

Introduction

The 601/602 Alarm Control Panel is a fully programmable six zone Alarm Control Panel designed specifically for domestic and small commercial installations.

A basic system comprises an Alarm Panel that houses the system electronics, power supply, battery, and speech communicator (if fitted). On the 601 a numeric keypad and row of Light Emitting Diodes (LEDS) allow the user and installer to operate the system. The 602 has no keypad or displays except for a Power LED. The user controls the system from a 625 remote keypad.

The 601/602 can work with all types of intruder alarm detector.

In addition, the 601/602 control panels can take the **660 Speech Communicator**: a small digital recorder that can be fitted within the panel. The 660 can be programmed to call up to four telephone numbers in the event of an alarm, and deliver up to four recorded speech messages (refer to the 660 Installation and Programming Guide).

Before installing a 601/602 make sure you are fully familiar with the functions of the panel and the various system plans and detectors described in this manual.



Facilities

Alarm Panel. Figure 1 shows the 601 with its controls and displays.

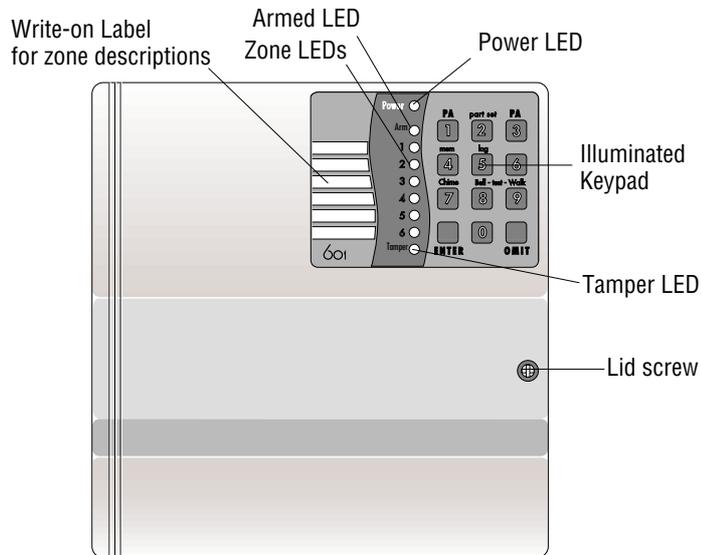


Figure 1. 601 Displays and Controls

Access Codes. The user controls the panel by means of four-digit access codes. The user can store eight different codes plus a separate duress code in the panel, and change each one from the keypad.

The engineer must use a separate four digit code to start programming. The engineer can change this code when the panel is unset.

Anti-Tamper. Anti tamper wiring protects the complete system. Connect all tamper circuits in series to protect each zone. If the panel detects a tamper it gives a tone from the internal sounder and flashes a warning LED when unset, or gives a full alarm when set.

Arm/Disarm Status. You can program the panel to leave the Armed LED off when the panel is set. This allows the user to hide the fact that the panel is armed.

Auxiliary Power. A 12V output provides power for detectors. The output can provide up to 230mA quiescent.

Chime. The panel gives a tone when activated by a detector while un-set. Chime is only available for Normal Alarms, Entry Route zones, and Entry/Exit zones.



2-Ply Entry Timer. You can program the panel to give a 30 second internal alarm if the user over-runs the programmed entry time. The user must unset the panel before the warning ends, or the panel will give a full alarm.

Entry Route. The panel can be programmed to inhibit detectors on the route between the final door and the keypad during the entry time.

Duress code. When the user enters a duress code, the panel sets or unsets, and also triggers a PA output for remote communications.

Entry/Exit Times. You can program entry and exit delays independently. Each can be up to 60 seconds long.

Entry/Exit Zones. You can program any zone as an Entry/Exit zone. Activating an Entry/Exit zone when the panel is set starts the Entry timer. The user must enter their Access Code before the timer expires or the panel will raise an alarm.

External Bell. The panel can be connected to a Self Activated Bell (SAB) using standard bell cable. The SAB draws power from the panel, and contains an internal battery that will operate the sounder if intruders cut the supply. The maximum current available is 500mA. The trigger for a SAB is negative applied in alarm.

You can program a delay between a detector being activated and the panel triggering the bell, and also the length of the time the panel continues to operate the external bell.

Full Set Exit Mode. When programmed for 'Final Door' exit mode the user must enter their access code and close the final door. The panel sets when the door closes. When programmed for 'Timed or Terminate' exit mode, the panel starts the Exit timer when the user enters their access code. At the end of the programmed exit time the panel sets. If a terminate button is fitted, the user can press that to cut short the exit timer and set the system.

Keyswitch. The user can full set, part set, unset, or reset the panel using a keyswitch. For this use a three position keyswitch. The panel has programming options for momentary or fixed position keyswitch operation.

Loading Defaults. You can restore the panel to its factory default program by using a programming command. See 'Programming - Restore Factory Defaults' for more details.

Omit. You can program the panel to let the user omit individual zones, see Zone Attributes below for more information.

Outputs. The panel provides open collector transistor outputs labelled Bell, Strobe and OP1. OP1 can be programmed for one of the following options:

- a) **PIR Set Latch.** When a zone connects to more than one detector the panel cannot identify which detector in the zone caused an alarm. To help identify which detector caused an alarm connect the programmable output to the Latch input of all detectors in the zone. When programmed for Set Latch the panel makes the output active at the end of the exit time, resetting the detectors. When a detector causes an alarm, the panel deactivates the output. This latches the indicator of the detector that caused the alarm, and inhibits all the other detectors connected to the zone. The panel also deactivates the output when in Day mode.
- b) **Shock sensor.** Stand-alone shock sensors normally latch when activated. You can make the panel reset the sensors by connecting a programmable output to their positive supply. The panel deactivates the output for six seconds at the start of the exit time, clearing any latched devices.
- c) **Strobe.** Used to trigger an external strobe when a detector causes an alarm.
- d) **Internal alarm.** The panel activates this output whenever it triggers the internal speaker.

Part Set. When part set the panel responds only to detectors that are programmed as part set zones. You can program the panel with the following options:

- Part set Alarm response can be full or internal only.
- The Entry/Exit zone can be programmed to become an Instant Alarm zone during part set, or remain as an Entry/Exit.
- The Entry Route zone can be programmed become an an Entry/Exit zone during part set, or remain as an Entry Route.
- Exit mode can be Instant Set, Silent Set, or the same as Full Set.

Personal Attack. The user can trigger a PA alarm either by pressing a PA button, or by pressing keys 1 and 3 together on the panel or remote keypad. You can program the panel to respond to a PA by:

- EITHER giving either a full alarm.
- OR remaining silent during a PA alarm if the panel is connected to a 660 Speech Communicator.

In addition, you can disable the PA buttons on the remote keypads through programming.

Rearm Mode. You can program the panel to re-arm itself after raising an alarm. The options are: never (keypad reset only), once, twice, three times or always.

Note: This feature does not rearm the speech communicator output.

Remote Keypads. The 601/602 can support up to two 625 remote keypads. The keypads provide the same keys, displays and sounders as the main panel

(see Figure 2). Note that you can disable the Personal Attack signal from the keypad during programming.

Note: The 602 is supplied complete with one 625 remote keypad.

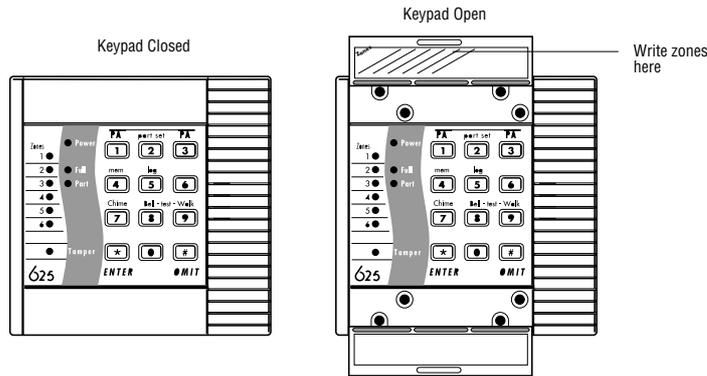


Fig 2. 625 Remote Keypad

Sounders. The panel uses a loudspeaker fitted inside the case to give alarm and entry/exit tones. You can connect a remote boxed speaker to the speaker terminals.

System Reset. When delivered from the factory the panel allows the customer to reset it after an alarm. If necessary you can program it for engineer only reset.

Zone Types. You can program any zone as one of seven types. Each type operates as follows:

- a) **Normal Alarm** causes an instant alarm when the panel is set.
- b) **24 Hour Zone** causes an instant alarm whether the panel is set or un-set. The alarm is internal only when the panel is un-set.
- c) **Entry Route Zone** causes a full alarm if the panel is set. However, if the entry timer is running then the panel inhibits this zone. Use for detectors between the entry door and the panel.
- d) **Entry/Exit Zone** starts the entry timer if the panel is set.
- e) **PA Zone** causes an instant alarm whether the panel is set or un-set.
- f) **Fire Zone** causes an instant alarm whether the panel is set or un-set, and pulses any external sounder.
- g) **Technical Alarm** causes an instant alarm whether the panel is set or un-set, and triggers the internal sounder.

Zone Attributes. You can change the way each zone type behaves as follows:

- a) **Chime.** The panel gives a tone when activated by the detector while un-set. Chime is only available for Normal Alarms, Entry zones, and Entry/Exit zones.
- b) **Part Set.** If the user part sets the panel then it will respond to all zones programmed as 'active in part set'.
- c) **Omit.** The user can isolate any zone programmed as Omit allowed. Omit is NOT allowed for PA or Entry/Exit zones.

Technical Specification

Zones:	6 Fully programmable closed loop plus global anti-tamper.
Display:	LED (on 601).
Keypads:	601 On-board plus two 625 Remote keypads. 602 two remote keypads (one supplied).
Keyswitch:	Full and part set keyswitch option.
Expansion:	None.
Compliance:	Security Standards: BS4737 Pt. 1: (Audibles only). EMC Standards: Products are tested to EN 50081-1 and EN 50082-1, and are CE marked accordingly.
Log:	15 events.
Panel Siren:	601 - Yes (80dB at 1m), 602 - not fitted.
Extension Sounder:	1 x 9040 16 Ohm loudspeaker/sounder.
Battery:	1.9 (2.1)Ah Lead acid gel type rechargeable.
12 volt power:	Panel quiescent = 70mA Keypad quiescent = 40mA.
Aux DC Power:	230mA max at 12 V quiescent.
Dimensions:	h x w x d = 212 x 212 x 68 mm
Weight:	1.2 Kg.
Communicator:	PA + Burg + Open/Close outputs for 660 Speech Communicator.
Input:	Line fault.
Outputs:	Bell + Strobe (Negative applied (SAB)) giving a total of 500mA at 12V in alarm state. Transistorised OP1: programmable output for PIR Set Latch, Shock Sensor Reset, Internal alarm giving 150mA max. Armed and Ready LED outputs for use with keyswitch set.

Compatible Equipment

625UK-00	Remote keypads (3 wire plus Exit terminate input).
320UK-00	Passive infra red detector.
330UK-00	Passive infra red detector.
660UK-00	4 Channel wire in Speech Communicator.
09040UK-00	16 Ohm loudspeaker.
08506UK-00	"Eurobell" complete with SAB module.

System Planning

Installation Precautions

Make sure that all windows and doors are secure, and do not need repair, **before** installing the system. Insecure doors and windows can cause false alarms. Make sure there are no pets or movement (for example flapping curtains) which will trigger any movement detectors. Where possible fit locks to the ground and upper floor windows. This makes an intruder spend more time gaining entry than they would like to. By taking these precautions you can make the alarm system simpler and more effective.

Locating the Panel

Site the panel in a safe unobtrusive position near a mains supply, and within the protected area. Make sure the user can reach and see the panel easily in order to turn it on and off. Make sure the user can reach the final door from the panel within the chosen entry and exit times, and hear the exit sounder. You can fit an extension speaker to extend the range of the tones.

Locating the External Bell

Fit the external bell unit as high as possible to make sure an intruder cannot interfere with it. Make sure the unit can be seen and heard easily. Do not place the unit facing heavy traffic or a railway line, which will drown the sound of the bell. Make sure the wiring for the bell/strobe unit goes through the wall directly behind its case, do not run surface wiring.

Locating a Dummy Bell Casing

You can fit dummy bell housings to other sides of the building to show the house is protected. These housings are identical to the real unit but do not contain any equipment.

Installation Example

Figures 3 and 4 on the next pages show an alarm system fitted to a typical house with ground and upper floors.

Ground Floor

Figure 3 shows door contacts fitted to front and back doors and connected to zone 1. The panel will not set if a contact is open, prompting the user to check and close doors and windows. A PIR connected to zone 2 is used to protect the hallway.

PIRs protect the lounge (zone 3), and the dining room (zone 4). These are Normal Alarm zones. A remote keypad is mounted by the front door.

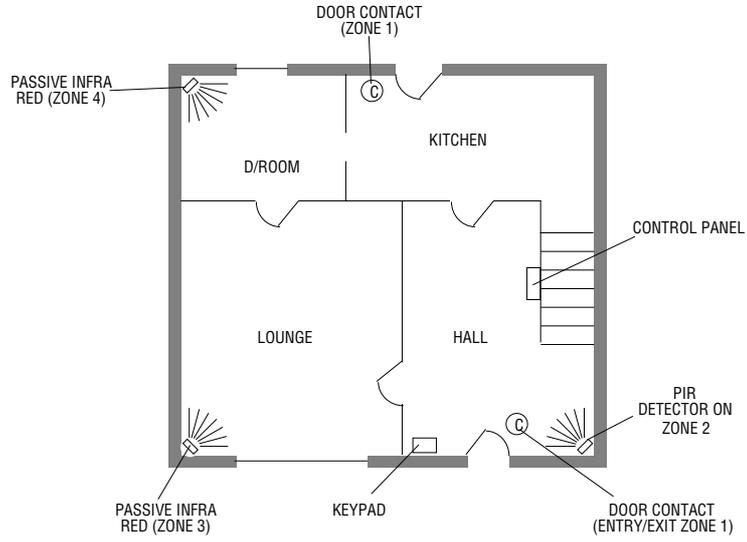


Figure 3. Ground Floor Plan

First Floor

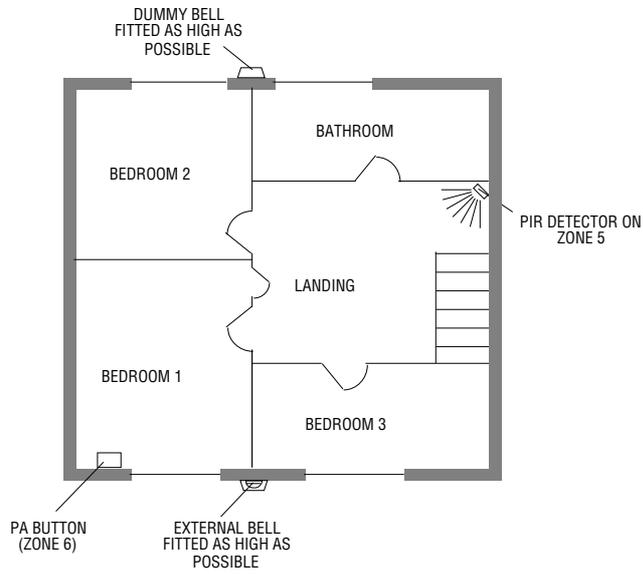


Figure 4. First Floor Plan

Figure 4 shows a PIR fitted on the landing (zone 5). Anyone entering a room through a window and then entering the landing will cause an alarm when they move onto the landing.

A PA button is fitted in bedroom 1, connected to zone 6.

During part set zone 5 is inhibited to allow movement in the upper part of the house. In addition the Entry Route (zone 2) is programmed to trigger the entry timer when someone comes downstairs to unset the system.



Installation

Figures 5 and 6 show the layout of the panel inside the case and the connectors available.

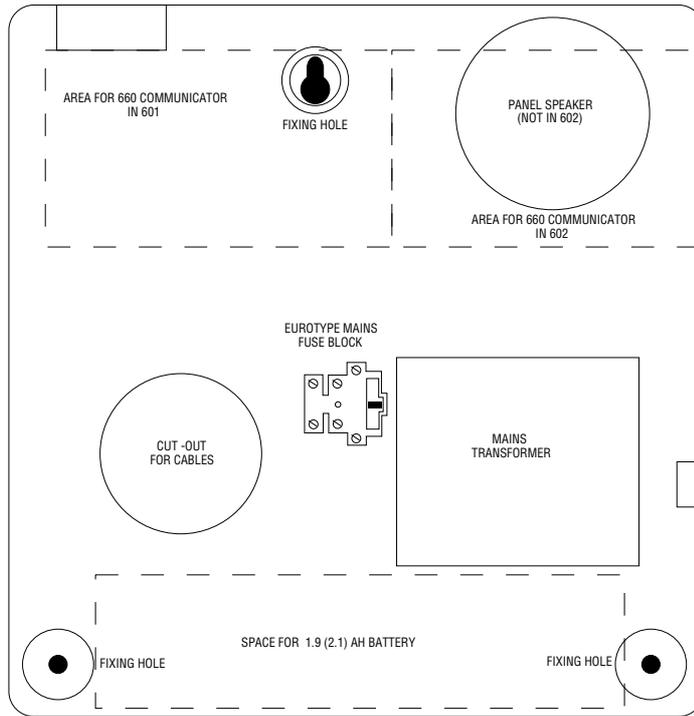


Figure 5. Inside Back of Case

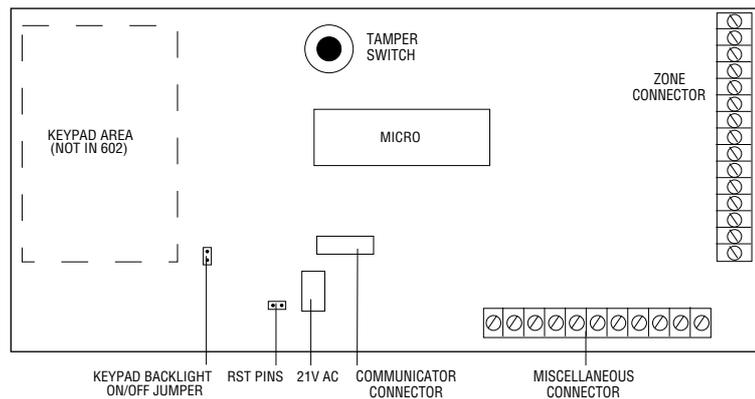


Figure 6. Main Printed Circuit Card (Inside Lid)

Fitting the Control Panel

1. Choose a location where the user can operate the panel easily. (If fitting a 602 choose a convenient location.)
2. Remove the lid screw and open the lid to the left. Note the slotted central key hole located near the top of the back.
3. Hold the panel in place and mark the position of the central key hole.
4. Take the panel down and drill the centre fixing hole.

CAUTION: Do not drill holes with the panel in place. You will damage the electronics.

5. Fit the panel in place using the central key hole and mark the remaining fixing holes.
6. Take the panel down and drill the the remaining fixing holes.
7. Secure the panel to the wall using suitable fixings (for example 30mm x No. 10).

Note: Move Keypad Backlight On/Off Jumper (see Figure 6) onto one pin if you wish to switch the keypad backlight OFF.

Wiring to the Mains

1. Lead the mains cable behind the case and in through the mains cable cut-out, just above the battery (see Figure 5).
2. Connect the mains cable as shown in Figure 7 below.

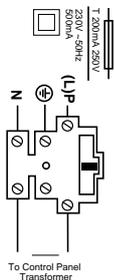


Figure 7. Mains Connection

Warning: Do not apply mains power at this point.

Battery Connection

A 1.9(2.1)Ah maximum rechargeable battery will fit within the panel. Figure 5 shows the position of the battery within the case.

Connecting Detectors

Figure 8 shows the zone connector at the panel. Zones 1 and 2 share a com-

mon terminal, as do zones 3 and 4, and zones 5 and 6. Make sure the tamper circuit of each detector is connected in series to the A/T connections on the zone connector.

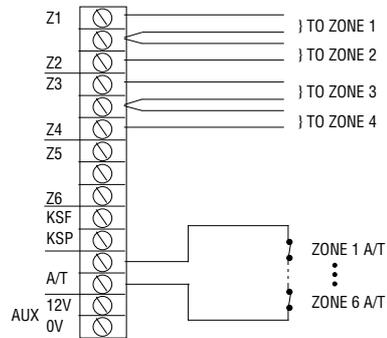


Figure 8. Connecting Detectors

Connecting PIR Detectors

When fitting PIR detectors consult the installation instructions and technical data supplied with the unit.

If you are fitting one detector per zone then the wiring is straightforward (see Figure 9).

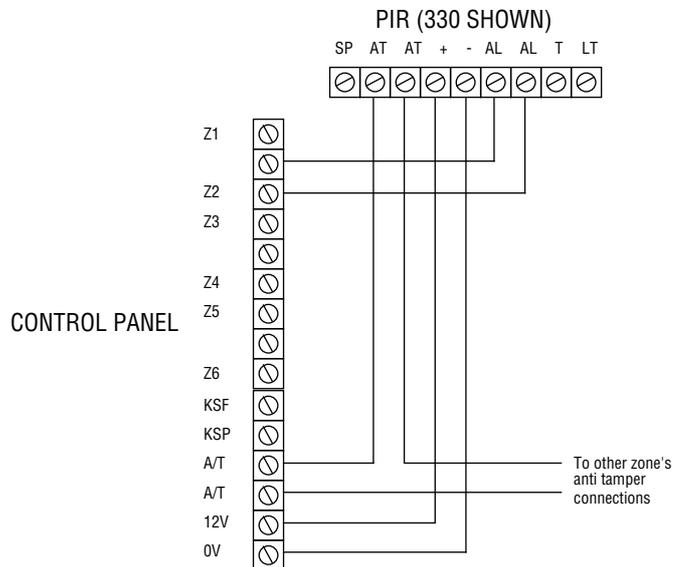


Figure 9. Connecting One Detector Per Zone.

If you wish to connect more than one detector per zone then use the latch facility so that the user can identify which unit has triggered. The panel uses OP1 programmed as 'set latch' to keep the activity LED on the active PIR glowing. You will need 8 core cable for this facility (see Figure 10).

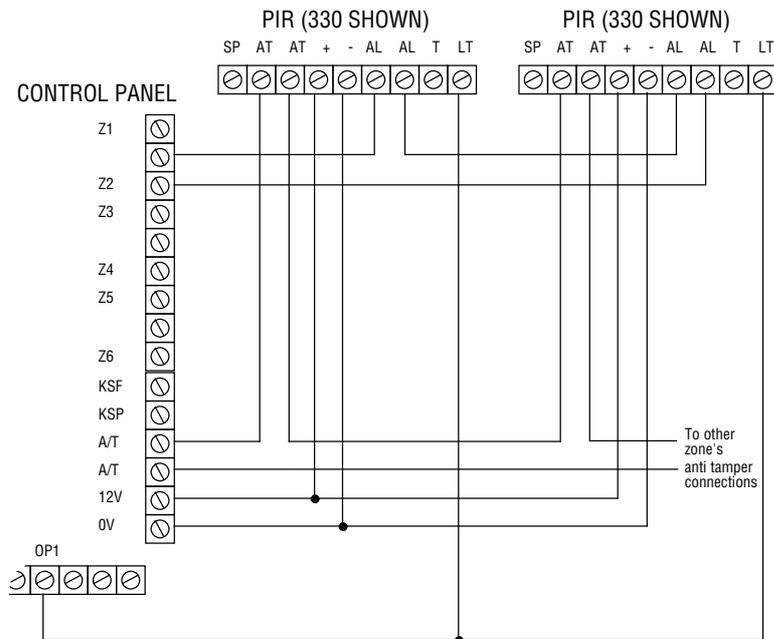


Figure 10. Connecting Two PIRs in Series Using the Latch Facility.

Wiring Door Contacts

A door contact has two parts: a reed switch housed in a plastic casing, and a magnet. There are two types of door contact suitable for domestic installation: Surface and Flush. The Surface contact is fitted on the facing of the door frame with the magnet fitted in-line on the door. The Flush contact is fitted into the frame by inserting it into a pre-drilled hole. The magnet is flush and aligned with the reed switch.

Figure 11 shows shows example connections for typical Surface contacts, using 4 core cable to wire contacts in series.



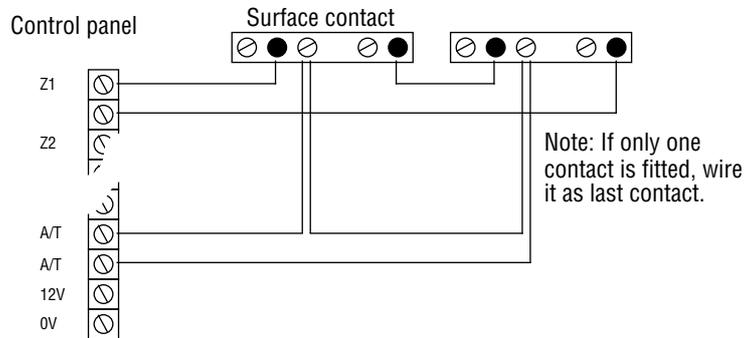


Figure 11. Connecting Door Contacts.

Fitting and Wiring Remote Keypads

Figure 9 shows the connector inside of the 625 remote keypad.

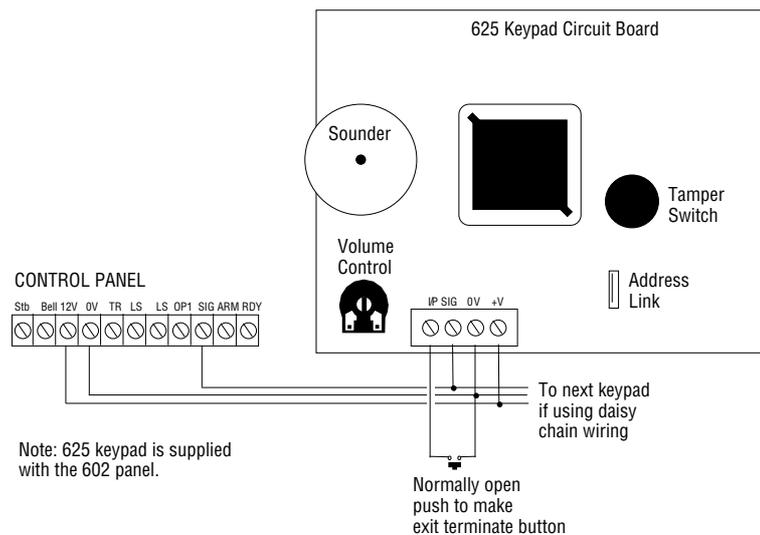


Figure 9. Connecting Remote Keypads

1. Remove the front of the keypad from the back.
2. Fix the back box to a smooth surface at a convenient height for the user.
3. Connect wiring from the panel to the keypad connector.
4. Wire the second keypad, if fitted, in parallel to the first. Connect the cable either at the first keypad (daisy chain) or at the panel (star). The maximum cable length is 100m.

5. Cut the address link in the second keypad to change its address.
6. If fitting an Exit Terminate button connect a Normally Open button to the terminals marked 0V and IP on the keypad.
7. Re-assemble the keypad, ensuring that the tamper switch is closed.

Connecting Keyswitches

Figure 10 below shows an example connection for a typical keyswitch, for fixed or momentary operation.

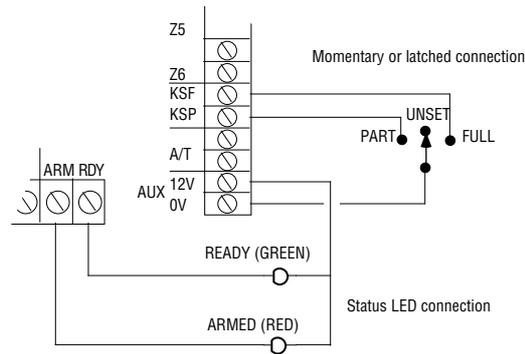


Figure 10. Keyswitch Connections

See 'Key Switch Operation' on page 20 for the correct settings to use either type of switch.

Wiring External Sounder

Figure 11 shows an example of connections for a typical external sounder (see the manufacturers instructions supplied with individual units for further information on wiring diagrams)

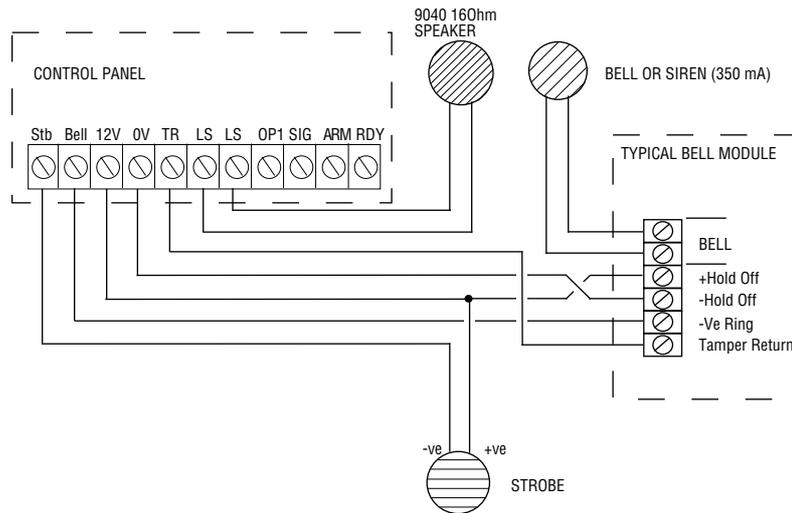


Figure 11. Typical External Sounder Connections

Make connections to the control panel and SAB module as follows:

Strb	Negative trigger in alarm for strobe light.
Bell	Negative bell trigger (Programmable applied or removed)
12V	Positive bell module hold off voltage (Supply).
0V	Negative bell module hold off (Supply).
TR	Negative tamper return from bell module to control panel.

Notes:

SAB shown for negative applied.

Link tamper return to 0V if no external tamper is required.

Connect all bell wiring to the control panel with the exception of the trigger to the siren or bell. The bell/siren will continue to ring from the on-board battery until the final connections are made after initial power-up. See 'Initial Power Up'.

Fitting a Speech Communicator

Note: Disconnect the speech communicator wiring harness from the main pcb if you are NOT fitting a communicator.

Figure 12 shows the connector for the speech communicator.

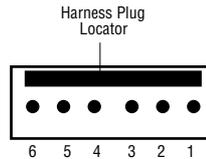


Figure 12. Speech Communicator Connections

If required the 660 speech/digital communicator can be fitted inside the back casing of the panel.

1. Locate the 660 toward the top of the back box, using the self adhesive pads provided. Make sure the exposed part of the 660 is to the right.
2. Wire the communicator harness to the 660 as shown in the following table:

601	Function	Colour	660
Pin1	PA output - positive removed in alarm.	Red	ST2
Pin 2	Line monitor input, 12V positive applied for Line Fault.	Blue	LF
Pin 3	Burglar output - positive removed in alarm.	Yellow	ST3
Pin 4	Open/close output - positive removed in alarm	Black	ST4
Pin 5	12V Supply.	Brown	12V
Pin 6	0V. Supply.	Orange	0V

3. To connect the telephone line remove the 660 line connection cover and connect a cable from the terminals provided to the telephone socket. See the separate 660/960 Installation and Programming Guide for correct connections and further instructions.
4. Reassemble the 660.
DO NOT plug the speech communicator harness onto the panel's main circuit card at this point.

Telephone Line Fault

If a telephone line fault occurs while the system is unset, then the panel gives an internal alarm. When the user keys in their access code, the panel flashes the Tamper LED on and off every two seconds. The user can still arm the system with a telephone line fault present.

If a telephone line fault occurs while the system is armed, and an intruder alarm occurs, then the panel overrides any programmed bell delay and triggers the external sounder immediately.



Programming

Initial Power Up

Before applying power to the panel make sure that:

- All used circuits are connected.
- The Bell trigger is NOT connected to the external sounder.
- The battery or speech communicator (if fitted) is NOT connected.
- The global anti tamper circuit is closed and the tamper return (TR) is linked to 0V.

Note: The panel will not enter programming mode if the global anti tamper is open circuit, or if the negative tamper return is not present.

1. Close the 601 (or 602) lid or defeat the lid tamper.
2. Apply mains power to the 601/602.
The Power LED comes on.
3. Key in the default user code (1234) if there is an alarm. Ignore any LEDs that are lit at this stage.
4. **For a 601:**
Key in
0 + ENTER + the engineer code (default 7890).
The panel beeps once per second.
Open panel lid or release the panel tamper.
The panel beeps twice and all the LEDs flash.
You are now in Programming Mode.
5. **For a 602 with 625 keypad:**
Key in
0 + ENTER + the engineer code (default 7890).
The keypad beeps once per second.
Open 602 end station lid or release the tamper.
The 602 beeps twice if a 9040 sounder is fitted. (Keypad LED's do not flash.)
You are now in Programming Mode.
6. Connect the battery and make any final wired connections (for example bell trigger to the external sounder, or communicator harness to main pcb).
7. Remember to remove any link between 0V and TR if you are fitting a SAB.

Default Settings

When delivered from the factory, the panel is programmed as follows:

Zone 1, Entry/Exit, Chime, active in Part Set.	01 489
Zone 2, Entry Route, active in Part Set, Omit allowed.	02 39 OMIT
Zone 3, Normal Alarm, active in Part Set, Omit allowed.	03 19 OMIT
Zone 4, Normal Alarm, active in Part Set, Omit allowed.	04 19 OMIT
Zone 5, Normal Alarm, Omit allowed.	05 1 OMIT
Zone 6, Personal Attack.	06 5
Strobe output	11 49
Programmable output 1 is PIR Set Latch.	12 18
Engineer code is 7890.	20
Key switch operation is momentary.	21 0
PA gives audible alarm.	30 0
Customer reset.	31 0
2-Ply Entry Timer disabled.	32 0
Keypad PA enabled.	33 1
LEDs ON during Set.	34 1
Exit mode is Timed or Terminate.	35 0
Rearm after alarm three times.	40 3
External sounder delay zero (instant alarm).	41 0
External sounder duration three minutes .	42 2
Entry time is 20 seconds.	43 4
Exit time is 20 seconds.	44 4
Communicator outputs normal.	51 0
During Part set Entry/Exit zone starts entry timer.	60 0
During Part set Entry Route zone starts entry timer.	61 1
During Part set the exit mode is the same as full set.	62 0
Part set alarm response local only (no communications).	63 0
User 1 code	1234.
User 2 - 8 code	0001 to 0007 * (inactive).
Duress code	OMIT OMIT OMIT OMIT (inactive).

* The default code for user two is '0001', for user 3 it is '0002' and so on up to user 8, which is '0007'. Refer to the 601 User Guide for instructions on changing the user codes.

Programming Commands

To change the factory default program, use the commands listed in this section as follows:

1. Enter the command number.
2. Enter one or more digits to give the new program.
3. Press ENTER.
The panel will give a double bleep to show that it has accepted the command. If you enter the command incorrectly the panel gives a single tone.

To change	Key in:	Followed by:	+ ENTER
Zones 1-6	01-06	0= Not used 1= Normal Alarm 2 = 24 Hour Alarm 3 = Entry Route 4 = Entry/Exit 5 = PA 6 = Fire Alarm 7 = Technical Alarm In addition: 8 = Chime 9 = Active in Part Set OMIT = Omit Allowed	
<div style="border: 1px solid black; padding: 5px;"> <p>Example: Select one zone type from 0 to 7. Choose which attributes you require from 8, 9 and OMIT. Then press ENTER.</p> </div>			
Strobe Output	11	Reserved. Do Not Use	
Programmable Output 1	12	18 = PIR Set Latch (+ve applied when active) 19 = +ve removed when active. Not normally used 28 = Shock Sensor Reset (+ve removed when active) 29 = +ve applied when active. Not normally used 3 = Reserved 48 = Not normally used 49 = Strobe (-ve switched) 58 = +ve removed when active. Not normally used 59 = Internal Alarm (+ve applied when active)	
<div style="border: 1px solid black; padding: 5px;"> <p>Example: To select Shock Sensor Reset key in 12 28 and then press ENTER.</p> </div>			
Engineer Access	20	Any 4 digit code	
Key Switch Operation	21	0 = Momentary 1 = Latched	
PA	30	0 = Audible Alarm 1 = Silent Alarm	
System Reset	31	0 = Customer Reset 1 = Engineer Reset	
2-Ply Entry Timer	32	0 = Disabled 1 = Enabled	
Keypad PA	33	0 = Disabled 1 = Enabled	
Set/Part Set Display	34	0 = LEDs ON when set and part set 1 = LEDs OFF when set and part set.	
Exit Mode	35	0 = Timed or Terminated 1 = Final Door Set	
Rearm	40	0 = Never 1 = Once 2 = Twice 3 = Three times 4 = Always	

To change	Key in:	Followed by:	+ ENTER
External sounder delay	41	0 = Nil 1 = 1.5 mins 2 = 3 mins 3 = 5 mins 4 = 10 mins 5 = 15 mins 6 = 20 mins	
Ext. sounder duration	42	0 = Nil 1 = 1.5 mins 2 = 3 mins (default) 3 = 5 mins 4 = 10 mins 5 = 15 mins 6 = 20 mins	
Entry Time	43	1 = 1s 2 = 10s 3 = 15s 4 = 20s 5 = 30s 6 = 60s	
Exit Time	44	0 = Continuous 1 = 1s 2 = 10s 3 = 15s 4 = 20s 5 = 30s 6 = 60s	
	51	Reserved. Do Not Use	
Part Set Entry/Exit	60	0 = Starts Entry Timer 1 = Instant Alarm	
Part Set Entry Route Zone Response	61	0 = As Entry Route 1 = Start Entry Timer	
Part Set Exit Mode	62	0 = As Full Set 1 = Silent Set 2 = Instant Set	
Part Set Alarm Response	63	0 = Local (No comms) 1 = Full	

Restoring Factory Default Settings (Command 98)

If you want to restore all the programming to the original factory defaults, then:

2. Key in **98** + ENTER.

The panel erases all programming the user or previous engineers have entered, and restores the original factory defaults.

Leaving Programming Mode (Command 99)

1. Close panel lid.
2. Key in **99** ENTER.
The panel beeps twice and the Power LED glow steadily. The panel is now in user mode.

To Re-enter Programming Mode

1. Key in **0** + ENTER + (engineer access code)

The panel starts beeping once per second.

2. Open the panel lid.

The panel beeps twice and all the LEDs flash. The panel is now in programming mode.

Restoring Default Engineer and User Codes

If you want to remove any programmed Engineer and User codes (perhaps to reuse the panel with another user) then:

1. Remove Mains supply.
2. Open 601/602 lid and remove Battery supply.

Note: Leave the lid open and make sure the Lid Tamper switch does not close, or this procedure will not work.

3. **On the 601:** hold down OMIT and 9 and reconnect battery supply.
4. **On the 602:** short together the two RST pins on the main pcb with a small screwdriver and reconnect battery supply. Remove the screwdriver after three seconds.
5. Close lid and key in 1234.

Testing

Once the panel is installed, connected and programmed, there are several programming commands that can be used to test it while in Programming Mode. These are listed below (Press ENTER to stop any test.):

To Test	Key in:	Followed by:
Engineer Log	90	4 see earlier events. 5 to see more recent events. ENTER to quit log. (15 events max.)
External Sounder	91	ENTER to stop test.
Strobe	92	ENTER to stop test.
Internal Sounder	93	ENTER to stop test.
Output 1	95	ENTER to stop test.
Walk Test	97	ENTER to stop test.



Fault Finding Guide

Symptom	Response
<ul style="list-style-type: none"> • POWER LED FLASHES CONTINUOUSLY. 	<ul style="list-style-type: none"> • Mains supply has failed, panel operating from battery only. • Check mains connection and fuse.
<ul style="list-style-type: none"> • SAB WILL NOT STOP RINGING. 	<ul style="list-style-type: none"> • SAB not receiving power. • Check 12V supply present. • Check tamper switch on external sounder. • Ensure cover on external sounder is secure.
<ul style="list-style-type: none"> • ALARM ACTIVATED, TAMPER LIGHT FLASHING RAPIDLY AFTER USER CODE ENTERED. 	<ul style="list-style-type: none"> • Check negative tamper return present. • Check global anti tamper is closed circuit. • Check lid tamper is properly closed.
<ul style="list-style-type: none"> • ALARM ACTIVATED, TAMPER LIGHT PULSES EVERY TWO SECONDS. 	<ul style="list-style-type: none"> • Check for telephone line failure.
<ul style="list-style-type: none"> • AFTER ENTERING ENGINEER CODE THE SOUNDER BLEEPS EVERY SECOND, BUT WHEN LID TAMPER OPENED SYSTEM WILL NOT ENTER INTO PROGRAMMING MODE. 	<ul style="list-style-type: none"> • Check that the global anti tamper terminals are closed circuit. • Check the negative tamper return is present. • If lid tamper is already open, close and open it again.