720-770

ADVANTAGE ZX6

DUAL CONTROL 6 ZONE SECURITY PANEL WITH NON VOLATILE MEMORY

ENGINEERS MANUAL

ISSUE 2, April '95

INTRODUCTION

The control panel is designed to be simple to install, programme, and to use. The 16 button keypad allows you to select, change, or inhibit the many facilities avail able in the unit. A remote key switch or keypad is available separately for arming, part arming and disarming the unit.

The control panel is programmed using either the user code (factory set 1234) or the engineer code (factory set 9999). It is advisable to change both code numbers to a personally selected code, using any combination from 0000 to 9999, when the installation is complete.

The engineer programmes are protected by a Non Volatile Memory (NVM). This means that when all power has been removed and then reconnected any previously programmed information remains operative. The NVM facility also protects the control panel microchip from mains surges and spikes.

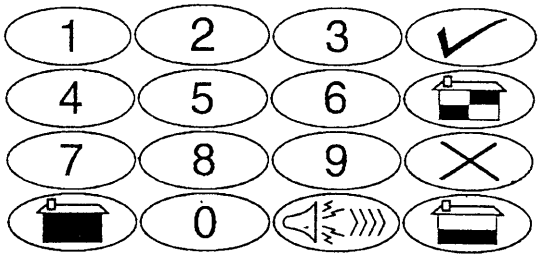
The control panel provides 6 detector zones, a personal attack circuit and two tamper circuits. All zones are capable of operation with normally open and nor mally closed detectors. A bank of 10 LED indicators will indicate the status whilst programming or whilst in use.

An integral battery charge circuit will enable a rechargeable battery(not supplied) to provide power during mains failure. Outputs are provided for bell/sounder, SCB, strobe and + set.

The 6 detector zones are active only when the control panel is armed.The personal attack circuit, 24hr and SCB circuits are active 24 hours a day even if the control panel is disarmed.

THE ADVANTAGE KEYPAD

The advantage keypad uses ICONS to picture the key function a list of key functions follows:



FULL GUARD

PART GUARD

ARM

RESET

ZONE OMIT

EVENT REPLAY

0 to 9 NUMERIC KEYS

The control panel is factory set to be armed without the need to enter the User Code. It is possible to programme the control panel utilising a User Code to arm the system.

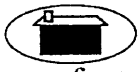
INSTALLATION

We recommend that before beginning the installation work this manual is read carefully and a rough diagram is prepared of the proposed detector and control panel sites, bearing in mind the concealment of cables and ease of fitting detectors. The control panel should be sited close to a mains electricity supply.

The printed circuit board (PCB) is clearly marked with each output, input, and the relevant polarity. Wire links are fitted to each of the 6 zones and the three 24hr circuits, to simulate closed circuits. The wire links are removed during installation as each zone/circuit is connected. Wire links should never be fitted where no link is depicted across the terminals on the PCB. Most of the detectors in the security industry are normally closed contacts these must be wired in series, normally open detectors such as pressure mats can also be used, wire them between the zone and the 24 Hr terminal.

TESTING THE CONTROL PANEL

The control panel is fitted with factory fitted wire links, to enable the panel to be tested prior to installation.

1. Remove the two front cover screws (located behind the LED flap) and the front cover, and place safely to one side in the box provided, to eliminate the chance of damage.
2. Check that the 9 factory fitted links are positioned across each pair of the 6 zone inputs, PA, 24 hour, and SCB terminals. Press down the lid tamper spring. (It is important that this spring is depressed throughout the test to avoid the control panel activating). or to temporarily defeat the lid tamper connect a wire between the SCB 0 Terminal and the Left 24 Hr Terminal. **Do not forget to remove this wire before commissioning the system.**
3. Fit the 12volt battery to the unit using battery connecting wires provided. Observe the correct polarity, red wire to red (+) terminal, black wire to black (-) terminal. The panel is now ready to test.
4. Press  (Full guard), the clear LED will illuminate.
5. Remove a factory fitted link wire from zone 1 and the respective zone led will light and a tone indication will be heard. Refit the link and the zone led will extinguish.
6. Repeat step 5 for all other zones. For each of the zones opened a tone indication will be heard, the number of bleeps will depend on what zone is open i.e. 1 bleep for zone 1, 2 bleeps for zone 2 and so on.
7. Test the lid tamper by releasing the tamper spring, the internal sounder will activate, replace tamper spring, and enter user code (1,2,3,4). The 24 hour led will be illuminated and the sounder will cease. Press the  (reset) key to return to standby.
8. To test the 24 hour SCB and PA circuit repeat the above sequence removing and replacing the wire link in each circuit in turn. After each test enter user code (1,2,3,4) then press reset to return to stand by. Disconnect the battery when you have finished testing.

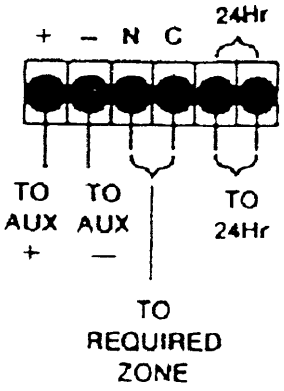
SITING THE CONTROL PANEL

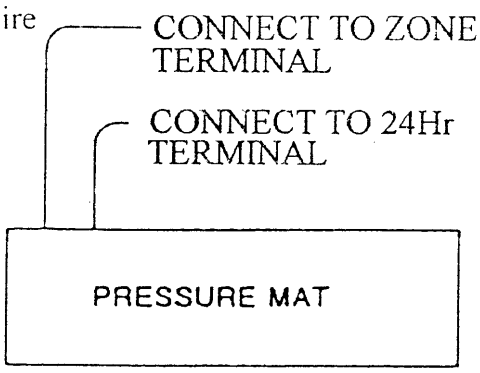
Site the panel in a position which is above the accessible height of small children. Try to site the control panel close to a mains electricity supply.
Mark the two fixing holes on the left and right hand sides of the bottom and the hole in the top centre on the wall, and fix the panel loosely. Only secure tightly once installation is complete.

WIRING

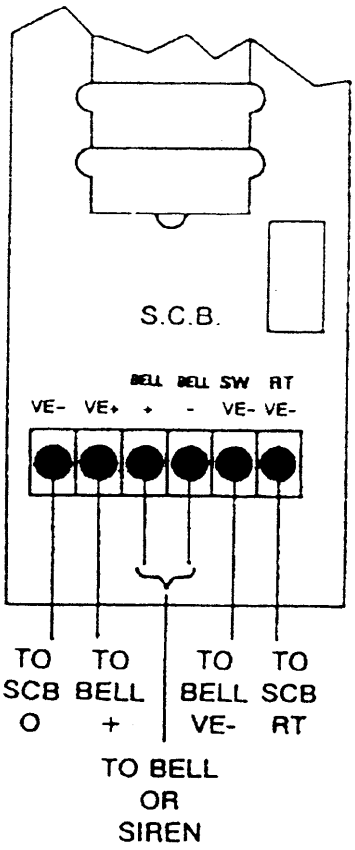
Once connected, PIRS require several minutes to settle before use.

P.I.R.



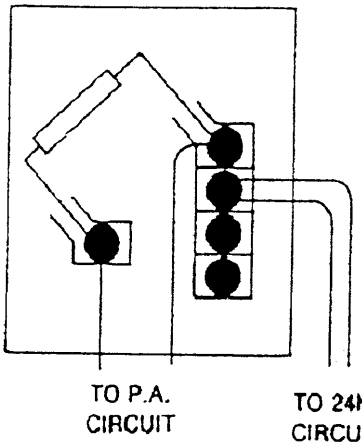


Above connection should be used even if pressure mats to be wired to a zone to which other detectors are connected.

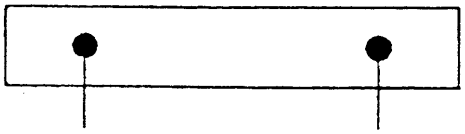


If SCB is not used tamper switches should be connected to 24Hr terminals and bell/siren connected to BELL+ & BELL- terminals.

P.A. BUTTON



2 TERMINAL CONTACT



CONNECT TO REQUIRED ZONE.

If contact is fitted with tamper terminals these should be wired to the 24Hr terminals.

1. First start off by wiring all detectors and bring the cables back to the control panel feed the cables into the control panel using the cable entry points in the back of the control panel.

2. Starting with zone 1 (the entry / exit zone), remove wire link and connect appropriate detector wires. Repeat for all other zones that are used.

3. Finally, connect any internal/external sounders and strobe to the outputs provided.

CONNECTING TO THE MAINS SUPPLY

WARNING - ELECTRICITY CAN KILL

Before connecting the control panel to the mains supply ensure that the supply is disconnected at the consumer unit.

The ideal mains supply is direct from the consumer unit, on its own fuse spur. You will require 5 amp 3 core cable sufficient in length to connect the control panel to the mains power supply.

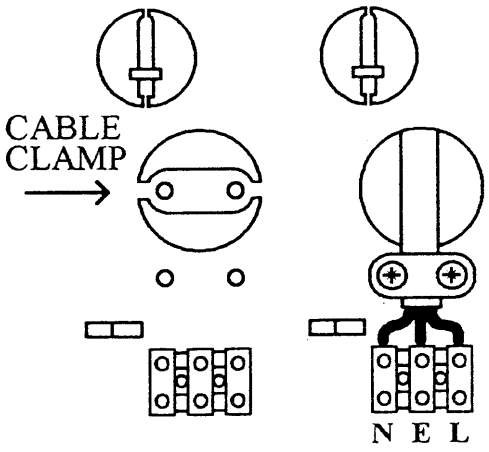


FIG. 1

Fig. 1 shows the location of the cable clamp.
To secure the cable, use the cable clamp located in the back of the Advantage case.
Break off the cable clamp from the case.
Feed one end of the 3 core cable through the back of the control panel and connect as follows to the transformer terminal block.
Live (L) Red or Brown. Neutral (N) Black or Blue.
Earth (E) Green or Green and Yellow.
Secure the cable clamp over the cable using the screws provided. Note that the control panel is double insulated and dose not require an earth connection.

When all wiring is completed restore the mains supply, the mains LED indicator and the keypad should be illuminated, the panel will bleep, replace the front cover.
Enter user code (1234) the 24 hr LED will be illuminated and bleeping will cease.
Press  (reset), the panel will return to standby.

SYSTEM FACILITIES

6 detector zones are provided, zone 1 is the entry/exit zone, activating this zone whilst the system is set will cause the entry timer to begin and allow time for the panel to be disarmed. The entry/exit tone will change tempo indicating there are 10 seconds left to disarm or ten seconds remaining to exit before system is armed.

PART GUARD ZONES

The part guard feature allows you to select zones you wish to be omitted when using the part guard option for arming. Please note that a part guard zone cannot also be selected as a walk through zone. If you wish to part guard with a remote key switch / keypad then it will be necessary to program the control panel. (see remote part guard, under programming the Advantage in this manual)

QUICK SET

The quick set facility is provided to enable the exit time to be shortened to a few seconds and avoid the exit tones continuing when not required.

24 HOUR CIRCUITS

The 24 hour circuit is provided to protect all detectors connected to this circuit and the control panel from unauthorised alteration or tampering. All devices wired to the 24 hour terminals must be wired in series. Activation of the 24 hour circuit when the panel is disarmed will trigger the internal sounder, activation when the system is armed will cause full alarm condition. If tampering has been the cause of an alarm activation the 24 hour LED will illuminate after the user code has been entered.
The SCB terminals are for connection to bell box tamper switches or SCB if fitted.

PERSONAL ATTACK CIRCUIT (P.A.)

Any number of normally closed personal attack buttons can be used is series with this circuit. A full alarm condition will occur whether of the control panel is armed or not.

KEYPAD TAMPER

When the control panel is armed, pressing any key on the keypad will cause the entry timer to start, A full alarm condition will occur if either the entry timer expires or if an incorrect user code is entered 4 times.

EVENT REPLAY

If an alarm condition has occurred, upon entering the user code the first. zone to be activated will be displayed. Press the EVENT REPLAY button. The next LED to illuminate will show the previous zone activated during this alarm duration. With each subsequent press of EVENT REPLAY button the LEDs illuminated will advance to the first zone that was activated. If no LED illuminates the next time the EVENT REPLAY button is pressed it will display the last zone activated from the previous alarm duration and with each subsequent press, advance to the first activation of that alarm duration. Each time no LED illuminates it shows the end/start of each individual alarm duration. If no LED illuminates on two successive presses this confirms the end .

WALK THROUGH ZONE

It is sometimes desirable to site the control panel in a position which is guarded by an additional detector, a walk through zone will be required. zone 2 is factory set to be a walk through zone.

A walk through zone allows a period of time similar to that programmed for the Entry/ Exit delay before going into alarm. But only if the Entry/Exit zone is activated first. If the Entry/ Exit zone is not first activated, an instant alarm will result.

Any zone other than the Entry/Exit zone may be programmed as a walk-through zone. If the walk through facility were not used then once the PIR sensed the movement an alarm would occur before the panel could be disarmed. Please note that a zone selected for walk through cannot also be selected as a part guard zone.

If the system is armed using part guard then any walk through zones activated will start the entry timer, giving time to disarm-arm the system without activating the alarm.

INTERNAL SOUNDER

The control panel is fitted with an internal speaker this provides a low volume entry/ exit and high volume internal alarm.

BELL OUTPUT

The bell output provides power to the external bell or siren. Care should be taken not to exceed total current output, and care should be taken when using motorised bells that they are suppressed.

STROBE OUTPUT

The strobe output will operate in every full alarm condition and will continue to operate after the external sounder has stopped and system has auto reset. The strobe output will also remain active after the User Code has been entered, and will not stop until  (reset) is pressed.

The negative strobe output terminal can be used for PIRs or other detectors that require a negative latch.

SCB CONNECTIONS

CONTROL PANEL	CONNECT TO	SCB
BELL +	-	+ VE
BELL -	-	SW- VE
SCB Rt.	-	RETURN
SCB O	-	- VE

AUX. 13V POWER SUPPLY

This 13v supply marked AUX. + - on main PCB is provided to supply power for detectors which require a low voltage supply, PIRs, break glass detectors, etc. This output is fuse protected and is maintained at all times.

SWITCHED POSITIVE OUTPUT (SW+)

The SW+ terminal will go positive when the control panel is armed and low when either a full alarm condition occurs or the control panel is disarmed, use this connection for latching detector circuits.

BATTERY BACKUP

It is strongly recommended that the control panel is fitted with a 12v rechargeable battery. The battery is kept fully charged by the control panel, and will provide power in the event of a mains failure. The battery supply is protected by a fuse.

FUSES

There are three fuses mounted on the left side of the PCB. The fuse labelled F1 is the battery fuse and prevents excess current being drawn from the battery. The fuse labelled F2 is to protect the AUX. power supply, the fuse labelled F3 provides protection for the bell, strobe and internal sounder.

PROGRAMMING THE ADVANTAGE

The many facilities offered by the control panel can be selected, inhibited or changed by selecting engineer programming mode.
To exit the programming mode after making your selected function changes or if an incorrect function code has been pressed, PRESS (X) (reset)

TO SELECT ENGINEER PROGRAMMING MODE

ENTER (9) (9) (9) (9)
(Or current engineers code)

CLEAR LED WILL FLASH
The control panel is now in programming mode.

NB: Once a function code is pressed selections must be entered within 10 seconds or the function code has to be re-entered. The CLEAR LED will continue to flash throughout engineer programming.

CHANGE ENGINEER CODE

FUNCTION CODE	LED INDICATION
PRESS (1)	ZONE 1-4 LEDS ILLUMINATED
PRESS (?) (?) (?) (?)	

(New engineer code)

As each key is pressed one zone LED will extinguish.

PRESS (✓) TO STORE

The control panel will bleep to confirm acceptance of the new engineer code.

EXIT TIME

FUNCTION CODE — LED INDICATION

PRESS (2) — ZONE 1-2 LEDS ILLUMINATED

Enter exit time, i.e.

PRESS (0) (1) = 1 Second

PRESS (9) (9) = 99 Seconds

As each key is pressed one zone LED will extinguish. The control panel will bleep to confirm acceptance of the new exit time.

ENTRY TIME

FUNCTION CODE — LED INDICATION

PRESS (3) — ZONE 1-2 LEDS ILLUMINATED

Enter entry time, i.e.

PRESS (0) (1) = 1 Second

PRESS (9) (9) = 99 Seconds

As each key is pressed one zone LED will extinguish. The control panel will bleep to confirm acceptance of the new entry time.

BELL DURATION

FUNCTION CODE — LED INDICATION

PRESS (4) — ZONE 1-2 LEDS ILLUMINATED

Enter bell time, i.e

PRESS (0) (3) = 3 Minutes

PRESS (3) (0) = 30 Minutes

As each key is pressed one zone LED will extinguish. The control panel will bleep to confirm acceptance of the new bell duration.

CHANGE USER CODE

FUNCTION CODE — LED INDICATION

PRESS (5) — ZONE 1-4 LEDS ILLUMINATED

PRESS (?) (?) (?) (?)

(New user code)

As each key is pressed one zone LED will extinguish.

PRESS (✓) TO STORE

The control panel will bleep to confirm acceptance of the new user code.

SELECT PART GUARD ZONES

FUNCTION CODE — LED INDICATION

PRESS (6) — SELECTED PART GUARD ZONES ILLUMINATED

Press appropriate zone keys to enable / disable part guard zones.

Any ZONE LEDS which are lit will be omitted when the system is part armed.

PRESS (✓) TO STORE

The control panel will bleep to confirm acceptance of part guard zones.

SELECT WALK THROUGH ZONES

FUNCTION CODE — LED INDICATION

PRESS (7) — SELECTED WALK THROUGH ZONES ILLUMINATED

Press appropriate zone keys to enable / disable walk through zones.

Any ZONE LEDS which are lit will be walk through zones.

PRESS (✓) TO STORE

The control panel will bleep to confirm acceptance of walk through zones.

Please note that a zone selected for walk through cannot also be selected as a part guard zone. If the system is armed using part guard then any walk through zones activated will start the entry timer, giving time to disarm the system without activating the alarm.

REMOTE PART GUARD

FUNCTION CODE — LED INDICATION

PRESS (8) — IF SELECTED ZONE 1 LED ILLUMINATED

PRESS (1)

TO SELECT / DE-SELECT REMOTE PART GUARD.

PRESS (✓) TO STORE

The control panel will bleep to confirm acceptance of the selection.
When zone 1 LED is lit it indicates the remote control can be used to part arm the system.

SELECT CODE ARMING

FUNCTION CODE — LED INDICATION

PRESS (8) — IF SELECTED ZONE 2 LED ILLUMINATED

PRESS (2)

TO SELECT / DE-SELECT CODE ARMING.

PRESS (✓) TO STORE

The control panel will bleep to confirm acceptance of the selection.
When zone 2 LED is lit it indicates the User Code is required to arm the system.

SYSTEM RESET

FUNCTION CODE

PRESS (0)

The control panel is now reset back to factory settings, any previous programming will now be lost.

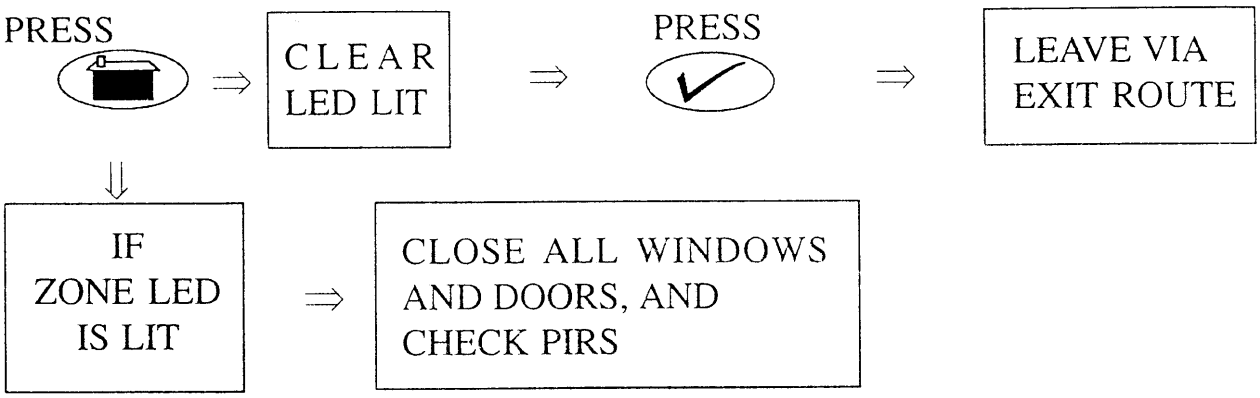
FAULT FINDING

1. Once a function code has been pressed the facility must be programmed within 10 seconds or the panel will revert back to programming mode. If a key has been pressed after this time then you should press (✕) (reset) and re-enter the function code.
2. The usual cause of a zone not responding is incorrect wiring. Normally closed detectors must be connected in series before connection to the control panel. Check thoroughly that the correct wiring connections have been made.
3. If a zone or 24Hr LED remains on, or the panel bleeps, check that the unused zone/ tamper circuits have a wire link fitted and/or all tamper switches in PIRs, bell box and control panel are fully depressed.
4. If you have difficulties in finding the cause of a fault, remove all installation wires, leave the factory connected wires in place. Refit all factory links. Never fit links across any of the power outputs. It may be necessary to use the NVM reset to recover the factory set condition. On power up follow the test procedure detailed in the front of this manual.
5. If fuses are being tested or replaced, all power must be removed. Fuses repeatedly failing are almost certainly the results of a short circuit across the AUX. output. Check for low resistance readings, it is rare for blown fuses to be the result for faulty equipment.

ADVANTAGE USER INFORMATION

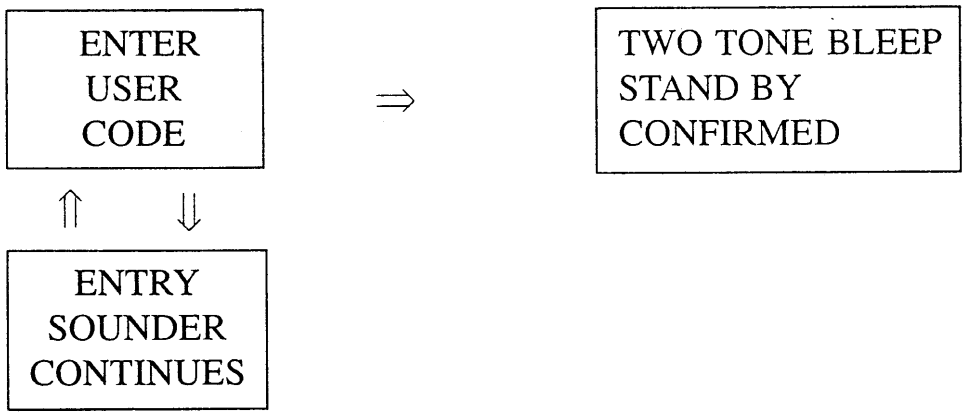
If Code Arming has been selected then simply enter User Code before pressing the appropriate function symbol key.

ARMING THE SYSTEM



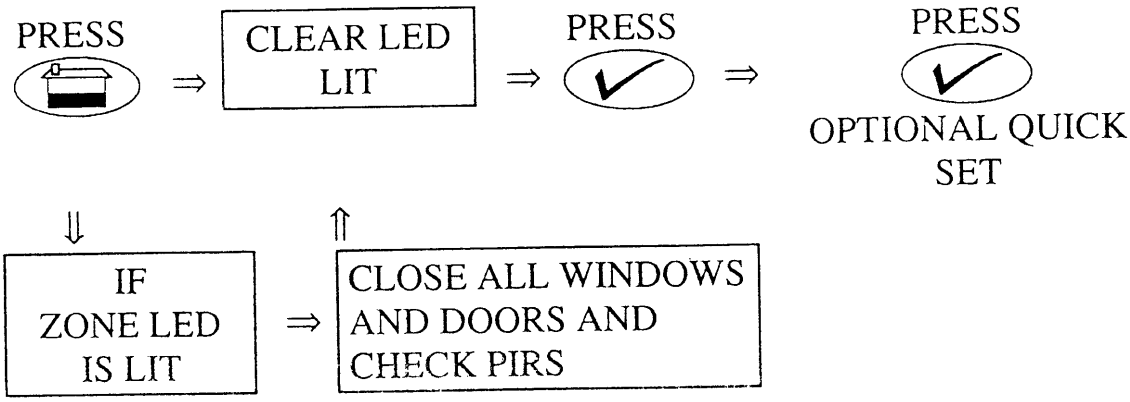
1. Press (Full guard).
2. If zone LED is on, check detectors on that zone i.e. open door.
3. Once clear LED illuminates press (arm).
4. Leave promptly via the exit route whilst the exit tone is sounding. An increase in exit tone tempo indicates last 10 seconds before armed.
5. Once exit sound has stopped the system will be armed.

DISARMING THE SYSTEM



1. Enter via the Entry/Exit route.
2. The entry tone will be heard. The entry tone will change tempo to warn of the last 10 seconds before alarm is activated.
3. Enter user code.
4. Two tone bleep will confirm system is disarmed and on standby.
5. If the alarm has activated in your absence the zone(s) activated will be shown if you wish to use the event reply function then do not press reset

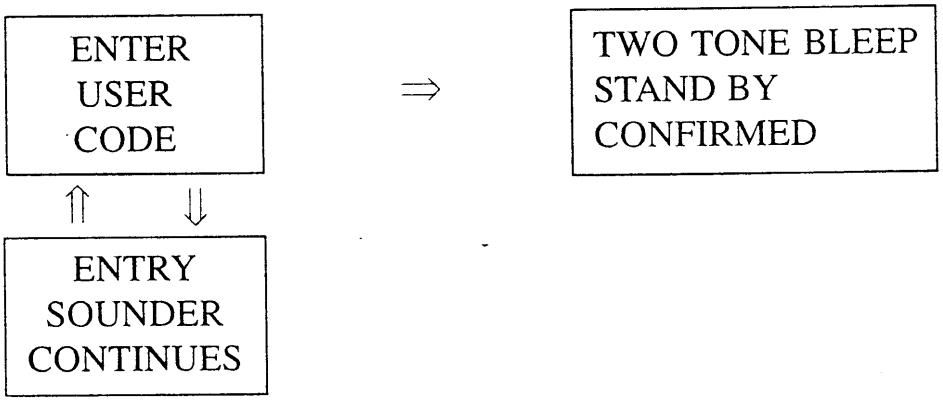
PART ARMING THE SYSTEM FOR NIGHT SETTING



1. Press (Part guard).
2. If zone LED is on, check detectors on that zone i.e. open door.
3. Press (arm). The system will now arm omitting pre-selected zones.
4. It is possible to QUICK SET the system and silence the exit tone by pressing the exit tone (arm) button again.

   The system will arm within a few seconds.
5. Once exit sound has stopped the system will be armed

DISARMING THE SYSTEM WHEN ON THE PREMISES



1. Go to the panel via the designated route.
2. Enter user code.
3. Two tone bleep will confirm system is disarmed and on standby.

ENTER ZONE NUMBERS TO BE OMITTED

PRESS  ⇒ PRESS  ZONE OMIT ⇒ [24Hr LED FLASHES] ⇒ [ENTER ZONE NUMBERS TO BE OMITTED] ⇒ PRESS 

⇓

If a zone LED is lit then that zone will be omitted when control panel is armed.

1. Press  (full guard).
2. Press  (zone omit). The clear LED will flash.
3. Press zone numbers to select or deselect for omit, the omitted zone LED(s) will be illuminated. Note that Zone 1 (Entry/Exit) cannot be omitted.
4. Press  (arm).

EVENT REPLAY

[ENTER USER CODE] ⇒ PRESS  EVENT REPLAY

1. Do not press  (reset) after the alarm has been disarmed.
2. Press  (Event Replay) up to 4 times to display past events.
3. Press  (reset) twice to return to standby.

LOST USER / ENGINEER CODE

IN THE EVENT OF A LOST OR FORGOTTEN ENGINEER CODE ON AN OPERATIONAL SYSTEM:-

1. Switch off mains power.
2. Disconnect the rechargeable battery.(If an SCB is fitted the external sounder will operate)
3. Place a screw driver in a position able to short out the NVM RESET pins positioned on the left hand side of the microprocessor
4. Reconnect either the mains or battery and wait three seconds.
5. Remove the screw driver, the control panel is now reset to factory set and will require reprogramming with all previous requirements.
6. In the event of a lost or forgotten user code or an operational system;
   A. Enter engineers code (9,9,9,9)
   B. Press 0 then reset.
   C. The panel has returned to factory set and will require reprogramming with all previous requirements.

INSTALLATION LOG

This LOG may be filled in, detached from the manual and retained as a record of the installation.

INSTALLATION ADDRESS _____

_____

CONTACT NAME _____

TELEPHONE NUMBER _____

INSTALLATION DATE _____

ZONE	AREA PROTECTED	DETECTOR
1		
2		
3		
4		
5		
6		
24 Hr		
PA		

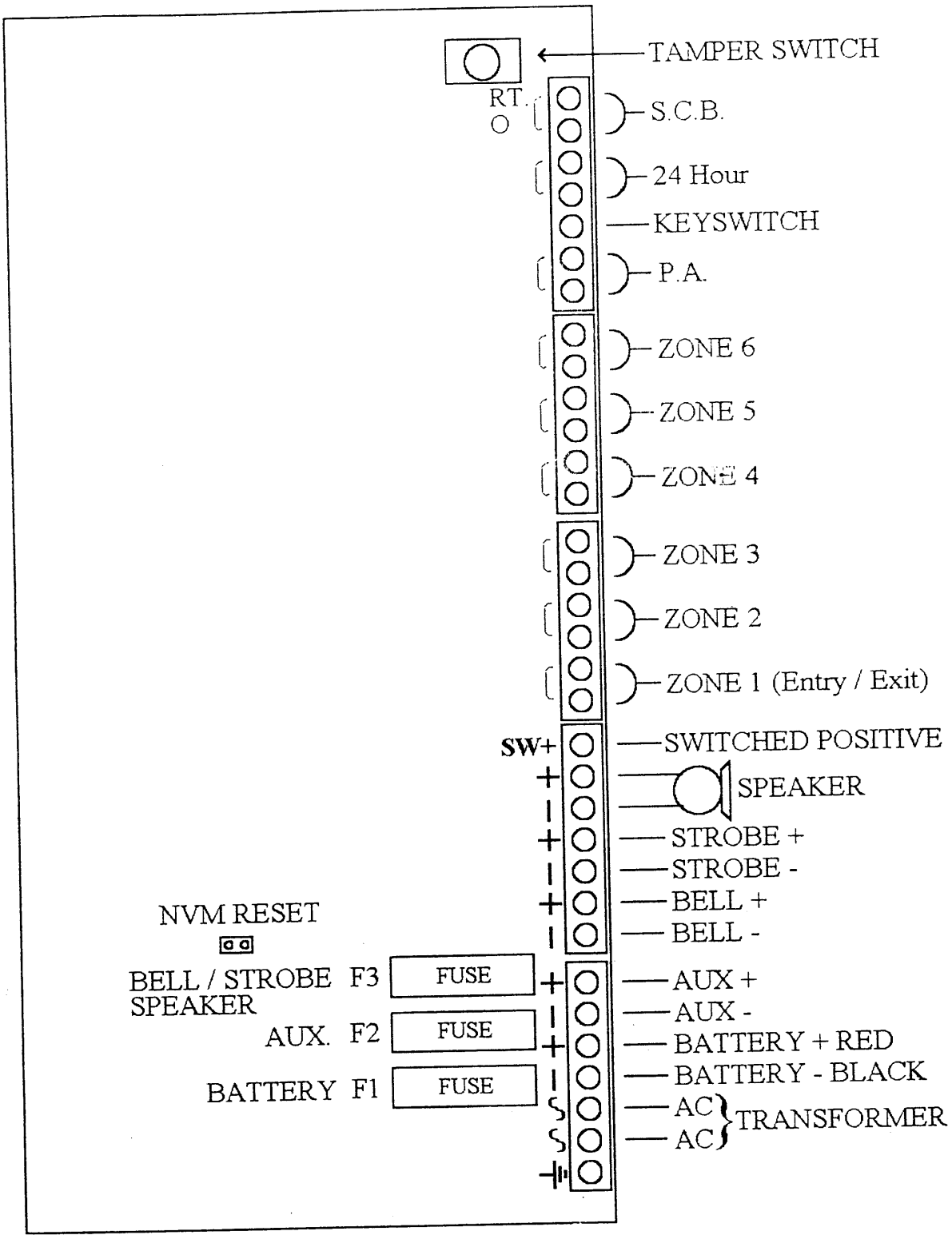
TECHNICAL SPECIFICATIONS

Dimensions	H 186 mm W 249 mm D Top 40 mm Bottom 60 mm
LED Indicators	Mains, PA, 24 Hr and Zones 1 to 6 with keypad illumination.
Detection Zones	Zone 1 - 6 positive loop 24 Hr negative loop PA positive loop
Maximum Zone Loop Resistance	5000 OHMS
Zone Input Delay	<200 mS
Extension Speaker	Wired In Series 8 - 30 OHMS
SW+ output	Source 12 Volts @ 12 mA
Bell Output	12 Volts Timer adjustable from 1 to 99 minutes
Strobe Output	12 Volts continuous
Control Panel Current Consumption	Standby-by 137 mA Alarming 170 mA (internal only)
AUX. Output	13.4 Volts
Battery Charge Voltage	13.4 Volts
Battery Type	1.2 - 2.1 Ah 12 Volt Lead Acid
FUSES All	20 mm 1 Amp Quick Blow
Total Current Output	1 Amp ABSOLUTE MAX.
Mains Supply	220-245 Volts AC Double Insulated

FACTORY SET DEFAULTS

User Code	1234
Engineer Code	9999
Exit Time	30 Seconds
Entry Time	30 Seconds
Bell Time	20 Minutes
Walk Through Zone	Zone 2
Entry / Exit	Zone 1 (not programmable)
Arming Mode	Symbol Arming (Speed Arming)

ADVANTAGE TERMINAL LAYOUT



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