INSTALLATION AND PROGRAMMING GUIDE

9851
9752
9751

HARDWIRED CONTROL UNITS

COOPER Menvier

Scantronic

9851, 9752, 9751 Hardwired Control Unit Installation and Programming Guide

This document applies to control panels using software version 2.04.nnnn.

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1. INTRODUCTION

About this Manual

This manual is divided into five chapters:

1. Introduction: this describes the parts of an intruder alarm system (IAS) based on the 9x5x series of control units.
2. Technical description: this defines the operating parameters of the different parts of the system.
3. Installation: this explains the tasks involved in installing an IAS using the 9x5x series of control units.
4. Programming: this lists and describes the commands available for programming the operation of the control unit.
5. Testing: this describes the commands available to test a newly installed IAS.

The 9x5x series of control units is designed to be fully programmable to suit individual user and site requirements. Installers can program units either from a keypad or using a program called Downloader on a PC running Windows. When programming from a keypad, instructions are entered using the three-digit commands described in "4. Programming". Before starting to program a control unit, familiarise yourself with its functions and the programmable options described in this manual.

Features of the Control Unit

All Models

Control units in the 9x5x series provide:

- A four-wire bus connection for keypads, keyswitches, and hardwired and radio expanders.
- Internal sounder loudspeaker output with electronically generated Chime, Alarm, Fire and Entry/Exit tones (the volume of the Entry/Exit and Chime tones can be adjusted).
- Built-in communicator for reporting to an Alarm Receiving Centre (ARC).
- Eight programmable plug-by outputs (for connecting a standalone communication device).
- Alarm Abort and Alarm Confirmation communications outputs (to reduce the likelihood of false alarms).
- Facility to download from a remote PC.
- Support for a range of European countries and languages.
- Fully programmable operation for zones, levels and partitions.
- Flexible reporting formats and communication configurations.
- Installer-programmable Engineer and Guard Codes.
- Support for up to 16 separate users.

User facilities include:

- Four different security levels, which can be programmed by the Installer either as a full set and three part sets, or as four independent partitions.
- Proximity tag reader for setting and unsetting the system.
- Keyswitch interface for setting and unsetting the system.
- Dual key alarms from the keypads (Panic Alarm, Medical and Fire).
- Remote PA set/unset when using a radio expander.
- User-programmable Duress Code.

Test facilities include:

- 250-entry event log.
- Output test commands.
- Engineer walk test command.

9751

The 9751 provides:

° On-board connections for eight Fully Supervised Loop (FSL) zones or eight Closed Circuit Loop (CCL) zones with a common tamper.

° Connections for three fully programmable panel outputs.

Separate expander units enable a further 16 zones to be connected: a combination of wired and radio expanders can be used.

9752

The 9752 provides:

° Connections for eight Fully Supervised Loop (FSL) zones or eight Closed Circuit Loop (CCL) zones with a common tamper.

° Connections for three fully programmable panel outputs.

° Connector for downloading from a local PC.

Separate expander units enable a further 24 zones to be connected: a combination of wired and radio expanders can be used.

9851

The 9851 provides:

° Connections for 16 Fully Supervised Loop (FSL) zones, eight Closed Circuit Loop (CCL) zones with individual tamper, or eight End of Line (EOL) resistor zones.

° Connections for four fully programmable panel outputs.

° Standard 8-output footprint for attaching a 9076 plug-on signalling interface (can be used, for example, to connect to a RedCare service).

° Connector for downloading from a local PC.

° Connector for printing to a local printer.

Separate expander units enable a further 24 or 32 zones to be connected (to a maximum of 40): a combination of wired and radio expanders can be used.

Elements of the IAS

An IAS comprises a control unit in a shielded case, with one to four separate keypads and various detectors, transmitters and other devices connected to programmable zones. If required, a keyswitch can be connected to one of the keypads through a keyswitch interface.

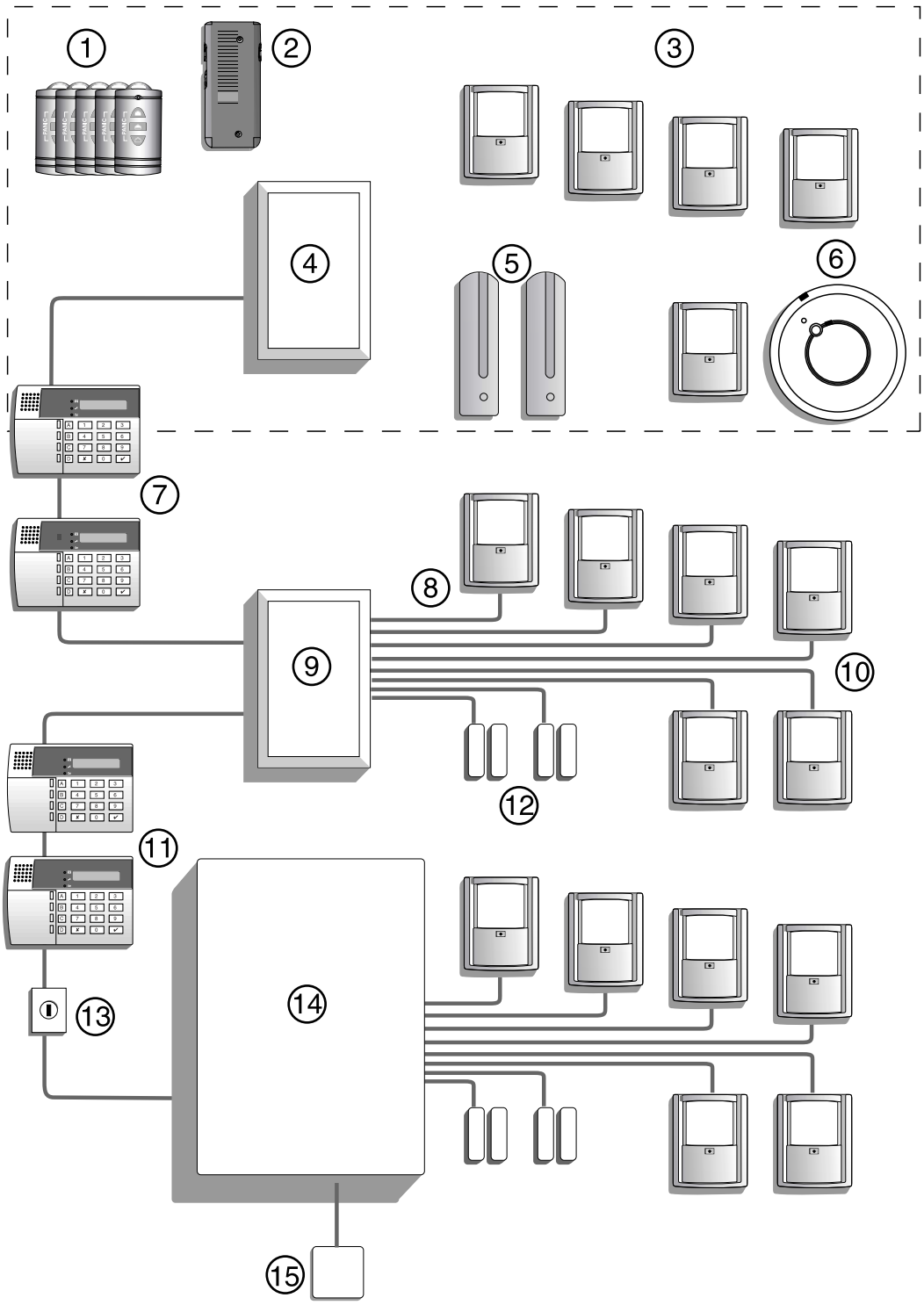
Each control unit has zone connectors on its printed circuit board (PCB). Separate expanders enable more zones to be connected: each hardwired expander adds up to eight wired zones and each radio expander adds up to eight or sixteen wirefree zones (depending on the model used).

This manual covers three models of control unit:

- 9751 8 zones as standard, expandable to a maximum of 24.
- 9752 8 zones as standard, expandable to a maximum of 32.
- 9851 8/16 zones as standard, expandable to a maximum of 40.

Figure 1 shows how these elements are connected in an IAS based on a 9x5x control unit. In this example, the control unit (14) is directly connected to six detectors and two door contacts. Further zones are then connected to it through a hardwired expander (9) and a radio expander (4). There are four keypads (7 and 11) and a keyswitch (13) connected to one of the keypads.

Note: Only one keyswitch can be connected to a keypad through a keyswitch interface. However, further keyswitches can be connected as standard zones, programmed with the appropriate zone type.



1. 725r EUR PA
2. 726r EUR PA
3. 715r EUR wirefree Passive Infra Red detectors
4. 9960 radio expander
5. 735r EUR universal transmitter
6. 719r EUR smoke detector
7. Keypads
8. Wired detectors
9. 9954 hardwired expander
10. Passive Infra Red detectors
11. Keypads
12. Door contacts
13. Keyswitch
14. Control unit
15. Fused mains spur

Figure 1. Elements of an Intruder Alert System

Keypad

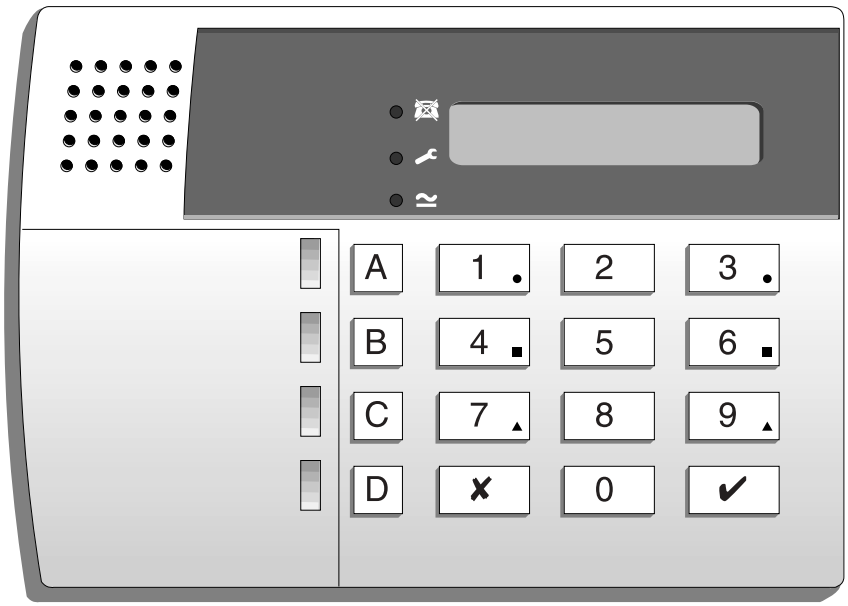


Figure 2. 9930 Keypad

The 9930 keypad has a 16-character Liquid Crystal Display (LCD) that shows "first to alarm" information, level status and programming commands. In addition, there are three LEDs that have the following functions:

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

Glows steadily when the system is unset if a telephone line fault is present.

Glows steadily when the system is unset if:
a) A fault or tamper circuit is active.
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 Walk Test of the detectors.
8 Used to start a test of the Bell and Strobe outputs.
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.
0 Used to call an ARC to request a download.
✔ Used to enter programming and setting/unsetting commands.
✘ Used to set the system with individual zones (including 24-hour zones) temporarily omitted.
ABCD Used to set levels or partitions.

If the Dual Key Alarm function is enabled (Command 87), users can trigger an alarm by pressing the following pairs of keys simultaneously:

1 + 3 Panic Alarm
4 + 6 Medical assistance
7 + 9 Fire alarm

ScanProx Proximity Tag Reader

The ScanProx 934EUR-50 proximity reader module enables you to convert 9930 keypads into proximity tag readers. The module fits onto connector pins on the keypad PCB, near the display module (Figure 11).

Once the ScanProx module is fitted, users can operate the alarm system by presenting a tag to the front of the keypad instead of keying in an access code.

Note: The control unit must be at V2.01.54 or greater for the ScanProx module to work.

Expanders

You can attach hardwired or radio expanders to the control unit: two to the 9751, three to the 9752 and four to the 9851. You can use a combination of the two types.

Hardwired Expanders

The 9954 hardwired expander enables you to connect wired detectors to the control unit. Wired detectors can be connected in three ways:

1. Four-wire Closed Circuit Loop (CCL).
2. Two-wire Fully Supervised Loop (FSL).
3. Two-wire End of Line (EOL) resistor loop.

The table below shows the configurations possible. In all cases, a combination of wired and radio expanders can be used if preferred.

Control Unit	Wiring Type	Standard Zones	Expansion Zones
9751	FSL	8 wired	16 wired **or** 16 radio
	CCL + common tamper	8 wired	16 wired **or** 16 radio
9752	FSL	8 wired	24 wired **or** 24 radio
	CCL + common tamper	8 wired	24 wired **or** 24 radio
9852	FSL	8 wired	32 wired **or** 32 radio
	FSL	16 wired	24 wired **or** 24 radio
	CCL + individual tamper	8 wired	32 wired **or** 32 radio
	EOL	8 wired	32 wired **or** 32 radio

Radio Expanders

Radio expanders enable you to connect wirefree devices to the control unit. They can work with the following devices:

- **715r.** A Passive Infra-Red (PIR) movement detector with 15m standard range. This detector has a three-minute lockout time after detection, which lengthens battery life.
- **719r.** A photoelectric smoke chamber type detector.
- **725r.** A Remote Setting Device (also known as a "PA") that can be used to full set, part set or unset the system. It can also be used as a Panic Alarm.
- **726r.** A small radio transmitter that can be used to start a PA.
- **735r.** A universal transmitter that can be used as a door contact or for connecting hardwired inputs.
- **746r.** A test transmitter used with the 747r for surveying potential user sites.
- **747r.** A Go/No Go test receiver that provides a simple method for surveying potential radio sites.

There are two types of radio expander: the 9955 can handle eight radio detectors and the 9960, which replaces the 9955, can handle eight (9960EUR-08) or 16 (9960EUR-16) radio detectors. Both units support eight PAs or PA transmitters.

The radio expanders communicate with the control unit using the same wiring as the keypads. The radio detectors operate on 868.6625MHz, which is a dedicated frequency for intruder alarms and avoids the possibility of interference from other radio services.

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. For more information, refer to the appropriate "Installation and Programming Guide" for the radio expanders you are using.

Partitioned or Single System

During installation, the Installer can organise security levels A to D as a partitioned system or as a single system.

In a partitioned system, users can set or unset each level independently of, or at the same time as, any of the others. The Installer can allocate each level its own set of zones and keypads, and an independent sounder output. User 01 can allocate any user to any level.

In a single system, users can set only one level at a time. Level A sets the whole system. Levels B, C and D set parts of the system. The Installer allocates zones to levels, but all keypads operate the entire system. There is only one sounder output for the whole system, and you can use a loud-speaker for setting tones and local alarms. All users belong to the whole system.

User Control

The control unit provides 16 independent User access codes and a separate Duress Code. Users can change these codes at any time but cannot use them to program the system. During installation, the Installer can select whether access codes use four or six digits.

2. TECHNICAL DESCRIPTION

Control Unit Specification

General

Environmental	Grade 1 (*975x*)
	Grade 2 (*9851*)
Operating temperature	-10° to +55°C
Humidity	96% RH
Dimensions	9751/9752: 235mm W, 245mm H, 90mm D
	9752/9851: 300mm W, 390mm H, 95 D
Weight	9751/9752: 3.3
	9752/9851: 5.0 kg

Note: The 9752 uses a large case as standard but is available in a small case.

Internal Clock	±10 minutes over one year (depending on the accuracy of the mains supply frequency).
Radio detector differs	16,777,214 (2^{24} -2)

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

Power Supply

All currents accurate to ±5%.

Mains power supply	230VAC +10%/-15%, 200mA max, 50Hz ±5%
System power supply	13.8VDC, 1.0A (*975x*) and 1.3A (*9851*)
Battery charge current limit	250mA (975x)
	750mA (9851)

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

934	15mA typical, 20mA maximum
975x	130mA quiescent, 220mA active
9851	115mA quiescent, 150mA active
9930	20mA quiescent, 35mA backlight on
9954	20mA typical, 30mA maximum
9955	55mA
9960	55mA

The remaining current is available for recharging the battery, driving the internal loudspeaker, supplying devices hardwired to the 9954 expander, and supplying devices attached to the 12V AUX terminals on the main connector.

Standby battery (not supplied)	12V rechargeable lead-acid, gel-type battery. Low battery voltage cutoff = 10V. Recommended manufacturers: Yuassa, Yucel or Fiamm. A 17Ah battery can be fitted only in a large case.

Note: 17Ah battery – max recharge time: 50 hrs, fitting kit: 8136EUR-02.

Outputs

9751

OP 1, 2, 3	Open-collector transistor outputs, 500mA, 12VDC, negative applied.

9752

OP 1 and 2	Voltage-free, single-pole relay contacts, rated 24VDC @ 1A.
OP3	Open-collector transistor output, 500mA, 12VDC, negative applied.

9851

OP 1 and 2	Voltage-free, single-pole relay contacts, rated 24VDC @ 1A.
OP 3 and 4	Open-collector transistor output, 500mA, 12VDC, negative applied.
ST	Siren Test 14.4VDC (for use in France only)

All Models

LS	Supports two parallel-connected, externally mounted loudspeakers for internal sounder or EE tones: minimum speaker impedance 16Ω.
AUX	500mA, 12VDC minimum, 13.8VDC maximum, ripple ±2% maximum.
Communications OP1-8*	12V logic outputs, negative applied in alarm (positive removed), 50mA maximum.

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

Inputs

TR	Tamper return for Bell
Tellback/Remote reset**	+12V applied to operate reset.
Line Fault input**	+12V applied to indicate line failure.

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

Fuses

The 9751 and 9752 use two fuses for overcurrent protection:

F1 – 12V AUX output F-1A
F2 – battery output F-2A

The 9851 control unit uses fast-acting polyswitches on both outputs.

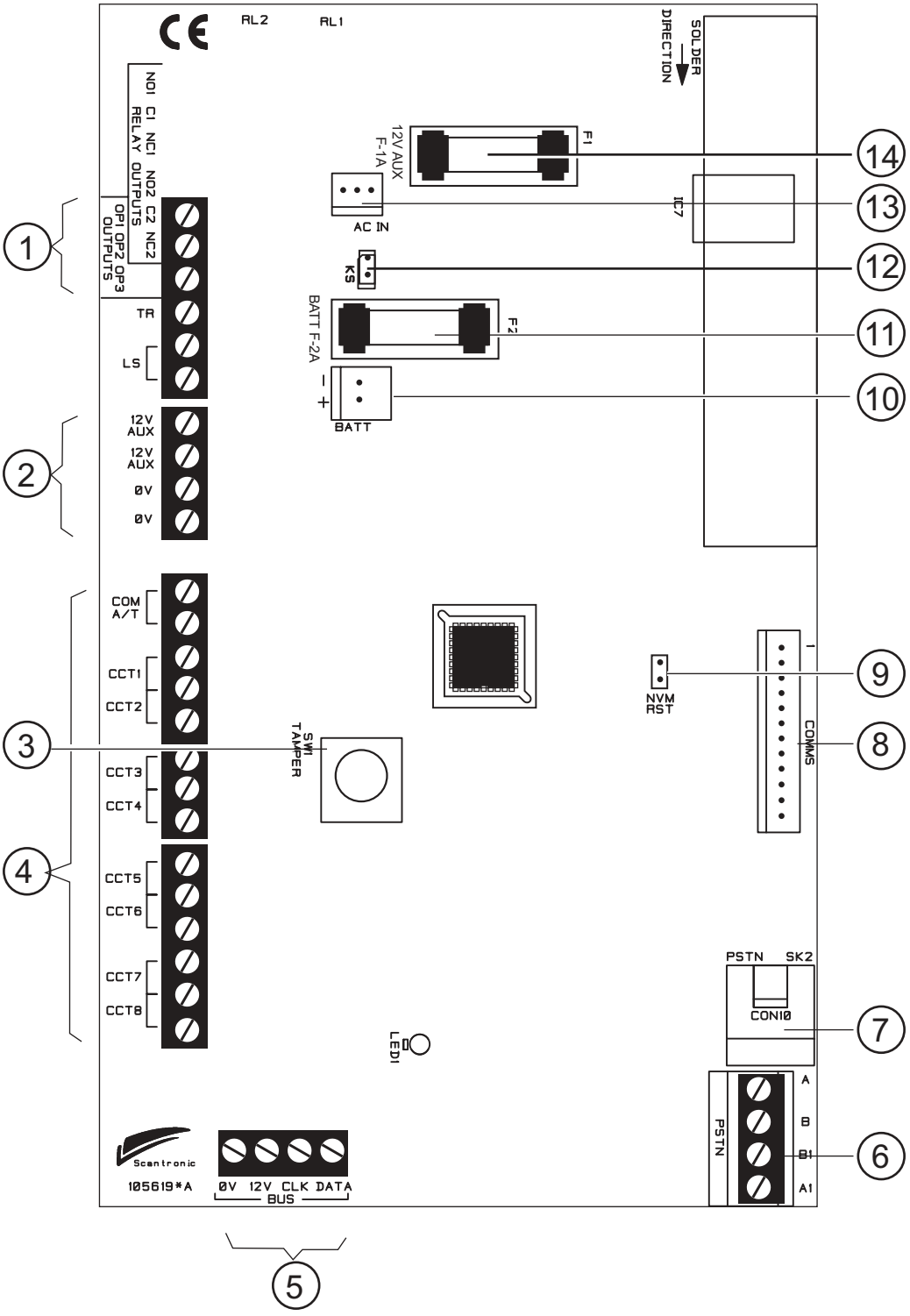
All control units use a T-250mA mains fuse.

Compatible Equipment

715rEUR-00	Wireless PIR Detector
719rEUR-00	Wireless Smoke Detector
725rEUR-00	Wireless Remote Setting Device (PA)
726rEUR-00	Two-button Handheld Wireless Panic Alarm (PA)
735rEUR-00	Door Contact Transmitter
735rEUR-50	Roller Shutter Transmitter
746rEUR-00	868MHz Test Transmitter
747rEUR-00	868MHz Test Receiver (Go/No Go)
934EUR-50	ScanProx Proximity Module (with two tags)
Proxtagpk5	Pack of five proximity tags
958EUR-00	Windows Mk3 Downloader PC Software
9928EUR-00	Keyswitch Interface
9930EUR-50	LCD Keypad (ScanProx-compatible)
9954EUR-50	Hardwired 8-Zone Expander
9955EUR-08	868MHz "Class VI" Radio Expander (8 Zones)
9960EUR-08	868MHz "Class VI" Radio Expander (8 Zones)
9960EUR-16	868MHz "Class VI" Radio Expander (16 Zones)

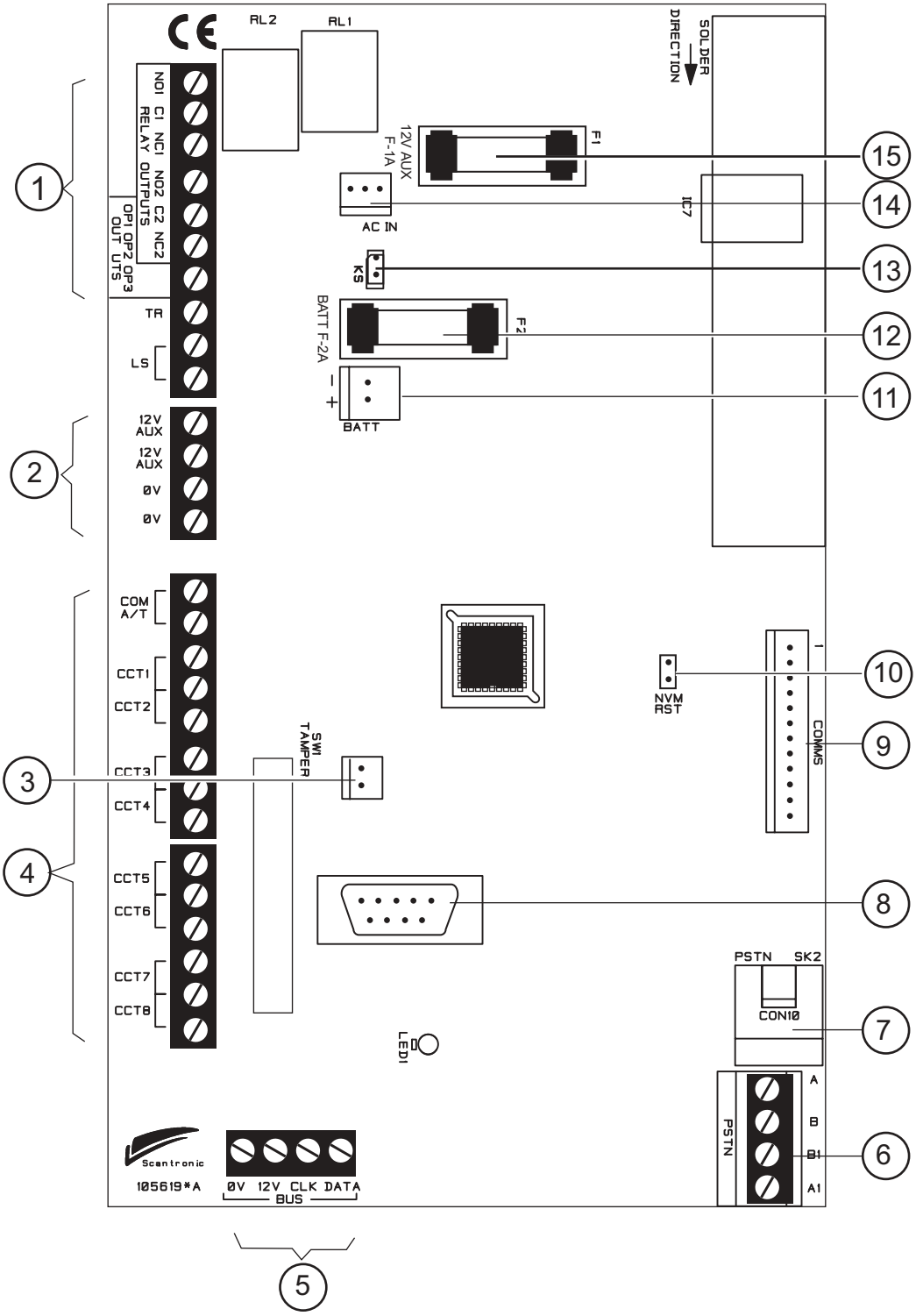
Control Unit PCB Layouts

Figures 3, 4 and 5 show the layout of the PCBs used in each model of control unit. Compared with the 9751, the 9752 contains extra terminal blocks for the relay-based outputs, a connector for the lid tamper switch and a connector for a local cable to a PC running the Downloader software. The 9851 also has connectors for a printer and a plug-on communicator.



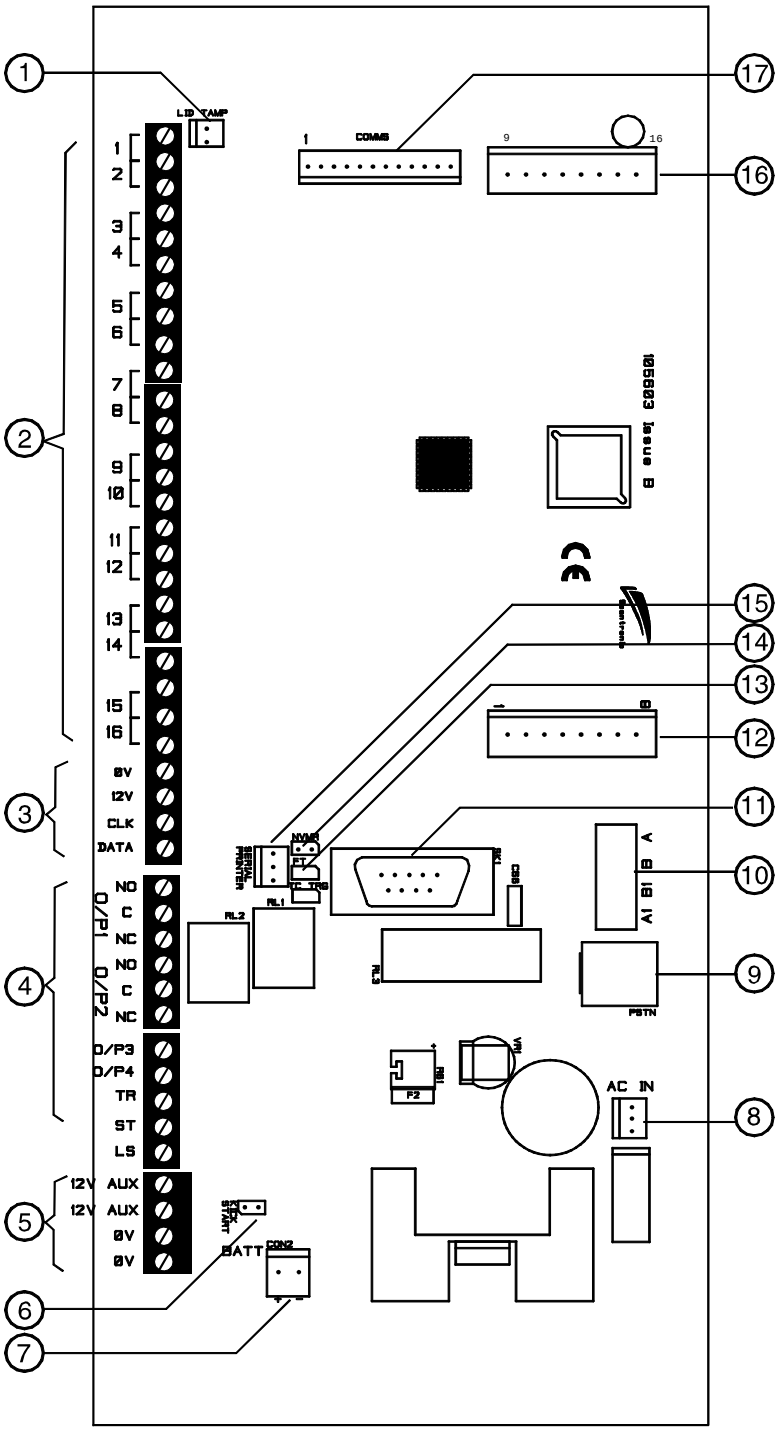
1. Outputs (RELAY OUTPUTS not used)
2. AUX power
3. Lid tamper switch
4. Zone connectors
5. Keypad and expander bus
6. Telephone line terminals for built-in communicator
7. Telephone line socket for built-in communicator
8. Plug-by (standalone) communicator connector
9. NVM Reset pins
10. Battery connector
11. Battery fuse
12. Kick Start pins
13. 21VAC from transformer
14. 12V AUX fuse

Figure 3. 9751 Control Unit PCB Layout



1. Outputs (OP1 and OP2 not used)
2. AUX power
3. Lid tamper connector
4. Zone connectors
5. Keypad and expander bus
6. Telephone line terminals for built-in communicator
7. Telephone line socket for built-in communicator
8. Local Downloader connector
9. Plug-by (standalone) communicator connector
10. NVM Reset pins
11. Battery connector
12. Battery fuse
13. Kick Start pins
14. 21VAC from transformer
15. 12V AUX fuse

Figure 4. 9752 Control Unit PCB Layout

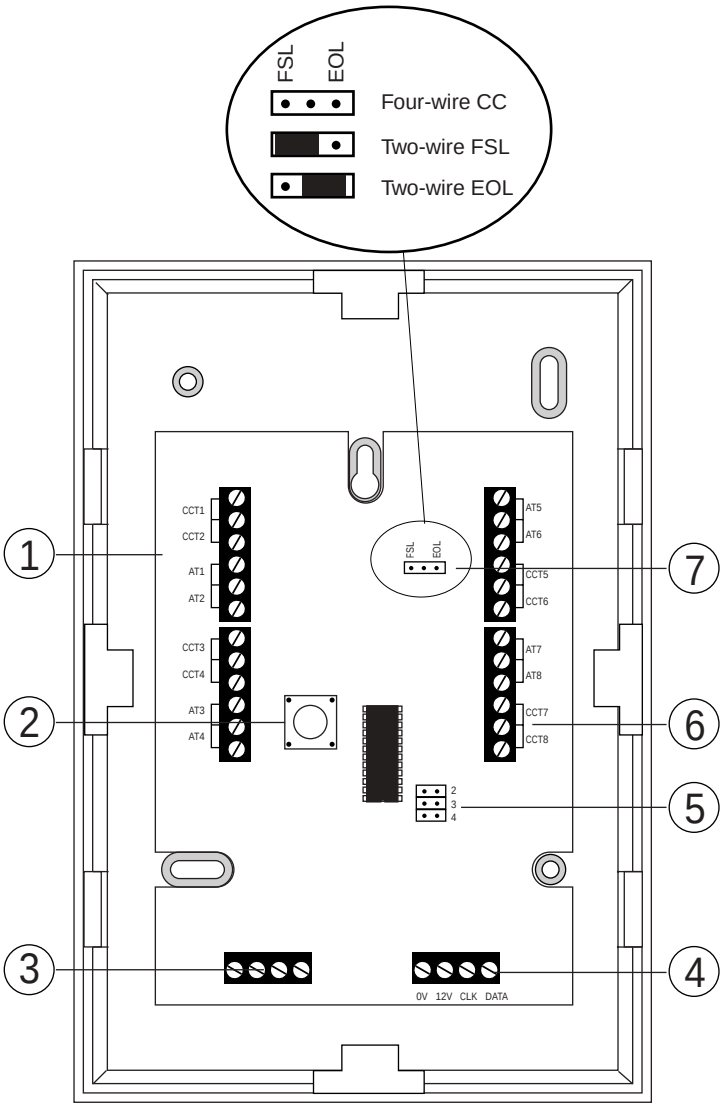


1. Lid tamper connector
2. Zone connectors
3. Keypad and expander bus
4. Outputs
5. AUX power
6. Kick Start pins
7. Battery connector
8. 21VAC from transformer
9. Telephone line socket for built-in communicator
10. Telephone line terminals for built-in communicator
11. Local Downloader connector
12. Plug-on communicator connector
13. Test pins (factory use only)
14. NVM Reset pins
15. Connector for printer (947UK-00)
16. Plug-on communicator connector
17. Plug-by (standalone) communicator connector

Figure 5. 9851 Control Unit PCB Layout

9954 Hardwired Expander PCB Layout

The 9954 hardwired expander provides connectors for eight CCL, FSL or EOL zones. Figure 6 shows the layout of the PCB.



1. Zone connectors
2. Lid tamper switch
3. Spare connectors (not connected)
4. Keypad bus
5. Address jumpers
6. Zone connectors
7. CCL/FSL/EOL

Figure 6. 9954 Expander

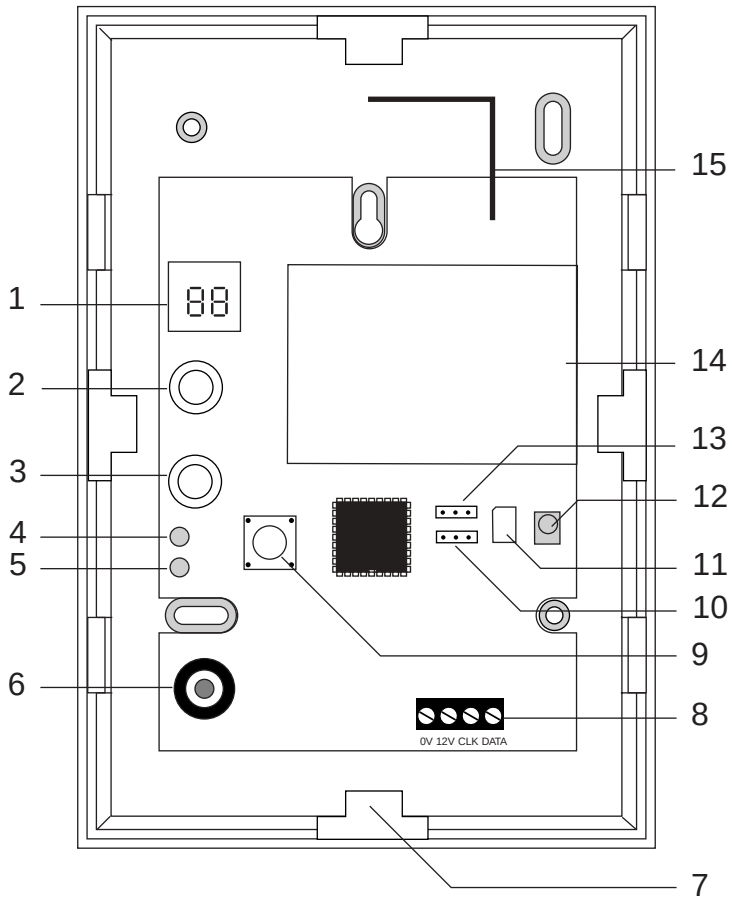
See the wiring diagram supplied with the 9954 hardwired expander for more details.

Radio Expander PCB Layouts

The 9955, and its replacement the 9960, are Class VI radio expanders. Class VI is the grading given by the British standard for Wirefree Alarm Systems and is required for signalling systems that require a police response. They receive signals from the radio detectors on a frequency of 868.6625MHz. Both models are CE tested to EN 50081-1 and EN 50082-2.

9955 Radio Expander

The 9955 radio expander supports eight wirefree zones. Figure 7 shows the layout of the PCB.



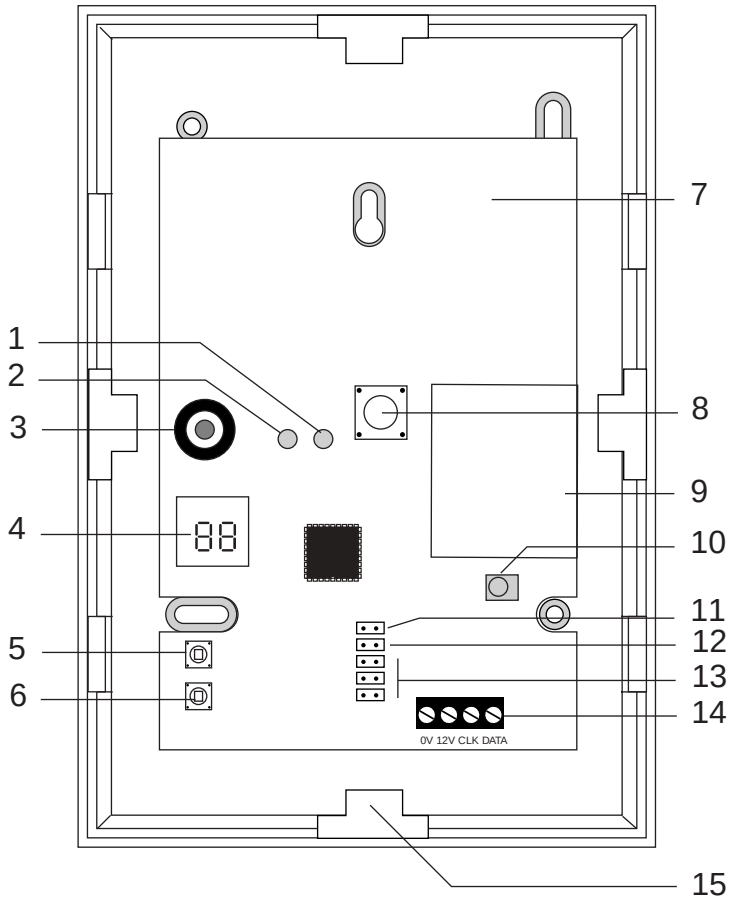
1.	2 x 7-segment display	9.	Tamper switch
2.	Select button	10.	Supervision jumper
3.	Delete button	11.	Address jumper
4.	Green "Pass" LED	12.	Learn sensor
5.	Red "Fail" LED	13.	Jamming response jumper
6.	Sounder	14.	Radio section
7.	Cable entry	15.	Aerial
8.	Bus connector		

Figure 7. 9955 Radio Expander

Refer to the "9955 Installation and Programming Guide" for more details.

9960 Radio Expander

The 9960 radio expander supports eight or sixteen wirefree zones, depending on the model ordered. Figure 8 shows the layout of the PCB.



1.	Red "Fail" LED	9.	Radio section
2.	Green "Pass" LED	10.	Learn sensor
3.	Sounder	11.	Supervision jumper
4.	2 x 7-segment display	12.	Jamming response jumper
5.	Select button	13.	Address jumpers
6.	Delete button	14.	Bus connector
7.	Built-in aerial	15.	Cable entry
8.	Tamper switch		

Figure 8. 9960 Radio Expander

Refer to the "9960 Installation and Programming Guide" for more details.

3. INSTALLATION

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

Overview

A typical installation comprises the following main steps:

1. Survey the site and decide on positions for wired detectors, 9954 wired expanders, control unit, keypads, external and internal sounders. As part of the survey ask the users what facilities they need.
2. If you are going to use wirefree detectors, carry out a radio site survey and decide on positions for the wirefree detectors and the radio expanders. For more information, refer to the "Installation and Programming Guide" for the expander you are using.
3. Ensure that there is a suitable mains supply present at the site of the control unit.
4. If you are going to use a communicator, arrange for a PTT (Public Telephone and Telegraph) connection point near to the control unit.
5. Install the wired detectors and run cables to the site of the control unit or 9954 wired expanders. Connect each detector to its cable.
6. Run cables from the sites of the keypads, expanders, and external and internal sounders to the site of the control unit.
7. Install keypads and expanders, and connect them to their cabling. Ensure that each one has the correct address setting. If necessary, install 934 ScanProx modules on the keypads.
8. Install internal and external sounders and connect them to their cabling.
9. Install the control unit and connect it to the mains supply cabling. Do not apply power at this point.
10. At the control unit, complete all connections to keypads, expanders and sounders.
11. Apply power and program the control unit.
12. Let the radio expanders learn the wirefree detectors and then install the detectors at their selected sites.
13. Test that the intruder alarm system operates as required.
14. If required, install a communicator, connect it to the PTT network and check that it operates correctly.
15. Hand the system over to the users and instruct them in its use.

Cabling Keypads and Expanders

Cooper Security recommends that you use 8-core 7/0.2 or 16/0.2 alarm cable for wiring keypads and expanders. You can connect the keypads and expanders in either a star or bus configuration (see Figure 9). If you intend to use long cable runs, Cooper Security recommends that you use star wiring with no more than 200m of cable per branch.

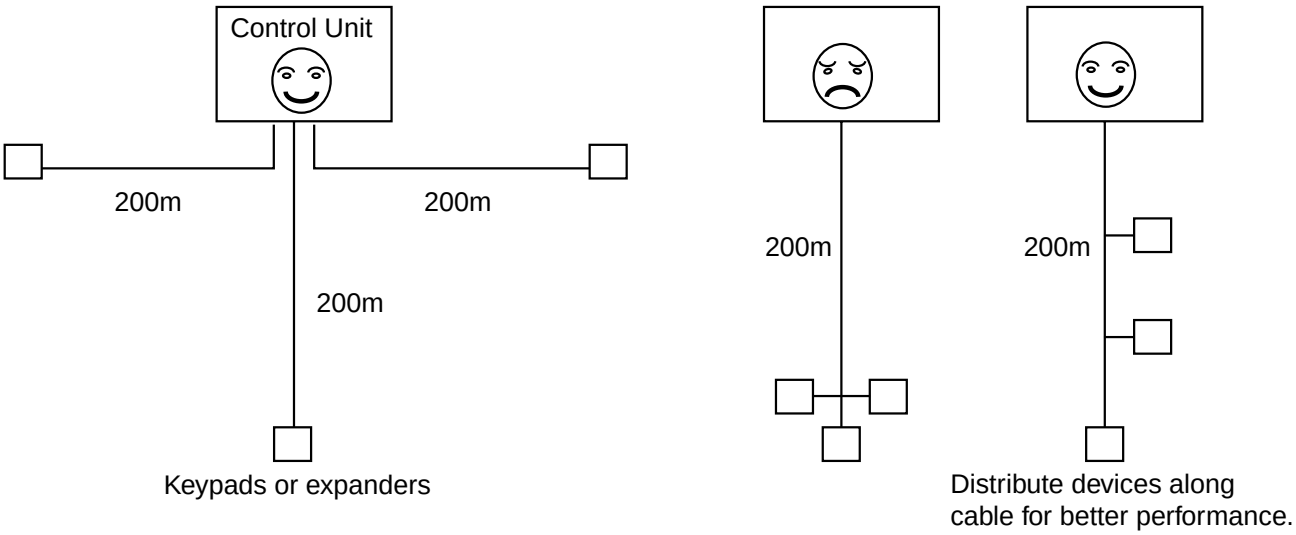


Figure 9. Star and Bus Wiring for Keypads and Expanders

The maximum length of any one run from the control unit to the most remote keypad or expander depends on the number of items connected to the cable. You can double the maximum length for 7/0.2 cable by using two cores each for the 0V and 12V terminals or by using 16/0.2 cable. The table below shows the maximum recommended cable lengths in metres for 7/0.2 cable, assuming that you connect all items at the end of a single cable run. (An item is either a keypad or an expander.) You may be able to improve on these figures by spreading items along the cable length (Figure 9).

8-core 7/0.2 cable		
Number of items	**1 core**	**2 cores on 0V and 12V**
One	200	–
Two	100	200
Three	65	130
Four	50	100
Five	40	80
Six	33	66
Seven	28	56
Eight	25	50

It is possible to extend the keypad cable run by using additional power supplies, but only up to the recommended maximum of 200m.

When carrying out the cabling, there are two important points to remember:

1. Do not connect anything other than keypads and expanders to the keypad bus. The keypad bus power supply is limited to a maximum of 400mA and can supply no more than four keypads and four expanders.
2. Check between 0V and 12V on the keypad bus at the point furthest from the control unit: the voltage must be at least 12.0VDC when all the keypad backlights are on.

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

Fitting the System

Fitting the Control Unit Case

1. Remove the control unit case from its packaging.
2. Remove the front screws and slide off the case lid.
3. The upper part of the case back has a central keyway. Mark and drill a hole for the keyway. Temporarily fix the case back to the wall. Mark the position of two more fixing holes, remove the case back and drill the holes.
4. Refit the case back to the wall using screws no less than 30mm x No 8, with dome or pan heads.

Fitting the 9930 Keypad

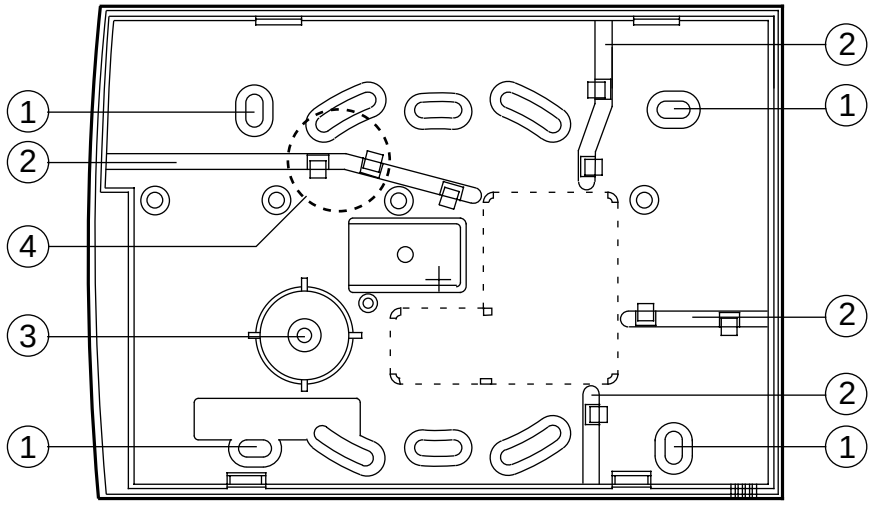
The backplate of the 9930 keypad (see Figure 10) contains an adjustable cam that you can use to make sure the tamper switch will operate correctly when the keypad is mounted on an uneven surface.

Cooper Security recommends 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 (item 2 on Figure 10).
2. Hold the backplate in place against the wall and mark the position of the centre hole in the adjustable cam (item 3 in Figure 10).
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. Mark, drill and plug at least two more fixing holes (item 1 in Figure 10). Screw the backplate to the wall through the holes.
5. Cut the plastic webs connecting the cam to the backplate.

Note: If you do not cut the webs, the tamper switch will not operate in the event of the complete keypad being forced off the wall.

6. Mount the front cover 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, rotate the cam until the switch operates correctly with the front of the keypad mounted on the backplate.



1. Fixing hole
2. Cable entry
3. Adjustable cam
4. Remove these cable clips when fitting a 934 module

Figure 10. Backplate of the 9930 Keypad

Fitting the ScanProx 934 Module

Note: If fitting a 934 module to an existing installation, put the alarm system into programming mode and then remove all power, both mains and battery. If you do not remove all power, the system will not recognise the 934 module.

1. Remove the front cover from the keypad(s) to which you intend to fit the module. Remove the cable clips (item 4 in Figure 10).
2. Fit the 934 module to the connector pins, as shown in Figures 11 and 12.

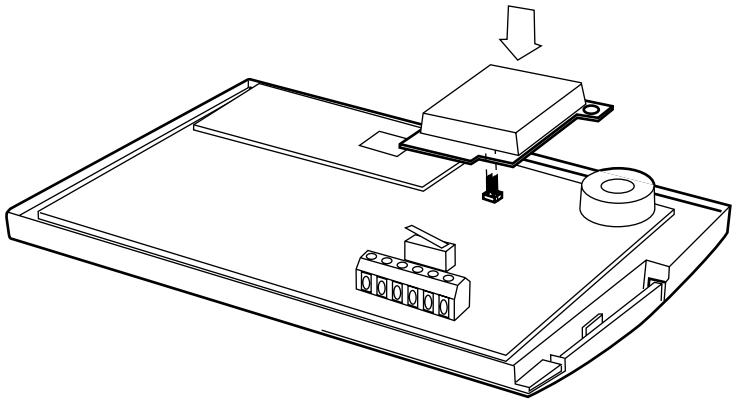


Figure 11. Fitting a 934 Module (over the keypad)

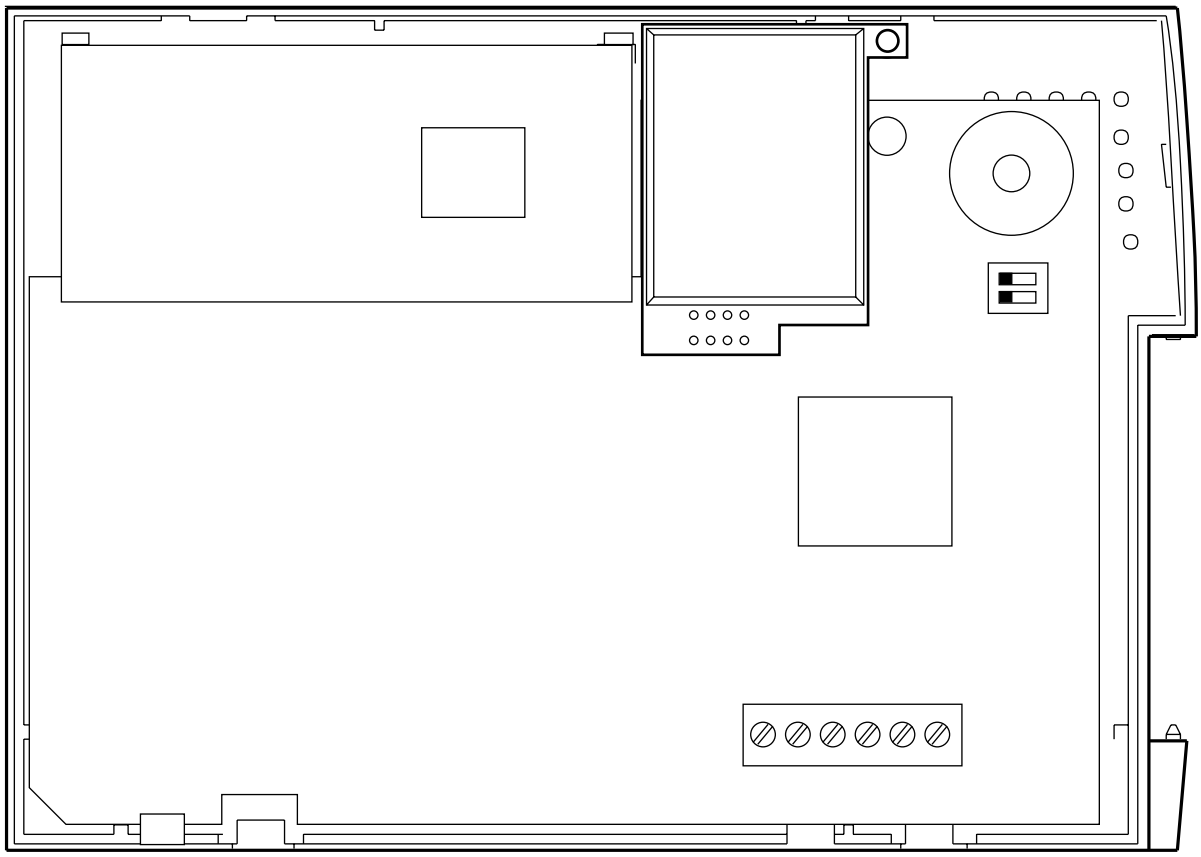


Figure 12. Fitting a 934 Module (in position)

3. Secure the module in position with a screw through the lug in the top-right corner (Figure 13).

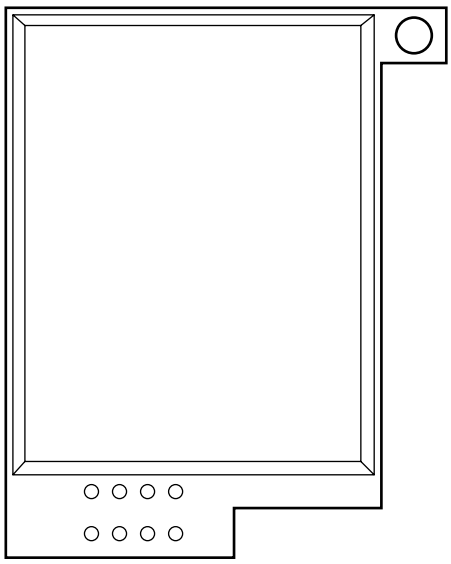


Figure 13. Securing lug on 934 module

4. Re-fit the front cover of the keypad.

Wiring the Control Unit

Cable Entries

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

Mains Connection

Connect the control unit to a suitable supply using a double pole disconnect device in accordance with EN60950-1:2001 Clause 3.4.3. Connect the supply to the control unit using the 3-way terminal block located on the case back. Secure the cable to the case anchor point using the cable tie provided.

Notes:

1. The control unit has a T-250mA internal mains fuse.

2. All electrical connections should be carried out by a qualified electrician and must comply with national regulations (for example, with the current IEE Wiring Regulations in the UK: 16th Edition, Appendix 5 – Standard Circuit Arrangement).

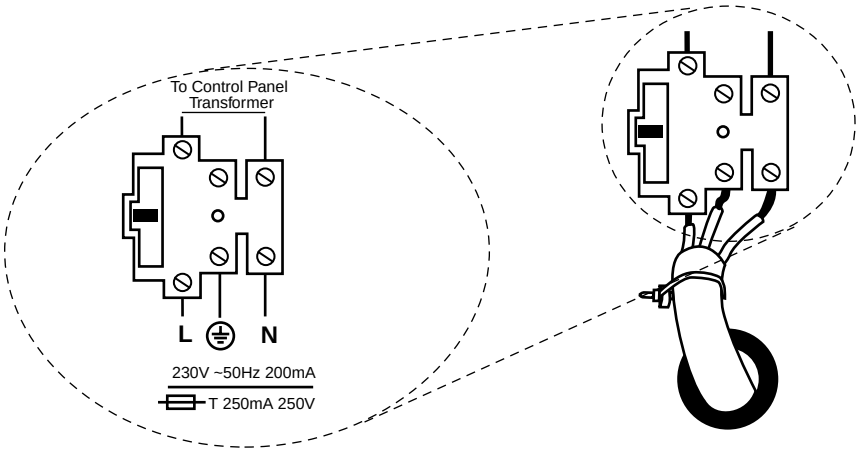


Figure 14. Mains Connection

Connect the 21VAC lead from the mains transformer to the main PCB. See Figure 5 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.

Keypads

Keypad Addressing

The control unit is supplied with one keypad. If you have fitted more keypads, each one must be given a separate "address". Links LK2 to LK4 set the keypad address, as shown in Figure 15.

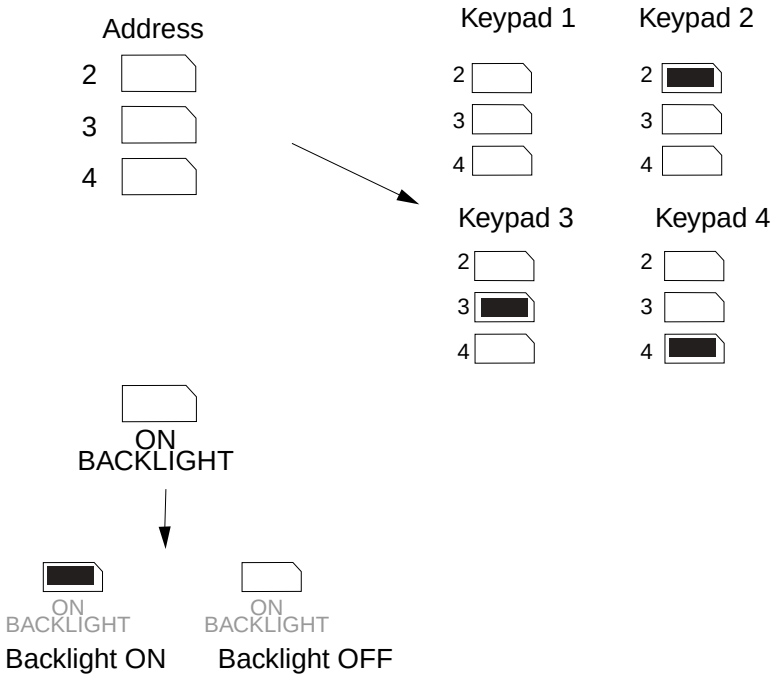


Figure 15. Keypad Addressing

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 15.

Connecting Entry/Exit Devices and External Sounders

Figures 16 and 17 show the connections for keypads, Exit Terminate buttons, lock switches and internal/external sounders.

Use the "ET" connector terminals on the keypad PCB to connect an Exit Terminate button or lock switch. If you are using a lock switch, do not connect any other devices to these terminals.

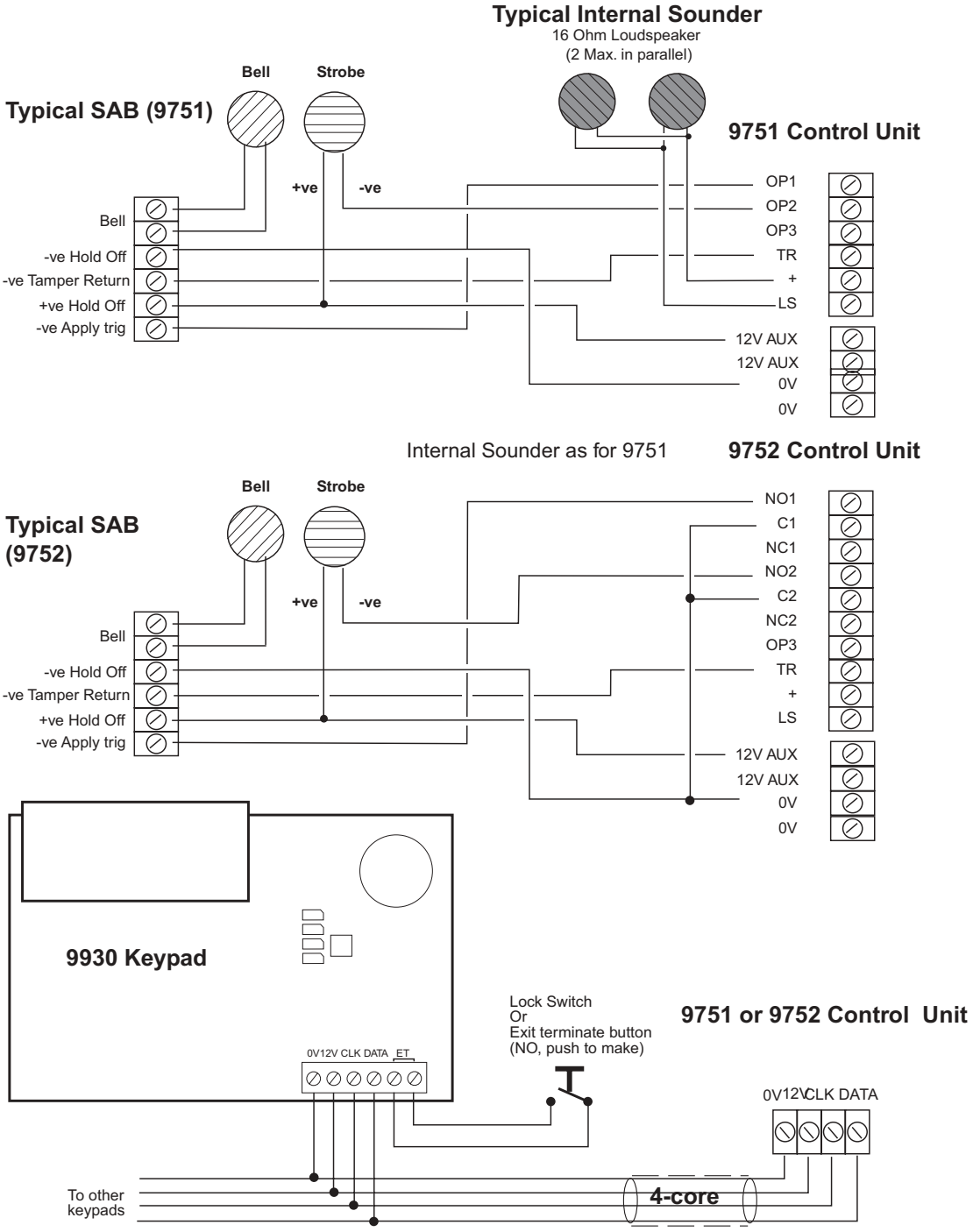


Figure 16. Keypad and External Sounder Connections (975x)

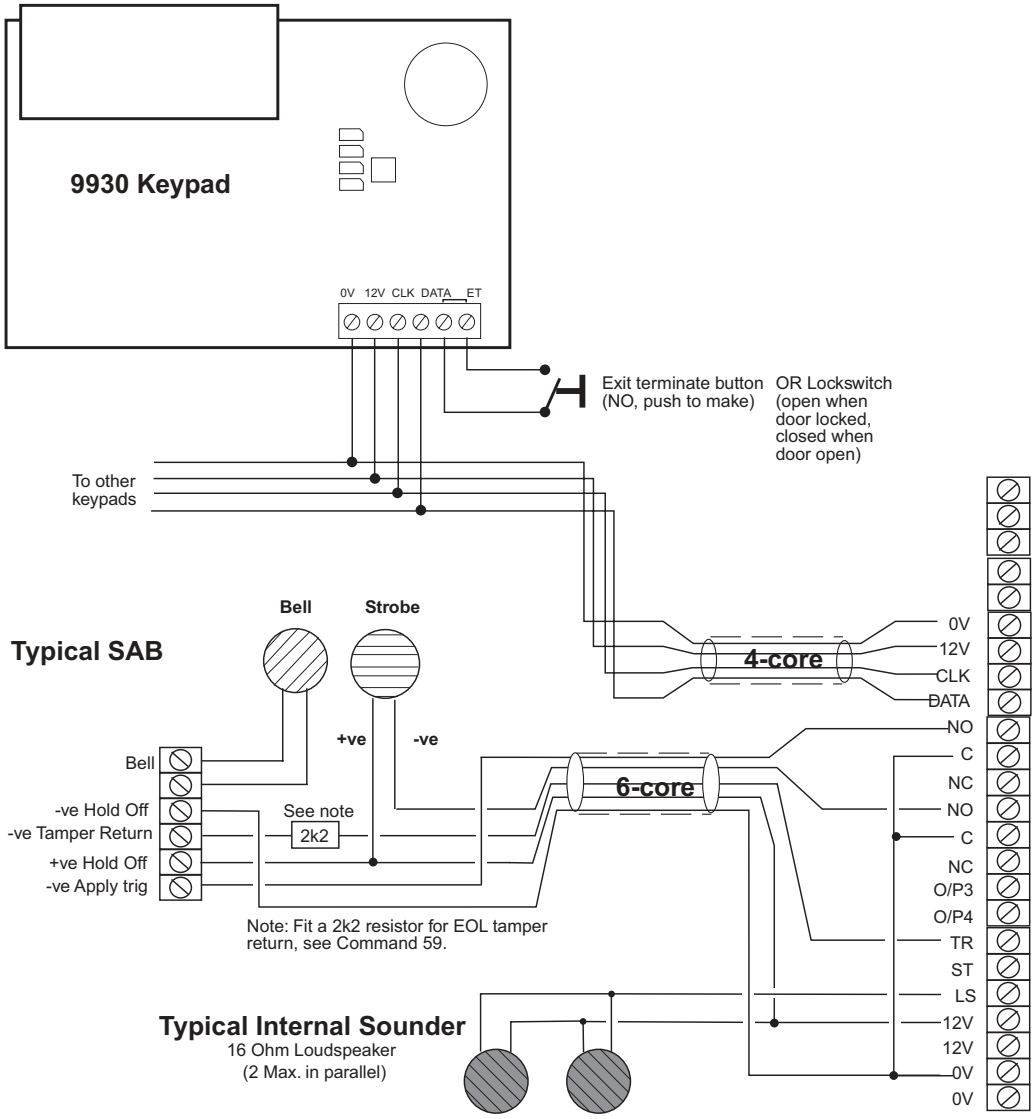


Figure 17. Keypad and External Sounder Connections (9851)

Connecting Detector Circuits

The connectors for the detector circuits, or zones, are on the left hand edge of the main PCB in the control unit. The table below summarises the number and type of zones that can be connected to each model of control unit. Use Command 21 to configure the connectors to the required wiring type.

Model	Connectors	Zones	Wiring Types
9751	14	8	four-wire CCL with common tamper
		8	two-wire FSL
		24	two-wire FSL + expanders
9752	14	8	four-wire CCL with common tamper
		8	two-wire FSL
		32	two-wire FSL + expanders
9851	24	8	four-wire CCL with individual tampers
		16	two-wire FSL
		16	two-wire EOL
		40	two-wire FSL + expanders

CCL Connections

Figures 18 and 19 shows how to connect four-wire CCL zones with common and individual tampers. The control unit provides enough connectors for eight CCL zones. If you wish to connect more, you must fit one or more hardwired expanders (see "Connecting Expanders" on page 32).

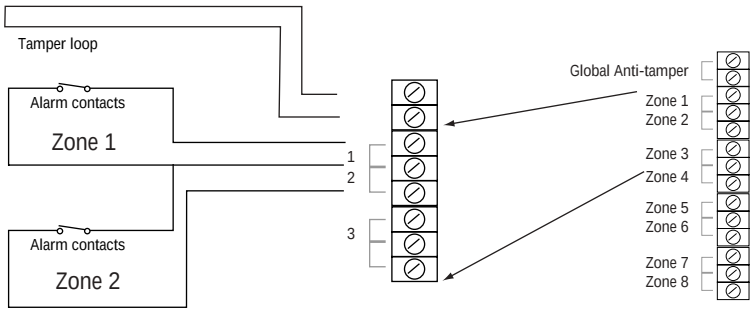


Figure 18. CCL Connections (common tamper – 975x)

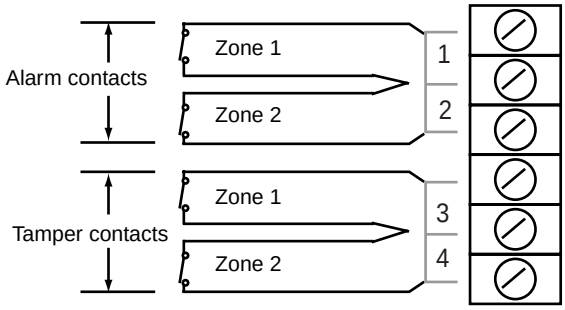


Figure 19. CCL Connections (individual tamper – 9851)

FSL Connections

The control unit provides enough connectors for 8 (975x) or 16 (9851) FSL zones. If you wish to connect more, you must fit one or more hardwired expanders (see "Connecting Expanders" on page 32). When using expanders with a 9851, you must decide how many FSL zones to connect to the control unit. You can have 8 zones on the control unit and 32 on expanders, or 16 zones on the control unit and 24 on expanders.

Each FSL zone is a "Fully Supervised Loop" using a two-wire closed loop. As shown in Figure 20, the loop uses 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) and a 4K7 resistor fitted across the alarm contact.

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 so the control unit detects an alarm condition. If a tamper device opens, the loop resistance becomes infinite (open circuit) and so the control unit detects a tamper signal.

To connect a detector to an FSL loop, you must wire suitable high-tolerance resistors to the detector. Always check resistor colour coding and tolerance before wiring resistors into circuit (see Figure 21).

The wiring resistance of the cable to the detector (including joints) should not exceed 100 ohms. The recommended maximum cable length within a zone is 200–300m.

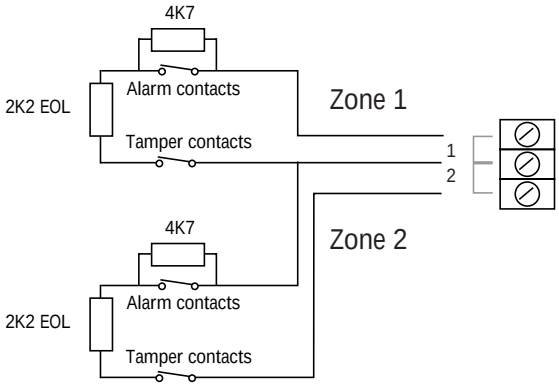


Figure 20. FSL Connections

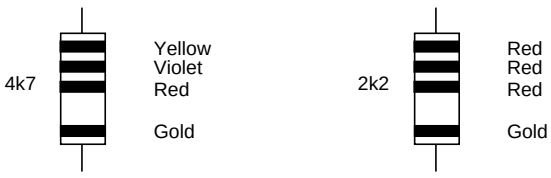


Figure 21. Colour Code for FSL Resistors

EOL Connections (9851 only)

Each EOL zone is a two-wire closed loop that uses a single 2K2 resistor fitted in series with the alarm contacts to differentiate between "Circuit" and "Tamper" signals. Figure 22 shows how to connect two EOL detectors to adjacent zones. Each detector is wired in series with a common anti-tamper circuit, which is connected to the terminals marked "3" and "4". You must connect a single 2K2 resistor in series with the anti-tamper circuit.

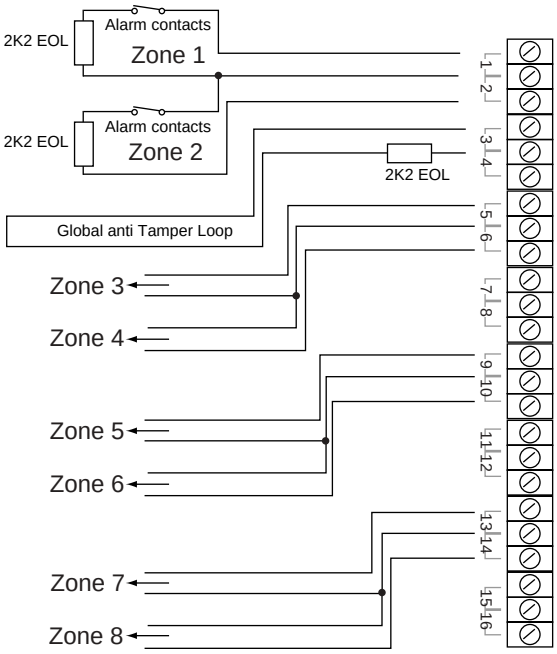


Figure 22. EOL Connections

Connecting Expanders

Figure 23 shows how to connect a 9954 hardwired expander to the control unit.

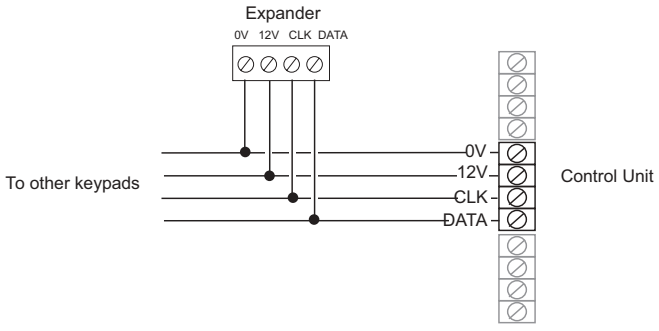


Figure 23. Connecting a 9954 Expander

When fitting a 9954 hardwired expander, make sure that you place the jumper link on the expander in the correct position to select either four-wire CCL, or two-wire FSL or EOL.

Note: Make sure that the control unit and the expander use the same wiring method for zones. If you select a different wiring method for zones on the expander, the control unit may not report tampers correctly.

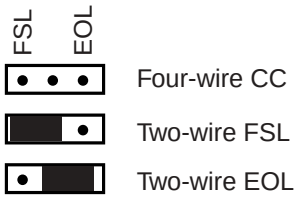


Figure 24. Link Positions to Select Wiring Method

Once you have connected an expander, refer to the instructions supplied with it for connecting hardwired detectors or "learning" radio detectors as appropriate.

Addressing Expanders

If you fit expanders, you must allocate each expander to a specific range of zone numbers. Do not allocate two expanders to the same range of zones. Select the zone numbers by fitting a jumper link to one pair of the set of pins marked "Address" on the expander PCB, as shown in Figure 25.

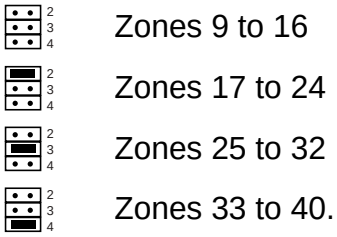


Figure 25. Link Positions to Allocate Expanders to Zones

Notes:

1. *The first option is not available if the control unit is providing zones 1 to 16 (only possible with 9851 control units).*
2. *The third position is not available for 9751 control units.*
3. *The fourth position is not available for 9751 or 9752 control units.*

Programming Outputs

Control unit panel outputs can be programmed using the commands shown in the table below. The open collector outputs are of a "pull down" type that provides negative-applied control signals; the system adjusts the output polarity when you select the output type.

Output	9751	9752	9851	Command
OP1	open collector	voltage-free relay	voltage-free relay	81
OP2	open collector	voltage-free relay	voltage-free relay	82
OP3	open collector	open collector	open collector	83
OP4	-	-	open collector	84

Figure 26 shows some examples of applications for OP3 and OP4.

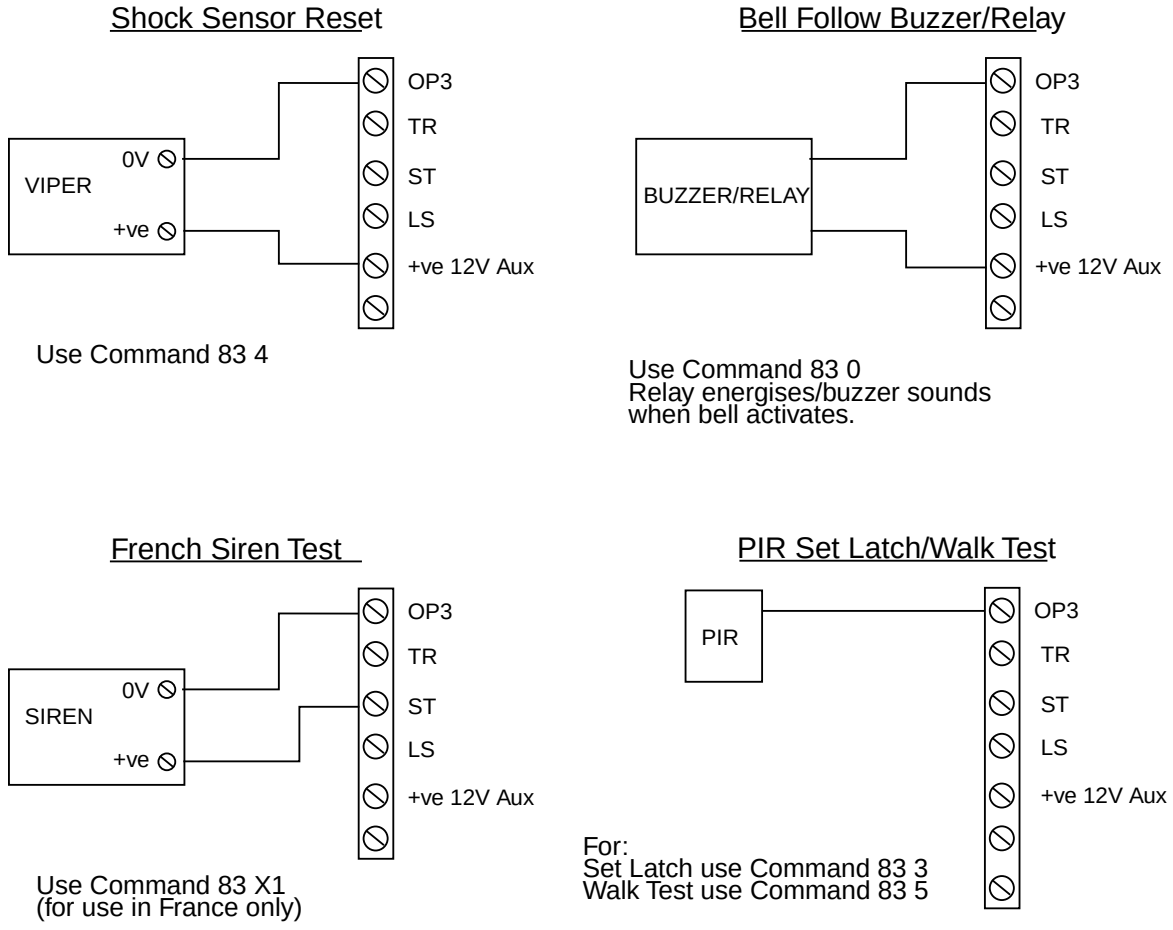


Figure 26. Wiring Examples for Programmable Outputs OP3 and OP 4

Wiring a Keyswitch Interface

Figure 27 shows the connections for a 9928 Keyswitch Interface. You can fit only one keyswitch interface in a system.

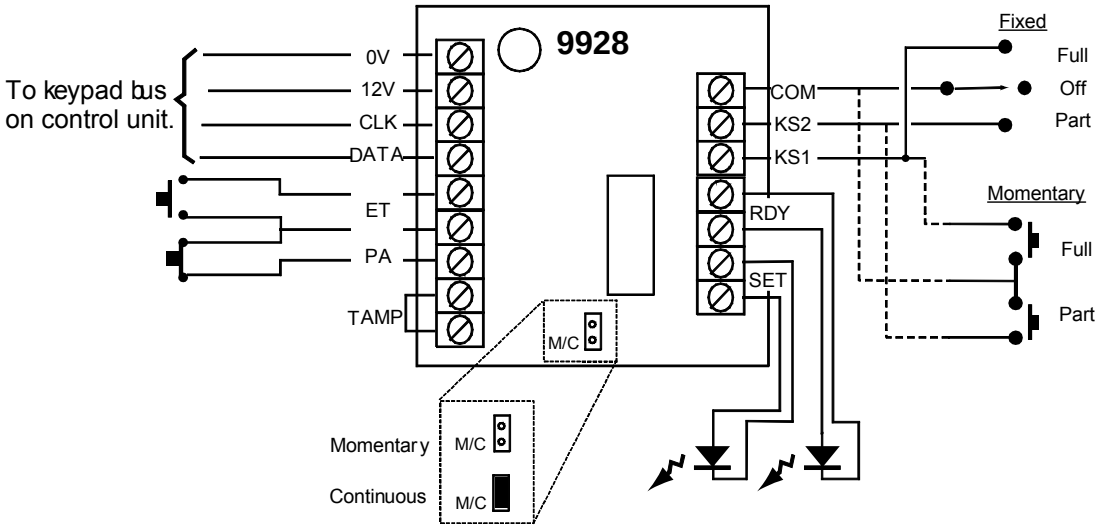


Figure 27. Connecting a 9928 Keyswitch Interface

Momentary or Fixed Keyswitches

The 9928 can be connected to either a momentary or a latched keyswitch (see Figure 27). When using a momentary keyswitch, remove the jumper from link M/C. When using a fixed (or latched) keyswitch, fit a jumper to link M/C.

Notes:

1. *If you connect a keyswitch through a keyswitch interface, it can be used to set and unset the system. In a single system, it can set and unset the whole system or Level B only. In a partitioned system, it sets and unsets Partition A.*

2. *If you connect a keyswitch as a zone, without an interface, it can be used to set and unset the level or partition to which the zone is assigned.*

Communicator

Connecting the Communicator

The control unit has an internal communicator on its main PCB. This is an auto-dialling modem. In the 9851, a different modem is used, for which the baud rate can be set using Command 111.

If necessary, a standalone communication device can be connected through a wiring harness to interface pins on the main PCB (this is known as a plug-by communicator). The 9851 can also be fitted with a plug-on communicator, plugged directly onto two connectors on the main PCB.

The communicator can be used for:

- Transmitting alarm signals to alarm receiving equipment at a central monitoring station using Scancom Fast Format, Scancom SIA (Security Industry Association) or Contact ID (set with Command 103).
- Connecting to a PC based at a remote engineering centre. Using Scantronic Downloader software, the remote PC can upload and download system parameters (including the event log and diagnostics), set and unset the alarm system, and carry out other special functions.

Programming commands 101 to 159 are used to configure communication.

Telephone Line

Ideally, the internal communicator should be connected to an ex-directory line used exclusively for alarm communications.

If an exclusive line is not available and other apparatus is connected to the line (for example, an answer machine), the internal communicator provides a series connection with line divert for the other apparatus. When triggered, the communicator seizes the line and disconnects the other apparatus. When the communicator shuts down, it reconnects the other apparatus.

Three-way Calling

The control unit provides a three-way calling facility to make sure the internal 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 control unit provides a line monitoring function to check that the telephone line is connected and working, and indicate a line failure if it is not. While enabled, this function continually checks the line voltage to ensure that the line is connected. If it detects a failure, the system gives the Line Fault Response selected with Command 106.

Test Calls

The control unit can be programmed to make test report calls to an ARC. "Static" test calls can be programmed to occur at set times or intervals. "Dynamic" test calls occur 24 hours after the last call made by the unit. See "4. Programming" for details on how to program these functions with Commands 105 and 108.

Statutory Information

Applications

The built-in communicator is suitable for connection to the following types of networks:

(a) Direct exchange lines (PSTN) supporting DTMF (tone) dialling.

(b) PABX exchanges (with or without secondary proceed indication).

Note: The built-in communicator is not suitable for connection as an extension to a pay-phone or to 1 + 1 carrier systems.

Compatible PABXs

The built-in communicator is only approved for use with compatible PABXs. Correct operation in all circumstances is not guaranteed.

Approval

The built-in communicator is manufactured to meet all European Economic Area telecommunication networks requirements. It has been approved in accordance with Council Decision 98/482/EC for pan-European single-terminal connection to the public switched telephone network (PSTN). However due to differences between the individual PSTNs provided in different countries, the approval does not, of itself, give an unconditional assurance of successful operation on every PSTN network termination point.

The built-in communicator has been approved for the following usage:

(a) Automatic call initialisation.

(b) Operation in absence of indication to proceed.

(c) Automatic dialling.

(d) Modem.

(e) Serial connection.

(f) Multiple repeat attempts.

(g) Line status monitoring.

Usage other than approved usage or failure to comply with the installation and programming instructions may invalidate any approval given to the apparatus if, as a result, the apparatus ceases to comply with the standards against which approval was granted. Note the approval label on the main PCB.

In the event of problems you should contact your equipment supplier in the first instance.

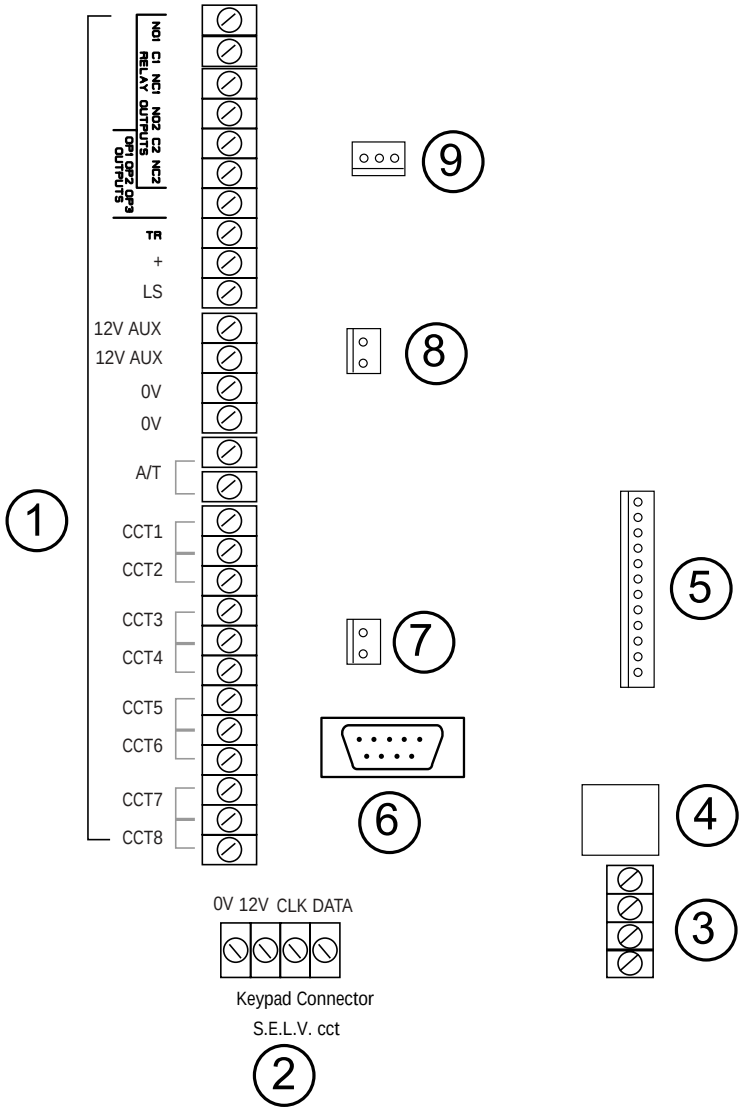
Ringer Equivalence Number

The Ringer Equivalence Number (REN) of the built-in communicator is 1. As a guide to the number of items that can be simultaneously connected to an exclusive line, the sum of the REN values should not exceed 4. A standard telephone (as provided, for example, by BT in the UK) has a REN value of 1.

Safety Notice

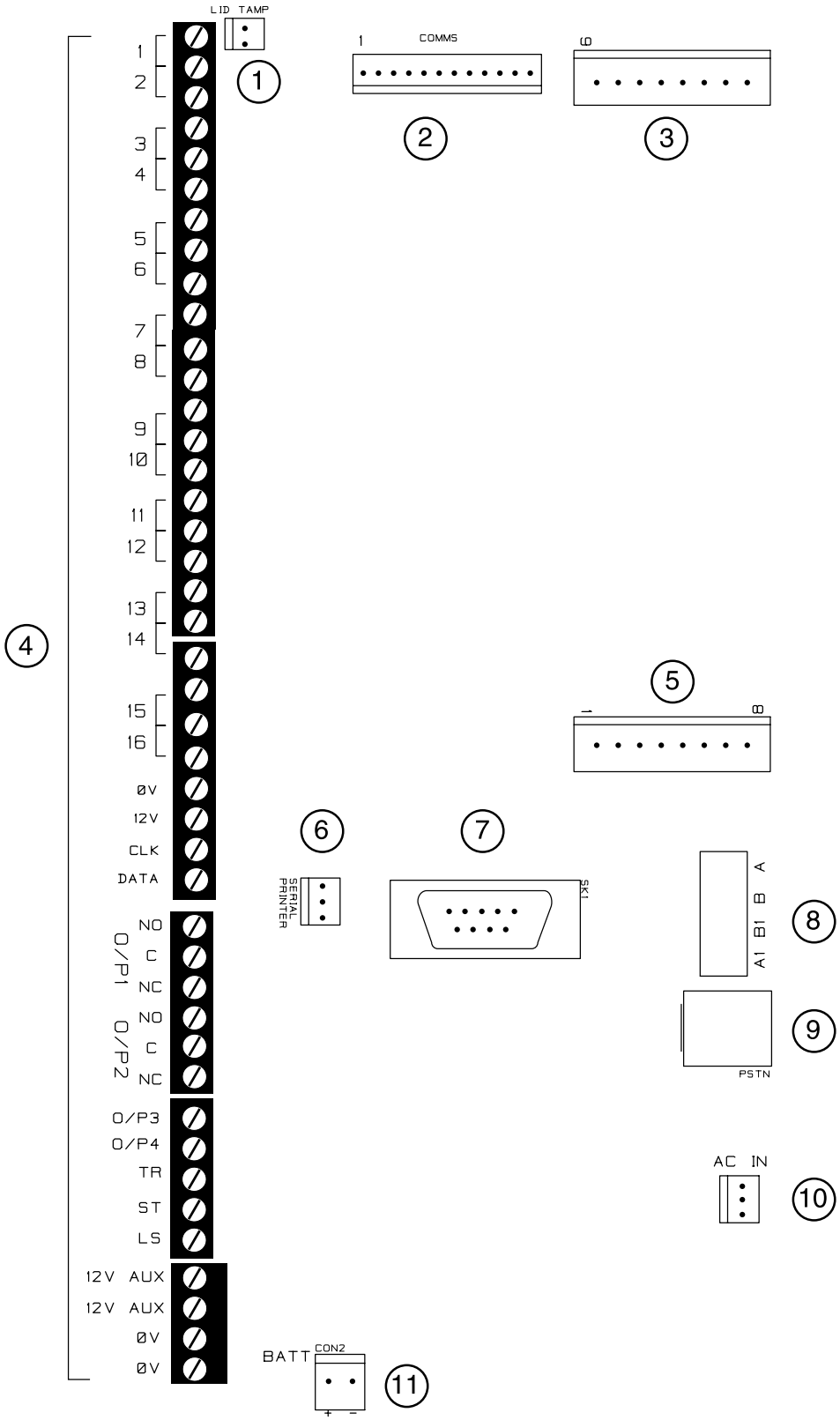
Figures 28 and 29 identify connectors for Safety Extra-Low Voltage (SELV) and Telecommunications Network Voltage (TNV) circuits on the control unit's main PCB. These terms are used in accordance with the definitions in Safety Standard EN60 950.

The Installer must ensure that TNV terminals are connected **only** to other circuits designated as TNV circuits (for example, the PTSN) and that SELV terminals are connected **only** to other circuits designated as SELV circuits. Strict adherence to the installation instructions will ensure that the equipment continues to comply with the safety regulations to which it was approved.



1. Main connector (SELV)
2. Keypad connector (SELV)
3. Telephone line connector (TNV)
4. RJ11 connector (TNV)
5. Wire in comms connector (SELV)
6. Local Downloader connector – 9752 only (SELV)
7. Lid tamper connector – 9752 only (SELV)
8. Battery connector (SELV)
9. 21VAC from transformer (SELV)

Figure 28. SELV and TNV connectors on the 975x



1. Lid tamper connector (SELV)
2. Wire in comms connector (SELV)
3. Plug-by comms connector (SELV)
4. Main connector (SELV)
5. Plug-by comms connector (SELV)
6. Printer connector (SELV)
7. Local Downloader connector (SELV)
8. Telephone line connector (TNV)
9. RJ11 connector (TNV)
10. 21VAC from transformer (SELV)
11. Battery connector (SELV)

Figure 29. SELV and TNV connectors on the 9851

Connecting the Telephone Line

Connecting the telephone line directly to the terminals on the internal communicator, or indirectly through other apparatus, can produce hazardous conditions on the telephone network. Always seek advice from a competent telephone engineer if in any doubt about connecting to these terminals.

Example – connecting a line in the UK:

The internal communicator must be connected to the PABX system by:

a) If the wiring is owned by British Telecom:

British Telecom.

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

(i) British Telecom.

(ii) The authorised maintainer.

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

To connect the telephone line:

a) If the telephone line is already terminated with a suitable lead and plug:

Insert the plug into the RJ11 connector (see Figure 29).

b) Otherwise (see Figure 30):

(i) Using three-core cable (type 1/05mm CW1308), strip 5mm of two cores and feed the cable through one of the entries in the rear of the control unit. Connect the two cores to terminals A and B on the main PCB.

(ii) Connect the other end of the two cores to the corresponding terminals on the BT master box.

(iii) If other apparatus is to share the telephone line with the internal communicator (in series), connect the main apparatus to the series switched line connections marked A1 and B1.

Caution: Only one such series apparatus is allowed to be connected between a main apparatus (such as a telephone) and the PSTN.

Ensure that the A and B lines are connected the right way around. The internal communicator continuously monitors the line for ringing tones.

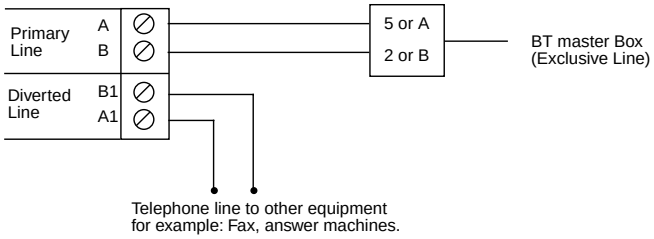


Figure 30. Connecting the Internal Communicator

Fitting a Plug-on Communicator (9851 only)

The 9851 control unit can be fitted with a plug-on communicator. To fit it, follow the instructions below.

Caution: Before fitting a plug-on communicator, you must power down the control unit completely, both mains and battery supplies. When reapplying power, connect the battery first. Failure to do so may damage the control unit.

Remember to short the Kick Start pins when powering from a battery only.

Plug-on Communicator Signals:

The plug-on communicator uses a variant of the standard Scantronic footprint:

- The functions of the plug-on pins are fixed and cannot be modified.
- All outputs are positive-applied (5V) in alarm.
- All inputs are positive-applied (12V or 5V) to indicate line failure, communications failure and tell back.

Pin	Channel Sent to ARC	Input / Output	Signal
1	CH 1	Output	Fire
2	CH 2	Output	PA
3	CH 3	Output	Burg
4	CH 4	Output	Close = +ve, Open = -ve
5	CH 5	Output	Omit
6		Input	Tel Back
7		Input	Comms Fail
8		Output	Low Batt
9		Power supply	12V
10		Power supply	0V
11		–	Not Used
12		Power supply	5V
13	CH 6 (see Note)	Output	Abort
14	CH 7 (see Note)	Output	Confirm
15		Input	Line Fail
16	CH 8	Output	Technical

Note: Some RedCare STUs reverse Channels 6 and 7 so that Confirm is on pin 13 and Abort is on pin 14. For information on the operation of RedCare communicators, see the manufacturer's instructions.

Fitting a Plug-by Communicator (all models)

The control unit 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. On the 9751:
   a) Detach the main PCB from the support pillars in the control unit case, and lift the PCB carefully to the left.
   b) Fit the communicator between the PCB support pillars, making sure that the main PCB can fit back into position (see Figure 31).

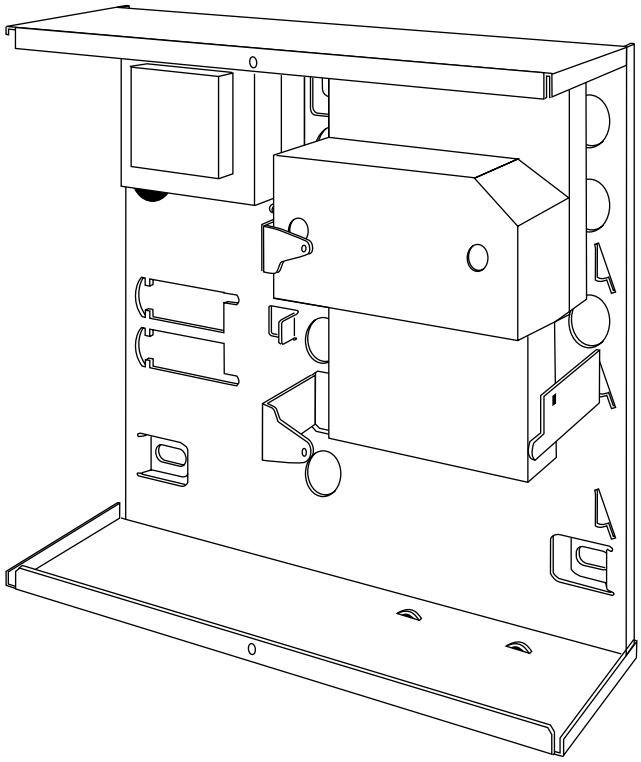


Figure 31. Fitting a Plug-by Communicator (9751)

3. Make any necessary connections from the communicator to the Communication Wiring Harness. Figure 32 shows the outputs available on the free ends of the Communication Wiring Harness. The default is a positive voltage when the output is inactive but this can be inverted if required using Command 159 (see page 109).

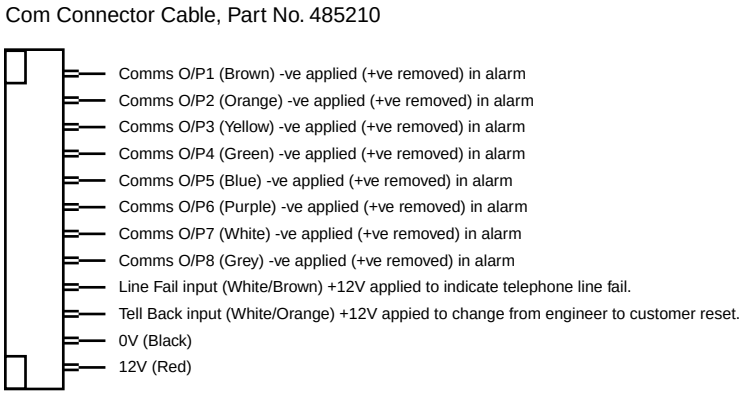


Figure 32. Communications Wiring Harness

4. Plug the Communication Wiring Harness onto the communications connector on the main PCB (see Figure 5).
5. On the 9751, re-fit the PCB to the support pillars. Secure the PCB to the support pillars with the screws provided (Figure 33). Make sure that the bottom left corner of the PCB is seated on its support pillar.

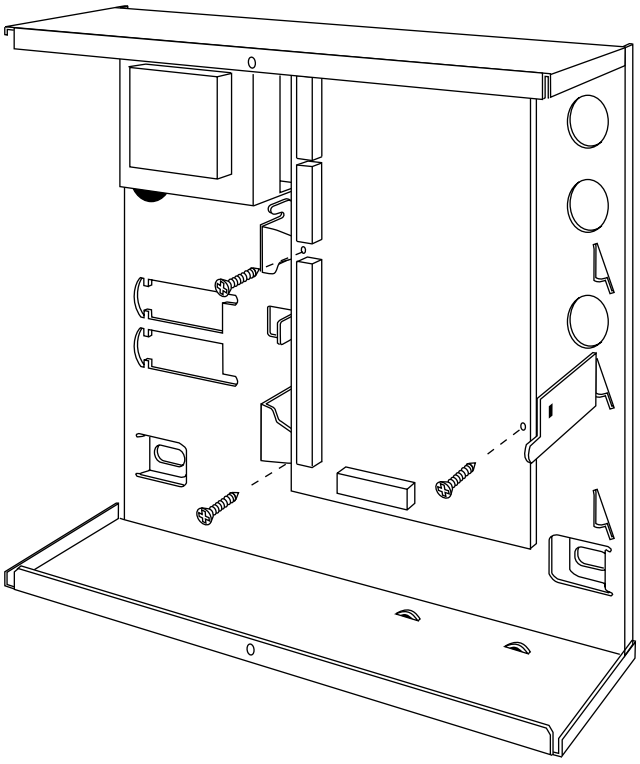


Figure 33. Fitting Control Unit PCB (9751)

If the system has already been installed:

6. Re-connect the battery.
7. Fit the case lid.
8. Apply mains power.
9. Test communicator operation (using Commands 151 to 158).

Fitting a Battery

Fit a rechargeable battery into the back of the case. In the 9751, there is space in the case for a 12V 7Ah battery; make sure the battery terminals are oriented in the position shown in Figure 34. In the 9752 and 9851, there is space in the case for a 17Ah battery; if you prefer to use this, order the kit with part number 8136EUR-02.

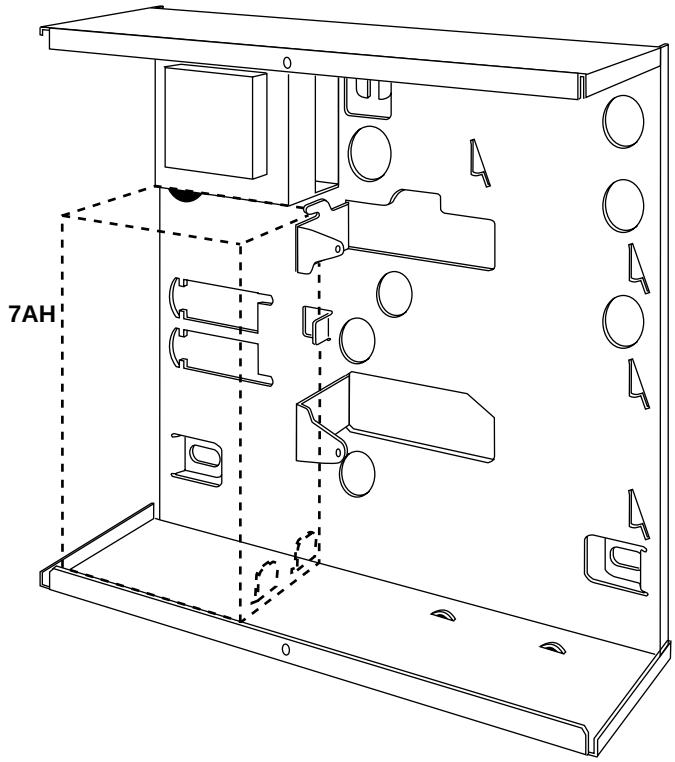


Figure 34. Fitting a battery (9751)

Initial Start Up

Before applying power to the control unit, ensure that:

- All keypads and expanders have been addressed and connected.
- All external and internal sounders are connected.
- All wired zone circuits are connected.

Then:

1. Connect the battery to the control unit PCB.
2. Briefly short the Kick Start pins together (they are located above battery connector, see Figure 5).
   The green power LED on the keypad 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.

4. Fit the case lid before applying mains power (this also defeats the tamper switch).
5. Apply mains power.
   The power LED on the keypad glows steadily.
6. Key in 0 followed by the factory default Engineer Code: 7890. (You do not have to remove the case lid.)

   The display shows: `Mult Syst? OFF`
7. Either: Press 1 ✔ to create a partitioned system
   Or press 0 ✔ to create a single system (see below).

   The display shows: `Installer Mode`

   You are now in programming mode.

Chapter 4 explains how to program the system.

Note: You will also need to let the expanders learn the wirefree detectors, and then install the detectors at their selected sites.

Partitioned and Single Systems

The control unit can be used to create a single or partitioned system.

When working as a single system, the control unit has one full set and three part set security levels (Levels A, B, C and D). All keypads, zones and output devices operate for the whole system.

When working as a partitioned system, the control unit effectively provides four smaller alarm systems. Within a partitioned system:

- Each partition can be set, unset or in alarm independently of the others.
- You can assign individual keypads to one or more partitions. The keypads can only set or unset the partitions to which they are assigned.
- Each partition can have its own Bell and Strobe Set output.
- Zones can be assigned to more than one partition; for example, an entry door zone may be shared by several companies using separate partitions.

When you apply power to a new control unit for the first time and key in the default Engineer Code, the control unit asks if you wish to set up as a single or partitioned system as shown above. If you later want to change this setting, use Command 98 (this will also restore the control unit to factory defaults).

For an overview of the programming steps required to set up a partitioned system, see "4. Programming – Partition Programming" on page 119.

4. PROGRAMMING

Entering Programming Mode

"3. Installation – Initial Power Up" on page 44 describes how to enter programming mode for the first time in a new installation. To enter programming mode at any other time:

1. Make sure the system is unset.

Note: If you have selected defaults for Finland, Norway, Sweden or Denmark (Command 0), you must enter a valid user code at this point.

2. Press 0, then key in the Engineer Code (default 7890).

   The display shows: `Installer Mode`
   You are now in programming mode.

While the system is in programming mode, all keypads except the one that you are using will be locked and will display "Busy".

Using 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 steps 1 to 3. The table on the following pages shows the Commands and their values. "Y" to the right of a value shows that it is the factory default. The default access codes are:

Engineer Code	7890	
Access Code User 1	1234	
Access Code Users 02 to 16	✘ 002 .... ✘ 016	(inactive)
Duress Code	✘017	(inactive)

Note:

To activate the inactive Access Codes (02 to 16) and Duress Code, USER1 must change the defaults to the required four-digit numbers. The "9851, 9752, 9751 User Guide" explains how to do this.

Summary of Programming Commands

Command		Key in:
0	**Country PTT Defaults (page 61)**	**0✔n✔**
n =	Country:	
	0 = UK	**Y**
	1 = Italy (I)	
	2 = Spain (EE)	
	3 = Portugal (P)	
	4 = Netherlands (NL)	
	5 = France (FR)	
	6 = Belgium (B)	
	7 = Germany (D)	
	8 = Switzerland (CH)	
	9 = Austria (A)	
	✘1 = Ireland (IRL)	
	✘2 = OEM 1	
	✘3 = OEM 2	
	✘4 = Finland (FI)	
	✘5 = Norway (N)	
	✘6 = Denmark (DK)	
	✘7 = Sweden (S)	
	Note: Executing this Command loads all defaults for the selected country.	

Command		Key in:
01–✘40	**Zone Programming (page 61)**	**nn✔✔ab**
nn =	Zone number:	
	01 to 24 for 9751	
	01 to 32 for 9752	
	01 to 40 for 9851	
	Note:	
	For zones 1 to 16, key in "01" to "16"	
	For zones 17 to 40, key in "✘17" to "✘40"	
a =	Zone type, one of:	
	00 = NU (Not Used)	
	01 = PA (Panic Alarm)	
	02 = FR (Fire)	
	03 = NA (Normal Alarm)	
	04 = 24 (24-hour)	
	05 = FE (Final Exit) see ✘7 below	
	06 = ER (Entry Route) see ✘7 below	
	07 = SA (Shock Analyser) see ✘7 below	
	08 = TC (Technical Alarm)	
	09 = KB (Keybox)	
	10 = SD (Smoke Detector)	
	11 = KM (Keyswitch Momentary)	
	12 = KF (Keyswitch Fixed)	
	13 = AM (Anti-Mask)	
	14 = FB (Forbikobler) see ✘7 below	
b =	Zone attributes, any of:	
	✘1 = C (Chime)	
	✘2 = S (14-day Soak Test)	
	✘3 = D (Double Knock)	
	✘4 = O (Omit Allowed)	
	✘7 = 1–6 or 1–4	
	For zone type 07, shock analyser sensitivity: 1 (low) to 6 (high)	
	For zone types 05, 06 and 14, entry timer number: 1 to 4 (see Commands 201–4 on page 116)	
	A = a (armed in Level/Partition A)	
	B = b (armed in Level/Partition B)	
	C = c (armed in Level/Partition C)	
	D = d (armed in Level/Partition D)	

Default zone types for a single system:	Default zone types in a partitioned system:
Z01=FE abcd 1	Z01=FEa 1
Z02=ER abcd 1	Z02=ERa 1
Z03-Z07=NA abcd	Z03-07=NA a
Z08=PA abcd	Z08=PA a
Z09-Z40=NU a	

Example: To set Zone 17 as a Normal Alarm, active in Level B and with Omit Allowed. Key in:

✘17✔✔	Zone Number
03	Normal Alarm
B	Active in Level B
✘4	Omit Allowed

✔ to store the value of the Command

Command		Key in:
20	**Change Engineer Code (page 68)**	**20✔nnnn✔ gggg✔**
nnnn =	New Engineer Code (Code)	7890
gggg =	New Guard Code (Guard)	
	Note: The Guard Code is available only if enabled with Command 181.	
21	**Zone Configuration (page 69)**	**21✔n✔**
	9751/2:	
n =	**0 Closed circuit 4 wire (CC 4 Wire)**	**Y**
	1 Fully supervised loop (FSL 2K2/4K7)	
	9851:	
n =	**0 Closed circuit 4 wire (CC 4 Wire)**	**Y**
	1 End of line resistor (EOL 2K2)	
	2 Fully supervised loop (FSL 2K2/4K7)	
	3 8 FSL plus 4 expanders (FSL + EXP)	
22	**Loudspeaker Chime (page 69)**	**22✔n✔**
n=	Loudspeaker Chime volume (In a partitioned system, this Command is available only for Partition A)	
	0 Off (keypad only)	
	1 (minimum) to 9 (maximum)	**5**
23	**Remote Reset (page 69)**	**23✔n✔**
n =	**0 Off**	**Y**
	1 On	
24	**Show Control Unit Account Name (page 70)**	**24✔**
	(keypad displays name)	
	Press ✘ to Return to programming mode	
25	**Internal Sounder Delay and Duration (page 70)**	**25✔n✔**
n =	**0 LS Timed** (follows external sounder)	**Y**
	1 LS Cont (continuous)	
26	**Internal Sounder Delay on Entry (page 70)**	**26✔n✔**
n =	0 Bell Delay Off	
	1 Bell Delay On	**Y**
	Note: Sounder delay is available only if: Alarm Abort is Off (Command 36) Bell Delay is not zero (Command 41) Dual Ply is Off (Command 86) Alarm Confirm is Off (Command 89)	
27	**Exit Fault External Sounder (page 70)**	**27✔n✔**
n =	**0 Internal**	**Y**
	1 Local	
28	**Hide Status Display (page 71)**	**28✔n✔**
n =	0 Hide Status Off (always visible)	
	1 **Hide Status On** (hidden 180s after setting)	**Y**
	2 Hide Status Code (visible for 30s after an event)	
C29 is valid only if C89 is set to option 0.		
29	**Entry Alarm Delay Time (page 71)**	**29✔n✔**
n =	**0 Delay Off**	**Y**
	1 Delay On (30 seconds)	
30	**PA Response (page 71)**	**30✔n✔**
n =	**0 PA response audible**	**Y**
	1 PA response silent	
31	**Zone Tamper Reset (page 71)**	**31✔n✔**
n =	**0 User reset after zone tamper**	**Y**
	1 Engineer reset after zone tamper	

Command		Key in:
32	**Keypads and Partitions (page 72)**	**32✔nnnn✔**
n =	A Assign keypad to Partition A	
	B Assign keypad to Partition B	
	C Assign keypad to Partition C	
	D Assign keypad to Partition D	
	Note: Each keypad can be assigned to any or all partitions. The default is for all keypads to belong to all partitions.	
33	**System Reset (page 72)**	**33✔n✔**
n =	**0 User can reset the system**	**Y**
	1 Engineer must reset the system	
34	**PA Reset (page 72)**	**34✔n✔**
n =	**0 User reset after PA**	**Y**
	1 Engineer reset after PA	
35	**First Circuit Lockout (page 73)**	**35✔n✔**
n =	**0 Lockout first circuit to activate**	**Y**
	1 Rearm first circuit to activate	
36	**Alarm Abort (page 73)**	**36✔n✔**
n =	**0 User cannot abort a false alarm**	**Y**
	1 User can abort a false alarm	
37	**Daytime Tamper Communication (page 73)**	**37✔n✔**
n =	**0 Internal sounder only**	**Y**
	1 Communicate tamper to ARC	
38	**System Tamper Reset (page 73)**	**38✔n✔**
n =	0 User reset after Tamper Alarm	
	1 Engineer reset after Tamper Alarm	**Y**
39	**Level/Partition A Exit Mode (page 74)**	**39✔n✔**
n =	**0 Timed**	**Y**
	1 Terminated	
	2 Final Door	
	In a single system:	
	3 Lock Set (terminated by lock switch)	
	In a partitioned system:	
	3 Instant (no exit tone)	
	4 Silent (double "beep" after exit time)	
	5 Lock Set (terminated by lock switch)	
40	**System Auto Rearm (page 75)**	**40✔n✔**
n =	**0 Rearm Never**	**Y**
	1 Rearm=1 (once)	
	2 Rearm=2 (twice)	
	3 Rearm=3 (three times)	
	4 Rearm=Always	

Note: C41 has no effect if C89 is set to 1 and any of the following applies: C162 is set to 0, C161 is set to 0 or C47, C63, C73 or C77 do not require communications.

41	**Bell Delay (page 76)**	**41✔n✔**
n =	**0 No delay**	**Y**
	1 1.5 minutes	
	2 3 minutes	
	3 5 minutes	
	4 10 minutes	
	5 15 minutes	
	6 20 minutes	

Command		Key in:
42	**Bell Duration (page 76)**	**42✔n✔**
n =	1 1.5 minutes	
	2 3 minutes	
	3 5 minutes	
	4 10 minutes	
	5 15 minutes	
	6 20 minutes	**Y**
43	**This command has been replaced by Command 201.**	
44	**Level/Partition A Exit Time (page 77)**	**44✔n✔**
n =	1 10 seconds	
	2 20 seconds	**Y**
	3 30 seconds	
	4 45 seconds	
	5 60 seconds	
	6 120 seconds	
45	**Entry/Exit Tone Volume (page 77)** (In a partitioned system, this Command is available only for Partition A)	**45✔n✔**
n =	0 No Entry/Exit tone from sounder	
	n EE tone volume (1=low, 9=max)	5
46	**Tamper Alarm Response – single system only (page 77)**	**46✔n✔**
n =	0 Internal sounders only	
	1 Keypad sounders only	
	2 Internal and keypad sounders	**Y**
47	**Partition A Alarm Response – partitioned system only (page 77)**	**47✔n✔**
n =	0 Keypad sounders only	
	1 Local (all sounders, no comms)	
	2 Full (all sounders and comms)	**Y**
48	**Lockout Keypads During Entry (page 78)**	**48✔n✔**
n =	**0 No**	
	1 Yes	
49	**This command is not used.**	
50	**CSID Code (page 78)**	**50✔nnnn✔**
nnnn =	Central Station ID for remote reset	none
51	**Set Time and Date (page 79)**	**51✔dd✔ mm✔yy✔ hh✔mm✔**
dd	Day of the month (01–31)	
mm	Month of the year (01–12)	
yy	Year (00–99)	
hh	Hour of the day (01–23)	
mm	Minute of the hour (01–59)	
52	**Omit Alarm (page 79)**	**52✔n✔**
n =	**0 Alarm contacts only**	**Y**
	1 Alarm and tamper contacts	
53	**Abort Reset (page 79)**	**53✔n✔**
n =	**0 Use option selected in Command 33**	**Y**
	1 User reset after an aborted alarm	
54	**BVVO Supervision – not 9751 (page 80)**	**54✔n✔**
n =	**0 Disabled**	**Y**
	1 Enabled	
55	**This command is not used.**	

Command		Key in:
56	**4/6 Digit Access Codes – not 9751 (page 80)**	**56✔n✔**
n =	**0 Four-digit codes**	**Y**
	1 Six-digit codes	
57	**Battery Load Test – not 9751 (page 80)**	**57✔n✔**
n =	**0 Disabled**	**Y**
	1 Enabled	
58	**BVVO Tamper Indication – not 9751 (page 80)**	**58✔n✔**
n =	**0 User Reset**	**Y**
	1 Installer Reset	
59	**External Sounder Tamper (page 81)**	**59✔n✔**
n =	**0 Negative voltage tamper return**	**Y**
	1 End of line 2k2 resistor	
60	**Level/Partition B Final Exit Operation – single system only (page 81)**	**60✔n✔**
n =	**0 B=FE = FE (Final Exit)**	**Y**
	1 B=FE = NA (Normal Alarm)	
61	**Level/Partition B Entry Route Operation – single system only (page 81)**	**61✔n✔**
n =	**0 B=ER = ER (Entry Route)**	**Y**
	1 B=ER = FE (Start entry timer)	
62	**Level/Partition B Exit Mode (page 81)**	**62✔n✔**
n =	In a single system:	
	0 Timed low tone on setting	**Y**
	1 Instant (no exit tone)	
	2 Silent (double "beep" after exit time)	
	3 Sets exit mode the same as Level A	
	In a partitioned system:	
	0 Timed full tone on setting	**Y**
	1 Terminated (terminated by button)	
	2 Final Door (last door has a detector)	
	3 Instant (no exit tone)	
	4 Silent (double "beep" after exit time)	
	5 Lock Set (terminated by lock switch)	
63	**Level/Partition B Alarm Response (page 82)**	**63✔n✔**
n =	In a single system:	
	0 Keypad sounders only	
	1 Internal and keypad sounders	**Y**
	2 Local (all sounders, no comms)	
	3 Full (all sounders and comms)	
	In a partitioned system:	
	0 Keypad sounders only	
	1 Local (all sounders, no comms)	
	2 Full (all sounders and comms)	**Y**
64	**This command has been replaced by Command 202.**	
65	**Level/Partition B Exit Time (page 83)**	**65✔n✔**
n =	1 10 seconds	
	2 20 seconds	**Y**
	3 30 seconds	
	4 45 seconds	
	5 60 seconds	
	6 120 seconds	

Command		Key in:
66	**Forbikobler Partitions – partitioned system only (page 83)**	**66✔nnnn✔**
n =	A Assign keypad to Partition A	
	B Assign keypad to Partition B	
	C Assign keypad to Partition C	
	D Assign keypad to Partition D	
	Note: Each keypad can be assigned to any or all partitions. The default is for all keypads to belong to all partitions.	
67	**Forbikobler Approved (page 83)**	**67✔n✔**
n =	0 Frb=Non-Appr (not approved)	
	1 Frb=Approved (approved)	**Y**
68	**Forbikobler Door Timer (page 84)**	**68✔n✔**
n =	0 2 seconds	
	1 3 seconds	
	2 4 seconds	
	3 5 seconds	**Y**
	4 10 seconds	
	5 20 seconds	
	6 30 seconds	
	7 60 seconds	
	8 120 seconds	
	9 255 seconds	
69	**Forbikobler Door Locking (page 84)**	**69✔n✔**
n =	**0 Lock Timed**	**Y**
	1 Lock Toggled	
70	**Level/Partition C Final Exit Operation – single system only (page 84)**	**70✔n✔**
n =	**0 C=FE = FE (Final Exit)**	**Y**
	1 C=FE = NA (Normal Alarm)	
71	**Level/Partition C Entry Route Operation – single system only (page 85)**	**71✔n✔**
n =	**0 C=ER = ER (Entry Route)**	**Y**
	1 C=ER = FE (Start entry timer)	
72	**Level/Partition C Exit Mode (page 85)**	**72✔n✔**
n =	In a single system:	
	0 Timed low tone on setting	**Y**
	1 Instant (no exit tone)	
	2 Silent (double "beep" after exit time)	
	3 Sets exit mode the same as Level A	
	In a partitioned system:	
	0 Timed full tone on setting	**Y**
	1 Terminated (terminated by button)	
	2 Final Door (last door has a detector)	
	3 Instant (no exit tone)	
	4 Silent (double "beep" after exit time)	
	5 Lock Set (terminated by lock switch)	
73	**Level/Partition C Alarm Response (page 86)**	**73✔n✔**
n =	In a single system:	
	0 Keypad sounders only	
	1 Internal and keypad sounders	**Y**
	2 Local (all sounders, no comms)	
	3 Full (all sounders and comms)	
	In a partitioned system:	
	0 Keypad sounders only	
	1 Local (all sounders, no comms)	
	2 Full (all sounders and comms)	**Y**

Command		Key in:
74	**This command has been replaced by Command 203.**	
75	**Level/Partition C Exit Time (page 86)**	**75✔n✔**
n =	1 10 seconds	
	2 20 seconds	**Y**
	3 30 seconds	
	4 45 seconds	
	5 60 seconds	
	6 120 seconds	
76	**Level/Partition D Exit Mode (page 87)**	**76✔n✔**
n =	In a single system:	
	0 Timed low tone on setting	**Y**
	1 Instant (no exit tone)	
	2 Silent (double "beep" after exit time)	
	3 Sets exit mode the same as Level A	
	In a partitioned system:	
	0 Timed full tone on setting	**Y**
	1 Terminated (terminated by button)	
	2 Final Door (last door has a detector)	
	3 Instant (no exit tone)	
	4 Silent (double "beep" after exit time)	
	5 Lock Set (terminated by lock switch)	
77	**Level/Partition D Alarm Response (page 88)**	**77✔n✔**
n =	In a single system:	
	0 Keypad sounders only	
	1 Internal and keypad sounders	**Y**
	2 Local (all sounders, no comms)	
	3 Full (all sounders and comms)	
	In a partitioned system:	
	0 Keypad sounders only	
	1 Local (all sounders, no comms)	
	2 Full (all sounders and comms)	**Y**
78	**This command has been replaced by Command 204.**	
79	**Level/Partition D Exit Time (page 88)**	**79✔n✔**
n =	1 10 seconds	
	2 20 seconds	**Y**
	3 30 seconds	
	4 45 seconds	
	5 60 seconds	
	6 120 seconds	
80	**Forbikobler Chime (page 89)**	**80✔n✔**
n =	**0 Bell push does not operate sounders**	**Y**
	1 Bell push operates sounders	

Command		Key in:
81	**Output 1 Type (page 89)**	**81✔n✔**
n =	Where n is one of:	
	In a single or partitioned system:	
	00 Bell	**Y**
	01 EE Follow	
	02 Armed Lamp	
	03 Set Latch	
	04 Shock Sensor Reset	
	05 Walk Test	
	06 Ready Lamp	
	07 24-hour Alarm	
	08 Strobe	
	09 Smoke Sensor Reset	
	10 French Siren Test	
	11 Strobe Set (any partition)	
	12 Pulse Set 1	
	13 Pulse Unset 1	
	14 Alarm Confirmation	
	15 Set Complete 1	
	16 Unset Complete 1	
	17 System Bell	
	In a partitioned system:	
	18 Bell Partition A	
	19 Bell Partition B	
	20 Bell Partition C	
	21 Bell Partition D	
	22 Strobe Set Partition A	
	23 Strobe Set Partition B	
	24 Strobe Set Partition C	
	25 Strobe Set Partition D	
	26 Pulse Set 1	
	27 Pulse Set 2	
	28 Pulse Set 3	
	29 Pulse Set 4	
	30 Pulse Unset 1	
	31 Pulse Unset 2	
	32 Pulse Unset 3	
	33 Pulse Unset 4	
	34 Fire	
	35 PA	
82	**Output 2 Type (page 89)**	**82✔n✔**
n =	See Command 81 for a list of options. Default is 08 Strobe	
83	**Output 3 Type (page 89)**	**83✔n✔**
n =	See Command 81 for a list of options. Default is 03 Set Latch	
84	**Output 4 Type (page 89)**	**84✔n✔**
n =	See Command 81 for a list of options. Default is 03 Set Latch (9851 only)	
85	**Burg Communication Rearm (page 91)**	**85✔n✔**
n =	**0 Latched**	**Y**
	1 Rearm	
86	**Dual Ply Entry Warning (page 91)**	**86✔n✔**
n =	**0 Off**	**Y**
	1 On (not recommended)	
87	**Keypad Dual Key Alarm (page 92)**	**87✔n✔**
n =	**0 Off**	**Y**
	1 On (PA, Medical and Fire enabled)	

Command		Key in:
	Note: This also enables a PA from keyswitches.	
88	**This command is not used.**	
89	**Alarm Confirmation (page 92)**	**89✔n✔**
n =	**0 Confirm off** (default for rest of world)	**Y**
	1 Confirm on (default UK only)	
90	**Event Log (page 129)**	**90✔n✔**
	Shows the most recent event in the log	
n =	0 Print log (9851 only)	
	1 View earlier events	
	3 View later events	
	4 First event	
	6 Last event	
	7 Toggle printer on/off (9851 only)	
	8 Print configuration (9851 only)	
	✘ Cancel viewing	
	✔ Toggles time/date display	
91	**Test Output 1 (page 132)**	**91✔**
	Output 1 operates, press ✘ or ✔ to end test	
92	**Test Output 2 (page 132)**	**92✔**
	Output 2 operates, press ✘ or ✔ to end test	
93	**Test Output 3 (page 132)**	**93✔**
	Output 3 operates, press ✘ or ✔ to end test	
94	**Test Internal Sounder (page 132)**	**94✔**
	Internal sounders operate, press ✘ or ✔ to end test	
95	**Test Keypad Sounder (page 132)**	**95✔**
	Keypad sounders operate, press ✘ or ✔ to end test	
96	**Test Output 4 – 9851 only (page 132)**	**96✔**
	Output 4 operates, press ✘ or ✔ to end test	
97	**Engineer Walk Test (page 133)**	**97✔**
	Zn indication and Chime operate when circuit open	
	✘ End Walk Test	
98	**Load Full Defaults (page 93)**	**98✔1✔n✔**
n =	**0 Single system**	**Y**
	1 Partitioned system	
99	**Leave Programming Mode (page 93)**	**99✔✔**
100	**This command is not used.**	
C101-158 are for programming communications.		
101	**Call Mode (page 94)**	**101✔n✔**
n =	**0 Disabled**	**Y**
	1 Single	
	2 Alternate	
	3 Dual	
102	**This command is not used.**	
103	**Reporting Type (page 95)**	**103✔n✔**
n =	**0 Fast format**	**Y**
	1 Contact ID	
	2 SIA I	
	3 SIA II	
	4 SIA 3	
	5 Extended SIA 3	
	6 Home "beep"	
104	**This command is not used.**	

Command		Key in:
105	**Static Test Call (page 95)**	**105✔ N nn✔**
N nn =	**00 Static off**	**Y**
A nn =	Static call daily at nn hours, 01 to 24	
B nn =	Static call monthly on day nn, 01 to 28	
C nn =	Static call every nn hours, 01 to 24	
D nn =	Static call every nn days, 01 to 28	
106	**Line Fault Response (page 96)**	**106✔n✔**
n =	0 Disabled	
	1 Audible	**Y**
	2 Silent	
107	**This command is not used.**	
108	**Dynamic Test Call (page 97)**	**108✔n✔**
n =	**0 Dynamic test calls disabled**	**Y**
	1 Dynamic test calls enabled	
109	**Three-way Calling – UK only (page 97)**	**109✔n✔**
n =	**0 Three-way calling disabled**	**Y**
	1 Three-way calling enabled	
110	**Download Mode (page 97)**	**110✔n✔**
n =	**0 Local PC (not 9751)**	**Y**
	1 Remote PC	
	Note: 110✔ on 9751 selects Remote, with no option available.	
111	**Change Modem Speed – 9851 only (page 98)**	**111✔n✔**
n =	0 Auto	
	1 300 baud	**Y**
112	**Rings To Answer – Downloading option (page 98)**	**112✔n✔**
n =	0 3 rings	
	1 5 rings	**Y**
	2 7 rings	
	3 10 rings	
	4 15 rings	
	5 255 rings	
113	**Answer On One Ring – Downloading option (page 98)**	**113✔n✔**
n =	**0 One ring off**	**Y**
	1 One ring on	
114	**Access Mode (page 99)**	**114✔n✔**
n =	**0 Callback off (Attended)**	**Y**
	1 Callback on (Secure Callback)	
	2 Callback any (Unattended)	
115	**Communicator Tel No 1 (page 99)**	**115✔n..n✔**
n...n =	Maximum 31 digits	
116	**Communicator Tel No 2 (page 99)**	**116✔n..n✔**
n...n =	Maximum 31 digits	
117	**Account No (page 100)**	**117✔n..n✔**
n...n =	Maximum 6 digits (press C/D to move right/left)	
118	**Downloader Tel No 1 (page 101)**	**118✔n..n✔**
n...n =	Maximum 31 digits	
119	**Downloader Tel No 2 (page 101)**	**119✔n..n✔**
n...n =	Maximum 31 digits	
120	**Enable Downldr Tel No 3 (page 101)**	**120✔n✔**
n =	**0 Downloader Tel No 3 Off**	**Y**
	1 Downloader Tel No 3 On	
121	**This command has been replaced by commands 191-198.**	

Command		Key in:
122	**Comms Acknowledge – Ireland only (page 102)**	**122✔n✔**
n =	**0 Off**	**Y**
	1 On	
	Note: Command 122 is available only if Command 0 is set to ✘1 (Ireland).	
123	**Report Restores (page 102)**	**123✔n✔**
n =	**0 Restores not reported**	**Y**
	1 Restores reported	
124	**Reverse Open/Closed (page 102)**	**124✔n✔**
n =	**0 Off (disabled)**	**Y**
	1 On (reverse Channel 4)	
	Note: Normally set in France.	
125	**No Close Signal – not 9751 (page 102)**	**125✔n✔**
n =	**0 Off**	**Y**
	1 On: no close signal is sent if more than one circuit is omitted	
126	**Select Language (page 103)**	**126✔nn✔**
nn =	**0 = English**	**Y**
	1 = Italian	
	2 = Espanol	
	3 = Portugu	
	4 = Nederl	
	5 = Francai	
	6 = Deutsch	
	7 = Norsk (NO)	
	8 = Svenska (SV)	
	9 = Dansk (DK)	
	✘1 = Finnish (SF)	
127	**This command is not used.**	
128	**Radio Zone Supervision Fail Response (page 103)**	**128✔n✔**
n =	**0 Full alarm** (all sounders and comms)	**Y**
	1 All sounders no comms	
	2 Keypad sounders	
	3 Comms no sounders	
	4 Inhibit setting of control unit	
129	**PA Requires Entry For Unset (page 104)**	**129✔n✔**
n =	**0 Yes**	**Y**
	1 No	
130	**This command is not used.**	
131	**SIA Report Mode (page 104)**	**131✔n✔**
n =	**0 Basic**	**Y**
	1 Summary	
	2 Intermediate	
	3 Full	
132	**Send Tamper as Burglary (page 107)**	**132✔n✔**
n =	**0 Send standard SIA messages**	**Y**
	1 Send modified SIA messages	
133	**Do not Send SIA Restores (page 107)**	**133✔n✔**
n =	**0 Do not send SIA restores**	**Y**
	1 Send SIA restores	
134-42	**These commands are not used.**	
143	**Contact ID Report Restores (page 107)**	**143✔n✔**
n =	0 Mode Basic	
	1 Mode Basic + Restore	**Y**
144-50	**These commands are not used.**	

Command		Key in:
151	**Plug-by Communications Output 1 (page 108)**	**151✔nn✔**
nn =	00 Not Used	
	01 Fire	**Y**
	02 PA	
	03 Burglar	
	04 Open/Closed	
	05 Alarm Abort	
	06 Technical Alarm	
	07 Alarm Confirmation	
	08 RF Low Battery	
	09 RF Supervision Loss	
	10 RF Jamming	
	11 AC Fail	
	12 Tamper Alarm	
	13 Open	
	14 Close	
	15 Zone Omitted	
	16 Medical	
	17 Keybox	
	18 Anti-Mask	
	19 Smoke Detector	
	20 Comms Acknowledge	
	21 Battery Fault	
	22 System Alarm	
	In a partitioned system:	
	23 Alarm Partition A	
	24 Alarm Partition B	
	25 Alarm Partition C	
	26 Alarm Partition D	
	27 Not used	
	28 Not used	
	29 Not used	
	30 Pulse Set 1	
	31 Pulse Set 2	
	32 Pulse Set 3	
	33 Pulse Set 4	
	34 Pulse Unset 1	
	35 Pulse Unset 2	
	36 Pulse Unset 3	
	37 Pulse Unset 4	
152	**Plug-by Communications Output 2 (page 108)**	**152✔nn✔**
n =	See Command 151 for a list of options.	
	Default is 02 PA	**Y**
153	**Plug-by Communications Output 3 (page 108)**	**153✔nn✔**
n =	See Command 151 for a list of options.	
	Default is 03 Burglar	**Y**
154	**Plug-by Communications Output 4 (page 108)**	**154✔nn✔**
n =	See Command 151 for a list of options.	
	Default is 04 Open/Close	**Y**
155	**Plug-by Communications Output 5 (page 108)**	**155✔nn✔**
n =	See Command 151 for a list of options.	
	Default is 15 Zone Omitted	**Y**
156	**Plug-by Communications Output 6 (page 108)**	**156✔nn✔**
n =	See Command 151 for a list of options.	
	Default is 05 Alarm Abort	**Y**

Command		Key in:
157	**Plug-by Communications Output 7 (page 108)**	**157✔nn✔**
n =	See Command 151 for a list of options.	
	Default is 07 Confirm	**Y**
158	**Plug-by Communications Output 8 (page 108)**	**158✔nn✔**
n =	See Command 151 for a list of options.	
	Default is 06 Technical	**Y**
159	**Invert Plug-by Logic (page 109)**	**159✔nn✔**
n =	**0 Off (do not invert logic)**	**Y**
	1 On (invert logic)	
C160-4 are valid only if C89 is set to option 1.		
160	**Confirmed Alarm Timer (page 109)**	**160✔nnn✔**
nnn =	a time from 001 to 999 minutes	**030 minutes**
161	**Internal Sounder (page 109)**	**161✔n✔**
n =	**0 Sounder on Unconfirmed Alarm**	**Y**
	1 Sounder on Confirmed Alarm	
162	**External Sounder (page 110)**	**162✔n✔**
n =	**0 Sounder on Unconfirmed Alarm**	**Y**
	1 Sounder on Confirmed Alarm	
163	**Confirmed Alarm during Entry (page 110)**	**163✔n✔**
n =	**0 Never (no zones)**	**Y**
	1 One zone	
	2 Two zones	
164	**User Reset after Confirmed Alarm (page 110)**	**164✔n✔**
n =	**0 User/Engineer**	**Y**
	1 User/User	
	2 Engineer/Engineer	
165-9	**These commands are not used.**	
170	**Pulse Set 1 to 4 Duration (page 111)**	**170✔ nn✔nn✔ nn✔nn✔**
nn =	00 to 12 seconds	**01 seconds**
171	**Pulse Set Allocation (page 111)**	**171✔n✔ n✔n✔n✔**
n =	A Level/Partition A	**abcd**
	B Level/Partition B	
	C Level/Partition C	
	D Level/Partition D	
172	**Pulse Unset 1 to 4 Duration (page 111)**	**172✔ nn✔nn✔ nn✔nn✔**
nn =	00 to 12 seconds	**01 seconds**
173	**Pulse Unset Allocation (page 111)**	**173✔n✔ n✔n✔n✔**
n =	A Level/Partition A	**abcd**
	B Level/Partition B	
	C Level/Partition C	
	D Level/Partition D	
174	**Fire Pulse Unset (page 111)**	**174✔n✔ n✔n✔n✔**
n =	0 Off	
	1 On	**Y**
175	**PA Pulse Unset (page 111)**	**175✔n✔ n✔n✔n✔**
n =	0 Off	
	1 On	**Y**
176-9	**These commands are not used.**	

Command		Key in:
180	**Print Log – 9851 only (page 113)**	**180✔n✔**
n =	**0 Off**	**Y**
	1 On	
181	**Enable Guard Code (page 113)**	**181✔n✔**
n =	**0 Off**	**Y**
	1 On	
182	**Set Final Exit Settling Time (page 113)**	**182✔n✔**
n =	**07 7 seconds**	**Y**
	08 8 seconds	
	09 9 seconds	
	10 10 seconds	
	11 11 seconds	
	12 12 seconds	
183	**Set Display Line 2 (page 113)**	**183✔n..n✔**
n...n =	Maximum 16 digits (press C/D to move right/left)	<model_no>
184	**Pulsed External Sounder for Fire (page 113)**	**184✔n✔**
n =	**0 Off**	**Y**
	1 On	
185	**Keyswitch Auto-reset (page 114)**	**185✔n✔**
n =	**0 Off**	**Y**
	1 On	
186	**Set number of calls for home "beep" (page 114)**	**186✔nn✔**
nn =	00 to 15 times	**02 times**
187-90	**These commands are not used.**	

Command		Key in:
191	**Fast Format Channel 1 (page 115)**	**191✔nn✔**
nn =	00 Not Used	
	01 Fire	**Y**
	02 PA	
	03 Burglar	
	04 Open/Closed	
	05 Alarm Abort	
	06 Technical Alarm	
	07 Alarm Confirmation	
	08 RF Low Battery	
	09 RF Supervision Loss	
	10 RF Jamming	
	11 AC Fail	
	12 Tamper Alarm	
	13 Open	
	14 Close	
	15 Zone Omitted	
	16 Medical	
	17 Keybox	
	18 Anti-Mask	
	19 Smoke Detector	
	20 Comms Acknowledge	
	21 Battery Fault	
	22 System Alarm	
	In a partitioned system:	
	23 Alarm Partition A	
	24 Alarm Partition B	
	25 Alarm Partition C	
	26 Alarm Partition D	
	27 Not used	
	28 Not used	
	29 Not used	
	30 Pulse Set 1	
	31 Pulse Set 2	
	32 Pulse Set 3	
	33 Pulse Set 4	
	34 Pulse Unset 1	
	35 Pulse Unset 2	
	36 Pulse Unset 3	
	37 Pulse Unset 4	
192	**Fast Format Channel 2 (page 115)**	**192✔nn✔**
n =	See Command 191 for a list of options.	
	Default is 02 PA	**Y**
193	**Fast Format Channel 3 (page 115)**	**193✔nn✔**
n =	See Command 191 for a list of options.	
	Default is 03 Burglar	**Y**
194	**Fast Format Channel 4 (page 115)**	**194✔nn✔**
n =	See Command 191 for a list of options.	
	Default is 04 Open/Close	**Y**
195	**Fast Format Channel 5 (page 115)**	**195✔nn✔**
n =	See Command 191 for a list of options.	
	Default is 15 Zone Omitted	**Y**
196	**Fast Format Channel 6 (page 115)**	**196✔nn✔**
n =	See Command 191 for a list of options.	
	Default is 05 Alarm Abort	**Y**
197	**Fast Format Channel 7 (page 115)**	**197✔nn✔**
n =	See Command 191 for a list of options.	
	Default is 07 Alarm Confirmation	**Y**

Command		Key in:
198	**Fast Format Channel 8 (page 115)**	**198✔nn✔**
n =	See Command 191 for a list of options.	
	Default is 06 Technical Alarm	**Y**
199	**Display Zone Circuit Resistance (page 133)**	**199✔**
=	Use the 1 and 3 keys to step through the circuits.	
200	**Forbikobler Entry Timer (page 116)**	**200✔n✔ n✔n✔n✔**
n =	**1 Entry Timer 1**	**Y**
	2 Entry Timer 2	
	3 Entry Timer 3	
	4 Entry Timer 4	
201	**Entry Timer 1 (page 116)**	**201✔n✔**
n =	1 10 seconds	
	2 20 seconds	**Y**
	3 30 seconds	
	4 45 seconds	
	5 60 seconds	
	6 120 seconds	

Command		Key in:
202	**Entry Timer 2 (page 116)**	**202✔n✔**
n =	1 10 seconds	
	2 20 seconds	**Y**
	3 30 seconds	
	4 45 seconds	
	5 60 seconds	
	6 120 seconds	
203	**Entry Timer 3 (page 116)**	**203✔n✔**
n =	1 10 seconds	
	2 20 seconds	**Y**
	3 30 seconds	
	4 45 seconds	
	5 60 seconds	
	6 120 seconds	
204	**Entry Timer 4 (page 116)**	**204✔n✔**
n =	1 10 seconds	
	2 20 seconds	**Y**
	3 30 seconds	
	4 45 seconds	
	5 60 seconds	
	6 120 seconds	

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, for example an open tamper circuit, the display shows this and will not return to Day mode. Press ✘ and rectify the fault.

Performing an 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 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:

Note: If you have selected defaults for Finland, Norway, Sweden or Denmark (Command 0), you must enter a valid user code at this point.

1. Key in 0 followed by the Engineer Code (default 7890).

   The display shows: `Installer Mode`
   You are now in programming mode.

Restoring the Access Codes (first 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 pins and Kick Start pins on the main PCB (see Figures 3 to 5).
3. Short the NVM Reset pins together using a small wire link. Short the Kick Start pins together with another small wire link.
4 Reconnect the battery.
5. Remove the shorts from the NVM Reset pins and Kick Start pins.

   The control unit loads the factory default access codes:
   User 01: 1234, Engineer: 7890.
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: `Load Default`
3. Press 1 ✔ at the keypad.

   The display shows (for example): `Mult Sys?  OFF`
4. Either:
   Press 1 to create a partitioned system
   Or press 0 to create a single system (see page 45).

   The display shows (for example): `Mult Sys?  ON`
5. Press ✔.

   The keypad gives a double "beep" confirmation tone and the control unit loads the factory default values, erasing all previously programmed values.

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

Adding and Deleting Tags

You can use any industry-standard ISO tag or card with the 934 module. To purchase tags from Cooper Security, quote part number Proxtagpk5.

A tag acts as an alternative to a user access code. You can assign a user a tag, an access code, or both. You cannot assign a tag to the Master User (User 01), the Engineer (User 00) or, if the Guard Code facility has been enabled using Command 181, the Guard (User 16). This means you can assign up to 14 (or 15) tags on a system, one each for Users 02 to 15 (or 16).

When presenting a proximity tag to the keypad, whether for programming or for normal use, make sure that the tag is touching the front of the keypad to the left of the display as shown in Figure 35.

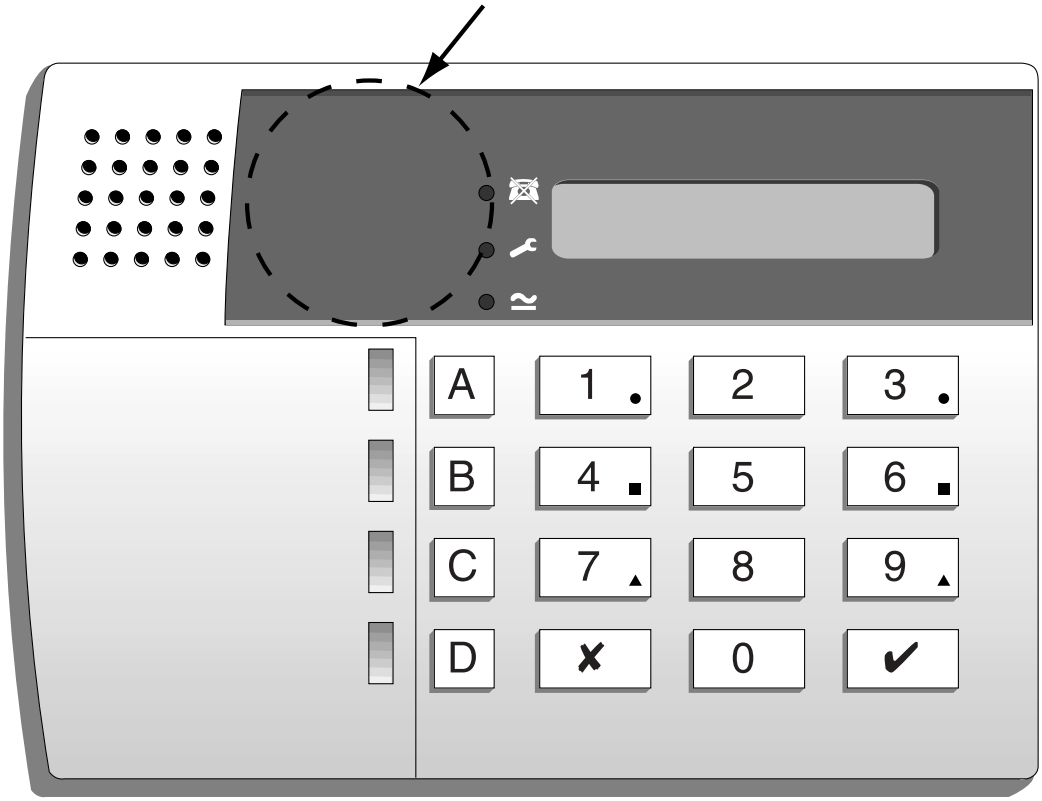


Figure 35. Sensitive Area for Tag

To Add a Tag

1. Key in User 01 access code while the system is unset.

   The display shows: `Select?`

2. Press 4 to select the change codes option.

   The display shows: `Old Code=  _`

3. Enter the access code of the user for whom you want to program a tag and press ✔.
   The display shows the user number and any text description you have programmed for that user.
4. Press ✔.
   The display shows the user number and an underscore,
   for example: `User 06 = ___`
5. Present the proximity tag to the front of the keypad (see diagram above).
   The system learns the identity of the tag and links it to that user number. The keypad gives a double "beep" to show that the tag has been learned successfully.
   The keypad displays the date and time.
6. Repeat steps 1 to 5 for other tags, as necessary.

To Delete a Tag

Note: If you delete a tag, you also delete that user's access code.

1. Key in User 01 access code while the system is unset.
   The display shows: `Select?`
2. Press 4 to select the change codes option.
   The display shows: `Old Code= _`
3. Enter the User 01 access code again and press ✔.
   The display shows "`User 01`" and any text description for that user.
4. Press ✘ repeatedly until the display shows the user number of the tag you want to delete.
   The display shows the user number and any text you have programmed for that user.
5. Press ✔.
6. Key in "0000" and press ✔.
   The system deletes the tag and the user's access code. The keypad gives a double "beep".

Programming Command Reference

0: Country PTT Defaults

Use this command to select the country and PTT defaults; use Command 126 to select language. This Command also loads default access codes and programming options.

Note: If you select options ✘4, ✘5, ✘6 or ✘7 (Finland, Norway, Sweden or Denmark), the control unit also changes the method of entering programming mode (see "Entering Programming Mode" on page 47).

Option		Option		Option	
0	UK	6	Belgium	✘3	OEM 2
1	Italy	7	Germany	✘4	Finland
2	Spain	8	Switzerland	✘5	Norway
3	Portugal	9	Austria	✘6	Denmark
4	Netherlands	✘1	Ireland	✘7	Sweden
5	France	✘2	OEM 1		

01 to 16, ✘17 to ✘40: Zone Programming

The number of zones available to program depends on the control unit and the number of expanders used in your system (see "Features" starting on page 2). The format for the Command number changes, depending whether the zone is connected to the control unit or to an expander. For the first 16 zones, key in "01" to "16" and press ✔. For zones 17 upwards, which are connected to expanders, key in "✘17" to "✘40" (if you have that many zones connected) and then press ✔.

Commands 01 to 40 take three or more digits. The first two digits specify the zone type, while subsequent digits specify 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. At this point, you can edit the zone text as described below. When the text is as required, press ✔ to display the type and attributes for the zone. At this point, you can edit them as described below. When they are as required, press ✔ once more to store the changes.

Zone Names

When you key in the zone number and press ✔, the display shows the current zone name with a flashing cursor under the first letter. The system can store up to 12 characters per name, including spaces and punctuation marks.

Enter letters from the keypad one at a time by repeatedly pressing a number key until the display shows the letter you want. Figure 36 shows which letters are assigned to each key. If you make a mistake, press C or D to move the cursor to the letter you want to change and key in the new letter. To delete a name completely, press D to move the cursor onto the first character of the name and then press D again to clear the old name.

When you have finished entering the name, press ✔.

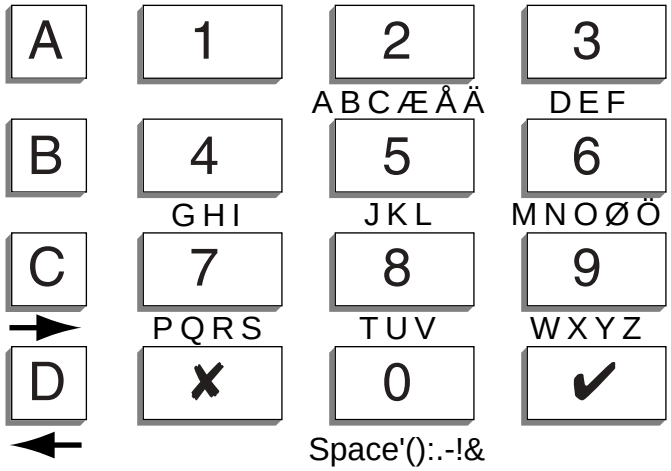


Figure 36. Letters Generated by Each Number Key

Zone Types

The following table shows the values available for zone type.

Value	Type	Description
00	Not Used (NU)	Identifies zones that are not used. The system ignores zones of this type. It is not necessary to link the circuit or anti-tamper connections.
01	Panic Alarm (PA)	Operating a device programmed as "Panic Alarm" will start either a silent alarm transmission to the ARC or an audible alarm, depending on how you have programmed PA Response (see Command 30). PAs operate, whether the system is set or unset. PA zones can be allocated to one or more partitions in a partitioned system (A–D attributes on page 67) but these attributes are not available in a single system.

Value	Type	Description
02	Fire (FR)	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 always operate, whether the system is set or unset, and always trigger communications if fitted. Fire zones can be allocated to one or more partitions in a partitioned system (A–D attributes on page 67) but these attributes are not available in a single system.
03	Normal Alarm (NA)	A zone programmed as "Normal Alarm" will start an alarm when the system is set.
04	24-hour Zone (24)	This zone causes an internal alarm if violated when the system is unset, and a full alarm if the system is set. If the Installer programs 24-hour zones with "Omit Allow", the user can omit 24-hour zones in Day mode. The control unit reinstates all 24-hour zones if anyone sets the system.
05	Final Exit (FE)	Zones of this type must be the first to be activated on entry. You can use zones of this type to set the system using the Final Door Set exit mode. Use Command 39 to set the exit mode for the zone (page 74). Use zone attribute ✘7 to select an entry timer for the zone (page 67) and Commands 201–4 (page 116) to set up the entry timers.
06	Entry Route (ER)	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, no alarm occurs until the Entry/Exit timer expires. Use zone attribute ✘7 to select an entry timer for the zone (page 67) and Commands 201–4 (page 116) to set up the entry timers.
07	Shock Analyser (SA)	You can apply this zone type to zones 1 to 4. The system will not accept this type for zones 5 to 40. Use zone attribute ✘7 to set the sensitivity for the zone (page 67).

Value	Type	Description
08	Technical (TC)	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, 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.
09	Key Box (KB)	This zone type is for use in Scandinavia only. When a zone of this type is required, the Installer connects the alarm wires of the zone to a special external key box and the tamper wires to the box enclosure switch. When someone opens the box, the control unit logs the event and communicates it to the ARC. The control unit also provides a Key Box output type, which you can program with Command 151 to trigger one of the plug-by communicator output pins.
10	Smoke Detector (SD)	In Scandinavia only, use this type for zones connected to 12V smoke detectors. This type is active whether the system is set or unset, and the control unit will transmit a specific alarm to the ARC if triggered. The control unit also provides a Smoke Detector output type, which you can program with Command 151 to trigger one of the plug-by communicator outputs. If a zone of this type causes an alarm, the user will need to enter an access code to disarm and reset the system.
11/12	Keyswitch	There are two Keyswitch zone types: Momentary and Fixed. Use these for zones that connect to an access control keypad, electronic key or other hardwired device used to set or unset the system: 11 Momentary Keyswitch (KM) 12 Fixed (or latched) Keyswitch (KF) The keyswitch or similar device can be used to set and unset the level or partition to which the zone is assigned. It cannot be used to reset the system. In a single system, do not assign a Keyswitch zone to levels B, C or D if you have assigned one to Level A (full system). In a partitioned system, do not assign more than one Fixed Keyswitch zone to a partition.

Value	Type	Description
13	Anti-Mask Zone (AM)	Use this zone type for the outputs of detectors that have an Anti-Mask output facility; these have to be connected to two zones. Connect the detector's alarm and contact wiring to one zone and its Anti-Mask outputs to the zone above. Assign the Anti-Mask type to the higher of the two zones; that is, the one connected to the Anti-Mask outputs. This zone type is active when the system is unset, and during setting and unsetting. If the zone is violated, the control unit starts a Tamper Alarm, shows the message "AM Tamper" on the keypad display, and logs the event to the zone number one below that assigned the Anti-Mask type; that is, the one connected to the detector's alarm and contact wiring.
14	Forbikobler (FB)	This zone type is a Scandinavian type of Entry/Exit zone (the word "forbikobler" means "bypass" in Danish). Use this type for zones connected to standalone external keypads or access controllers. If the zone is triggered by the external keypad during the exit time, the control unit stops the exit time and sets the system. If the zone is triggered while the system is set, the control unit starts the entry time. Use zone attribute ✘7 to select an entry timer for the zone (page 67) and Commands 201–4 (page 116) to set up the entry timers.

Zone Attributes

The following table shows the values available for zone attribute, depending on the zone type. To set an attribute, key in the appropriate value. To unset the attribute, key in the value again.

Value	Attribute	Valid for	Description
✘1	Chime (C)	Normal Alarm (NA) Final Exit (FE) Entry Route (ER) Shock Analyser (SA)	When enabled by the user, the system makes a doorbell-like sound when any zones programmed as "Chime" are opened. This facility operates only while the system is unset. To make the Chime available from keypad sounders but not internal sounders, use Command 22 with option 0.

Value	Attribute	Valid for	Description
✘2	Soak Test (S)	Normal Alarm (NA) Entry Route (ER) 24-hour (24) Shock Analyser (SA)	Use this zone attribute if you want to place on long-term test a detector that you suspect is giving false alarms. Zones with this attribute are disabled for 14 days after you return the control unit to user mode. If the zone is opened while the system is set, the Service LED glows and the control unit logs the event as a "Soak Test Fail Zn" (n = zone number) without sounding any bells or starting signalling. The Service LED stays on until the Engineer resets the system. The control unit returns the zone to normal use after 14 days, even if the system is set at the time.
✘3	Double Knock (D)	Normal Alarm (NA) Entry Route (ER)	Zones with this attribute will cause an alarm condition only if one or more sensors generate two alarm events within a five-minute period, or if one 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. Do not apply "Double Knock" to radio zones with a PIR detector. The radio PIR uses a lockout timer and the detector will not send a second activation within the Double Knock period.
✘4	Omit Allowed (O)	All	When applied to a zone, this attribute allows the user to omit the zone when setting the alarm. This is useful for ignoring non-critical faults, particularly in busy areas like kitchens. Do not allow the user to omit PA zones. Do not apply this attribute to an FE zone if there is no ER zone present.

Value	Attribute	Valid for	Description
✘7	The meaning of this attribute depends on the zone type:		
	Shock Analyser Sensitivity	Shock Analyser (SA)	You can set this attribute only for a zone of type SA, and only zones 1, 2, 3 and 4 support this type. To set the sensitivity of a shock sensor zone, enter a digit in the range 1 (least sensitive) to 6 (most sensitive). You must enter the whole sequence; for example, to set the sensitivity to 3, key in: ✘7 and then 3.
	Entry Timer Number	Final Exit (FE) Entry Route (ER) Forbikobler (FB)	To select which of the four entry timers (set up using Commands 201–4, as described on page 116) are used for the zone, enter a digit in the range 1 to 4. You must enter the whole sequence; for example, to select Entry Timer 3, key in: ✘7 and then 3.
A	Armed in Level or Partition A	All	When applied, the zone is armed when the user selects Level or Partition A.
B	Armed in Level or Partition B	All	When applied, the zone is armed when the user selects Level or Partition B.
C	Armed in Level or Partition C	All	When applied, the zone is armed when the user selects Level or Partition C.
D	Armed in Level or Partition D	All	When applied, the zone is armed when the user selects Level or Partition D.

For information on how zones behave in linked partitions, refer to "Common Areas" on page 121.

Zones and Partitions

In a partitioned system, you can assign some zone types to two or more partitions, and some zone types to one partition only.

One partition only	More than one partition
Panic Alarm (PA)	Normal Alarm (NA)
Fire (FR)	Final Exit (FE)
24-hour (24)	Entry Route (ER)
Technical (TC)	Shock Analyser (SA)
Smoke Detector (SD)	Keybox (KB)
Keyswitch – Momentary (KM)	Anti-Mask (AM)
Keyswitch – Fixed (KF)	Forbikobler (FB)

Use those zone types that can be assigned to more than one partition to create a common area (see page 121).

20: Change Engineer Code

Note: The 9752 and 9851 control units support six-digit access codes as well as the standard four-digit codes. Command 56 sets the code length.

To change the Engineer 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 Engineer Code.

   The display shows: `20:Code xxxx`
4. Press ✔.

   If Guard Code is enabled (Command 181), the display shows: `20:Guard`
3. Key in a new Guard Code.

   The display shows: `20:Guard xxxx`
4. Press ✔.

21: Zone Configuration

This Command allows you to select the wiring type of the zone connectors on the main PCB.

9751/2

0 Closed Circuit Loop four-wire (CC 4 wire)

1 Fully Supervised Loop (FSL 2K2/4K7)

9851

0 Closed Circuit Loop four-wire (CC 4 wire)

1 End of Line resistor (EOL 2K2)

2 Fully Supervised Loop (FSL 2K2/4K7)

3 Eight Fully Supervised Loop plus four expanders (FSL + EXP)

You can connect more zones using expanders. The maximum number of zones depends on the type of control unit. See "3. Installation" for details.

22: Loudspeaker Chime

In a single system, a user may find that the Chime tone from the keypads is not loud enough. If so, use this Command to make the internal sounder give the Chime tone as well. If you select option 0, the internal sounder emits no tone. Select a value from 1 (quietest) to 9 (loudest) to set the Chime volume. The internal sounder demonstrates the volume when you enter the digit.

23: Remote Reset

Option 1 enables Remote 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) and program a CSID code (Command 50) to ensure Remote Reset works correctly.

After an alarm, the user keys in their access code to silence the alarm but cannot reset the system. The first alarm message to display and the Service LED remains visible. The user contacts the ARC, which verifies the user's identity and then sends a signal back to the control unit. The Service LED goes out and the user can then reset the system with any valid access code, providing that there are no faults.

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

24: Show Control Unit Account Name

An ARC can use Downloader to program an account name into the control unit. While the control unit is in programming mode, you can display the account name from the keypad. To do this key in 24✔. Press ✘ to return to programming mode.

25: Internal Sounder Delay and Duration

Option 0 of this Command makes the internal sounder use the external Bell Delay and Duration times. Option 1 makes the internal sounder continue after the external Bell Delay expires.

26: Internal Sounder Delay on Entry

This Command controls the time at which internal sounders operate in response to an entry alarm.

Option 1 (the default) introduces a delay to allow silent communications when an entry alarm is triggered; this is required by some police forces. This option is valid only when:

Alarm Abort is Off (Command 36)

Bell Delay is not zero (Command 41)

Dual Ply is Off (Command 86)

Alarm Confirm is Off (Command 89)

If you select option 1, the control unit starts the internal sounders at the same time as the external sounders (after any Bell Delay) if an intruder strays from the Entry Route or the entry time expires.

If you select option 0, the control unit starts the internal sounders immediately an intruder strays from the Entry Route or the entry time expires.

27: Exit Fault External Sounder

This command controls what happens when an exit timer completes and a zone is still violated (for example, when a door is not shut).

Option

0 System operates the internal sounders only (default).

1 System operates both internal and external sounders.

28: Hide Status Display

If you select option 0, the keypad displays "Level Set" or "Partn. Set" for the whole time that the alarm system is set.

Select option 1 to display "Level Set" for 180 seconds after the user sets the system, and then revert to the time and date display.

Select option 2 to make the keypad display revert to the time and date 30 seconds after any event.

29: Entry Alarm Delay Time

Note: Disable Alarm Confirmation (Command 89) to use this Command.

This Command provides compliance with EN 50131-1. It determines what the system does if a user strays from an Entry Route zone during entry.

If you select option 0, the system gives an immediate alarm when the user strays from an Entry Route zone during entry.

If you select option 1, the system gives an internal alarm when the user strays from an Entry Route zone during entry but waits for 30 seconds before raising a full alarm. If the user enters an access code within 30 seconds, the user can reset the system.

30: PA Response

When a Panic Alarm (PA) occurs, the system sends a PA message to the ARC (if a communicator is enabled) and the keypad shows the PA zone when a user disarms the system. With this option, you can choose whether the system also operates the sounders.

Option

0 Sounders operate (default).

1 Sounders remain quiet.

31: Zone Tamper Reset

Use this Command to ensure that the system complies with national requirements for resetting zone tamper indications while the system is unset.

If you select option 0, the user can reset the system after a zone tamper.

If you select option 1, the user can silence the alarm after a zone tamper but an engineer must reset the system by entering the Engineer Code, or by using a remote or anti-code reset (Commands 23 and 50).

Note: See Commands 37 and 38 for reporting and resetting system tampers (for example, attempts to open control unit or keypad cases).

32: Keypads and Partitions

If you created a partitioned system during initial power up, this Command enables you to assign the Entry/Exit tones, alarm tones and status displays for one or more partitions to individual keypads.

To assign each keypad:

1. Make sure you are in programming mode.
2. Key in 32 and press ✔.

   The display shows: `32:Keypd 1 abcd`
3. Press A, B, C or D to assign keypad 1 to the desired partition or partitions.

   For example, if you select A only, the display shows: `32:Keypd 1 a□□□`
4. Press ✔.

   The display shows: `32:Keypd 2 abcd`
5. Repeat steps 3 and 4 for the rest of the keypads.

Notes:

1. By default, all keypads belong to all partitions.
2. You cannot assign keyswitches connected to keypads to individual partitions.
3. PAs belong to the whole system.

33: System Reset

To require an engineer reset, select option 1. To permit a user reset, select option 0.

Certain types of events always need an engineer reset, irrespective of the option that you choose here:

Auxiliary 12V supply fuse blown

Keypad missing or failed

Remote expander missing or failed

A low battery at the control unit.

Note: To comply with DD243: 2002, you may need to use Engineer Reset (option 1). In addition, you can use various other forms of reset, such as remote (see Command 23) or anti-code (see Command 50).

34: PA Reset

To require an engineer to reset the system after a PA, select option 1. To permit a user to reset the system after a PA, select option 0.

35: First Circuit Lockout

If you select option 0 (Lockout), the first zone to activate during the set cycle is ignored until the system is unset.

If you select option 1 (Rearm), the whole system (including the first zone to activate) rearms at the end of the programmed bell run time, provided that 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.

36: Alarm Abort

Users occasionally trigger false alarms by accident. Select option 1 to permit users to abort an alarm.

If a user accidentally triggers an alarm while the system is set, the control unit transmits an intruder alarm and starts the Bell Delay and Alarm Abort timers. To abort the alarm, the user must enter a valid access code during the abort period. If the user enters a valid code within this time, the system transmits a restore of the intruder alarm and simultaneously transmits an abort.

Note: The Alarm Abort period is controlled by the ARC.

37: Daytime Tamper Communication

This Command defines how the control unit reports tamper indications (for example, an attempt to open a control unit or keypad case) while the alarm system is unset.

Option

0 Internal sounder only.

1 Internal sounder and communication of tamper indication to the ARC.

With option 1, the system also communicates "RF Low Battery" for any radio detectors that have low batteries and either triggers an alarm or sends supervision signals.

Note:

1. *Command 31 sets user/engineer reset for zone tamper indications.*
2. *Command 38 sets user/engineer reset for system tamper reset.*
3. *Command 58 sets user/engineer reset for system tamper indications (BVVO-compliant).*

38: System Tamper Reset

This Command defines how to reset the control unit after a tamper alarm (for example, an attempt to open a control unit or keypad case).

To require an engineer reset, select option 1. To permit a user reset provided that no fault exists, select option 0.

Note: This facility is independent of options selected in Commands 31 and 33.

39: Level/Partition A Exit Mode

Use this Command to select the exit mode for Full Set or Partition A.

Option

0 Timed. Use this option if the system sets after an exit time selected using Command 44. If an Exit Terminate button is fitted, the user may use it to shorten the exit time.

1 Terminated. Use this option if the user completes setting the system by pushing an Exit Terminate button connected to a keypad. The exit time is infinite in this option. The system sets seven seconds after the completed action. Settling time is controlled by Command 182 (see page 113).

2 Final Door Set. Use this option to complete setting of the system by closing a door fitted with a Final Exit zone detector. The exit time is infinite in this option. The system sets seven seconds after the completed action. Settling time is controlled by Command 182 (see page 113).

3 Single system: Lock Set (see point 5 below).
Partitioned System: Instant Set. Use this option to make the system set without delay or exit tone.

4 Silent Set (partitioned system only). The system sets after an exit time programmed in Command 44 but does not emit an exit tone. When the system sets, the keypad gives a double "beep".

5 Lock Set (partitioned system only). To use this option, you must install a lock switch and connect its contacts to the ET terminals of a keypad (see Figures 16 and 17 on pages 28 and 29). This facility is available on keypad software version 1.4.2 onwards.

Do not assign the keypad to more than one partition. Do not connect more than one lock switch (or any other device) to the keypad ET terminals. In a single system, do not attempt to fit two lock switches.

To set the system, the user first enters their access code at a keypad or operates a keyswitch. The control unit starts to emit the exit tone. The exit time is infinite in this option. The user then operates the Final Exit zone and turns the key in the lock switch to "locked". The system sets seven seconds after the lock switch contacts open. Settling time is controlled by Command 182 (see page 113).

To unset the system, the user turns the lock switch to "unlocked" (which closes the lock switch contacts). The keypads start to emit a continuous tone. At this point, the user can lock the lock switch again without causing an alarm. When the user opens the Final Exit zone, the control unit starts the entry timer. The user completes entry by unsetting the system in the normal way.

When the user unlocks the lock switch, the control unit disables Alarm Confirmation. If the user locks the lock switch without starting the entry timer, the control unit enables Alarm Confirmation again.

If an intruder opens the Final Exit door without first unlocking the lock switch, the control unit immediately starts an unconfirmed alarm. If the intruder goes on to violate another zone and Alarm Confirmation is enabled, the control unit sends a confirmed alarm.

Note: The keypads give a double "beep" at the end of all setting modes.

If you select Timed (option 0), Terminated (option 1) or Final Door (option 2) exit modes, the system allows a seven-second settling time after pressing an Exit Terminate button or closing a final door.

40: System Auto Rearm

This Command sets the number of times that the system will rearm all closed zones when the bell duration expires. If you select option 0, the system will not rearm (it will go into alarm only once). Select option 1 to rearm once, 2 to rearm twice, 3 to rearm three times or 4 to rearm always.

Use this Command in conjunction with Command 35, First Circuit Lockout.

If the system has rearmed, the control unit gives an audible internal alarm instead of the normal entry tone when a user enters the system through the Entry Route.

41: Bell Delay

When the system is set and (for example) an intruder violates a zone, the system waits for the programmed Bell Delay before operating the external sounder for the programmed Bell Duration. This Command sets the Bell Delay.

Option

0 No delay (default)

1 1.5 minutes

2 3 minutes

3 5 minutes

4 10 minutes

5 15 minutes

6 20 minutes

Note: Command 41 has no effect if Alarm Confirmation (Command 89) is enabled and any of the following applies:
External Sounder (Command 162) is set to option 0
Internal Sounder (Command 161) is set to option 0
Alarm Response Mode (Commands 47, 63, 73 and 77) does not require communications.

42: Bell Duration

When an alarm occurs, the system waits for the programmed Bell Delay before operating the external sounder for the programmed Bell Duration. This Command sets the Bell Duration.

Option

1 1.5 minutes

2 3 minutes

3 5 minutes

4 10 minutes

5 15 minutes

6 20 minutes (default)

43: Level A Entry Time

This Command has been replaced by Command 201.

44: Level/Partition A Exit Time

This Command lets you set the Exit Time for Full Set or Partition A.

Option

1 10 seconds

2 20 seconds (default)

3 30 seconds

4 45 seconds

5 60 seconds

6 120 seconds

45: Entry/Exit Tone Volume

In a single system, this Command sets the volume of the Entry/Exit tone from the internal sounder. If you select option 0, the internal sounder emits no tone. Select a value from 1 (quietest) to 9 (loudest) to set Entry/Exit tone volume. The internal sounder demonstrates the volume when you enter the digit.

Note: In a partitioned system, this Command is available only for Partition A.

46: Tamper Alarm Response

In a single system, this Command specifies which sounders the control unit will activate for a Tamper Alarm while the system is unset.

Option

0 Internal sounders only

1 Keypad sounders only

2 Internal and keypad sounders.

Note: This Command is not available in a partitioned system.

47: Partition A Alarm Response

In a partitioned system, this Command specifies which sounders the control unit will activate for an alarm.

Option

0 Keypad sounders only

1 Local alarm (internal and external sounders)

2 Full alarm (internal and external sounders, plus communication).

Note: This Command is not available in a single system.

48: Lockout Keypads During Entry

This Command provides compliance with DD243: 2002 6.4.5. If you want the user to be able to unset the system using a proximity reader, the keypads must be locked out during entry.

If you select option 0, the system permits all users to use all keypads during entry. If you select option 1, the system locks all users out from all keypads during entry.

When you lockout keypads during entry, some functions are still available:

° Keypad PA, Fire and Medical alarms

° Duress Code operation

° User's ability to cancel false alarms or disarm the system during an alarm.

49: Not used

This command is not used.

50: CSID Code

To allow the customer to use the "Remote Reset" facility (enabled with Command 23), you must program the control unit as "Engineer Reset" (Command 33 option 1) and then install a four-digit Central Station Identification (CSID) code as follows:

1. Contact the ARC and obtain the CSID code.
2. Ensure that the system is in programming mode.
3. Next, key in:

   50 ✔ nnnn ✔

   Where nnnn is the "CSID Code".

The control unit now contains the same CSID code as the ARC and can use this to generate a four-digit reset code that will be recognised by the ARC 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 the reset code and displays it on the keypad. The user calls the ARC and reports the reset code. The ARC verifies the user's identity and then enters the reset code into the 7300 programmer, which generates an anti-code. The ARC gives the anti-code to the user, who keys it into the keypad to reset the system.

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

51: Set Time and Date

The system has an internal clock/calendar, which it 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: `D11 M09 Y01`
3. Key in two digits for the day (01–31) and press ✔. Use a leading zero for the first nine days of the month.
4. Key in the two digits for the month (01–12) and press ✔ . Use a leading zero for January to September.
5. Key in the last two digits of the year (00–99) and press ✔.

   The display shows the current time, for example: `H09 M15`
6. Key in two digits for the hour of the day (00–23) and press ✔. Use the 24-hour clock.
7. Key in two digits for the minutes (00–59) and press ✔.

The keypad sounder gives a double "beep" and the display shows "`Installer Mode`". The system sets its internal clock/calendar to the date and time that you gave.

52: Omit Alarm

This Command specifies whether, when a user omits a zone, the control unit omits the tamper contacts as well as the alarm contacts.

Option

0 The control unit omits alarm contacts only

1 The control unit omits both alarm and tamper contacts.

Note: To permit the user to omit a zone, you must set attribute ✘4 for the zone.

53: Abort Reset

This Command specifies how the system is reset after an aborted alarm.

Option

0 Use the reset option selected for the system with Command 33 (default).

1 Permit the user to reset after an abort.

54: BVVO Supervision (not 9751)

If the alarm system must meet BVVO radio supervision requirements, select option 1. In this mode:

If a detector is out of contact for more than 15 minutes, the control unit shows a warning on the keypad display when a user tries to set the system.

If a detector is out of contact for more than two hours, the action of the control unit depends whether the system is set:

If set, logs "Sensor Tamper" and raises a full alarm

If unset, logs "Supervision Fail" and raises an internal alarm

If you select option 0, the control unit reports supervision failures after one hour, as described for Command 128 on page 103.

55: Not used

This command is not used.

56: Number of Digits in Access Codes (not 9751)

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

Note: Changing code length causes the system to revert to factory defaults for all access codes; four-digit defaults are 1234 (user) and 7890 (engineer), six-digit defaults are 123456 (user) and 567890 (engineer).

57: Battery Load Test (not 9751)

This Command specifies whether the control unit should load test its backup battery. If the battery fails a test, the control unit reports the failure to the central station; it also emits a regular short tone through the keypad sounders and shows the message "Batt Load Fail" on the keypad display.

Option

0 Do not load test the battery

1 Load test the battery when the system is unset or 23 hours after the last battery test (whichever comes first).

58: BVVO Tamper Reset (not 9751)

To require an engineer to reset a tamper indication while the system is unset, select option 1. To permit a user to reset a tamper indication in this situation, select option 0. Irrespective of this setting, the user can continue to set and unset the system while a tamper indication is being displayed.

Note: Use Command 38 to allow a user reset after a system tamper alarm.

59: External Sounder Tamper

This Command specifies which one of two tamper arrangements is used to connect the control unit to the external sounders.

Option

0 Tamper return uses negative voltage

1 Tamper return is terminated with a 2k2 resistance.

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

60: Level B Final Exit Operation

In a single system, this Command specifies how the system treats Final Exit zones during part set B. If you select option 0, any Final Exit zones included in Level B continue to act as Final Exit zones during part set B. If you select option 1, these zones act as Normal Alarm zones during part set B.

Note: This Command is not available in a partitioned system.

61: Level B Entry Route Operation

In a single system, this Command specifies how the system treats Entry Route zones during part set B. If you select option 0, any Entry Route zones included in Level B continue to act as Entry Routes during part set B. If you select option 1, these zones act as Final Exit zones during part set B.

Note: This Command is not available in a partitioned system.

62: Level/Partition B Exit Mode

This Command sets the exit mode for Level or Partition B.

In a single system, the options are:

Option

0 The keypad sounders and any internal sounders give a low tone during exit of Level B. Use Command 65 to select the exit time.

1 Instant Set (no exit tone)

2 Silent Set. Use Command 65 to program the Exit time. At the end of the exit time the keypad gives a double "beep" confirmation tone.

3 Makes the Level B exit mode the same as Level A.

In a partitioned system, the options are:

Option

0 Timed. Use this option if Partition B sets after an exit time selected using Command 65. If an Exit Terminate button is fitted, the user may use it to shorten the exit time.

1 Terminate. Use this option if the user completes setting the partition by pushing an Exit Terminate button connected to a keypad. The exit time is infinite in this option.

2 Final Door Set. Use this option to complete setting the partition by closing a door fitted with a Final Exit zone detector. The exit time is infinite in this option.

3 Instant Set (no exit tone)

4 Silent Set. Use Command 65 to program the Exit time. At the end of the exit time the keypad gives a double "beep" confirmation tone.

5 Lock Set. See "Level A Exit Mode (Command 39) for an explanation of Lock Set.

Note: The keypads give a double "beep" confirmation tone at the end of all setting modes.

63: Level/Partition B Alarm Response

This Command sets the alarm response for Level or Partition B.

In a single system, the options are:

Option

0 Keypad sounders only.

1 Internal sounders and keypad sounders.

2 Local alarm (internal and external sounder only).

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

In a partitioned system, the options are:

Option

0 Keypad sounders only.

1 Local alarm (internal and external sounder only).

2 Full alarm (communication and internal/external sounders).

64: Level B Entry Time

This Command has been replaced by Command 202.

65: Level/Partition B Exit Time

This Command sets the Exit Time for Level or Partition B.

Option

1 10 seconds

2 20 seconds (default)

3 30 seconds

4 45 seconds

5 60 seconds

6 120 seconds

66: Forbikobler Partitions

If you created a partitioned system during initial power up, this Command enables you to assign Forbikobler keypads to one or more partitions.

To assign each keypad:

1. Make sure you are in programming mode.
2. Key in 66 and press ✔.

   The display shows: `66:Forbi 1 abcd`
3. Press A, B, C or D to assign keypad 1 to the desired partition or partitions.

   For example, if you select A only, the display shows: `32:Forbi 1 a□□□`
4. Press ✔.

   The display shows: `32:Forbi 2 abcd`
5. Repeat steps 3 and 4 for the rest of the Forbikobler keypads.

Note: By default, all Forbikobler keypads belong to all partitions.

67: Forbikobler Approved

This Command specifies whether the Forbikobler system should operate in an approved manner (user codes only) or a non-approved manner (proximity tags and user codes).

Option

0 Non-approved

1 Approved (default)

68: Forbikobler Door Timer

This Command sets the time that the Forbikobler system allows for entry to the building (not the time needed to unset the system). During this period, an optional output is activated to operate an electromechanical lock on the door.

Option

0 2 seconds

1 3 seconds

2 4 seconds

3 5 seconds (default)

4 10 seconds

5 20 seconds

6 30 seconds

7 60 seconds

8 120 seconds

9 255 seconds

69: Forbikobler Door Locking

This Command specifies whether the door controlled by the Forbikobler system is normally unlocked while the system is reset or opened only for a controlled time. Even if the door is normally unlocked, it can be locked with a user command if required.

Option

0 Lock Timed (default)

1 Lock Toggled

70: Level C Final Exit Operation

In a single system, this Command specifies how the system treats Final Exit zones during part set C. If you select option 0, any Final Exit zones included in Level C continue to act as Final Exit zones during part set C. If you select option 1, these zones act as Normal Alarm zones during part set C.

Note: This Command is not available in a partitioned system.

71: Level C Entry Route Operation

In a single system, this Command specifies how the system treats Entry Route zones during part set C. If you select option 0, any Entry Route zones included in Level C continue to act as Entry Routes during part set C. If you select option 1, these zones act as Final Exit zones during part set C.

Note: This Command is not available in a partitioned system.

72: Level/Partition C Exit Mode

This Command sets the Exit Mode for Level or Partition C.

In a single system, the options are:

Option

0 The keypad sounders and any internal sounders give a low tone during exit of Level C. Use Command 75 to select the exit time.

1 Instant Set (no exit tone)

2 Silent Set. Use Command 75 to program the Exit time. At the end of the exit time the keypad gives a double "beep" confirmation tone.

3 Makes the Level C exit mode the same as Level A.

In a partitioned system, the options are:

Option

0 Timed. Use this option if Partition C sets after an exit time selected using Command 75. If an Exit Terminate button is fitted, the user may use it to shorten the exit time.

1 Terminate. Use this option if the user completes setting the partition by pushing an Exit Terminate button connected to a keypad. The exit time is infinite in this option.

2 Final Door Set. Use this option to complete setting the partition by closing a door fitted with a Final Exit zone detector. The exit time is infinite in this option.

3 Instant Set (no exit tone)

4 Silent Set. Use Command 75 to program the Exit time. At the end of the exit time the keypad gives a double "beep" confirmation tone.

5 Lock Set. See "Level A Exit Mode (Command 39) for an explanation of Lock Set.

Note: The keypads give a double "beep" confirmation tone at the end of all setting modes.

73: Level/Partition C Alarm Response

This Command sets the Alarm Response for Level or Partition C.
In a single system, the options are:

Option

0 Keypad sounders only.

1 Internal sounders and keypad sounders.

2 Local alarm (internal and external sounder only).

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

In a partitioned system, the options are:

Option

0 Keypad sounders only.

1 Local alarm (internal and external sounder only).

2 Full alarm (communication and internal/external sounders).

74: Level C Entry Time

This Command has been replaced by Command 203.

75: Level/Partition C Exit Time

This Command sets the Exit Time for Level or Partition C.

Option

1 10 seconds

2 20 seconds (default)

3 30 seconds

4 45 seconds

5 60 seconds

6 120 seconds

76: Level/Partition D Exit Mode

This Command sets the Exit Mode for Level or Partition D.

In a single system, the options are:

Option

0 The keypad sounders and any internal sounders give a low tone during exit of Level D. Use Command 79 to select the exit time.

1 Instant Set (no exit tone)

2 Silent Set. Use Command 79 to program the Exit time. At the end of the exit time the keypad gives a double "beep" confirmation tone.

3 Makes the Level D exit mode the same as Level A.

In a partitioned system, the options are:

Option

0 Timed. Use this option if Partition D sets after an exit time selected using Command 79. If an Exit Terminate button is fitted, the user may use it to shorten the exit time.

1 Terminate. Use this option if the user completes setting the partition by pushing an Exit Terminate button connected to a keypad. The exit time is infinite in this option.

2 Final Door Set. Use this option to complete setting the partition by closing a door fitted with a Final Exit zone detector. The exit time is infinite in this option.

3 Instant Set (no exit tone)

4 Silent Set. Use Command 79 to program the Exit time. At the end of the exit time the keypad gives a double "beep" confirmation tone.

5 Lock Set. See "Level A Exit Mode (Command 39) for an explanation of Lock Set.

Note: The keypads give a double "beep" confirmation tone at the end of all setting modes.

77: Level/Partition D Alarm Response

This Command sets the Alarm Response for Level or Partition D.

In a single system, the options are:

Option

0 Keypad sounders only.

1 Internal sounders and keypad sounders.

2 Local alarm (internal and external sounder only).

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

In a partitioned system, the options are:

Option

0 Keypad sounders only.

1 Local alarm (internal and external sounder only).

2 Full alarm (communication and internal/external sounders).

78: Level D Entry Time

This Command has been replaced by Command 204.

79: Level/Partition D Exit Time

This Command sets the Exit Time for Level or Partition B.

Option

1 10 seconds

2 20 seconds (default)

3 30 seconds

4 45 seconds

5 60 seconds

6 120 seconds

Note: In a single system, you cannot change the operation of the Final Exit and Entry Route zones assigned to Level D. For this reason, Cooper Security recommends that you use this level for simple applications only.

80: Forbikobler Chime

This Command links the bell push on the Forbikobler keypad to the Chime on the system, so that pressing the bell operates the sounders.

Option

0 Off. Pressing the bell push does not operate the sounders (default).

1 On. Pressing the bell push operates the sounders.

Note: This is not available in a partitioned system.

81 to 84: Output n Type

Note: Command 84 applies only to the 9851, as only it has a fourth output.

These Commands program the control unit's panel outputs. They take two digits to select the output type (see below) and have the following defaults:

Command	Output	Control unit	Default outputs
81	1	All	00 Bell
82	2	All	08 Strobe
83	3	All	03 Set Latch
84	4	9851	03 Set Latch

Option

00 Bell: active during an alarm. Use Command 41 to set Bell Delay and 42 to set Bell Duration. In a partitioned system, this type is activated when any partition is in alarm. If Alarm Confirmation (Command 89) is enabled, use Command 162 to set whether the bell is sounded on the first or confirmed alarm.

01 EE Follow: active when Entry or Exit Time starts and inactive when the time expires or is terminated. The output can be used for a separate Entry/Exit buzzer. It will not give a tone during part set if the exit mode is silent set or instant set.

02 Armed Lamp: active continuously while the system is full or part set.

03 Set Latch: active when the system is set and inactive when the system is unset or an alarm condition occurs. It is active for one second when a reset is performed or the control unit leaves programming mode. It is also active during Walk Tests.

04 Shock Reset: used to reset shock sensors (for example, the "Viper"). The output is triggered by the control unit at the start of the Exit Time and remains active for five seconds.

05 Walk Test: active during both engineer and user Walk Tests and during the time between silencing and resetting the system. It is used on movement detectors that are able to switch off the Walk Test LED in any state other than a Walk Test.

06 Ready Lamp: active when the system is unset and if there are no faults. It is inactive when the system is full or part set, during any alarm or if a circuit fault prevents setting. It is also active when the control unit is in programming mode.

07 24-hour Alarm: activated when a zone designated as 24-hour is violated and deactivated when the system is disarmed.

08 Strobe: activated during an alarm and deactivated when the system is disarmed.

09 Smoke Reset: designed to be connected to low-voltage smoke detector reset terminals. It is active for 3 seconds when the system is reset after an alarm.

10 Siren Test: activated when the Installer performs a sounder test using Command 91.

11 Strobe Set A: active for 10 seconds after the system (or any partition) is set. It can be used to operate the Strobe output to give a visual indication that the system has completed setting.

12 Pulse Set 1: active for the time set by Command 170 when someone sets the system (same as type 26).

13 Pulse Unset 1: active for the time set by Command 172 when someone unsets the system and during a Fire alarm or PA (same as type 30).

14 Alarm Confirm: active during a confirmed alarm.

15 Set Complete: active for 10 seconds after someone sets the system.

16 Unset Complete: active for 10 seconds after someone unsets the system or disarms it after an alarm.

17 System Bell: activated when the control unit raises a System Alarm.

In a partitioned system, the following options (18-25) are also available:

18 Bell Partition A: active when an alarm occurs in Partition A.

19 Bell Partition B: active when an alarm occurs in Partition B.

20 Bell Partition C: active when an alarm occurs in Partition C.

21 Bell Partition D: active when an alarm occurs in Partition D.

22 Strobe Set A: active for 10 seconds after Partition A is set.

23 Strobe Set B: active for 10 seconds after Partition B is set.

24	Strobe Set C: active for 10 seconds after Partition C is set.
25	Strobe Set D: active for 10 seconds after Partition D is set.
26	Pulse Set 1: active for time set by Command 170.
27	Pulse Set 2: active for time set by Command 170.
28	Pulse Set 3: active for time set by Command 170.
29	Pulse Set 4: active for time set by Command 170.
30	Pulse Unset 1: active for time set by Command 172.
31	Pulse Unset 2: active for time set by Command 172.
32	Pulse Unset 3: active for time set by Command 172.
33	Pulse Unset 4: active for time set by Command 172.
34	Fire: active during a Fire alarm.
35	PA: active during a PA.

85: Burglar Communications Rearm

This Command determines what happens to the "Burg" communications output (or channel) at the end of the bell run time.

Option

0	Latched. The output stays active until an engineer or user resets the system.
1	Rearm. The system turns off the "burg" channel when the bell run time has expired. Once the channel is inactive, the system is ready to report any new alarm.

Note: If Alarm Abort is enabled (Command 36, option 1), the "burg" channel restores if the user unsets the system.

86: Dual Ply Entry Warning

Note: Disable Alarm Confirmation (Command 89) to use this Command.

If users habitually exceed the Entry Time, select option 1 to add a 30-second extension during which the internal sounders give a warning tone. Select option 0 (the default value) to disable Dual Ply Entry.

The extension applies to both full and part setting.

Note: Using Dual Ply Entry is not recommended because it does not comply with industry standards for alarm system operation.

87: Keypad Dual Key Alarms

This Command enables users to raise an alarm by pressing two keys on the keypad at the same time. When this facility is enabled (option 1), the alarms available are:

Alarm type	Key combination
PA	1 and 3
Medical	4 and 6
Fire	7 and 9

Select option 0 to disable this Command.

Note: This Command also enables a PA from keyswitches. For more information, see the "9928 Installation Guide".

88: Not used

This command is not used.

89: Alarm Confirmation

Option 1 allows you to program the control unit for Alarm Confirmation signalling (verified alarm), if required by your local Police Intruder Alarms Policy. (Use this option to comply with DD243: 2002.)

Select option 0 to disable Alarm Confirmation.

90: Event Log

For information on this command, see "5.Testing".

91 to 96: Test Output n

For information on this command, see "5.Testing".

97: Engineer Walk Test

For information on this command, see "5.Testing".

98: Load Full Defaults

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 Default`

3. Press 1 ✔ at the keypad.

   The display shows (for example): `Mult Sys?  OFF`

4. Either:
   Press 1 to create a partitioned system
   Or press 0 to create a single system.

   The display shows (for example): `Mult Sys?  ON`

5. Press ✔.

   The keypad gives a double "beep" confirmation tone and the control unit loads the factory default values, erasing all previously programmed values.

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

99: Leave Programming Mode

To leave programming mode:

1. Key in 99 ✔ at the keypad.

   The display shows: `Exit Eng?`

2. Press ✔.

   The display shows: `Checking Sys`
   and after a few seconds the control 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, 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.

100: Not used

This command is not used.

101: Call Mode

You may select one of the following call modes:

Option

0 Disabled. The control unit does not use any communications.

1 Single reporting. The control unit reports to one programmed telephone number (see Command 115) with one account number (see Command 117).

Operation: The communicator dials the number and tries to connect with the ARC. If it fails, it closes down and then tries again. It will try to connect up to 15 times.

2 Alternate reporting. The control unit reports to one of two programmed telephone numbers (see Commands 115 and 116), still using one account number (see Command 117).

Operation: The communicator dials the first telephone number and tries to connect to the ARC. If it fails, it closes down, dials the second telephone number and tries to connect to the ARC again. If this attempt is received and acknowledged, the system closes down and the alarm transmission is complete. If this attempt fails, the system closes down and tries again to connect to the first telephone number. The communicator tries the two numbers in turn for up to 15 times, until it has successfully called one of them.

3 Dual reporting. The control unit reports to two programmed telephone numbers, one each for two receivers (see Commands 115 and 116).

Operation: The communicator dials the first telephone number and tries to connect to the first ARC. If this attempt is received and acknowledged, the communicator dials the second number and tries to connect to the second ARC. If this attempt is received and acknowledged, the communicator closes down and the alarm transmission is complete. If the call to the first number fails, the communicator tries the second number. If the call to the second number fails, the communicator closes down and tries the first number again. The communicator tries the two numbers in turn for up to 15 times, until it has successfully called both of them.

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

102: Not used

This command is not used.

103: Reporting Type

The system supports several message formats for communications:

Option

0 Scancom Fast Format (FF)

1 Contact ID (CID)

2 Scancom SIA Level I (SIAI)

3 Scancom SIA Level II (SIAII) – this does not send time and date

4 Scancom SIA Level 3 (SIA3)

5 Extended Scancom SIA Level 3 (XSIA3)

6 Home "beep" (Home)

Option 6 is not a particular message format. What it means is that the communicator dials a number and sends a "beep" down the line. This does not allow a complex message to be sent but means that the person answering the call needs no special equipment to decode the message. The number of times the communicator repeats the Home "beep" is set with Command 186. For the 9851 only, the receiver can press "5" on the telephone keypad to acknowledge the alarm and terminate the series of calls.

104: Not used

This command is not used.

105: Static Test Call

With static testing, the control unit makes test calls at fixed times or intervals; alternatively, you can use Command 108 (see page 97) to set up a dynamic test call for 24 hours after the last communication.

To disable static test calls, key in 00.

To make static test calls at a regular time, you have two options:

Ann To make a static test call at a set time every day, press A and then key in a number between 01 and 24 to select the time for the call. For example, key in 18 to program the control unit to make a call at 6.00pm every day.

Bnn To make a static test call on a set day of every month, press B and then key in a number between 01 and 28 to select the day for the call. For example, key in 22 to program the control unit to make a call on the 22nd day of every month. The call will be made at 1.00am on the selected day.

To make static test call at regular intervals, you have two options:

Cnn To make a static test call every nn hours, press C and then key in a number between 01 and 24 to select the interval in hours. For example, key in 12 to program the control unit to make a call every 12 hours.

Dnn To make a static test call every nn days, press D and then key in a number between 01 and 28 to select the interval in days. For example, key in 07 to program the control unit to make a call every 7 days.

The control unit adjusts the timing of calls by up to 16 minutes (exact interval chosen at random) to ensure that the ARC is not overwhelmed by a flood of test calls from systems that have all been set with the static test options.

Note: Cooper Security recommends that you choose either Static Test Call (105) or Dynamic Test Call (108), but not both at the same time.

106: Line Fault Response

This Command sets how the control unit responds when it detects a fault on an attached telephone line. Its exact response depends on whether the system is set or unset:

Option

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

1 Audible.

If the system is unset, the control unit logs the event and the keypads emit a short audible tone every minute. Entering a valid access code silences the sounders and the keypad displays indicate a telephone line fault. The system can be set again with the line fault present.

If the system is set, the control unit logs the event but the keypads do not emit a tone or display a message. If the line is out of order when an alarm occurs, the control unit cancels any programmed Bell Delay.

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

2 Silent.

If the system is unset, the control unit logs the event and the keypad displays indicate a telephone line fault (without giving any audible warning). The system may be set again with the line fault present.

If the system is set, the control unit logs the event but the keypads do not display a message. If the line is out of order when an alarm occurs, the control unit cancels any programmed Bell Delay.

107: Not used

This command is not used.

108: Dynamic Test Call

With dynamic testing, the control unit makes a test call 24 hours after the last communication, rather than at the fixed times or intervals specified for static calls with Command 105 (page 95). Select option 0 to disable dynamic test calls and option 1 to enable dynamic test calls.

Note: Cooper Security recommends that you select either Static Test Call (105) or Dynamic Test Call (108), but not both at the same time.

109: Three-way Calling (UK only)

To use three-way calling, you must make sure that the BT Network Services Option of "three-way calling" is available on the telephone line to which the communicator is connected.

Option

0 Three-way calling off. This mode is disabled.

1 Three-way calling on. This mode is enabled.

Operation: If the communicator, when triggered by the control unit, detects Off Hook or Incoming Ringing, it sends an 80ms trigger. This trigger represents the "R" or Recall button on a telephone and is interpreted by the exchange as a request for a new clean line. When the new line is available, the communicator tries to connect to the programmed receiver number.

110: Download Mode

You can program the control unit from a PC using Downloader software. The PC can be connected to the control unit using the telephone network or, for the 9752 or 9851 model, locally using a cable. This Command enables you to select one of these options.

Option (not 9751)

0 Local. Programs the control unit for a cable connection.

1 Remote. Programs the control unit for a telephone connection, in which case it will wait for and answer a call from the remote PC. You will need to use Commands 112 and 113 to configure the connection.

Notes:

1. *There is no option for this command on the 9751, which has no connector for a local PC: 110✔selects Remote.*
2. *Secure Callback does not work with this Command.*
3. *The control unit will exit from this Command if Downloader does not call within 30 minutes.*

111: Modem Speed (9851 only)

Use this command to set the speed of the modem inside the 9851 (built-in communicator).

Option

0 Automatic baud selection: tries to connect at 1200 baud; if that fails, connects at 300 baud.

1 300 baud (default)

112: Rings to Answer

Use this command to set the number of rings for which the system waits before answering an incoming call from the remote PC.

Option

0 3 rings

1 5 rings (default)

2 7 rings

3 10 rings

4 15 rings

5 255 rings

113: Answer on One Ring

If the alarm system shares a telephone line with other equipment, use this Command to instruct the control unit how to interpret one ring on the shared line.

Option

0 One Ring off. The control unit does not respond to one ring.

1 One Ring on. The control unit interprets one ring as a message from Downloader to expect a call within 10 to 90 seconds.
Operation: Downloader calls once, waits for one ring and then disconnects. It then waits for 10 to 90 seconds before calling again, at which time the control unit answers after the first ring.

Note: When using One Ring mode, set the number of rings in "Rings to Answer" (Command 112) to a higher number than that used by the equipment with which the alarm system shares a line. If you do not, the other equipment will never answer any incoming calls because the control unit will answer them first.

114: Access Mode

You may wish to impose extra security on communication between a remote PC and the control unit as, once the PC is connected, Downloader has access to all programming Commands. Select option 0 to require the user to initiate communication with the remote PC. Select option 1 to accept remote calls but check the details sent by the Downloader software. Select option 2 if you do not require extra security.

Option

0 Callback off (Attended).

Operation: Someone must initiate a call to the remote PC manually using Command 0 in User Mode. This Command calls the first Downloader Telephone Number (set with Command 118).

1 Callback on (Secure Callback).

Operation: When the remote PC calls, the control unit answers after a set number of rings (set with Command 112). The control unit hangs up and checks that the received control unit ID and software version are correct. If they are, it waits for a short delay and then calls the PC back using one of the Downloader Telephone Numbers programmed with Commands 118 and 119 (see page 101).

2 Callback any (Unattended).

Operation: The control unit answers after a set number of rings (set in Commands 112 or 113) and accepts programming instructions immediately.

Notes:

1. *Secure Callback 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.*
2. *The Downloader operator can choose to use Secure Callback, even if the control unit is programmed for Unattended.*

115 and 116: Communicator Telephone Numbers

Use these Commands to program the telephone numbers to which the communicator will report alarms. The numbers can be up to 31 digits. You can use the A key to insert a four-second pause, displayed as a comma (,).

If Call Mode is Disabled (Command 101, option 0), these numbers are not used. If Call Mode is Single (option 1), only the first number is used. If Call Mode is Alternate or Dual (options 2 and 3), both numbers are used.

To enter a telephone 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.

117: Account Number

With SIA formats, the control unit can report alarms using a six-digit account code. Use leading zeros to pad the account code to the correct length if necessary; for example; account 1234 would be 001234.

In a partitioned system, you can enter up to four account codes:

1. Enter programming mode (if you are not already there).
2. Key in 117 ✔ at the keypad.

   The display shows: `117: Account No`
3. Press ✔.

   The display shows (for example): `117: 123456 PA`
4. If the account code is correct, press ✔. To change the account code for partition A, key in the digits of the new code. Press C between each digit to move the cursor to the right. Press D to move the cursor to the left to correct any mistakes. Press ✔ when the account code is correct.

   The control unit stores the account code that you entered and displays the account code for the next partition (for example): `117: 123456 PB`
5. Repeat step 4 for the account codes for partitions B, C and D.

Note: Some European countries use letters in account codes. The control unit can accept B, C, D, E and F in account codes. To enter a letter at step 4, press 2 or 3 repeatedly until the letter you require appears on the display (see "Zone Programming – Zone Names").

118 and 119: Downloader Telephone Numbers

Use these Commands to program the telephone numbers that the communicator will use to call the Downloader software on a remote PC (as described in the "9x5x User Guide"). When a connection is made between the control unit and the remote PC, the Downloader operator selects which of the two numbers the control unit should use to call back (for example, home or office), provided that Secure Callback is enabled with Command 114. The numbers can be up to 31 digits. You can use the A key to insert a pause of four seconds, which is displayed as a comma (,).

To enter a telephone 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 ✔.
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): `118:  1234_`
5. Press ✔.

   The keypad gives a double "beep" and the system stores the number.

120: Enable Third Downloader Telephone Number

Use this Command to instruct the control unit to accept a callback telephone number from Downloader (independent of Commands 118 and 119). The remote PC operator keys in this number before a connection is established and then Downloader transmits it to the control unit. The control unit then uses the number to call the remote PC back.

Select option 0 to disable a third callback number. Select option 1 to enable it.

121: Fast Format Channels

This Command has been replaced by Commands 191 to 198.

122: Communication Acknowledge

This Command is available only if Country is set to Ireland (Command 0, option ✘1). In addition, option 1 is effective only if Scancom Fast Format is selected (Command 103, option 0).

To enable Communication Acknowledge, select option 1. In this mode, when the communicator has called the ARC and received an acknowledgement, the keypad displays the message "Call your CS" and emits a "beep" for 10 seconds when the system is unset or disarmed. To clear the display, the user must enter a valid access code.

If Fast Format communications are programmed with Channel 3 for burglary (using Command 193), the control unit adds a 20-second delay before making an alarm call.

To disable Communication Acknowledge, select option 0.

123: Report Restores

This Command is effective only if Scancom Fast Format is selected (Command 103, option 0).

Option

0 Restore off. The system does not communicate restores.

1 Restore on. The system communicates restores.

124: Reverse Open/Closed

Note: This Command is normally used in France.

Selecting option 1 in this Command reverses the sense of the Open/Close Fast Format channel. It is effective only if Scancom Fast Format is selected (Command 103, option 0) and does not affect the separate Open and Close channels.

	Option 0	Option 1
On setting system	code 4	code 2
On unsetting system	code 2	code 4

125: No Close Signal (not 9751)

Note: This Command is required for Belgian BVVO approval.

This Command is effective only if Scancom Fast Format is selected (Command 103, option 0). When option 1 is selected, the control unit does **not** transmit a Close signal if the user has omitted two or more zones.

126: Select Language

The control unit can display messages on the keypads in several languages. Select option for the language you wish to use:

0: English (default)
1: Italian
2: Espanol (Spanish)
3: Port (Portuguese)
4: Nederl (Dutch)
5: Francai (French)
6: Deutsch (German)
7: (NO) (Norwegian)
8: (SV) (Swedish)
9: (DK) (Danish)
✘1: (SF) (Finnish)

Note: This overrides the default language loaded when the Country is selected with Command 0.

127: Not used

This command is not used.

128: Radio Zone Supervision Fail Response

If the system is fitted with a radio expander, all radio zones are supervised. If a radio zone does not communicate with the expander for one hour or more, the expander reports a supervision failure to the control unit. This Command specifies how the control unit responds to the reported supervision failure.

In all cases, the failure is reported on the keypad display. The failure message is cleared when the zone is reinstated.

Option

0 Full alarm (all sounders and communication to the ARC)

1 Internal, external and keypad sounders

2 Keypad sounders only

3 Communication to the ARC and no sounders

4 Keypad sounders and the control unit will not set until the faulty radio detector responds to supervision

129: Telecommand Requires Entry for Unset

If the system is fitted with a radio expander, the user can use a telecommand (remote setting device) to set and unset the system. This Command provides two options for unsetting the system with a telecommand:

Option

0 The user must first trigger the entry zone and start the entry timer before unsetting the system with a telecommand.

1 The user can unset the system using a telecommand without first starting the entry timer by triggering the entry zone.

In the UK, to conform with Class VI radio requirements, set Command 129 to option 0 and select Final Door Set with the appropriate command for the level or partition (Command 39, 62, 72 or 76). This prevents users from unsetting the system from outside the building.

130: Not used

This command is not used.

131: SIA Report Mode

SIA reports are called "Telegrams". Each telegram contains the site identification number (normally six digits) and relevant event information. The amount of information reported depends on the SIA mode that you select: Basic, Summary, Intermediate or Full. The following table shows the types of report for each mode; use this to decide which mode is appropriate for the installation. Each mode also contains all the reports in the mode above it.

Option

0 Basic

1 Summary

2 Intermediate

3 Full

The system also provides a "custom" mode, which allows any combination of event information, but you have to use Downloader to create the required combination.

Note: The control unit delays reporting/logging either mains loss, or exiting engineering with mains loss, by 15-18 min (chosen at random). The control unit delays reporting/logging either mains restore, or exiting engineering with mains restored, by 60-90 sec (chosen at random). If you select a Scandinavian default in Command 0, the control unit waits at least 60 minutes before reporting.

BASIC

Event	SIA Code	CID Code
ALARM CONFIRM	BV	139
BURG	BA	130
BURG RESTORE	BR	130‡
DURESS	HA	121
EXIT TIMEOUT	EA	-
EXPANDER TAMPER	TA	137
EXPANDER TAMPER RESTORE	TR	137‡
FIRE	FA	110
FIRE RESTORE	FR	110‡
FORBI INTERFACE TAMPER	TA	137
FORBI INTERFACE TAMPER RESTORE	TR	137‡
FORBI LOOP TAMPER	TA	137
FORBI LOOP TAMPER RESTORE	TR	137‡
FORBI TAMPER	TA	137
FORBI TAMPER RESTORE	TR	137‡
GLOBAL TAMPER	TA	137
GLOBAL TAMPER RESTORE	TR	137‡
KEYBOX OPEN	BA	150
KEYBOX CLOSED	BR	150‡
KEYPAD MEDICAL	MA	100
KEYPAD FIRE	FC	110
KEYPAD PA	HA	120
LID TAMPER	TA	137
LID TAMPER RESTORE	TR	137‡
MAN TRIGGER TEST REPORT	RX	601
PANIC	PA	120
PANIC RESTORE	PR	120‡
PERIODIC TEST REPORT	RP	602
SENSOR TAMPER	TA	137
SENSOR TAMPER RESTORE	TR	137‡
SMOKE DETECTOR	FA	111
SMOKE DETECTOR RESTORE	FR	111‡
BELL TAMPER	TA	137
BELL TAMPER RESTORE	TR	137‡
SUPERVISION FAIL	BZ	381
SYS TAMPER	TA	137
SYS TAMPER RESTORE	TR	137‡
TA (Technical alarm)	UA	150
TA RESTORE	UR	150‡
TAMPER IN DAY	TA	-
TAMPER KEYPAD	TA	137
TAMPER KEYPAD RESTORE	TR	-
TELCO1 FAULT	LT	351

TELCO1 FAULT RESTORE	LR	-
ZONE OMIT	BB	573

SUMMARY

Event	**SIA Code**	**CID Code**
AC LOST	AT	301
AC RESTORE	AR	301‡
ALARM ABORT	BC	406
ANTI MASK ZONE OPEN (see note below)	BT	380
ANTI MASK ZONE TAMPER (see note below)	BT	380
ANTI MASK ZONE RESTORED (see note below)	BJ	380
AUX TROUBLE	YP	-
AUX RESTORE	YQ	-
BATT MISSING	YM	311
BATT RESTORED	YR	311‡
LOW BATT	YT	311
LOW BATT RESTORE	YR	311‡
PARTITION RESET	OR	305
RESET	OR	305

INTERMEDIATE

Event	**SIA Code**	**CID Code**
ARM	CL	401
DISARM	OP	401
KEYSWITCH DISARM	OS	409
KEYSWITCH ARM	CS	409

FULL

Event	**SIA Code**	**CID Code**
DOWNLOAD SUCCESS	RS	412
EXPANDER MISSING	TA	137
EXPANDER MISSING RESTORE	TR	137‡
FORBI MISSING	TA	137
FORBI MISSING RESTORE	TR	137‡
JAMMING	XQ	380
PASSWORD DEFAULTS LOADED	RH	-
PROG MODE START	LB	627
PROG MODE END	LS	628
TAMPER USER CODE	JA	461
TD (Time and day) RESET	JT	625
TX BATTERY TROUBLE	XT	384
USER CODE CHANGED	JV	-
USER CODE DELETED	JX	-

Notes:

1. If Command 143, option 1 is selected, all messages with a CID Code are sent. If option 0 is selected, the restores marked with ‡ are not sent.
2. The control unit logs an Anti-Mask event to the zone number one below that assigned the Anti-Mask type. See page 62 for an explanation of the Anti-Mask zone type.

132: Send Tampers as Burglary

Some ARCs experience problems if a control unit sends "restore" messages using SIA, wrongly interpreting them as "user restores". When using SIA reporting, Command 132 enables you to program the control unit to send tampers as alarms.

Option

0 (Default) The control unit sends all SIA messages as specified in Command 131.

1 For full alarm response, the control unit sends tampers as burglary (BA) and sends Contact ID 130 in place of Contact ID 137.

133: Do not Send SIA Restores

Use this command to stop the system sending SIA restore messages.

Option

0: SIA Restores Off (default). System does not send SIA restore messages: FR (Fire Restore), PR (Panic Restore), UR (Technical Restore), BR (Burglary Restore) or TR (Tamper Restore).

1: SIA Restores On. System sends SIA restore messages.

134 to 142: Not used

These commands are not used.

143: Contact ID Report Restores

If the Reporting Type is set to Contact ID (Command 103, option 1), use this Command to select the types of contact ID messages that will be sent.

Option

0 Basic: all the messages with numbers in the "CID Code" column of the table in "131: SIA Report Mode", except for those marked with an "‡".

1 Basic + Restore: all the messages with numbers in the "CID Code" column of the table in "131: SIA Report Mode".

Note: If the keypad display shows "Custom" when you enter Command 143, Downloader has been used to program Contact ID Report Restores.

144 to 150: Not used

These commands are not used.

151 to 158: Plug-by Communicator Outputs

The main circuit board of the control unit provides eight programmable outputs that can be used to control a plug-by communicator. The outputs can be connected to the communicator by an twelve-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 158 allow you to assign one of several channels to each output. Command 151 controls output 1, 152 output 2 and so on, up to Command 158 which controls output 8. Each Command has the same options (23-26 apply to a partitioned system only):

00	Not Used	19	Smoke Detector
01	Fire	20	Comms Acknowledge (see Note)
02	PA	21	Battery Fault
03	Burglar	22	System Alarm
04	Open/Close	23	Alarm Partition 1
05	Alarm Abort	24	Alarm Partition 2
06	Technical Alarm	25	Alarm Partition 3
07	Alarm Confirmation	26	Alarm Partition 4
08	RF Low Battery	27	Not used
09	Supervision Loss	28	Not used
10	RF Jamming	29	Not used
11	AC Fail	30	Pulse Set OP 1
12	Tamper Alarm (day tamper)	31	Pulse Set OP 2
13	Open	32	Pulse Set OP 3
14	Close	33	Pulse Set OP 4
15	Zone Omitted	34	Pulse Unset OP 1
16	Medical Assistance	35	Pulse Unset OP 2
17	Key Box	36	Pulse Unset OP 3
18	Anti-Mask	37	Pulse Unset OP 4

Note: 1. If the control unit is using Fast Format signalling, and has sent a Burg to the ARC, the control unit activates the output pin assigned to Comms Acknowledge when the ARC returns a Comms Acknowledge signal.
2. The control unit delays reporting/logging either mains loss, or exiting engineering with mains loss, by 15-18 min (chosen at random). If you select a Scandinavian default in Command 0, the control unit waits at least 60 minutes before reporting.

159: Invert Plug-by Outputs

By default, plug-by outputs have a positive voltage when inactive and this is removed when the output is active. This Command inverts that logic so that a positive voltage is applied when the output is active.

Option

0 +ve removed to trigger: the output is positive when inactive and goes to zero when active.

1 +ve applied to trigger: the output floats when inactive and goes positive when active.

160: Confirmed Alarm Timer

Note: Enable Alarm Confirmation (Command 89) to access this Command.

This Command controls a timer. The timer starts when an alarm is triggered for the first time. If a second alarm is triggered before the timer expires, the control unit transmits a confirmed alarm to the ARC. You can set the timer to any value in minutes between 001 and 999. For DD243: 2002 compliance, set confirmation time to between 30 minutes (default) and 60 minutes.

161: Internal Sounder on Confirmed or Unconfirmed Alarm

Note: Enable Alarm Confirmation (Command 89) to access this Command.

This Command selects whether the control unit will operate the internal sounder for a confirmed alarm or for an unconfirmed alarm. In a partitioned system, the internal sounder is available only for Partition A; other partitions use keypad sounders only.

Option

0 Control unit operates the internal sounder for an unconfirmed alarm.

1 Control unit operates the internal sounder for a confirmed alarm.

162: External Sounder on Confirmed or Unconfirmed Alarm

Note: Enable Alarm Confirmation (Command 89) to access this Command.

This Command selects whether the control unit will operate the external sounder for a confirmed alarm or for an unconfirmed alarm.

Option

0 Control unit operates the external sounder for an unconfirmed alarm.

1 Control unit operates the external sounder for a confirmed alarm.

163: Confirmed Alarm during Entry

Note: Enable Alarm Confirmation (Command 89) to access this Command.

This Commands controls how the system treats alarms that arise during entry. The options select the number of non-Entry Route zones that must be triggered to provide a confirmed alarm after the entry time.

Option

0 Never (Alarm Confirmation disabled after entry).

1 One zone (not DD243:2002 compliant).

2 Two zones.

Select option 0 to comply with DD243 sections 6.4.2, 6.4.3, 6.4.4 or 6.4.6. These sections cover entry methods where:

Unlocking the final door unsets the system.

Unlocking the final door disables confirmation.

Opening the entry door disables confirmation.

The user must call the ARC to unset the system.

Option 0 ensures that you will never get a confirmed alarm after the start of the entry timer.

Select option 2 to comply with DD243:2002 section 6.4.5. This section covers unsetting the system with an item of portable alarm communication equipment (for example, a proximity reader or PA).

164: User Reset after Confirmed Alarm

Note: Enable Alarm Confirmation (Command 89) and Engineer Reset (Command 33) to access this Command.

Use this Command to select who can reset the system after a confirmed alarm. A first alarm occurs when one zone is tripped and a confirmed alarm occurs when a second zone is tripped.

Option

0 User/Engineer. The user can reset the system after a first alarm but an engineer is required to reset the system after a confirmed alarm.

1 User/User. The user can reset the system after both types of alarm.

2 Engineer/Engineer. An engineer is required to reset the system after both types of alarm.

Note: DD243:2002 states that the user can reset the system if any of the unsetting methods mentioned in sections 6.4.2, 6.4.3 or 6.4.6 are used. See "DD243:2002 ACPO Compliance" at the end of this chapter.

165 to 169: Not used

These commands are not used.

170 – 175: Pulse Output Programming

You can program the panel outputs to generate a pulse of a defined length when triggered by a set or unset event. Pulses of different lengths can be set for each level or partition. Commands 170 to 175 enable you to configure these pulse outputs. Press the tick key (✔) to move between the outputs within each command.

Command	Value	Default	Description
170	00* to 12	01	Specifies the length in seconds of the pulse to be generated on setting. * A value of 00 latches the output.
171	A/B/C/D	abcd	Assigns each pulse set output to one or more levels or partitions.
172	00* to 12	01	Specifies the length in seconds of the pulse to be generated on unsetting. * A value of 00 latches the output.
173	A/B/C/D	abcd	Assigns each pulse unset output to one or more levels or partitions.
174	0 (Off) or 1 (On)	On	Specifies whether each pulse unset output is activated for a Fire alarm.
175	0 (Off) or 1 (On)	On	Specifies whether each pulse unset output is activated for a PA.

Notes:

1. *Generating a pulse on an output depends both on a set or unset pulse being defined for the output and on the output being associated with a partition that is being armed or disarmed.*
2. *Commands 174 (Fire) and 175 (PA) activate only the Pulse Unset outputs configured with Command 172.*

Example 1

In a single system, panel output 3 is to be programmed as type 12 (Pulse Set 1). It will be used to operate a locking mechanism when the whole system is set. The locking mechanism requires a 6-second pulse. The table below shows how to program the system to generate the required pulse.

Command	Value	Description
83	12	Sets panel output 3 to type Pulse Set 1.
170	Set 1 = 06	Sets the duration of Pulse Set 1 to 6 seconds.
171	Set 1 = a	Allocates Pulse Set 1 to Level or Partition A (which is the whole system in a single system).

Example 2

In a partitioned system, panel output 3 is to be programmed as type 35 (Pulse Unset 2). It will be used to operate an unlocking mechanism when Partition B is unset. The unlocking mechanism requires an 8-second pulse. The output will also be activated if there is a Fire alarm or PA, enabling people to leave the building. The table below shows how to program the system to generate the required pulse.

Command	Value	Description
83	35	Sets panel output 3 to type Pulse Unset 2.
172	Unset 2 = 08	Sets the duration of Pulse Unset 2 to 8 seconds.
173	Unset 2 = b	Allocates Pulse Unset 2 to Level or Partition B.
174	Fire 2 = On	Activates the second pulse output in a Fire alarm.
175	PA 2 = On	Activates the second pulse output in a PA.

176 to 179: Not used

These commands are not used.

180: Print Log (9851 only)

This Command instructs the control unit to print the event log through the serial port on the main PCB. Selecting option 1 causes events to be printed as they occur until the mode is cancelled by selecting option 0. To print the log during testing, use Command 90, options 0 and 7.

Option

0 Off. Do not print the event log.

1 On. Print the event log.

181: Enable Guard Code

This Command selects whether the control unit supports a Guard Code (set with Engineer Code using Command 20). A user with Guard access can unset the system but only after an alarm, which will be recorded in the event log.

Option

0 Off. No Guard Code.

1 On. Guard Code.

182: Set Final Exit Settling Time

This Command sets a time delay to allow detectors to settle before the system sets. This may be needed if detectors are being set off by air movements caused by the final door being closed. During this period, the sounders stop and the system sets but the control unit ignores any alarms generated by the detectors.

Enter two digits to specify a time in seconds, from 07 to 12 (default is 07).

183: Set Display Line 2

This Command sets the message that the control unit shows on the second line of the keypad displays. Key in a message of up to 16 characters, using the keypad as explained for zone programming on page 61. The default text identifies the control unit model used in the system.

184: Pulsed External Sounder for Fire

This Command instructs the control unit to send a pulse to bell-type panel outputs (configured with Commands 81–84, option 00) to signal a Fire alarm. This can be used to drive the external sounders, giving a different alarm sound from the normal continuous bell tone.

Option

0 Off. Use normal two-tone Fire alarm.

1 On. Send a pulse to bell-type outputs in the system.

185: Keyswitch Auto Reset

This Command instructs the control unit to reset a tripped keyswitch zone automatically if the user uses the keyswitch to set the system on leaving.

Option

0 Off. User must reset tripped zones manually.

1 On. System resets a tripped zone of type KM or KF automatically when the user sets the system with the keyswitch.

186: Set Home Beep Calls

This Command sets the number of times that the control unit will call if Reporting Type is set to Home "beep" (Command 103, option 6). The repeated message acts as a confirmation.

Enter two digits, from 01 to 15 (default 02). The default is usually sufficient, providing one call to alert the user and a second call to confirm the alert. For the 9851 only, the user can acknowledge the call by pressing "5" on the telephone handset; this terminates the series of home "beep" calls.

Note: This Command sets the number of successful calls the system makes. It does not include retries after failed communication attempts, which are built into the various protocols used to control communications generally.

187 to 190: Not used

These commands are not used.

191 to 198: Fast Format Channels

If Fast Format reporting is selected (Command 103, option 0) Commands 191 to 198 allow you to assign one of the following events to each output. Command 191 controls output 1, 192 output 2, and so on up to Command 198 which controls output 8. Each Command has the same options:

00	Not Used	19	Smoke Detector
01	Fire	20	Comms Acknowledge (see Note)
02	PA	21	Battery Fault
03	Burglary	22	System Alarm
04	Open/Close	23	Alarm Partition 1
05	Alarm Abort	24	Alarm Partition 2
06	Technical Alarm	25	Alarm Partition 3
07	Alarm Confirmation	26	Alarm Partition 4
08	RF Low Battery	27	Not used
09	Supervision Loss	28	Not used
10	RF Jamming	29	Not used
11	AC Fail	30	Set OP 1
12	Tamper Alarm (day tamper)	31	Set OP 2
13	Open	32	Set OP 3
14	Close	33	Set OP 4
15	Zone Omitted	34	Unset OP 1
16	Medical Assistance	35	Unset OP 2
17	Key Box	36	Unset OP 3
18	Anti-Mask	37	Unset OP 4

Notes:

1. 13 Open and 14 Close provide the same functions as 4 Open/Close, but on two separate channels.

2. 15 Zone Omitted – the control unit sends this signal for five seconds when a user omits a zone.

3. The control unit sends 08 RF Low Battery when the radio detector with a low battery causes an alarm or sends a supervision signal. To enable this facility in day mode set Menu 37 to option 1.

4. The control unit delays reporting/logging either mains loss, or exiting engineering with mains loss, by 15-18 min (chosen at random). If you select a Scandinavian country in Command 0, the control unit waits at least 60 minutes before reporting.

199: Display Zone Circuit Resistance

For information on this command, see "5.Testing".

200: Forbikobler Entry Timer

This Command sets the interval between a user entering the premises through a Forbikobler entrance and an alarm going off, using one of the independent entry timers configured with Commands 201 to 204. Any of the entry timers can be assigned to any Forbikobler entrance. Entering the entry code into the Forbikobler unit starts the selected entry timer.

Option

1 Entry Timer 1

2 Entry Timer 2

3 Entry Timer 3

4 Entry Timer 4

201 to 204: Entry Timers 1 to 4

Entry timers set the interval between a user entering the premises and an alarm going off. There are four independent entry timers so that you can set different intervals for different entrances, reflecting the time required to complete each entry route.

Note: These replace the level-specific timers available on earlier control units (formerly set with Commands 43, 64, 74 and 78). They provide a more flexible approach to timed entry routes, enabling any timer to be selected for any entrance.

Each entry timer can be assigned to any zone of types FE (Final Exit), ER (Entry Route) and FB (Forbikobler), using the zone programming Commands 01 to ✘40 (see page 61). Set zone attribute ✘7 to a value between one and four to select the required entry timer. Opening the zone starts the selected entry timer.

Option

1 10 seconds

2 20 seconds (default)

3 30 seconds

4 45 seconds

5 60 seconds

6 120 seconds

Note: By default, Entry Timer 1 is assigned to all relevant zones.

Setting Different Entry Timers for Different Entrances

Suppose that you have installed a system on a site that can be entered through a front door or through an integral garage with an internal door:

- When a user opens the front door, it may take only 20 seconds to step inside and enter an access code at a keypad in the lobby.
- In contrast, when the user drives in through the garage door and uses a remote setting device to open the external door (starting the entry timer), it may then take 120 seconds to park the car, get out, lock the car, unlock the internal door, go inside and enter an access code at the keypad.

Irrespective of levels or partitions, you can set one entry timer to 20 seconds and assign it to the front door, and set another entry timer to 120 seconds and assign it to the garage door.

To set up such a system:

1. Set Entry Timer 1 to 20 seconds: Command 201, option 2 (default).
2. Set Entry Timer 2 to 120 seconds: Command 202, option 6.
3. Set up an FE zone for the front door and use ✘7 to select Entry Timer 1: for example, zone 10 with type set to 05 (FE) and attribute ✘7 set to 1 (Entry Timer 1).
4. Set up an FE zone for the garage door and use ✘7 to select Entry Timer 2: for example, zone 11 with type set to 05 (FE) and attribute ✘7 set to 2 (Entry Timer 2).

The same principle applies equally well in any other situation where there are multiple entrances with entry routes of different lengths. Managing entry timers in this way enables you to assign the most appropriate of four intervals to each entrance, without being restricted by the way in which you have set up your levels or partitions.

Setting Entry Timers for both FE and ER Zones

Suppose that you have installed a system that uses the Final Door exit mode. In this case, the entry timer will usually be started when a user opens the final door. It might seem unnecessary to assign an entry timer to an ER zone set up inside but there are two types of situations which make it useful to do so.

1. In a house where the keypad is near the final door (for example, in the hall), the entry time for a user coming through the door and unsetting the system might be short (for example, 20 seconds). However, if the stairs from the bedrooms descend into the living room (rather than the hall) and you set up a detector there as an ER zone, users coming downstairs in the morning may need longer to reach the keypad and unset the system. Assigning a longer timer to the ER zone allows for this requirement.
2. If a final door develops a fault and has to be omitted from the system, the control unit treats ER zones as FE zones and so they need entry timers.

Using a Partitioned System

Introduction

When programming a control unit, there are two ways of changing from a single system to a partitioned system:

a) during initial power up

b) using Command 98.

To create a partitioned system during initial power up, see page 45.

If you have an existing control unit that has already been programmed as a single system and wish to convert it to a partitioned system, then:

1. Enter programming mode (if you are not already there).
2. Key in 98 ✔ at the keypad.

   The display shows: `Load Default`
3. Press 1 ✔ at the keypad.

   The display shows (for example): `Mult Sys?  OFF`
4. Either:
   Press 1 to create a partitioned system
   Or press 0 to create a single system.

   The display shows (for example): `Mult Sys?  ON`
5. Press ✔.

   The keypad gives a double "beep" confirmation tone and the control unit loads the factory default values, erasing all previously programmed values.

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

Programming Partitions

Once you have selected a partitioned system, you can use the following Commands to program each partition:

1. Use Commands 01 to 16 and ✘17 to ✘40 to assign each zone to a partition.

   Each zone defaults to Partition A.

   Press A to assign zones to Partition A.

   Press B to assign zones to Partition B.

   Press C to assign zones to Partition C.

   Press D to assign zones to Partition D.

   (See also "Setting Up A Common Area" on page 121.)
2. Use Command 32 to assign each keypad to a partition as required. By default all keypads belong to all partitions.
3. Program Exit Mode, Alarm Response and Exit Time for each partition:

Partition	A	B	C	D
Exit Mode	C39	C62	C72	C76
Alarm Response	C47	C63	C73	C77
Exit Time	C44	C65	C75	C79

4. Use Commands 81 to 84 to assign bell outputs to each partition as required.

   Option 18 assigns an output to Partition A

   Option 19 assigns an output to Partition B

   Option 20 assigns an output to Partition C

   Option 21 assigns an output to Partition D
5. Make sure that the master user understands how to assign individual user codes to each partition.

Differences in Commands for Partitioned Systems

When you are using a partitioned system, some Commands offer new options and others can no longer be used. The table below summarises the programming differences between partitioned and single systems.

Command	Partitioned system	Single system
01-40 Zone Programming	A to D = Partitions	A to D = Part Sets
28 Hide Status Display	"Partn. Set"	"Level Set"
32 Keypads and Partitions	Link keypad to partition	Not available
39 Level/Partition A Exit Mode	Opts 3 and 4 available	Opt 3 becomes Lockset Opt 4 not available
47 Partition A Alarm Response	Available	Not Available
60 Level B Final Exit	Not available	Available
61 Level B Entry Route	Not available	Available
62 Level/Partition B Exit Mode	Options change	
63 Level/Partition B Alarm Response	Options change	
70 Level C Final Exit	Not available	Available
71 Level C Entry Route	Not available	Available
72 Level/Partition C Exit Mode	Options change	
73 Level/Partition C Alarm Response	Options change	
76 Level/Partition D Exit Mode	Options change	
77 Level/Partition D Alarm Response	Options change	
81, 82, 83, 84 Outputs	18-21=Partition bells	Not available
	22-25=Strobe sets	Not available

Common Areas

Setting up a Common Area

You can create a common area linked to two or more partitions. The system sets the common area when the users have set all the linked partitions. When users enter the common area using the appropriate access code, the system unsets it and any partition selected by the user. The remaining partitions stay set.

The following sections show examples of how to use common areas.

Example 1. Four Offices and a Lobby

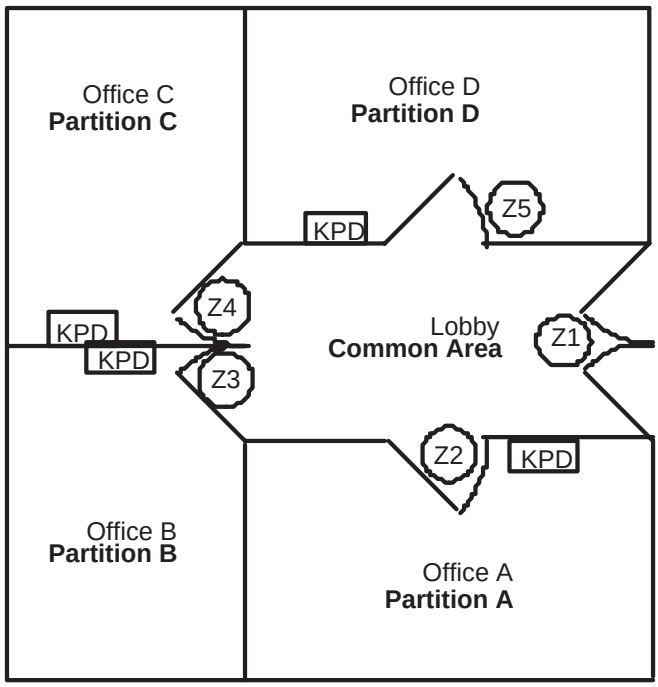


Figure 37. Using a Common Area

Four offices share a building, all using the same entrance lobby. The building owner wants to protect the lobby when the building is empty but cannot rely on the last office user to remember to set the alarm for the lobby on leaving.

The Installer fits keypads in each office and door contacts to the doors leading from the offices to the lobby (zones 2 to 5). The Installer also fits a door contact to the door leading from the lobby to the street (zone 1).

During programming, the Installer assigns each keypad and office door to one of Partitions A to D, and makes each office door a Final Exit zone. The Installer then makes zone 1 a Final Exit zone and assigns it to all the partitions.

To see how this works, start with what happens at the end of a working day when all the users leave the building. User A happens to leave first, and sets Partition A from the keypad in Office A. The control unit completes setting Partition A when the user closes zone 2. A few moments later, users B and C set their partitions. The control unit completes setting Partitions B and C when the users close zones 3 and 4 respectively. Finally, user D sets Partition D from the keypad in Office D. When the user closes zone 5, the control unit completes setting Partition D. However, the control unit maintains the exit tone because no one has opened and closed zone 1. When the user leaves the building and finally closes zone 1, the control unit also sets the common area.

In the morning, the users return to their offices at different times. The first user to return is user B. As user B opens the door from the street into the lobby, the control unit starts the entry timer. User B then opens zone 3 and unsets Partition B. The control unit stops the entry tone, unsets Partition B and the common area, and leaves Partitions A, C and D set. User C is the next to arrive. When user C opens zone 1 the control unit does nothing since the common area is already unset. The control unit starts the entry timer when user C opens zone 4. User C unsets Partition C and the control unit stops the entry timer, but leaves Partitions A and D set. As the morning goes on, users A and D arrive and unset their partitions in the same way.

Exit Methods

Example 1 uses Final Exit zones on the doors to complete setting of the system. You can also use Timed Exit zones on zones 2, 3, 4 and 5, with zone 1 as a Normal Alarm zone. In this case, the system sets the common area after the Exit Time for the last user to leave expires. However, you must make the Exit Time long enough to let the last user to leave close the door to their office, cross the lobby and close the last door before the exit timer expires.

Using Exit Terminate buttons is not recommended with common areas. If there is a single terminate button, one user can press the button while another is still crossing the lobby. If, on the other hand, you give each user a separate button, there is always the problem of a user pressing the wrong button.

Things to Avoid

If you use Final Exit Zones to complete setting of the system when all the users have left, you must not give any user separate access to the outside world. To see why, look at Figure 38 which shows two partitions sharing a common area.

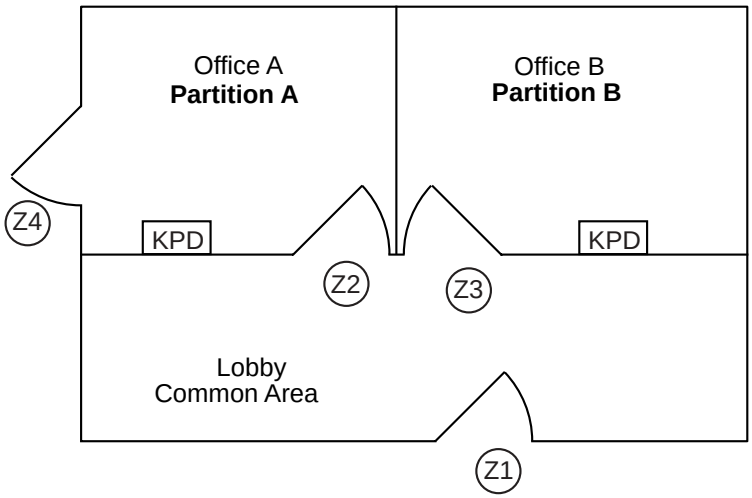


Figure 38. Using a Private Door

Partition A has a separate exit guarded by a Final Exit zone (zone 4). Partition B is set. User A starts setting at their keypad and then leaves by their private door on zone 4. The control unit is expecting to see zone 1 close in order to complete setting Partition A and the common area. However, since zone 1 has not opened and closed, the control unit does not set either Partition A or the common area.

In general, when using Final Exit, make sure that the exit route is always shared by increasing the number of partitions. Figure 39 shows an extreme example.

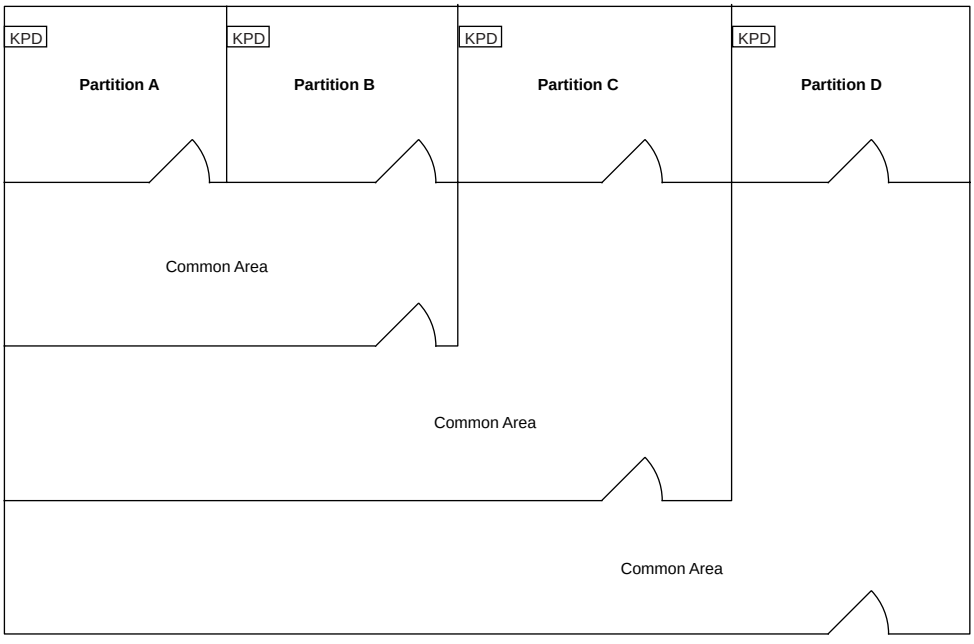


Figure 39. Arranging Shared Exit Routes

Example 2. Double Common Area

You are not limited to having one common area. Figure 40 shows three partitions sharing two common areas.

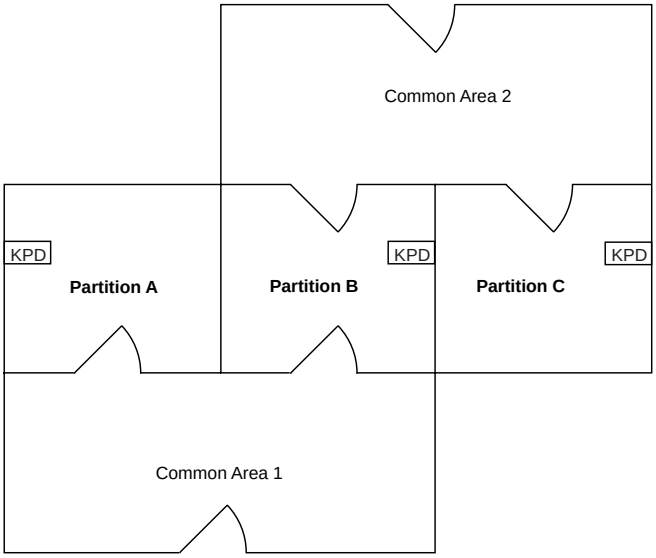


Figure 40. Using two Common Areas

The control unit sets Common Area 1 when users set Partitions A and B. The control unit sets Common Area 2 when users set Partitions B and C.

Example 3. Allowing Cleaners Access to the Common Area

In this example, three offices share a lobby but the building manager wants to allow cleaners into the lobby in the evening after all the users have left. To achieve this, the Installer uses Partition D to protect the lobby (see Figure 41).

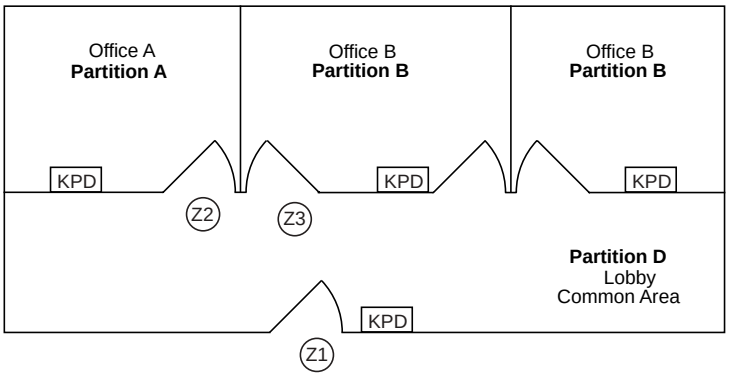


Figure 41. Allowing Cleaner Access to a Lobby

The Installer places one keypad in each office and one in the lobby. During programming, the Installer assigns each keypad to one partition, making the lobby Partition D, and assigns zone 1 to Partitions A, B, C and D, making it the common area. The Installer then assigns a user code for the cleaners to Partition D.

Partition D remains set during the day. Partitions A, B and C are unset, so the control unit leaves the common area unset. When users A, B and C leave at the end of the day the control unit sees that all partitions are set and sets the common area.

When the cleaners arrive in the evening, they open zone 1 and the control unit starts the entry timer. The cleaners unset Partition D and the control unit unsets the common area but leaves Partitions A, B and C set. When the cleaners have finished, they set Partition D again and the control unit sets the common area. In the morning, the first user to arrive unsets their partition, and the control unit unsets the common area, leaving the other partitions (including D) set.

If you do not use a common area and simply assign the lobby to Partition D, you still have the problem of ensuring that the last user to leave sets Partition D. If they forget, the lobby is unprotected in the time between the users leaving and the cleaners arriving.

Note: You cannot use plug-on or plug-by communications in this scenario. Partition D is set while Partitions A, B and C are unset. Partitions A, B and C are set while Partition D is unset. Therefore, the plug-on or plug-by communicator would indicate a closed system all the time.

ACPO DD243: 2002 Compliance

Applicability

Please study this section if **all** of the following apply:

1. You are installing an IAS in England, Wales or Northern Ireland.
2. The system has remote signalling and requires the local Police Authority to issue a URN (Unique Reference Number).
3. You have chosen to use "Sequential Alarm Confirmation" to comply with DD243: 2002.

For Installers in Scotland, the ACPOS-IAS policy document states:

"Confirmation technology (BS DD243 applies) is desirable for newly installed systems but is not mandatory in terms of this policy."

Cooper Security therefore recommends that systems in Scotland are installed to comply with DD243:2002, and Installers obtain copies of the ACPOS policy from their local Police Authority.

Note: The installed system will only fully comply with the requirements of DD243: 2002 if it has been designed in accordance with this section.

Programming for Compliance

Please use the following recommended Commands to ensure that the installation is correctly programmed.

Command	Name	Value	Notes
33	System Reset	1	Engineer Reset. In addition various other forms of reset can be used such as remote reset or anti-code (if the CSID code has been programmed into the control unit).
81-84	Output types		There are three new output types that you can use to indicate the status of the system: Alarm Confirm, Set Complete and Unset Complete.
89	Alarm Confirmation	1	Enabled
Note: The following Commands are available only if Alarm Confirmation is enabled.			
48	Lockout Keypads During Entry	1	Yes. Use this option to comply with section 6.4.5.
160	Confirm Time	30	Default.
161	Internal Sounder		Sounder on confirmed or unconfirmed alarm.
162	External Sounder		Sounder on confirmed or unconfirmed alarm.
163	Confirm After Entry	0	When a user starts the entry timer, the control unit disables Alarm Confirmation. Use this option to comply with sections 6.4.3, 6.4.4 and 6.4.6.
		2	The control unit starts a confirmed alarm if an intruder activates two separate zones after the entry timer expires. Use this option to comply with section 6.4.5.
164	User Reset After Confirmed Alarm	1	Enabled to allow users to reset the system after a confirmed alarm.

The table below summarises which options to select on various Commands in order to comply with paragraphs 6.4.2 to 6.4.6.

DD243: 2002 Para:		**6.4.2**	**6.4.3**	**6.4.4**	**6.4.5**	**6.4.6**
Possible Installation / **Command**		Unset from outside using a keyswitch zone input	Exit Mode of "Lock Set"	Keypad and User access code	Portable ACE (with reader inside premises)	Requires ARC to unset
89	**Alarm Confirmation**	Enabled				
160	**Confirmation Time**	30 to 60 minutes				
48	**Lockout Keypads During Entry**	No (Option 0)	No (Option 0)	No (Option 0)	Yes (Option 1)	No (Option 0)
163	**Confirmation on Entry**	Never (Option 0)	Never (Option 0)	Never (Option 0)	Two zones (Option 2)	Never (Option 0)
164	**User Reset After Confirmation**	Enabled (Option 1)	Enabled (Option 1)	Disabled (Option 0 or 2)	Disabled (Option 0 or 2)	Enabled (Option 1)

Alarm Filtering

The IAS should either:

a) Have the means to indicate to the ARC whether the IAS is set or unset (open and close signals).

or

b) Be capable of generating a secondary signal identifiable at the ARC as a mis-operation signal (see Command 36 Alarm Abort).

5. TESTING

90: Reading the Event Log

The control unit keeps a log of recent events. The log can contain up to 250 events. Each event is described by a short text message. To review the event log, make sure the system is in programming mode and then:

1. Key in 90✔.
   The display shows the most recent event in the log.
2. Key in 1 to show earlier events or 3 to show later events.
3. Key in 4 to show the first event or 6 to show the last event.
4. Press ✔ to toggle between the event message and the event time.
5. Press ✘ to leave the log.

The table on the following pages shows the messages that can be recorded in the event log. Column 1 lists messages shown on the keypad displays and column 2 lists corresponding messages in the printed log (9851 only). Each event in the printed log is preceded by the date and time in numerical format.

Note: Neither the Installer nor the user can erase the log.

In the log, user codes are represented by numbers:

U00	Installer	U19	Idle
U01	User code 1	U20	PA
...	...	U21	Keyswitch
U16	User code 16	U22	Remote reset
U17	Duress Code	U23	Download
U18	Control unit	U24	Virtual keypad

Printing the Event Log (9851 only)

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

To toggle the logging printer on and off, key in 90 ✔ 7. The keypad gives a Chime tone when the printer is turned on and a "beep beep" confirmation tone when the printer is turned off. This is a test mode and is cancelled if power is lost. Use Command 180 to turn printing on indefinitely.

Figure 42 shows a sample of a printed log.

```
– 9851 -
 14/12/01 18:42:30 Sounder Tamper
 <END OF LOG>
```

Figure 42. Sample Log Print

To print a listing of the control unit's configuration, key in 90 8 ✔.

Note: 975x models do not have the connector required for event log printing.

Event Log Messages

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

Keypad Display	Printed (9851 only)*	Meaning
AC Fail	AC Lost	Mains supply failed
AC Restore	AC Restore	Mains supply restored
Al Conf Dis Knn	Al Conf Dis KEYPAD	Alarm confirmation disabled by lock switch
Alarm Abort	USER Alarm Abort	User aborted alarm
Al Confirm Znn	Confirmed Znn	Confirmed alarm on zone nn
AntiMask Al Znn	Anti Mask Alarm ZONE	Anti Mask alarm on zone nn
AntiMask Rs Znn	Anti Mask Restore ZONE	Anti Mask zone nn restored
AntiMask Tp Znn	Anti Mask Tamp. ZONE	Tamper on antimask zone nn
AUX DC Fail	AUX Trouble	Auxiliary power failed
AUX DC Fail Rstr	AUX Restore	Auxiliary power restored
Bad Checksum	EEPROM Failure	The control unit has detected data corruption in its memory
Batt Flt Rstr	Battery Restored	Battery re-connected
Batt Load Fail	Batt Load Test Fail	Battery failed load test
Batt Missing	Battery Missing	Batter disconnected
Bell Tamper Rst	Bell Tamper Restore	Tamper on bell restored
Bell Tamper	Bell Tamper	Bell tamper
Burg Znn Alarm	Burg: ZONE	Intruder alarm on zone nn
Burg Znn Rstr	Burg Restore ZONE	Intruder alarm on zone nn restored
Codes Defaulted	Passwords Loaded	User access codes and installer code returned to default values
Comms Fail	PlugOn Coms Fail	(9851) Communication failure
Defaults Loaded	Defaults Loaded	All programming defaults loaded
EEPROM Fail	EEPROM Bad Data	Control unit memory damaged
Exp nn Tamper	Exp. Tamper	Expander tamper alarm
Exp nn Tamp Rst	Exp. Tamper Restore	Expander tamper alarm restored
Expander nn Miss	Expander Missing	Expander disconnected
Expander nn Rest	Expander Restored	Expander reconnected
Fire Reset	USER Fire Reset	Fire alarm on zone nn reset
Fire Znn Alarm	Fire ZONE	Fire alarm on zone nn
Fire Znn Rstr	Fire Restore ZONE	Fire alarm on zone nn restored
Global T. Restore	Global T. Restore	Global zone tamper alarm restored
Global Tamper	Global Tamper	Global zone tamper alarm
Knn Excess Keys	Tamper Usercode KEYPAD	User has tried to enter access code too many times on keypad nn
Knn Missing	K/P Missing KEYPAD	Keypad nn disconnected
Knn Restore	K/P Miss Restore KEYPAD	Keypad nn re-connected

Keypad Display	Printed (9851 only)*	Meaning
Knn Tamper	Tamper K/P KEYPAD	Tamper alarm on keypad nn
Tamper Knn Restr	Tamper K/P Restore KEYPAD	Tamper alarm on keypad nn
Fr Knn Alarm	K/P Fire KEYPAD	Fire alarm started at keypad nn
Md Knn Alarm	K/P Medi KEYPAD	Medical alarm started at keypad nn
Key Sw Set Znn	Key Switch Set LEVEL	System set by keyswitch on level/partition n
KeySw Unset Znn	Key Switch Unset LEVEL	System unset by keyswitch on level/partition n
Key Box Cls Znn	Keybox Close ZONE	Keybox on zone nn closed
Key Box Opn Znn	Keybox Open ZONE	Keybox on zone nn opened
Lid Tamper	Lid Tamper	Control unit lid tamper alarm
Lid Tamper Restore	Lid Tamper Restore	Control unit lid tamper alarm restored
Low Bat Znn	Tx Lo Batt ZONE	Low battery detected on radio zone nn
Low Bat Znn Rstr	Tx Lo Batt Restore ZONE	Low battery on radio zone nn restored
Low Batt Rstr	Low battery Restore	Control unit low battery restored
Low Battery	Low Battery	Low battery on control unit
PA Knn Alarm	K/P PA KEYPAD	Panic alarm raised from keypad nn
PA Znn Alarm	Panic Alarm ZONE	Panic alarm raised from zone nn
PA Znn Rstr	Panic Restore ZONE	Panic alarm on zone nn restored
RF Jamming	Jamming Start	Radio jamming detected
RF Jamming Rstr	Jamming End	Radio jamming removed
RF Sup Fail Znn	Supervision Fail ZONE	Radio detector on zone nn failed supervision
RF Sup Rstr Znn	Super'ion Restore ZONE	Radio detector on zone nn restored to supervision
Set Fail Znn	USER Exit Timeout ZONE	System setting failed because of fault on zone nn
Smk Det Alm Znn	Smoke Det. Alarm ZONE	Smoke detector alarm on zone nn
Smk Det Res Znn	Smoke Det. restore ZONE	Smoke detector on zone nn restored
Soak Fail Znn	Test Zone Fail ZONE	Soak fail test on zone nn caused alarm
System Rearmed	Rearmed	System rearmed
System Startup	Startup	Power applied to system
System Tamper	System Tamp	System Tamper
System Tamper Rst	System Tamp Restore	System Tamper restored
Tamper Znn	Tamper ZONE	Zone nn cause tamper alarm
Tamper Znn	Tamper in Day ZONE	Zone nn cause tamper alarm during day/unset
Tamper Znn Rstr	Tamp Restore ZONE	Tamper alarm on zone nn restored
Tech Znn Alarm	TA ZONE	Technical alarm on zone nn
Tech Znn Rstr	TA Restore ZONE	Technical alarm restored on zone nn
Tel Line Fault	Tel Line Fault	Telephone line fault detected
Tel Line Rstr	Tel Line Restore	Telephone line restored
Telecmd Low Bat	Telecomm Low Battery	PA low battery

Keypad Display	Printed (9851 only)*	Meaning
Telecmmd PA	Telecmd Panic	PA started from PA
Test Call	Man Trig Test	Test call made
Test Call	Periodic Test	The control unit made a test call
Unn Change Unn	USER Changed USER	User nn changed access code for user nn
Unn Delete Unn	USER Deleted USER	User nn deleted access code for user nn
Unn Off-Site	USER Prog. Mode End	Engineer exited programming mode
Unn On-Site	USER Prog. Mode	Engineer entered programming mode
Bypass Supr. Znn	USER Sup. Bypass ZONE	Supervision on zone nn bypassed
Unn System Reset	USER Reset	User nn reset system
Unn Ptn a Reset	USER Reset LEVEL	User nn reset level/partition a
Unn a Set	USER Armed LEVEL	User nn set level/partition a
Unn a UnSet	USER Disarm LEVEL	User nn unset level/partition a
Unn System Unset	USER Duress	Duress code used to Unset system
Unn Time/Date	USER Reset Time/Date	User nn changed the time and date
Unn Znn Omit	USER Omitted ZONE	User nn omitted zone nn
Unn Znn Unomit	Zone Unomit ZONE	User nn un-omitted zone nn
Unn Dload Fail	Download FAIL	Download failed
Unn Remote Dload	Download OK	Download completed successfully
Fnn Missing	Forbi Missing FORBI	Forbi nn disconnected
Fnn Restore	Forbi Miss Restore FORBI	Forbi nn reconnected
Fnn Tamper	Forbi Tamper FORBI	Forbi nn tamper alarm
Tamper Fnn Rst	Forbi Tamp Restore FORBI	Forbi nn tamper alarm restored
Forbi I/F Tamper	Forbi I/F Tamper	Forbi Interface tamper alarm
Frb I/F Tamp Rst	Forbi I/F Tamper Restore	Forbi Interface tamper alarm restored
Forbi Lp Tamper	Forbi Lp Tamper	Forbi Loop tamper alarm
Frb Lp Tamp Rst	Forbi Lp Tamper Restore	Forbi Loop tamper alarm restored

91 to 96: Testing Outputs

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 ✔ 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.

96✔ To test output 4 (9851 only).

97: Engineer Walk Test

This function enables 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 display shows: "A:Zone:" and the zone number of every detector you have tested, in sequence and for one second each. If you also test the tampers on each zone, the display shows the letter "T" against each zone number.
4. Press ✘ to stop the Walk Test.

*Note: The engineer Walk Test enables you to test **all** zones, including PA zones, zone tampers, and control unit and bell tampers. The user Walk Test does not enable you to test tampers or PA, Fire, 24-hour and Technical zones.*

199: Display Zone Circuit Resistance

This Command lets you step through the zones connected to the control unit, viewing the resistance of the circuit connected to each. Use the 1 (down) and 3 (up) keys to step through the list of zones. The display shows the resistance of the circuit in ohms, or O/C for open circuit.

Index

Declaration of Conformance

Cooper Security Ltd issues this certificate to certify that the equipment known as:

9751/9752/9851

Complies with the following directive:

1995/5/EC R&TTE Directive

Signed

Stewart Taylor, Technical Director

Date: 4 September 2002

Cooper Security Ltd.
Security House
Vantage Point Business Village
Mitcheldean
Gloucestershire
GL17 0SZ
www.scantronic.co.uk
Product Support (UK) Tel: (09068) 616343.
Available between:
08:15 and 17:00 Monday to Thursday,
08:15 and 12:45 Friday.
Emergency service only between 12:45 and 17:00 Friday.
(CALLS CHARGED AT 60p PER MINUTE)
Product Support Fax: (01594) 545471
Part Number 496964 Issue d
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