BASE LIGHTING & FIRE LTD
System Solutions, Lighting and Fire Supplies

CareCall & CareCall Lite
Fire Telephone & Disabled Refuge Systems

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The ***CareCall*** Emergency Voice Communication Systems (EVCS) has been designed to comply fully with the recommendations of BS5839 part 9:2003 which specifies the operation of such systems.

An Emergency Voice Communication System is defined as a fixed bi-directional full duplex secure 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.

- BS5839 Part 9:2003 compliant
- Network topology
- Multiple master panels
- Up to 300 lines per system
- Up to 4 outstation handsets per line
- Operates on CWZ fire cables
- Full fault monitoring
- T coil in all handsets
- Battery maintained
- Maximum spur 500 metres

- The ***CareCall*** 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.

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

- Control of the ***CareCall*** 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 ***CareCall*** 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 ***CareCall*** with lockouts operating when a console is in use.

- The stylish master console case is manufactured from brushed stainless steel with black aluminium rack wings and extruded aluminium guide rails, the case has been designed to mount directly on a wall or desk, or fitted into a rack using an optional mounting kit (occupies 6U of rack space).

- Outstation handsets are manufactured from zintec and powder coated signal red, other materials and finishes are available to special order including brushed stainless steel and brass.

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:

11.1.2.a Type A should be used for evacuation or fire fighting use, and a type B unit should only be used where a type A is impractical.

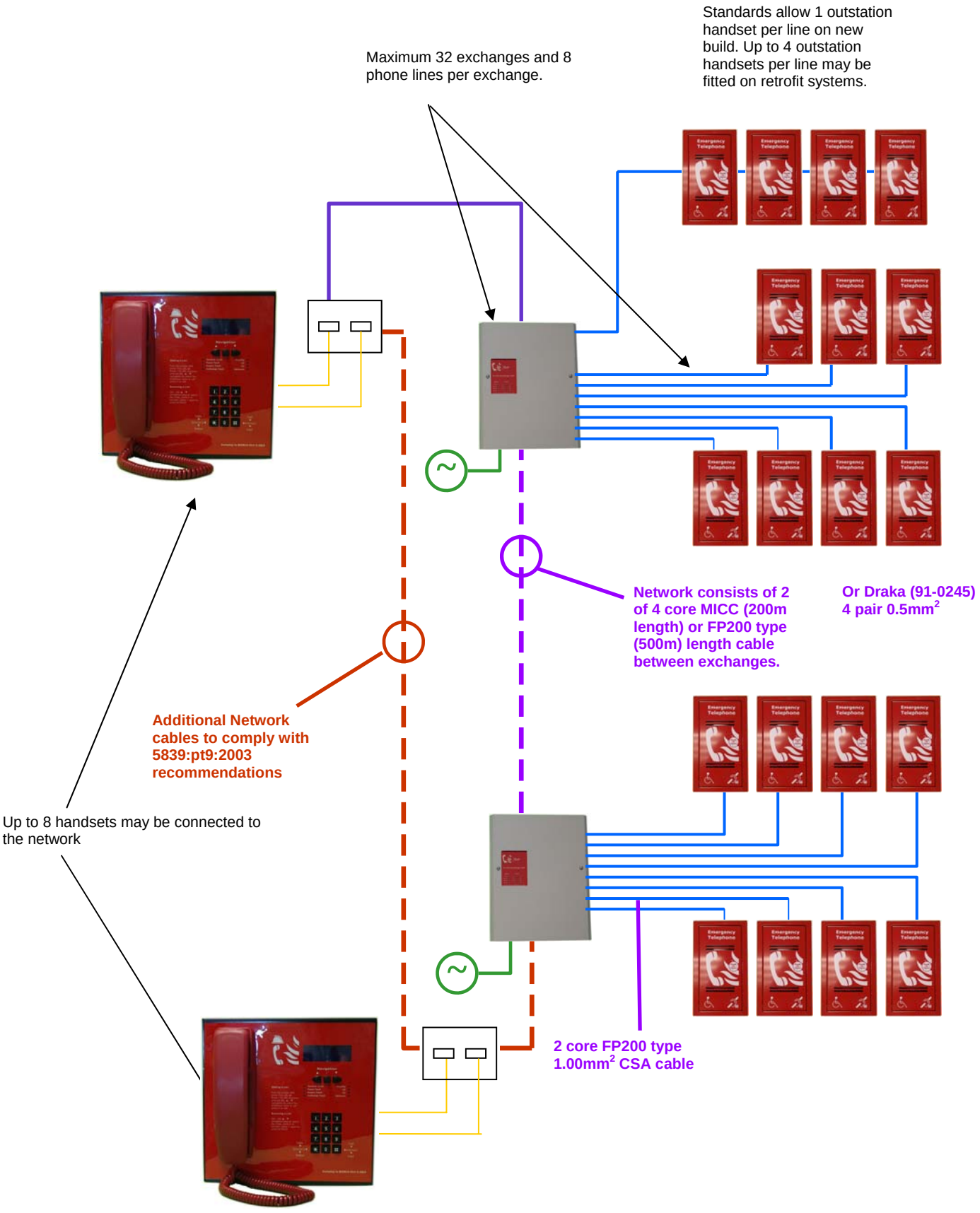
11.1.2.b For disabled refuge types A or type B can be used, however in locations (section 11.6.2.i) type B outstations can only be used where the background noise is below 40dBA (therefore there can be no sounder or voice alarm coverage in the area).

It should also be noted that the communications on an Emergency Voice Communications System should be Full Duplex, (section 9.1) 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.

Because of the above, and the fact that the ***CareCall*** system was designed for use by multi-disability users, having high contrast signage in line with RNIB guidelines and induction loop coil (to BSEN60118-4) in the handset we recommend type A outstation handsets in all locations, otherwise you would have to consider acoustic hoods or two outstation handsets in each location for compliance with the other associated standards and laws, including BS8200 and the DDA (Disabilities Discrimination Act).

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

FIRE TELEPHONE & DISABLED REFUGE



SYSTEM DESIGN

The ***CareCall*** 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^2 CSA cables (soft skin up to 500m per leg MICC 200m per leg) or 1 four pair 0.5mm^2 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 ***CareCall*** 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^2 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) or one type B outstation handset.

CHOICE OF STATION

The majority of outstation handsets will be type A, The Standard is very restrictive on the use of type B outstation handsets, and they will normally only be used in outside non-exposed areas or areas prone to vandalism. Type B outstation handsets cannot be used in areas covered by bells or voice alarm or in areas of high background noise. Additionally the positioning of type B outstation handsets in disabled refuge points give rise for concern, if the unit is placed for wheelchair users then other non wheelchair users (such as pregnant women, arthritis sufferers and people with limbs in plaster) who will also be sent to the refuge in the event of a fire cannot easily use the point, this may lead to the need for two points or more practically fitting a type A outstation handset.

SYSTEM OPERATION

All conversations on the ***CareCall*** 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 ***CareCall*** 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.

SPECIFICATION

The ***CareCall*** 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 ***CareCall*** 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)

Control 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)

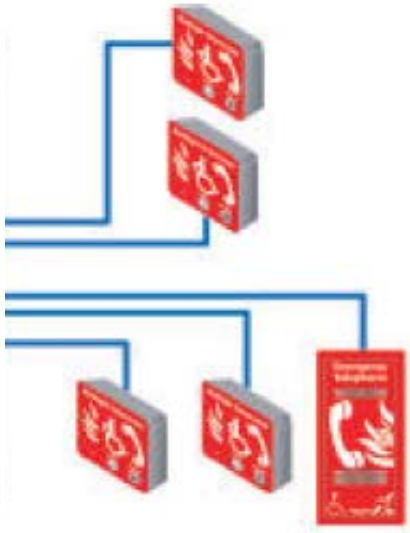
Type B Outstation Access Point comprises a steel enclosure which is either flush or surface mounted. It provides secure bi-directional full duplex voice communication with the following main features:

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

CARE CALL LITE

Key Features

- Monitored Handset
- Fully Monitored supply and charger
- Up to five outstations Type A or Type B per system
- 5 line keys, one fault accept
- 15 status LEDs
- Full DUPLEX system
- No programming required
- BS5839 P5 9:2003 compliant



PART NUMBER	DESCRIPTION
BF2572/001	Master handset with 4 line 20 character display, keypad and navigation controls.
BF2572/002	8 line exchange and PSU. Wall mount cabinet c/w space for 1 x 7AH SLA battery.
BF2572/003	Flush outstation handset with push door (Type A)
BF2572/004	Flush outstation handset with locking (Type A)
BF2572/005	Surface outstation handset with locking door (square key - Type A)
BF2572/006	Surface outstation handset with push door (Type A)
BF2572/007	Rack mount kit for Master Handset 2572/001 (80mm, 6U)
BF2572/009	Type B outstation handsets
BF2572/011	Roaming phone
BF2571/012	Roaming phone jack plate
BF2572/020	Master handset with 4 line 20 character display, keypad and navigation controls, in enclosure for wall mounting
BF2572/021	Semi flush bezel for 2572/020
BF2572/050	CareCall Lite 5 way line unit