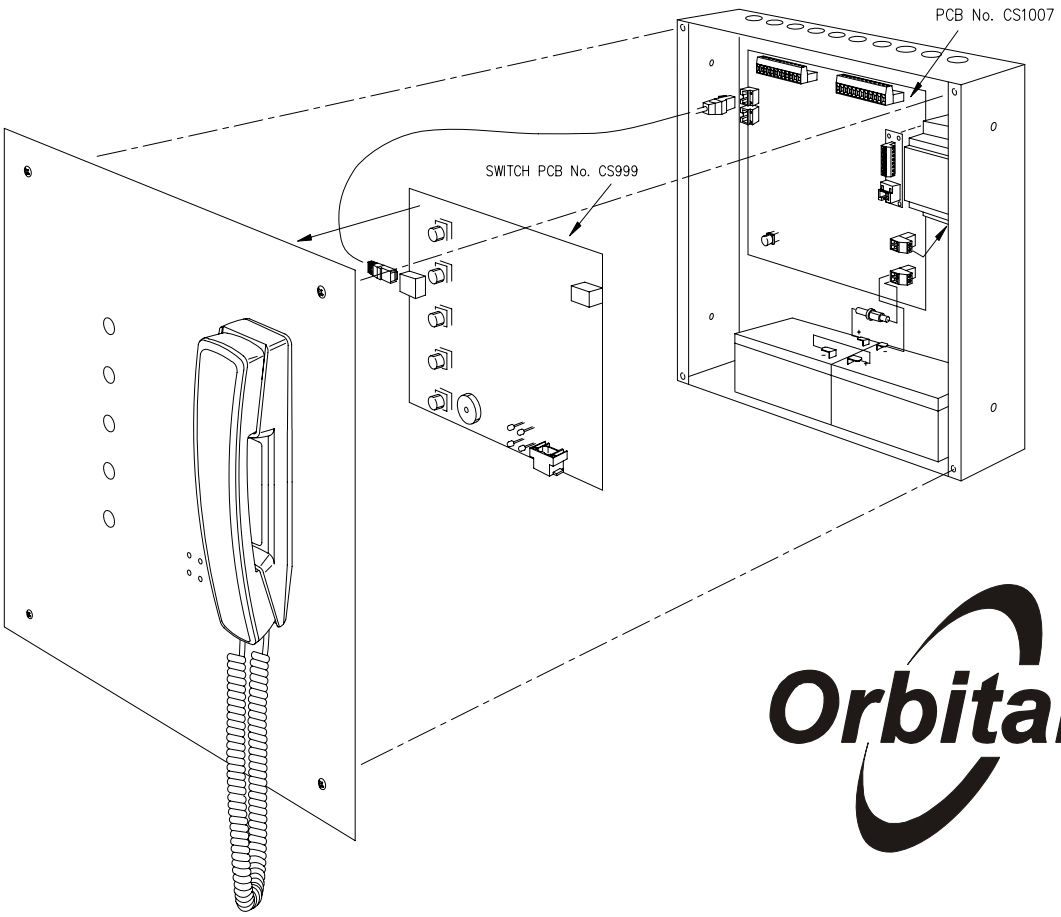
REFUGE CALL

(ORB/R/RS4 Radial WIRED)



- Remote units – Hands free or telephone handset options available
- Master to remote and remote to master calling
- Fully monitored for open and short circuit cable failures
- Remotes connected via : ‘2’ core Radial cable
- Compliant to BS5839 Pt.9 2010 & BS9999

Installation manual

Disabled Refuge Call
CDC/R/RS4 Radial Wired

Contents

Note: In all cases please use Drawing C51312/A (at the back of this manual) for reference to the above sections.

1) INSTALLATION PROCEDURE (refer to Dwg. C51312/A)

Install central enclosure, **with cable entry gland at top**, at a height of approx 1.5 metres above floor height. Ensure fixings can support a load of 20 Kg.

The field cabling described below **must** be installed via top entry to the enclosure.

The system batteries will sit on the lower edge of the enclosure, and the entire space below the main PCB assembly must be kept clear to accommodate these items.

1.1 Connect Field Cabling

A - Connect 5A (lighting rated) A.C. Mains supply (220 - 240V) to appropriate (L)ive, (N)eutral and (E)arth terminals on the modular PSU unit DSP60, located on DIN Rail fixings at the right of the main enclosure (Max system load is 40 Watts).

N.B. Earth terminal must be connected to building earth.

B1 – Connect 2 core (+ screen) enhanced fire rated cable **out** to each remote outstation location.

Observe colour coding on PCB ident for cable cores:

BN (Brown) + : PWR (+ 24VDC)
BU (Blue) - : DAT (Data / Line)
Screen SCN : Cable screen (connected to system earth and COM internally)

This cable is then connected, in a 'Radial' configuration; each remote outstation is required to have the same address as the terminated location on the main control panel.

i.e Unit 1 Address 01 : to terminals 'REMOTE 1' on CS1007.

The PCB sub-assembly CS1008/3 located in the back box of each remote location must continue to observe colour coding as listed above.

The following connections are optional, and are fitted only when the system specification requires these functions

C – Volt free 'Fault Out' changeover contacts, for remote fault reporting. (Fault relay is normally energised).

D – Volt free changeover contact – changes state with any call on the system. Use if remote call indication is required.

E – Short these terminals with a volt free closing contact (rated 50mA or higher) to enable the system 'Anti Tamper' feature.

(The 'Anti Tamper' feature enables the system to automatically disable incoming calls, whilst retaining system monitoring of the remote cabling and outstations. The system is returned to full operation with this contact opened).

1.2 Switch F

The setup switch is used for commissioning the system.

1.3 Connector J

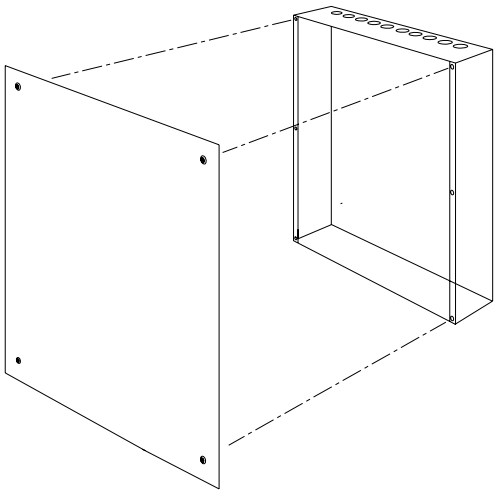
The Cat5 (RJ45) socket is only used for the master control panel. These are intended to be connected via standard (non fire rated) UTP Cat 5 cable, to the main control panel.

1.4 Connector K

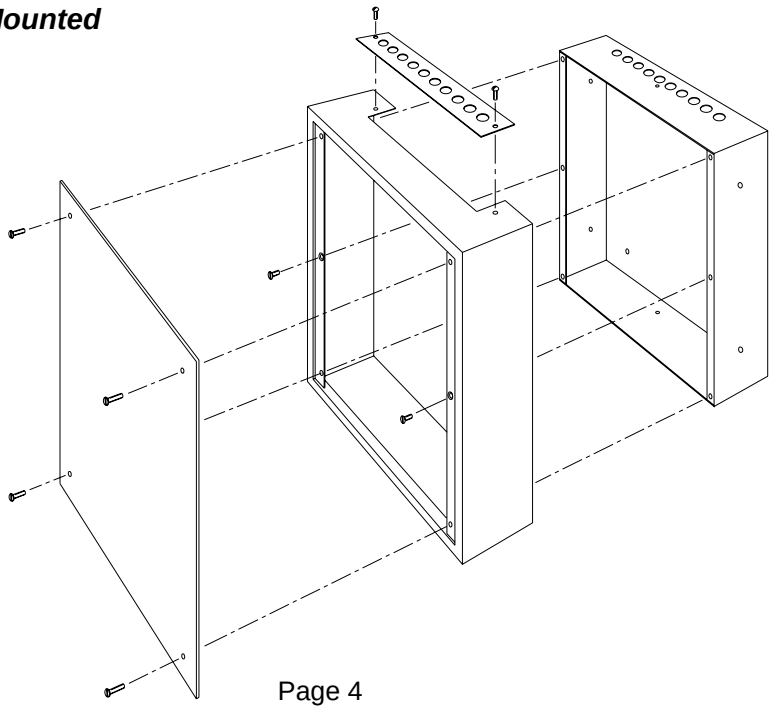
The Cat5 (RJ45) socket is only used where a remote control panel (repeater) is fitted. These are intended to be connected via standard (non fire rated) UTP Cat 5 cable, to a cable junction box adjacent (within the same fire zone) to the main control panel.

From that location, the control functions are serialised, and forwarded to the remote control panel location via a four pair (+screen) enhanced fire rated cable.

1.5 Flush Mounted



1.6 Surface Mounted



2) COMMISSIONING PROCEDURE (refer to Dwg C51297/A)

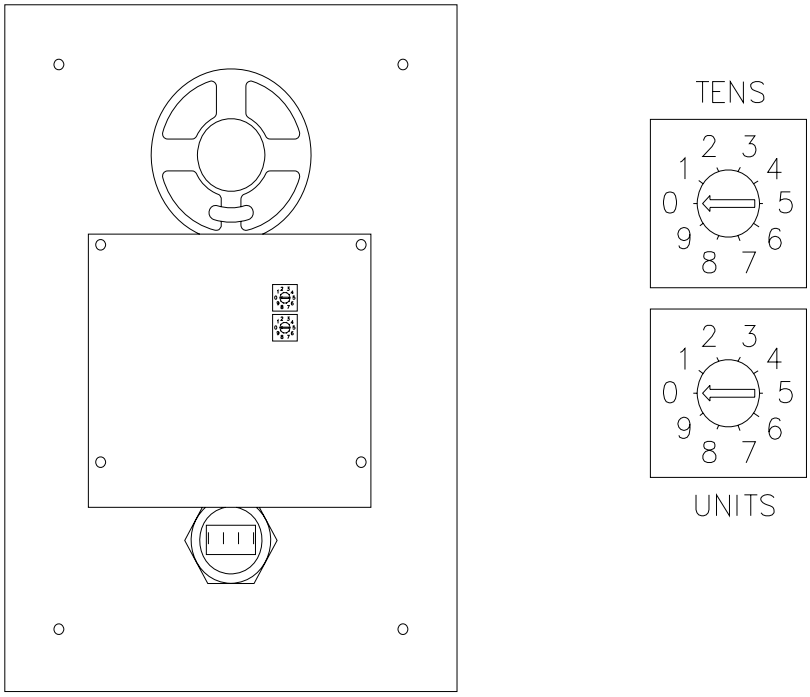
2.1 Batteries

Fit battery loom as indicated on this drawing. CHECK RED LEAD IS CONNECTED TO THE RED (+) BATTERY TERMINAL. CONNECTING THE BATTERY LEAD WITH REVERSE POLARITY WILL DAMAGE THE EQUIPMENT.

2.2 Remote Outstation Addressing

Remote outstation addressing: CS965-8. Each outstation requires an address which relates to the switch position on the master control panel.

SW1 & SW2 are located on CS965-8 as below.



The remote outstation address is SW1 Tens and SW2 Units

Examples

Switch No.	**Switch Set**	**Address**
SW1 (Tens) SW2 (Units)	0 1	(Unit 1)
SW1 (Tens) SW2 (Units)	0 7	(Unit 7)
SW1 (Tens) SW2 (Units)	1 5	(Unit 15)

2.3 Loop Cable Testing

Remote outstation loop wiring tests:

The following measurements are required before applying A.C power to the system:

BN (Brown) + : PWR (+ 24VDC)
BU (Blue) - : DAT (Data / Line)
Screen SCN : Cable screen (connected to system earth and COM internally)

2.4 Apply A.C. Power to the system

Check before power up that the master control panel RJ45 connector is plugged into connector J.

Connect all remotes to B1 and B2.

Plug the two way cable loom terminal to the ‘Batt. +/-‘ terminals, located at the lower right edge of the main control PCB type CS1007. (N.B. note that the system will not power up, until A.C. power is applied).

On power up the system will display all faults. Pressing the Lamp Test / Silence Fault button will mute the fault sounder. All control panel zone switches will illuminate in time with the fault indicators.

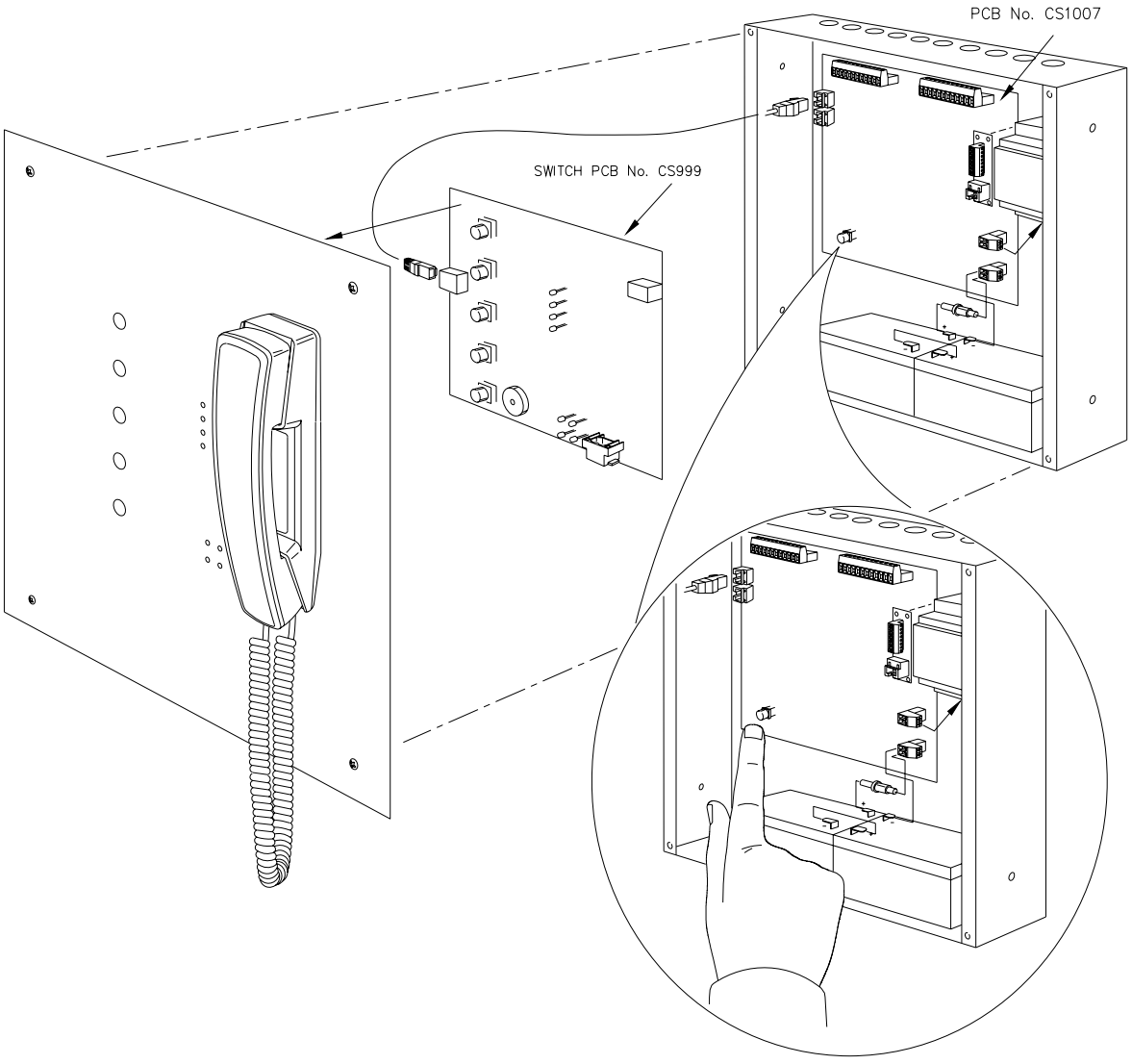
2.5 System Setup

Press and hold the setup button (F) on CS1007-3 until the setup switch illuminates. This can take up to ’10’ seconds. The front control panel will sound three times to signify that the system is in a setup mode.

In this mode the system will send out addresses for all four outstations. With a response from an outstation a solid illumination will appear on the front control panel. Once all outstations are correctly displaying on the control panel front the system unit set is ready.

Please ensure that each outstation address number matches the termination number on the CS1007-3. To check this unplug each outstation termination B1 and ensure that correct solid illumination clears from the front panel.

Press the setup button (F) on CS1007-3 until the setup switch illumination goes out. The front control panel will sound twice to signify that the system has come out of the setup mode.



3) SYSTEM TEST (refer to Dwg. C51312/A)

Once the installation and commissioning procedures are complete, test for correct system operation, and fault reporting functions:

- Test all locations for correct call in / call out functions, by following the operational instructions listed on the Central control front panel.

- Remove primary power, to check correct operation of battery support supply. Central control will report a fault condition.

The fault sounder will be activated on the main control panel, and the fault LED's will be illuminated with a slow flash pattern.

The fault out relay will be de-energised.

Press the 'silence fault / lamp test' switch on the control panel momentarily, to silence the fault sounder to an intermittent state.

Open the main enclosure to confirm display of the 'mains fail' and 'charge fail' fault LED's located near the bottom edge of the main PCB ref. CS1007-3.

Reconnect primary power. To reset the fault press and hold setup button (F) until the fault clears from CS1007-3

Where utilised, check the function of the anti-tamper feature by applying a volt free closed contact (or temporary wire link) across the Anti-tamper terminals.

Under this condition, any call made from a remote hands free outstation will be automatically cancelled by the central controller.

The system will remain inactive from remote calling for c.10 seconds, to minimise nuisance recalling.

An open circuit at the anti-tamper terminals will allow normal system operation.

Note that making a call out from the master is not effected by the anti-tamper status.

Note that use of the anti-tamper facility is not recommended where telephone type remote outstations are used.

If a remote telephone is maliciously left off hook, the anti tamper circuitry will continue to attempt to clear the call until the handset is replaced. This will disable the remote fault monitoring system, until such time as the system is activated.

4) FAULT INDICATIONS (refer to Dwg. C51312/A)

The LED function references on Dwg. C51312/A, and on PCB CS1007-3, identify the function of all fault indications within the central enclosure. Note that any fault condition will cause the front panel fault Light Emitting Diodes (LED's) to indicate with a slow flashing pattern, and will activate the audible fault sounder as a continuous tone.

Pressing the 'Lamp Test / Silence Fault' switch will change the sounder function to intermittent. (A short 'reminder' bleep approx every 90 seconds). Generation of a second fault condition will reactivate the fault sounder to a continuous tone.

The following table lists the various fault LED's, and describes the action to be taken to help identify specific faults.

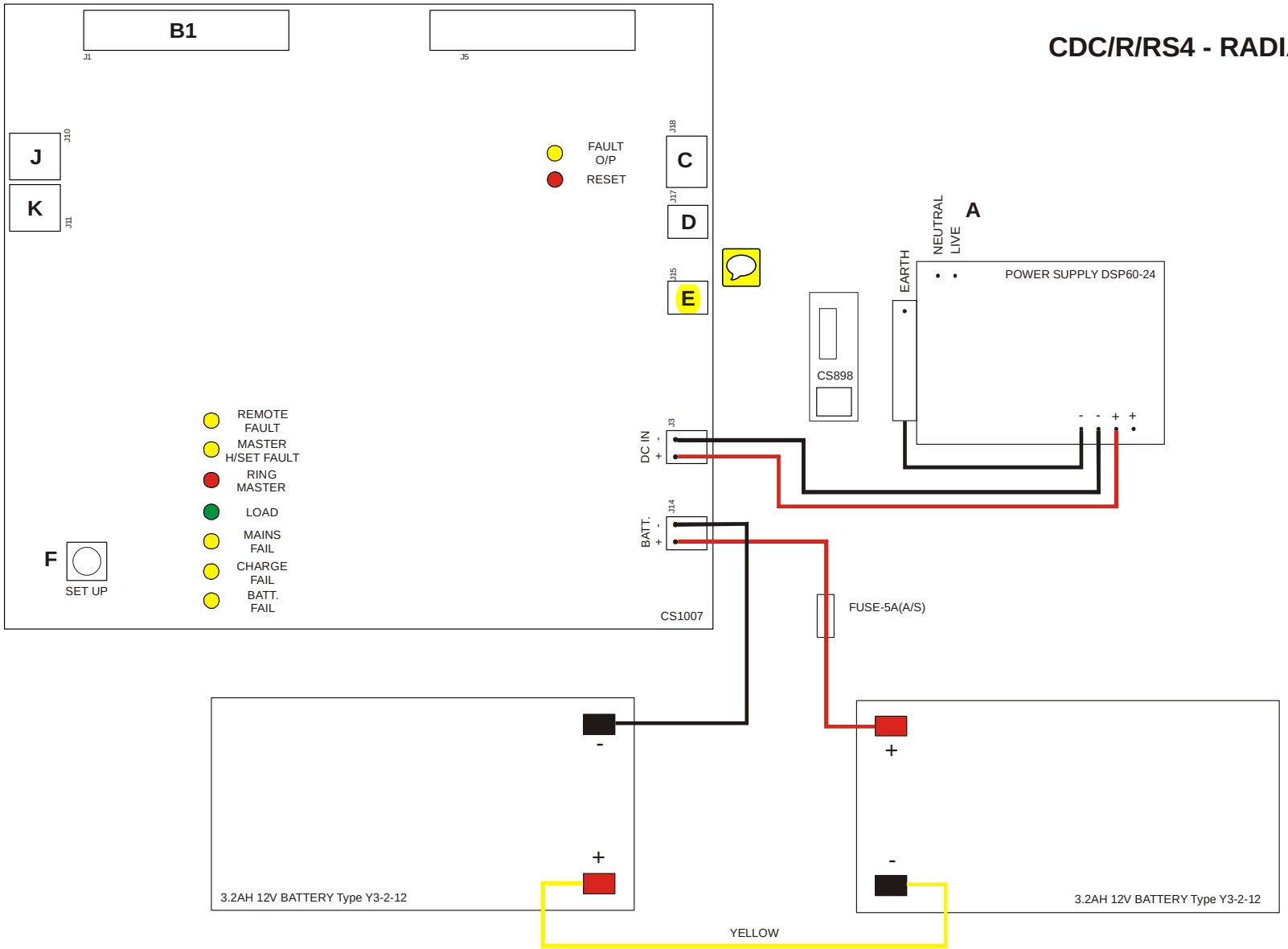
Fault LED Description	**Nature of Fault**	**Action required to assist fault location**	**Action required to clear fault state, after correction**
4 – 'Master H.SET Fault'	Master Handset short circuit or disconnected	Check master handset connections. Check CAT 5 connection to front panel	-
5 – Remote Fault	Failure of one (or more) remote units to respond	Check for missing responses on 'UNIT' LEDS in setup mode	-
6 – 'Data bus Fail'	Data loop cable open circuit	Test loop wiring as per 2.3 Ensure all outstations are responding in set up mode.	Press and hold 'Setup Switch' switch **F**, to reset loop monitors.
7 –'Load'	Indication of periodic battery load test	No Fault	-
8 – 'Mains Fail'	Failure of primary supply	Check for primary power to enclosure – check for + 28V DC out from DSP60 Din Rail PSU	Replace faulty DSP60 power supply if necessary.
9 – 'Batt Fail'	Failure of support battery(s) under load condition	Move L6 to position 'B' to reduce load interval to approx 1 minute. Momentarily press setup switch to start new test sequence, and allow 2 minutes for repeat test. If 'Batt Fail' indicator illuminates again, replace batteries	Momentarily press setup switch after replacement batteries are fitted. Return L6 to position A
10 – 'Charge fail'	Failure of battery connection, or failure of primary supply	Check battery connection loom, including the inline protection fuse Replace if necessary (5A anti-surge)	-

4.1 Jumper Links

There are a number of jumper links located on the main PCB.

L2 - Fit for ground refer handset (NOT NORMALLY FITTED)
L4 - Programming enable (FITTED TO POSITION A)
L5 - Fit to disable battery load timer (NOT NORMALLY FITTED)
L6(A) - Fit to enable battery load timer (Normal setting)
L6(B) - Fit to enable shortened (c.1 minute) battery load timer (Test setting

CDC/R/RS4 - RADIAL WIRED



C51312/A
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