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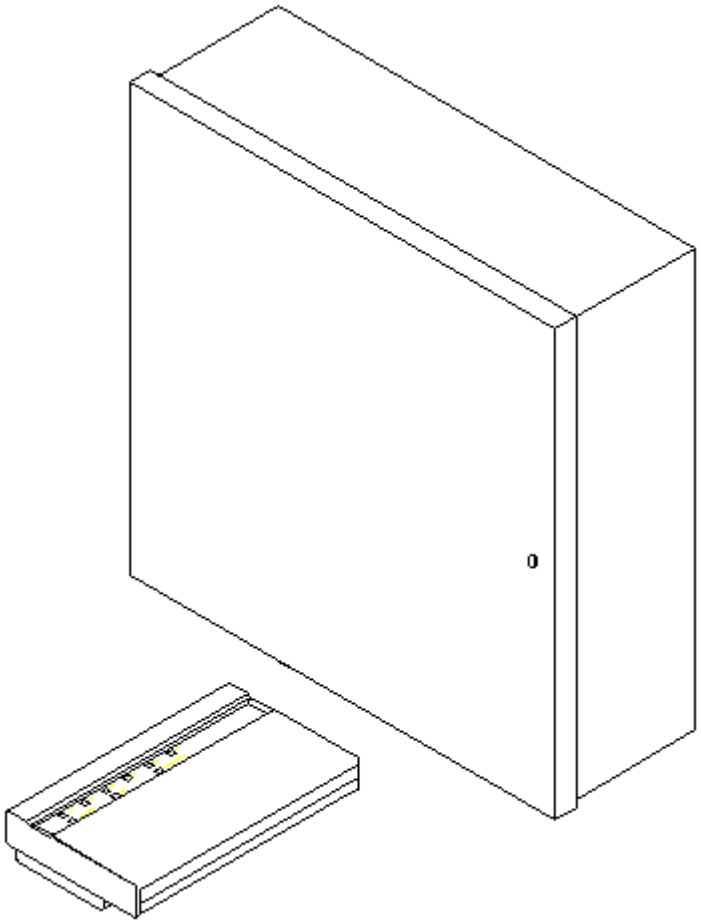
SECURIT 700L PLUS

ENGINEERING MANUAL



C & K Systems Ltd 13/03/97 C031-096-02

NEW ENHANCED FEATURE SET

Securit 700L PLUS Engineering instructions

INTRODUCTION

The Securit 700L is a microprocessor intruder alarm panel. It features seven zones of which six are programmable plus a dedicated tamper zone. A non volatile memory holds the programming options. These will be retained in total power failure. Its designed to be simple to program and allow flexibility in use.

SPECIAL FEATURES

Zone 7 programmable as Alarm, Fire or PA
Adjustable entry/exit warning sound level
Omit user disable option
Omit user part set disable option
Show panel status using remote LED
Optional remote signalling Trigger
Engineer output test facility

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 Securit 700L should ideally be installed out of sight but remain accessible. It 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 Night set functions have been explained.

USER/CUSTOMER CODE DEFAULTS

If at any stage you want to restore the default user/customer codes, place the small link supplied with the spare fuse, on the memory default link (positioned below the microprocessor in the centre of the PCB) then remove the mains and battery supply. When the supply is restored, the panel will sound the accept tone and the factory user/customer code defaults will be restored. Remove the link.

NOTE... The programming defaults will not be affected, see engineer mode 9-9.

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	P.A. Circuit.
Full Set Exit Time	30 Seconds
Night set Exit Time	15 Seconds
Entry time	30 Seconds
Bell Ring Time	15 Minutes
Chimes	Disabled

SPECIFICATION

A Power Supply

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

B Keypads

Supply Voltage	12 V
Quiescent Current	20 mA
Active	45 mA

Maximum Cable Run 100 M etres

C General

Operating temperature	-15◦C to 50◦C
Humidity	Up to 80% non condensing
Dimensions	263 mm (W) 223 mm (H) 82 mm (D)
Control Panel Weight	2.7 kg Excluding Battery
Stand by Battery	2.6 Ah 12 V Rechargeable 6 Ah max.

Mounting

a Remove the lid screws and remove lid.
b Remove the PCB and keypad packaging, check the contents...
c Unplug the AC mains supply.

d Place the panel in the selected position and mark the three fixing holes.
e Mount the Panel securely using all three positions.

WIRING THE CONTROL PANEL

1 Mains connection

The mains supply should be connected via one of the separated cable entries provided. Connections should be made to the 3 way terminal block located in bottom left of panel and wired in accordance with the relevant IEE regulations via a fused spur. The panel must be **earthed**.
IF IN DOUBT CONSULT A QUALIFIED ELECTRICIAN.

2 Battery connection.

The Securit 700L requires a standby battery to be fitted to provide power in the event of the mains failure. A sealed lead acid battery should be fitted. Batteries up to 6 Ah may be used.

3 Detector circuits

Connections are provided for up to seven detector circuits of which normally closed detection devices should 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 series. These circuit connections are located to the bottom right of the PCB (see diagram B).

4 PIR Latch Line (L+)

In the event of two or more PIR 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 the detector.

5 AC power connector

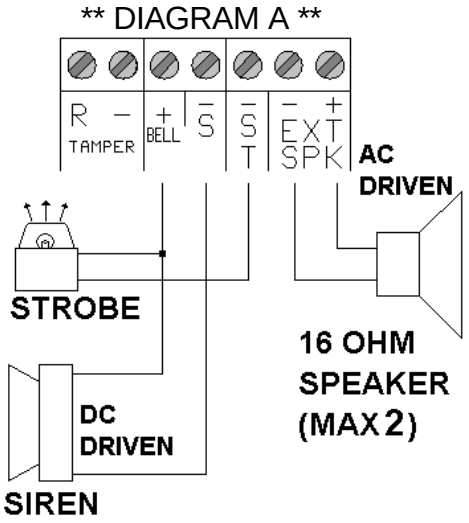
Make sure after Mounting the panel and replacing the PCB that you connect the white plug with the 3 wires to the 3 pins located in the top left hand corner of the PCB. This will ensure AC power gets from the transformer to the PCB.

6 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 +.

This output can be programmed to signal mains fail by selecting option 7-5. When selected it will signal 10 minutes after the removal of the mains power and restore one minute after the mains power returns.

7 Internal sounders (AC driven 16 ohm Speakers)



The control panel is not fitted with a speaker in the box. It is recommended that an extension speaker is fitted as it will greatly improve not only volume but also the range of sounds you will get from the control panel. If internal speakers are required they should be connected to the terminals marked EXT. SPK .
A maximum of two 16 ohm speakers may be fitted in parallel. (see diagram A)

8 External Sounder & Strobe.

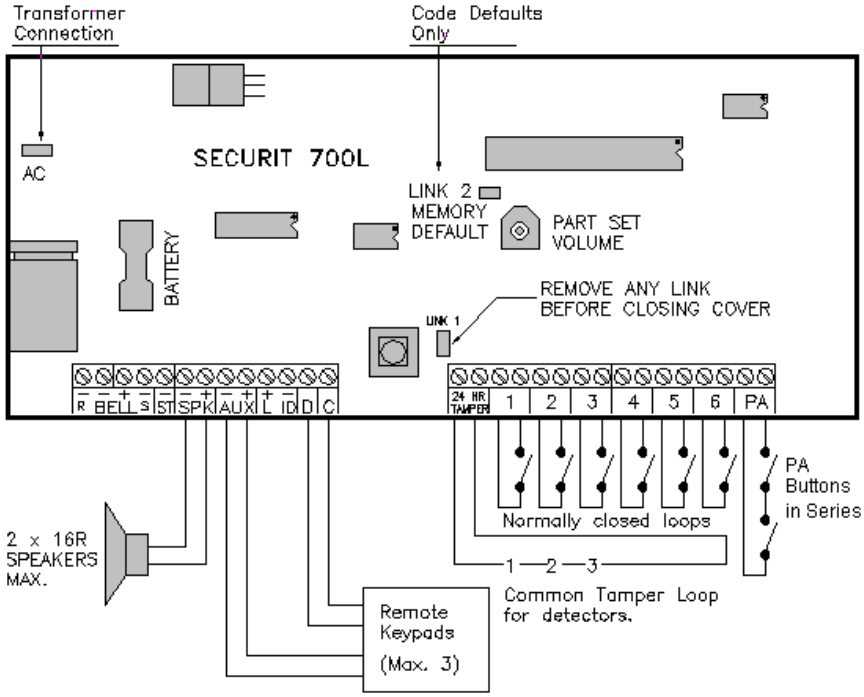
Connection for external sounder and strobe are shown in diagram B. Please note bell trigger shown is with output for applied negative. (Negative bell ring).

i	ST-	Strobe switched negative.
ii	S -	Bell switched negative trigger
iii	+	Bell hold off/strobe positive supply.
iv	-	Bell hold off negative supply & bell tamper
v	-R	Bell tamper return.

9 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).

** DIAGRAM B **



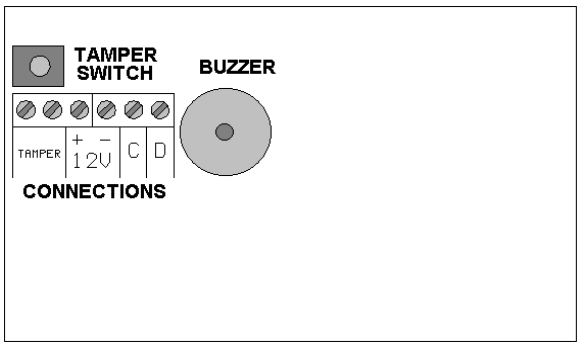
MOUNTING THE REMOTE KEYPAD

a Having agreed the position of any remote keypads to be fitted, mark the holes for the mounting position.
b Screw the backbox in the agreed position making sure it is not twisted
c Note the rear entry of cabling

WIRING THE REMOTE KEYPAD

a The remote keypads require 6 core cable for their connection to the main control panel.
b Connect the cable as shown below in diagram C Making sure each wire goes to a like named terminal in the panel. C goes to C, D goes to D, + goes to + and - goes to -. The tamper wires are wired in series with your existing tamper loop.
c Individual keypads do not need to be identified to the system.

** DIAGRAM C **



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 sounder - The TAMPER LED will then flash on the remote keypad.

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 The MAINS LED will flash.

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 # (HASH) key will manually exit engineering.

To re-enter engineering, with ALL tampers closed, enter your engineering code and then press the # (HASH) key. This will now force the panel into engineering and if left unattended for approximately 60 seconds it will revert back to day mode.

If for any reason you need to stay in engineering 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.

EXIT TIME 3 0 range 10 -90 Seconds.

Enter 3-0. This has been preset for factory default - at 30 seconds. A new time may be programmed by entering one key from the following table. Once program is set press * to confirm. The accept tone will sound.

Enter 1	10 Seconds. Led 1 on.
Enter 2	15 Seconds. Led 2 on.
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.

ENTRY TIME 3-1 range 10-90 seconds.

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

Enter 1	10 Seconds. Led 1 on.
Enter 2	15 Seconds. Led 2 on.
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.

BELL DURATION (Bell ring time) 3 -2 range 3-20 minutes

Enter 3-2. This has been preset for factory default at 15 minutes. A new time may be programmed by entering one key from the following table. Once program is set. Press * to confirm. The accept tone will sound.

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.
Enter 6	20 minutes. Led 6 on.

NIGHT SET EXIT TIME 3-3 RANGE 0 -90 seconds.

Enter 3-3. This has been preset for factory default 15 seconds. A new time may be programmed by entering one key from the following table. Once program is set. Press * to confirm. The accept tone will sound.

Enter 0	0 Seconds. All LED's off (Instant set in Night set).
Enter 1	10 Seconds. Led 1 on.
Enter 2	15 Seconds. Led 2 on.
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.

NOTE: If extension speakers are fitted then the exit sounder volume can be altered in **Night set only** by the control marked NIGHT SET VOLUME. The level can be reduced to almost zero. When the control sets an accept tone will sound.

CIRCUIT PROGRAMMING

Circuits 2 - 6 can be reprogrammed to suit your requirements. Circuit 1 is fixed as a Final exit circuit. Circuit 7 can be used to set SOME options. The method of programming is as follows:

ENTER	PROGRAM ZONE
4 - 2	2
4 - 3	3
4 - 4	4
4 - 5	5
4 - 6	6
4 - 7	7

Select the circuit you wish to alter. That circuit may then be programmed by entering one key from the following table. Once program is set press * to confirm. The accept tone will sound.

OPTION NUMBER	IF USED ON ZONE 2 - 6	IF USED ON ZONE 7
1	Alarm	Alarm
2	Alarm with walk through	Fire
3	Alarm & Isolate in Night Set	PA
4	Alarm, Walk through & Isolate in N/S	
5	Alarm, Walk through & N/S Entry	
6	Fire	
7	Entry Route	

SEE GLOSSARY OF TERMS FOR DESCRIPTIONS OF ZONE TYPES etc.

EXTENDED PROGRAMMING OPTIONS

These options are available to compliment your existing set-up. They control various aspects of the usage and control of the panel.

Enter 7 - 1 Night set external bell disable.
Enter 7 - 2 Chime Enable (See user manual for zone allocation).
Enter 7 - 3 Full set door sense setting.
Enter 7 - 4 Output mains fail to ID-
Enter 7 - 5 Allow Manual Isolation of Zone 1 (Entry/Exit) In night set.
Enter 7 - 6 Remote Keypad PA Enable (Operated by * & #)
Enter 7 - 7 L+ signals first to alarm
Enter 7 - 8 Pass all low priority sounds through volume control.

Enter 8 - 1 Customer MANUAL isolate inhibit.
Enter 8 - 2 Customer Night set Inhibit.
Enter 8 - 3 Output Panel Status to ID-
Enter 8 - 4 L+ polarity invert.
Enter 8 - 5 Strobe test Inhibit
Press * to confirm. The accept tone will sound

Please note that option 7-5 ALLOWS the user to manually isolate zone 1 in part set. It does not AUTOMATICALLY isolate zone 1 in part set.

ENGINEER ACCESS CODE

The engineer access code is programmed to 7890 as a factory default. To change this code:

i Enter 7 8 9 0 and remove the panel lid or keypad cover. The internal sounder will stop when the case tamper is opened - the MAINS LED will flash.

ii Enter 1-1 - LEDs 1, 2, 3 and 4 will light up. Enter the new 4 digit code. After each keypress one LED will go out. The speaker will emit an accept tone if the new code is acc epted. If the speaker emits an error tone and all LEDs are extinguished the old access code is still valid. Repeat the procedure using a different code.

ENGINEER EVENT LOG REVIEW

The engineer log is organised into SET and UNSET events. The log will show the first to alarm 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 will sound whilst reviewing the 'SET' logs and will be silent whilst reviewing 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.

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

ENGINEER TEST OPTIONS

The engineer has available to him some test facilities so he can test bells etc. without having to come out of engineering. These new options are accessed by pressing 6 from the engineering mode and then selecting another option below.

Enter 2	Internal buzzer (entry exit sound etc.)
Enter 3	Internal Sounder (Alarm sounds from speaker / keypad)
Enter 4	External Bell
Enter 5	External Strobe
Enter 6	L+ (Latch Terminal for Latching Detectors)
Enter 7	ID- (Impact Detector Reset)
Enter 9	FULL LOAD (Everything on)

Press * to finish

FACTORY PROGRAMMING DEFAULTS 9 -9

Factory defaults have been split into two sections, programming and codes.

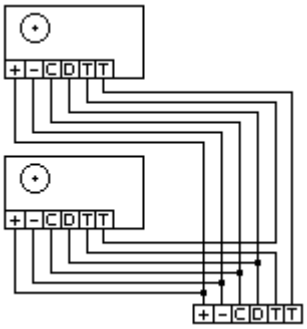
To return to factory programming defaults enter 9 -9 the sounder will give a rapid pipping sound (the entry hurry up warning). Then enter the engineer code. If entered correctly an accept tone will sound and the factory programming defaults will be restored. If any error is made an error tone will sound and the programming will not be altered. The user and engineer codes are not changed.

If at any stage you want to return the panel to factory default user/customer codes, place the small link supplied with the spare fuses, on the memory link (positioned below the microprocessor in the centre of the PCB) then remove the mains and battery supply. When the supply is restored, the speaker will omit the accept tone and the factory user code defaults will be restored. Remove the link.

GLOSSARY OF TERMS

FULL SET
This is a setting method normally related with leaving the premises.
NIGHT SET
This is a setting method normally used when going to bed
ALARM
This is a zone that will trigger the panel when it triggered
WALK THROUGH
This zone will trigger the panel if seen however it will ignore any activation if an entry route has been previously triggered.
ISOLATE IN NIGHT SET
This simply means the zone will be disabled when the panel is NIGHT SET.
NIGHT SET ENTRY
This means when the panel is NIGHT SET the zone, when triggered, will start the entry timer and the panel must be disarmed. If the panel is FULL SET then this zone will simply act as an ALARM zone
ENTRY CIRCUIT
This will start the entry timer when set.
FIRE
This is a zone that when triggered will emit an ascending sound from the extension speakers. If the panel is set, external sirens and strobes Will also sound but in an unset state only internal sounders will ring.
TAMPER
This is a loop that should run through every device on your system. If broken by a cable cut or device tampered with it will trigger the internal speakers and if the panel is set it will trigger external sounders and strobes as well.
CHIME
Chime is similar to a doorbell. It can be used to alert a user to a certain zone being triggered for example a front door contact can be used to know when a door is opened or a detector can alert a user to a room being entered. CHIME is only active when the panel is UNSET ass when it is SET the zones functions take over.
DOOR SENSE SETTING
This allows you to have variable FULL SET EXIT TIME. You can set your EXIT time to 90 seconds and when you are setting your system to leave the premises
the exit time will drop to 8 seconds as soon as the EXIT door has closed. This means in affect you have an 8-90 second exit time.
THE * KEY (STAR)
This is commonly used as an ACCEPT or CHANGE button
THE # KEY (HASH)
This is commonly used as RESET, CANCEL or EXIT

SERIES AND PARALLEL



Here is a simple example of SERIES and PARALLEL wiring. Notice how the Power and C & D lines are in parallel and the Tamper lines are in series.

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

5		Ω	
6		Ω	
7		Ω	

TIMER	VALUE	KEYS ENTERED
FULL	SECONDS	
NIGHT	SECONDS	
EXT SOUNDER	MINUTES	

TICK BOX	1	2	3	4	5	6	7	CHECKED
EXTENDED 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.

700L CONTROL PANEL	ST-	NO	BELL+	0V	-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