C&K SYSTEMS Securitech

INSTALLATION MANUAL

SECURIT 800L+ CONTROL PANEL	ST800L+

CE

CONTENTS

WARNINGS

Prolonged short circuit of any supply can cause damage to the unit.

Take the necessary precautions in not allowing liquids to spill on or into the unit.

STANDARDS

This unit conforms to ECD 89/336/EEC & LVD 73/23/EEC. It has been tested and proven to meet all current emission and immunity regulations as set out by the EEC. This unit complies with BS4737 part 1 1988 which relates to security control equipment.

WARRANTY STATEMENT

C & K Systems offers a two and a half year warranty from the date of manufacture for this product.

If for some reason the unit fails in the first six months, C & K will replace the unit free of charge. If it fails in the remaining two years, return the unit to C & K systems, and we will test the unit. If it is found "customer damaged," a charge will incur. Otherwise the unit will be repaired and returned free of charge.

PRODUCT DESCRIPTION

The Securit 800L+ is an 8-zone programmable microprocessor control panel using state of the art technology and manufacturing techniques. The control panel has many advanced features that can only be found in more expensive control panels. These features include two user codes, Chime, Fire, and Keypad PA. Many options in the programming functions allow the control panel to be versatile and user friendly. This panel is the ideal choice for residential and light commercial installations.

AVAILABLE PARTS

The following selection of spares and extras are available:

- Remote Keypad - giving full control over the control panel.

- Spare PCB - for replacement in the event of failure.

- Keyswitch - giving simple set/unset operation.

You can obtain these items from your original place of purchase.

INTENDED USE

This control panel is designed to be used in residential and light commercial applications such as homes, small shops, and so on.

The following information explains the specifications of the panel.

PROCESSOR VERSION

SPECIFICATION FOR SOFTWARE REVISION NUMBER   V2.0

The software revision number is located on the top of the main processor.

SPECIFICATION

POWER SUPPLY

Power Supply
Mains Supply Voltage	230 V AC Nominal
PSU output voltage	13.7 V Nominal
Maximum output current	1 A (total)
Aux. current	500 mA Max.
Battery Fuse	1 A (20 mm)
Panel Quiescent	40 mA

KEYPADS

Keypads
Supply Voltage	13.7 V
Quiescent Current	20 mA
Active	45 mA
Maximum number allowed	6

GENERAL

General	For internal use only
Normal operating temperature	0°C to 40°C
Humidity	10 to 90% R.H. non condensing
Dimensions	263 mm (W) 223 mm (H) 82 mm (D)
Control Panel Weight	2.7 kg Excluding Battery
Stand by Battery	7.0Ahr max. valnve regulated lead acid
Standby Time (load dependent)	24 hrs with 2.8Ahr nom.
	60 hrs with 7.0Ahr nom. based on
	(panel+keypad+2*PIR=40+20+25+25mA)
Cable run per zone/circuit	100m max with 50mA load
Cable run (alarm sounder)	50m max with 7/0.2 cable
	100 max with 16/0.2 or 7/0.2 paralleled

FACTORY DEFAULTS

Factory Defaults
User/customer Code 1	1234
User/customer Code 2	Disabled (0000)
Engineer Code	7890
Circuit 1	Entry Circuit. (Fixed)
Circuit 2	Alarm Circuit isolated in Night set.
Circuit 3	Alarm Circuit.
Circuit 4	Alarm Circuit.
Circuit 5	Alarm Circuit.
Circuit 6	Alarm Circuit.
Circuit 7	Alarm Circuit.
Circuit 8	P.A (Personal Attack)
Full Set Exit Time	30 Seconds
Night set Exit Time	15 Seconds
Entry time	30 Seconds
Sounder Ring Time	15 Minutes
Chimes	Disabled

INSTALLATION

Locate the control panel out of sight, such as in a hall, or under stairs or a cupboard, where connection is easy and the detector zone and mains cables can be concealed. Avoid areas subject to high temperature or humidity, such as next to a boiler/heater, in an airing-cupboard, or conservatory.

When fitting the keypad(s), site them where they are not visible from outside, but where there is adequate light and accessibility for the user.

MOUNTING

1. Remove the lid screws and the lid.
2. Remove the printed circuit board (PCB) or keypad packaging.
3. Place the panel in the selected position and mark three fixing holes.
4. Mount the panel securely using all three mounting hole positions.
5. Attach tamper spring and mount PCB onto the support pillars.

Note: for Mounting Remote Keypad see page 7.

WIRING THE CONTROL PANEL

WARNING – MAINS CONNECTION

The panel must be permanently connected to the mains supply in accordance with current IEE wiring regulation. A 5 amp fused spur, installed by a qualified electrician, is strongly recommended. Any fault which could be mains related must be diagnosed and corrected by a qualified electrician to ensure continued safe operation.

CAUTION: Under certain circumstances the transformer metalwork can reach 70° C. This is normal and well within prescribed limits.

Battery Connection

Maximum battery size is 12V 7.0Ah.

This panel requires a standby battery to be fitted to provide power in the event of mains failure. A valve regulated lead acid battery must be used.

Detector Circuits

Connections are provided for up to eight detector circuits of which normally closed detection devices must be used. A common tamper loop is provided for all detection devices marked as 24 HR Tamper. One or more devices may be connected to each alarm circuit. These should be connected in a series configuration. These circuit connections are located to the bottom right of the PCB (see Diagram B).

PIR Latch Line (L+)

In the event of two or more detectors (motion sensors or glassbreak detectors) being fitted to any single zone, latching detectors should be used. The L+ connection provides this function. It is low (0 V) when unset and high (12 V) when set. It should be connected to the appropriate SET or LATCH terminal in your detector. See glossary for explanation.
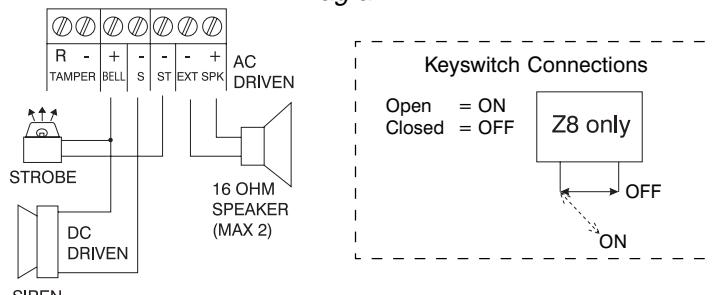
Detector reset (L+ when programmed for ID)

Some detectors require the removal of power to reset (such as Viper Plus® or Smoke detectors). You can program the L+ terminal to be used as an ID output using option 7-4. The L+ terminal should then be used as the negative supply for these devices. The positive supply should be taken from the AUX +.

Internal Sounders, Speakers, Strobe and Keyswitch Wiring

Diagram A

A maximum of two 16 ohm speakers may be fitted in parallel.

External Sounder & Strobe
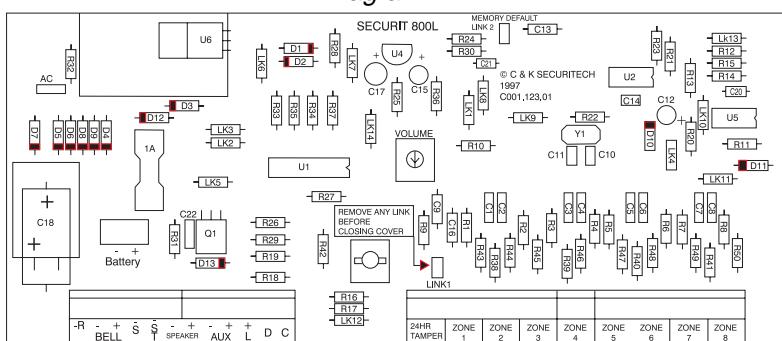
Diagram A shows the connection for external sounder and strobe. Please note that the sounder trigger is applied negative (Negative ring).

ST-   Strobe switched negative trigger.
S -   Sounder switched negative trigger
+   Sounder hold off/strobe positive supply.
-    Sounder hold off supply & sounder tamper feed (negative).
-R   Sounder tamper return (negative).

AUX DC - Detector power

The auxiliary power is provided from connections marked AUX. This is to provide the 12 V supply for detectors such as movement or glassbreak detectors. The auxiliary power output is rated at 500 mA max (12 VCD nominal). (See Diagram B.)

Diagram B

MOUNTING A REMOTE KEYPAD

1 Choose the keypad location, and then mark holes for mounting.
2 Make sure the cable is run through the backbox.
3 Screw the backbox in the selected position, making sure the cable is not twisted.
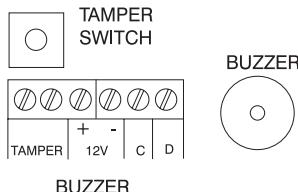
WIRING A REMOTE KEYPAD

Use 6 core cable for connection of all remote keypads.

Connect the cable into the terminals shown in Diagram C, making sure each wire goes to a like-named terminal in the panel. C goes to C, D to D, + to + and - to -. Wire the tamper wires in series with your existing tamper loop.

You do not need to identify individual keypads to the system. If you use more than one remote keypad, either wire it back to the control panel or daisy-chain it from another keypad. Wire all connections in parallel with the exception of the tamper circuit which you MUST wire in series. (See the Glossary for series and parallel examples.)

Diagram C

TAMPER
SWITCH

BUZZER

TAMPER | + | - | C | D
12V

BUZZER

POWERING UP

INITIAL POWER UP

Note: Keep the lid off the main control panel in order to enter engineer mode. Alternatively, you can enter **7890 #** to enter engineer mode.

1 Switch the mains supply ON. The internal sounder then starts.
This denotes a tamper alarm.

2 Enter **1 2 3 4** followed by the **#** (hash) button. This silences the sounder, and the TAMPER LED flashes.
This has now acknowledged and cancelled the alarm; however, because either the panel or keypad lid is removed, your main tamper loop is open. This is normal at this time.

3 Connect the battery and walk test the control panel.
This ensures all zones are clear.

4 Power Down and complete the wiring of the control panel.
NEVER wire the control panel live.

5 Power back up, cancel the alarm, and enter engineering mode by entering **7, 8, 9, 0**.
The panel is now ready for programming.

NO PROGRAMMING NEEDED?

If no programming is required, close any lids that are open and press the **#** key. This exits engineering mode. Then refer to the Users Manual for customer options.

EXIT ENGINEERING MODE

If at any time you want to exit engineering mode, confirm any options you have selected with the ***** (STAR) key. Then close ALL tamper circuits and wait for approximately 60 seconds after which the panel automatically exits engineering mode. Pressing the **#** key manually exits engineering.

RE-ENTER ENGINEERING MODE

If at any time you want to re-enter engineering mode, enter the engineering code and then press the **#** key. This forces the panel into engineering mode. **Note:** If left unattended for approximately 60 seconds, it reverts to day mode.

STAY IN ENGINEERING MODE

If you need to stay in engineering mode for longer unattended periods, once in engineering mode, open a tamper circuit. The easiest way to do this is to remove the lid of the panel or keypad.

PROGRAMMING

TIMERS

Once the panel is in engineering mode, the following options are available.

EXIT TIME

EXIT TIME 3-0 (Range 10-90 seconds)

Enter **3-0**. The factory default is 30 seconds. You can program a new time by entering one key from the following list.

Enter **1**	10 Seconds. LED 1 on.
Enter **2**	15 Seconds. LED 2 on.
Enter **3**	30 Seconds. LED 3 on. (Default)
Enter **4**	45 Seconds. LED 4 on.
Enter **5**	60 Seconds. LED 5 on.
Enter **6**	90 Seconds. LED 6 on.

After choosing the desired option, press ***** to confirm. The accept tone then sounds.

ENTRY TIME

ENTRY TIME 3-1 (Range 10-90 seconds)

Enter **3-1**. The factory default is 30 seconds. To reprogram the entry time, enter one key from the following list.

Enter **1**	10 Seconds. LED 1 on.
Enter **2**	15 Seconds. LED 2 on.
Enter **3**	30 Seconds. LED 3 on. (Default)
Enter **4**	45 Seconds. LED 4 on.
Enter **5**	60 Seconds. LED 5 on.
Enter **6**	90 Seconds. LED 6 on.

Press ***** to confirm the option. The accept tone then sounds.

SOUNDER DURATION 3-2 (Range 3-20 minutes)

Enter **3-2**. The factory default is 15 minutes. You can program a new time by entering one key from the following table.

Enter 1	3 minutes. LED 1 on.
Enter 2	4 minutes. LED 2 on.
Enter 3	5 minutes. LED 3 on.
Enter 4	10 minutes. LED 4 on.
Enter 5	15 minutes. LED 5 on. (default)
Enter 6	20 minutes. LED 6 on.

Press ***** to confirm the selection. The accept tone then sounds.

NIGHT SET/HOME SET EXIT TIME 3-3 (Range 0-90 seconds)

Enter **3-3**. The factory default is 15 seconds. You can program a new time by entering one key from the following table.

Enter 0	0 Seconds. All LEDs off (Instant).
Enter 1	10 Seconds. LED 1 on.
Enter 2	15 Seconds. LED 2 on. (default)
Enter 3	30 Seconds. LED 3 on.
Enter 4	45 Seconds. LED 4 on.
Enter 5	60 Seconds. LED 5 on.
Enter 6	90 Seconds. LED 6 on.

Press ***** to confirm the selection. The accept tone then sounds.

Note: If extension speakers are fitted in Night and Home set, you can alter the exit sounder volume by the control on the PCB marked **VOLUME**.

Option Code	Option Description	Results from choosing option no.						
		0	1	2	3	4	5	6
3-0	Exit Time (secs)		10	15	30	45	60	90
3-1	Entry Time (secs)		10	15	30	45	60	90
3-2	Sounder Duration (mins)		3	4	5	10	15	20
3-3	Night / Home Exit (secs)	0	10	15	30	45	60	90

After you enter the user code, the sounder starts at the lower controlled volume. The volume increases after 5 seconds if Night or Home set are not selected.

Examples

Change the full set Exit Time to 60 seconds

ENTER THIS	3-0	5	*
Description	Choose Full Set	Select 60 seconds	Confirm selection

Change the Sounder Duration to 3 minutes

ENTER THIS	3-2	1	*
Description	Choose Sounder	Select 3 minutes	Confirm selection

Change the Entry Time to 45 seconds

ENTER THIS	3-1	4	*
Description	Choose Entry	Select 45 seconds	Confirm selection

CIRCUIT PROGRAMMING 4 (Range 2-7)

You can program circuits 2-7 to suit your requirements. Circuit 1 is fixed as a Final exit circuit. Circuit 8 has limited options.

ENTER	PROGRAM ZONE
4 - 2	2
4 - 3	3
4 - 4	4
4 - 5	5

ENTER	PROGRAM ZONE
4 - 6	6
4 - 7	7
4 - 8	8

Select the circuit you want to alter. You can then program that circuit by entering one key from the following table.

N/S = Night Set

Option no.	Zones 2-7	Zone 8
1	Alarm	Alarm
2	Alarm with walk through	Fire
3	Alarm & Isolate in Night Set	PA
4	Alarm, Walk through & Isolate in N/S	Momentary Keyswitch
5	Alarm, Walk through & N/S Entry	
6	Fire	
7	Entry Route	
8	P.A	

See the glossary for descriptions of zone types.

After you select the option, press ***** to confirm. The accept tone then sounds.

To program zone 3 as an "Entry Route" enter **- 4 3 7 ***
To program zone 8 as a "Keyswitch" enter **- 4 8 4 ***
Momentary Keyswitch   Turn and hold for 0.5 seconds = FULL SET
                                        Turn and hold for 2.0 seconds = PART SET

EXTENDED PROGRAMMING OPTIONS 7 (Range 1-8)

The control panel offers the following additional options.

Enter **7 - 1**   Disables sounder and strobe in Night Set.
Enter **7 - 2**   Chime Enable (See User Manual for zone allocation).
Enter **7 - 3**   Full set door sense setting.
Enter **7 - 4**   Convert L+ to ID- output.
Enter **7 - 5**   Allow Manual Isolation of Zone 1 (Entry/Exit) In Night Set.
Enter **7 - 6**   Remote Keypad PA Enable (Operated by * and #).
Enter **7 - 7**   L+ signals first to alarm.
Enter **7 - 8**   Inhibit strobe in Night and Home set and test (for speech dialer connection).
Press ***** to confirm. The accept tone then sounds.

HOME SET ZONE SELECTION 8 (Range 1-8 N/A if Fire or PA)

The Home Set feature enables parts of the premises to be alarm protected while other parts are occupied and in use. This feature is similar to Night Set except that an Exit/Entry route is not required as part of the Setting or Unsetting procedure.

In programming mode press **8** to select Home Set zone selection mode.

By pressing the keys **1-8** on the keypad, you can select which zones to be ISOLATED during Home Set. As you press a key, its relevant LED on the display toggles ON or OFF. Any LEDs that are ON are ISOLATED during Home Set, and any that are OFF remain ACTIVE.

ENGINEER ACCESS CODE 1-1

The default engineer access code is 7890. To change this code (while in engineering mode), complete the following procedure.

1   Enter **1-1**.
   LEDs 1, 2, 3 and 4 illuminate.

2   Enter the new 4-digit code.
   After each key-press, one LED goes out.

The speaker emits an accept tone if the new code is accepted.

If the speaker emits an error tone, then your new chosen code is invalid. This could be due to a conflict with another code. At this time your old access code is still valid. Repeat the procedure using a different code.

ENGINEER EVENT LOG REVIEW 5 (Choices of set & unset)

The panel stores the last 9 set and unset states and the last alarm event. The log is arranged into SET and UNSET events. Log entries indicate the first and subsequent alarms as well as isolated circuits. First to alarm is shown by the LED being ON continuously. Subsequent alarms are shown by the LED(s) flashing, and isolated circuits are shown by LED(s) pulsing slowly. The buzzer sounds whilst reviewing the SET logs and is silent whilst reviewing the UNSET logs.

To view the engineer logs, press the **5** key from the program mode. The log starts viewing DAY 1 SET. View the remaining logs by pressing the relevant key **2** for 2nd, **3** for 3rd, and so on up to **9**. Press the **0** key to get the last alarm condition.

The **#** key alternates between SET and UNSET logs and can be used at any time.

Pressing ***** exits the log displays and returns the main engineering mode.

ENGINEER TEST OPTIONS 6 (Range 0-5)

To conduct testing activities, first press the **6** key from within engineering mode and then one of the following options.

   Enter **0**   Internal buzzer (entry exit sound etc.)
   Enter **1**   Internal Sounder (Alarm sounds from speaker/keypad)
   Enter **2**   External Sounder
   Enter **3**   External Strobe
   Enter **4**   L+ Terminal (even if programmed as ID-)
   Enter **5**   FULL LOAD (Everything enabled)

Press ***** to finish and return to main engineering mode.

FACTORY PROGRAMMING DEFAULTS 9-9

Restoring Programming Defaults

Enter **9-9**. The sounder gives a rapid pipping sound. Wait for 5 seconds. An accept tone sounds, and the factory programming defaults are restored. The user and engineer codes do not change. **Note:** If any keys are pressed, this procedure is aborted.

Restoring Code Defaults

1   Place the small link supplied with the spare fuses on the memory link. *This link is located above the volume control and is labelled "Memory Default".*
2   Remove the mains and battery supply.
3   Wait a few seconds, and then reconnect the battery and then the mains. *Refer to page 7 regarding initial power up. The speaker omits the accept tone, and the factory user code defaults are restored.*
4   **Be sure to remove the link**.

Locking the Engineer Code

Use this option with care. You can lock the engineer code to prevent unauthorised alteration. To enable this the engineer code must end in 9. If the engineer code is lost, it will not be possible to enter engineer mode; the PCB will need to be replaced. This is considered a "chargeable repair".

GLOSSARY OF TERMS

FULL SET
A setting method to use when leaving the premises. Full system armed.

NIGHT SET
A setting method to use when going to bed.

HOME SET
A setting method to use for high security protection whilst still inside the premises (an antiques cabinet, for example).

ALARM
A zone that triggers the panel when activated, providing the panel is set.

WALK THROUGH
This zone is disabled during an entry period.

ISOLATE IN NIGHT SET
The zone is disabled when the panel is NIGHT SET. For example, downstairs may be armed, but upstairs may be disabled.

NIGHT SET ENTRY
When the panel is NIGHT SET, the zone, when activated, starts the entry timer; but, if the panel is FULL SET, this zone acts as an ALARM zone.

ENTRY CIRCUIT
Starts the entry timer when activated providing the panel is set.

FIRE (for use with smoke detectors)
A zone that when activated emits an ascending sound from any internal speakers. If the panel is set, external sirens and strobes also sound, but in an unset state the external sounders pulse every two seconds.

TAMPER
A loop that should run through every device on your system. If broken, it triggers the internal speakers. If the panel is set, external sounders and strobes also trigger. The tamper LED appears on the keypad as **TPR.**

CHIME
Chime is similar to a doorbell. This can be used to alert a user to a certain zone being triggered during the day.

DOOR SENSE SETTING
Allows you to have a variable FULL SET EXIT TIME. You can program the EXIT time to maximum, and when you FULL SET the system, the exit time drops to 8 seconds as soon as the EXIT door has closed, thus avoiding the preset exit time.

FULL SET KEYSWITCH
Allows the panel to be set, unset and reset through zone 8.
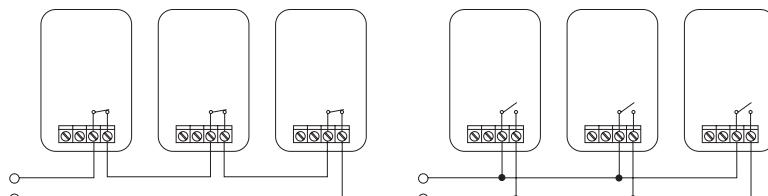
Note. The keyswitch should be a spring loaded momentary type. To use the keyswitch for setting, unsetting and so on, connect across zone 8 and program that zone to be KEYSWITCH. To SET the panel, turn the key so the contacts are open. Hold in this position for about a second for full set or about 2 seconds for NIGHT SET. To UNSET the panel, turn and hold for about ½ second. To Reset you must open and close the KEYSWITCH after an alarm condition.

**THE ACCEPT TONE**
Heard when an action is accepted.

THE ERROR TONE
Heard when an action is not accepted.

SERIES AND PARALLEL

LATCHING DETECTORS
These detectors, when triggered during a set period, latch on to aid the process of alarm event origin checking. Use these detectors if many detectors are to be used on a single zone but are to cover a large area of space.

THIS INFORMATION SHOULD BE KEPT EITHER INSIDE THE CONTROL PANEL OR WITH THE INSTALLER. IT CAN BE USED TO REFER TO PROGRAMMING DETAILS WHEN NEEDED.

ZONE	ZONE USE / LOCATION	RESISTANCE	KEYS ENTERED
1		Ω	
2		Ω	
3		Ω	
4		Ω	
5		Ω	
6		Ω	
7		Ω	
8		Ω	

TIMER	VALUE	KEYS ENTERED
FULL	SECONDS	
NIGHT	SECONDS	
EXT SOUNDER	MINUTES	

TICK BOX	1	2	3	4	5	6	7	8	CHECKED
EXTENDED OPTIONS									

BATTERY VOLTAGE	V
AUX. VOLTAGE	V
INSTALLED BY	

SOUNDER CONNECTIONS

CONTROL PANEL	ST-	S-	+	-	-R
SONADE 2000	STROBE-	B	D	A	T
FLASHGUARD XL+	STROBE-	SIREN-	SUPPLY+	SUPPLY-	TAMPER OUT
STARLIGHT 2000	ST	-R	+H	-H	RTN
ACTIVEGUARD	STB-	-S	+12V	-12V	RIGHT HAND TAMPER
ACTIVE GUARD 3	ST-	-SW	V+	V-	RET
SECURIGUARD	STROBE-	S-	SUPPLY+	SUPPLY-	LEFT HAND TAMPER
NOVA GUARD 2+T	STROBE-	S-	12V+	12V-	R
SPIRIT AU1000	STB-	TRG-	HOLD OFF +	HOLD OFF -	RTN-
GENERAL TERMINALS	STROBE TRIG -	SIREN TRIG -	SUPPLY+	SUPPLY-	TAMPER RETURN

Note: When installing a self-activating sounder, remove panel link between R- and -.

FAULT FINDING

A selection of common known problems and solutions are listed below.

Problem	Cause	Answer
Programmed 7-5 but zone 1 won't isolate in night set.	Have not MANUALLY isolated zone when setting panel.	When night setting enter code * 0 * 1.
Tamper won't clear with lid on.	Tamper loop open.	Check 24hr tamper, sounder tamper, and all devices for an open tamper loop.
PA won't work on the keypad.	Not holding * and # long enough or option not enabled	Be sure to HOLD * and # until the alarm activates. Enable option 7-6.
Mains light not on.	No mains.	Check fuse & mains supply.
Battery not taking over after mains fail.	Battery fuse blown, battery not connected, or flat battery.	Connect battery and check 1A battery fuse. Fit new battery.
Remote keypad not responding.	Incorrect wiring.	Check wiring. C to C and D to D.
Zones failing to activate.	Incorrect wiring.	Make sure the devices are wired in series NOT parallel.
Zone activates during entry.	Seeing an alarm zone on entry or deviating from entry route.	Make sure all zones on entry route are programmed with walk-through. Don't deviate.
Zone activates even in day mode.	Programmed to PA or FIRE.	Reprogram the zone to be an alarm zone or similar.

If you are still experiencing problems then contact our technical helpline with information at hand regarding your situation. If your problem stems from wiring, you may be required to write down wiring instructions, so have a pen and paper at hand.

General questions & Answers

Question	Answer
Can two bell boxes be used on the system?	Yes, make sure tampers are in series and do not exceed the current limit.
Can a "sound bomb" be installed?	Yes, connect between AUX+ and S-. Be sure not to exceed maximum current rating.
Can the engineer set the panel without the need of the user code?	Yes, if the engineering code is entered, the panel will start the set.
How many PIRS can be connected to a zone?	As many as current supply will allow. Zone resistance should not exceed 50 ohms.
What happens if a zone is still in fault when the bell cuts off?	The panel will re-arm. Any zones in fault will be temporality isolated, and they will re-arm when the fault clears.
Will there be any further alarms?	Any further alarm activations will trigger the bells again for the selected time. If any zone activates three times in succession, it will be isolated. Alarms can still occur from other zones.

Please Note:

C & K SYSTEMS is always endeavouring to improve quality and specification of all its products and may alter or amend this product and instructions without notice.

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