INSTALLATION AND PROGRAMMING GUIDE

9850

HARDWIRED CONTROL PANEL

COOPER Menvier

Scantronic

9850 Hardwired Control Panel Installation and Programming Guide.

Printed and published in the U.K.

Contents

1. INTRODUCTION

The 9850 is designed to be fully programmable to suit individual site requirements and user needs.

The system comprises a control unit in a shielded case, up to four separate keypads and one keyswitch interface (see Figure 1 on the next page). You should always fit at least one keypad.

The control unit provides:

- A four-wire bus connection for keypads, keyswitches and hard-wired or wireless zone expanders.
- Connections for either Closed Circuit, Fully Supervised Loops, or End of Line resistor zones.
- Connections for three fully programmable outputs.
- Internal sounder loudspeaker output with electronically generated Chime, Alarm, Fire and Entry/Exit tones. (The volume of the Entry/Exit tones can be adjusted).
- Pins for a plug-on 8300 Microcom communicator.
- Local or remote downloading.
- Pins for fitting a plug-by communication device.

A separate **9855** expander unit allows connection of a further eight wired zones. Alternatively, a **9955** expander allows connection of eight wire-free zones.

The control unit supports two types of keypad: the **9930** sixteen character Liquid Crystal Display (LCD), or the **9925** arming station. In addition the control unit also supports the **9928** keyswitch interface.

As an Installer you can program the system either from the keypads, or using PC based Windows <Downloader>. When programming from the keypads the programming interface is arranged as a set of three-digit numbered commands similar to those used by the 9800 family of products.

The system can provide for up to 8 separate users. User facilities include:

- Three different security levels (full set and two part sets) which can be programmed by the Installer.
- User programmable Duress code.
- Keyswitch setting/unsetting.
- Dual key PA alarm from the keypads.
- Remote telecommand set/unset when using 9955 RF Expander.

To reduce the possibility of false alarms the system also provides Alarm Abort and Alarm Confirmation communications output.

Before attempting to program the system, make sure you are completely familiar with the functions of the system and its programmable options.

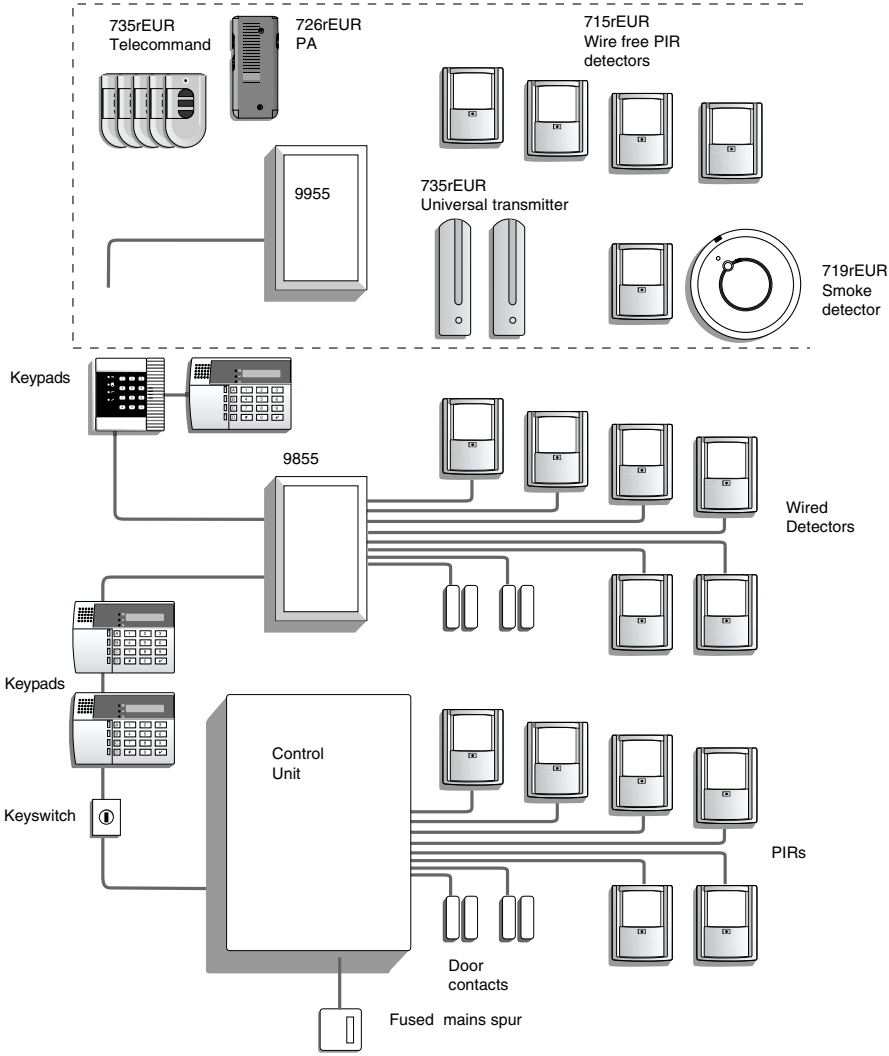

Figure 1. 9850 System Layout

Operator Controls and Displays - 9930

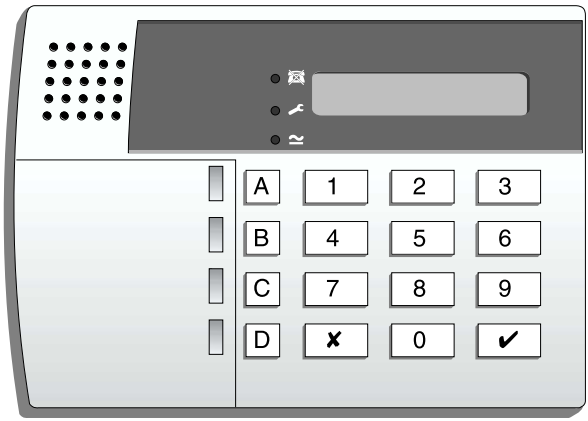

Figure 2. 9930 Remote Keypad.

The 9930 keypad has a single line 16 character LCD display that shows first to alarm information, level status, and programming commands. In addition there are three LEDs with the following functions:

- Glows steadily when mains power is present. Flashes when the system is working from battery backup.
- Glows steadily if a telephone line fault is present.
- Glows steadily if:
  a) A PA, Fire, 24 hour or tamper circuit is active while the system is unset.
  b) The system needs an engineer or remote reset.
  c) A telephone line fault is present.

The 9930 keypad provides the following keys:

- 9 Used to start a test of the detectors.
- 8 Used to start a test of the sounders and strobe.
- 7 Used to enable or disable the Chime facility.
- 6 Used to set the internal clock calendar, which provides a time stamp on printed log entries.
- 5 Used to display the log (250 events).
- 4 Used to change the user access codes.
- ✓ Used to enter programming and setting/unsetting commands.
- ✘ Used to set the system with individual zones temporarily omitted.
- ABC Level setting keys. Level A sets the whole system.

Operator Controls and Displays - 9925

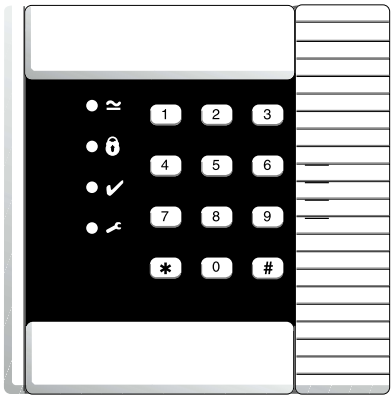

Figure 3. 9925 Arming Station.

The 9925 arming station is intended for use solely in setting and unsetting the system. The 9925 has the following LEDs:

≃ Glows steadily when mains power is present. Flashes when the system is working from battery backup.

🔧 Glows steadily if:
a) A PA, Fire, 24 hour or tamper circuit is active while the system is unset.
b) The system needs an engineer or remote reset.
c) A telephone line fault is present.

🔒 Glows steadily when the system is set. Note that you can program the system to extinguish the 🔒 lamp three minutes after the system sets (see Command 28 in "4. Programming").

✓ Glows when the system is ready to set.

The 9925 has the same number keys as the 9930 keypad. However the 9925 does not have the A, B and C Level setting keys, and ✘ and ✓ are replaced by ✱ and #.

System Features

Detectors

The control unit provides connections for up to 16 separate detector **zones.** There are three different methods of connecting detectors:

Four-wire closed circuit loop (CCL), to give a maximum of eight zones on the control unit and eight extra zones on an expander.

Two-wire Fully Supervised Loop (FSL) to give a maximum of 16 zones

Two-wire End of Line (EOL) resistor to give a maximum of eight zones on the control unit and a further eight zones on the 9855 expander.

See "4. Programming - Programming Commands" for the factory default settings and instructions on how to change the zone types and attributes.

9955 Radio Expander

The 9955 Radio Expander allows you to connect up to eight radio detectors. In addition each expander also provides for up to six telecommands or PA transmitters.

The 9955 unit can work with the following devices on 868.6625MHz:

a) **719r.** A photoelectric smoke chamber type detector.

b) **715r.** A Passive Infra Red (PIR) movement detector with 15m standard range . This detector has a three minute lockout time after detection, in order to lengthen battery life.

c) **725r.** A Remote Setting Device (also known as a “telecommand”) that can be used to full set, part set or unset the system. The 725r can also be used as a Panic Alarm.

d) **726r.** A small radio transmitter that can be used to start a PA alarm.

e) **735r.** A universal transmitter that can be used as a door contact or for connecting hardwired inputs.

f) **747r.** A Go/No Go test meter that provides a simple method for surveying potential radio sites.

g) **746r.** A test transmitter used with the 747r for surveying potential user sites.

Each radio detector and remote setting device contains a digital identity code that the RFX unit ‘learns’ during installation. The code is one of over 16 million possibilities. This ensures that the RFX unit will not respond to any other detectors or remote setting switches apart from the ones it has learned. See "RFX Installation and Programming", part number 496482, for more details.

Configurations

Since the control unit can use a variety of wiring types for detectors, and you can also attach either hard-wired or wire-free expanders, the table below shows the configurations possible:

Wiring Type	Panel zones	Expansion Zones
CCL	8	8 wired OR 8 radio
FSL	8	8 wired OR 8 radio
FSL	16	0
EOL	8	8 wired OR 8 radio

User Control

The control unit provides eight independent user access codes and a separate Duress code. The user can change these codes at any time, but cannot program the system with these codes. You can select either four-digit or six-digit access codes during installation.

The user can set the system in the following modes:

Full Set	All the zones function as programmed during installation.
Part Set B	Selected zones are omitted. You must program the zones to be omitted during installation.
Part Set C	An alternative set of selected zones omitted. You must select the zones to be omitted during installation.
Set with Omit	One or more zones temporarily omitted. The user selects the zones to be omitted during setting.

2. Technical Description

Specification

Operating temperature	= -10° to +55°C
Humidity	= 96% RH
Dimensions	= 310mm W, 385mm H, 95mm D
Weight	= 4.4 kg (without stand-by battery)

Conforms to EN50131-1 Grade 1 and 2 and current BS4737 Part 1 for remote signalled systems, ACPO-IAS Policy, NACOSS NACP14, ABI log requirements.

Power Supply

System power supply	= 230VAC (Ambient Temp. 20°. C) 1A total
Control unit power	= 50mA nominal quiescent, 150mA active
9930 Remote Keypad	= 20mA quiescent with keypad backlight on
Standby Battery	= 12 Volt, 7AH or 17AH rechargeable lead-acid, Gel Type battery (not supplied). (For 17AH battery kit order part number 8136EUR-02.)

Conforms to EN50131-6 Type A power supply for Grade 1 and 2 systems.

Outputs

O/Ps1 and 2 are relay outputs and O/P 3 is an open collector transistor output.

O/P 1& 2	= voltage free, single pole relay contacts rated 24VDC @ 3A. Max current for external sounder 500mA.
O/P 3	= 500mA, 12VDC. negative applied
ST	Siren Test 14.4VDC (For use in France only)
LS	= can support two parallel connected externally mounted 16 Ohm loudspeakers for internal sounder or EE tones.
AUX (for detectors)	= 500mA, 12VDC
Coms OP1-4	= 12V logic outputs, -ve applied in alarm (+ve removed)

Inputs

TR	= Tamper return for bell.
Tellback/RedCare reset*	= +12V applied to operate reset.
LIne Fault input*	= +12V applied to indicate line failure.

** These outputs and inputs appear as pins on the connector for the plug by communicator. See "3. Installation - Fitting a Plug by Communicator".*

Fuses

F1 - 12V AUX	= 1A Fast
F2 - Battery	= 2A Anti Surge

Caution: When replacing fuses use the ratings quoted above.

Control Unit PCB and Case

Figure 4 shows the layout of the control unit PCB.

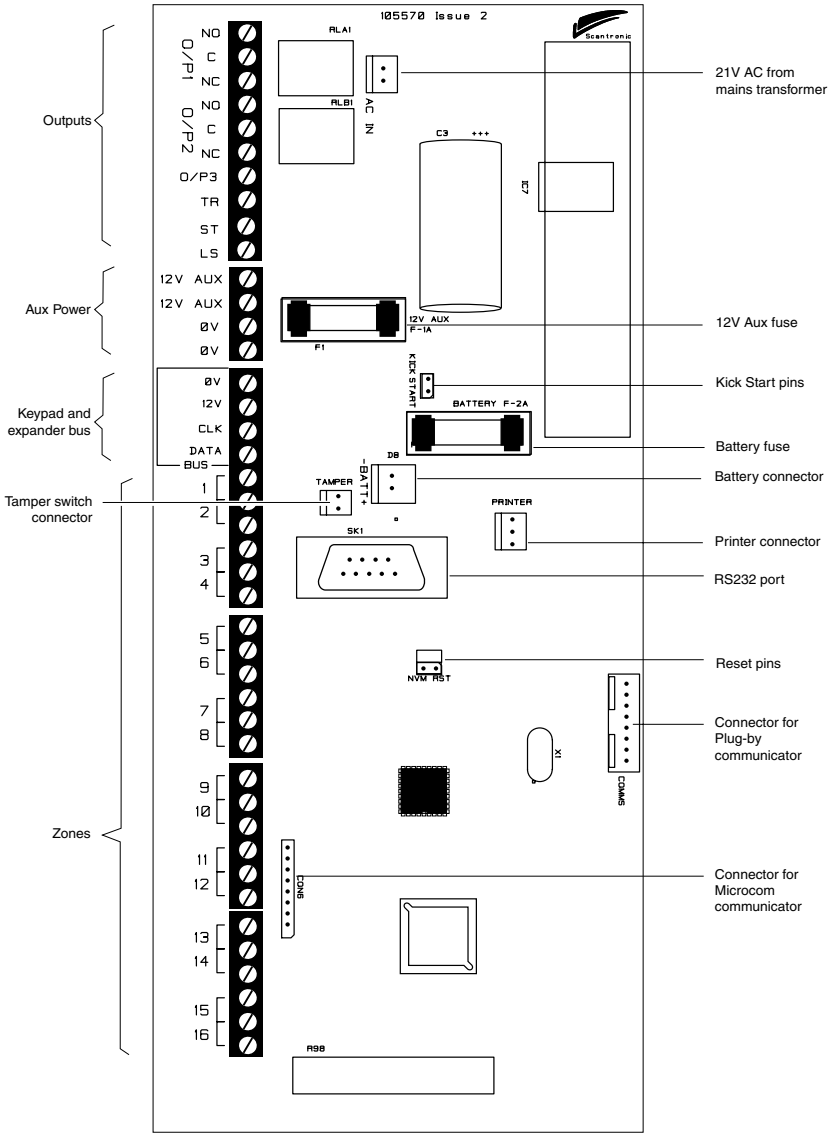

Figure 4. Control Unit PCB Layout

9855 Expander

The 9855 Expander provides connectors for either eight four-wire CC loop zones, FSL or EOL zones. Figure 5 shows the layout of the PCB.

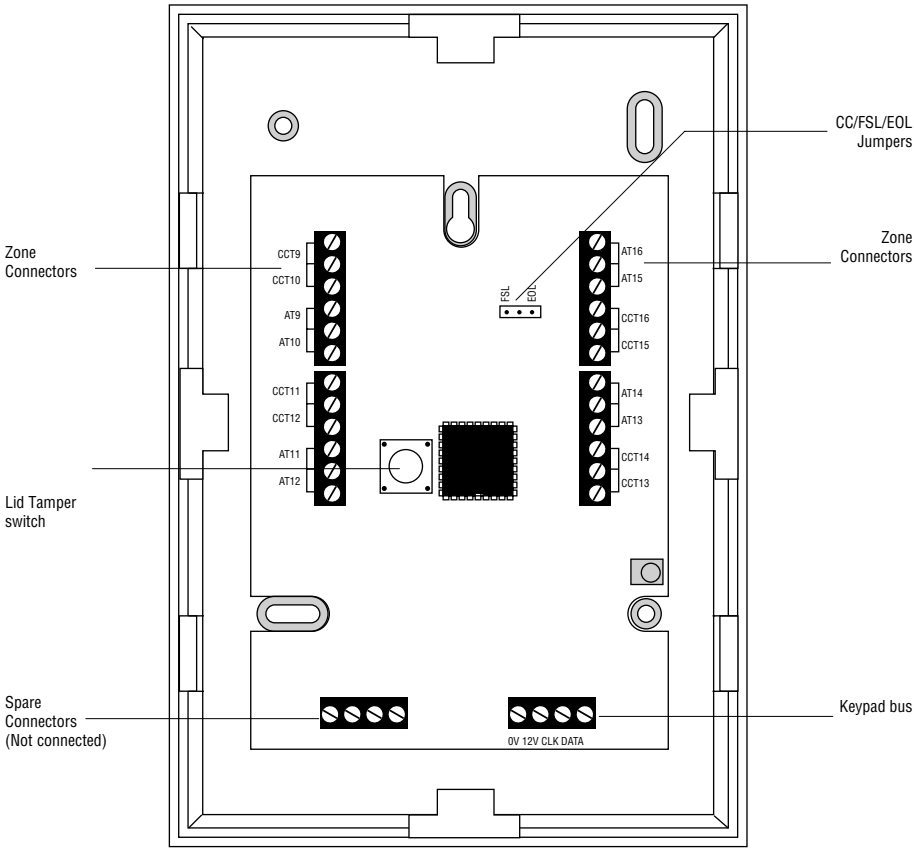

Figure 5. 9850HWX Expander

See the wiring diagram supplied with the 9855 Expnder for more details.

Compatible Equipment

715rEUR-00	Radio PIR.
719rEUR-00	Radio Smoke Detector.
725rEUR-00	Radio Remote Setting Device.
726rEUR-00	Radio PA.
735rEUR-00	Universal Transmitter.
746rEUR-00	868MHz Test transmitter.
747rEUR-00	868MHz Go/No Go test receiver.
8300EUR-01	Plug-on Microcom communicator.
9925EUR-00	Arming Station.
9928EUR-00	Keyswitch interface.
9930EUR-00	LCD Keypad.
9855EUR-00	Hardwired eight zone expander.
9955EUR-00	868MHz "Class VI" radio expander.
956UK-00	Downloader.

3. INSTALLATION

Note: The following instructions assume that you have already run the necessary cabling.

Caution: Always remove mains power before opening the case lid. Do not work inside the control unit with mains power present.

Fitting the System

Fitting the Control unit Case

1. Remove the control unit case from the packing.
2. Remove the front screws and slide off the case lid.
3. The upper part of the case back provides a central keyway. Mark and drill a hole for the keyway. Temporarily fix the case back to the wall. Now mark the position of two more fixing holes, remove the case back and continue to drill the holes.
4. Refit the case back to the wall using not less than 30mm x No 8 Dome or Pan-head screws.

Fitting a 9930 Keypad

The backplate of the 9930 keypad contains an adjustable cam that you can use to make sure the tamper switch will operate correctly when the keypad is mounted on an uneven surface. Figure 6 shows the backplate and the position of mounting holes.

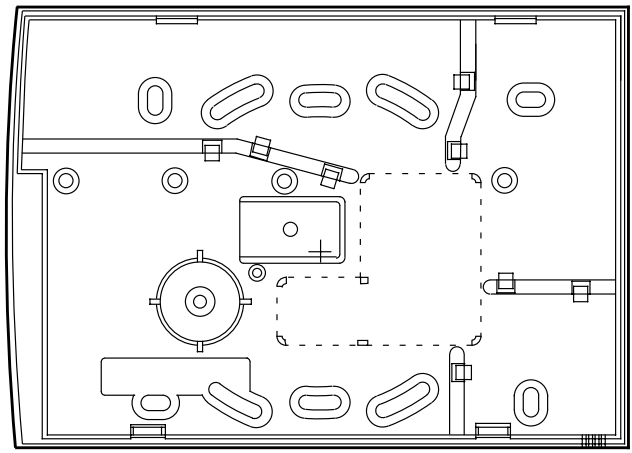

Figure 6. Backplate of the 9930 Keypad

Scantronic recommend that you mount the keypad using No 8 or 6 screws (M4/M3.5) as follows:

1. Select which cable entry you are going to use and break out the appropriate plastic sections.
2. Hold the backplate in place against the wall and mark the position of the centre hole in the adjustable cam (see Figure 6).
3. Drill and plug the hole, and screw the backplate to the wall through the adjustable cam. Do **not** tighten the screw completely home.
4. Make sure the backplate is level and mark, drill and plug at least two other fixing holes. Screw the backplate to the wall through the fixing holes.
5. Cut the plastic webs connecting the cam to the remainder of the base plate.

Note: *If you do not cut the webs then the tamper switch will not operate if the complete keypad is forced off the wall.*

6. Mount the front of the keypad (containing the keypad pcb) onto the backplate and make sure that the tamper switch operates.
7. If the tamper switch does **not** operate then rotate the cam until the tamper switch operates correctly when the front of the keypad is mounted on the backplate.

Fitting a Remote 9925 Arming Station

Figure 7 shows the 9925 Arming Station.

1. If necessary, lift the flaps on the faceplate of the keypad and undo the four screws holding on the back of the case.
2. Hold the keypad back in place and mark, drill and plug the position of keyhole.
3. Mount the keypad back with a single screw through the keyhole.
4. Mark, drill and plug the position of two more mounting holes.
5. Fix the keypad back in place with two more screws.

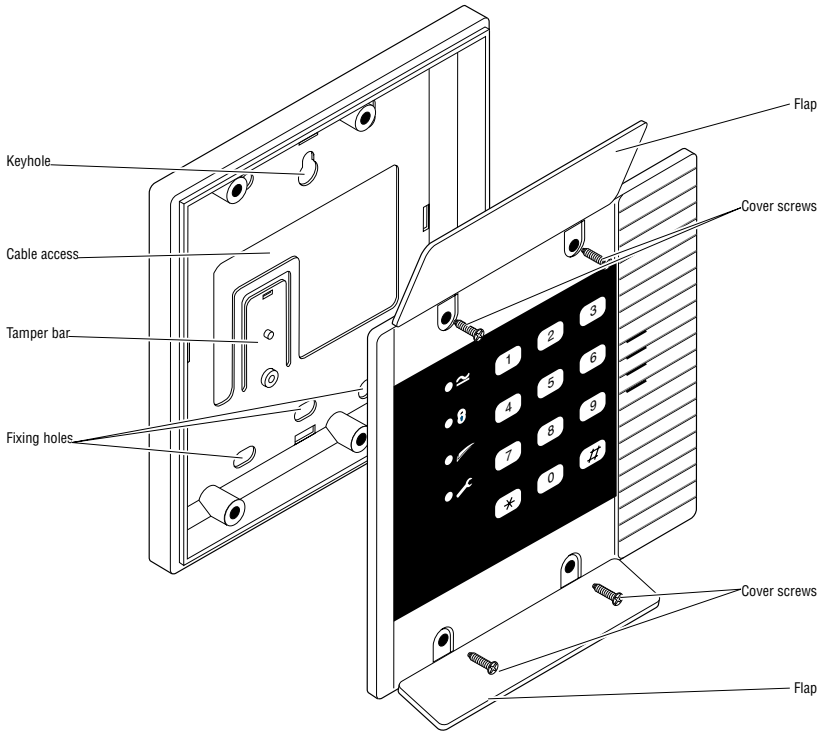

Figure 7. 9925 Backplate

Wiring the Control Unit

Cable Entries

The control unit case back provides several cable entries. The back is designed to stand away from the wall to leave space for cables.

Mains Connection

The control unit must be permanently connected to a spur outlet fitted with a readily accessible disconnect device. Connect the mains supply to the control unit using the 3-way terminal block located in the control unit back. Secure the mains cable to the case anchor point using the cable tie provided. Note that the control unit has a T-250mA internal mains fuse. All electrical connections should be carried out by a qualified electrician and must comply with the current IEEE Wiring Regulations: 16 Edition, Appendix 5 - Standard Circuit Arrangement.

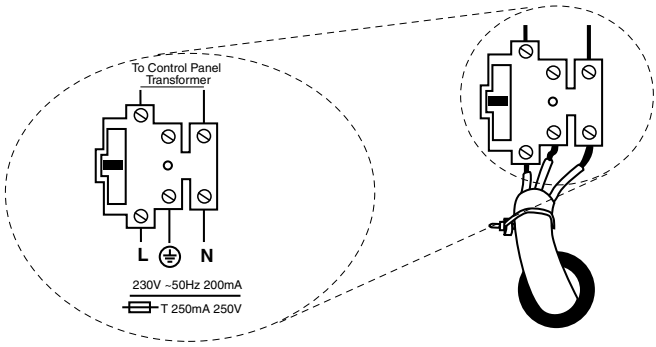

Figure 8. Mains Connection

Connect the 21VAC lead from the mains transformer to the main pcb. See Figure 4 for the location of the 21VAC connector.

Caution: Do not apply mains power at this point. Do not work inside the control unit case when mains power is present.

Remote Keypads

Keypad Addressing

The 9850 control unit is supplied with one remote keypad. If you have fitted more keypads then each one must be given a separate "address". Links LK2 to LK4 set the keypad address, as shown in Figure 9.

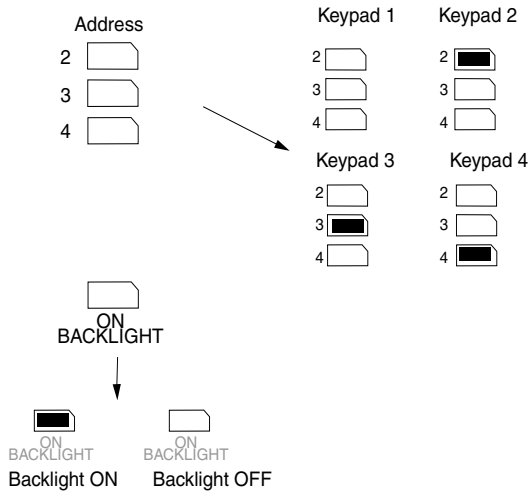

Figure 9. Keypad Addressing.

Keypad Backlight

When supplied from the factory the control unit is configured with the keypad backlight ON. To turn the keypad backlight OFF remove the jumper from the "ON BACKLIGHT" link, shown in Figure 9.

Connecting Keypads

Figure 10 shows the connections for any of the remote keypads.

Exit Terminate Button

To connect an exit terminate button use the "ET" connector terminals on the keypad PCB. See Figure 10.

Sounders

Figure 10 shows the connections for the internal and external sounders.

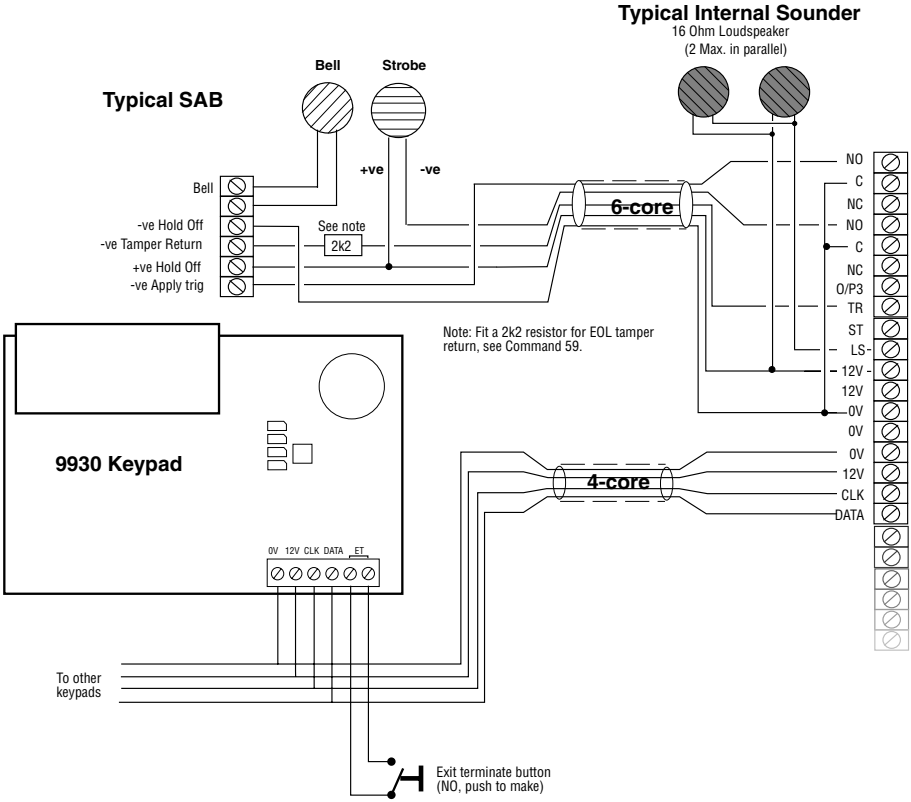

Figure 10. 9850 Keypad and Sounder Connections

Detector Circuit Connections

The left hand edge of the main PCB provides 24 connectors that can be used for up to 16 zones. During programming use command 21 to configure these connectors as either 4-wire CC zones, two wire FSL, two wire EOL, or two wire FSL plus expander.

Four Wire CC Connections

Figure 11 shows how to connect four wire CC zones. Note that pairs of alarm contacts alternate with pairs of anti-tamper contacts. The control panel provides enough connectors for eight four wire circuits. If you wish to connect 16 four wire circuits you must fit a 9855 expander card (see "Connecting a 9855 Expander").

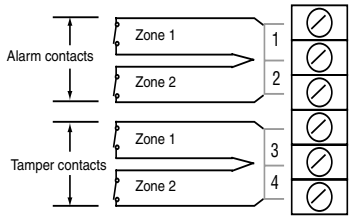

Figure 11. Four Wire Closed Circuit Connections

FSL Connections

The control unit zone connectors provide space for up to 16 FSL zones. If necessary you can connect eight FSL zones to the control unit and eight zones to a 9855 expander (or eight radio zones to a 9955 radio expander). If you choose to use an expander then only the first eight zone connectors on the control unit are active. Remember to use command 21 to select the FSL zones plus expander option.

Each FSL zone is a ‘Fully Supervised Loop’ using a two wire closed loop. The loop uses two resistors of different values to differentiate between ‘Circuit’ and ‘Tamper’ signals: a 2K2 resistor fitted in series at the end of the wired loop (EOL-End-Of-Line), and a 4K7 resistor fitted across the alarm contact, see Figure 12.

With the loop in a normal state and the alarm contacts closed (shorting out the 4K7 resistor), the total resistance of the loop is 2K2. When the alarm contacts open (removing the short from the 4K7 resistor) the resistance of the loop increases to 6K9 and the control unit detects an alarm condition. If a tamper device opens then the loop resistance will be open circuit and the control unit detects a tamper signal.

To connect a detector to an FSL loop you must wire suitable resistors to the detector. Always check resistor colour coding before wiring resistors into circuit, see Figure 13 below.

The wiring resistance of the cable to the detector (including joints) should be restricted to a maximum of 100 ohms. The recommended maximum cable distance per zone is 200 - 300 metres.

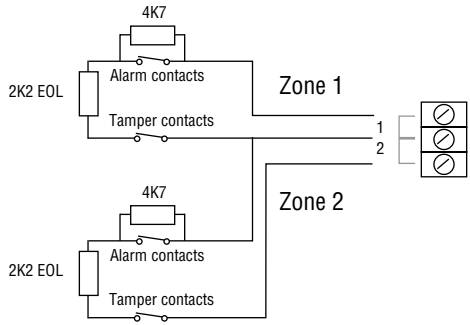

Figure 12. FSL Connections

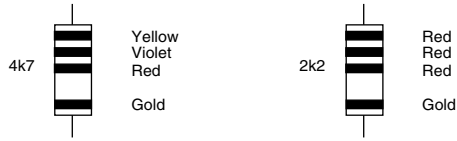

Figure 13. Resistor Colour Code for FSL Resistors

EOL Connections

Each EOL zone is two-wire closed loop that uses a single 2K2 resistor fitted in series with the alarm contacts to differentiate between "Circuit" and short circuit "Tamper" signals. Figure 14 shows how to connect two EOL detectors to adjacent zones. Note that each detector is wired in series to a common anti tamper circuit connected to terminals marked "9". You must connect a single 2K2 resistor in series with the anti tamper circuit.

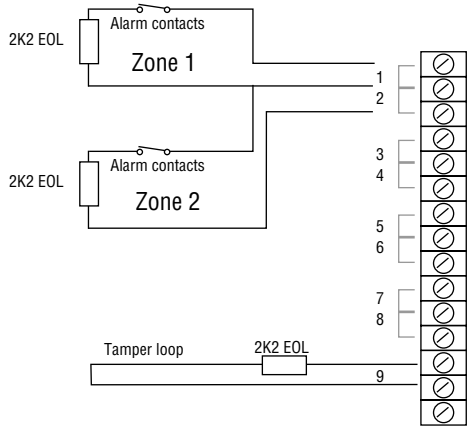

Figure 14. EOL Connections

Connecting a 9855 Expander

Figure 15. shows how to wire a 9855 Expander to the control unit.

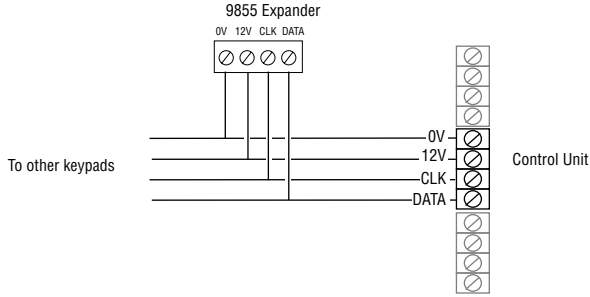

Figure 15. Connecting a 9855

Make sure you place the jumper link on the expander in the correct position to select either four-wire CC, or two-wire FSL or EOL.

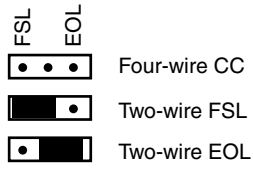

Figure 16. Jumper Positions to Select Connection Types

Once you have connected an expander refer to the instructions supplied in order to connect detectors.

Using Programmable Outputs

OP1 and 2 are voltage free relay contacts. Use programming command 81 for OP1 and command 82 for OP2.

OP3 is a "pull down type" output that provides negative applied control signals. Use command 83 for OP3 (see "4. Programming"). The system adjusts the output polarity when you select the output type. Figure 17 shows some example applications for OP3.

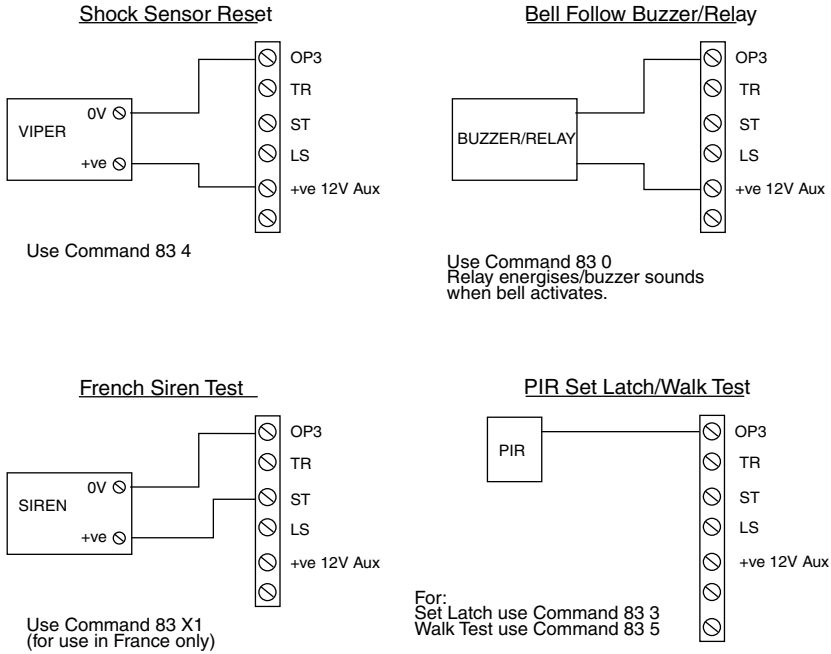

Figure 17. Wiring Examples for Programmable Output OP3

Wiring Keyswitches

Figure 18 shows the connections for a 9928 Keyswitch Interface.

Note: You can fit only one keyswitch interface per system

Momentary or Continuous Keyswitches

The 9928 can be connected to either momentary or continuous keyswitches, see Figure 18. When using a momentary keyswitch remove the jumper from link M/C. When using continuous keyswitches fit a jumper to link M/C.

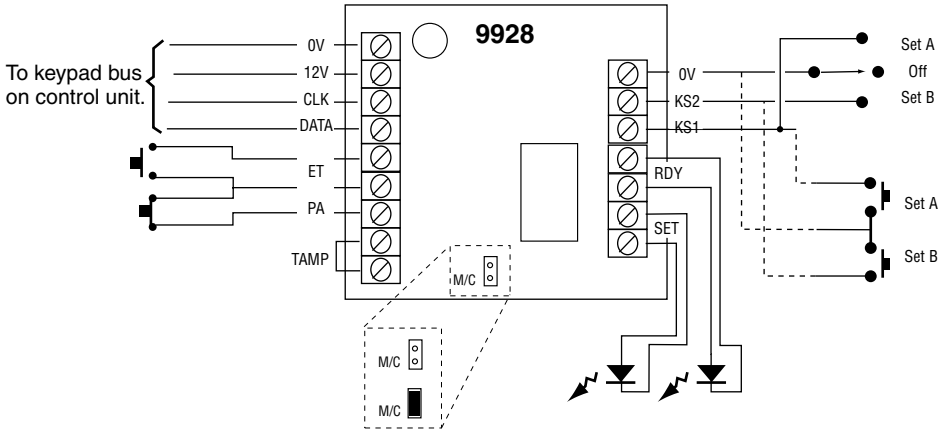

Figure 18. Connecting a 9928 Keyswitch Interface

Installing a Communicator

The 9850 can either be fitted with a Microcom communicator plugged on to the main PCB, or connected to a separate communication device using a wiring harness connecting to interface pins on the main PCB. Use programming commands 101 to 154 to set up the communicator.

Microcom Communicator (8300EUR-01)

The Microcom Communicator is a 300 Baud Auto Dialling Modem. The communicator can be used for:

- Transmitting alarm signals to alarm receiving equipment at a central monitoring station using either Scancom Fast Format, Scancom SIA (Security Industry Association), or Contact ID.
- Connecting to a PC based at a remote engineering centre. By using Scantronic <Downloader> software, the remote PC can up- or download system parameters (including the event log and diagnostics), set and unset the alarm system, and carry out other special functions.

Telephone Line

The Microcom communicator can be connected directly to an ex-directory line used exclusively for alarm communications.

Where an exclusive line is not available and other apparatus is connected to the line, for example an answer machine, the Microcom communicator provides a series connection with line divert for the other apparatus. When triggered, the communicator seizes the line and disconnects the other apparatus while the communicator is operational. When the communicator has shut down, it reconnects the other apparatus.

Note: Ideally, no other equipment should be connected to an exclusive line.

Three Way Calling

The 9850 also provides a Three Way Calling facility to make sure the Microcom communicator can always use a shared telephone line.

To use this facility, the local exchange must provide the Three Way Calling service on the customer's line.

Line Monitoring

The 9850 provides functions programmed by commands 106 and 107 to ensure that the telephone line is connected and working, and to indicate a line failure:

- While communication is enabled **Line Monitor** continually checks the line voltage to ensure that the line is connected.
- **Line Integrity** (programming command 107) checks the line to make sure the local exchange is still responding.

If either of these functions detect a failure the system gives a programmable Line Fault Response (programming command 106).

Fitting a Microcom Communicator

Caution: Before fitting the Microcom, the control unit must be completely powered down, mains and battery. When reapplying power, the battery must be connected first. Failure to do so may result in damage to the control unit.

Fit the Microcom circuit board as shown in Figure 19. Make sure that you do not bend the long interface pins on the 9850 PCB. Fit four plastic pcb stand offs between the Microcom and the 9850 PCB.

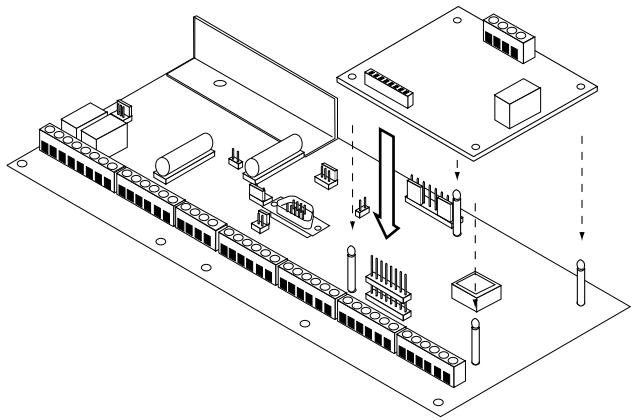

Figure 19. Fitting a Microcom

Connecting the Telephone Line

Direct connection, or interconnection via other apparatus, to the terminals on the Microcom can produce hazardous conditions on the telephone network. Always seek advice from a competent telephone engineer if in any doubt regarding connection to these terminals.

The person responsible for connection of the Microcom communicator to a PABX system must be as follows:

a) If the wiring is owned by British Telecom PLC, British Telecom must connect the wiring to the communicator.

b) If the wiring is not owned by British Telecom, either:

   (i) British Telecom

   (ii) The authorised maintainer

   (iii) A professional Installer after 14 days written notice to the authorised maintainer.

Connect the telephone line as follows (see Figure 20):

1. Using a three core cable (type 1/05mm CW1308), strip back 5mm of two cores and feed through one of the cable entries in the rear of the 9850 casing. Connect the two cores to the terminals, A and B on the Microcom PCB.
2. Connect the cable from the A and B terminals on the Microcom to the corresponding terminals on the BT master box.
3. If other apparatus is required to share the telephone line with the Microcom communicator (series apparatus), connect the main apparatus to the series switched line connections marked A1, B1.

Caution: The connection of only one such series apparatus is allowed to be connected between a main apparatus (e.g., telephone) and the PSTN.

Take care to ensure that the A and B line are connected correctly (i.e. correct polarity). The Microcom communicator continuously monitors the line for Ringing tones.

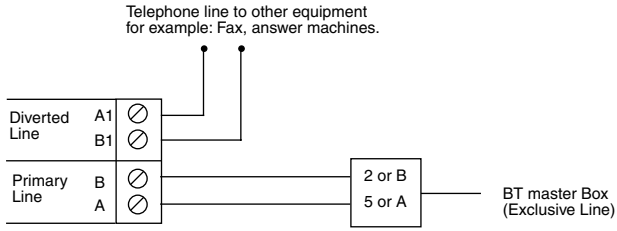

Figure 20. Connecting the Microcom Communicator

Fitting a Plug-by Communicator

The 9850 can be fitted with a communicator or speech dialler (for example the Scantronic 8400, 8440, 660 or RedCare STU). To fit a communicator, follow the instructions below.

Caution: Follow the instructions in the order shown, or you may damage the control unit and/or communicator.

1. Disconnect mains and battery power from the control unit and remove the case lid, if the system has already been installed.
2. Make any necessary connections from the communicator to the Comms Wiring Harness. Figure 21 shows the outputs available on the free ends of the Comms Wiring Harness.

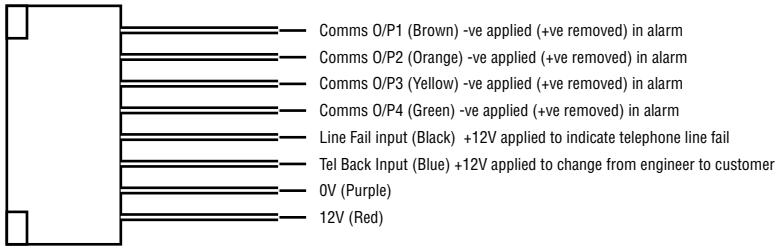

Figure 21. Communications Wiring Harness.

3. Plug the Comms Wiring Harness onto the communications connector on the main PCB (see Figure 4).

If the system has already been installed:

4. Re-connect the battery.
5. Fit the case lid (don't forget to attach the earth lead from the case to the left hand support pillar).
6. Apply mains power.
7. Test communicator operation (see programming commands 151 to 154).

Fitting a Battery

Fit a rechargeable battery into the back of the case. The case provides space for a 12V 7AH battery, or 17AH battery with kit 8136EUR-02.

Initial Start Up

Before applying power to the control unit, ensure that any remote keypad(s) have been addressed and connected, and that expanders, all zone circuits and sounders are connected.

1. Connect the battery to the control unit PCB.
2. Briefly short the kick start pins together (they are located above battery fuse F-2A, see Figure 4).
   The green power LED flashes and the internal sounder may sound. Ignore any display at this stage.
3. Key-in the factory default user access code: 1234.
   The internal sounder stops. Ignore any display at this stage.
3. Fit the case lid before applying mains power (this also defeats the tamper switch). Make sure the green earth wire is connected to the upper left hand support pillar on the case back.
4. Apply mains power.
   The Power LED glows steadily.
5. Key-in 0 followed by the factory default engineer access code: 7890. (You do not have to remove the control unit lid.)
   The display shows: `Installer Mode`

   You are now in programming mode.

4. Programming

Entering Programming Mode

"3. Installation - Initial Power Up" describes how to enter programming mode for the first time in a new installation. If you wish to enter programming mode at any other time:

1. Make sure the system is unset.
2. Press 0, then key in the Engineer's code (default 7890).
   The display shows: `Installer Mode`
   You are now in programming mode.

Note: While the system is in programming mode all keypads except the one you are using will be locked, displaying the word "Busy".

Programming Commands

When delivered from the factory the control unit already has default program settings. To change the default programming you must be in programming mode. Then:

1. Key in the appropriate command number and press ✔.
   The display shows the current value of the command.
2. Key in digits to select the value you require.
   The display shows the new value.
3. Press ✔ to store the new value of the command.

If at any time you change your mind, repeat step 1 to 3. The table on the following pages shows the commands and their options. (A "Y" next to a command value shows that it is the factory default.)

The factory default access codes are:

Engineer Code	7890 (567890 for six digit codes)
Access Code User 1	1234 (123456 for six digit codes)
Access Code 2 to 8	✘ 002 to ✘ 008 (inactive) (✘00002...✘00008)
Duress Code	✘009 (inactive) (✘00009 for six digit codes)

Notes:

1. The factory default Access Codes 02 to 08 and the Duress Code must be changed by USER 1 to a four digit number to activate them. See "9850 User Guide" for a more detailed explanation of changing user access codes.
2. To change the default zone descriptions use <Downloader>.

To change:	Key-in:	Notes	Default
Zone nn (Note: for zones 1 to 9 key in "01" to "09".)	**nn✔✔a b**	**nn = zone number 01 to 16** a = Zone type, one of: 0 = NU (not used) 1 = PA (panic alarm) 2 = FR (fire zone) 3 = NA (normal alarm) 4 = 24 (24 hour zone) 5 = FE (final exit) 6 = ER (entry route) 7 = SA (Shock Analyser) 8 = TC (Technical) b = Zone attributes, any of: ✘1 = C (chime) ✘2 = S (soak test) ✘3 = D (double knock) ✘4 = O(Omit allowed) ✘5 = b (armed in part set B) ✘6 = c (armed in part set C) ✘7 = Shock Analyser sensitivity (enter a number in the range 1 (lowest) to 4 (maximum)	**Z01 =FEbc** **Z02=ERbc** **Z03-Z07=NAbc** **Z08=PA** **Z09-Z16=NU**

Example: Zone 3 is a Normal Alarm, active in Part Set B, that is Omit Allowed.

Type in:	
03✔✔	Zone Number
3	Normal Alarm
✘5	Active in Part Set B
✘4	Omit Allow
✔	to store the value of the command.

Engineer Code	**20✔nnnn**	**nnnn = New engineer code**		**7890**
Zone Configuration	**21✔**	**0**	**Close Circuit 4 wire**	**Y**
		1	End of Line	
		2	Fully Supervised Loop	
		3	Fully Supervised Loop plus Expander.	
LS Chime Output	**22✔ n**		**Loudspeaker chime volume** 0 = Off (Keypad only) 1=low, 9=max	**5**
RedCare reset	**23✔**	**0**	**Off**	**Y**
		1	On	
Internal Sounder	**25✔**	**0**	**LS Timed (Follows external bell)**	**Y**
		1	Continuous	
Sounder Delay on Entry	**26✔**	0	Bell Delay Off	
		1	**Bell Delay On**	**Y**
Exit fault external sounder	**27✔**	**0**	**Internal**	**Y**
		1	Local	

To change:	Key-in:	Notes		Default
Status display	**28✔**	**0**	**Status off (180 seconds after setting)**	**Y**
		1	Status on	
PA Response	**30✔**	**0**	**Audible**	**Y**
		1	Silent	
System Reset	**33✔**	**0**	**Eng reset off**	**Y**
		1	Eng reset on	
PA Reset	**34✔**	**0**	**PA cust reset**	**Y**
		1	PA Eng reset	
First circuit response	**35✔**	**0**	**Lock out on**	**Y**
		1	Re-arm	
Alarm Abort	**36✔**	**0**	**Abort off**	**Y**
		1	Abort on	
Day tamper comms	**37✔**	**0**	**Day tamper off**	**Y**
		1	Day tamper on	
Level A Exit Mode	**39✔**	**0**	**Timed**	**Y**
		1	Terminated	
		2	Final door set	
System Auto Re-Arm	**40✔**	**0**	**Rearm Never**	**Y**
		1	Rearm 1	
		2	Rearm 2	
		3	Rearm 3	
		4	Rearm Always	
Bell Delay	**41✔**	**0**	**No delay**	**Y**
		1	1.5 minutes	
		2	3 minutes	
		3	5 minutes	
		4	10 minutes	
		5	15 minutes	
		6	20 minutes	
Bell Duration	**42✔**	1	1.5 minutes	
		2	3 minutes	
		3	5 minutes	
		4	10 minutes	
		5	15 minutes	
		6	**20 minutes**	**Y**
Level A Entry Time	**43✔**	1	10 Seconds	
		2	**20 seconds**	**Y**
		3	30 seconds	
		4	45 seconds	
		5	60 seconds	
		6	120 seconds	

To change:	Key-in:	Notes		Default
Level A Exit Time	**44✔**	1	10 Seconds	
		2	**20 seconds**	**Y**
		3	30 seconds	
		4	45 seconds	
		5	60 seconds	
		6	120 seconds	
Entry/Exit Volume	**45✔**	0	No Entry/Exit tones from Loudspeaker	
		n	EE tone volume from LS (1=low, 9=max)	**5**
CSID Code	**50✔**	**n....n**	**Seed code for remote reset**	**0000**
Set Time and Date	**51✔**	**.....**	**see “Setting Time and Date”**	
Abort reset	**53✔**	**0**	**Abort system**	**Y**
		1	Abort user	
4/6 Digit Access Codes	**56✔**	**0**	**Four digit codes**	**Y**
		1	Six digit codes.	
Battery Load Test	**57✔**	**0**	**Disabled**	**Y**
		1	Enabled	
Day Tamper Indication	**58✔**	**0**	**User reset**	**Y**
		1	Engineer reset	
Sounder Tamper	**59✔**	**0**	**Negative voltage tamper return**	**Y**
		1	End of line 2k2 resistor.	
Level B final exit operation	**60✔**	**0**	**B=FE = FE (Final exit)**	**Y**
		1	B=FE = NA (Normal alarm)	
Level B Entry route	**61✔**	**0**	**B=ER = ER (Entry route)**	**Y**
		1	B=ER = FE (Start entry timer)	
Level B Exit Mode	**62✔**	**0**	**Low Tone**	**Y**
		1	Instant set	
		2	Silent set	
Level B Alarm response	**63✔**	0	Keypad Sounder Only	
		1	**Internal Sounder and keypad sounders**	**Y**
		2	Local (all sounders, no comms)	
		3	Full alarm (comms and sounders)	
Level B Entry Time	**64✔**	1	10 seconds	
		2	**20 seconds**	**Y**
		3	30 seconds	
		4	45 seconds	
		5	60 seconds	
		6	120 seconds	

To change:	Key-in:	Notes		Default
Level B Exit Time	**65✔**	1	10 Seconds	
		2	**20 seconds**	**Y**
		3	30 seconds	
		4	45 seconds	
		5	60 seconds	
		6	120 seconds	
Level C Final Exit Operation	**70✔**	**0**	**C=FE = FE (Final exit)**	**Y**
		1	C=FE = NA (Normal alarm)	
Level C Entry Route	**71✔**	**0**	**C=ER = ER (Entry route)**	**Y**
		1	C=ER = FE (Start entry timer)	
Level C Exit Mode	**72✔**	**0**	**Low Tone (follows full set exit mode)**	**Y**
		1	Instant set	
		2	Silent set	
Level C Alarm Response	**73✔**	0	Keypad Sounder Only	
		1	**Internal Sounder and keypad sounders**	**Y**
		2	All sounders, no comms	
		3	Full alarm (comms and sounders)	
Level C Entry Time	**74✔**	1	10 seconds	
		2	**20 seconds**	**Y**
		3	30 seconds	
		4	45 seconds	
		5	60 seconds	
		6	120 seconds	
Level C Exit Time	**75✔**	1	10 Seconds	
		2	**20 seconds**	**Y**
		3	30 seconds	
		4	45 seconds	
		5	60 seconds	
		6	120 seconds	
Output 1 Type, one of	**81✔**	**0**	**Bell**	**Y**
		1	EE follow	
		2	Armed lamp	
		3	Set latch	
		4	Shock sensor reset	
		5	Walk test	
		6	Ready lamp	
		7	24 hour alarm	
		8	Strobe	
		9	Smoke sensor reset	
		✘1	Siren Test	

To change:	Key-in:	Notes		Default
Output 2 Type, one of	**82✔**	0	Bell	
		1	EE follow	
		2	Armed lamp	
		3	Set latch	
		4	Shock sensor reset	
		5	Walk test	
		6	Ready lamp	
		7	24 hour alarm	
		8	**Strobe**	**Y**
		9	Smoke sensor reset	
		✘1	Siren Test	
Output 3 Type, one of	**83✔**	0	Bell	
		1	EE follow	
		2	Armed lamp	
		3	**Set latch**	**Y**
		4	Shock sensor reset	
		5	Walk test	
		6	Ready lamp	
		7	24 hour alarm	
		8	Strobe	
		9	Smoke sensor reset	
		✘1	Siren Test	
Burg Comms Rearm	**85✔**	**0**	**Latched**	**Y**
		1	Rearm	
Dual ply entry	**86✔**	**0**	**Off**	**Y**
		1	On (not recommended in U.K.)	
Dual key PA	**87✔**	**0**	**Off**	**Y**
		1	On	
Alarm confirmation	**89✔**	**0**	**Confirm off**	**Y**
		1	Confirm on	
Event log*	**90✔**	0	Print Event log	
		1	View earlier events	
		3	View later events	
		8	Print config	
		✘	Cancel printing and viewing	
		✔	toggle time/date display	
Test Output 1*	**91✔**		**Output 1 operates, press ✘ or ✔ to end test.**	
Test Output 2*	**92✔**		**Output 2 operates, press ✘ or ✔ to end test.**	
Test Output 3*	**93✔**		**Output 3 operates, press ✘ or ✔ to end test.**	

To change:	Key-in:	Notes	Default
Test Internal Sounder*	**94✔**	**Int. sndr operates, press ✘ or ✔ to end test.**	
Test Keypad Sounder*	**95✔**	**Kpd sndrs operate, press ✘ or ✔ to end test.**	
Engineer Walk Test*	**97✔**	**Zn indication and chime operate when cct open**	
		✔ (Clear)	End walk test
Load defaults	**98✔1✔**	**Load defaults**	
Leave programming	**99✔**		

**See "5. Testing"*

Communications Programming

To change:	Key-in:	Notes	Default
Call mode	**101✔ 0**	**Disabled**	**Y**
	1	Single	
	2	Alternate	
	3	Dual	
Reporting type	**103✔ 0**	**Fast format**	**Y**
	1	Contact ID	
	2	SIA I	
	3	SIA II	
Line fail response	**106✔** 0	Disabled	
	1	**Audible**	**Y**
	2	Silent	
Line integrity checking	**107✔ 0**	**Integrity off**	**Y**
	1	Integrity on	
Dynamic testing	**108✔ 0**	**Dynamic off**	**Y**
	1	Dynamic on	
Three way calling (UK)	**109✔ 0**	**Three way off**	**Y**
	1	Three way on	
Download Mode	**110✔ a ✔**		
		a is either:	
	0	**Local**	**Y**
	1	Remote	
Rings to answer	**112✔** 0	3 rings	
Downloading option	**1**	**5 rings**	**Y**
	2	7 rings	
	3	10 rings	
	4	15 rings	

To change:	Key-in:	Notes	Default
Answer on one ring	**113✔ 0**	**One ring off**	**Y**
Downloading option		1 One ring on	
Access Mode	**114✔ 0**	**Callback off (attended)**	**Y**
		1 Callback on	
		2 Callback any (unattended)	
Communicator Tel No 1	**115✔✔**	**Maximum 31 digits**	
Communicator Tel No 2	**116✔✔**	**Maximum 31 digits**	
Account No	**117✔✔**	**Maximum 6 digits**	
Downloader Tel No 1	**118✔✔**	**Maximum 31 digits**	
Downloader Tel No 2	**119✔✔**	**Maximum 31 digits**	
Fast Format channels	**121✔a ✔b ✔**		
For Microcom		a is the channel number 1 to 8	
Communicator		b is one of the following:	
		0 Not Used	
		1 Fire	**Y**
		2 PA	**Y**
		3 Burglar	**Y**
		4 Open/Close	**Y**
		5 Alarm Abort	
		6 Technical Alarm	
		7 Alarm Confirmation	
		8 RF Detector Low Battery	
		9 RF Supervision Loss	
		✘1 Jamming	
		✘2 AC Fail	
		✘3 Tamper Alarm	
		✘4 Open	
		✘5 Close	
		✘6 Zone Omitted	
Restoral reporting	**123✔ 0**	**Restore off**	**Y**
		1 Restore on	
Reverse Open/Closed	**124✔0**	**Disabled**	**Y**
		1 Reverse	
No Close if More Than	**125✔0**	**Disabled**	**Y**
1 Zone Omitted		1 Enabled	

To change:	Key-in:	Notes	Default
Country	**126✔nn**		
	nn = country, one of:		
	0 = UK (Y)	5 = Italy	✘0 = Ireland
	1 = NL	6 = Spain	✘1 = OEM 1
	2 = Belg. (Flemish)	7 = Denmark	✘2 = OEM 2
	3 = Belg. (French)	8 = Norway	
	4 = France	9 = Sweden/Finland	
	Note: If you carry out this command then the system will load all defaults for the selected country.		
Extended Report mode	**131✔0**	**Basic**	**Y**
	1	Summary	
	2	Intermediate	
	3	Full	
SIA Tones	**132✔0**	**Bell 103**	**Y**
	1	CITT V21	
Contact ID Options	**143✔ 0**	**Mode Basic**	**Y**
	1	Mode Basic + Restore	
Plug by Comms Output 1	**151✔**0	Output off (normally high)	
	1	**Fire**	**Y**
	2	PA	
	3	Burglar	
	4	Open/Close	
	5	Alarm Abort	
	6	Technical Alarm	
	7	Alarm Confirmation	
	8	RF Detector Low Battery	
	9	RF Supervision Loss	
	✘1	Jamming	
	✘2	AC Fail	
	✘3	Tamper Alarm	
	✘4	Open	
	✘5	Close	
	✘6	Zone Omitted	
Plug by Comms Output 2	**152✔**	**Default 2 PA**	**See command 151**
Plug by Comms Output 3	**153✔**	**Default 3 Burglar**	**See command 151**
Plug by Comms Output 4	**154✔**	**Default 4 Open/Close**	**See command 151**

Leaving Programming Mode

When all programming has been completed:

1. Key-in '99 ✔' at the keypad
   The display shows: `99:Exit Eng ?`
2. Press ✔.
   The display shows: `99:Checking Sys`
   followed by the time and date.

The system is now in user mode.

Note: If there is a fault on the system , for example an open tamper circuit, the display shows this and will not return to Day mode. Press ✔ (Clear) and rectify the faults.

Engineer Reset

To perform an Engineer Reset:

1. Check that the display is showing the alarm condition.
2. Key in 0 followed by the Engineer's code (default 7890), followed by 99 ✔✔.
   The display shows the time and date.

Re-entering Programming Mode

You can go back into programming mode whenever the system is unset and not in alarm:

1. Key in 0 followed by the Engineer's code (default 7890).
   The display shows: `Installer Mode`
   You are now in programming mode.

Restoring the Access Codes (1st stage reset)

If the user and/or engineer codes are lost, then:

1. First remove mains power and then open the case and disconnect the battery.
2. Identify the NVM Reset and Kick Start pins on the main pcb (see Fig 4).
3. Short the NVM Reset pins together using a small wire link.
4 Short the Kick Start pins together and reconnect the battery.
5. Remove the short from the NVM Reset and Kick Start pins.
   The control unit loads the factory default access codes:
   User 1: 1234 or 123456 (if six digit codes selected in command 56).
   Engineer: 7890 or 567890 (if six digit codes selected in command 56).
6. Close the control unit and apply mains power.
7. Carry out an engineer reset.

Restoring All Factory Default Programming

If you wish to restore all factory default options then:

1. Enter programming mode (if you are not already there).
2. Key in 98 ✔ at the keypad.
   The display shows: `98:Load Default`
3. Press 1. (You can press ✘ to stop the procedure if you change your mind at this stage.)
4. Press ✔.
   The keypad gives a double confirmation tone and the system loads the factory default command values, erasing all previously programmed values.

Notes:The log is protected and cannot be erased by the Installer.

Programming Reference

Zone Programming (Commands 01 to 16)

The zone programming commands 01 to 16 take two or more numbers. The first number describes the zone type, subsequent numbers describe the zone attributes.

When you key in the zone number and press ✔ the display shows the zone number and any text caption for the zone. (Note: Use <Downloader> to change the text caption.) Press ✔ again to start entering the zone types and attributes. When you have entered the zone type and attributes press ✔ once more to store the changes.

Zone Types

The following types are available:

Not Used (NU) The system ignores Zones with this type. Key in 0 for zone that will not be used.

Note: If a zone is programmed as 'Not Used', it is not necessary to link the circuit or anti-tamper connections.

Panic Alarm (PA) (Key in 1) Operating a device programmed as 'Panic Alarm' will start either a silent alarm transmission to the central station if a communicator is fitted, or an audible alarm, depending on how you have programmed PA Response, (see command 30). PA alarms operate whether the system is set or unset, and cannot be omitted.

Fire (FR) (Key in 2) Smoke or heat detectors connected to FR type zones cause the speakers to give a distinctive fire signal (internal sounders pulsing “Dee Dah Dee Dah...”). Fire alarms operate whether the system is set or unset and cannot be omitted, and will always trigger communications if fitted.

Normal Alarm (NA) (Key in 3) A zone programmed as ‘Normal Alarm’ will start an alarm when the system is set.

24 Hr Zone (24) (Key in 4) This zone causes an internal alarm if violated when the system is unset, and a full alarm if the system is set. Providing the Installer programs 24hr zones with ‘Omit Allow’, the user can omit 24 hour zones in Day mode. Note that the control unit re-instates all 24Hr zones if anyone sets the system.

Final Exit (FE) (Key in 5) Zones of this type must be the last detector to be activated on exit, or the first to be activated on entry. You can use zones of this type to finally set the system, or to start the entry procedure. Use command 39 to set the exit mode type.

Entry Route (ER) (Key in 6) Use this zone type for detectors sited between the Final Exit door/detector and a keypad. If an ‘Entry Route’ zone is violated when the system is set, an alarm will occur. If the entry/exit timer is running when an Entry Route zone is violated then no alarm occurs until the entry/exit timer expires.

Shock Analyser (SA) (Key in 7) You can apply this zone type to zones 1 to 4. The system will not accept the attribute for zones 5 to 16. (See also “Zone Attributes - Sensitivity”.)

Technical (TC) (Key in 8). Use this zone type when you want to monitor equipment, for example a freezer, without raising a full alarm.
If a technical alarm zone is activated while the system is set, the system makes no audible alarm. However, when a user unsets the system the keypad indicates a fault.
If a technical alarm zone is activated while the system is unset then the system starts a pulsed tone from the keypad. If programmed, the control unit also starts communication. When a user enters a valid code the keypad stops the tone and displays the zone.

Zone Attributes

Specific zone types can have one or more attributes programmed by the digit after the zone command and type. (To remove an attribute, key in the attribute digit again.)

Chime (C) (Key in ✘1) When enabled by the user, the system gives a non-alarm warning tone when any zones programmed as 'Chime' are opened. This facility operates only while the system is in Day.

Notes:

1. 'Chime' is available only for Normal Alarm, Final Exit, Entry Route and Shock Analyser zone types.

2. To make chime available from the keypad sounders but not the internal sounder then program command 22 with option 0.

Soak Test (S) (Key in ✘2) Use this zone attribute if you want to place under long term test a detector that you suspect is giving false alarms. Zones with this attribute are disabled. If the zone is opened while the system is set then the Service LED glows and the control unit logs the event as a "Soak Test Fail Zn" (n is the zone number) without sounding any bells or starting signalling. The Service LED stays alight until the Engineer resets the system.

Note: Soak test is available only for Normal Alarm, Entry Route and Shock Analyser zone types.

Double Knock (2) (Key in ✘3) Zones with this attribute will cause an alarm condition only if the sensor generates two alarms events within a five minute time window, or if the zone remains open for more than 10 seconds. Programming a zone as 'Double Knock' is a way of reducing false alarms caused by environmental changes, but is not normally recommended.

Notes: 'Double Knock' is available only for Normal Alarm and Entry Route zone types.

Omit Allow (O) (Key in X4) When applied to a zone, this attribute allows the user to omit the zone.

*Note: 'Omit Allow' is **not** available for Final Exit, PA and Fire zones.*

Part Set B (b) (Key in ✘5) When applied, the zone will be armed when the user selects Part Set B. Zones not selected will be omitted.

Part Set Level C (c) (Key in ✘6) When applied, the zone will be armed when the user selects Part Set Level C. Zones not selected will be omitted.

Sensitivity (Key in ✘7) When you use this command you must also enter an extra digit in the range 1 to 4 in order to set the sensitivity of the shock sensor. 1 is least sensitive, 4 is most sensitive. Note that to use this attribute you must make one of zones 1 to 4 a shock analyser type. To adjust the sensitivity you must enter the complete command, for example to change the sensitivity to 3 you must key in: ✘7 + 3.

Change Engineer Code (Command 20)

To change the Engineer access code:

1. Make sure you are in programming mode.
2. Key in 20 and press ✔.
   The display shows: `20:Code`
3. Key in a new four digit Engineer access code.
   The display shows: `20:Code ****`
4. Press ✔.

Zone Configuration (Command 21)

This command allows you to select the wiring type of the zone connectors on the main PCB and the 9855 expander. The options available are:

0 Closed Circuit four wire.
1 End of line resistor.
2 Fully Supervised Loop.
3 Fully Supervised loop with Expander. Note that if you use this option then the control unit provides FSL zones 1 to 8 on the first eight zone connectors, while the expander card provides zones 9 to 16.

See Chapter 3 for wiring details.

Loudspeaker Chime (Command 22)

A user may find that the chime tone from the keypads is not loud enough. If so, then use command 22 option 1 to make the internal sounder also give the chime tone. To alter the volume of the tone from the internal sounder enter a digit in the range 1 to 9. 1 is quietest, 9 is loudest. The keypad demonstrates the volume of the tone when you enter the digit.

RedCare Reset (Command 23)

Option 1 enables RedCare Reset, which is designed to operate with the plug-by communicator, or remote PC reset.

Note: You must set System Reset to Engineer (Command 33 option 1) to ensure RedCare Reset works correctly.

After an alarm the user keys in their access code to silence the alarm, but cannot reset the system. The first to alarm and Service LEDs remain lit. The user contacts the central station, who verify the user's identity. The central station can send a signal back to the control unit. The Service LED goes dark and the the end user can now reset the system with any valid access code, providing that there are no faults.

Use option 0 (the default) to disable the function.

Continuous Sounder (Command 25)

Option 0 of this command makes the internal sounder follow the external bell delay and duration times. Option 1 makes the internal sounder continue after the external bell times out.

Local Sounder Delay on Entry (Command 26)

Use option 1 (default) to delay local sounders for silent communications when an entry alarm is triggered (required by some police forces). This option is only valid if you have programmed a Bell Delay.

Use option 0 for no delay.

Exit Fault External Sounders (Command 27)

When programmed with option 0 of this command the system operates the internal sounders if the user tries to exit while a zone is still violated (for example a door is not shut). When option 1 is programmed the system operates the external sounders as well as the internal sounders.

Status Display (Command 28)

Use option 0 of this command if you do not wish to show keypad displays permanently. The keypad displays “Level Set” for 180 seconds after the user sets the system and then reverts back to the time and date display. Use this option when installing a system in the U.K.

When set to option 1 the keypad displays “Level Set” the whole time that the alarm system is set.

Silent or Audible PA (Command 30)

This command selects how the system responds when a PA zone operates.

Option 0 (audible PA): the system operates the sounders and, if a communicator is fitted, sends a PA message to the central station.The keypad displays the PA zone when a user disarms the system.

Option 1 (Silent PA): The sounders stay silent. If a communicator is fitted the system sends a PA message to the central station.The keypad displays the PA zone when a user disarms the system.

System Reset (Command 33)

If you wish to make the system engineer reset, then use option 1. For user reset use option 0.

Certain types of event will always need an Engineer reset, no matter what option you choose for command 33. These events are:

Activating the tamper switch on the control unit, keypads, or expanders.

Auxilliary 12V supply fuse blown.

Remote expander failure caused by a remote keypad not responding correctly.

Tamper return violation (usually from the external bell).

A low battery at the control unit.

Soak test fail indication.

PA Reset (Command 34)

If you wish to make the system engineer reset after a PA alarm then use option 1. For user reset use option 0.

First Circuit Response (Command 35)

If you select option 0 (Lock out) then the complete system rearms at the end of the programmed bell run time, but excludes the first zone to activate during the set cycle.

If you select option 1 (Re-arm) then, when an alarm occurs, the complete system (including the first zone to activate) rearms at the end of the programmed bell run time (providing the zone is closed). While the zone is open, the system locks it out. If the zone closes after the system rearms, the system reinstates it.

Alarm Abort (Command 36)

Users occasionally trigger false alarms by accident. The 9850 can be programmed to allow users to abort an alarm. To do this use option 1 to enable alarm abort.

If a user accidentally triggers an alarm while the system is set, then the control unit activates Channel 3 and starts the bell delay timer. To abort the alarm the user must enter a valid access code. If the user successfully enters the code the system deactivates Channel 3 and triggers the programmed abort channel simultaneously in order to signal a separate code abort, as required by some central stations.

Note: *The Alarm Receiving Centre specifies the maximum period that can elapse between the original alarm and a valid abort signal. If a user exceeds that period the ARC may ignore the abort.*

Daytime Tamper Communication (Command 37)

This command controls how the control unit reports tampers while the alarm system is unset.

With option 1 selected the system communicates these types of tamper event to the central station and starts the internal sounder.

With option 0 selected the system starts the internal sounder only.

Level A Exit Mode (Command 39)

Use this command to select one of the system's three exit modes:

Option 0: Timed. Use this option EITHER if the user completes setting the system by pushing an exit terminate button connected to a keypad OR if no exit terminate button is connected, and the system sets after a delay selected using Command 44.

Option 1: Terminate. Use this option if the user completes setting the system by pushing an exit terminate button connected to a keypad. Note that the exit time is infinite in this option.

Option 2: Final door set. Use this option to complete setting the system by closing a door fitted with a Final Exit zone detector. Note that the exit time is infinite in this option.

If a PIR detector covers the final exit door then selecting Final Door Set is not recommended: exit faults may occur if the detector responds to transient drafts caused by the door closing.

System Auto Re-Arm (Command 40)

This command lets you program the number of times that the system will re-arm when the bell delay expires. The system re-arms all closed zones. Select option 0 to make the system never re-arm (the system will go into alarm once only). Select options 1 to 4 to make the system re-arm once, twice, three times or always.

Use this command in conjunction with command 35 - First Circuit Response.

Bell Delay (Command 41)

When the system is set and (for example) an intruder violates a zone, then the system waits for the programmed Bell Delay before operating the external sounder. The system then operates the external sounder for the programmed Bell Duration. See “Programming Commands” for the command options.

Bell Duration (Command 42)

This command lets you set the length of time the system will operate the external sounder during an alarm. See “Programming Commands” for the command options.

Level A Entry Time (Command 43)

This command lets you set the Entry Time for Level A (full set). See “Programming Commands” for the command options. The time starts when a user opens any Final Exit zone.

Level A Exit Time (Command 44)

This command lets you set the Exit Time for Level A (full set). See “Programming Commands” for the command options.

Entry/Exit Tone Volume (Command 45)

Use this command to set the volume of entry/exit tones from the internal sounder. If you select option 0 then the internal sounder gives no entry/exit tones. If you select option 1 then the internal sounder gives quiet entry/exit tones, while option 9 gives the loudest entry/exit tones. The keypad demonstrates the volume of the tone when you enter the digit.

CSID Code (Command 50)

To allow the customer to use the ‘Remote Reset’ facility, you must program the control unit as ‘Engineer Reset’ (Command 33 option 1) and then install a four digit Central Station Identification (CSID) code.

First make contact with the central station and obtain the CSID code, then ensure that the system is in programming mode. Key in:

50 ✔ nnnn ✔

Where nnnn is the "CSID Code".

The control unit now contains the same CSID code as the central station. After an alarm the control unit can generate a ‘Control Code’ which will be recognised by the central station 7300 Remote Reset decode programmer.

After an alarm the user keys in their access code to silence the alarm, but cannot reset the system. The system generates a four digit code number and displays it on the keypad. The user calls the central station and tells them the

number shown on the keypad display. The central station verifies the user's identity, then enters the code number into a special programmer. The programmer generates a 'Reset Code', which the central station gives back to the user. The user then enters the 'Reset Code' at the keypad to reset the system.

Note: To delete a CSID code key in "0000" over the existing code.

Setting Time and Date (Command 51)

The system has an internal clock/calendar which uses to date stamp the log print-out. To set the system's clock/calendar to the correct time and date:

1. Enter programming mode (if you are not already there).
2. Key in 51✔ at the keypad.
   The display shows the current date, for example: `D04 M11 Y99`
3. Key in two digits for the day number and press ✔. Use leading zeros for the first nine days of the month.
4. Key in the two digits for the month number and press ✔ . Use a leading zero for January to September.
5. Key in the two digits of the year and press ✔.
   The display shows the current time, for example: `H12 M26`
6. Key in two digits for the hours of the day and press ✔. Use the 24-hour clock.
7. Key in two digits for the minutes and press ✔.
   The keypad sounder gives a double "bleep" and the display shows "Installer Mode". The system sets its internal clock/calendar to the time you have given it.

Abort Reset (Command 53)

Option 0 ensures that reset after abort is the same as system reset (see Command 33).

Option 1 enables customer reset after an abort if they unset the system within 90 seconds of the alarm.

Number of Digits in Access Codes (Command 56)

The control unit can use either four-digit or six-digit access codes. To select four digit access codes choose option 0. Select option 1 for six digit access codes.

Note: Changing from four- to six-digit access codes (or from six- to four-digit access codes) causes the system to revert to factory defaults for all access codes. Six digit user code default is 123456 and Engineer code default is 567890.

Battery Load Test (Command 57)

Use this command to make the control unit regularly test its backup battery.

Option 0	The control unit does not load test the battery at all.
Option 1	The control unit tests the battery when the system is unset or 23 hours after the last battery test (whichever comes first).

If the battery fails a test then the control unit reports to the central station. The control unit also gives a regular short tone from the keypad sounders, and the keypad shows the message “Batt Load Fail”.

Day Tamper Indication (Command 58)

Use this command if you want the Engineer to reset tamper indications that occur while the system is unset.

Option 0	The user can reset a displayed tamper while the system is unset.
Option 1	The Engineer must reset a displayed tamper while the system is unset.

Sounder Tamper (Command 59)

The control unit can connect to external sounders with one of two tamper arrangements:

Option 0	The external sounder uses negative voltage tamper return.
Option 1	The tamper return to the external sounder is terminated with a 2k2 resistance.

Select the appropriate option for the sounder fitted to the system.

Level B Final Exit Response (Command 60)

Command 60 controls how the system will treat Final Exit zones in Part Set Level B. When the command option is set to 0 any Final Exit zones included in Part Set B will continue to act as Final Exit zones during Part Set B. When the option is set to 1 any Final Exit zones included in the Part Set B will act as Normal Alarm zones while the system is Part Set.

Level B Entry Route Response (Command 61)

Command 61 controls how the system treats Entry Route zones during Part Set B. When the option is set to 0 all Entry Route zones included in Part Set B will continue to act as Entry Routes during Part Set B. When the option is set to 1 any Entry Route zones included in the Part Set B will act as Final Exit zones while the system is Part Set.

Level B Exit Mode (Command 62)

Command 62 specifies the exit mode for Level B.

Option 0 makes the keypad sounders and any internal sounders give a low tone when entering Part Set Level B. Use command 65 to select the exit time.

Option 1 makes the Part Set B Instant Set (no exit tone)

Option 2 makes the Part Set B Silent Set. Use command 65 to program the Exit time.

Level B Alarm Response (Command 63)

Command 63 specifies the alarm response for Part Set B.

Option 0: Keypad sounders only

Option 1: Internal sounders and keypad sounders

Option 2: Local alarm (internal and external sounder only)

Option 3: Full alarm (communication and internal/external sounders).

Level B Entry Time (Command 64)

This command sets the entry time for Level B. See “Programming Commands” for options.

Level B Exit Time (Command 65)

This command sets the exit time for Level B. See “Programming Commands” for options.

Level C Final Exit Response (Command 70)

Command 70 controls how the system will treat Final Exit zones in Part Set Level C. When the command option is set to 0 any Final Exit zones included in Part Set Level C will continue to act as Final Exit zones during Part Set Level C. When the option is set to 1 any Final Exit zones included in the Part Set Level C will act as Normal Alarm zones while the system is Part Set.

Level C Entry Route Response (Command 71)

Command 71 controls how the system treats Entry Route zones during Part Set Level C. When the option is set to 0 all Entry Route zones included in Part Set Level C will continue to act as Entry Routes during Part Set Level C. When the option is set to 1 any Entry Route zones included in the Part Set Level C will act as Final Exit zones while the system is Part Set.

Level B Exit Mode (Command 72)

Command 72 specifies the exit mode for Level C.

Option 0 makes the keypad sounders and any internal sounders give a low tone when entering Part Set Level C. Use command 75 to select the exit time.

Option 1 makes the Part Set Level C Instant Set (no exit tone)

Option 2 makes the Part Set Level C Silent Set. Use command 75 to program the Exit time.

Level C Alarm Response (Command 73)

Command 73 specifies the alarm response for Part Set Level C.

Option 0: Keypad sounders only

Option 1: Internal sounders and keypad sounders

Option 2: Local alarm (internal and external sounder only)

Option 3: Full alarm (communication and internal/external sounders).

Level C Entry Time (Command 74)

This command sets the entry time for Level C. See “Programming Commands” for options.

Level C Exit Time (Command 75)

This command sets the exit time for Level C. See “Programming Commands” for options.

Output Programming (Commands 81, 82 and 83)

The system has three programmable outputs. Outputs 1 and 2 are relays, output 3 is a transistorised, high current output. Command 81 programs output 1, command 82 programs output 2 and command 83 programms output 3. All three commands take a single following digit describing the function.

Note: OP3 is a "pull down type" output that provides negative applied control signals. The output is +12V when inactive, and 0V when active.

Output Type	
Bell	(Key in 0) In an alarm the system operates the output. The output is controlled by the bell delay and bell duration timers (see Commands 41 and 42).
EE Follow	(Key in 1) This output is active when the entry or exit time starts and deactivates at the end of the entry/exit time, or if the entry/exit time is terminated. The output can be used for a separate entry/exit buzzer. Note that the output does not give a tone during part set if the exit mode is silent set or instant set.
Armed lamp	(Key in 2) The output is active continuously while the system is full or part set.
Set Latch	(Key in 3) This output is active when the system is set and deactivates when the system is unset or an alarm

condition occurs. The output will also activate for one second when a reset is performed or the control unit leaves programming mode. In addition, the output is active during a walk test.

Shock Reset — (Key in 4) This output is used to reset shock sensors, (for example the 'Viper'). The control unit triggers the output at the start of the exit period. The output remains active for a fixed time of five seconds.

Walk Test — (Key in 5) This output is active during both engineer and user walk test and in the period between silencing the system and resetting the system. This output type is used on movement detectors which have the facility to switch off the walk test LED in any state other than a walk test.

Ready Lamp — (Key in 6) This output is active when the system is in Day, and if there are no faults. The output is inactive when the system is full or part set, during any alarm, or if a circuit fault prevents setting. Note that the output will also be active when the control unit is in programming mode.

24 Hour alarm — (Key in 7) This output will become active if a zone designated as '24 Hours' is violated. The output deactivates when the system is disarmed.

Strobe — (Key in 8) In an alarm the system operates the output. The output remains active until the user disarms the system.

Smoke Reset — (Key in 9) This output is designed to be connected to low voltage smoke detector reset terminals. The control unit operates the output for 3 seconds when the system is reset after any alarm has occurred.

Siren Test — (Key in ✘1) The control unit activates the output when a user or the engineer starts a bell test. See "3. Installation - Using Programmable Outputs" for details on how to use this type of output. (For use in France only.)

Burglar Communications Re-arm (Command 85)

This command determines what happens to the "Burg" communications output at the end of the bell run time.

Option 0 Latched. The output stays active until an engineer or user resets the system.

Option 1 Rearm. The system rearms Channel 3 once the bell timer has expired. Once the Channel is rearmed, the system is ready to report any new alarm. The system bypasses any detectors that are still violated.

Notes:

*1. **If** a **Final Exit Zone** is triggered, Channel 3 becomes active at the end of the Programmed Entry time, or,*
*2. **If Dual Ply Entry** is enabled (Command 86 1) and the Final Exit zone is triggered then Channel 3 becomes active at the end of the 30 second Dual ply grace period, or,*
*3. **If Alarm Abort** is enabled (Command 36 1) Channel 3 restores if the user unsets the system.*

Dual Ply Entry Warning (Command 86)

If users habitually exceed the entry time use option 1 to add a 30 second extension during which the internal sounders give a warning tone. The extension applies to both Full and Part setting. Note that if users exceed the dual ply entry warning the system gives a full alarm.

Use Option 0 (default) to disable Dual Ply Entry.

Keypad Dual Key PA (Command 87)

This command allows users to raise a PA alarm by pressing keys 1 and 3 together on the keypad. Use option 1 to enable this facility, option 0 to disable it. Note that this command also enables PA from keyswitches (See “9928 Installation Guide”.)

Alarm Confirmation (Command 89)

Option 1 allows you to program the 9850 for Alarm Confirmation (verified alarm), if required by your local Police Intruder Alarms Policy. When a detector causes an alarm the control unit activates Channel 3 (Burg). If a second detector is triggered then the control unit activates the programmed alarm confirmation channel.

Option 0 disables Alarm Confirmation.

Commands 90 - 97, See “5.Testing”

Load Full Defaults (Command 98)

Use this command to load default values for all commands.

1. Enter programming mode (if you are not already there).
2. Key in 98 ✔ at the keypad.
   The display shows: `Load Defaults`
3. Press 1. (You can press ✘ to stop the procedure if you change your mind at this stage.)
4. Press ✔.

The system loads the factory default command values, erasing all previously programmed values.

Notes:The log is protected and cannot be erased by the Installer.

Leave Programming Mode (Command 99)

To leave programming mode:

1. Key in 99 ✔ at the keypad.
   The display shows: `Exit Eng?`
2. Press ✔.
   The display shows: `Checking System`
   and after a few seconds the contol unit resets itself and returns to user mode.

If any 24 hour, Fire, PA or Technical zones are active when you try to leave programming mode then the keypad gives an error tone and displays all the faults.

Clear the faults shown on the display and press ✔. Repeat steps 1 and 2 and the control unit should leave programming mode.

Plug on Communicator Programming

Call Mode (Command 101)

You may select one of the following call modes:

Disabled (**0**)	The control unit does not use any communications.
Single (**1**)	Reports to a single telephone number (see Command 115) with a single account number (see Command 117). Operation: The system dials the number and attempts to connect with the remote receiver. If it fails, it closes down and then re-attempts to connect up to a maximum of 5 times.
Alternate (**2**)	Reports to one of two programmed telephone numbers (see Commands 115 and 116). Operation: The system dials the first telephone number and attempts to connect to the remote receiver. If it fails, it will then close down and dial the second telephone number and attempt to connect to the remote receiver. If received and acknowledged on this attempt, the system will close down and the alarm transmission will be complete. If the system fails to connect to the second telephone number, it will close down again and re-attempt to connect to the first telephone number. The system will continue to shuttle between the two numbers up to 5 times.

Dual (3) Reports to two different receiver numbers (see Commands 115 and 116).
Operation: The communicator dials the first telephone number and attempts to connect to the first central station. If received and acknowledged, the communicator dials the second number and attempts to transmit to the second central station. If received and acknowledged by the second number, the communicator will close down and the alarm transmission will be complete. If calls to the first number fail, then the communicator attempts to call the second number. If the communicator fails to connect to the second telephone number, it will close down again and re-attempt to connect to the first telephone number. The communicator will continue to shuttle between the two numbers, calling each number up to 5 times, until it has successfully called both numbers.

Note: Dual reporting does not work with SIA or CID reporting formats.

Reporting Type (Command 103)
The system offers four message formats:

Option 0	Scancom Fast
Option 1	Contact ID
Option 2	Scancom SIA Level I
Option 3	Scancom SIA Level II (does not send time and date).

Line Fail Response (Command 106)
This command lets you program the system to respond with either audible or silent alarms when the system detects a fault on an attached telephone line. The exact response depends on whether the system is set or unset, as follows:

Disabled (**0**) The control unit does not monitor the telephone line.

Audible (**1**) If the system is unset then the system logs the event. The keypad produces a short audible tone every minute. Entering a valid access code silences the sounders and the displays indicates a telephone line fault. The system can be set again with the line fault present.

Note: Audible response is the NACOSS recommendation for line fault.

If the system is set then the control unit logs the event but the keypads do not give any tone or display. The control unit cancels any programmed bell delay if the line is out of order when an alarm occurs.

Silent (**2**) If the system is unset then the keypad display indicates a telephone line fault and the control unit logs the event. The system may be set again with the line fault present.

If the system is set then the keypad does not give any display or tone but the control unit does log the event. The system cancels any programmed bell delay if the line is out of order when an alarm occurs.

Line Integrity Checking (Command 107)

Integrity off (**0**) The control unit does not perform any line integrity checks.

Integrity on (**1**) With this option enabled, the system seizes the telephone line 12 hours after the last call and dials the first digit of the first programmed telephone number. If the dial tone disappears, then the line is good and the system hangs up and resets the 12 hour timer. If the dial tone does not disappear (the out of service tone is on the line), then the system triggers the programmed Line Fail Response.

Dynamic Test (Command 108)

In dynamic testing the system makes a test call 24 hours after the last communication. Select option 0 to disable dynamic test calls. Select option 1 to enable dynamic test calls.

Three Way Call - UK only (Command 109)

To use Three Way Call you must set the dialling type to DTMF (see command 102) and make sure that the BT Network Services Option of 'Three Way Calling' is available on the telephone line to which the communicator is connected.

Three way off (0) Disabled.

Three way on (1) Three way calling on.
Operation: If the control unit triggers the communicator and the communicator detects Off Hook or Incoming Ringing, the communicator then sends a 80 ms trigger (which represents the "R" or Recall button on a telephone) which is detected by the exchange as a request for a new clean line. With the new line available, the communicator then attempts to connect to the pre programmed receiver number.

Download Mode (Command 110)

The 9850 can be programmed from a PC using <Downloader> software. You can connect the PC to the control unit either over the telephone network, or locally using a cable.

Use command 110 to manually connect the control unit to the PC.

Local (0)	To connect the control unit to a PC (for example a laptop) using a local cable key in 110 ✔ 0 ✔.
Remote (1)	To automatically answer calls coming from a remote PC over the telephone network key in 110 ✔ 1 ✔. You will also need to use commands 112, 113. (Note that Secure callback does not work with this option.)

Note: The control unit will leave command 110 if <Downloader> does not make a call within 30 minutes.

While the control unit is connected to the PC you can upload its programming configuration into the <Downloader> in order to inspect it. Using <Downloader> you can change the configuration and then transmit the new configuration back to the control unit. If you do not wish to change the configuration you can simply monitor the state of the control unit and zones from the PC.

Use command 114 if you want the control unit to answer incoming calls from <Downloader> without an engineer being present.

Rings to Answer (Command 112)

Use this command to set the number of rings that the control unit waits before answering an incoming call from a PC trying to connect over the telephone network. See “Programming Commands” for the available options.

Answer on One Ring (Command 113)

(Answer phone defeat) Use this feature if the alarm system shares a line with other equipment.

One ring off (0)	Disabled.
One ring on (1)	<Downloader> “warns” the alarm system that a call is coming by ringing the alarm system number, waiting for between one and two rings and then hanging up. The alarm system now knows to expect a call within the next 10 to 90 seconds. <Downloader> then rings the alarm system again, within 10 to 90 seconds. The alarm system answers after the first ring.

Note: When using "Answer on 1 Ring" set the number of rings in "Rings to Answer" (C112) to a higher number than that used by the equipment sharing the telephone line with the alarm system. If you do not, then the other equipment will never answer any incoming calls.

Access Mode (Command 114)

This function allows you to provide extra security when a remote PC is dialling into the system. Once the PC is connected to the system then the <Downloader> has access to all system programming commands. If you

wish to provide secure access then either use Option 0 or Option 1. Alternatively you can use option 1 in command 110 if you want an engineer present to manually connect to the remote PC.

Option 0 — Callback off (Call Out Only).
Operation: Someone must start a call to the remote PC manually using Command 0 in User Mode. User command 0 calls the first <Downloader> telephone number (see command 118).

Option 1 — Callback on (Secure Callback).
Operation: When the remote PC calls, the system waits for the set number of rings (see command 112) and then answers. The remote PC sends a panel ID, the <DOWNLOADER> software version, and indicates which of the two Downloader Telephone Numbers to use (see commands 118/119). The system checks that the remote PC is sending the correct panel ID, and is using the correct <DOWNLOADER> software version. If these items don't match then the system hangs up. If the items do match then the system hangs up and, after a short delay, the system seizes the telephone line and calls the PC using the indicated Downloader Telephone Number.

Note: Secure Call Back must be Disabled (Default) until the first "attended" upload has been performed. This first upload can be carried out either using command 110 option 1, or using command 114 option 0.

Option 2 — Callback any (Unattended Mode).
Operation: The control unit answers as soon as the number of rings set in commands 112 and 113 have elapsed.

Note: The <Downloader> operator can choose to use Secure Callback, even though the alarm system is programmed for Unattended Mode.

Communicator Telephone Numbers (Command 115/116)

Use this command to store the telephone numbers that the communicator will use. The system will accept one telephone number if you choose Single call mode in command 101, or two telephone numbers if you select Alternate or Dual call mode.

The system can store telephone numbers up to 31 digits long.

You can use the A key to insert a pause (four seconds).

To enter a number:

1. Enter programming mode (if you are not already there).
2. Key in 115 (or 116) ✔ at the keypad.

The display shows (for example): `115:Tel No 1_`

3. Press ✔.
4. Key in the digits of the number. If necessary press D to move the cursor to the left to edit or delete the number. Press C to move the cursor to the right.
   The display shows (for example): `115:  1234_`
5. Press ✔.
   The keypad gives a double beep and the system stores the number.

Account Number (Command 117)
With SIA Format the system can report alarms using a six digit account number.

Use leading zeros to pad the account number to the correct length if necessary, for example account 1234 would be 001234.

Downloader Telephone Numbers (Commands 118/119)
Use this option to program up to two separate, 31-digit telephone numbers. When a connection has been made, the remote PC operator selects the telephone number which the control unit will call back to (for example home or office).

You can use the A key to insert a pause (four seconds).

To enter a number:

1. Enter programming mode (if you are not already there).
2. Key in 118 (or 119) ✔ at the keypad.
   The display shows (for example): `118: DL Tel No 1_`
3. Press ✔.
3. Key in the digits of the number. If necessary press D to move the cursor to the left to edit or delete the number. Press C to move the cursor to the right.
   The display shows (for example): `118:  1234_`
4. Press ✔.
   The system stores the number.

Fast Format Channels (Command 121)
If you selected Fast Format reporting type in command 103 then you can use command 121 to allocate one of the following events to each of the 8 (16) channels:

0	Not used	8	Detector Low Battery
1	Fire	9	Supervision Loss

2	PA	X1	RF Jamming
3	Burglar	X2	AC Fail
4	Open/Close	X3	Tamper Alarm (Day tamper)
5	Alarm Abort	X4	Open (see note 1)
6	Technical Alarm	X5	Close (see note 1)
7	Alarm Confirmation	X6	Zone Omitted (see note 2)

Notes:1. X4 Open and X5 Close provide the same functions as 4 Open/Close, but on two separate channels.
2. X6 Zone omitted - the control unit sends this signal for five seconds when a user omits a zone.

Report Restorals (Command 123)
This option is only available if you have selected Scancom Fast format (*C103*).

Restore off (0)	The system does not communicate restorals.
Restore on (1)	The system will communicate restorals.

Reverse Open/Closed (Command 124)
Note: This command is normally used in France.

This option is only available if you have selected Scancom Fast format. With this option enabled the Fast Format channels used for reporting Open/Closed are reversed as follows:

Option disabled	Option enabled	Description
2	4	New opening event
4	2	New closing event
6	5	Closed
5	6	OpenBurg Ch

No Closing Signal if More Than One Circuit Omitted (Command 125)
Note: This command is required for Belgian BVVO approval.

This option is only available if you have selected Scancom Fast format. When this option is enabled the control unit will NOT transmit a Close signal if a user has omitted two or more zones.

Country Defaults (Command 126)
Use this command to select the country and PTT defaults. Note that the system will ask for confirmation and you must press 1 ✔ to end the command. Note that this command loads default access codes and programming options. See “Programming Commands” for details of the options available.

Report Mode (Command 131)
SIA reports are called ‘Telegrams’. Each telegram contains the site identification number (normally six digits long) and relevant event information. The amount of information reported depends on the SIA mode you select: Basic,

Intermediate, or Full. Figure 22 (overleaf) shows the types of report for each mode. Use the table to decide which mode is appropriate for the installation.

Option 0 = Basic
Option 1 = Summary
Option 2 = Intermediate
Option 3 = Full

The system also provides a “custom” mode which allows any combination of event information. However, you must use <Downloader> to create the combination required.

SIA alarm transmissions will take considerably more telephone time than Scancom Fast format since the system transmits extended alarm data to the central station.

Modem Tone Format (Command 132)

If you select SIA format in command 103 then you can use command 132 to select the modem tones used by the plug-on communicator. Check with your central station what type of modem tones are required.

Option 0	Bell 103 tones.
Option 1	300 Baud FSK CCITT V21 modem tones.

	Basic	Summary	Intermediate	Full
Fire	Y	Y	Y	Y
Panic	Y	Y	Y	Y
Duress	Y	Y	Y	Y
Keypad PA	Y	Y	Y	Y
Burglar	Y	Y	Y	Y
Exit time out	Y	Y	Y	Y
Sensor tamper	Y	Y	Y	Y
Sensor tamper restore	Y	Y	Y	Y
Periodic test report	Y	Y	Y	Y
PA telecommand	Y	Y	Y	Y
Program mode start		Y	Y	Y
Program mode end		Y	Y	Y
Zone omit		Y	Y	Y
Fire restore		Y	Y	Y
PA restore		Y	Y	Y
Burglar restore		Y	Y	Y
Tamper user code		Y	Y	Y
TA restore		Y	Y	Y
TA		Y	Y	Y
Password defaults loaded			Y	Y
System tamper			Y	Y
Sounder tamper			Y	Y
Sounder tamper restore			Y	Y
Expander tamper			Y	Y
Expander tamper restore			Y	Y
Arm			Y	Y
Disarm			Y	Y
Reset			Y	Y
Tamper in day			Y	Y
Tamper keypad			Y	Y
Transmitter battery trouble			Y	Y
Jamming			Y	Y
Supervision fail			Y	Y
Download success			Y	Y
System tamper restore				Y
User code changed				Y
User code deleted				Y
Time date reset				Y
Telephone number 1 fault				Y
Telephone number 1 restore				Y
AC fail				Y
AC restore				Y
Low battery				Y
Low battery restore				Y
Battery missing				Y
Battery restored				Y
Aux trouble				Y
Aux restore				Y

Figure 22. SIA Telegram Reports

Contact ID Options (Command 143)

If you selected Contact ID in command 103 then use command 143 to select the types of contact ID messages that will be sent.

Option 0 Mode Basic, comprises the messages shown in Fig 22 in the “Basic” column.

Option 1 Mode Basic and report restorals. With this option the system still sends the messages listed for Option 0, but also sends retore for Burglar alarm, fire, PA and Tamper.

If the keypad display shows “Custom” when you enter command 143 then <Downloader> has been used to program this command. Using <Downloader> you can select any of the Basic messages from Option 0, plus the following:

Technical alarm	Engineer on site	Engineer off site
Log downloaded	Tamper panel	Tamper expander
Keypad tamper	Tamper sounder	RF jamming
RF supervision fail	RF zone low batt.	AC fail
Change time	Plug-on line fail	Battery missing
Battery fault	Abort	

Plug by Communicator Outputs (Commands 151 to 154)

The main circuit board of the control unit provides four programmable outputs that can be used to control a plug-by communicator. The outputs can be connected to the communicator by an eight-way wiring harness provided with the control unit. See “3. Installation - Fitting a Plug-by Communicator” for details of the wiring harness.

Commands 151 to 154 allow you to assign one of several channels to each output. Command 151 controls output 1, 152 output 2, 153 output 3 and 154 output 4. Each command has the same options, as follows:

0	Not used	8	Detector Low Battery
1	Fire	9	Supervision Loss
2	PA	X1	RF Jamming
3	Burglar	X2	AC Fail
4	Open/Close	X3	Tamper Alarm
5	Alarm Abort	X4	Open
6	Technical Alarm	X5	Close
7	Alarm Confirmation	X6	Zone Omitted

5. Testing

Testing Outputs (Commands 91-95)

You may test parts of the system by entering commands at the keypad. To carry out a test make sure the system is in programming mode and then key in one of the following commands. Press ✓ (Clear) to end each test:

91✓ To test output 1 (usually the external sounder/bell).

92✓ To test output 2 (usually the strobe output).

93✓ To test output 3.

94✓ To test the internal sounder output.

95✓ To test the keypad sounder.

Reading the Log (Command 90)

The control unit keeps a 250 event log of recent events. Each event is represented by a two digit code, shown on the next page. To review the event log, make sure the system is in programming mode, then:

1. Key in 90✓.

   The display shows the most recent event in the log. For a list of the log codes see the next page.

2. Key in 1 to show earlier events or 3 to see more recent events.
3. Key in 0 to print the log if there is a printer attached to the system.
4. Press ✓ to toggle between the event message and the event time.
4. Press ✘ to leave the log.

The table on the next page shows all the messages that can appear in the event log. The left hand column shows the codes that appear on a keypad display. The middle column shows the corresponding codes that appear in a printed log. Note that each event in a printed log is preceded by the date and time in numerical format.

Note that neither the Installer nor the user can erase the log.

In the log user codes are represented by numbers as follows:

U00	Installer	U06	User code 6	U13	Keyswitch
U01	User code 1	U07	User code 7	U14	Remote Rst
U02	User code 2	U08	User code 8	U15	Download
U03	User code 3	U09	Duress code		
U04	User code 4	U11	For future use		
U05	User code 5	U12	Telecommand		

Keypad and Event Log Displays

Keypad	Printed*
EEProm Fail,	EEPROM Bad Data
Codes Defaulted	Passwords Loaded
System Startup	Startup
System Tamper	System Tamper
System Tamp Rst	System Tamper Restore
Sounder Tamper	Sounder Tamper
Sounder Tamp Rst	Sounder Tamper Restore
Unn On-Site	USER Prog. Mode
Unn Off-Site	USER Prog. Mode End
Unn Change Unn	USER Changed USER
Unn Delete Unn	USER Deleted USER
Unn L# Set	USER Armed LEVEL
Unn L# UnSet	USER Disarm LEVEL
U13 L# Set	USER K/S Arm LEVEL
U13 L# UnSet	USER K/S D/arm LEVEL
System Rearmed	Rearmed
Unn Znn Omit	USER Omitted ZONE
Unn Znn Unomit	Zone Unomit ZONE
Fire Znn Alarm	Fire ZONE
Fire Znn Rstr	Fire Restore ZONE
Fire Znn Reset	USER Fire Reset
PA Znn Alarm	Panic Hide ZONE
PA Znn Rstr	Panic Reset USER
Unn System Unset	
PA Knn Alarm	K/P PA KEYPAD
Burg Znn Alarm	Burg: ZONE
Set Fail Znn	USER Exit Timeout ZONE
Burg Znn Rstr	Burg Restore ZONE
Tamper Znn	Sensor Tamper ZONE
Knn Missing	K/P Missing KEYPAD
Knn Restore	K/P Miss Restore KEYPAD
Knn Tamper	Tamper K/P KEYPAD
Knn Excess Keys	Tamper Usercode KEYPAD
Low Bat Znn	Tx Lo Batt ZONE
Low Bat Znn Rstr	Tx Lo Batt Restore ZONE
RF Jamming	Jamming Start
RF Jamming Rstr	Jamming End
RF Sup Fail Znn	Supervision Fail ZONE
RF Sup Rstr Znn	Super'ion Restore ZONE
Tel Line Fault	Telco 1 Fault
Tel Line Rstr	Telco 1 Restore
Comms Fail	Comms Failure
AC Fail	AC Lost
AC Restore	AC Restore
Low Battery	Low Battery
Low Batt Rstr	Low battery Restore
Batt Missing	Battery Missing
Batt Missing Rstr	Battery Restored
Batt Load Fail	Batt Load Test Fail

Aux DC Fail	AUX Trouble
Aux DC Fail Rstr	AUX Restore

* Printed event codes start with a time and date stamp.

Printing the Log

To print the event log, make sure the system is in programming mode, then Key in 90 ✔ 0.

Figure 24 below shows a sample of a printed log.

```
- 9850 -
  14/12/98 18:42:30 Sounder Tamper
  <END OF LOG>
```

Figure 24. Sample Log Print

To stop printing press ✘.

To print a listing of the panel's configuration key in 90 8 ✔.

Engineer Walk Test (Command 97)

Allows the engineer to test all devices on the system.

1. Enter programming mode.
2. Key in 97 ✔
   The display shows: `97: Walk Test`
3. Open and close each alarm and tamper contact in turn.
   The system gives a chime tone each time you open and close a detector contact. The displays shows: "A:Zone:" and the zone number of every detector you have tested (note that the display displays each zone number for one second, in sequence). If you also test the tampers on each zone the display shows the letter "T" against each zone number. .
4. Press OMIT to stop the walk test.

Note that the Engineer's walk test allows you to test **all** zones including PA zones, zone tampers, and control unit and bell tampers. The user's walk test does not allow you to test PA, Fire, 24Hr, Technical zones, or tampers.

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