ACTIVE 5 ENGINEERING MANUAL

OPERATING INSTRUCTIONS

Full Set [CODE]

Part Set [CODE] [*] [0]

Home Set [CODE] [*] [6]

Customer Reset [CODE] [#]

Code Change [CODE] [*] [9] [1]

Bell Test [CODE] [*] [9]

Door Chime [CODE] [*] [9] [5]

Walk Test [CODE] [*] [9] [4]

Customer Log [CODE] [*] [9] [3]

MAINS 1 2 3
DAY 4 5 TAMPER

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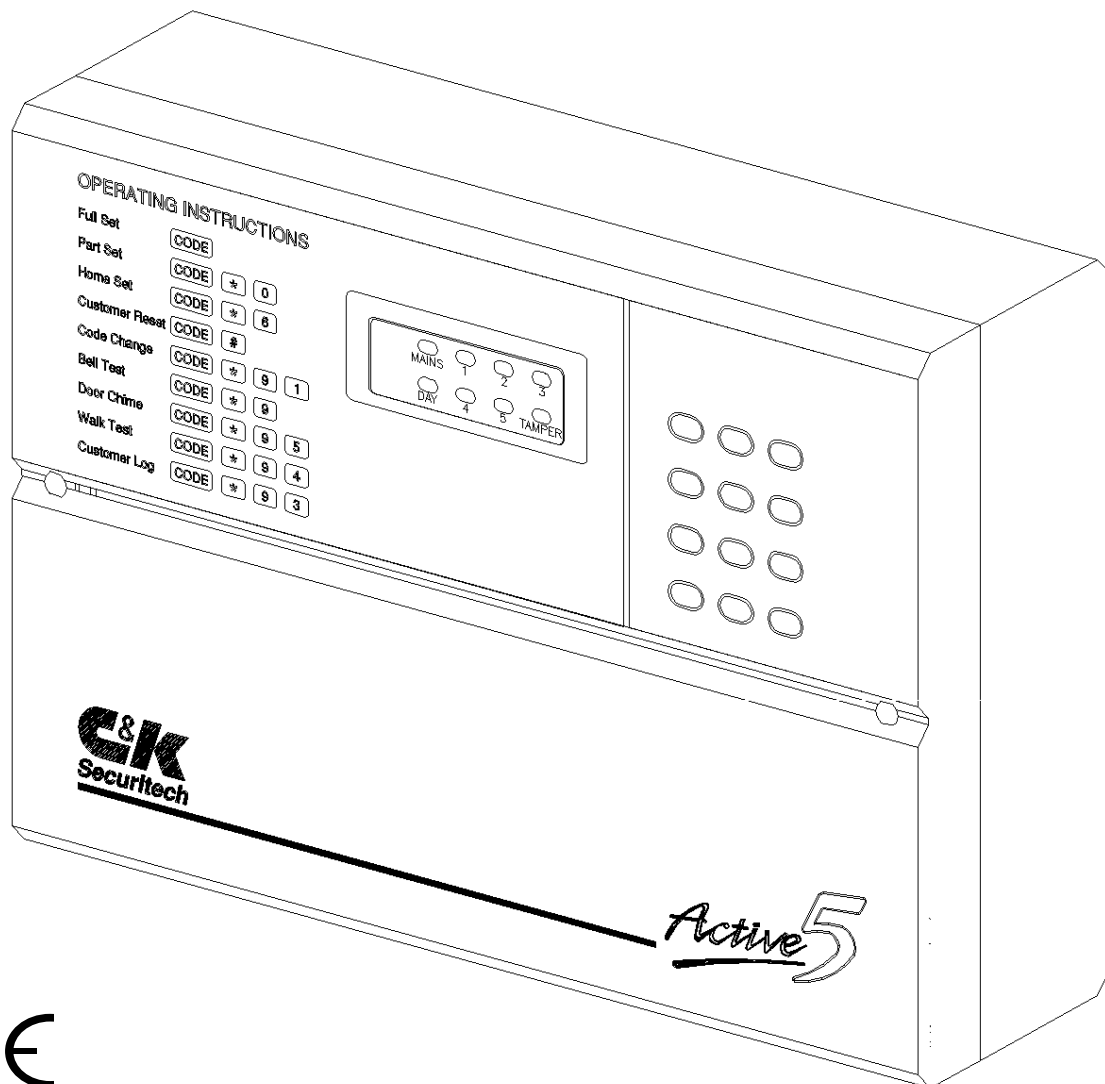
Active 5

THE ACTIVE 5 INSTALLATION MANUAL.

Date: Feb 1997

INTRODUCTION.

The Active 5 is a microprocessor controlled intruder alarm panel. It features five zones all of which are programmable. A non volatile memory holds the programming options. These will be retained in total power failure. It Is designed to be simple to program and allow flexibility in use.

SYSTEM PLANNING

When the panel reaches you it will be factory programmed. This is done for testing purposes but can also be used for installation if required. This present program is referred to as 'factory defaults'.   It is advised that the engineer should be familiar with all the features & options before attempting to program.

The Active 5 should ideally be installed out of sight but remain accessible. The panel, and its keypads (if used) should be mounted within the area covered by the alarm system. Up to 3 remote keypads can be used on the system. The positioning of these should be agreed with the user once the entry/exit routes and the Part Set functions have been explained to them.

SPECIAL FEATURES

The Active 5 has some special features to ensure correct operation of the alarm system at all times. The control status is stored in the non volatile memory, this allows the panel to remain 'Set' even after a total power failure. To prevent repeated false alarms, if three consecutive alarms occur from any alarm zone during the 'SET' period, that zone will automatically be isolated.

USER/CUSTOMER CODE DEFAULTS

If at any stage you want to restore the panel to its factory defaults, place the small jumper link (supplied with the spare fuses) onto the memory default link located to the right of the keypad on the main PCB. It will be clearly marked either LK2 or CN6. Remove the supply from the control panel (batteries and mains) then restore power. Now remove the link and the panel will have been restored back to factory defaults.

FACTORY DEFAULTS

User / Customer Code 1	1234
Engineer Code	7890
Circuit 1	Personal Attack (PA)
Circuit 2	Alarm circuit
Circuit 3	Alarm circuit isolated in home set
Circuit 4	Alarm circuit with walkthrough
Circuit 5	Entry / Exit circuit
Full set exit time	30 seconds
Night set exit time	15 seconds
Entry time	30 seconds
Bell ring time	15 minutes

These programming defaults are what the panel will revert to if a factory reset is performed. The panel should come to you programmed in this way however if for some reason you find it not to be the same, simply perform a factory reset and this will revert the panel to the above settings.

SPECIFICATION FOR SOFTWARE REVISION NUMBER   V3.0

The software revision number can be located on the top of the main processor

Power Supply

Mains Supply Voltage	230 v AC Nom
PSU output voltage	13.6 v DC Nom
Maximum output current	1 amp (total)
Aux current	500 mA Max.
Battery Fuse	1 A (20 mm)
Panel Quiescent	40 mA

Maximum Cable Run 100 Metres

General

Operating temperature	10 to 50 degrees centigrade
Humidity	Up to 80% non condensing
Dimensions	304 mm (W)
	220 mm (H)
	89 mm (D)
Control Panel Weight	1.45 kg Excluding Batt
Stand by Battery	2.6 Ah 12 v Rechargeable
	6 Ah max.

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Mounting

A   Remove the lid screws and remove lid.
B   Unplug any cables connected to the PCB
C   Remove the PCB.
D   Place the panel in the selected position and mark the three fixing holes.
E   Mount the Panel securely using all three positions.
F   Replace PCB and reconnect all cabling.

WIRING THE CONTROL PANEL

1   Mains connection

Mains connection should be made through the entry point located towards the bottom of the panel and the cable must be separate to all other wiring. The cable MUST be earthed and we recommend power is taken from a 3 Amp fused spur and wired by a qualified electrician.

2   Battery connection.

The Active 5 requires a standby battery to be fitted to provide power in the event of mains failure. A sealed lead acid battery should be fitted (maximum 6 Ah).

3   Detector circuits

Connections are provided for up to five detector circuits on which normally closed detection devices should be used. One or more devices may be connected to each alarm circuit. These should be connected in series. The circuit connections are located to the bottom right of the PCB.

4   PIR Latch Line (L+)

In the event of two or more PIR detectors being fitted to any zone, latching detectors can be used. The 'L+' connection provides this function. It is low   (0V) when unset and high (12 v) when set.

5   Detector reset (ID)

Some detectors require the removal of power to reset (e.g. Viper Plus or Smoke detectors). The 'ID' output should be used as the negative supply for these devices. The positive supply should be taken from the AUX 12+.

6   Internal sounders (Speaker)

The control panel is fitted with a 35 Ohm speaker in the housing to aid in audible alarms. If an extra speaker/s is required, it should be connected to the terminals marked SPK+ & SPK-. A maximum of two 16 ohm speakers may be fitted in parallel. (see diagram B)

7   External Sounder & Strobe.

Connection for external sounder and strobe are shown in diagram B. Please note the bell trigger shown is applied negative. (Negative bell ring).

       ST -   Strobe switched negative.
       S-   Siren switched negative
       H-   Siren hold off (negative, going positive in alarm)
       BELL+   Relay common..
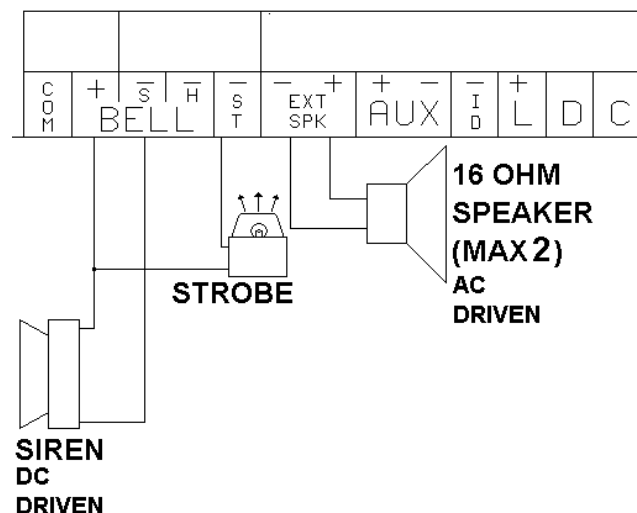
WIRING DIAGRAM FOR SOUNDERS SHOWN ON BACK PAGE

Diagram B

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8   AUX DC Detector power.

The auxiliary power is provided from connections marked 'AUX'. This is to provide the 12 v supply for detectors e.g. PIR's. The auxiliary power output is rated 500 mA max. (12 v nominal).

**PLEASE NOTE BELLBOX CONNECTIONS AT REAR OF MANUAL**

MOUNTING A REMOTE KEYPAD

1)   Having identified the position of the remote keypads to be fitted, mark the holes for the mounting position.
2)   Screw the backbox in the agreed position.
3)   Note the rear entry of cabling

WIRING A REMOTE KEYPAD

1) The remote keypads require 6 core cable for their connection to the main control panel.
2) Connect the cable as shown below in diagram C
3) Individual keypads do not need to be identified to the system. (i.e. addressed)

DIAGRAM C
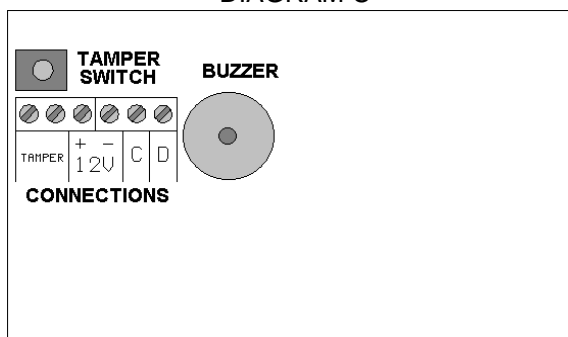
SETTING OPTIONS.

The Active 5 can be operated with a remote keyswitch or remote keypad.
Three methods of setting may be used.

 i)   Timed exit
 ii)   Exit terminate
iii)   Door sense setting

i)

Timed exit can be used by simply programming the time you wish using the 3-0 and 3-3 options.

ii)

Exit terminate is achieved by connecting the push button across S+ and S2 and program option 7-3-1 from engineering mode. Make sure you link S1 to S+. This will stop the panel seeing a telephone line fault.

When the push button is pressed the panel will omit an chime tone, the exit tone will continue for a further 8 seconds, then the chime tone will sound again, the system is now set. The chime tone is suppressed in night set. Infinite exit time is possible for full set only, by setting the exit time to zero (option 3-0-0).

iii)

Door sense setting is achieved in a similar way to exit terminate. You will still require the link between S1 and S+. You also need option 7-3-1 programmed. Your contact or shunt lock needs to go between S2 and the right hand terminal of the exit zone

LINE FAULT INPUT

If you are using the Active 5X which is a comms version of the Active 5 control panel, you will be able to utilise the line fault terminals. These are a pair of contacts which should be connected to a relay output of a communicator. They will need to be wired between S1 and S+

ALARM OUTPUTS.

*   Timed audible alarm relay. form C rated 2.5A for external sounder.
*   Strobe output. Open Collector. Latched until user resets the panel. 300mA output capacity.
*   Internal sounder speaker 35 Ohm & output for 2 x 16 ohm max. To follow all keypad sounds except keypad depression confirmation beeps.
*   Latched Fire alarm voltage trigger. High going low in alarm. Restore on system reset. 5mA at 12v DC.
*   Latched panic alarm voltage trigger. Output high going low in alarm. Restore when system is reset. 5mA at 12v DC.
*   Latched alarm voltage trigger. Output high going low in alarm Restore when system is reset. 5mA at 12v DC

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INITIAL POWER UP

NOTE   The lid should be kept off the main control panel. The keypad tamper may also be used to enter engineer mode.

 i   Switch the mains supply on, the internal sounder will start.
 ii   Enter 1 2 3 4 followed by # button, this will silence the sounder and the TAMPER LED will then flash.

IF NO PROGRAMMING IS REQUIRED, REPLACE THE LID. REFER TO USER HANDBOOK FOR USER OPERATING INSTRUCTIONS.

 iii   To enter programming mode enter 7 8 9 0. The TAMPER LED will go out and the MAINS LED will flash.

Follow the step by step instructions for programming. The programming can be done in any order. Therefore it is possible to change only one option then exit from engineering mode.

NOTE   EXITING ENGINEERING MODE:

To EXIT engineering, confirm any options you have selected with the * (STAR) key. Then either close ALL tamper circuits and wait for approximately 60 seconds whereby the panel will jump out of engineering mode automatically. Pressing the # (HASH) key will manually exit engineering.

If for any reason you need to return to engineering mode, you can enter your engineering code (default as 7 8 9 0) and then open a tamper circuit, the easiest way to do this is to remove the panel or keypad lid.

OPTION 1-1. ENGINEER CODE. DEFAULT 7890.

> Used to get into the progr amming section of the control panel and for engineer only reset. Enter 1-1 and four LEDs will illuminate. Enter your new 4 digit code and you will hear an accept beep. If you hear an error tone then the code was not valid and has not been changed.

OPTION 7-9. FULL SET BELL DELAY.   1 to 21 mins. DEFAULT 0 (NO DELAY)

> Used to delay audible and visual signalling, following a remotely signalled alarm. Enter 7-9 - no LEDs will light up. This has been preset for factory default at 0 minutes. A new time may be programmed by entering the keys which total up to the required amount e.g. You require 7 minutes bell delay so you would select 6 and 1. Press * to confirm. The accept tone will sound.

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OPTION 3-0 EXIT TIME 5-105 Seconds. DEFAULT. 30 secs.

Enter 3-0 - LED 6 will light up. This has been preset for factory default   - at 30 seconds. A new time may be programmed by entering the relevant keys which total up to make the required time multiplied by 5. Once program is set press * to confirm. The accept tone will sound.

Example of setting 30 seconds   **6** x 5 = 30
Example of setting 60 seconds   **1+5+6** x 5 = 60
Example of setting 105 seconds   **1+2+3+4+5+6** x 5 =105

OPTION 3-1 ENTRY TIME 5 - 105 seconds. DEFAULT 30 secs.

Enter 3-1 - LED 6 will light up. Again this has been preset for factory default at 30 seconds. To reprogram the entry time follow exactly the same directions as the EXIT TIME. Again press * to confirm option. The accept tone will sound.

OPTION 3-2 BELL DURATION 1-21 minutes. DE FAULT 15 mins.

Enter 3-2 - LEDs 6,5 and 4 will light up. This has been preset for factory default at 15 minutes. A new time may be programmed by entering the keys which when totalled up come to the desired time. Once program is set. Press * to confirm. The accept tone will sound.

Example to program 21 minutes   **1+2+3+4+5+6** = 21 minutes

OPTION 3-3 NIGHT SET EXIT TIME 5 - 105 seconds. DEFAULT 15 secs.

Enter 3-3 - LED 3 will light up. This has been preset for factory default   15 seconds. A new time may be programmed by the same procedure as for the other entry and exit timers. Press * to confirm. The accept tone will sound.

OPTION 4-X. ZONE PROGRAMMING.

Enter 4 plus the zone number, for example 4-3 will allow programming for zone number 3. Using the chart below program the desired options for that zone. There are 6 primary zone types. Alarm, Full set entry zone, Night set entry zone, 24 hour zone, Fire zone and Personal attack zone. Working to the right of the zone type are zone attributes and one or more can be added. If a zone is pre-programmed pressing the 0 key will clear the entry.

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CIRCUIT PROGRAMMING MATRIX REFERENCE GUIDE

LED 1	LED 2	LED 3	LED 4	LED 5	LED 6 TAMPER LED
ALARM	ISOLATE IN HOME SET	ISOLATE IN NIGHT SET	WALK THROUGH ENTRY ROUTE	CHIME	ISOLATE PERMIT
	FULL SET ENTRY ZONE	**NIGHT SET ENTRY ZONE**	WALK THROUGH ENTRY ROUTE	CHIME	ISOLATE PERMIT
			24 HOUR ZONE	BELLS & STROBE	WARNING TONE
				FIRE	BELLS & STROBE
					P.A.

VIEW FROM LEFT TO RIGHT. USE KEY 1 TO 6 TO SWITCH LED ON OR OFF.
ZONE TYPES ARE SHOWN IN BOLD TYPE. COLUMNS TO THE RIGHT OF THE
ZONE TYPE SHOW APPLICABLE OPTIONS. MORE THAN ONE PER ZONE TYPE
MAY BE SELECTED. SELECT A PRIMARY OPTION (BOLD TEXT) THEN SELECT
ANY SECONDARY OPTION BY GOING TO THE RIGHT FROM THE ONE YOU
CHOOSE. IN ROW 2, FULL SET ENTRY AND NIGHT SET ENTRY MAY BOTH BE
APPLIED TO THE SAME ZONE. LED NUMBERS AT THE TOP OF THE CHART DO
NOT REFER TO THE ZONE NUMBER.

ZONE ATTRIBUTES AND MEANINGS .

ALARM. A standard alarm zone. This zone will signal alarm if tripped
while the control is in the fully armed condition. In the day condition visual
indication may be programmed. (option 7-4-1)

FULL SET ENTRY ZONE. This zone type controls the entry and exit to
and from the alarm system. When the control is armed tripping the zone
will start a timed entry period during which time the system should be
disarmed. Failure to do so will result in a full alarm condition. When
arming is requested this is the last zone to pass through before leaving
the system. It can be fully set using a timer or by seeing the last sensor
close or reset. (final contact closure). Alternatively a terminator set button,
outside the protected area can arm the system, if all zones are clear. If a
zone is programmed for both Full set and Night set entry it can be final
contact setting in the former and timed entry/exit in the latter.

NIGHT SET ENTRY ZONE. This zone type has the same attributes as the
Full set entry zone except that it is associated with one of the night set
conditions. Night Set or Home Set. Even when the system is only partly
armed we still need some method of entering and leaving it. Although a
single zone may be programmed for both types of operation it may also
be 2 different ones.

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24 HOUR ZONE. This zone type is active 24 hours a day irrespective of whether the control panel is armed or disarmed. In the armed condition it will signal a full alarm if triggered. In the disarmed condition it will give a local internal alarm warning only.

FIRE. A 24 hour type of zone which will accept connection of 12 volt, 4 wire smoke detectors. Activation will cause a pulsed sounder output to differentiate from other alarm signals.

PERSONAL ATTACK ZONE. A 24 hour type of zone which is to be connected to personal attack switches. The zone gives full alarm condition when tripped and an option is available to make it silent. (remote signalling trigger only).

ISOLATE IN HOME SET. An option which can be selected with alarm type zones. This will make the zone in-operative during the Home set arming period. Home set arming cannot be selected until one zone has had this option selected.

ISOLATE IN NIGHT SET. An option which can be selected with alarm type zones. This will make the zone in-operative during the Night set arming period. Night set arming cannot be selected until one zone has had this option selected.

WALK THROUGH ENTRY ROUTE. An option which can be selected with alarm type zones. The zone will act as an extra exit zone, allowing passage out of the premises. If tripped **after** the entry period is started it will allow walk through to the control or keypad. If tripped before it will act as a normal alarm zone.

CHIME. An alarm zone option which causes the internal sounder to emit a chime sound if the zone is opened during the disarmed, or day condition.

ISOLATE PERMIT. An alarm zone option which allows the user to set the system and manually isolate this zone. The zone will be disarmed for the period of one arming only. The next time the panel is set, this zone would be armed again. Without this option programmed, no manual isolation of this zone is possible. (See users manual for manual isolate permit usage)

BELLS AND STROBE. A 24 hour zone option which, following and alarm in the day condition, allows full audible and visual warning instead of internal only.

WARNING TONE . A 24 hour zone option which, following and alarm in the day condition, allows the internal alarm sounder tone to be changed to a rapid beeping. This will give a differential to other day time alarms.

EXAMPLE TO PROGRAM ZONE 1

ENTER 4-1. The TAMPER LED will show programmed as PA from factory default.

To remove this option enter 0. The 0 key will remove all existing options so that any or all LEDs that were showing will extinguish. The 0 key will only do this after you have entered 4-1 and are in the programming options.

Now that the zone is totally cleared, select the primary option for this zone. The secondary options are now available. If you want zone 1 to be programmed as the final exit (FX) with the chime option, first select 4 -1 then clear the previous selection by pressing the 0 key and illuminate LED 2 followed by LED 5.

Then press * to confirm. Accept tone will sound.Follow this procedure for all or any zones you want to program.

NOTE...
All entry zones are isolated in home set.
Full set entry acts as normal alarm in night set.
Night set entry acts as normal alarm in full set.
If you require entry in both full and night set select both options on the same zone.

OPTION 5. ENGINEER EVENT LOG REVIEW

The engineer log is organised into SET and UNSET events. The log will show the first and subsequent alarms and isolated zones. First to alarm is shown by the relevant LED being 'on'. Subsequent alarms are shown by the LED flashing and isolated zones are shown by LED pulsing slowly. The buzzer will sound whilst viewing the 'SET' logs and silent whilst viewing the 'UNSET' logs.

To view the engineer logs proceed as follows

From the program mode press the '5' key. The log routine will start with DAY 1 SET. The remaining logs are viewed by pressing the relevant key '2' for 2nd, '3' for 3rd etc. on to log 9. Pressing the '0' key gives the last alarm condition for both 'SET' and 'UNSET'.

The # key will alternate between 'SET' and 'UNSET' logs and can be used at anytime. To exit logs press the * key.

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7-X OPTIONS.

The 7 Options controls how the panel responds to given criteria. Some options only apply if a communicator is fitted (Active 5X only) these are marked with a ⊗.

OPTION 7-0. NIGHT SET OPTIONS.

70-1   Night set disable
70-2   Disable bells in Night set
70-3 ⊗   Disable Communicator in Night set
70-4   Instant Set in Night set

OPTION 7-1. HOME SET OPTIONS.

71-1   Home set disable
71-2   Disable bells in Home set
71-3 ⊗   Disable Communicator in Home set.

OPTION 7-2. ENGINEER OPTIONS.

72-1   Eng. only alarm reset. After a remote signalling alarm from the ALARM trigger the system may only be reset by the installer or his representative. Entry of the Engineer code is required befo re the system will set again.
72-2   Eng. only PA reset. Following a PA alarm, which has been remotely signalled the system must be reset by the installer or his representative. Entry of the Engineer code is required before the system will set again.
72-3 ⊗   Silent P.A. alarm. If selected then any zone programmed as a P.A. zone will send only a remote signal. The sounders and strobe light will be suppressed.
72-4 ⊗   45 Second communicator delay after alarm condition occurs

OPTION 7-3. LINE FAULT OPTIONS.

73-1   Convert keyswitch S1 & S+ to Line Fault
73-2   Disable Setting when a line fault is present.
73-3   Silent line fault
73-4   Suppress LED Display of line fault after 12 seconds.

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OPTION 7-4. EUROPEAN OPTIONS.

74-1   Flash the LED relating to a zone if that zone if it is OPEN when the control panel is in an UNSET condition

74-2 ⊗   2 Stage Communicator output

74-3   10 minute auto isolate of an open zone when set.

74-4   BLOCKSCHLOSS - German Setting Method.

BELLBOX CONNECTIONS

ACTIVE 5 PANEL	ST-	S-	BELL+	LEFT HAND TAMPER	RIGHT HAND TAMPER
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

You **MUST** check your bellbox instructions to see if you are required to make any other links.

These terminals are given in good faith but without warranty. The manufacturers of the bellboxes shown above have the right to change terminals without notification to C&K systems or to you, the end user.

CE This product should only be used for domestic, commercial and light industrial use only.

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

TIMER	VALUE		KEYS ENTERED
FULL	SECONDS		
NIGHT	SECONDS		
EXT SOUNDER	MINUTES		
DELAY	MINUTES		

TICK BOX	1	2	3	4	CHECKED
NIGHT SET OPTIONS					
HOME SET OPTIONS					
ENGINEER OPTIONS					
LINE FAULT OPTIONS					
EUROPEAN OPTIONS					

BATTERY VOLTAGE	V
AUX VOLTAGE	V
INSTALLED BY	

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.

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