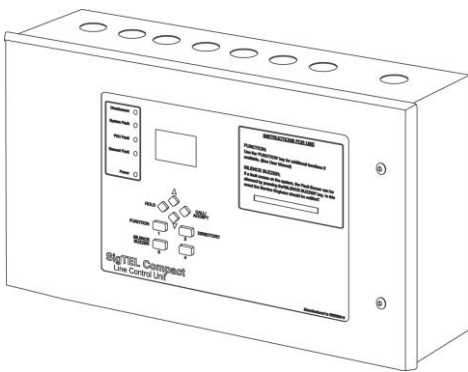
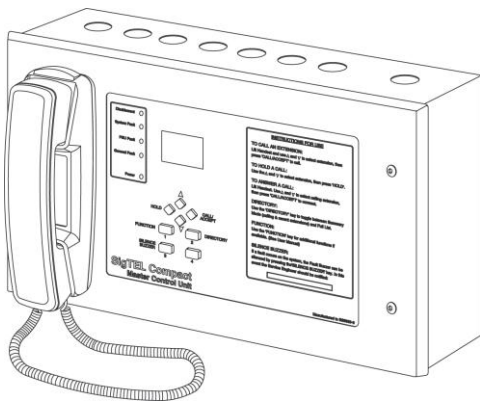


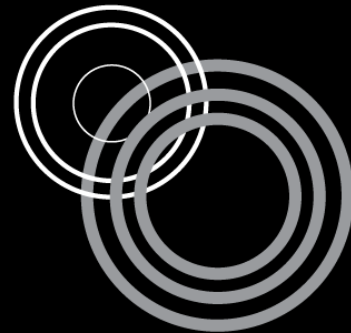
# SigTEL Compact

## Emergency Voice Communication System (EVCS)



## Operator Instructions

Approved Document No. DAU0000092 Rev 2



AN EXPLANATION OF TERMS AND DEFINITIONS USED IN THESE INSTRUCTIONS IS LISTED IN SECTION 16.

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## 1 Regulations

Disabled refuge systems are called for by DETR Approved document B (Fire safety) volume 2, section 4, Design for vertical escape and BS 5588 Fire precautions in the design, construction and use of buildings, Part 8, Code of practice for means of escape for disabled people.

Fire telephone systems for buildings are called for by BS 5588 Fire precautions in the design, construction and use of buildings Part 5; Code of practice for firefighting stairs and lifts, Part 10; Code of practice for shopping complexes and Part 11; Code of practice for shops, offices, industrial, storage and other similar buildings.

Fire telephone systems for sports venues are called for by the Guide to safety at sports grounds.

The installation of EVCS is covered by BS 5839-9 Fire detection and fire alarm systems for buildings – Part 9: Code of practice for the design, installation, commissioning and maintenance of emergency voice communication systems.

## 2 Safety

The Emergency Voice Communication System (EVCS) is safe to operate provided it has been installed in compliance with the manufacturer's instructions and used in accordance with this instruction.

DO NOT open the control enclosures as Mains voltages are present inside. There is no need to open these enclosures except to carry out maintenance, or remedial work. Such work must be carried out by competent service personnel who are fully conversant with the installation manual for this product.

If equipment is damaged in any way, advise the person responsible for the EVCS at the site.

Regular servicing of the EVCS is required by BS 5839-9, by a competent organisation on a continuous maintenance contract. A fully itemised report of the status of the installation should be obtained at least once a year.

Management of the site is required by law (The Regulatory Reform (Fire Safety) Order 2005) to appoint a responsible person to ensure the EVCS (and other safety systems) remains operational.

## 3 System Overview

The EVCS provides reliable two-way communication between a permanently manned control room and key points on the site in a fire emergency. The EVCS comprises of fire telephone and/or disabled refuge systems.

Fire telephone systems are for use by trained people as part of the fire safety procedures at the site. Disabled refuge systems are for use by untrained people communicating with a trained Operator.

The two systems differ from a standard telephone or intercom system in the following ways:

- Outstations do not have to dial the master Control Unit (MCU), they call the MCU as soon as their handsets are picked up (at Type A outstations), or the 'Push to Call or Answer' button is pressed (at Type B outstations)
- Outstations cannot call other outstations
- Type A (fire telephone) outstations may be in locked housings to prevent unauthorised access
- The EVCS operates from Mains and has battery back-up in case of Mains failure so that it is always available
- If there is a fault, a buzzer sounds intermittently at an MCU. Details of the problem are shown on the display. If the fault is not rectified the fault buzzer resounds after a period of 6 hours.

**Note:** The system also has a disabled persons toilet alarm (DPTA) interface which is a secondary function to the primary purpose of the EVCS.

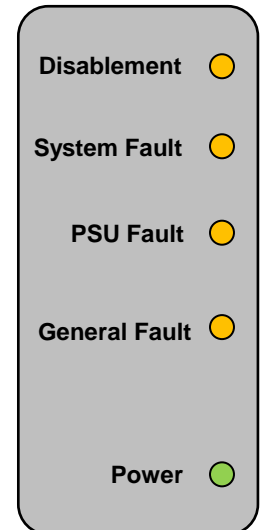
## 4 Disabling the System

If an MCU is installed in a public area, the system may be disabled to prevent unauthorized use. If this is the case, the system will be enabled either, automatically when the fire alarm operates, or manually by operation of a break-glass call-point, or similar control. When disabled, the EVCS continues to check for faults but the MCU are suppressed from making, or receiving calls until an external trigger is applied.

## 5 MCU Indicators & Display

### 5.1 External indicators

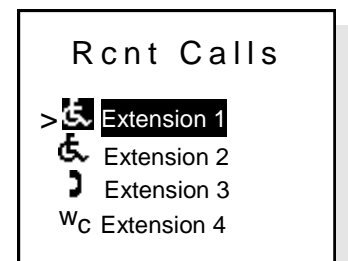
Indicator	Colour	What this means
<b>Disablement</b>	Amber	The EVCS is powered up and checking for faults but the MCU is disabled from making, or receiving calls, until an external trigger is applied, e.g. from a fire alarm panel. This is not a fault indicator. This function is used to stop nuisance/malicious use of the EVCS until the system is required.
<b>System Fault</b>	Amber	There is a problem with the microprocessor. If this indicator cannot be extinguished, there may be a serious problem with the microprocessor. Contact the service company responsible for the EVCS.
<b>PSU Fault</b>	Amber	There is a fault with the Mains power supply or back-up batteries.
<b>General Fault</b>	Amber	There is a fault on the EVCS. The display will show more information.
<b>Power</b>	Green	Power (Mains or battery) is present.



### 5.2 The display

The display shows call status, system information, fault information and uses the following graphic symbols:

Graphic symbol	What this means
⊠	MCU
□	LCU
⌋	Type A (fire telephone) outstation
⌋	Type B (disabled refuge) outstation
WC	Disabled persons toilet alarm (DPTA)
>	The display entry is highlighted, ready to be selected



#### Display conventions

Standard / non-active displays are shown normally, e.g. '⌋ Extension 2'

Active displays are shown reversed, e.g. '> ⌋ Extension 1'

The flashing graphic symbol in front of an extension name means this extension is calling the MCU, or the MCU is calling the extension. The display's red backlight also flashes when an outstation is ringing in.

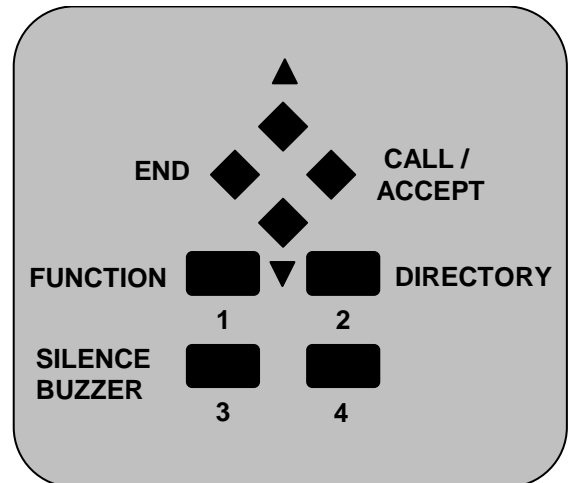
A reversed graphic symbol in front of an extension name means you are connected to this extension.

## 6 MCU Controls

**Note:** The controls inside the MCU are for use by the service company responsible for the EVCS. **Under no circumstances should these internal controls be accessed by Operators.**

The MCU's external control buttons are located on its keypad. They are multi-purpose and their functions depend on the MCU's current status.

**Note:** The numbers 1, 2, 3, & 4 are used for entering security PIN codes using the keypad (by responsible persons only). This code will be provided by the system installer.



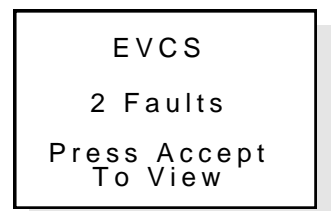
Button label	What this means	When to press this button
▲	Scroll Up	Used to scroll up and down lists (e.g. phone lists) and menus (e.g. User Options menu).
▼	Scroll Down	
<b>CALL / ACCEPT</b>	Make/Accept calls & Select Menus	When the MCU's handset is off-hook press this button to either make an outgoing call to an extension, or accept an incoming call from an extension. Also, selects menu options.
<b>END</b>	Ends a Call & ESC back to previous display & Lamp test	When the MCU's handset is off-hook press this button to disconnect the current caller. When the MCU's handset is on-hook press this button to escape back to a previous menu. <b>Note:</b> To perform a lamp and buzzer test, press and hold this button.
<b>FUNCTION &amp; 1</b>	Additional functions & security PIN code entry	Used to access to the 'User Opts' menu (see sections 12 & 13).
<b>DIRECTORY &amp; 2</b>	Telephone directory & security PIN code entry	With the MCU's handset off-hook, toggles between a full list of extensions and a list of recent calls from extensions (if any). <b>Note:</b> The recent calls list is automatically cleared after a set time period (settable between 6 to 24 hours by a system engineer). Also, can be manually cleared.
<b>SILENCE BUZZER &amp; 3</b>	Silence buzzer & security PIN code entry	Used to silence the MCU's internal buzzer.
<b>4</b>	Security PIN code entry	

## 7 Fault Messages

Faults on the EVCS are normally non-latching and will clear if the fault disappears. The only exception being a watchdog fault that occurs at initial power-up, or after a system reset and stays latched until manually cleared. Normally this fault clears when accepted and the MCU reverts to normal operation.

If the EVCS has been configured previously and any extensions are now missing, or are incorrectly connected the relevant faults are displayed.

The display (right) show typical displays but may have a different number of faults.



Press CALL / ACCEPT button to view the fault(s).

Each fault display has two lines. The format depends on whether the fault relates to an extension or not.

<b>Format 1: Extension faults</b>	<b>Format 2: Non-extension faults</b>
Line 1 - Extension name	Line 1 - Fault description, e.g. Mains fail
Line 2 - Fault description	Line 2 - Blank

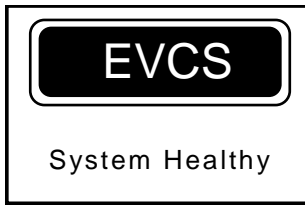
When a fault occurs, the relevant fault indicator is lit and a buzzer sounds intermittently at the MCU (or at the master MCU on a networked system).

Some faults may require investigation, or assistance from the service company responsible for the EVCS. If required, contact them directly for assistance quoting the exact nature of the fault which is shown on the display.

## 8 Check the MCU is Working

If the EVCS is healthy, the green Power indicator is lit, no fault or disablement indicators are lit and the display shows the current system status, see typical displays below.

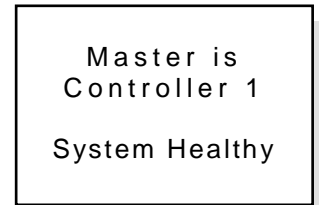
**Note:** The display at the MCU is different for a networked system and a non-networked system.



Non-networked MCU



Networked 'master' MCU



Networked 'repeater' MCU

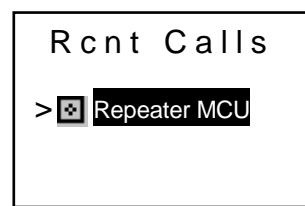
## 9 Handling Calls at the MCU


**Note:** This section applies to both a non-networked MCU and the master MCU on a networked system. Additional call handling facilities are available for a networked system, see section 13.

Sections 9.1 to 9.5 assume that Auto-Answer mode is enabled; this is the mode most likely to be setup for the system.

### 9.1 To answer a call









When an extension calls in to the MCU, the ringer sounds and the display's red backlight flashes. The MCU's display shows the name of the calling extension (or networked MCU), see examples below.



**Note:**  denotes MCU and is only seen on a networked system.

To answer the call, pick up the MCU's handset. The call is automatically connected and you may speak.

The display's red backlight returns to normal.

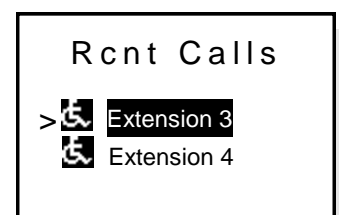
The symbol ( or  or  or ) will be reversed (i.e.  or  or  or ) meaning you are connected.

### 9.2 To end a call

Hang up the MCU's handset, or press END button.

### 9.3 Ending one call and answering another

If another call comes in whilst you are talking to an extension, the MCU will not ring, but the display indicates the name of the calling extension and the display's red backlight flashes. See typical display, right.



To end the first call and answer the new one:

Either, replace the handset back on-hook to end the first call and wait for the MCU to start ringing again. When it does ring, pick up the handset to answer the next call.

Or, press END button to end the first call. The next call will automatically be connected.

## 9.4 Conference calls

If you are already talking to one extension and another extension calls, you can talk to both at once by selecting the new call without ending the original call. No more than three outstations/MCU should be involved in a conference call as audio quality is reduced.

## 9.5 To call an extension

Pick up the MCU's handset. If there have been recent calls, the recent calls list is displayed otherwise, the full directory is shown. If there have been recent calls, you can toggle between recent calls and full directory by pressing DIRECTORY button. Press ▲ and ▼ to highlight the extension you want to talk to, then press CALL / ACCEPT button to call.

To clear the recent calls list, see section 12.1.

## 9.6 Auto-answer mode disabled (i.e. manual-answer mode)

By default Auto-Answer mode is enabled, which means an MCU automatically answers an incoming call when the MCU's handset is picked up. This provides a simple method of answering calls but provides less control for an Operator when there are multiple calls on the system.

In Manual-Answer mode, the Operator can prioritise and chose multiple calls to answer, or can ignore calls and chose to make an outgoing call instead. This mode is usually enabled for Operators who are experienced in the operation of the EVCS.

The mode of operation can only be changed by a system engineer.

### To answer a call (in manual-answer mode)

When there is an incoming call, pick up the MCU's handset and press CALL / ACCEPT button to answer the call. If necessary, press ▲ and ▼ to highlight the extension you want to talk to and press CALL / ACCEPT button to answer the call.

### To end a call (in manual-answer mode)

This is the same procedure as described in section 9.2.

### To end a call and answer another (in manual-answer mode)

Press ▲ and ▼ to highlight the call you want to end and press END button.

Press ▲ and ▼ to highlight the extension you want to talk to. Press CALL / ACCEPT button to talk to the extension.

### To call an extension (in manual-answer mode)

This is the same procedure as described in section 9.5.

## 10 Making a Call from an Outstation

There is no need to dial from an outstation as the system automatically calls the Operator at the MCU.

At Type A outstations, pick up the handset and a double 'beep-beep' ringing tone sounds in the earpiece.

At Type B outstations, press the 'Push to Call or Answer' button – a double 'beep-beep' ringing tone sounds in the loudspeaker and the Call in Progress indicator is lit steady.

At the MCU, the ringer sounds and the Operator can choose to answer.

If the Operator is talking to another outstation, an engaged tone (continuous short pips) sounds at the outstation's earpiece. The Operator knows there is a call, so stay on the line until it is answered.

## 11 Answering a Call at an Outstation

When the Operator at the MCU calls an outstation, a ringing tone is heard at the outstation. At the outstation, either pick up the handset (at Type A outstations) or press 'Push to Call or Answer' button (at Type B outstations).

## 12 Additional Operator Functions

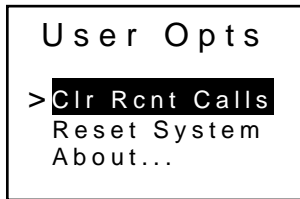
Additional Operator options are available at the MCU by pressing FUNCTION button (with the handset on-hook).

**Note:** Some Operator functions require a security PIN code entering. This code can only be changed by the EVCS service company. Therefore, ensure that the security PIN code is held by a responsible person and NOT lost. The default code is 2222 but keep a record of the code in the boxes, right.

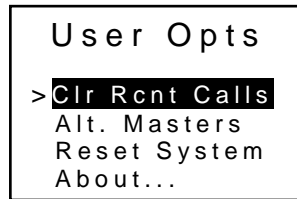
.....	.....	.....	.....
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With the MCU's handset on-hook, press FUNCTION button. The 'User Opts' menu is displayed.

**Note:** The 'User Opts' menu for a networked MCU is different to a non-networked MCU (see below):



Non-networked MCU



Networked 'master' MCU



Networked 'repeater' MCU

### 12.1 Clear recent calls

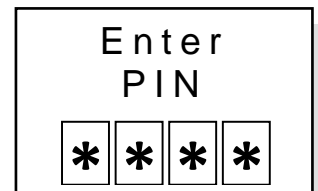
To make it easier to call back to outstations, the system keeps a record of incoming calls for up to 24 hours after the system was last used. To manually clear this list press FUNCTION button and select 'Clr Rcnt Calls' option.

**Note:** The system can be set up to automatically clear the recent call list after a set time period (between 6 to 24 hours). This is set up by a system engineer.

### 12.2 System reset

This option provides a clean restart to the system and is used for an emergency recovery in case the system gets into an unforeseen condition. If faults / problems continue, contact the service company responsible for the EVCS.

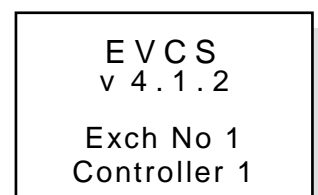
1. Press FUNCTION button and select 'Reset System' option.
2. Enter the security PIN code using the keypad.  
A full system reset is carried out.



### 12.3 Firmware version

If you need to find out which version of firmware is installed on the EVCS press FUNCTION button and select the 'About...' option.

The firmware version is displayed (typical display shown right).



### 12.4 Alt. masters

This function is only available on a networked system and gives control to a repeater MCU from the master MCU when no calls are present on the EVCS. See section 13.2.

### 12.5 Take control

This function is only available on a networked system and allows a repeater MCU to take control from the master MCU when no calls are present on the EVCS. See section 13.3. The repeater MCU becomes the master and likewise, the master MCU becomes the repeater.

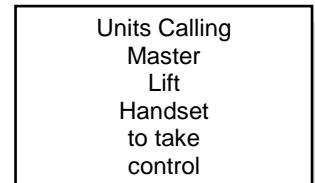


### 13 Additional Operator Functions (Networked Systems Only)

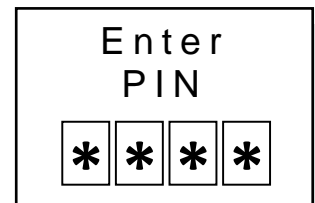
In addition to the functions listed in section 12, Operators on a networked system can access the following functions.

#### 13.1 To take control from the master MCU at a repeater MCU (call on system)

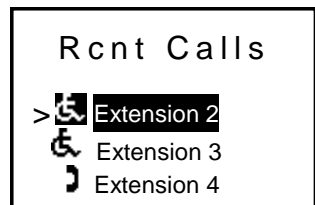
1. When there is an incoming call on the system, the master MCU displays the call. All repeater MCU display the message shown right.



2. At any repeater MCU, pick up its handset and enter the requested security PIN code using the keypad.

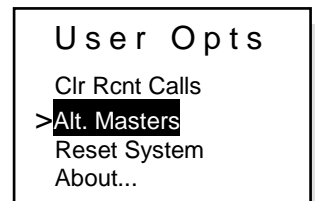


3. The repeater MCU takes control of the system and becomes the master MCU. If necessary, press ▲ and ▼ to highlight the extension you want to talk to and press CALL / ACCEPT button to answer the call. The displays at each MCU on the network confirm their network status.



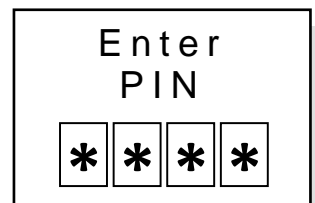
#### 13.2 To give control to a repeater MCU from the master MCU (no call on system)

1. When there is no incoming call on the system, at the master MCU (with its handset on-hook) press FUNCTION button. The 'User Opts' menu is displayed.

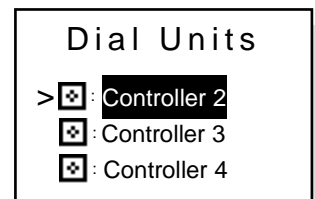


2. Press ▼ to highlight 'Alt. Masters' option and press CALL / ACCEPT button.

3. Enter the security PIN code using the keypad.

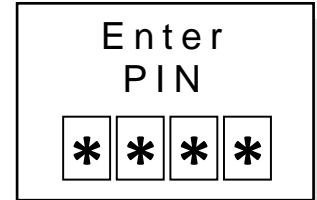


4. Press ▼ to highlight the location of the required master MCU and press the CALL / ACCEPT button. The master MCU changes location and the displays at each MCU on the network confirm their network status.



**13.3 To take control from the master MCU at a repeater MCU (no call on system)**

1. When there is no incoming call on the system, at a repeater MCU (with its handset on-hook) press FUNCTION button. The 'User Opts' menu is displayed.
2. 'Take Control' option is highlighted. Press CALL / ACCEPT button.
3. Enter the security PIN code using the keypad. The master MCU changes location and the displays at each MCU on the network confirm their network status.

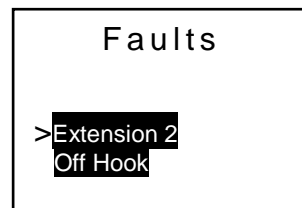
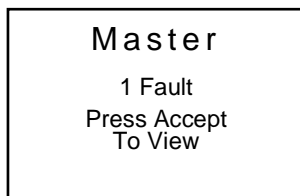


**14 Off-Hook Detection**

The EVCS has enhanced features to detect off-hook handsets and jammed buttons at outstations.

- **Off-hook detection (at Type A outstations):** Scenario: A call has been made from a Type A outstation, the call has been answered and ended at the MCU but the handset at the outstation has been left off-hook for longer than 2 minutes.
- **Jammed button detection (at Type B outstations):** Scenario: A call has been made from a Type B outstation, the call has been answered and ended at the MCU but the button at the outstation has pressed / jammed for longer than 2 minutes.

For the two scenarios above, after the 2 minutes have elapsed, the fault buzzer at the MCU sounds, the General Fault indicator lights and a fault message is displayed, see example below left. Press CALL / ACCEPT button at the MCU and details of the off-hook or jammed button extension is displayed, see example below right.



To rectify the fault either,

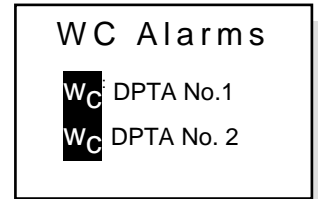
1. Call the extension from the MCU to check if someone is still waiting at the outstation for an answer, or
2. Go to the extension and replace the handset at Type A outstations, or release the jammed button at Type B outstations.

## 15 Monitoring Toilet Alarms

The monitoring of disabled persons toilet alarm (DPTA) is a secondary function to the primary purpose of the EVCS. If the site has toilet alarms AND they are connected into the EVCS, then active toilet alarms will be displayed at the MCU. As toilet alarm monitoring is a secondary function, any toilet alarm will be suppressed from being displayed if there are any calls from/to the outstations. At the end of outstation calls, the activated toilet alarm calls will be displayed.

Toilet alarms received at the MCU can only be reset at the alarm point and cannot be reset at the MCU. Someone has to physically go to the location of the toilet alarm in order to reset it.

On the MCU's display, toilet alarms are denoted by the graphic symbol 'WC' which is reversed **WC** when active. This symbol will never appear in the same list as outstations and pressing the DIRECTORY button (with the handset on-hook) will not show toilet alarms because you cannot call them. Similarly, toilet alarms will not appear in the Recent Calls list.



When a toilet alarm is activated, its name is displayed at the MCU. The buzzer operates continuously (to distinguish it from fault and EVCS operation). The buzzer can be temporarily silenced but will restart if the toilet alarm is not reset within 5 minutes. When the toilet alarm is cleared the MCU automatically reverts to normal mode.

## 16 Terms and Definitions

For the purposes of these instructions the following terms and definitions apply:

**disabled persons toilet alarm (DPTA) interface**

DPTA interfacing is a secondary function to the primary purpose of the system which is to act as an EVCS. Toilet alarms can only be reset at the alarm point and cannot be reset by the EVCS. DPTA part number: NC951.

**disabled refuge system**

type of EVCS. A disabled refuge system connects hands-free Type B (disabled refuge) outstations to an MCU and is used during a fire emergency to inform a responsible person that someone needs immediate assistance to evacuate from the building.

**emergency voice communication system (EVCS)**

system that allows voice communication in either direction between an MCU and a number of other points throughout a building, or building complex, particularly in a fire emergency situation. There are two types of EVCS; disabled refuge systems and fire telephone systems. They may be separate, or they may be combined into one system and are designed to operate reliably in a fire emergency.

**extension**

each MCU has either eight extensions (ECU-8) or four extensions (ECU-4). This can be increased to 16 extensions using an Expansion Unit with an ECU-8, or to 12 extensions using an Expansion Unit with an ECU-4. One extension typically has one outstation (Type A or B) or a DPTA connected to it.

**fire telephone system**

type of EVCS. A fire telephone system connects Type A outstations to an MCU and is used by management, marshals at a sports ground and the fire service before, during and after a fire to communicate with fire marshals and fire fighters.

**handset**

telephone-style handset used for voice communication. MCU and Type A outstations both have handsets.

**line control unit (LCU)**

control unit that controls the EVCS. On a networked system, up to four MCU and/or LCU can be installed. The LCU is identical to an MCU but does not have a handset mounted on its front panel. Part number: ECU-8NT.

**master control unit (MCU)**

control unit that controls the EVCS. On a networked system, up to four MCU and/or LCU can be installed. The MCU has a handset mounted on its front panel. Part number: ECU-8 or ECU-4.

**master MCU**

control unit on a network that has control over the EVCS, i.e. the 'master'. Any other MCU on a network acts as a repeater. The master MCU can give control to a repeater MCU by entering a security PIN code. There can only be one master MCU at any one time. Part number: ECU-8 or ECU-4.

**network**

communication link between MCUs located at different control points.

**off-hook**

status of a handset when picked up from its normal rest position to initiate an outgoing call, or receive an incoming call.

**on-hook**

status of a handset when in its normal rest position, notification of an incoming call, or terminating a call.

**outstation**

unit located at a strategic point in a building, or building complex, that allows two-way voice conversation with an MCU. There are two types; Type A (fire telephone) and Type B (disabled refuge).

**repeater MCU**

control unit that forms part of a networked EVCS. They repeat messages displayed at the master MCU and have the ability to take control from the master MCU by entering a security PIN code. Part number: ECU-8 or ECU-4.

**type A (fire telephone) outstation**

outstation that uses a telephone-style handset for communication. The housing consists of a wall-mounted, red steel cabinet that should be located at entrances and fire fighting lobbies. Type A enclosures may be lockable, in which case, keys must be issued by the person responsible for the EVCS.

Part numbers: EVC301RPO/EVC301RLK.

**type B (disabled refuge) outstation**

outstation that uses an intercom-style unit with a call/answer button and built-in microphone and loudspeaker. The outstation uses hands-free, duplex operation and should be located in disabled refuges at each storey exit. Part numbers: EVC302S/EVC302GS or EVC302F/EVC302GF.