to move the cursor to the *Set phones* option.

Use the navigation keys to set the number of handsets that will be present on this extension. The number of handsets that have been detected is displayed next to this option. Press *Accept* to move the cursor onto *Next*.

Use navigation keys to select *Next*, *Save*, or *Quit*, and press *Accept* to select option. *Save* also updates the information stored in the exchange unit.

Note: if the memory is protected, then you will only be able to view this information. The cursor will be on the *Quit* option, and this will be the only option that can be selected. Pressing *Quit* will move back to the *Select Extension* menu.

Set network fault monitoring for exchange unit

In *Select extension* menu, choose the *Network faults* option. Each exchange unit can have up to 2 data cables attaching it to the network: network in and network out. If desired, each cable can be monitored independently.

The *Network faults* screen shows 2 options: *net in* and *net out*. Use the navigation keys to select if this data cable is to be monitored, and press *Accept* to move to the next option.

Next to each option, the current status of that cable is shown. If there are no faults, *Yes* is shown in brackets. *No* is displayed if there is a fault, or the cable is not present. Use navigation keys to select *Next*, *Save*, or *Quit*, and press the *Accept* button to select option.

Edit site name

If not on the root menu, go back to it by selecting the *Back* option in the *Select Exchange* and *Select Extension* menus as necessary.

If the site name is to be changed, scroll through the menu options until *Edit site name* is selected, then press the *Accept* button. The current site name will be displayed on screen, with the cursor on the first character. Use the navigation keys to scroll to the correct character then press *Accept*. Repeat until the new site name has been entered.

Pressing *Accept* on the last character will move the cursor to the *Next* option. Use the navigation keys to select *Next*, *Save*, or *Quit* as desired, then press *Accept*. Both *Save* and *Quit* will go back to the root menu.

EMERCALL_Installation_&_Commissioning_Manual

Set date and time

Scroll through the root menu using the navigation keys until *Set date & time* is selected. Press *Accept* to show the *Set date & time* menu.

This menu shows the current date and time in the following format:

Day|Month|Year
Hour:Minute:Second

The cursor will be on the first option: *Day*. Use the navigation keys to select the correct day, then press *Accept* to move to the *Month* option. Repeat until the current date and time are set and the *Next* option is selected.

Use the navigation keys to select *Next*, *Save*, or *Quit* as desired, then press *Accept*. Both *Save* and *Quit* will go back to the root menu.

Set service date

The service date is used as a reminder when the next service is due. When this date is reached, it will trigger a service fault which will remain until the service date is updated.

Scroll through the root menu using the navigation keys until *Set service date* is selected. Press *Accept* to show the *Set service date* menu.

This menu shows the currently selected service date in the following format:

Day|Month|Year

The cursor will be on the first option: *Day*. Use the navigation keys to select the correct day, then press *Accept* to move to the *Month* option. Repeat until the desired next service date is set and the *Next* option is selected.

Use the navigation keys to select *Next*, *Save*, or *Quit* as desired, then press *Accept*. Both *Save* and *Quit* will go back to the root menu.

Change PIN

The default PIN to access the configuration menus is 0000, but this can be changed.

Scroll through the root menu using the navigation keys until *Change Pin* is selected. Press *Accept* to show the *Change Pin* menu.

There are 2 lines: *New PIN* and *Repeat PIN*. The cursor will be on the first digit of the *New PIN*. Use the navigation keys to change the digit, and press *Accept* to move to the next digit. Repeat until all digits have been entered for both the *New PIN* and the *Repeat PIN*, and the *Next* option is selected.

New PIN: PIN number that will be used to access the configuration menus.

Repeat PIN: new PIN repeated. If this differs from the new PIN, then the new PIN number will not be accepted, and a warning message will be displayed on screen.

Use the navigation keys to select *Next*, *Save*, or *Quit* as desired, then press *Accept*. Both *Save* and *Quit* will go back to the root menu.

Event log settings

The event log is a record of the last 99 events: the type of event and the date and time the event occurred. The following are classed as events: faults occurring, faults cleared, configuration change, log in & log off actions, system reboot requested (reboots master unit), system initialised (on power up). This menu will clear the event log, erasing the record of all events recorded to date.

Scroll through the root menu using the navigation keys until *Event log settings* is selected. Press *Accept* to show the *Event log settings* menu.

EMERCALL_Installation_&_Commissioning_Manual

The cursor will be on the first option, *Clear log*. Use navigation keys to select either yes or no then press *Accept* to move to the *Next* option.

Unlike other menus, the *Next* option toggles between *Next*, *Exec*, and *Quit*. Use the navigation keys to select the desired option, and then press *Accept*.

Next: moves cursor back to *Clear log* option.

Exec: executes command to clear log if *Clear log* option is set to yes. Moves back to root menu.

Quit: moves back to root menu.

View event log

This menu is an information only menu. It displays the last 99 events that have occurred, recording the type of event and the date and time the event occurred. The following are classed as events: faults occurring, faults cleared, configuration change, log in & log off actions, system reboot requested (reboots master unit), system initialised (on power up).

Scroll through the root menu using the navigation keys until *View event log* is selected. Press *Accept* to enter the *View event log* menu.

Use the navigation keys to scroll through the events.

If a fault has occurred, and the buzzer has not yet been silenced, pressing *Accept* will silence the buzzer.

Pressing *Accept* again will move back to the root menu.

System reboot

This menu option will reboot the master unit. The master unit will momentarily power down, then power up again. When it powers up, the master unit will be reinitialised with the currently stored settings. This is only to be used when absolutely necessary as all exchange unit data held in RAM is lost, and will have to be rebuilt on power up. The network communication flow will stutter as this unit drops from the network on power down, and its place in the data flow will have to be re-established on power up.

To reboot the master unit, scroll through the root menu until *System reboot* is selected. This will show the *System reboot* menu.

There is only one option that defaults to no. A warning is displayed to advise the user on the consequences of selecting *Yes*. Use the navigation keys to toggle between *No* and *Yes*. Press *Accept* to move to the *Next* option.

Use the navigation keys to toggle between *Next*, *Exec*, and *Quit*.

Next: moves back to the *Yes/No* option

Exec: if *Yes* is selected, the master unit is rebooted. If *No* is selected, the root menu is shown.

Quit: moves back to the root menu.

Log off

This option exits the configuration menu and returns the master unit back to standard operation.

Scroll through the root menu using the navigation keys until *Log off* is selected. Press *Accept* to exit.

EMERCALL_Installation_&_Commissioning_Manual

EMERCALL Commissioning Procedure.

Before powering up the system please read this document and follow these steps.

1. Visual verification of cables and connections as per the EMERCALL Insulation Guide.
 - a. Network Cables as drawing (net out to net in on all exchanges)
 - b. Red (brown) to Red connection on phone (+ on the exchange)
 - c. Black (Blue) to Green connection on phone (- on the exchange)
2. Using the dip switch on each exchange, set the address, ie exchange 1 has switched 1 on and exchange 3 has switched land 2 on.
3. Using the dip switch on each exchange, set switch 8 to on, to enable the memory configuration.
4. Power up each exchange, and verify that the AC power LED is on (faulty LED'S will light, as the system has not been setup).
5. Check that the master handset has powered up. The master is powered from an exchange through the network. If the master has not powered up, disconnect the mains from the exchange and check the network connections in the EMERCALL Insulation Guide. Once the exchanges and master handset are powered connect the batteries.

Never power the exchange off batteries first. If you are unsure of any of the following steps please consult the EMERCALL Configuration Manual.

6. Login in to the master handset and check that the network is communication through the system, by checking that there is an open padlock next to every exchange that is on the systems.
7. Configure each line on each exchange, by setting the name of the extension, and set phone to 1. Where there are no phones connected, set phone option to 0.
8. Set network fault option for each exchange. The current status of the network is found in the brackets, ie if only the netout is connected, then yes should be detected in brackets then set netout to yes.
9. Set the date and time.
10. Edit the site name, if required.
11. Set the service date, if required. Warning this will put a fault on the system when the date is reached, so only set this if a maintenance contract has been set up, as Audix Systems can not be held responsible for this.
12. Switch off switch 8 on all of the exchanges, so that the memory is locked.
13. The system should now be fault free and ready for testing.
14. Lift each handset in turn and check voice communication can be heard both ways. Also, check that the master handset can call each of the outstations and voice communication can be heard.
15. Check the fault monitoring by unplugging an outstation. This should bring a fault up on the exchange, the buzzer in the master handset should sound and the exchange fault LED should light. Accept the fault and replace the plug in the exchange and the fault LED will distinguish.
16. Once all the lines have been tested for communication and faults, replace the front panels on the exchange.
17. Clear the event log, so that any future events can not be confused with the commissioning of the system.
18. The system is now commissioned and ready for use.

EMERCALL EVCS System MTBF Data

The EMERCALL EVCS system is designed for continuous quiescent operation for a period of 10 years, with the exception of the batteries that the manufacturers recommend changing at 5 years or after an identified failure, caused by a prolonged power outage (>72 Hours discharge).

MTBF calculation.

Two methods have been employed for the calculation, Method 1, weighted main component failure, and method 2 spread failure rate.

The identified main components are the programme store of the main and exchange CPU's, manufacturer rated at 10 years at 25C, and the power supply reservoir capacitors, rated at 2000 hours at 85C.

Applying method 1, we arrive at a figure of 136,656 service hours before failure (>15 years)

Applying method 2 we arrive at the following figures:

First batch member failure in 16,684 Hours
Average failure rate from batch 257,761 hours

As both these methods are statically derived they should be treated as advisory, as all care has been taken to derive the information from component supplier information.