

## INTRODUCTION

### Disabled Refuge facilities are not only for the wheelchair user!

It is a popular myth that a disabled refuge system (an Emergency Voice Communication System as designed by the Standard BS5839 Part 9:2003), is for wheelchair users only. This myth stems from the requirement in the building regulations that there should be a space to accommodate a wheelchair user, these however are not the only users of the system.

A disabled refuge is defined as a location for people who are mobility impaired who will impede the general egress from the building, or need assistance in leaving the building. This obviously includes wheelchair users who may have used the lift, but also covers the elderly, pregnant women over 6 month term, people with arthritis, in fact anyone who cannot walk 200 metres without a break.

The Office for National Statistics census results for 2001 show that 0.47% of the population are wheelchair bound, however 12.7% of the population are diagnosed as unable to walk 200 metres unaided.

The disability sign being a wheelchair further perpetrates the myth, this is the international symbol for disabilities and covers all disability type both mental and physical.

The design marketing of most disabled refuge systems predates the publication of BS5839 Pt 9:2003, and derives from the definitions posted in BS5588 parts 5, 8, 10 & 11; it was because of this lack of clarity BS5839 pt 9:2003 was written, and should not be held as the definitive description of system use and operation.

Section 11 of BS5839 Pt 9:2003 deals with outstation types, and has the following to say:

It should also be noted that the communications on an Emergency Voice Communications System should be Full Duplex, and not Simplex or VOX switched simplex, therefore control of the conversation on a compliant EVCS should not be governed by a push to talk on the master handset.

***EmerCall*** benefits from taking into account all points in BS5839 pt 9:2003 during the design.

- The ***EmerCall*** emergency voice communication system is designed to fully meet the requirements of BS 5839 part 9:2003, providing a fully integrated solution for fire telephone and disabled refuge systems.
- ***EmerCall*** provides large scale cable savings, while not requiring a dedicated rack room to house a central exchange.
- Control of the ***EmerCall*** Emergency Voice Communications System is simplicity itself, the master console has a clear four line backlit display which shows the calling outstation handset name in plain text, and calls can be made to outstation handsets by either dialling the number of the unit, or choosing the name from a text dialling directory.
- 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 can have up to four phones (BS5839 pt 9:2003 recommends one phone per line, however this facility is required in some retro fits).
- Outstation handsets (Type A) are either flush or surface mounting. All ***EmerCall*** outstation handsets have a 'T' coil for hearing aid users.
- Outstation access point (Type B) provides fully compliant (BS5839 pt 9:2003) hands free operation and can be either surface or flush mounted.
- The network comprises a line or ring of 2 off four core fire rated cables (300m between exchanges in MICC twisted or 500m on FP200 type cables). A ring topology is recommended by BS5839 pt 9:2003.
- In line with the recommendations of BS5839 pt 9:2003, multiple master consoles can be fitted to ***EmerCall*** with lockouts operating when a console is in use.

## SPECIFICATION

The **EmerCall** Emergency Voice Communication System (EVCS) has been designed to comply fully with the recommendations of BS5839 part 9:2003 (The Standard) 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 The Standard specifies these should form a single system.

An **EmerCall** EVCS comprises of three system building blocks; these are: Control Handsets (both main and repeater types), 8 way exchanges, and Type A outstation handsets as defined by The Standard (see also System Design, Choice of Station)

**Master handsets** are supplied in multifunction steel and aluminium 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 dialling
- 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, per line)
- Supply status (3 LEDs, AC Present, DC Present, Supply Fault)
- General fault LED

Outstation handsets are supplied as type A as defined by The Standard and the choice of outstation handsets should be made in line with the guidelines of The Standard (see also System Design, Choice of Station)

**Type A Outstation Handset** comprises 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 and cables)

**Type B Outstation Access Point** comprises a steel enclosure which is either flush or surface mounted. It provides secure bi-directional full duplex voice communication with the following main features:

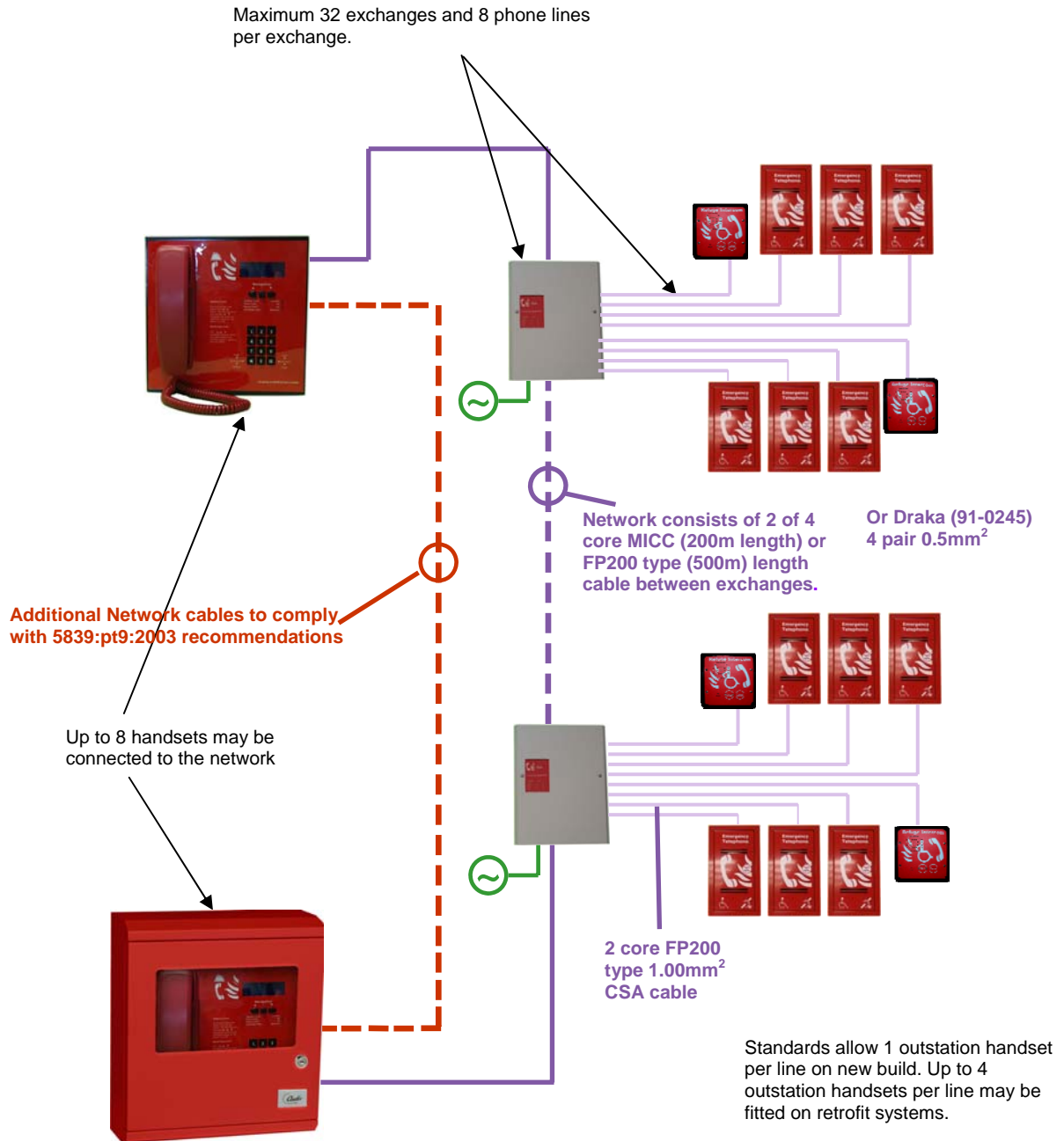
- BS5839 pt 9:2003 compliant
- Hands free operation
- High volume ringer
- Braille signage
- Duplex speech
- Red or green front

## SUMMARY OF BS5839 PART 9 PRODUCT COMPLIANCE

Document Ref	Summary of BS5839 part 9 product compliance	Compliance
1	One System for Fire phones and Disabled persons (Reference BS 5839 part 9 Section Forward, Section 1 Scope, Section 7.1 Purpose)	✓
2	Must be Duplex Operation (Reference BS 5839 part 9 Section 3.2 Terms and Definitions, 9.2 Audio and Data Signal Paths)	✓
3, 11, & 16	Multiple Master Stations should be considered ...located at a central control point ...A master station would be expected to be permanently manned in an emergency... control might be taken over by a fire officer.  In a large building or complex, there may be more than one point from which evacuation or other emergency situations can be controlled.  In a complex of different buildings, it may be desirable to have a voice communication link between a master station in one building and master stations in other buildings.  A master station should be installed in an area of low fire risk (which may require a second master away from the main entrance) (Reference BS 5839 part 9 Section 3.12 master station, 12 Master Stations)	✓
4	The main purpose of an EVC system is to support the fire safety strategy ... suitably supports the required evacuation and firefighting procedures (Reference BS 5839 part 9 Section 5.1 Exchange of information and definition of responsibilities)	✓
4	A key performance requirement to be determined in relation to EVC systems is whether there is a need for calls to be made to, as well as from, outstations. (Reference BS 5839 part 9 Section 5.1 Exchange of information and definition of responsibilities)	✓
5	Configuration password protected. (Reference BS 5839 part 9 Section 8.2 System Circuitry and Software)	✓
6	...no delays in voice communication should be introduced by the system. Conversation should be possible exactly as if no electronic communication system were involved. (Reference BS 5839 part 9 Section 9.1 Audio and Data Signal Paths)	✓
7	...operate within three seconds of the initiation. (Reference BS 5839 part 9 Section 9.2 Audio and Data Signal Paths)	✓
8	Fault monitoring and Indication Compliant (Reference BS 5839 part 9 Section 10 Fault Monitoring and Indication)	✓
9	System may require a combination of type A and type B outstations. Intercoms for disabled people may be included as forms of outstations, but there will often be several outstations specifically located for use by persons such as firefighters, (Reference BS 5839 part 9 Section 11 Outstations)	✓
10	Surface, flush weatherproof, open or lockable outstations should be available as appropriate. (Reference BS 5839 part 9 Section 11 Outstations)	✓
12	Where more than one master station the EVC should be controlled from only one master station at any given time. (Reference BS 5839 part 9 Section 12 Master Stations)	✓
13	Where the EVC system is required to have the facility to call outstations, a "make call" switch should be provided to initiate a call to each outstation individually ... (Reference BS 5839 part 9 Section 12 Master Stations)	✓
14	Arrangements for canceling conversations This cancelling operation should not of itself cancel the "call indication" (Reference BS 5839 part 9 Section 12 Master Stations)	✓
17	Battery standby for a quiescent state of operation for at least 24h, plus voice communication in an emergency situation for at least three hours (Reference BS 5839 part 9 Section 13.3 EVC System Power Supply units)	✓

## SYSTEM DESIGN

The **EmerCall** EVCS comprises of three functional blocks, the master handset, the eight line exchanges and outstation handsets with the quantities of these basic units being adjusted to suit the application.



## SYSTEM DESIGN

### WIRING

The **EmerCall** EVCS has been designed on a star and ring network topology; in most cases this will reduce the cable requirements from all ring based systems and star systems. The topology consists of a ring formed from either 2 off four core 1mm<sup>2</sup> CSA cables (soft skin up to 500m per leg MICC 200m per leg) or 1 four pair 0.5mm<sup>2</sup> CSA fire rated data cable (from either Draka (91-0245) or Fireshield for cable runs up to 500m). The exchange units and the control handsets sit on this ring and communicate using a high speed balanced RS422 network, a bi-directional audio pair and a power pair, which provides an ELV maintained supply to the control handsets.

For full compliance with The Standard, control handsets must at least have 2 power feeds to prevent the failure of a single fuse comprising the system.

All ELV fuses in the **EmerCall** system are self-resetting Poly fuses, removing the need to replace fuses following cable faults. All main fuses are 20mm HRC (F) type.

Each exchange unit contains a temperature compensated 1.5A VRSLA battery charger for a single 12V cell with a capacity from 3.2AH to 7AH, the high voltage required to ring the outstation handsets is generated from an internal high efficiency switch mode DC-DC converter.

Outstation handsets connect to the exchanges using 2 core 1mm<sup>2</sup> CSA cable (500m run length for soft skin, 400m for MICC). Each exchange line can accommodate up to 4 type A outstations handsets (although only one is recommended, the ability for four is to allow retrofit to early non BS58398 part 9:2003). Only one Type A handset should be fitted per line for BS5839 part 9 compliance or one type B outstation handset.

### SYSTEM OPERATION

All conversations on the **EmerCall** system are under the command of the control handset, if multiple control handsets exist, the first operated one takes command of the system.

The Standard envisages the majority of calls to be made by lifting the handset of an outstation (type A) or pressing the call button (type B). When this happens, the phone on the control point(s) will ring and the name of the calling extension will appear on the LCD display (all exchange lines can be given a unique 16 character name to identify themselves such as "Floor 1 Riser E"). The operator can then lift the handset and connect to the calling extension by pressing the # key. If more than one line is calling, all calling lines show in the display, and may be scrolled through with the navigate buttons, connected using the # key, or if already connected placed on hold using the # key a second time.

If the control wishes to ring an outstation handset they may do this in one of two ways, either by entering the number of the outstation handset using the keypad, or by scrolling through the names in the directory function and pressing # over the line they want. To call all extensions select ALL from the directory and press/ or dial 0#.

### FAULT MONITORING

All critical paths on the **EmerCall** system are monitored, and every fault event can be given a unique name, each control point contains a 99 event log in accordance with EN54. Lines are monitored for open circuit, short circuit or removal of a handset (on multi handset lines). The microprocessors in the exchanges are fully monitored and surveyed using a watchdog timer, each exchange unit has a volt-free changeover relay which can be set to indicate a local fault, or a general system fault.

## NOTES FROM BS5839 PART 9

### THE NEED FOR AND PURPOSE OF EVC SYSTEMS

The need for EVC in any specific building or complex will normally be determined by the authority responsible for enforcing fire safety legislation in that building and/or by a fire risk assessment carried out by the owner, landlord, occupier(s), employer(s) or other responsible person, as appropriate.

It is appropriate to install EVC in many buildings where phased evacuation applies, to help appropriate persons in the building and, in particular, the fire service, to manage the evacuation of the building.

At sports venues and in similar complexes, EVC will assist stewards in controlling the evacuation of the area in an emergency. Stewards, firefighters and other emergency services will be able to communicate from strategic points throughout the site, with a central control area.

An EVC system will also assist the fire service in firefighting operations after evacuation of a building or other complex.

Installation of an EVC system may be appropriate for buildings without phased evacuation where the types, size and/or shape of the building necessitates communication between remote locations and a central control point, to facilitate evacuation or firefighting.

In any building or sports or similar venues where there are disabled people, the installation of an EVC system might be required to facilitate communication with people at refuges.

*(Reference BS 5839 part 9 Section 4.1 Commentary)*

The main purpose of an EVC system is to support the fire safety strategy of the building or complex. It is therefore important that system design suitably supports the required evacuation and firefighting procedures.

*(Reference BS 5839 part 9 Section 5.1 Commentary)*

### INTENDED USES FOR EVC SYSTEMS

Intended uses for EVC systems are as follows:

- a) Use by the management of the building or complex for its initial evacuation:  
In the first stages of evacuation, before the fire service arrives, the EVC system may be used for communication between a person at a fire control centre with, for example, fire wardens or fire marshals on various floors of the building or with stewards at a sports venue...
- b) Use by the fire service during an evacuation:  
After arrival in the building or at the venue, the fire service would normally take over control of evacuation, with an officer at the fire control centre communicating with other officers via the EVC system.
- c) Use by the fire service after evacuation:  
During the course of a fire, the fire service would continue to use EVC after completion of evacuation, to assist firefighting.
- d) Use by disabled people:  
Particularly during a fire, but also in any other emergency situation, disabled persons in refuges would be able to identify their presence and communicate with a person, e.g. a control room operator, at the fire control centre, via appropriately situated outstations...
- e) Other uses:
  - 1) An EVC system may be used by designated persons within a building for non-emergency purposes; for example, someone on a security patrol could use outstations to communicate that person's location to the fire control centre (which would normally also be a security centre).
  - 2) An outstation may have a "loud speak" capability, allowing voice messages or signals arising from a master station to be broadcast over a limited area in the region of the outstation. This facility might be used to allow the operator at the master station to continue to speak to someone in distress near the outstation...

*(Reference BS 5839 part 9 Section 7.1 Commentary)*

The following recommendations are applicable.

- a) Other than in the case of EVC systems provided in refuges, users of an EVC system should generally be restricted to appropriate staff (e.g. stewards, fire marshals and control room operators) and members of the fire service.
- b) Where a voice alarm is installed in the building or complex, care should be taken that voice alarm emergency broadcast is not affected adversely or overridden by use of the "loudspeaking" capability of the EVC system...

*(Reference BS 5839 part 9 Section 7.2 Recommendations)*

## NOTES FROM BS5839 PART 9

### OUTSTATION TYPES AND LOCATIONS

An EVC system contains a number of outstations, located at strategic points throughout a building or complex. Intercoms for disabled people may be included as forms of outstations, but there will often be several outstations specifically located for use by persons such as firefighters, during evacuation of the building or during firefighting.

Two (physical) types of outstation...These are:

#### Type A



EmerCall offers both Type A Surface Mount and Type A Flush Mount Outstations

An outstation using a telephone-style handset for voice communication, so that the user's mouth and ear can be as close as possible to the microphone and ear-piece, respectively.

#### Type B



An outstation using an intercom-style fixed microphone and adjacent loudspeaker, normally mounted on a wall or other vertical surface.

During an evacuation or firefighting in a building or at a complex, there might be a high level of background noise. Outstation design should be such as to minimize the effect of background noise upon voice communication.

*(Reference BS 5839 part 9 Section 11.1.1 Commentary)*

The following recommendations are applicable.

- a) An outstation intended for evacuation or firefighting use should be type A. Type B outstation should be used only where it is impractical to install a type A outstation.
- b) An outstation intended for use by disabled people at refuges may be either type A or type B.
- c) However, type B outstations should be used in situations where the outstation will be operated by members of the public.

*(Reference BS 5839 part 9 Section 11.1.2 Recommendations)*

The preferred location of an outstation varies dependent upon its use. Outstations for use by disabled people should be located in designated refuges, and outstations for evacuation / firefighting purposes where they would be of most use to firefighters and persons controlling an evacuation in an emergency, (e.g. in lobbies of firefighting staircases).

Outstations should be mounted at a height appropriate to the application.

Outstations should be located, as far as possible, in areas where voice communication can be carried out satisfactorily, i.e. without undue interference.

*(Reference BS 5839 part 9 Section 11.6.1 Commentary)*

## NOTES FROM BS5839 PART 9

### OUTSTATION TYPES AND LOCATIONS CONTD.

The following recommendations are applicable:

- a) The number and location of outstations should be as agreed with the appropriate interested parties.
- b) The number and location of outstations should be determined on the basis of the purpose of the EVC system.
- c) Within a sports or similar venue, no-one should have to travel more than 30 m to reach the nearest outstation. Outstations should also be provided at key points as recommended by the Guide to Safety at Sports Grounds.
- d) Where an EVC system is provided in a building for use by the fire service to assist firefighting, outstations should be provided on all floors of the building served by firefighting stairs, and in the firefighting lobby to each firefighting stair. An additional outstation should be provided at each fire service access point.
- e) Where an EVC system is provided in a building for use by management during an evacuation, outstations should be provided on all escape staircases on every floor of the building.
- f) Each outstation should be located in a protected lobby or protected corridor, or, where there is no lobby or corridor approach to the staircase, in the protected stairway itself.
- g) In a multi-storey building, to assist in locating outstations, outstations should normally be installed in the same horizontal location on each floor.
- h) Because, in a building, an outstation will be located in an escape route that should be free from obstacles, it should normally be wall-mounted. In general, the outstation should be mounted at a height of 1.3 m to 1.4 m above the floor in an easily accessible, well illuminated and conspicuous position free from obstruction. Likewise, at sports and similar venues, such outstations should be mounted at a height of 1.3 m to 1.4 m above the ground in easily accessible positions free from obstruction.
- i) As far as practicable, outstations in buildings should be located where background noise is normally low [preferably not more than 40 dB(A)]. Where there is a higher level of background noise, the installation of an "acoustic hood" or "sound canopy" around the outstation might help to reduce the effect of background noise to an acceptable level.
- j) Where possible, outstations installed in public access buildings should not be installed in areas of the building where they can be subject to abuse. Where this is unavoidable, they should be secured.
- k) Where the EVC system is provided to facilitate communication by disabled people in an emergency, outstations should be provided in all refuges and, where appropriate, an outstation should be provided adjacent to the evacuation lift on each floor. They should be mounted at a height of between 900 mm and 1.2 m above the floor in an easily accessible, well illuminated and conspicuous position free from obstruction. Likewise, if required at sports and similar venues, such outstations should be mounted at a height of 900 mm to 1.2 m above the ground in easily accessible positions free from obstruction.

*(Reference BS 5839 part 9 Section 11.6.2 Recommendations)*

## NOTES FROM BS5839 PART 9

### MASTER STATIONS

An EVC system should contain at least one master station (a master station being an essential part of an EVC system).



EmerCall master handset - wall mount



EmerCall master handset - desk mount

The EVC system is controlled from a master station, which should be located at a central control point such as a fire control centre or security room or, if there is no manned control centre, at the main fire service access point.

A master station would be expected to be permanently manned in an emergency. In a fire emergency situation, control might be taken over by a fire officer. In a large building or complex, there may be more than one point from which evacuation or other emergency situations can be controlled. It may then be appropriate for a master station to be installed at each such location.

Where more than one master station is installed in a building or complex, one master station needs to have overall control of the EVC system at any given time, the remainder of the "master stations" effectively becoming repeaters.

In a complex of different buildings, it may be desirable to have a voice communication link between a master station in one building and master stations in other buildings.

*(Reference BS 5839 part 9 Section 12.1.1 Commentary)*

The following recommendations are applicable.

- a) A master station should be installed close to the main fire alarm panel or a repeater fire panel.
- b) A master station should preferably be installed in a control or security room.
- c) Where there is no suitable control room in a building or complex, a master station should be installed close to the fire service access point to the building. However, to avoid distraction of the operator of the master station by evacuating occupants, where possible the master station should not be installed in an escape route.
- d) If a master station is to be used by a standing operator, the vertical centre of the panel controls and handset, if used, should normally be between 1.4 m and 1.5 m above the floor. In a control room, the master station controls and handset, if used, should be within easy reach from the operator's normal position.
- e) A master station should be installed in an area of low fire risk.
- f) In a building, where it is not possible to install the master station in a low-noise control room, it should, if possible, be located where background noise is normally low, preferably not more than 40 dB(A). Where there is a higher level of background noise, the installation of an "acoustic hood" or "sound canopy" around the master station might help to reduce the effect of background noise to an acceptable level.

*(Reference BS 5839 part 9 Section 12.6.2 Recommendations)*

## PART CODE & ORDER GUIDE

### OUTSTATIONS



The **EmerCall** type B. BS5839 Pt 9:2003 compliant : hands free operation : compact design : high volume ringer : flashing status LED : braille signage : duplex speech : 20mm cable glands : fully monitored : stainless steel bezel option : red or green front

Part Number	Description	Quantity
2572009	EmerCall type B outstation	
2572016	Stainless steel flush bezel	



The **EmerCall** type A flush outstation handsets as defined by BS5839 pt9. Compact design : high volume ringer : Status LED : 20mm cable glands : telecoil for hearing impaired users : magnetic push catch or locking door : fully monitored : stainless steel option

Part Number	Description	Quantity
2572003	EmerCall type A Flush outstation handset with push door	
2572004	EmerCall type A Flush outstation handset with locking door	
2572013	EmerCall type A Flush outstation handset with push door, stainless steel	



The **EmerCall** type A surface outstation handsets as defined by BS5839 pt9 can be used as a fire telephone or disabled refuge call point. Compact design : high volume ringer : status LED : 20mm cable glands : telecoil for hearing impaired users : magnetic push catch or locking door : fully monitored : stainless steel option

Part Number	Description	Quantity
2572005	EmerCall type A Surface outstation handset with locking door	
2572006	EmerCall type A Surface outstation handset with push door	
2572014	EmerCall type A Surface outstation handset with locking door, stainless steel	



The **EmerCall** IP66 type A surface outstation handsets as defined by BS5839 pt9. For external use. Compact design : high volume ringer : status LED : 20mm cable glands : telecoil for hearing impaired users : magnetic push catch or locking door : fully monitored: stainless steel option

Part Number	Description	Quantity
2572010	IP66 Type A Surface outstation	
2572015	IP66 Type A Surface outstation, stainless steel	



The Roaming Phone is used along with the Jack Plate (2572.012) in the EVCS system. Calls are initiated when the roaming phone is plugged into the jack point.

Part Number	Description	Quantity
2572011	Roaming phone handset.	



High quality single gang low noise stainless steel telephone jack : printed with red ISO fire telephone symbol

Part Number	Description	Quantity
2572012	Stainless steel jack plate for roaming handset	

<b>TOTAL NUMBER OF OUTSTATIONS :</b>		
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## PART CODE & ORDER GUIDE

### EXCHANGE



BS5839 Pt 9:2003 compliant 8 line exchange unit. Controls up to 8 independent lines : mains powered : built in monitored 1A charger for 12V SLA batteries : full duplex audio : up to 32 exchanges per system : full line monitoring : serial port for configuration or updates : dry contact for fault or "in use" indication : dual network ports : provides remote power for **EmerCall** Master Handset 2572.001 : twelve status LEDs : compact design for riser mounting

Part Number	Description	Quantity
2572002	EmerCall 8 line exchange	

**NOTE: A MAXIMUM OF 8 OUTSTATIONS PER 8 LINE EXCHANGE CAN BE FITTED. (i.e. 16 out stations require 2 exchanges). The site geography may occasionally require more exchanges to maximise the wiring economy.**

### MASTER HANDSETS



BS5839 Pt 9:2003 compliant monitored master handset. The stylish master console case is available as a desk, rack or wall mount option. The wall mount option is also available with semi flush bezels.

Large high contrast display (4 x 20 character) : 12 key quick dial keypad : full duplex system : up to eight masters per system : directory dial function : full system event log (fault and configuration) : controls up to 256 lines (32 **EmerCall** 2572.002 exchanges) : 16 character unique name per line : dual Network ports : remote powered : wall, desk or rack mount : eight status LEDs

Part Number	Description	Quantity
2572020	EmerCall master handset - wall mount	
2572021	Semi-flush bezel	



BS5839 Pt 9:2003 compliant monitored master handset. Large high contrast display (4 x 20 character) : 12 key quick dial keypad : full duplex system : up to eight masters per system : directory dial function : full system event log (fault and configuration) : controls up to 256 lines (32 **EmerCall** 2572.002 exchanges) : 16 character unique name per line : dual Network ports : remote powered : wall, desk or rack mount : eight status LEDs

Part Number	Description	Quantity
2572001	EmerCall master handset - desk mount	
2572007	Rack mount kit	

<b>TOTAL NUMBER OF MASTER HANDSETS :</b>	
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## WEIGHTS & DIMENSIONS

DIMENSIONS - (H x W x D) mm			
Part Number	Description	Dimensions	Weight kg
<b>Outstations</b>			
2572009	Type B outstation access point	133 x 133 x 45	1.0
2572014	Stainless steel flush bezel	15mm overlap	1.4
2572003	Flush outstation handset with push door (Type A)	Back Box: 295 x 155 x 75 Bezel: 320 (H) x 75 (W)	1.4
2572004	Flush outstation handset with locking (Type A)	Back Box: 295 x 155 x 75 Bezel: 320 (H) x 75 (W)	1.4
2572013	EmerCall type A flush outstation handset with push door, stainless steel	Back Box: 295 x 155 x 75 Bezel: 320 (H) x 75 (W)	1.4
2572005	Surface outstation handset with locking door (square key - Type A)	300 x 150 x 75	1.4
2572006	Surface outstation handset with push door (Type A)	300 x 150 x 75	1.4
2572014	EmerCall type A surface outstation handset with locking door, stainless steel	300 x 150 x 75	1.4
2572010	IP66 Type A surface outstation	300 x 200 x 120	4.5
2572015	IP66 Type A surface outstation, stainless steel	300 x 200 x 120	4.5
2572011	Roaming phone (cable length 300mm (extends to 1m))	210 x 66 x 45	0.5
2572012	Roaming phone jack plate	86 x 86 x 35	0.1
<b>Exchange</b>			
2572002	8 line exchange	295 x 210 x 80	1.6
<b>Master Handsets</b>			
2572020	EmerCall master handset - wall mount	370 x 325 x 126	7.0
2572021	Semi-flush bezel	30mm cabinet overlap	0.5
2572001	Master handset - desk mount	268 x 275 x 85	1.5
2572007	Rack mount kit for 2572001	6U high	0.1