



**Guardall**

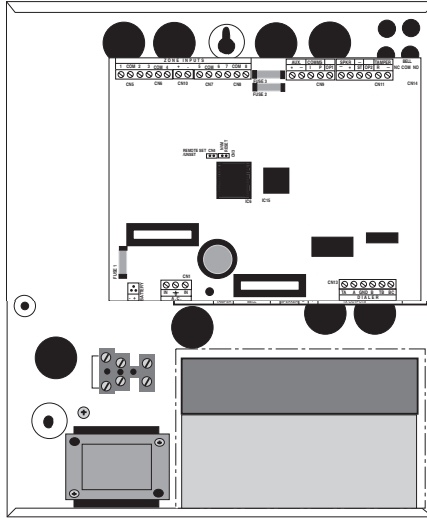
# **WINDSOR**

**SERIES *300i***

## **Installation & Programming Guide**

**CE** This product is compliant with the EC Directive 89/  
336/EEC on Electromagnetic Compatibility.

# Installation & Programming Features



## Flexible System Configuration

- 8 zone fully programmable
- Expandable to 32 zones with 6 x 4 way external concentrators
- Concentrators have 4 inputs and 2 programmable outputs
- Allows for the combination of up to 6 LED keypads, LCD, and/or electronic keypoints (communicator programming limited to LCD keypad)
- Direct connection shock sensor inputs
- Zones connected to keypads/keypoints

## Programming and Installation

- Single PCB with PSU & communications
- Separate engineer PIN
- Text descriptive software for system customisation
- Up/down loading capability
- 200 Event log
- Non volatile memory (NVM)
- Shock sensor inputs
- Individual tamper on all circuits
- Circuit doubling (global tamper)

## Operating Procedures

- Industry unique electronic key (SmartPIN)
- 14 user codes
- 4 authority levels (Master, Ordinary, Set, and Duress)
- Instant and silent setting
- Real time clock, time and date stamping of events
- 2 part set and full set
- System status indication
- Push button setting

# Installation & Programming Contents

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## Technical Hotline



Should you experience any problems concerning the installation or programming of your Windsor 300i control panel, please contact our Customer Technical Hotline between 0900 and 1700 Monday to Friday.

Phone Number : 0131 333 3802  
BBS Modem Info Line No. : 0131 335 3926

# Installation & Programming

## Introduction

**This manual is intended for use with software version V1.3X**

This Control Panel is microprocessor based and has 8 fully programmable zones. The Panel is ideally suited for larger domestic or commercial installations. Expansion up to 32 zones is available using external expansion (concentrator 6 x 4 way) up to the maximum of 32 zones. There are 14 User Codes and one Engineer Code. The use of electronic keys is available via the keypads as an alternative to a Pin Code. Each key must be programmed onto the system by following the Pin Code change routine before it will function.

Each user code may be assigned a different authority level depending upon the level of access required.

<b>Authority Levels</b>	-	Manager	Set / Unset / Omit / Chime / Test / Change Pin / Change Time / Edit Text / View Log / Remote Access
		Ordinary	Set / Unset / Omit / Chime / Change Pin
		Set Only	Set / Change Pin
		Duress	Set / Unset / Change Pin/ Omit / Chime

The Panel has an integrated Smartdial communicator. This allows alarm reporting in Ademco fast, Superfast, Point ID or paging formats. The communicator can also be used for remote management if used in conjunction with the GuardStation Remote PC package.

An event log of 200 time and date stamped events is provided along with a real time clock.

The Panel will always retain its Set/Unset status in the event of a total power failure. This means if the panel was set when power failed, when power is restored, the panel will be automatically set. To allow detectors to stabilise, there is a one minute suspension of alarm processing whilst the battery condition is checked. If the voltage is satisfactory, alarm signals will again be processed. If when the panel is depowered set and a faulty battery is fitted, the panel will not power up correctly. If this occurs, remove the battery and power up. The panel will operate after one minute or on the first keypress.

**Note : The engineer cannot log on to the panel in the Set condition**

**Prior to installing the control panel, the installation manual should be read and fully understood.**

# Installation & Programming

## System Components

### Control Panel

The Panel is the heart of the system and is programmed and controlled using up to 6 remote keypads.

The Panel constantly monitors each of the detection devices on each of the zones, and in the event of an alarm, it takes appropriate action which depends on the current status of the system (Set or Unset). Bell tamper, case tamper and Individual tamper on all zones are also provided. This will give a response if one of the detectors is opened, or if the lid is removed from either the Control Panel, remote keypads or the External Sounder.

The Panel is mains powered, and should be fitted with an internal stand-by battery which takes over in the event of the mains supply being cut. This battery is recharged from the control panel supply. An internal speaker is fitted inside, which provides tones to inform you of the system state, and also operates in the event of an alarm. Optional extension speakers can also be fitted (combined value 16 Ohm).

### Remote Keypad

Remote keypads can be used to control the system from a position remote to the panel. The keypads have LED status indication, backlighting, zone and tamper inputs, external buzzer and programmable outputs 1 & 2.

Additionally, the LCD keypad allows the engineer and user to take advantage of the 16 character liquid crystal display for customising configuration of installation through text descriptive software.

SmartPINs (electronic keys) can also be used on both keypads.

### Electronic Keypoint

These can be used to control setting and unsetting using a SmartPINs (electronic key). Full Set, Part Set 1 and Part Set 2 buttons allow arming and disarming by the SmartPIN. System resetting must be completed from a remote keypad.

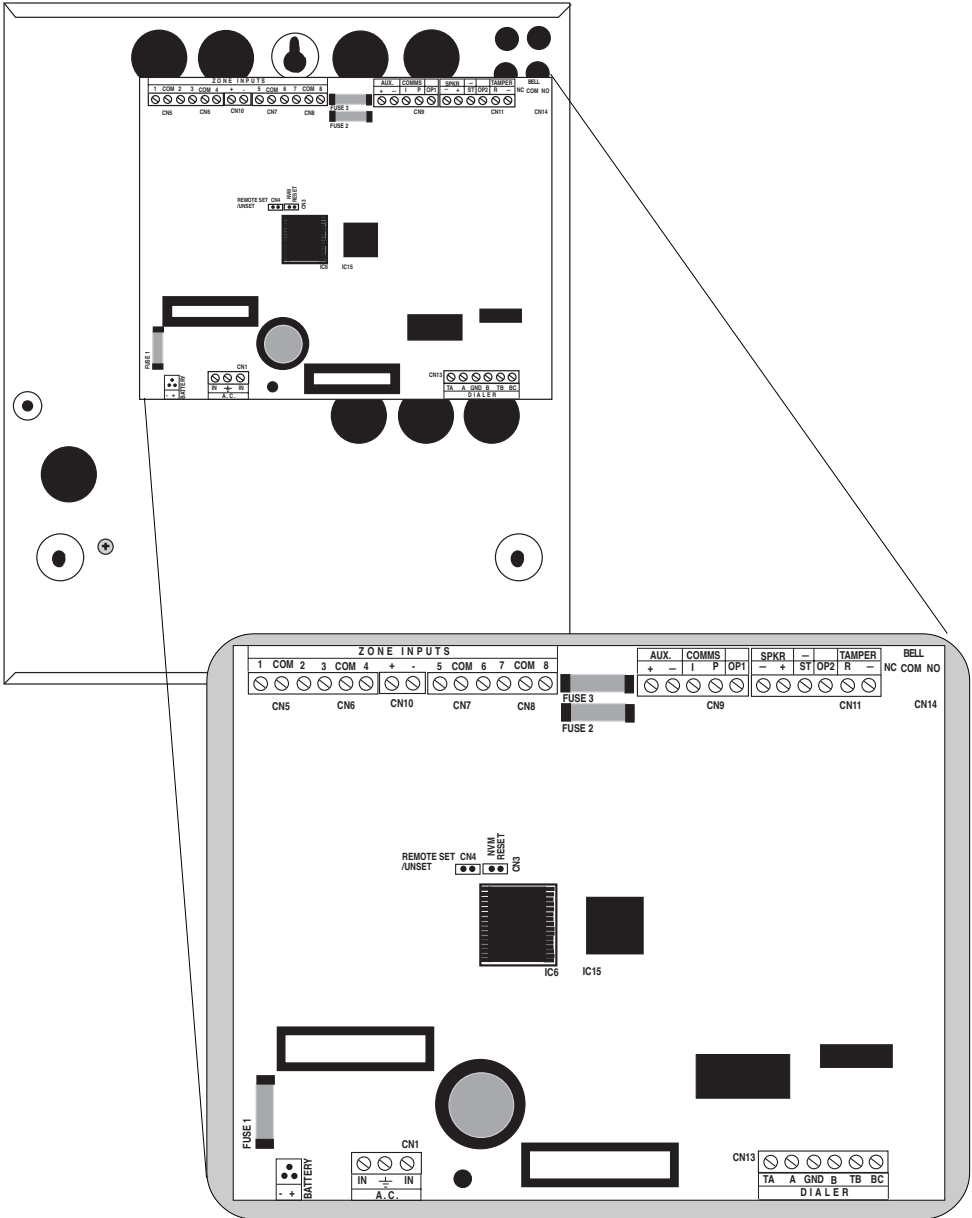
The Keypoint has backlighting, zone and tamper inputs, buzzer facility and programmable outputs 1 & 2.

### External Concentrators

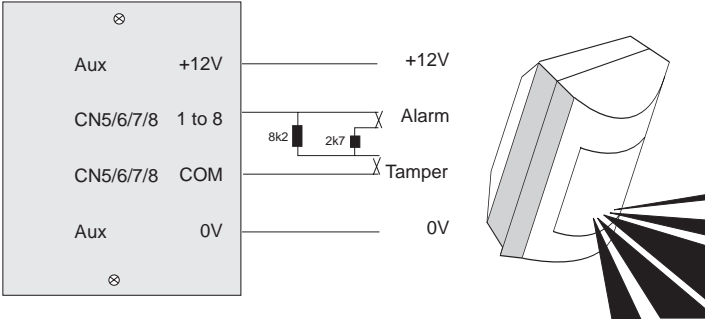
Concentrators are connected to the keypad bus and can be in star or series connection to other keypads/concentrators or direct to the control panel. External concentrators allow for up to 4 zone inputs and include two programmable outputs.

**Note : The control panel must be programmed using an LCD keypad .**

# Installation & Programming Panel Connections



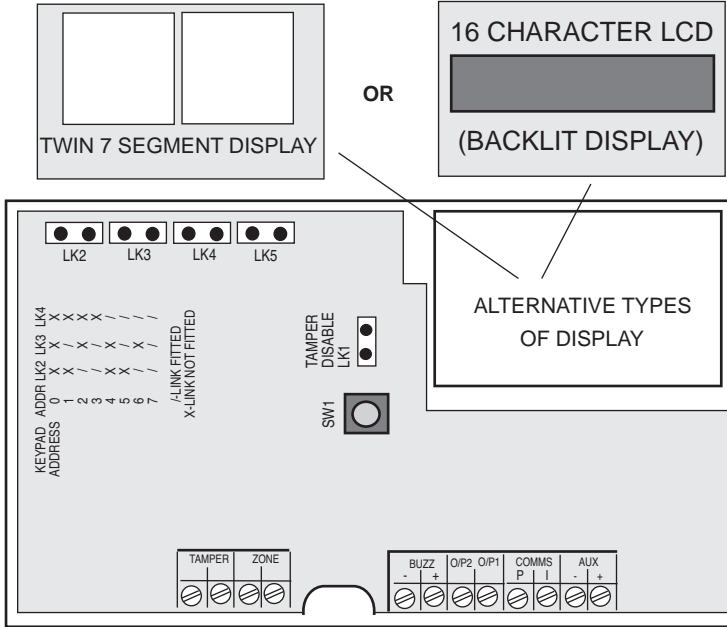
## MAIN PCB

<b>Connector CN1</b>	A.C. Input (18 V ac)
<b>Connector CN2</b>	Battery Connection
<b>Connector CN3</b>	NVM Reset - Fit link across CN3 in depowered condition. Power up unit. Mains LED flashes. Remove link and when Mains LED stops flashing, the panel has defaulted.
<b>Connector CN4</b>	<p>Remote Set/Unset - when connected to a suitable device (i.e. keyswitch or other latching device) when contacts are closed, panel will set and when contacts are open, panel will unset.</p> <p>Alternatively, this input may be programmed as a Push Button input.</p>
<b>Connector CN5 CN6/CN7/CN8</b>	<p>Connection to detectors for alarm and tamper inputs. To connect detectors, wire them as illustrated below, end of line resistor values are 2k<math>\Omega</math> &amp; 8k<math>\Omega</math>.</p> 
<b>Connector CN9</b>	<p>Aux + } +12V and 0V for keypads - }</p> <p>I } connections for keypads P }</p> <p>OP 1 Programmable general purpose output</p>
<b>Connector CN10</b>	<p>+12V } Aux for Zone inputs 0V }</p>

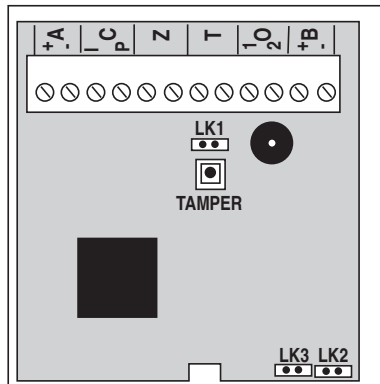
<b>Connector CN11</b>	<p>SPKR +      For optional speaker -</p> <p>ST              Strobe trigger -ve applied</p> <p>OP2           Programmable general purpose output (default +ve applied                  sounder trigger used if relay is not fitted)</p> <p>TAMPER -    Tamper feed               R    Tamper return                  (Tamper can be used for sounder case or detector                  loop if required)</p>
<b>Connector CN12/ CN13</b>	<p>Dialler Connections</p> <p>BC</p> <p>TB</p> <p>B              50v Line connection</p> <p>GND</p> <p>A              50v Line connection</p> <p>TA</p>
<b>Connector CN14</b>	<p>EXT SNDR NO } (Relay)        C } Uncommitted relay contacts for sounder trigger                   NC }</p> <p>(Relay not fitted on all versions)</p>
<b>Sounder Connections</b>	<div style="text-align: center;"> </div> <p><b>Sounder output descriptions</b></p> <p>—</p> <p>ST              This output goes to 0V in alarm and will allow the strobe to trigger.</p> <p>AUX+          12V supply to the sounder used to hold off signals until there is an alarm.</p> <p>OP2 or RELAY OP    12V signal to the sounder used to hold off signals until there is an alarm.</p> <p>TAMPER R      Tamper return for sounder, case tamper for sounder should be connected in series.</p> <p>TAMPER -      Tamper feed or -VE hold off or -VE supply.</p>

<b>OP1/OP2 Operation</b>	Outputs 1 and 2 when programmed can give one of the following output types.
	<b>Detector Latch</b> Output for latching detectors is normally open circuit when unset and high when set.
	<b>Detector Reset</b> Output for resetting devices that require the removal of power to reset. The output is normally high but pulses open circuit at the start of the exit time and gives a 3 second pulse at reset.
	<b>Entry Exit/Follow</b> Output is normally open circuit but goes high when the entry or exit timer is running.
	<b>Bell Follow</b> Output is normally open circuit but goes high while the bell timer is running.
	<b>Walk Test</b> Output is normally open circuit but goes high when the system is in walk test mode.
	<b>Auxiliary</b> Signals a zone activation if the zone is configured for Aux and the attribute is defined for Output 1 or 2. (Normally open circuit, going high on activation).
The above conditions are shown for normal polarity. For inverse polarity, the conditions are reversed.	

# Installation & Programming Keypad Connections



**Keypad**



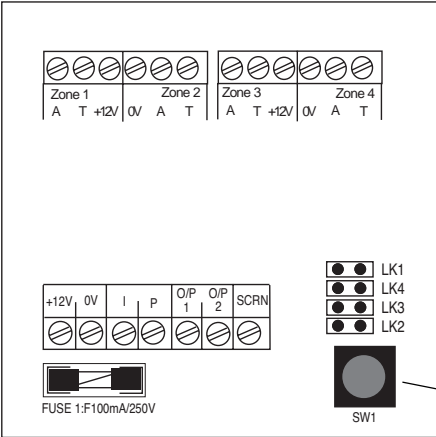
**Keypoint**

## Keypad and Electronic Keypoint Connections

<b>LK1</b>	-	Tamper disabled when fitted							
Keypad Address		0	1	2	3	4	5	6	X = Link Removed
<b>LK2</b>	-	X	X	/	/	X	X	/	/ = Link Fitted
<b>LK3</b>	-	X	/	X	/	X	/	X	
<b>LK4</b>	-	X	X	X	X	/	/	/	
<b>LK5</b>	-	Not Used							
<b>AUX</b>	+ -	Auxillary voltage from panel							
<b>COMMS</b>	I P	Keypad/Keypoint connection from panel							
<b>ZONE</b>	-	Zone input connections (door contacts/PA button)							
<b>TAMPER</b>	-	Tamper connections for Zone							
<b>O/P</b>	1 2	Outputs 1 and 2 (as panel)							
<b>BUZZ</b>	+ -	Remote buzzer connection(DCsupply) Note as Keypads on panels							
<b>VR1</b>		Adjust Display Contrast Turn adjuster clockwise or anti-clockwise							
<p><b>Note</b> - To utilise the zone input on the keypad, the device must be connected to the zone and tamper inputs. The zone must now be programmed for keypad operation. Refer to 'Keypad Zone' programming</p>									

# External Concentrators

External concentrators are connected directly to the keypad bus either in the control panel or via keypad or another concentrator.



Tamper Switch

External Concentrator Connections								
<b>LK1</b>	-	Tamper disabled when fitted						
Conc. Address		1	2	3	4	5	6	/(Link Fitted) X (Link Not Fitted)
<b>LK2</b>	-	X	/	X	/	X	/	
<b>LK3</b>	-	X	X	/	/	X	X	
<b>LK4</b>	-	X	X	X	X	/	/	
<b>AUX</b>	+ -	Auxillary voltage from panel						
<b>COMMS</b>	I P	Concentrator connection from panel						
<b>O/P</b>	1 2	Outputs 1 and 2 (as panel)						
<b>SCRNI</b>		Screen cable connection (if required)						

For zone connection see page 7.

# Installation & Programming Default Configurations

The Control Panel is pre-programmed as follows:-

<b>Zone 1</b>	<b>EnEx Point (Entry Exit)</b>	This zone is configured as a final exit point for full set, part set 1/ 2 and it can be omitted.
<b>Zone 2</b>	<b>Entry Route E.R. (walk through)</b>	This zone is configured for an alarm zone with walk through if the final exit point is activated. This zone will also give entry time start in Part 1 and 2 set. The zone can also be omitted.
<b>Zone 3</b>	<b>Alarm Zone (Part 1 set alarm)</b>	This zone is configured to be an alarm zone in full set and Part Set 1, and is ommitable.
<b>Zone 4</b>	<b>Alarm Zone, (Part 2 set alarm)</b>	This zone is configured to be an alarm zone in full set and Part Set 2, and is ommitable.
<b>Zone 5</b>	<b>Alarm zone</b>	This zone gives an alarm in full set and is ommitable.
<b>Zone 6</b>	<b>Alarm zone</b>	This zone gives an alarm in full set and is ommitable.
<b>Zone 7</b>	<b>Alarm zone</b>	This zone gives an alarm in full set and is ommitable.
<b>Zone 8</b>	<b>Alarm zone</b>	This zone gives an alarm in full set and is ommitable.
<b>Zones 9 - 32</b>	<b>Off</b>	No attributes
<b>Bell Time</b>		15 minutes
<b>Full Set entry</b>		30 seconds
<b>Part Set exit</b>		15 seconds
<b>Full Set exit</b>		20 seconds
<b>Output 1</b>		Detector Reset
<b>Output 2</b>		Detector Latch/Bell Follow (depending on variant)
<b>User Codes</b>		0101 0202 0303 0404 etc. to 1414
<b>Engineer Code</b>		9999

<b>Default Authorities</b>		0101 - (Manager) <b>Note</b> : Authority cannot change. Other Users - (OFF)	
<b>Tx Types</b>	00	Entry Alarm	Default Channel 0
	01	Isolated Set	Default Channel 0
	02	Personal Attack (PA)	Default Channel 0
	03	Normal Alarm	Default Channel 0
	04	Fire	Default Channel 0
	05	Line Fault	Default Channel 0
	06	Full Set	Default Channel 0
	07	Mains Fail	Default Channel 0
	08	Low Battery	Default Channel 0
	09	Auxiliary Alarm	Default Channel 0
	10	Tamper	Default Channel 0
	11	Verification	Default Channel 0

# Installation & Programming



## Engineer Mode

To enter Engineer Mode, first create a system tamper (open panel lid) and enter the Engineer Pin Code (Default 9999). Engineer mode can be exited on completion of programming by pressing **X** then **✓**. The system tamper should be cleared prior to exiting engineer mode. The following options are available from Engineer Mode.

### Engineer PIN Change

Press	<b>2</b>	Engineer PIN change.	ENTER NEW PIN
Press	????	Enter new code.	* * * *
Press	????	Re-enter the new code as confirmation.	RE-ENTER PIN * * * *
<b>NOTE:</b> if the new PIN code entered clashes with an existing code, the display will show, before reverting to			PIN CLASH ENTER NEW PIN

### Event Log (Viewing)

Press	<b>3</b>	Event log.	MOST RECENT EVENT
Press		to scroll backwards through the event log. (see table of event log displays).	
Press		to scroll forwards through the event log. (see table of event log displays)	
Press	<b>8</b>	to view the event number and the time of the occurrence	
Press	<b>9</b>	toggles to view any text descriptors for the event	
Press	<b>X</b>	to exit Event Log display at any time.	

**NOTE:** the keypad will emit a double beep when the most recent event is reached.

### Zone Status

Press	<b>9</b>	Zone status	ZONE 1 CLEAR
Press	<b>X</b> <i>to exit if required</i>	to exit.	ENGINEER ON SITE
If any zones are open, the display will show			ZONE X ALARM

# Event Log Display

LCD Text Display	Status LEDs	Twin 7-Segment	LCD Text Display	Status LEDs	Twin 7-Segment
ZONE "?" ALARM	<input type="radio"/> MAINS <input type="radio"/> TAMPER <input type="radio"/> DAY <input type="radio"/> FAULT	Zone No 01 - 32	SECONDARY COMM OK	<input checked="" type="radio"/> MAINS <input type="radio"/> TAMPER <input checked="" type="radio"/> DAY <input type="radio"/> FAULT	
LINE FAULT	<input type="radio"/> MAINS <input type="radio"/> TAMPER <input type="radio"/> DAY <input type="radio"/> FAULT		DUAL COMM OK	<input checked="" type="radio"/> MAINS <input type="radio"/> TAMPER <input checked="" type="radio"/> DAY <input type="radio"/> FAULT	
ZONE "?" SET FAIL	<input type="radio"/> MAINS <input type="radio"/> TAMPER <input type="radio"/> DAY <input checked="" type="radio"/> FAULT	Zone No 01 - 32	PRIMARY COMM FAIL	<input checked="" type="radio"/> MAINS <input type="radio"/> TAMPER <input checked="" type="radio"/> DAY <input checked="" type="radio"/> FAULT	
USER "?" UNSET	<input type="radio"/> MAINS <input type="radio"/> TAMPER <input checked="" type="radio"/> DAY <input type="radio"/> FAULT	User No 01 - 14	SECONDARY COMM FAIL	<input checked="" type="radio"/> MAINS <input type="radio"/> TAMPER <input checked="" type="radio"/> DAY <input checked="" type="radio"/> FAULT	
ZONE "?" OMIT	<input type="radio"/> MAINS <input type="radio"/> TAMPER <input checked="" type="radio"/> DAY <input checked="" type="radio"/> FAULT	Zone No 01 - 32	DUAL COMM FAIL	<input checked="" type="radio"/> MAINS <input type="radio"/> TAMPER <input checked="" type="radio"/> DAY <input checked="" type="radio"/> FAULT	
SYSTEM TAMPER	<input type="radio"/> MAINS <input checked="" type="radio"/> TAMPER <input type="radio"/> DAY <input type="radio"/> FAULT		ZONE "?" KNOCK	<input checked="" type="radio"/> MAINS <input checked="" type="radio"/> TAMPER <input type="radio"/> DAY <input type="radio"/> FAULT	Zone No 01 - 32
ZONE "?" TAMPER	<input type="radio"/> MAINS <input checked="" type="radio"/> TAMPER <input type="radio"/> DAY <input type="radio"/> FAULT	Zone No 01 - 32	USER "?" CLK SET	<input checked="" type="radio"/> MAINS <input checked="" type="radio"/> TAMPER <input type="radio"/> DAY <input checked="" type="radio"/> FAULT	User No 01 - 14
KEYPAD "?" TAMPER	<input type="radio"/> MAINS <input checked="" type="radio"/> TAMPER <input type="radio"/> DAY <input checked="" type="radio"/> FAULT	 KEYPAD No. 1 - 8	USER "?" FULL SET	<input checked="" type="radio"/> MAINS <input checked="" type="radio"/> TAMPER <input checked="" type="radio"/> DAY <input type="radio"/> FAULT	User No 01 - 14
DURESS	<input type="radio"/> MAINS <input checked="" type="radio"/> TAMPER <input checked="" type="radio"/> DAY <input type="radio"/> FAULT		CALL ENGINEER	<input checked="" type="radio"/> MAINS <input checked="" type="radio"/> TAMPER <input checked="" type="radio"/> DAY <input checked="" type="radio"/> FAULT	
USER "?" PART 2 SET	<input type="radio"/> MAINS <input checked="" type="radio"/> TAMPER <input checked="" type="radio"/> DAY <input type="radio"/> FAULT	User No 01 - 14	TEST CALL	<input type="radio"/> MAINS <input type="radio"/> TAMPER <input checked="" type="radio"/> DAY <input type="radio"/> FAULT	
ZONE "?" SOAK	<input type="radio"/> MAINS <input checked="" type="radio"/> TAMPER <input checked="" type="radio"/> DAY <input checked="" type="radio"/> FAULT	Zone No 01 - 32	REMOTE LOCKOUT	<input type="radio"/> MAINS <input checked="" type="radio"/> TAMPER <input type="radio"/> DAY <input type="radio"/> FAULT	
MAINS FAIL	<input checked="" type="radio"/> MAINS <input type="radio"/> TAMPER <input type="radio"/> DAY <input type="radio"/> FAULT		KEYPAD "?" LOCKOUT	<input type="radio"/> MAINS <input checked="" type="radio"/> TAMPER <input type="radio"/> DAY <input type="radio"/> FAULT	 KEYPAD No. 1 - 8
LOW BATTERY	<input checked="" type="radio"/> MAINS <input type="radio"/> TAMPER <input type="radio"/> DAY <input checked="" type="radio"/> FAULT		ENGINEER ACCESS	<input type="radio"/> MAINS <input type="radio"/> TAMPER <input type="radio"/> DAY <input type="radio"/> FAULT	
USER "?" PART 1 SET	<input checked="" type="radio"/> MAINS <input type="radio"/> TAMPER <input checked="" type="radio"/> DAY <input type="radio"/> FAULT	User No 01 - 14	WALK TEST	<input type="radio"/> MAINS <input type="radio"/> TAMPER <input type="radio"/> DAY <input checked="" type="radio"/> FAULT	
PRIMARY COMM OK	<input checked="" type="radio"/> MAINS <input type="radio"/> TAMPER <input checked="" type="radio"/> DAY <input type="radio"/> FAULT		CLOCK EDIT	<input type="radio"/> MAINS <input type="radio"/> TAMPER <input type="radio"/> DAY <input type="radio"/> FAULT	
DATE STAMP	<input checked="" type="radio"/> MAINS <input type="radio"/> TAMPER <input checked="" type="radio"/> DAY <input type="radio"/> FAULT		CONCENTRATOR TAMPER	<input type="radio"/> MAINS <input checked="" type="radio"/> TAMPER <input checked="" type="radio"/> DAY <input type="radio"/> FAULT	 CONC. No. 1 - 8

# Installation & Programming

## Programming Options

**The Control Panel must be programmed using an LCD Keypad.**

When a valid programming code has been entered, the display will show the current status of the selected option. To change the status, simply enter the new selection in the format required for that option then press confirm (✓) to select it. If a valid selection has been entered then a confirmation tone will be heard. If an invalid selection is entered, an error tone will be heard.

Some programming options require a second level of programming. After the first level status has been confirmed, the second level option/options should be selected and confirmed in a similar manner.

If the cancel key (X) is pressed at any time during the programming of an option, then the changes will not be stored.

### Zone Programming

---

Enter 001 for Zone 1, 002 for Zone 2 etc., and the current circuit type will be displayed.

The panel has 8 on board zones which can be expanded to 32 using external concentrators. Zone programming is 001 to 008 (or 032) if expansion is being used.

At this first level, the new circuit type must be selected by pressing a key between 1 and 8. (See Option Table 1 on page 23 for circuit type codes). The display will show the selection e.g. ALARM ENTRY 24HR etc.,  
Once you have selected a circuit type, press the (✓) key to progress to level 2 programming.

At this level there are various attributes which each circuit may have. (See Option Table 1 on page 23 for attributes and codes.)

To select or deselect any attribute, simply press the relevant key. Any attributes which have been selected will be indicated in the display. When you have selected the attributes you require for that zone, press the confirm key (✓) to accept the selections. This returns you to Engineer Mode.

## Zone Types

<b>Off</b>	If a zone is programmed as off, it will not operate in Full Set or Part 1/Part 2 set. This should only be used to disable spare alarm zones.
<b>Alarm</b>	If a zone is programmed for alarm, it will give an audible response if activated in the Full Set or if programmed in Part 1 or Part 2 Set.
<b>EnEx Point</b>	This zone type is normally used for a final door or exit point. The zone will start the entry exit time if activated. An exit point can be programmed off in Part 1 or Part 2 and can also give an instant alarm in Part 1 or Part 2 set.
<b>24Hr</b>	A zone programmed for 24Hr will give an alarm if activated in either the set or unset condition.
<b>Fire</b>	A zone programmed for Fire will give an alarm if activated in the set and Unset as the 24Hr zone. The fire zone when active gives different audible output to alarm and 24Hr.
<b>Personal Attack (PA)</b>	A zone programmed for PA will give an alarm in the set and unset conditions.
<b>Auxiliary</b>	A zone programmed for auxiliary will give an alarm in the set and unset. The external sounder does not operate for auxiliary but different tones are produced for the internal audio speakers.
<b>Soak</b>	A zone programmed for soak will not give an audible alarm and is used to give a test time for a zone (detector) that could be faulty. Any zone activations are put into the log. The zone is automatically taken off soak and reverts to its previous type and attributes if no activations have been logged for 14 set/unset periods.
<b>Reset</b>	A zone programmed for reset when activated, will attempt to reset the control panel. If the reset is successful, then any impending engineer reset requirement is removed and all local alarm indication muted. If unsuccessful, the panel will continue to operate as normal.
	<b>Note</b> - Alarm, Entry, Fire, PA and auxiliary alarm all have separately identifiable transmitter (Tx) outputs.

## Zone options/Attributes

<p><b>1. Part 1/Part 2</b></p>	<p>If a zone is programmed for Part 1, Part 2 or both, this zone will give an alarm if activated In Part 1 or Part 2 set. For a Full Set only zone, do not program Part 1 or Part 2.</p>
<p><b>2. ER (Entry Route)</b></p>	<p>This zone is ignored if an entry point has activated before it. If no activation of an entry point has occurred then an instant alarm is activated. In Part Set 1 or 2, the ER normally starts the entry timer. If Part 1 or Part 2 disable is programmed, if triggered the ER will give an instant alarm if Part 1 or Part 2 have been selected.</p>
<p><b>3. 24Hr</b></p>	<p>A soak zone programmed with this option turned on becomes a permanently active zone.</p>
<p><b>4. Verification</b></p>	<p>An alarm, Entry, or 24 Hr zone can be programmed as verified. If two verified alarm zones give an alarm within the programmed verification time, a verified alarm will be signalled. If a 24hr zone is programmed as verified there will only be a verified output in the set condition.</p>
<p><b>5. Omit</b></p>	<p>If a zone is programmed with omit, a user can omit this zone for one set period at a time.</p>
<p><b>6. Sounders Off</b></p>	<p>If sounders off is selected for a certain zone type, then if an alarm occurs, all sounders will not operate. However, the internal speakers will still function with this option selected, if the zone is a 'Fire' zone. Sounders will operate in the set condition.</p>
<p><b>7. Double Knock</b></p>	<p>This allows zones to be combined to give an alarm activation if more than one zone activates within the defined time windows.</p>
<p><b>8. Output 1 or 2</b></p>	<p>If a zone is programmed as Auxiliary, it can be programmed to trigger either Output 1 or 2 when the zone is activated. The output will reset when the panel resets.</p>
<p><b>9. Part1/Part2 Entry Disable</b></p>	<p>If a zone has been programmed for Part 1 or Part 2 operation, programming the Part 1 or Part 2 entry disable makes the zone instant in Part 1 or Part 2 set. This option allows an entry point to give instant alarm in Part 1 or Part 2 set if activated and also gives the same option to an entry route.</p>

## Keypad Zones

Any zone can be programmed to operate on a keypad. Firstly, the zone must be connected to the zone and tamper inputs in the keypad (see keypad section for wiring instructions). Once the zone is connected to the Keypad it must be programmed. Each keypad zone can be identified using programming codes 051 - 056. The zone number must be entered to identify the zone to the keypad i.e. if zone 15 is connected to Keypad 3 then program as follows :-

From engineer mode enter 053 for Keypad 3 then enter a two digit number equivalent to the zone number e.g. 15 for Zone 15.

051	Keypad 1	2 digit zone number
052	Keypad 2	2 digit zone number
053	Keypad 3	2 digit zone number
054	Keypad 4	2 digit zone number
055	Keypad 5	2 digit zone number
056	Keypad 6	2 digit zone number

The zone number to be entered cannot be more than the maximum zones connected to the panel. If 13 zones are connected, then zone numbers between 1 and 13 can be used. The zone on the panel or expanders that is now connected to the Keypad will only operate from the keypad. i.e. if Zone 13 is on the keypad, then Zone 13 on the panel/ expander will not be processed.

## Zone Doubling

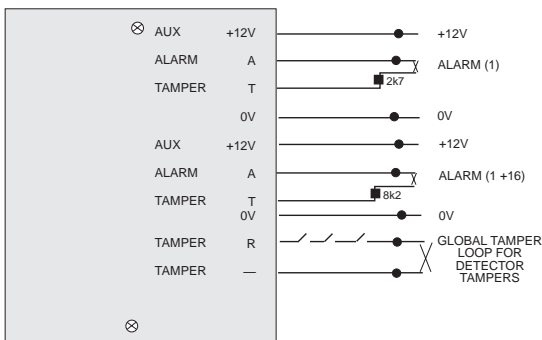
Zone doubling can be achieved on the Windsor 300. The alarm input is used for one alarm and the tamper input is used as a second alarm input. To allow zone doubling to operate, the panel must be programmed. From engineer mode enter 060

Code	Function	Options
060	Zone Doubling	0 - Off : 1 - On

The doubling when selected applies to zones 1 - 8 . Zone doubling does not operate on keypad zones. The normal zone types as defined in Option Table 1 all apply to the zone doubled programming.

### Zone doubling EOL

Zone doubling can be used on the End of Line variant of Windsor 300. For EOL versions the first alarm requires the 2k7 resistor to be used and the zone doubled or secondary alarm required the 8k2 resistor to be used. The detector +12V and 0V are provided from the control panel auxiliary supply and the detector tampers are part of a global tamper loop using the system tamper on the main PCB or the power supply PCB.



The zones 1 - 8 on the main PCB will use the 2k7 resistors and will be indicated as zones 1 - 8. The tamper for zones 1 - 8 will use the 8k2 resistors and will be indicated as zones 9 - 16 for the panel.

## Shock Sensor Input

The Windsor 300 control panel can have shock sensors connected directly to the zone inputs and do not require an analyser PCB. The shock sensor input must have a debounce period programmed to allow the zone to operate. The debounce period is the time the shock sensor remains open or active. This time is used to program the actual sensitivity of the unit i.e. the shorter the time period, the more sensitive the response and the longer the time the less sensitive the unit.

Shock sensor processing is only available on zones 1 and 2 on the main PCB and on zones 09 - 32 on the external concentrator zones. To program shock sensor inputs, enter engineer mode and proceed as follows :

<b>Code</b>	<b>Function</b>	<b>Options</b>
101	Zone 1 programming	6 - 300 ms
102	Zone 2 programming	6 - 300 ms
109 to 132	Zone 9 programming to Zone 32 programming	6 - 300 ms

The time for the option is entered directly and once entered, the option must be confirmed prior to moving onto the next zone. Setting up the shock sensor should be completed using 'walk test' and each zone should be set up to obtain the correct level of sensitivity by altering the time option until the correct level is obtained.

If shock sensors are connected to zones 1 and 2 and zone doubling activated, the time programmed for zones 1 and 2 is applied for the zone doubled inputs.

The zone types are limited to the options shown in the table below:

<b>OPTION TABLE 1</b>			
<b>LEVEL 1</b>		<b>LEVEL 2</b>	
<b>Programme No</b>	<b>Type</b>	<b>Attribute No.</b>	<b>Type</b>
0	OFF	N/A	N/A
1	Alarm	1 2 3 4 5 6 7 8	Part 1 Set Part 2 Set Entry Route Verification Ommitable P-1 Entry Disable Double Knock P-2 Entry Disable
2	EnEx	1 2 4 5 6 8	Part 1 Set Part 2 Set Verification Ommitable P-1 Entry Disable P-2 Entry Disable
3	24HR	4 5 6	Verification Ommitable Sounders Off
4	Fire	6	Sounders Off
5	PA	6	Sounders Off
6	AUX	6 8	Sounders Off Signal O/P1 / O/P2
7	Soak	3	24 HR
8	Reset	N/A	N/A

## Notes

When programming level 1 zone types, entering a new type overwrites the previous selection and removes any attributes previously selected.

Zone programming can be exited at any time by pressing the cancel key **X**.

## Examples

### Programming Zone 5 to be a silent PA zone.

Press	<b>0</b>	<b>0</b>	<b>5</b>	current type	ALARM
Press	<b>5</b>			to select PA type	PA
Press	✓			to confirm selection.	NO ATTRIBUTES
Press	<b>6</b>			to select silent	SOUNDERS OFF
Press	✓			to confirm.	

Zone 5 is now programmed as a PA (Personal Attack) with no sounders response.

## Walk Test

On completion of Zone Programming, walk test should be carried out on all detectors on the system that are "walk testable". To carry out walk test from Engineer Mode, proceed as follows :

Press	<b>4</b>	Enter Walk Test	ZONE X NO TEST
	<b>WALK TEST ZONES</b>	as each zone is tested, the panel will emit a test confirm tone and the display will have the zones which have been tested removed.	
	<b>X</b> to exit if required	to exit Walk Test	ENGINEER ON SITE

# Installation & Programming Programming Codes

System programming options are split into three categories :-

- |                     |  |
|---------------------|--|
| 1. Basic            | Standard control panel functions   |
| 2. Advanced         | Enhanced programming functions   |
| 3. Communicators/Tx | Communicator options to allow Tx channel assignment and communication customisation. |

	Code	Function	Options
BASIC	500	Full Set Entry	0 - 99 seconds <i>(Default 30)</i>
	501	Part Set Exit	0 - 99 seconds <i>(Default 15)</i>
	502	Full Set Exit	0 - 99 seconds <i>(Default 20)</i>
	503	Bell Duration	0 - 30 minutes <i>(Default 15)</i>
	510	Set Indication	0 - log on only : 1 - always
	511	Output 1	6 options <i>(Detector reset default)</i>
	512	Output 2	6 options <i>(Detector latch default)</i>
	513	Time/Date Change	
	514	Strobe	0 - until unset: 1 - as bell
	515	User Authority Levels	5 authorities for users 02 - 14
	516	Final Setting	0 - exit time expiry : 1 - exit point closure
	517	PIN Attempts	0 - 99 <i>(Default 0 - wrap around PIN)</i> <i>*when PIN attempts is programmed, the user must press confirm after the entry of their PIN code.</i>
ADVANCED	518	Remote Fault Bypass	0 - off : 1 - on
	520	Remote/Push Button Set	0 - remote set : 1 - push button set
	523	Technistore Reset Version	0 - 255 <i>(Default 0)</i>
	524	PA Rearm	0 - Rst : 1 - Bell
	525	Auto Re-arm	0 - 9 auto rearm attempts
	526	Alarm Reset	0 - customer reset : 1 - engineer reset
	527	PA Reset	0 - customer reset : 1 - engineer reset
	528	Technistore Reset	0 - off : 1 - on
	529	Speaker Duration	0 - as bell : 1 - until unset
	530	Audible Exit Fail	0 - off : 1 - on
	531	Day Tamper Sounders	0 : Internal only 1 : External & Internal
	532	Part Set Sounders	0 : Internal only 1 : External & Internal
533	Entry Alarm	0 - active : 1 - disabled	
534	Entry Route Warning	0 - non warning : 1 - with warning	
COMMS/TX	521	Part Set Tx Enable	0 - disable Tx : 1 - Enable Tx
	550	Bell Delay	0 - 30 minutes <i>(Default 0)</i>
	551	Tx Reset	0 - reset : 1 - Bell : 2 - Logon
	552	Day Tamper Comms	0 - no Comms : 1 - Comms
	553	Set Line Fault	0 - cannot set with line fault 1 - set with line fault
	554	Line Fault	0 - silent line fault : 1 - audible line fault
	555	Line Fault Delay	0 - 60 seconds <i>(Default 0 - instant)</i>
	560	Tx Signalling	Tx type assignment
	562	Verification Period	0 - 255 (minutes)
563	Verify Zone Tx	0 - off : 1 - on	

In programming mode, most of the features are selected as enabled or disabled by pressing key **1** or **0** .

## Programming Examples

### Example Programming type of strobe operation

Press	<b>5</b> <b>1</b> <b>4</b>	Strobe operation	<b>STROBE = UNSET</b>
Press	<b>0</b> OR <b>1</b>	0 strobe until unset 1 strobe follows bell	<b>STROBE = UNSET</b> <b>STROBE = AS BELL</b>
Press	<b>✓</b>	To confirm selection.	<b>ENGINEER ON SITE</b>

A second method of selection is where a direct number has to be entered.

### Example Programming the number of auto re-arm attempts

Press	<b>5</b> <b>2</b> <b>5</b>	number of attempts	<b>AUTO RE-ARM = X</b>
Press	<b>0</b> TO <b>9</b>	selected number	
Press	<b>3</b>	to select 3 attempts	<b>AUTO RE-ARM = 3</b>
Press	<b>✓</b>	To confirm selection	<b>ENGINEER ON SITE</b>

### Example Programming the number of PIN attempts before Lockout

Press	<b>5</b> <b>1</b> <b>7</b>		
Press	<b>0</b> TO <b>9</b> <b>9</b>	To select the number of PIN attempts allowed (max 99).	<b>PIN ATTEMPTS = X</b>
		Note:- If 0 is selected then PIN wrap around will occur (ie. If the correct PIN is entered in a sequence of numbers, then the PIN will be accepted, otherwise enter must be pressed after each PIN attempt).	<b>PIN ATTEMPTS = 10</b>
Press	<b>✓</b>	To confirm selection.	

**Note :** If programmed for 0, the user must press confirm **✓** on completion of their PIN code.

The third method of entering selections is used for all the timing features e.g. Entry, Exit, Bell Time etc. In all instances, the time should be entered directly i.e. for 20 seconds, press keys **2** and **0**. The time will be displayed with the digits i.e. 20 seconds will be displayed as 20. The time shown is in seconds for entry and exit and in minutes for Bell and Bell delay

**Example** Programming for an entry time of 15 seconds

Press	<b>5</b> <b>0</b> <b>0</b>	Entry time	ENTRY TIME = 30
Press	<b>1</b> <b>5</b>	Select 15 seconds.	ENTRY TIME = 15
	FOR 15 SECONDS		
Press	<b>✓</b>	to confirm the time selected.	ENGINEER ON SITE

**Resetting Method Selection**

The panel can be programmed to require an engineer reset for alarms and personal attack activations. This means the panel can be unset and the bells and transmitters reset but the panel cannot be set until a valid engineer code has been entered.

The panel is also equipped with Technistore™ reset. This is a method of customer/ engineer reset. When programmed, the keypad will display a code number when an attempt to set the panel is made after an alarm. The user must contact the alarm company who, in turn, will require to have the Technistore™ PC package which will give a PIN code number when the customer reset code is programmed into the PC. This will allow the panel to be set. Technistore™ reset will only operate if programmable functions 526 and/or 527 are switched to Engineer and then function 528 must be switched ON.

An LCD keypad must be used on a system using this feature.

A Technistore™ Reset version number can also be entered in the following manner

Press	<b>Engineer Code</b>	Enters engineer mode
Press	<b>5</b> <b>2</b> <b>3</b>	
Press	<b>X</b> <b>X</b> <b>X</b>	where XXX is the numeric version of the Technistore reset software being used. 000 is the default and will normally be the version required.
Press	<b>✓</b>	to confirm selection

## Output Programming

When programming the outputs, the output type should be selected directly as number **1** to **6** and the polarity of the output can be selected as normal by pressing **7** or inverted by pressing **8**.

### Example Programming O/P 1

Press	<b>5</b> <b>1</b> <b>1</b>	Current type and Polarity	O/P 1 = DET RST NORMAL POLARITY
Press	<b>1</b> to <b>8</b>	<i>1 - Detector Latch</i> <i>2 - Detector Reset</i> <i>3 - Entry/Exit Follow</i> <i>4 - Bell Follow</i> <i>5 - Walk Test</i> <i>6 - Auxiliary</i> <i>7 - Normal Polarity</i> <i>8 - Inverted Polarity</i>	O/P 1 = DET LTCH O/P 1 = DET RST O/P 1 = ENT/EXIT O/P 1 = BEL FOL O/P 1 = WALK TST O/P 1 = AUX ZONE NORMAL POLARITY INV. POLARITY
Press	<input checked="" type="checkbox"/>	To confirm selection.	

If the O/P selection is changed, the polarity defaults to normal.

**Note** : For further information for O/Ps refer to page 9.

**Note** : some variants use O/P 2 as detector latch, others use O/P as bell follow.

## Time/Date Changing (LCD only)

Press	<b>5</b> <b>1</b> <b>3</b>	Display time, hours digits flashing	TIME : 00:00
Press	<b>1</b> <b>2</b> <b>1</b> <b>5</b>	Enter time directly for hours e.g. 12 then for minutes, giving time 12:15	TIME : 12:15
		Display moves automatically to date (day flashing)	DATE: 01:01:1995
Press	<b>0</b> <b>1</b>	Enter date directly 01 for (1st) then	DATE: 01:01:1995
Press	<b>0</b> <b>1</b>	01 for January then	DATE: 01:01:1995
Press	<b>1</b> <b>9</b> <b>9</b> <b>6</b>	for year	DATE: 01:01:1996
		On entering the year the display will automatically revert to engineer mode.	ENGINEER ON SITE

**Note** - if part of the time or date is correct then pressing **✓** will move on to the next field i.e. from hours to minutes or minutes to day to months etc. Pressing **X** will take the system back to engineer mode without making changes. The time is displayed in 24 hour format and leap years are taken into account. The date is only used for stamping the event log and is no longer displayed, the time will be displayed on all LCD keypads in the system.

## Authority Levels

Press	Engineers Code	ENGINEER ON SITE
Press	<b>5</b> <b>1</b> <b>5</b>	USER NUMBER = __
Press	<b>0</b> <b>2</b> to <b>1</b> <b>4</b>	USER XX = OFF
Press	<b>0</b>	USER XX = OFF
	<b>1</b>	USER XX = MGR.
	<b>2</b>	USER XX = ORD.
	<b>3</b>	USER XX = SET
	<b>4</b>	USER XX = DURESS

Pressing 0 - 4 assigns the authority level for the user selected. A list of the authority level functions is on page 4 of the manual.

Press	<b>✓</b>	to confirm selection
	<b>X</b>	to leave authority programming

**Note** : User 2 - 14 are defaulted as OFF and to become functional they must be programmed with an authority level.

## Tx Channel Assignment

Press	Engineers Code	ENGINEER ON SITE
Press	<input type="button" value="5"/> <input type="button" value="6"/> <input type="button" value="0"/>	TX TYPE = _ _
Press	<input type="button" value="0"/> <input type="button" value="0"/>	ENT ALM = TX 0
	<input type="button" value="0"/> <input type="button" value="1"/>	ISOL SET = TX 0
	<input type="button" value="0"/> <input type="button" value="2"/>	PA ALM = TX 0
	<input type="button" value="0"/> <input type="button" value="3"/>	NA ALM = TX 0
	<input type="button" value="0"/> <input type="button" value="4"/>	FIRE ALM = TX 0
	<input type="button" value="0"/> <input type="button" value="5"/>	LINE FLT = TX 0
	<input type="button" value="0"/> <input type="button" value="6"/>	FULL SET = TX 0
	<input type="button" value="0"/> <input type="button" value="7"/>	240V FAIL = TX 0
	<input type="button" value="0"/> <input type="button" value="8"/>	LOW BATT = TX 0
	<input type="button" value="0"/> <input type="button" value="9"/>	AUX ALM = TX 0
	<input type="button" value="1"/> <input type="button" value="0"/>	TAMPER = TX 0
	<input type="button" value="1"/> <input type="button" value="1"/>	VERIFIED = TX 0

Having selected the Tx type the appropriate Tx channel must be assigned, there are 8 Tx channels available and more than 1 Tx type can be assigned to a Tx channel. All Tx channels are assigned to 0 which is OFF.

Press	<input type="button" value="0"/> <input type="button" value="0"/>	ENT ALM = TX 0
Press	<input type="button" value="1"/> to <input type="button" value="8"/>	ENT ALM = TX 1

THIS WOULD ASSIGN AN ENTRY ALARM TO TX CHANNEL 1

Press	<input type="button" value="✓"/>	to confirm selection
Press	<input type="button" value="X"/>	on completion of selection

# Installation & Programming

## Integral Communicator

The control panel is equipped with an integrated alarm communicator and upload/download capability. The communicator is programmed using an LCD keypad in engineer mode.

List of Standard Features include.....

- Exchange Voltage Monitoring.
- Line Blocked Detection.
- Series Handset Disconnect.
- DTMF and Pulse dial.
- Eight Channel Fast Format Alarm Reporting.
- Default Configuration.
- Real Time Status Reporting to Panel.
- Programmable Restore Code Reporting.
- Programmable Open/Close Code Reporting.
- Multiple Message Reporting.
- Primary/Secondary Reporting.
- Timed Break Recall ("**Star Services**" in the UK)
- Compatibility with BT '**RedCare**' lines.
- Local Programming via user interface.
- Locally initiated Testcall.
- High Speed '**Point - ID**' alarm reporting.
- Guardall's **PS002** Modem Format Alarm Reporting.
- Remote** Up/Download of Panel Settings and Event Logs.
- Ademco Superfast Format.
- Dual Reporting

### Exchange Voltage Monitoring.

As a protection against a cut line or telephone line fault, the nominal supply voltage from the telephone exchange is continuously monitored. If a fault condition occurs for more than approximately 5 seconds, the control panel is informed of the 'loss of line' condition. When the line is restored, the panel is informed after approximately 5 seconds.

The system has an attached telephone handset, then a 'loss of line' condition exists whenever the handset is in use. In this case the communicator must be programmed with the appropriate 'handset connected' programming option selected, to disable 'loss of line' reporting back to the panel.

### Line Blocked Detection.

In some circumstances, for example when the telephone exchange has removed outgoing service, or when an incoming caller has not released the line and effectively blocked outgoing calls, the exchange voltage may be present but no proceed indication(dial tone) exists, or out of service tone is present.

In this case, the communicator can be programmed to periodically test for line blocked (every hour) and report any problem to the panel. After clearing of a line blocked condition, the communicator will report this back to the panel after about 10 seconds. Checking is done by looking for dial tone, dialling the first digit of one of its' telephone numbers and ensuring that dial tone disappears.

"Line Blocked" reporting will be enabled when the panel is FULLY SET, thus over-riding the 'handset attached' programming option.

### **Series Handset Disconnect.**

Provision has been made to allow for connection of up to three telephone handsets on the same telephone line. These handsets **MUST** be connected in series, with the communicator as the first apparatus connected to the master telephone socket. Connection of the communicator and telephone handsets are made via connector CN13 on the network side of the PCB.

When any handset is attached, the communicator must be programmed so that it is made aware of such an attachment. This avoids having the 'loss of line' conditions reported when the handset is in use, causing line fault transmissions to the central station.

If a handset is attached, and the communicator has been suitably programmed, then Line Blocked and Exchange Voltage reporting back to the panel will be suppressed unless the panel is fully set.

**Connecting handsets in any configuration other than the method stated above (such as parallel connection) will invalidate Telecommunications approval.**

### **DTMF and Pulse dial.**

The communicator is capable of both DTMF and Pulse (loop disconnect) dialling of the programmed telephone numbers and is user selectable via the communicator Programming Interface. Dialling will only commence in the presence of a valid proceed indication (dial tone) and will employ 'Timed Break Recall' after 5 seconds in the absence of dial tone. If the exchange still fails to provide dial tone, Smartdial will release the line after a further 5 seconds. This will use up a connect attempt.

### **8 Channel Fast Format Alarm Reporting.**

Alarm data is represented by 8 channels. When any channel changes state, the communicator is triggered to initiate a call to the programmed central station. Each channel can assume one of six states - No Alarm, New Alarm, Continuing Alarm, Alarm Restore, New Opening or New Closing.

The manner in which the transitions between these states are reported to the Central Station is dependent upon how the communicator is programmed to respond.

For example, the Channel information may be encoded in the following way.....

Channel	Designated Meaning
1	Isolated Set
2	PA/Duress
3	Intruder
4	Fire
5	Tamper/Fault
6	Full Set/Unset
7	Mains Failure
8	Low Voltage

...or any other combination which the panel has been programmed to report. The actual meaning given to each channel is known only to the panel and the central station.

Alarm and restore events are reported to the programmed central station using the protocol defined in the draft IEC publication 839 part 8 - "DTMF protocol for use in Digital Communicator Systems at Interfaces with the PSTN". The protocol types supported are as follows:

- a) 4-8-1/1 4 digit UID, 8 digit channel data , 1 digit status - handshake type 1
- b) 4-8-1/2 4 digit UID, 8 digit channel data , 1 digit status - handshake type 2

### **Default Configuration.**

The contents of the communicator's configuration can be defaulted to a known state by defaulting the panel's NVM — see Defaulting Instructions).

### **Programmable Restore Code Reporting.**

When any channel goes into alarm the communicator will always initiate an alarm report call.

Normally, the transition from alarm to restore is ignored by the communicator. However, any channel(s) programmed for restore reporting will report the restore condition.

### **Programmable Open/Close Code Reporting.**

Not all of the 8 channels necessarily represent alarm data. Any of the 8 channels may be programmed to report a modified code. The alarm receiver will interpret 'open' instead of 'alarm' and 'close' instead of 'restore' for these channels.

Selection of Open/Close will override selection of Alarm and Restore Reporting. Close codes are always reported in this instance.

The eight channels can be programmed in any combination of Alarm Only, Alarm/Restore and Open/Close code reporting.

### **Multiple Message Reporting.**

The possibility of missing rapidly changing events are greatly reduced by the inclusion of an event history buffer in the communicator. Any alarm event sent to the communicator will be stored in a queue for sending to the central station, and messages sent to the central station are taken off the queue in a first come, first processed basis. As messages are transmitted to the central station, more events can be received, processed and transmitted within the current telephone call.

### **Primary/Secondary Reporting.**

The communicator will make 3 connect attempts to call the receiver at the Primary Telephone number in the configuration store. If all these attempts fail, and if a telephone number has been entered in the Secondary Number Store, it will make the same number of attempts to call the receiver at the Secondary Telephone number. If all these attempts fail, then the communications failure status is sent to the panel. As soon as a receiver is contacted, and all the outstanding alarms sent, then the sequence is halted. If a message is successfully transmitted then Comms OK is reported to the panel. The panel event log will record "Primary OK" or "Secondary OK". The remote receiver can be programmed to be Ademco Fast Format, Contact\_ID, Guardall format or a hand held pager.

### **Dual Reporting**

The communicator will make 3 connect attempts to call the receiver at the Primary Telephone number. As soon as an attempt is successful, or all attempts fail, then it will make the same number of attempts to call the receiver at the Dual Telephone number, if a Dual number has been defined. When both receivers have been contacted, and all outstanding alarms sent to both, then the sequence is halted. The panel Event Log will record "Primary OK" or "Dual OK" or both.

The remote receiver can be programmed to be Ademco Fast Format, Point\_ID, Guardall format or a hand held pager.

### **Timed Break Recall (Star Services in UK).**

The 'Timed Break Recall' service available on digital exchanges in many countries is employed at the dial time if no dial tone is detected. This action requests a clear fresh line from the exchange and overcomes the malicious or otherwise blocking of the telephone line. Any remote session will be terminated in the event of an alarm which requires a Tx report.

### **Compatibility with BT 'RedCare' lines.**

The communicator can be successfully used on BT RedCare lines due to the filtering out of the STU 'low tone' at the receive filter stage.

### **Local Programming via user interface.**

Configuration items can be locally programmed via the LCD keypad. When reporting alarm conditions to the central station, requested items may take several seconds to be displayed on the LCD display. This is not a fault, it ensures that alarm transmissions take priority over other demands on system resources.

### **Locally initiated Testcalls.**

This function is only available from an LCD keypad. An Alarm report comprising the current dialler output status in the currently programmed format is initiated to the primary, secondary and dual reporting telephone numbers in turn in the format programmed for that telephone store. The result of test calls are entered into the event log.

### **High Speed 'Point - ID' Reporting.**

This is an alarm reporting protocol which allows additional data to be transmitted to the central station without resorting to a modem format. It uses DTMF transmission with a message content significantly different from standard Fast Format protocols.

With normal alarm reporting, a single alarm code is transmitted to the central station when one or several zones have been triggered. This method does not pinpoint the active zone(s). With Point - ID each zone can be uniquely identified thus aiding the police to investigate sources of alarms.

### **Guardall's PS/002 Alarm Reporting.**

It is possible to send Guardall PS/002 type alarm reports to a remote PC, MAS or Guardstation system. This is a modem format which offers many advantages over standard alarm messages.

Alarm data is sent in the form of an ASCII string containing the date, time, event identifier and event status.

### **Remote Up/Download of Panel Settings and Event Logs.**

It is possible to remotely access the panel by using a secure procedure and perform engineering functions which would normally have required a site visit. These remote functions include pin change, set/unset, event log download, etc.

### **Ademco Superfast Format**

This is an enhancement to the standard fast format reporting and is user selectable as a programmed option. The standard fast format protocol at the central station receiver requires to see two identical messages before it accepts the message as valid ( a basic method of error detection). The Superfast format sends the message only once, and relies for it's error detection on the appending of a suitable checksum digit to the message. This offers both time and communication cost savings.

## INSTALLATION INSTRUCTIONS

**IMPORTANT - THESE INSTRUCTIONS MUST BE READ IN FULL BEFORE ATTEMPTING TO INSTALL OR USE THE COMMUNICATOR ON THE TELEPHONE NETWORK.**

### **NOTE TO SUPPLIER:**

The approval status is invalidated if the User Instructions are not provided with the panel.

The communicator has been approved as an auto dialling, auto answer modem independent of host.

The communicator can share the use of a telephone line with up to three conventional handsets.

IN THIS CASE THE TELEPHONE HANDSETS MUST BE CONNECTED SUCH THAT THE COMMUNICATOR WILL OVERRIDE HANDSET OPERATION IN THE EVENT OF AN ALARM CALL BEING ATTEMPTED. (see connection diagram)

Telephone network connection point with screw terminals for "A" and "B", the line connection and "TA" and "TB", the connection points for attached handset(s). -CN13.

The interface to the telephone network is a TNV circuit and is electrically isolated from the SELV port of the PCB by means of barrier components and physical separation.

### **REPEAT ATTEMPTS**

The Alarm Control Panel will enable repeat attempts according to the following pattern

CALL ATTEMPT PATTERN TO STORED NUMBER

first call attempt  
<5 second delay>  
first repeat attempt  
<60 second delay>  
second repeat attempt

END OF ATTEMPT SEQUENCE

## **STATUTORY REQUIREMENTS**

If you have any doubts concerning the suitability, connection or use of this apparatus then consult a suitably qualified person before continuing.

You must ensure that the power supply in the Alarm Control unit will not become overloaded by the combined power requirements of any of the installed card options.

In order to maintain approval of the Digital Alarm Communicator, it is essential that the other optional cards do not use or generate mains voltages or any other hazardous voltage. A hazardous voltage is one which exceeds 42.4V peak a.c. or 60 V d.c. Consult a competent telecommunication engineer before proceeding if you have any doubt.

For a host using or generating voltages greater than 300 V (rms or d.c.), consult a competent telecommunications engineer before installation of the alarm system.

These problems will not be encountered if the Alarm Control Panel's instructions are adhered to.

All apparatus connected either directly or indirectly to a public telecommunication system requires an approval. However certain attachments are eligible for approval under General Approval NS/1234/100003. Further details of this General Approval and the conditions pertaining to it are given in OFTEL update SA29, available from:-

The Librarian  
OFTEL  
Export House  
50 Ludgate Hill  
London  
EC4M 7JJ

You are reminded that the communicator should only be used when mounted inside the host alarm control panel in such a way as to be inaccessible without the use of tools. This means that you must refit ALL case screws and secure the pcb in the host using the fixing provided.

## **SUITABILITY FOR USE**

The approval of this apparatus for connection to British Telecom Public Switched Telephone Network is invalidated if the apparatus is subject to any modification in any material way not authorised by BABT, or its use with or connection to

- i) Internal control software which has not been formally accepted by BABT.
- ii) External control software or external control apparatus which causes the communicator to contravene the requirements of BS6789 : section 3.2.

All apparatus connected to the communicator and thereby connected directly or indirectly to the Public Switched Telephone Network must be approved apparatus as defined in section 22(10) of the British Telecommunications act.

This equipment is suitable for use on direct telephone line operated by British Telecommunication PLC, Mercury Communications PLC and Kingston Communications (Hull) PLC where the specific services of loop-disconnect (pulse) and/or multi frequency (tone) dialling are available.

The communicator may be connected to direct exchange lines or Relevant Branch Systems (RBS) as defined in BS6789 : section 6.1 clause 2.4. It is not suitable for connection to PABX systems or for use as an extension to a payphone.

It is intended for use in normal office, household and similar indoor use. It should not be used in damp or humid environments such as bathrooms or swimming pools.

The output power is fixed and cannot be changed by the user.

The approval mark attached to the communicator indicates that it alone carries the BABT approval. No approval is conferred on the host alarm panel or any other connected equipment and the label must not be removed or transferred to any other equipment. A copy of the approval label may be attached to the telephone line cable. The text of the approval mark is reproduced below



Ringer equivalence number (REN)

REN is a customer guide to indicate the maximum number of apparatus that may be connected simultaneously to a single telephone line without affecting the bell (or tone) ringing characteristics of the items connected.

To calculate the maximum number of items which may be connected to a single exclusive telephone line, add all the REN values of the connected equipment. Telephone lines which are not marked with a REN value are assumed to have a REN of 1.0.

If a REN of 4 is marked on the apparatus then no other apparatus may be connected simultaneously unless that apparatus has been marked with a REN of 0. The maximum REN value allowed on any combination of simultaneously connected apparatus is 4.0.

Because of the wide spread of characteristics a guarantee of successful operation in an installation of mixed types of equipment may not be given by Guardall. The voltage drop introduced by the communicator, where an auxiliary port is provided into the loop connection between the main apparatus and the PSTN at 40mA line current, will not exceed 200mV. The communicator must not be used with any equipment which when introduced by any relevant wiring, causes a voltage drop exceeding 2 V.

## **Dialling Modes**

BS 6789 : section 3.1 defines three dialling modes (Modes 1, 2 and 3). Modes 2 and 3 cover autodialling devices which play recorded messages. Mode 1 provided by Smartdial may be used for all non-emergency (non 999/non 112 ) calls. Mode 1 specifies that the device must drop the line (hang - up) within 1 minute if it receives the standard BT tones for number unobtainable, Busy, Equipment engaged or special information. Calls not covered by modes 1, 2 or 3 must not be made. Alarm calls, since they use Mode 1 cannot be, **MUST NOT BE** used for emergency 999/112 calls.

## **Available Facilities**

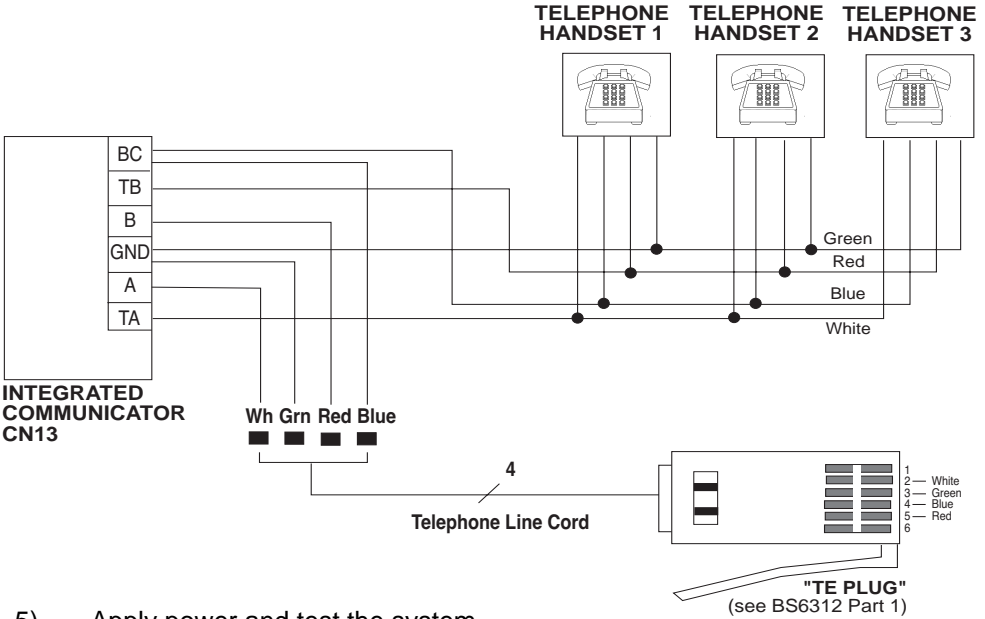
All Digital Alarm Communicators, manufactured by GUARDALL LTD have been approved for use with the following facilities...

- \* Alarm transmission and transmission/reception of configuration data,
- \* Automatic Call Initiation
- \* Series connection where a specific auxiliary socket is provided.
- \* Detection of initial proceed indication (dial tone).
- \* Automatic dialling using DTMF or Loop disconnect dialling.
- \* Automatic Call Answering.
- \* Stored number dialling.
- \* Timed Break Register Recall.

Any other usage will invalidate the approval status, if as a result, the operation of the communicator ceases to conform to the standards against which they were tested and approved.

# INSTALLATION

- 1) Obtain a suitable telephone line.
- 2) Install the Alarm Control Panel according to the instructions supplied with it.
- 3) Connect the telephone line cord to the master socket.
- 4) Connect any other telephone handsets to Connector CN13 as shown.



- 5) Apply power and test the system.

A test call is initiated by entering **7 8 9** in engineer mode. Depending on the outcome of the test either "COMM OK" or "COMM FAIL" will be recorded in the event log.

# Installation & Programming

## Communicator Programming

The integral communicator gives digital alarm communication in Ademco fast, Ademco superfast, Point ID and Paging (Mercury, Vodapage and Singapore) formats, and offers additional upload/download capability. When programmed, the communicator can give remote management when used in conjunction with GuardStation Remote (GSR) PC software package.

The communicator can be programmed to work through a private exchange and paging networks. Some private exchanges require a pause to be used, allowing the communicator time to connect to the outside line e.g. 9 for outside line followed by a pause then the number.

Some additional facilities can be accessed using special characters i.e. speed dial and pager characters. e.g. \* \* then the number for the speed dial or short dial.

The # character can be used on certain pagers to give pauses or special features. To enter the special characters in the phone number string, use the following keys -



represents #



represents pause (1 second)



represents \*

The communicator will give 8 Tx channels to which any one or more of the following Tx types can be assigned.

00 - Entry Alarm	03 - Normal Alarm	06 - Full Set	09 - Auxiliary Alarm
01 - Isolated Set	04 - Fire	07 - Mains Fail	10 - Tamper
02 - PA	05 - Line Fault	08 - Low Battery	11 - Verified Alarm

Refer to Tx Edit programming function 560.

The following Point ID codes are supported.

Fire Alarms	Panic Alarms	Burglar Alarms	
110 Fire Alarm	121 Duress	130 Burglary	
24Hr non Burglary	122 Silent Panic	131 Perimeter	
	123 Audible Panic	132 Interior	
150 Auxiliary	System Trouble	133 24 hour	
Open/Close		301 Mains Fail	134 Entry/Exit
		302 Low System Volts	137 Tamper
		454 Exit Fail	351 Line Fault
Test/Misc	Event Log	145 Concentrator Tamper	
		146 Keypad Tamper	
601 Manual trigger test	625 Time/Date reset	Bypasses	
607 Walk test mode			570 Zone bypass

Once programmed, the communicator should be tested. A test call is initiated by entering **7 8 9** in engineer mode. Depending on the outcome of the test either "COMM OK" or "COMM FAIL" will be recorded in the event log.

The panel communicator is programmed using an LCD keypad. To program, create a system tamper (open the panel lid) and enter the engineer PIN code (9999 default). Once programmed, all the information is stored in the communicator. The program codes for the communicator are as follows :

Press	6 0 0	Primary Alarm Report	0	PRIM = OFF
			1	PRIM = ADEMCO
			2	PRIM = P.T. ID
			3	PRIM = GUARDALL
			4	PRIM = PAGER 1
			5	PRIM = PAGER 2
			6	PRIM = PAGER 3

**Note:** Pager 1 = Mercury  
 Pager 2 = Vodapage/Page UK  
 Pager 3 = Singapore paging

Press	6 0 1	Secondary Alarm Report	0	SEC. = OFF
			1	SEC. = ADEMCO
			2	SEC. = P.T. ID
			3	SEC. = GUARDALL
			4	SEC. = PAGER 1
			5	SEC. = PAGER 2
			6	SEC. = PAGER 3

**Note:** Pager 1 = Mercury  
 Pager 2 = Vodapage/Page UK  
 Pager 3 = Singapore paging

Press	6 0 2	Dual Alarm Report	0	DUAL = OFF
			1	DUAL = ADEMCO
			2	DUAL = P.T. ID
			3	DUAL = GUARDALL
			4	DUAL = PAGER 1
			5	DUAL = PAGER 2
			6	DUAL = PAGER 3

**Note:** Pager 1 = Mercury  
 Pager 2 = Vodapage/Page UK  
 Pager 3 = Singapore paging

Press	6 1 0	Channel Restore Codes	1	CH 1 REST = EN OR DIS
			2	CH 2 REST = EN OR DIS
			3	CH 3 REST = EN OR DIS
			4	CH 4 REST = EN OR DIS
			5	CH 5 REST = EN OR DIS
			6	CH 6 REST = EN OR DIS
			7	CH 7 REST = EN OR DIS
			8	CH 8 REST = EN OR DIS

**Note:** The channel restore can either be enabled or disabled. To change state press the channel number 1 - 8 and this will change from its previous state.

Press	<input type="button" value="6"/> <input type="button" value="1"/> <input type="button" value="1"/>	Channel Open/Close Codes	<input type="button" value="1"/>	CH 1 O/C = EN OR DIS
			<input type="button" value="2"/>	CH 2 O/C = EN OR DIS
			<input type="button" value="3"/>	CH 3 O/C = EN OR DIS
			<input type="button" value="4"/>	CH 4 O/C = EN OR DIS
			<input type="button" value="5"/>	CH 5 O/C = EN OR DIS
			<input type="button" value="6"/>	CH 6 O/C = EN OR DIS
			<input type="button" value="7"/>	CH 7 O/C = EN OR DIS
			<input type="button" value="8"/>	CH 8 O/C = EN OR DIS

**Note:** The channel open/close can either be enabled or disabled. To change state, press the channel number key 1 - 8 and this will change from its previous state.

Press	<input type="button" value="6"/> <input type="button" value="1"/> <input type="button" value="2"/>	Superfast Format	<input type="button" value="0"/>	SUPERFAST = OFF
			<input type="button" value="1"/>	SUPERFAST = ON
Press	<input type="button" value="6"/> <input type="button" value="1"/> <input type="button" value="3"/>	Paging Type	<input type="button" value="0"/>	PAGING = NUMERIC
			<input type="button" value="1"/>	PAGING = MSG
			<input type="button" value="2"/>	PAGING = CALLER ID
Press	<input type="button" value="6"/> <input type="button" value="1"/> <input type="button" value="4"/>	Reporting Group	<input type="button" value="1"/>	ALARMS = YES OR NO
			<input type="button" value="2"/>	SET/UNSET = YES OR NO
			<input type="button" value="3"/>	OMITS = YES OR NO
			<input type="button" value="4"/>	TROUBLE = YES OR NO
			<input type="button" value="5"/>	RESETS = YES OR NO
			<input type="button" value="6"/>	RESTORES = YES OR NO

Press	6	2	0	Primary Telephone No.		MAX 16 DIGITS
Press	6	2	1	Primary Subscriber ID		MAX 8 DIGITS
Press	6	2	2	Secondary Telephone No.		MAX 16 DIGITS
Press	6	2	3	Secondary Subscriber ID		MAX 8 DIGITS
Press	6	2	4	Dual Telephone No.		MAX 16 DIGITS
Press	6	2	5	Dual Subscriber ID		MAX 8 DIGITS
Press	6	2	6	Engineer Telephone No.		MAX 16 DIGITS
Press	6	2	7	Site ID		MAX 8 DIGITS
Press	6	3	0	Line Block Detection	0	LN BLK DET = OFF
					1	LN BLK DET = ON
Press	6	3	1	Handset Connected	0	H/SET CON. = NO
					1	H/SET CON. = YES
Press	6	3	2	Dialling Method	0	DIALLING = DTMF
					1	DIALLING = PULSE
Press	6	3	3	Country Code		MAX 3 DIGITS
Press	6	4	0	Remote Access	0	RMT ACCESS = OFF
					1	RMT ACCESS = MAN
					2	RMT ACCESS = AUTO
Press	6	4	1	Remote Authorisation	0 - 255	MAX 3 DIGITS
Press	6	4	2	Ring Count	0 - 10	RING COUNT = 2
Press	6	4	3	Double Call	0 - 255	DBL CALL = 60

Press	<b>6</b>	<b>4</b>	<b>4</b>	Dial Back	<b>0</b>	DIAL BACK = OFF
					<b>1</b>	DIAL BACK = ON
Press	<b>6</b>	<b>5</b>	<b>0</b>	Remote Unset	<b>0</b>	REM UNSET = DIS
					<b>1</b>	REM UNSET = EN
Press	<b>6</b>	<b>5</b>	<b>1</b>	Remote PIN Change	<b>0</b>	REM PIN CH = DIS
					<b>1</b>	REM PIN CH = EN
Press	<b>6</b>	<b>5</b>	<b>2</b>	Remote Reset	<b>0</b>	RM RESET = DIS
					<b>1</b>	RM RESET = EN
Press	<b>6</b>	<b>5</b>	<b>3</b>	Remote Upload	<b>0</b>	RM UPLD = OFF
					<b>1</b>	RM UPLD = UNSET
					<b>2</b>	RM UPLD = ALWAYS
Press	<b>6</b>	<b>5</b>	<b>4</b>	Remote Download	<b>0</b>	RM DOWN = OFF
					<b>1</b>	RM DOWN = UNSET
					<b>2</b>	RM DOWN = ALWAYS
Press	<b>6</b>	<b>5</b>	<b>5</b>	Remote Omit	<b>0</b>	RM OMIT = OFF
					<b>1</b>	RM OMIT = UNSET
					<b>2</b>	RM OMIT = ALWAYS
Press	<b>6</b>	<b>5</b>	<b>6</b>	Remote Clock	<b>0</b>	RM CLK = OFF
					<b>1</b>	RM CLK = UNSET
					<b>2</b>	RM CLK = ALWAYS
Press	<b>6</b>	<b>5</b>	<b>7</b>	Remote Log Upload	<b>0</b>	RM LOG = OFF
					<b>1</b>	RM LOG = UNSET
					<b>2</b>	RM LOG = ALWAYS
Press	<b>7</b>	<b>8</b>	<b>9</b>	Test Call		

## APPLICATION FORM FOR INSTALLATION OF MODULAR TELEPHONE SOCKETS

To the Customer :-

If your current telephone socket is not equipped with the new modular telephone socket, you must have one fitted by your telephone service provider. Please complete this form and return it to your local telephone sales office. You will find the address and telephone number in your local telephone directory.

Name:

Address:

Postcode:

Telephone Number:

To Telephone Sales:

Please Quote for the supply and fitting of a modular telephone socket at the above address. The equipment to be connected is a GUARDALL LTD Control Panel with integrated communicator.

The REN of the equipment is 1.0

BABT Approval No. 503922

# Installation & Programming Technical Specification

## Control Panel

Construction	Metal
Power	18 V ac nominal (230 V ac nominal)
Working Voltage	13.7 V dc Nom (10.5 - 14V dc)
Stand-by Battery	6Ah 12V rechargeable lead acid
Current	1A
Aux Current	250 mA
Current Consumption	Typically 100 mA dependent on system configuration
External Bell Output	Single pole changeover relay rated at 1 A at 12 V dc
Speakers	Internal 35 $\Omega$ or Extension speakers with a combined value of 16 $\Omega$ can be fitted.
Strobe	Open collector NPN driver sinks a maximum of 200 mA with a 2 V drop.

## Environmental

Temperature Range	-10°C to +55°C
Humidity	Up to 95% RH (non condensing)
Dimensions	335 x 267 x 80 mm
Weight	3 kg
Compliance	Designed to comply with BS4737 Part 1 & 2

## Calculating Battery Life

In the event of a mains failure the standby battery should maintain the system for a time period as calculated below.

Device	Current Consumption
Control Panel	100 mA
4 x PIR @ 15 mA	60 mA
SAB Module	40 mA
LED Keypad	30 mA
Keypoint	25 mA
<b>TOTAL</b>	<b>255 mA</b>
7AH Battery, therefore 7000 mA / 255 mA = 27.5 hours.	
NOTE: This assumes no alarms during mains failure and new battery <b>NB-</b> Battery capacity reduces with age.	



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