R16
RADIO PANEL

INSTALLER'S MANUAL

Ness R16 Radio Control Panel

INSTALLATION & PROGRAMMING MANUAL

Security Products

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N55

NESS SECURITY PRODUCTS
Australian Communications Authority
TELECOMMUNICATIONS COMPLIANCE

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INTRODUCTION

The Ness R16 is a unique fully self-contained radio control panel.

The panel has a built-in keypad for programming and user operation, a built-in piezo siren, built-in LCD display, built-in radio receiver, built-in battery backup and built-in dialler.

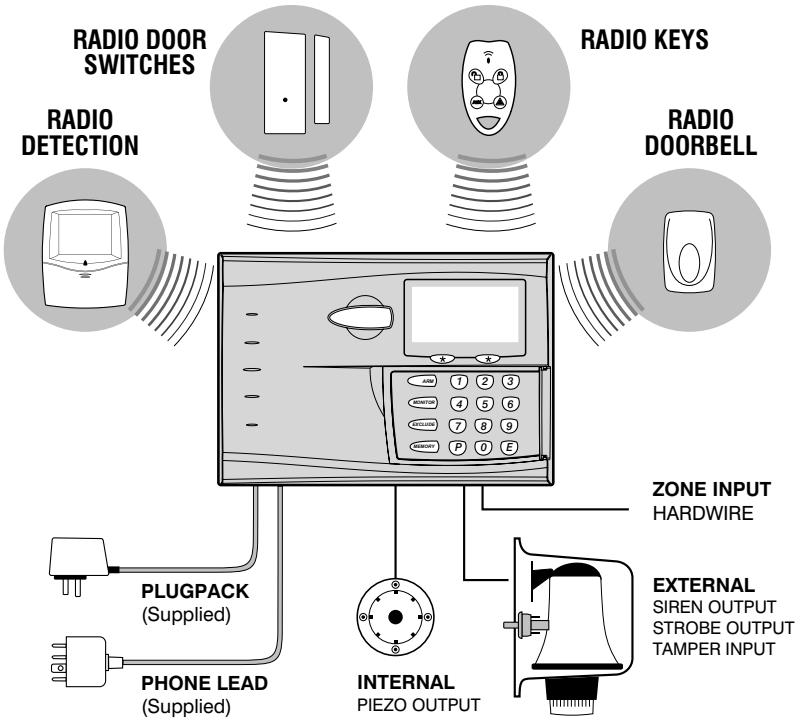
The R16 supports up to 16 Ness Radio PIRs and up to 14 Ness Radio Keys. All Ness supervised and encrypted radio devices are supported. There is even a Doorbell feature with selectable tunes when used with the Ness Radio Doorbell transmitter. (If the radio doorbell is available in the local frequency).

In addition to radio devices, the R16 has 1 hardwired zone and 1 hardwired tamper input for connection of a wired detection device and external siren cover tamper switch.

The built-in piezo siren provides high volume audible warning. The R16 also has Siren, Piezo and Strobe outputs for additional hardwired noisemakers.

The R16 has a number of sophisticated power saving features designed to provide at least 48 hours service running on the backup battery alone. (This includes one full alarm condition with sirens, strobe and dialler).

The built-in dialler uses Contact ID format for central station monitoring as well as audible monitoring to any telephone. The user can also dial into the system for remote arming and disarming over the telephone line.



RADIO ZONES	16
HARDWIRED ZONES	1 (operates in series with zone 16)
HARDWIRED TAMPER ZONES	1
RADIO COMPATIBILITY	Ness supervised & encrypted radio devices
DIALLER FORMAT	Contact ID Format Audible Voice Format
ON BOARD KEYPAD	Backlit, programming & user functions
LCD DISPLAY	High contrast icon display
PLUG PACK	220-240V AC 50-60Hz, output 17V AC @300mA
QUIESCENT CURRENT DRAW	10 mA (in power save mode if mains is off)
BUILT-IN BACKUP BATTERY	12 volt 0.8 Amp/hour, sealed lead acid
DYNAMIC BATTERY TEST	Every Hour and on arming/disarming
FUSES	Siren Output, 2A Auto-reset Strobe Output, 1.5A Auto-reset Piez Output, 500mA Auto-reset Built-in Piezo, 500mA Auto-reset
SIREN OUTPUT	1 x 8 Ohm horn speaker max.
ON BOARD PIEZO SIREN	110 dB
PIEZ (RESET) OUTPUT	12V DC 300mA max.
STROBE OUTPUT	12V DC, 1 strobe light max.
DIMENSIONS	210(w) x 145(h) x 40(d) mm

INSTALLATION

WARNING

Installation and maintenance shall be performed by qualified service personnel only.

CAUTION

Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions on the battery.

ADSL NOTICE

ADSL broadband data can interfere with the operation of your alarm dialler.

It is recommended that a quality ADSL filter be installed as per the filter manufacturer's guidelines in all premises with an alarm dialler installed.

ESD WARNING

(Electrostatic Discharge).

Once properly installed, Ness control panels are well protected from ESD. However, take note of the following precautions during installation.

The human body can generate static electricity when it is insulated from earth - for instance by walking over carpet. ESD occurs (and a small shock is sometimes felt) if an earthed metal object is then touched.

The installer should be aware that if he generates static electricity while installing the panel and then discharges this static electricity into the internal components on the main circuit board or the keypad board, then ESD damage may occur.

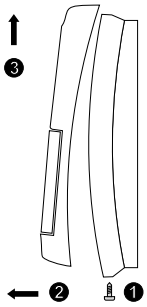
The circuit board should not be unwrapped until it is actually ready to be installed.

Methods to avoid electrostatic build-up.

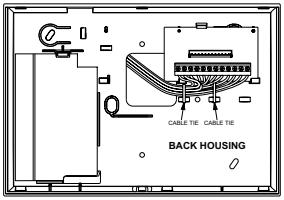
1. Use a foot strap, a wrist strap, or a grounding mat. The aim is to connect the body to earth to discharge static before it builds up. The connection is a high resistance for personnel safety.
2. If the above is not available, then it is advisable to wear clothing that will minimise the build-up of static.
3. Handle circuit boards by the edges. Avoid touching any components on the board as the integrated circuits, in particular, are not guaranteed by their manufacturers to be safe from ESD.
4. To minimise the build-up of static, avoid walking around as much as possible while working on the installation.
5. Touch an earthed object to discharge any static before working on the installation.

PACKING LIST

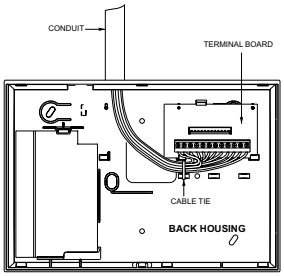
1 R16 Control panel
1 Plug pack 17VAC 300mA
1 Battery 12V 0.8Ah
1 Telephone lead
1 User manual
1 Installer manual
1 Zone list label
3 2K2 resistors



Removing the
Front housing



Cable entry via cavity wall.



Cable entry via conduit.

INSTALLATION PROCEDURE

The location of the main panel housing should be in an area that is within the protected area of the premises. A linen closet or cupboard are good examples as these are generally located in the centre of the premises.

1. Remove the front housing by first removing the bottom locking screw, (screw is not fitted for shipping), then unclip the bottom of the front housing and lift upwards.
2. Disconnect the 12 way wire loom from the main board on the front housing.
3. Unclip and remove the terminal board from the back housing and remove the battery. (The battery lead connects to the main board on the front housing. It is not plugged in for shipping). *The terminal board and battery must be removed to reveal all four mounting holes in the back housing.*
3. Mount the back housing to the wall using the 4 slotted mounting holes.
4. Replace the Terminal Board in the back housing and reconnect the 12 way wire loom to the main board.
5. Connect the plug pack wiring to the Terminal Board, (making sure that mains power is not turned on at this stage). Connect siren wires and external tamper inputs as required.
6. Replace the battery.

POWER UP PROCEDURE

The power up procedure assumes that installation of the R16 is completed and the plug pack is wired.

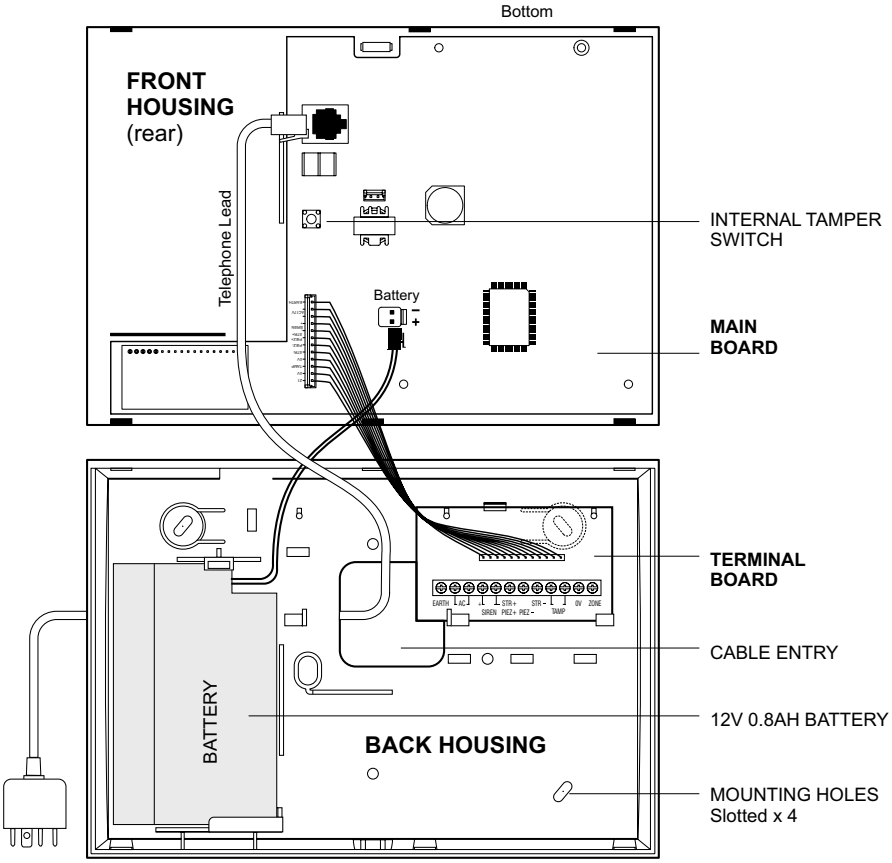
7. Connect the battery lead to the BATTERY socket on the main board.
8. Turn on the plug pack.

Note 1: When power is applied, the R16 will enter Disarmed mode, unless it was in Armed or Monitor mode when previously running, in which case it will resume in the previous mode - UNLESS the box tamper or external tamper inputs are unsealed. (See note 2).

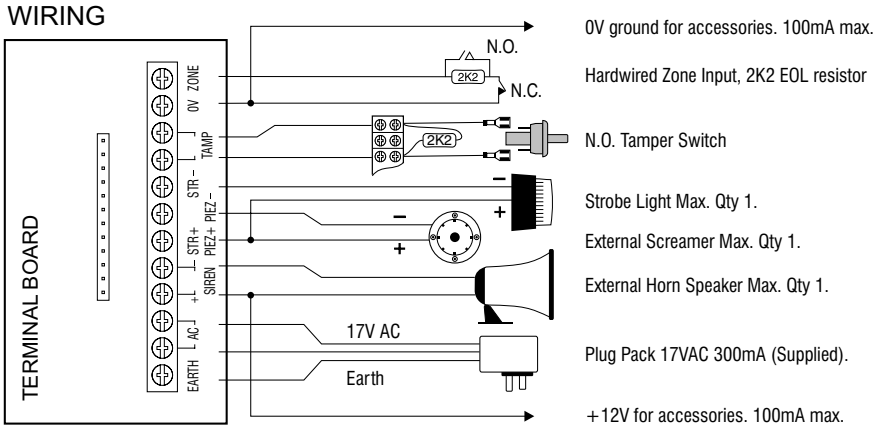
Note 2: To enter Installer Program Mode on initial power up, apply power with the internal tamper open, (lid open), or the external tamper open.

Note 3: The BATTERY icon will flash if the initial battery voltage is low and will turn off when the battery has reached full charge.

CONNECTION DIAGRAM



WIRING



INPUTS

ZONE
Zone input for optional hardwired detection devices. Operates in series with any radio devices on zone 16. The input must be terminated with a 2K2 (2200 ohm) end of line (EOL) resistor even if unused.

This input is normally used for connecting an optional hardwired reed switch or a 12V powered smoke detector.

TAMP
24hr input for connection of external tamper switches. This input operates in series with the internal tamper switch.

The input must be terminated with a 2K2 (2200 ohm) end of line (EOL) resistor even if unused.

AC / EARTH
AC power input and earth connection. Use the supplied 17V AC 300mA plug pack.

OUTPUTS

SIREN
Timed siren output for connection of maximum one (1) 8 Ohm horn speaker.
2A Auto-reset fuse protected.

STR
Output for connection of 1 x strobe light. As a power saving feature, the strobe output times out after 11 hours. If mains power is off, the output will time out after 1 hour. 1.5A Auto-reset fuse protected.

PIEZ
Timed output for connection of maximum 1 x 12V screamer. 500mA Auto-reset fuse protected.

ONBOARD SIREN (Built-in)

The onboard piezo siren is an integral part of the R16 electronics. It is used for keypad beeps, doorbell chime, arm/disarm chirps and internal siren on alarm. The internal Siren can be disabled by program option P60E 8E. When the Internal Siren function is disabled, the onboard siren still outputs keypad beeps and other audible features. 500mA Auto-reset fuse protected.

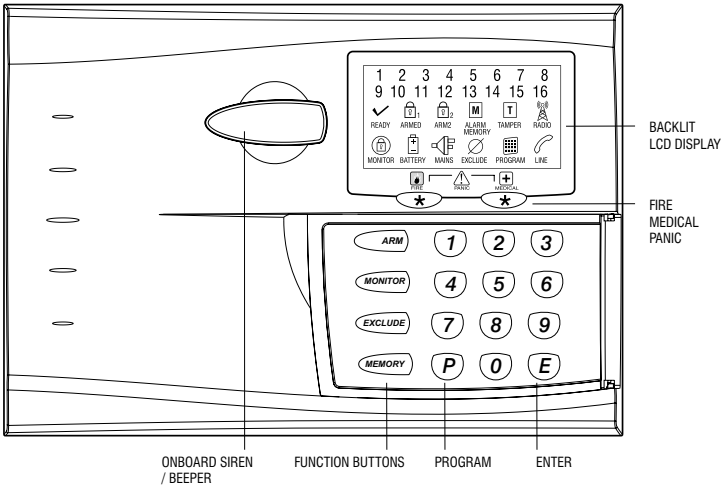
12V SUPPLY FOR ACCESSORIES

If 12V power is required for a device such as a hardwired smoke detector, use Zone Input 0V (negative) and SIREN+ (positive). No more than 100mA should be drawn from these terminals.

R16 KEYPAD

AUDIBLE & VISUAL FEEDBACK

The R16 onboard keypad provides the facility for user level and installer level programming and all user operation and emergency functions. The keys are soft-touch silicon rubber and are backlit for high visibility. Any keypress will turn on the backlighting for 4 minutes.



OUTPUT	OUTPUT TYPE	DESCRIPTION
Keypad beeper	SHORT BEEP	Keypad Acknowledge key press
	3 BEEPS (RAPID)	Keypad Valid entry, end of Exit Time
	LONG BEEP	Keypad Invalid entry
	8 BEEPS (RAPID)	Low battery / AC Fail / Medical Alarm
	CONTINUOUS BEEPS	Alarm, Entry Delay, etc
Onboard Siren External Siren output	1 CHIRP*	Arm
	3 CHIRPS*	Disarm
Onboard Siren	DOORBELL TONES**	The Doorbell has been pressed.
Onboard Siren External Siren output	SIREN BURST, (Low Volume)	Zone Auto Exclude warning
Onboard Siren Piezo output External Siren output	SIREN CONTINUOUS	Alarm condition
Strobe output	STROBE BURST	Panel Armed or Disarmed
	STROBE CONTINUOUS	Alarm condition

* Arm/disarm chirps must be enabled. P64E 4E.

** If the optional Radio Doorbell is available in your region.

KEYPAD DISPLAY IN OPERATING MODE

DISPLAY	OFF	● ON	FLASHING
ZONES 1-16	Zone is sealed	Zone is unsealed	Zone alarm
READY	Not ready to arm - unsealed zones or system faults	Ready to Arm	
1 ARMED	Disarmed	Armed	
MONITOR	Disarmed	Monitor Mode	
MAINS	Normal		Mains Power is off
BATTERY	Normal		The panel's backup battery is low
M ALARM MEMORY	Normal	Memory Mode selected	New alarms in memory
EXCLUDE	Normal		Zones are excluded
T TAMPER	Normal		Tamper alarm
RADIO	Normal	Receiving radio signal	Indicates that a Radio Key or other radio device has a low battery*
LINE	Normal	Dialler is on line	Phone line fault or failure to communicate
PROGRAM	Normal	User Program Mode	Installer Program Mode

* The flashing RADIO fault icon could be indicating that the radio key/device has either low battery or supervision failure or other radio related problems. The numeric display 1–15 will show which device is sending the signal.

See page 19: The table KEYPAD DISPLAY IN MEMORY REVIEW MODE provides further detail.

KEYPAD BEEPER NOTE:
If the onboard siren is disabled, (P60E 8E = on), keypad beeps are also disabled during an alarm condition. Keypad beeps will be reactivated on the next disarm.

USER TESTS

Test functions can be invoked by pressing and holding the specified keypad button, as follows. The Panel must be in Disarmed mode.

BUTTON	TEST PERFORMED
9	**Dialler Listen-in.** Press and hold keypad button '9' for 3 seconds to enable the Dialler Listen-in function. All dialler tones are output through the onboard siren. This allows the installer to hear dial tone, dialling tones, central station handshake and kiss-off tones. This test automatically turns off after 2 minutes.
E	**Display Test.** Press and hold keypad button 'E' for 1.5 seconds. Turns on all LCD icons while the button is pressed.

OPERATION

OPERATING MODES

The R16 will operate in one of the following modes:

ARMED. The system is "On" and ready to detect intrusion.
DISARMED. The system is "Off". This is the normal mode when the premises are occupied. Day Zones and 24 Hour Zones (if configured) are active.
DAY MODE. The system is Disarmed and a zone or zones have been setup to create an alarm when activated. Often used as a doorway alert in a shop. (See P53E Day Zones).
MONITOR MODE. Allows the system to be "partially" Armed. For example, in a house, to allow all perimeter zones, doors and windows, to be Monitored (armed) at night. (See P51E Monitor Zones).
24HR ZONES. Zones that have been setup to be active in any mode. Usually used for Tamper switches and Panic buttons. (See P52E 24hr Zones).
DOORBELL. (If this product is available in your region). The radio Doorbell operates in any panel mode. The doorbell can be triggered using the Doorbell transmitter. (Most Ness transmitters can be programmed to operate the Doorbell function, see page 25, Extra Option for Radio Keys). See page 21 for doorbell volume and selectable chimes settings.

KEYPAD DISPLAY IN MEMORY REVIEW MODE

EVENT	DISPLAY ICONS
Arm	ARMED
Disarm	blank
Auto Exclude Zone	EXCLUDE + 1...16
Mains Fail	MAINS
Panel Panic/Medical/Fire	EXCLUDE
Battery Fail	BATTERY
Line Fault	LINE
Dialler Call Fail	LINE
Zone Alarm	1...16
Tamper Panel/Siren	TAMPER
Tamper(4th failed attempts)	TAMPER + PROGRAM
Radio Jamming	RADIO
Radio Substitution	RADIO
Radio Key Low Battery	RADIO + BATTERY + 2...15
Radio Key Panic/Medical	RADIO + EXCLUDE
Detector Tamper	RADIO + TAMPER + 1...16
Detector Low Battery	RADIO + BATTERY + 1...16
Detector Supervision Fail	RADIO + 1...16
Pendant Supervision Fail	RADIO + MONITOR + 1...15

ACTION	KEYPAD OPERATION	RADIO KEY OPERATION
ARM The panel must be in the disarmed state first.	Arming with a user code. ARM + [User Code] + E Shortcut method (Arming shortcut must be on, P62E 5E). ARM + E	 Press The ON button once.
DISARM	[User Code] + E	Press the OFF button once.
MONITOR MODE The panel must be in the disarmed state first. Note: The panel will ignore Monitor Mode arming if no monitor zones are selected at P51E.	Arming Monitor with a user code. MONITOR + [User Code] + E Shortcut method (Monitor shortcut must be on, P62E 3E). MONITOR + E	Press the ON button twice within 4 seconds.
PANIC ALARM Keypad Panic is indicated on the LCD display by the EXCLUDE icon flashing.	 Press both star keys together. Panic shortcut must be on, P62E 3E.	Press the Panic button for at least 2 seconds.
DURESS ALARM Duress alarm should only used by arrangement with your monitoring station.	9 + [User Code] + E To disarm and report a silent Duress alarm to the monitoring station, add the digit 9 before a valid user code when disarming. Option P75E 1E must be on to enable the dialler to report the alarm.	Press the Panic button for at least 2 seconds. Extra Options for the Panic button must be set for *Duress.* P12E-P25E 2E.
EXCLUDING ZONES Zones can be Excluded in the disarmed state.	EXCLUDE + E then enter the zone number/s + E for each zone to be Excluded. [Zone No.] + E [Zone No.] + E then press E to exit Exclude mode.	
VIEW MEMORY Memory can be viewed in the disarmed state.	Shortcut method (Arming shortcut must be on, P62E 5E). MEMORY + E then press MEMORY repeatedly to display the last 20 events in memory. then press E to exit Memory mode.	

ALARM TYPE DESCRIPTIONS

ALARM TYPE	DESCRIPTION
ALARM, Detector	A zone goes unsealed in a mode causing an alarm. Non-restoring detectors which have alarmed will send a Restore report on Disarming, if Restore reporting is enabled. Restoring detectors (e.g. a reed switch programmed with Restore) which have alarmed will report a Restore only when they are sealed, if Restore reporting is enabled.
TAMPER, Panel/ Siren	Panel housing tamper switch and external siren housing tamper switch are wired to the same Tamper Input. When alarmed, will report a Restore only when sealed, if Restore reporting is enabled.
TAMPER, Keypad	Detect entry of consecutive invalid codes in Armed mode, alarm sirens on 4th failed attempt.
TAMPER, Radio detector	Radio detector housing tamper switch activation. When alarmed, will report a Restore only when sealed, if Restore reporting is enabled.
PANIC, Keypad	Instant when both PANIC buttons pressed together, or (ii) delayed when either PANIC button is pressed and held for 1.5 seconds.
PANIC, Radio	Press and hold the device PANIC button for the required length of time.
DURESS, Keypad	Enter a valid code prefixed with a **9**. The response is the same as for a keypad Panic alarm, but no sirens or strobe are active.
DURESS, Radio	With a radio key programmed as Duress, press and hold the device PANIC button for the required length of time. No sirens or strobe are active.
MEDICAL, Keypad	Press and hold Right Hand keypad * (Star) key for 2 seconds.
MEDICAL, Key	With a radio key programmed as Medical, press and hold the device PANIC button for the required length of time.
FIRE, Keypad	Press and hold Left Hand keypad * (Star) key for 2 seconds. This triggers the fire siren sound and the dialler reports a Fire alarm, (if enabled by P75E 4E).
RADIO SUBSTITUTION	1. CODE GRABBER A “code grabber” may be used to capture a transmitted user message and re-transmit a fixed copy of this message in an attempt to defeat the system. If two consecutive identical valid encrypted messages are received a minimum time apart, the alarm is raised. 2. ENCRYPTION HACKING In this case an attempt is made to “crack” the encrypted, changing part of a message using multiple transmissions. If 20 messages are received with a valid ID but fail decryption, the alarm is raised. Arming and disarming resets this count. The dialler reports a radio jamming/radio substitution alarm.
RADIO JAMMING	After accumulating a “no radio signal” reference level 10 minutes after power up, the system will raise a radio jamming alarm if 30 seconds of continuous in-band radio signal is detected.
DIALLER LINE FAULT	Indicates minimum telephone line DC voltage was not detected for a 2 minute period. If Telephone Line Monitor is enabled, flash the LCD LINE icon and beep keypad.

SYSTEM ALARM DESCRIPTIONS

System Alarm indication icons are active in all Operate modes. All system alarms sound beeper until the 'E' key is pressed. If the panel is armed, the beeper is sounded on disarm. While the alarm persists, the beeper is sounded on each disarm.

System alarms can be reported if the system is monitored by a central monitoring station .

ALARM TYPE	DESCRIPTION
LOW BATTERY Radio Key / Radio Panic / Radio Doorbell	Indicates a low battery condition. A low battery alarm occurs when the key operates. Flash the LCD BATTERY and RADIO icons after a transmission from device with low battery; turn them off when a transmission from a device without a low battery is received.
LOW BATTERY Radio PIR	Indicates a low battery condition. A low battery alarm occurs when the detector operates. Flash the LCD BATTERY, RADIO and zone number icons.
LOW BATTERY Control Panel	The control panel backup battery is periodically load tested. A low battery condition is cleared when the battery passes load test. Battery is tested once every 1 hour and on every disarm. Flash the LCD BATTERY icon.
RADIO SUPERVISION FAIL Radio PIR or Fixed Radio Panic Button	A radio supervisory message or other message has not been received from a detector for the programmed supervision period. Flash the LCD RADIO and zone number icons.
MAINS POWER FAIL	Indicates AC mains power to Panel is not connected or power is off. Flash the LCD MAINS icon.
FAIL TO COMMUNICATE	Indicates the dialler was not able to successfully contact the central monitoring station. Flash the LCD LINE icon.

All alarm types can be reported to the Central station. See page 48 for a full list of Contact ID reporting codes.

QUICK START PANEL PROGRAMMING

The R16 is supplied pre-programmed with factory default values that should suit most installations.

The steps below will show you how to program the Master Code (User Code 1), and the Client Code and telephone number for central station monitoring.

❶ To enter Installer Program Mode.

To enter Installer Program Mode on initial power up, apply power with the internal tamper open, (lid open), or the external tamper open. Or if you have powered up with all tampers sealed, see below.

Press (P)(1)(2)(3)(E) — 123 is the factory default Master Code.

This is User Program Mode. The PROGRAM icon is on steady.

...then press (P)(0)(0)(0)(0)(0)(0)(E) — 000000 (six zeros) is the factory default Installer Code.

This is Installer Program Mode. The PROGRAM icon is flashing.

❷ To program the Master Code.

Example, to program the Master Code to be 1234.

Press (P)(1)(1)(E) (1)(2)(3)(4)(E) (1)(2)(3)(4)(E)

P11E is the option for the Master Code. Enter the new Master Code followed by E. Enter the new Master Code again followed by E.

❸ To program the dialler Client Account Number.

Example Client Code is 9876.

Press (P)(7)(2)(E) (9)(8)(7)(6)(E)

P72E is the option for the Client Code. Enter the new Client Account Number followed by E.

❹ To program the central station telephone number.

Example telephone number is 1234 7890.

Press (P)(7)(0)(E) (1)(2)(3)(4)(7)(8)(9)(0)(E)

P70E is the option for Telephone Number 1. Enter the new telephone number followed by E.

❺ To exit Installer Program Mode.

Press (P) followed by (E)

The PROGRAM icon will turn off.

THE PANEL IS NOW PROGRAMMED AS FOLLOWS:

Master Code: **1234**, Dialler Client Account Number: **9876**, Central Station Telephone number 1: **1234 7890**.
Zone 1: **Delay**, Zone 2: **Handover**, Zones 3–16: **Instant**, Entry Delay Time: **20 seconds**, Exit Delay Time: **60 seconds**, Siren Reset Time: **5 minutes**.

The client code and telephone numbers are supplied by the central station.

QUICK START RADIO PROGRAMMING

As a radio system, the R16 can be installed with a minimum of wiring. If an external siren or strobe light is not being used, the only essential wiring is connection of the plug pack.

The steps below will show you how to program one Radio PIR and one Radio Key.

❶ To enter Installer Program Mode.

To enter Installer Program Mode on initial power up, apply power with the internal tamper open, (lid open), or the external tamper open. Or if you have powered up with all tampers sealed, see below.

Press (P)(1)(2)(3)(E) — 123 is the factory default Master Code.

PROGRAM — This is User Program Mode. The PROGRAM icon is on steady.

...then press (P)(0)(0)(0)(0)(0)(0)(E) — 000000 (six zeros) is the factory default Installer Code.

PROGRAM — This is Installer Program Mode. The PROGRAM icon is flashing.

---

❷ To program a Radio PIR.

Example, to program a Radio PIR on zone 1.

Press (P)(0)(9)(E) ...then press (1)(E)

P09E is the option for programming Radio Devices.

'Learn' mode for zone 1.

The RADIO icon will be on and the number 1 will be flashing.
The zone numbers for radio devices already programmed will be ON.

❸ Insert the battery of the Radio PIR to be programmed.

Beep, beep + 3 beeps will be heard if the RADIO PIR was successfully 'learned'. Zone icon 1 will then be on steady.

---

❹ To program a Radio Key.

Example, to program a Radio Key to user slot 2.

Press (P)(1)(0)(E) ...then press (2)(E)

P10E is the option for programming Radio Keys.

'Learn' mode for User 2.

The RADIO icon will be on and the number 2 will be flashing.
Numbers 2–15 show the status of the user slots. ON = Radio Keys programmed, OFF = blank, flashing = learn mode.

❺ Press and hold the PANIC button for 8 seconds on the Radio Key to be programmed.

Beep, beep + 3 beeps will be heard if the RADIO KEY was successfully 'learned'. Number 2 will then be on steady. A long beep means the Radio Key is already programmed to another user slot. See page 24.

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❻ To exit Installer Program Mode

Press (P) followed by (E)

The PROGRAM icon will turn off.

This page is intentionally blank

USER PROGRAM MODE

User Program Mode allows the owner to program:
- All User Codes
- Entry and Exit times

Note: The panel will automatically drop out of User Program Mode to Operating Mode if no keypad buttons are pressed for 4 minutes.

INSTALLER PROGRAM MODE

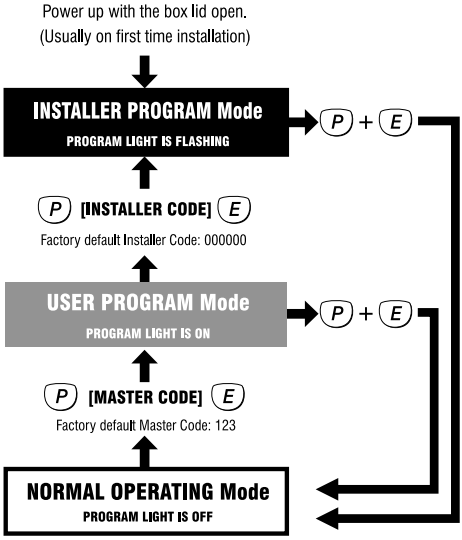
Installer Program Mode allows access to ALL program options.

Note: The panel will remain in Installer Program Mode indefinitely.

Factory default Master Code: **123**

Factory default Installer Code: **000000**

PROGRAM MODE LEVELS



HOW TO ENTER PROGRAM MODE

FROM POWER UP

1. Power-up with the internal box tamper or external tamper open. The R16 will then be in Installer Program Mode.

USING THE KEYPAD

The panel must be Disarmed.

1. Press (P) **[MASTER CODE]** (E)
   The keypad will respond with 3 beeps ♪♪♪
   This is User Program Mode (PROGRAM light is ON).
2. Then press (P) **[INSTALLER CODE]** (E)
   The keypad will respond with 3 beeps ♪♪♪
   This is Installer Program Mode (PROGRAM light is FLASHING).

HOW TO EXIT PROGRAM MODE

1. Press (P) then (E)
   This is Operating Mode (PROGRAM light is OFF).

P00E, P01E VOICE DIALLING TELEPHONE NUMBERS 1 & 2

PROGRAM MODE LEVEL:
User, Installer, Remote by PC.

FACTORY DEFAULT:
Both Telephone Numbers = blank.

NOTES:
These program options can also be accessed by pressing P0E and P1E. The leading zero is not mandatory.

RELATED OPTIONS:
• P70E, P71E, Central Station Telephone Numbers 1 & 2, page 36.

• Ness Voice Dialling format, see page 47.

• Dialling Sequence, page 46.

These phone numbers are used to report alarms in Ness Voice Dialling format and can be programmed from User Program mode or Installer Program mode.

It is not necessary to program a reporting format. Ness Voice Dialling format is automatically selected when alarm reports are sent to the Voice Dialling telephone numbers.

Voice Dialling is automatically disabled if Central Station telephone number/s are programmed at P70E or P71E.

PROGRAMMING SEQUENCE

1. Press: **P00E** or **P01E**
   • *The existing telephone number is displayed.*
   • *It is not necessary to wait for the display sequence to end. You can interrupt the display by entering the new telephone number.*
2. **[new telephone number] E**
   The new telephone number is displayed.

EXAMPLE

To program Voice Dialling Phone No.1 to be 03 1234 1234:
Press: **P00E 0312341234E**

TO CLEAR A TELEPHONE NUMBER

To clear a telephone number, enter the MEMORY key in place of the telephone number. E.g, to clear Voice Dialling Phone No.2, press: **P01E MEMORY E**

GENERAL NOTE.
Program options P00E to P09E can also be accessed by pressing P0E to P9E.
The leading zero is not necessary.

SPECIAL CHARACTERS

Special characters such as Pauses, star or hash characters can be included in a telephone number dialling sequence by using the keys in the table below.

SPECIAL CHARACTER	KEYPAD ENTRY	KEYPAD DISPLAYS
PAUSE (1.6sec)	ARM Key	10
* (Star)	MONITOR Key	11
# (Hash)	EXCLUDE Key	12

P05E DOORBELL VOLUME*

PROGRAM MODE LEVEL:
User, Installer, Remote by PC.

FACTORY DEFAULT:
3, (Volume level 3).

NOTES:
- The Doorbell sounds through the R16 onboard siren.

RELATED OPTIONS:
Doorbell Tune, P06E.

Selects the doorbell volume. Programmable range is volume level 1 (lowest) to 4 (highest).

PROGRAMMING SEQUENCE

1. Press: **P05E** - *Existing value is displayed.*
2. **[ENTER NEW VALUE] E** - *New value is displayed.*

EXAMPLE

To program Doorbell Volume to be Level 2:
Press: **P05E 2E**

P06E DOORBELL TUNE*

PROGRAM MODE LEVEL:
User, Installer, Remote by PC.

FACTORY DEFAULT:
3, (Ding Dong).

NOTES:
•

RELATED OPTIONS:
Doorbell Volume, P05E.

The R16 has nine built-in doorbell tunes to choose from. The doorbell is activated by the optional Radio Doorbell transmitter. (Most Ness transmitters can be programmed to operate the Doorbell function, see page 25, Extra Option for Radio Keys).

PROGRAMMING SEQUENCE

1. Press: **P06E** - *Existing value is displayed.*
2. **[ENTER NEW VALUE] E** - *New value is displayed.*

EXAMPLE

To program Doorbell Tune to be Tune 1, Westminster:
Press: **P06E 1E**

AVAILABLE TUNES

1 Westminster
2 Westminster (4 notes only)
3 Ding Dong
4 Ding Dong Repetitive
5 Star Spangled Banner
6 Fur Elise
7 Home Sweet Home
8 Greensleeves
9 Chime

* If the optional Radio Doorbell is available in your region.

P08E RADIO SIGNAL STRENGTH TEST

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
0, Radio Key test.

NOTES:
- The signal strength beeps will sound only the first time the radio device is activated. The signal strength and device number remains flashing on the display until E is pressed again or the ON button of a valid radio key is pressed.

The Radio Signal Strength Test can be used to test the radio signal from any Ness radio device. The strength of the radio signal received is displayed on the zone lights 1–9 and beeped by the keypad.

The higher the number displayed (and beeped) the stronger the signal received.

Use **P08E 0E** to test Radio Keys, (press Panic button). Note that in this mode, the R16 will respond to radio signals from any programmed radio device. To avoid confusion from multiple radio signals, this test is best performed while standing out of range of any programmed radio PIRs.

Use **P08E 1E–8E** to test the signal strength of a specific radio device on zones 1–16.

TO RESET THE TEST

The last signal strength tested remains flashing on the display. Press keypad E or Radio Key ON button to exit from the current test. The panel is then ready for another radio test.

To completely exit the Radio Signal Strength test, simply go to another programming option or exit Installer Program Mode, (P + E).

EXAMPLE: TO TEST THE SIGNAL STRENGTH OF A RADIO PIR ON ZONE 2.

1. Press: **P08E 2E** *Radio icon and numeric icon 2 is flashing - waiting for radio data.*

2. Trigger the radio device on zone 2.

3. The display will alternate flashing signal strength value and radio key/detector slot number.

E.g., The signal strength will be flashed on the display and the panel will beep signal strength value. Then the radio icon and detector/key number will be on steady.

EXAMPLE: TO TEST THE SIGNAL STRENGTH OF A RADIO KEY.

1. Press: **P08E 0E** *Radio icon is flashing - waiting for radio data.*

2. Press and hold the Panic button for 2 seconds on the Radio Key being tested.

3. The display will alternate flashing signal strength value and radio key slot number.

E.g., The signal strength will be flashed on the display and the panel will beep signal strength value. Then the radio icon and detector/key number will be on steady.

P09E PROGRAM RADIO DEVICES

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
No radio devices programmed.

The R16 has sixteen radio zones which can accept Ness radio devices such as radio PIRs, radio reed switches, radio smoke detectors.

Each of the sixteen radio zones will accept one radio device.

Radio devices are programmed with the easy to use radio 'learn' mode.

R15 Radio PIR

R12 Radio PIR

RR1 Radio Reed Switch

RR2 Universal Transmitter

PROGRAMMING SEQUENCE

1. Press: **P09E**
   - *The RADIO icon will turn on and zone numbers 1-16 will show which zones have radio devices programmed.*
2. Press: **[zone number] E**
   - *The selected zone number is flashing. The zone is in learn mode.*
   - *A long beep indicates that the radio device may already be programmed on another zone.*
3. Connect the battery in the radio device.
   - *Three beeps indicates device has been successfully programmed.*

EXAMPLE 1

To program radio zone 1 with a Ness Radio PIR:
1. Press: **P09E 1E** *Zone 1 will start flashing.*
2. Connect the 9V battery to the Radio PIR.

TO DELETE A RADIO DEVICE

To delete an existing Radio Device, press P09E, select the zone number to delete [1E–8E], then press P09E again.

EXAMPLE. To delete the radio device programmed on zone 1:
Press: **P09E 1E P09E**

P10E PROGRAM RADIO KEYS

PROGRAM MODE LEVEL:
User, Installer, Remote by PC.

FACTORY DEFAULT:
No radio keys programmed.

NOTES:

RELATED OPTIONS:
• P11E-P25E, Program user codes.

• Extra Options For Radio Codes, page 25.

The R16 will accept up to 14 Ness Radio Keys to be used for remote control wireless Arming/Disarming and Panic functions.

Radio Keys are programmed to one of the 15 User Code slots with the easy to use radio 'Learn' mode. A User Code slot can be either a keypad code or a radio key code, not both. User Code 1 is always a keypad code.

PROGRAMMING SEQUENCE

1. Press: **P10E**
   • *The RADIO icon will turn on and zone numbers 2-15 will show which user code slots have radio devices programmed.*
2. Press: **[user number 2–15] E**
   • *The selected user number is flashing. The user slot is in learn mode.*
   • *A long beep means the Radio Key may already be programmed to another user slot.*
3. Press the required Radio Key button to send the "Learn" message. (See "How To Send The Learn Message").
   • *Three beeps indicates the radio key has been successfully programmed.*

HOW TO SEND THE LEARN MESSAGE:

EXAMPLE

To program a Radio Key to user slot 2:
Press **P10E 2E** then press and hold the PANIC button on the Radio Key.

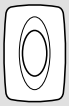
TO DELETE A RADIO KEY

To delete an existing Radio Key, press P10E, select the user number to delete [2E–15E], then press P10E again.

EXAMPLE. To delete the Radio Key on user slot 2:
Press: **P10E 2E P10E**

RK4 RADIO KEY
Press and hold Panic for 8 seconds.

RDB RADIO DOORBELL*
Press and hold for 8 seconds.



RK1B RADIO PANIC
Press 3 times.

RKP RADIO KEYPAD
Insert the battery or consult the Radio Keypad manual.

* If the optional Radio Doorbell is available in your region.

FACTORY DEFAULT:
Extra Option 1E, Panic, is the factory default for all user slots.

NOTES:
When programming the Radio Doorbell, the Extra Option for that user slot must be 5E.

Each user code slot is defaulted with Extra Option 1E enabled, (Panic alarm).

The Extra Option for a user code slot can be programmed after a radio key has been programmed to that slot.

EXTRA OPTIONS FOR RADIO CODES

Each user code slot has five Extra Options which control the behaviour of Radio Keys and the Radio Doorbell transmitter when they are programmed to a user code slot on the R16.

The Extra Options are:
1E, Panic: The Panic Button will trigger the audible Panic alarm. (default).
2E, Duress: The Panic Button will trigger the silent Duress alarm. (See P75E 1E).
3E, Medical: The Panic Button will trigger the Medical alarm.
4E, Ignore Panic: Disables Panic Button on radio keys.
5E, Doorbell: The Panic Button will sound the R16 doorbell feature.

PROGRAMMING SEQUENCE FOR EXTRA OPTIONS

1. Press: **P [user number option 12-25] E**
   • *If a Radio Key is programmed to the user slot, the RADIO icon will be on. Icons 1–5 show which Extra Option is currently selected.*
2. Press: **[1–5] E**
   • *This selects a new Extra Option.*

EXAMPLE

A Radio Key is programmed to User Code slot 2. To change the Extra Option to “Ignore Panic”, press P12E 4E.

USER CODE OPTIONS TABLE

		RADIO CODES		KEYPAD CODES	
USER CODE SLOT	DESCRIPTION	OPTION NOs		OPTION NOs	DEFAULT
User Code 1	Master Code	(Always a Keypad Code)		P11E	123
User Code 2		P10E	2E	P12E	
User Code 3			3E	P13E	
User Code 4			4E	P14E	
User Code 5			5E	P15E	
User Code 6			6E	P16E	
User Code 7			7E	P17E	
User Code 8			8E	P18E	
User Code 9			9E	P19E	
User Code 10			10E	P20E	
User Code 11			11E	P21E	
User Code 12			12E	P22E	
User Code 13			13E	P23E	
User Code 14			14E	P24E	
User Code 15			15E	P25E	

P11E-P25E PROGRAM KEYPAD CODES

PROGRAM MODE LEVEL:
User, Installer, Remote by PC.

FACTORY DEFAULT:
User Code 1: 123
Installer Code: 000000
All other codes: [blank]
Extra Option 1, all codes.

NOTES:

- User Codes can be 3 to 6 digits in length.
- Codes beginning with 0 (zero) can be programmed but they will not operate the panel - this is an alternative method for disabling user codes. The MEMORY E function is recommended for deleting user codes.
- User Code 1 (Master Code) can be changed but it can not be deleted. The MEMORY + E sequence simply reverts User Code 1 back to factory default of 123.
- All codes must be unique to each other. Codes are rejected if already used. Some codes that are similar to existing codes may also be rejected.
- To clear all codes (except the Installer Code), enter P97E 3E in Installer Program mode. See Page 45.
- Open/Close reports are identified by user number when the control panel is central station monitored. Shortcut arming, (ARM + E, (if enabled), is sent as User 25.

RELATED OPTIONS:
P10E, Program Radio Keys

Options P11E-P25E allow the programming or deletion of the 15 keypad codes and also setup the Extra Options for user code slots programmed with a Radio Key.

PROGRAMMING SEQUENCE

1. Press: **P [user number option 11-25] E**
   • The existing keypad code will be displayed out one digit at a time on the keypad.
2. Press: **[new code] E [new code again] E**
   • The new keypad code will be displayed on the keypad.
   • One beep will sound on the first entry of the new code, three beeps will sound on the successful second entry of the new code.

EXAMPLE

To program user code 2 to be 1234:
1. Press: **P12E 1234E 1234E**

TO DELETE A CODE

To delete a User Code, enter the MEMORY key in place of the code. Example: To delete User Code 2: P12E MEMORY E

For a list of user option numbers, see the USER CODE OPTIONS TABLE on page 25.

- Open/Close reports, (if enabled by your installer), are identified by user number if the control panel is central station monitored.

P26E ENTRY DELAY TIME

PROGRAM MODE LEVEL:
User, Installer, Remote by PC.

FACTORY DEFAULT:
20 = 20 seconds.

NOTES:
- Programmable range is 1–99 seconds.
- To view the programmed value without making changes, press P26E.

The Entry Delay Time is the time given to Disarm the Panel on entry through an entry delay zone.

PROGRAMMING SEQUENCE

1. Press: **P26E**
   The digits of the existing value will be displayed.
2. Press: **[new time] E**
   The digits of the new value will be displayed.

EXAMPLE

To program the entry delay time to be 25 seconds: **P26E 25E**

P28E EXIT DELAY TIME

PROGRAM MODE LEVEL:
User, Installer, Remote by PC.

FACTORY DEFAULT:
60 = 60 seconds.

NOTES:
- Programmable range is 1–99 seconds.
- To view the programmed value without making changes, press P28E.

The Exit Delay Time is the time given to secure and exit the premises after the R16 is Armed. All zones (except 24hr zones) are inactive during the Exit Delay time.

PROGRAMMING SEQUENCE

1. Press: **P28E**
   The digits of the existing value will be displayed.
2. Press: **[new time] E**
   The digits of the new value will be displayed.

EXAMPLE

To program the exit delay time to be 50 seconds: **P28E 50E**

P29E SIREN RESET TIME

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
5 = 5 minutes.

NOTES:
- Programmable range is 1–10 minutes.
- To view the programmed value without making changes, press P29E.

The Siren Reset Time sets the alarm duration of the Siren and Reset outputs.

PROGRAMMING SEQUENCE

1. Press: **P29E**
   The digits of the existing value will be displayed.
2. Press: **[new time] E**
   The digits of the new value will be displayed.

EXAMPLE

To program the siren reset time to be 4 minutes: **P29E 4E**

P40E INSTANT ZONES

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
3–16 = ON, Zones 3–16 are instant.

NOTES:
- When a zone is selected as Instant, it is automatically deselected from Entry Delay or Handover.

Instant Zones operate only in the Armed state. Once armed at the expiry of exit time, Instant Zones will activate assigned outputs immediately when triggered.

PROGRAMMING SEQUENCE

1. Press: **P40E**
2. Press: **[1-16] E**
   - *This enables the zone for this option. To deselect a zone from this option, program it to be Entry Delay or Handover.*
   - *Zone light on indicates the option is enabled.*

P41E ENTRY DELAY ZONES

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
1 = ON, Zone 1 is Delayed.

NOTES:
- When a zone is selected as Entry Delay, it is automatically deselected from Instant or Handover.

Entry Delay zones operate only in the Armed state. When Armed, at the expiry of exit time these zones will activate the Entry Delay Timer (P26E) when they are triggered. If the panel is not disarmed before the expiry of the Entry Delay Timer, the alarm outputs will be activated.

PROGRAMMING SEQUENCE

1. Press: **P41E**
2. Press: **[1-16] E** to enable each zone for this option.
   - *To deselect a zone from this option, program it to be Instant or Handover.*
   - *Zone light/s on indicates which option is enabled.*

P42E HANDOVER ZONES

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
2 = ON, Zone 2 is Handover.

NOTES:
- When a zone is selected as Handover, it is automatically deselected from Entry Delay or Instant.

Handover zones are delayed only if entry is made through an Entry Delay zone first. If a Handover zone is triggered first, the zone behaves as an instant zone. Normally, the “point of entry” zone should be Delay zone, with any other zones in the entry path programmed as Handover zones.

PROGRAMMING SEQUENCE

1. Press: **P42E**
2. Press: **[1-16] E** to enable each zone for this option.
   - *To deselect a zone from this option, program it to be Delayed or Instant.*
   - *Zone light/s on indicates which option/s are enabled.*

P44E RESET LOCKOUT ZONES

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
1–16 = ON, All zones are Lockout zones.

NOTES:
- This option applies to the RESET output, the SIREN output always locks out.

RELATED OPTIONS:
P60E 4E, Tamper Reset Lockout.

All zones can be programmed to Lockout, i.e. cause the RESET OUTPUT to sound only once whilst the panel is armed.

The RESET OUTPUT is then locked out for that alarmed zone until entering a valid code has reset the panel.

PROGRAMMING SEQUENCE

1. Press: **P44E**
2. Press: **[1-16] E** to toggle each zone on or off.
   Zone light/s on indicates which option/s are enabled.

P51E MONITOR ZONES

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
1–16 = OFF, No Monitor zones.

RELATED OPTIONS:
P64E 1E, Brief Monitor alarm.

This option selects which zones will be armed in Monitor mode.

Monitor zones allow you to Arm selected zones while others are ignored. Typically used for perimeter zones such as windows and doors while you are at home. Example: Upstairs zones are Disarmed while downstairs zones are Armed in Monitor mode.

PROGRAMMING SEQUENCE

1. Press: **P51E**
2. Press: **[1-16] E** to toggle each zone on or off.
   Zone light/s on indicates which option/s are enabled.

P52E 24HR ZONES

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
1–16 = OFF, No 24hr zones.

NOTES:
- The Tamper input is always a 24hr zone

24hr Zones operate at all times regardless of the mode of panel operation, i.e. Armed, Disarmed or Monitor. When alarmed, these zones will activate assigned outputs immediately. To reset a 24hr zone alarm, a valid user code must be entered.

Selecting a zone as 24hr will override any other zone type setting such as Instant, Delayed or Handover.

PROGRAMMING SEQUENCE

1. Press: **P52E**
2. Press: **[1-16] E** to enable each zone for this option.
   - *To deselect a zone from this option, program it to be Delayed, Instant or Handover.*
   - *Zone light/s on indicates which option/s are enabled.*

P53E DAY ZONES

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
1–16 = OFF, No Day zones.

NOTES:
Typical uses:

- Instant alert when a delivery door is opened.
- Doorway alert for a shop.

RELATED OPTIONS:
P64E 2E, Brief Day alarm. Programs the behaviour of Day Zone alarms.

Day Zones operate when the panel is fully disarmed, i.e. when fully disarmed and Monitor mode is off. When alarmed, Day Zones will activate the assigned outputs instantly.

This option selects which zones will be Day Zones.

PROGRAMMING SEQUENCE

1. Press: **P53E**
2. Press: **[1-16] E** to enable each zone for this option.
   - *To deselect a zone from this option, program it to be Delayed, Instant or Handover.*
   - *Zone light/s on indicates which option/s are enabled.*

P60E, 1E–8E MISCELLANEOUS OPTIONS

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
1E = ON
2E = not used
3E = not used
4E = ON
5E = not used
6E = ON
7E = OFF
8E = OFF

NOTES:

P60E 1E, ENTRY BEEPS
ON = Enables keypad beeps during Entry Delay.
OFF = No keypad beeps during Entry Delay.
(Default = ON).

P60E 2E Not used.

P60E 3E Not used.

P60E 4E TAMPER SIREN LOCKOUT.
OFF = Tamper alarms can trigger multiple alarms.
ON = Tamper Alarm lockout. The siren output sounds once and then locks out if multiple Tamper Alarms occur. The siren outputs become active again once the panel has been reset by a User Code.
(Default =ON).

P60E 5E Not used.

P60E 6E, AUTO EXCLUDE ZONES.
OFF = No AutoExclude, an unsealed zone will alarm at the end of exit delay.
ON= AutoExclude enabled. If the panel is armed with an unsealed zone, that zone will be Autoexcluded and the panel will give a 2 second Siren burst at the end of Exit Time to indicate that the panel is armed with a zone/s Auto Excluded. The 2 sec Siren burst can be disabled by option P62E 7E.
(Default =ON).

P60E 7E, KEYPAD BACKLIGHT BLANKING.
OFF = Keypad Backlighting is always on.
ON = Keypad Backlighting blanking enabled. The backlighting on the keypad can be programmed to blank after 4 minutes of no keypad use. Any action that causes a beep will restore the back lighting, or press E to manually restore backlighting.
(Default =OFF).

P60E 8E, DISABLE ONBOARD SIREN.
OFF = Onboard Siren enabled.
ON = Onboard Siren disabled.
When the onboard siren is disabled, keypad beeps are still active but are disabled during an alarm condition. Keypad beeps will be reactivated on the next disarm.
This option also disables the PIEZ internal screamer output.
(Default =OFF).

PROGRAMMING SEQUENCE

1. Press: **P60E**
2. Press: **[1-8] E** to toggle each option on or off.
   Zone light/s on indicates which option/s are enabled.

P62E, 1E–5E OPERATION SHORTCUTS

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
1E = ON
2E = ON
3E = ON
4E = not used
5E = ON

Some keypad operations can be programmed to operate with or without a User Code.

P62E 1E, MEMORY DISPLAY SHORTCUT
To enable or disable the View Memory shortcut.
OFF = Shortcut disabled, (MEMORY + USER CODE + E).
ON = Shortcut enabled, (MEMORY + E).
(Default =ON).

P62E 2E, ZONE EXCLUDE SHORTCUT
To enable or disable the Zone Exclude shortcut.
OFF = Shortcut disabled, (EXCLUDE + USER CODE + E).
ON = Shortcut enabled, (EXCLUDE + E).
(Default =ON).

P62E 3E, MONITOR MODE SHORTCUT
To enable or disable the Monitor Mode shortcut.
OFF = Shortcut disabled, (MONITOR + USER CODE + E).
ON = Shortcut enabled, (MONITOR + E).
(Default =ON).

P62E 4E Not used.

P62E 5E, ARMING SHORTCUT
To enable or disable the Arming shortcut.
OFF = Shortcut disabled, (ARM + USER CODE + E).
ON = Shortcut enabled, (ARM + E).
(Default =ON).

PROGRAMMING SEQUENCE

1. Press: **P62E**
2. Press: **[1-5] E** to toggle each option on or off.
   Zone light/s on indicates which option/s are enabled.

P62E, 7E SIREN BURST ON AUTO EXCLUDE

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
7=ON, Enabled.

RELATED OPTIONS:
P60E 6E, Auto Exclude Zones.

This option enables the 2 second siren burst at end of Exit Time which indicates a zone/s has been Auto Excluded.

The siren burst is a low volume output from the onboard siren and the external siren.

PROGRAMMING SEQUENCE

1. Press: **P62E**
2. Press: **7E** to toggle the option on or off.
   Zone light on indicates the option is enabled.

P64E, 1E–8E MISCELLANEOUS OPTIONS 2

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
1E = OFF
2E = ON
3E = not used
4E = OFF
5E = not used
6E = ON
7E = OFF
8E = OFF

PROGRAMMING SEQUENCE

1. Press: **P64E**
2. Press: **[1-8] E** to toggle each option on or off.
   Zone light/s on indicates which option/s are enabled.

P64E 1E, BRIEF MONITOR ALARM
This option programs the behaviour of alarms in Monitor Mode.
OFF = NORMAL MONITOR ALARMS. Outputs are on for the Siren Reset Time and dialler reporting is enabled.
ON = BRIEF MONITOR ALARM. Outputs are on for 2 seconds, internal piezo at half volume, strobe. There is no dialler report, no external piezo and no external siren.
(Default = OFF).

P64E 2E, BRIEF DAY ALARM
This option programs the behaviour of Day Zone alarms.
OFF = NORMAL DAY ALARMS. Siren & Reset output will be on while a Day Zone is unsealed.
ON = BRIEF DAY ALARM. Outputs are on for 2 seconds, internal piezo at half volume, strobe. There is no dialler report, no external piezo and no external siren.
(Default = ON).

P64E 3E, Not used.

P64E 4E, SIREN CHIRPS, ARM/DISARM
When this option is enabled, the external siren output and the onboard siren will 'chirp' on arm/disarm by radio key. The strobe output always flashes on arm/disarm by radio key, independent of this program option.
1 chirp = arming, 3 chirps = disarming.
OFF = Siren chirps disabled.
ON = Siren chirps enabled.
(Default = OFF).

P64E 5E, Not used.

P64E 6E, KEYPAD PANIC ALARM
Keypad Panic can be triggered by pressing both star keys together. The dialler reports a Panic alarm, (if enabled by P75E 3E).
OFF = NO KEYPAD PANIC.
ON = KEYPAD PANIC IS ENABLED.
(Default = ON).

P64E 7E, FIRE ALARM
The Fire Alarm can be triggered by pressing the FIRE key for at least 2 seconds, (left hand STAR key). This triggers the fire siren sound and the dialler reports a Fire alarm, (if enabled by P75E 4E).
OFF = No Keypad Fire Alarm.
ON = Keypad Fire Alarm is enabled.
(Default = OFF).

P64E 8E, MEDICAL ALARM
The Medical Alarm can be triggered by pressing the MEDICAL key for at least 2 seconds, (right hand STAR key). The keypad beeper will sound 8 warning beeps. The dialler reports a Medical alarm, (if enabled by P75E 2E).
OFF = No Medical Alarm.
ON = Keypad Medical Alarm is enabled.
(Default = OFF).

P65E, 1E–2E RADIO JAMMING

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
1E = OFF
2E = OFF

NOTES:
Radio Jamming and Radio Substitution alarms, if enabled, are reported to the central station and displayed by the RADIO icon on the LCD display.

P65E 1E, RADIO JAMMING ALARM
The R16 will raise a radio jamming alarm if 30 seconds of continous in-band radio signal is detected.
Note - The R16 needs to be powered up for a minimum of 10 minutes to obtain a "no radio signal" reference level before it is able to detect a radio jamming signal.

OFF = Radio Jamming Alarm disabled.
ON = Radio Jamming Alarm enabled.
(Default = OFF).

P65E 2E, RADIO SUBSTITUTION ALARM
The Radio Substitution alarm helps protect against:
1. Code Grabber. A "code grabber" may be used to capture a transmitted user message and re-transmit a fixed copy of this message in an attempt to defeat the system. If 2 consecutive identical valid encrypted messages are received a minimum time apart, the alarm is raised.
2. Encryption Hacking In this case an attempt is made to "crack" the encrypted, changing part of a message using multiple transmissions. If 20 messages are received with a valid ID but fail decryption, the alarm is raised. Arming and disarming resets this count.

OFF = Radio Substitution Alarm disabled.
ON = Radio Substitution Alarm enabled.
(Default = OFF).

PROGRAMMING SEQUENCE

1. Press: **P65E**
2. Press: **[1-2] E** to toggle each option on or off.
   Zone light/s on indicates which option/s are enabled.

P67E RADIO SUPERVISION TIME

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
0 = disabled

NOTES:

RELATED OPTIONS:
P88E 6E, Report Supervision Alarms.

The SUPERVISION TIME is the time allowed between radio transmissions received by the R16 from any Supervised Radio Detector.
The SUPERVISION TIME setting is from 1 to 168 hours.
Supervision is disabled by setting time of 0 (zero).

PROGRAMMING SEQUENCE

1. Press: **P67E**
   The digits of the existing value will be displayed.
2. Press: **[new time] E**
   The digits of the new value will be displayed.

EXAMPLE

To program Radio Supervision Time to be 6 hours: **P67E 6E**

P68E, 4E RADIO KEY ARMING WARNING

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
4=OFF, disabled.

NOTES:

Setting this option on allows an external siren chirp warning if there is an unsealed zone when the panel is armed by a Radio Key, otherwise only internal beeper warning is given.
OFF = Radio Key Arming Warning disabled.
ON = Radio Key Arming Warning enabled.
(Default = OFF).

PROGRAMMING SEQUENCE

1. Press: **P68E**
2. Press: **4E** to toggle the option on or off.
   Zone light on indicates the option is enabled.

P70E, P71E — CENTRAL STATION TELEPHONE NUMBERS 1 & 2

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
Both Telephone Numbers = blank.

NOTES:
- If P70E or P71E is programmed (non-blank), then Ness Voice Dialling format is disabled, (P00E, P01E).

RELATED OPTIONS:
- P00E, P01E, Ness Voice Dialling Format Telephone Numbers 1 & 2, page 20.
- P86E 1E, Disable Dialler, page 41.
- Dialling Sequence, page 46.

The telephone numbers programmed at P70E-P71E are used to report alarms to a central station in Contact ID format.

It is not necessary to program a reporting format. Contact ID format is automatically selected when alarm reports are sent to the Central Station telephone numbers.

PROGRAMMING SEQUENCE

1. Press: **P70E** or **P71E**
   - *The existing telephone number is displayed.*
   - *It is not necessary to wait for the display sequence to end. You can interrupt the display by entering the new telephone number.*
2. **[new telephone number] E**
   The new telephone number is displayed.

EXAMPLE

To program Central Station Telephone No.1 to be 03 1234 1234:
Press: **P70E 0312341234E**

TO CLEAR A TELEPHONE NUMBER

To clear a telephone number, enter the MEMORY key in place of the telephone number. E.g, to clear Central Station Telephone Number 1 press: **P70E MEMORY E**

SPECIAL CHARACTERS

Special characters such as Pauses, star or hash characters can be included in a telephone number dialling sequence by using the keys in the table below.

SPECIAL CHARACTER	KEYPAD ENTRY	KEYPAD DISPLAYS
PAUSE (1.6sec)	ARM Key	10
* (Star)	MONITOR Key	11
# (Hash)	EXCLUDE Key	12

P72E CLIENT ACCOUNT NUMBER

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
0000

The 4 digit Client Account Number identifies the panel to the central station when reporting alarms in Contact ID format. The number can be entered, (and reported), in Decimal or Hex.

PROGRAMMING SEQUENCE

1. Press: **P72E**
   The digits of the existing value will be displayed.
2. Press: **[new account number] E**
   The digits of the new value will be displayed. This is to program the account number in Decimal. See below for Hex.

EXAMPLE: To program the Account Number to be 1234: **P72E 1234E**

HEX ACCOUNT NUMBER

The Client Account Number is normal entered in Decimal using keypad digits 0-9.

However, if the account number is required in Hex, use this table when programming.

HEX DIGIT	KEYPAD KEY	KEYPAD DISPLAY
B	* (Star, left or right)	11
C	ARM	12
D	MONITOR	13
E	EXCLUDE	14
F	MEMORY	15

P74E REPORT ZONE ALARMS

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
1–16 = ON, All zones report Alarms.

RELATED OPTIONS:
P76E, Report Zone Restorals.

This option selects the zones which will report alarms by dialler.

PROGRAMMING SEQUENCE

1. Press: **P74E**
2. Press: **[1-16] E** to toggle each zone on or off.
   Zone light/s on indicates which option/s are enabled.

P75E REPORT MISCELLANEOUS ALARMS

See page 38.

P76E REPORT ZONE RESTORALS

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
1–16 = ON, All zones report Restorals.

RELATED OPTIONS:
P74E, Report Zone Alarms.
P82E 1E – 4E, Sending Restorals.

This option selects the zones which will report Restorals by dialler.

PROGRAMMING SEQUENCE

1. Press: **P76E**
2. Press: **[1-16] E** to toggle each zone on or off.
   Zone light/s on indicates which option/s are enabled.

P75E REPORT MISCELLANEOUS ALARMS

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
1E = OFF
2E = ON
3E = ON
4E = ON
5E = ON
6E = not used
7E = ON
8E = OFF

RELATED OPTIONS:
P77E, Report Miscellaneous Restorals.

This option selects the non-zone events which will report alarms by dialler.

P75E, 1E, REPORT DURESS ALARM
OFF = Duress Alarm reporting is disabled.
ON = Duress Alarm reporting is enabled.
(Default = OFF).

P75E, 2E, REPORT MEDICAL ALARM
OFF = Medical Alarm reporting is disabled.
ON = Medical Alarm reporting is enabled.
(Default = ON).

P75E, 3E, REPORT PANIC ALARM
This option applies to keypad panic and radio key panic.
OFF = Panic Alarms reporting is disabled.
ON = Panic Alarms reporting is enabled.
(Default = ON).

P75E, 4E, REPORT FIRE ALARM
OFF = Fire Alarm reporting is disabled.
ON = Fire Alarm reporting is enabled.
(Default = ON).

P75E, 5E, REPORT TAMPER ALARM
This option applies to panel tamper and external tamper.
OFF = Tamper Alarm reporting is disabled.
ON = Tamper Alarm reporting is enabled.
(Default = ON).

P75E, 6E, Not used.

P75E, 7E, REPORT KEYPAD TAMPER ALARM
Reports entry of consecutive invalid codes in Armed mode, alarm on 4th failed attempt.
OFF = Keypad Tamper Alarm reporting is disabled.
ON = Keypad Tamper Alarm reporting is enabled.
(Default = ON).

P75E, 8E, REPORT EXIT FROM INSTALLER MODE
OFF = Exit From Installer Mode reporting is disabled.
ON = Exit From Installer Mode reporting is enabled.
(Default = OFF).

PROGRAMMING SEQUENCE

1. Press: **P75E**
2. Press: **[1-8] E** to toggle each option on or off.
   Zone light/s on indicates which option/s are enabled.

P77E REPORT MISCELLANEOUS RESTORALS

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
1–8 = ON, All Miscellaneous Alarms report Restorals.

RELATED OPTIONS:
P75E, Report Miscellaneous Alarms.

This option selects the miscellaneous alarms which will report Restorals by dialler.

See P75E, page 38, for a list of Miscellaneous Alarms.

PROGRAMMING SEQUENCE

1. Press: **P77E**
2. Press: **[1-8] E** to toggle each option on or off.
   Zone light/s on indicates which option/s is enabled.

P78E REPORT MULTIPLE ZONE ALARMS

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
1–16 = OFF, All zones report alarms once only.

RELATED OPTIONS:
P74E, Report Zone Alarms.

Zones selected to Report Multiple Zone Alarms will report each time the zone alarms. The number of reports is a maximum of 15.

Zones not selected will report only once, until reset by an opening or a valid code.

PROGRAMMING SEQUENCE

1. Press: **P78E**
2. Press: **[1-16] E** to toggle each zone on or off.
   Zone light/s on indicates which option/s is enabled.

P82E RESTORAL REPORTING OPTIONS

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
4E = ON, Send Restoral on Disarm always.

RELATED OPTIONS:
P74E, Report Zone Alarms.

This option selects when the dialler sends Zone Restoral Reports. Only one of the following options may be selected.

Restoral reporting options also apply to 24hr zones.

P82E 1E: Send Restoral immediately when resealed.
P82E 2E: Send Restoral after siren time & resealed.
P82E 3E: Send Restoral on Disarm & resealed.
P82E 4E: Send Restoral on Disarm always.

PROGRAMMING SEQUENCE

1. Press: **P82E**
2. Press: **[1-4] E** to toggle each option on or off.
   Zone light/s on indicates which option is enabled.

P83E TEST CALL INTERVAL

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
168 = 168hrs (7 days).

NOTES:
To disable Test Reports, program the test call interval to 0 (zero) hours.

RELATED OPTIONS:
P84E, Time Before Next Test Call.

This option sets the time between Test Calls to the Central Station.

Programmable from 0–255 hours. Enter a value between 0 and 255.

A value of 0 (zero) disables test calls.

PROGRAMMING SEQUENCE

1. Press: **P83E**
   The digits of the existing value will be displayed.
2. Press: **[new test call interval] E**
   The digits of the new value will be displayed.

P84E TIME BEFORE NEXT TEST CALL

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
0 = 0hrs (Immediate on exit from installer program mode).

NOTES:
• The Time Before Next Test Call is constantly updated. When viewed, the current value will be displayed (not the initially entered value).

RELATED OPTIONS:
P83E, Test Call Interval.

DAYS/HOURS TABLE

DAYS	HOURS
1	24
2	48
3	72
4	96
5	120
6	144
7	168
8	192
9	216
10	240

This option sets the time before the next test call and is used to set the preferred time for Test Calls.

Programmable from 0–255 hours. Enter a value between 0 and 255.

A value of 0 (zero) triggers the next test call immediately on exit from Installer program Mode.

PROGRAMMING SEQUENCE

1. Press: **P84E**
   The digits of the existing value will be displayed.
2. Press: **[new time before next test call] E**
   The digits of the current value will be displayed.

PROGRAMMING EXAMPLE

To set the time before the first test call.
E.g., If you are programming the panel at 5pm and you want test calls to be sent at 1am. Enter **P84E 8E**. (5pm + 8hrs =1am).

P83E and P84E timers start on exit from Installer program Mode.

P85E DIALLING METHOD

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
ON, Automatic Pulse or DTMF.

NOTES:
Turning ON one of the options will turn OFF any other.

The dial format is determined by the detected Dial Tone. By default, if no dial tone is detected after looping the line then the dialler will attempt to dial regardless alternating between PULSE (Decadic) first and then DTMF dialling.

P85E 1E: Automatic (PULSE or DTMF determined by the detected dial tone).
P85E 2E: Pulse Dialling always.
P85E 3E: DTMF Dialling always.

PROGRAMMING SEQUENCE

1. Press: **P85E**
2. Press: **[1-3] E** to turn an option on.
   Zone light/s on indicates which option is enabled.

P86E, 1E DISABLE DIALLER

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
OFF, Dialler is enabled.

NOTES:
The dialler can also be disabled by deleting all telephone numbers.

This option disables the dialler even if telephone numbers and other dialler options are programmed.

Up download or remote telephone access remain enabled.

This option is useful for temporary disabling of the dialler without affecting other dialler options.

OFF = The dialler is enabled. (The dialler will still remain disabled if no telephone numbers are programmed.
ON = The dialler is disabled.

PROGRAMMING SEQUENCE

1. Press: **P86E**
2. Press: **1E** to turn the option on or off.
   Zone light/s on indicates the option is enabled.

P87E, 2E CHECK FOR DIAL TONE

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
ON, Check for dial tone.

NOTES:

The dialler normally dials only if a dial tone is detected or it can be forced to dial without a dial tone. Allows use on PABXs with non-standard dial tones.

OFF = Does not check for dial tone.
ON = Check for dial tone, hang up on busy tone.

PROGRAMMING SEQUENCE

1. Press: **P87E**
2. Press: **2E** to turn the option on or off.
   Zone light/s on indicates the option is enabled.

P88E, 1E — ENABLE OPEN/CLOSE REPORTS

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
OFF, Open/Close reports disabled.

NOTES:

Enables or disables sending of Open/Close reports.

OFF = Open/Close reports disabled.
ON = Open/Close reports enabled.

PROGRAMMING SEQUENCE

1. Press: **P88E**
2. Press: **1E** to turn the option on or off.
   Zone light/s on indicates the option is enabled.

P88E, 5E — ALARM CANCEL REPORT

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
ON, Cancel Report enabled.

NOTES:
- This option is used to indicate to the Central Station that an alarm has been reset by a valid user.
- Usually used in cases where Open/Close reports are normally selected OFF.

A Cancel Report is sent when a Zone or Miscellaneous Alarm has been reset (by a valid User Code or Radio Key disarming).

If enabled, a cancel report will be sent after alarm, (Contact ID code 406), even if Open/Close reports are disabled.

OFF = Cancel Report disabled.
ON = Cancel Report enabled.

PROGRAMMING SEQUENCE

1. Press: **P88E**
2. Press: **5E** to turn the option on or off.
   Zone light/s on indicates the option is enabled.

P88E, 6E — REPORT SUPERVISION ALARMS

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
OFF, Report Supervision Alarms disabled.

RELATED OPTIONS:
P67E, Radio Supervision Time.

This option enables the dialler reporting of Radio Supervision alarms.

OFF = Report Supervision Alarms disabled.
ON = Report Supervision Alarms enabled.

PROGRAMMING SEQUENCE

1. Press: **P88E**
2. Press: **6E** to turn the option on or off.
   Zone light/s on indicates the option is enabled.

P89E, 5E TELEPHONE LINE MONITOR

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
OFF, Telephone Line Monitor disabled.

NOTES:

When enabled the panel will test the telephone line every 20 seconds. If the telephone line is not found, the keypad LINE icon will commence flashing. If the line fault continues for 2 minutes then the keypad beeps a warning.

OFF = Telephone Line Monitor disabled.
ON = Telephone Line Monitor enabled.

PROGRAMMING SEQUENCE

1. Press: **P89E**
2. Press: **5E** to turn the option on or off.
   Zone light/s on indicates the option is enabled.

P90E UP/DOWNLOAD OPTIONS

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
1E = OFF
2E = not used
3E = OFF
4E = OFF

NOTES:
Option P90E 1E, Remote Access applies only to upload/ download by computer and modem.

If P90E 1E is disabled, remote Arm/Disarm is still available if options P90E 3E and/or 4E are on and P91E is not zero.

These options enable remote upload/download features.

P90E, 1E, REMOTE ACCESS
When selected on, this option allows the panel to be remotely upload/ downloaded by a remote computer.
OFF = Remote Access is disabled.
ON = Remote Access is enabled.
(Default = OFF).

P90E, 2E, Not used.

P90E, 3E, REMOTE ARMING
Allows the remote Arming of the control panel using a standard DTMF telephone or mobile phone.
OFF = Remote Arming is disabled.
ON = Remote Arming is enabled.
(Default = OFF).

P90E, 4E, REMOTE DISARMING
Allows the remote Disarming of the control panel using a standard DTMF telephone or mobile phone.
OFF = Remote Disarming is disabled.
ON = Remote Disarming is enabled.
(Default = OFF).

PROGRAMMING SEQUENCE

1. Press: **P90E**
2. Press: **[1-4] E** to toggle each zone on or off.
   Zone light/s on indicates which option/s are enabled.

P91E REQUIRED RINGS

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
1= 1 double-ring.

NOTES:

Sets the number of double-rings before an incoming call is answered. This is used for Remote Access.

Programmable from 1 to 16 rings. Enter a value between 1 and 16.

PROGRAMMING SEQUENCE

1. Press: **P91E**
   The digits of the existing value will be displayed.
2. Press: **[required rings] E**
   The digits of the new value will be displayed.

P99E PROGRAM THE INSTALLER CODE

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
000000

NOTES:
• The Installer code cannot begin with the digit 0 (zero).

• The Installer code can be changed but it cannot be deleted. Any attempt to delete the installer code will make it revert back to the factory default of 000000.

Programs the installer code. This code can be 3 to 6 digits long. The factory default installer code is 000000.

PROGRAMMING SEQUENCE

1. Press: **P 99 E**
   • *The existing installer code will be displayed.*
2. Press: [new installer code] **E** [new installer code again] **E**
   • *The new installer code will be displayed.*
   • *One beep will sound on the first entry of the new code, three beeps will sound on the second entry of the new code if the code was successfully programmed.*

P96E CLEAR MEMORY

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
[not applicable]

This option erases the Event Memory as well as memory locations where events and time stamps are stored for uploading status.

PROGRAMMING SEQUENCE

1. Press: **P96E**
   The Event Memory is erased.

P97E 1E FACTORY DEFAULT PANEL OPTIONS

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
[not applicable]

This option erases all program options and restores the factory default values. (There are no exceptions. This defaults all program options).

PROGRAMMING SEQUENCE

1. Press: **P97E**
2. Press: **1E**
   Factory defaults are restored..

P97E 2E FACTORY DEFAULT RADIO ZONES

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
[not applicable]

This option erases all Radio Zones programmed by option P09E.

PROGRAMMING SEQUENCE

1. Press: **P97E**
2. Press: **2E**
   Factory defaults are restored..

P97E 3E FACTORY DEFAULT USER CODES

PROGRAM MODE LEVEL:
Installer, Remote by PC.

FACTORY DEFAULT:
[not applicable]

This option erases all Keypad Codes and Radio Key codes.

PROGRAMMING SEQUENCE

1. Press: **P97E**
2. Press: **3E**
   Factory defaults are restored..

DIALLER OPERATION

DIALLING SEQUENCE

The dialler follows the re-dial procedure shown until the message is successfully reported. The dialler cycles around the Panel telephone numbers, skipping numbers not programmed. If P70E or P71E are programmed, then the Voice Dialling numbers, P00E and P01E are ignored.

A successful report is defined as a report which has been “kissed-off” by the Central Station or by a hash (#) tone in the case of Audible Format dialling to a private number.

1. Dial Central Station Ph No. 1, (P70E) and report alarms in Contact ID format. ...If not kissed off...
2. Dial Central Station Ph No. 2, (P71E) and report alarms in Contact ID format.
3. If P70E and P71E are blank, dial Voice Dialling Ph No. 1, (P00E) and report alarms in Ness Voice Dialling format. ...If not kissed off...
4. If P70E and P71E are blank, dial Voice Dialling Ph No. 2, (P01E) and report alarms in Ness Voice Dialling format.
4. Accumulate maximum of 15 failed attempts.
5. Attempt to dial unsuccessful numbers a second time after 30 seconds, a total of 10 attempts.
6. Wait 5 minutes then subsequent attempts are 1 hour apart.
7. A maximum of 15 dial attempts for the same event
8. New events re-start the sequence at 1.

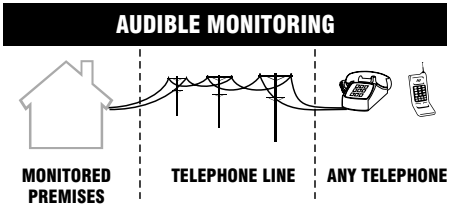
No more than 20 dial events will be reported between each disarming of the panel.

MESSAGE QUEUE

The panel places event reports in a queue. Multiple simultaneous reports or reports previously unsuccessfully dialled will be included in the current call.

The oldest report on the queue is sent first. If the queue is full (8 messages), a new report will overwrite the oldest report.

The current dialler queue is cancelled and the dialler buffer is erased on entry to installer program mode.



NOTE:
The R16 can be monitored by Central Station or by Voice Dialling to a private phone, but not by both simultaneously.

Any telephone numbers programmed in options P70E & P71E must be erased to allow the Voice Dialling telephone numbers to work. (Ask your installer).

NESS VOICE DIALLING

The dialler sends alarm reports to a private telephone, (mobile telephone or fixed telephone), using Voice Dialling Telephone numbers 1 and 2, (P00E, P01E).

ENABLING VOICE DIALLING

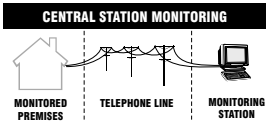
Voice Dialling Format is enabled simply by programming the Voice Dialling phone number options P00E and P01E. (See side note. Central Station Monitoring must be disabled to enable Voice Dialling).

OPERATION

The word 'ALARM' is repeated for 30 seconds until the alarm is acknowledged (see below). If the alarm is not acknowledged the telephone number will be redialled.

ACKOWLEDGING THE ALARM

The person receiving the call can acknowledge the alarm by pressing the # key on their telephone. Press the # key for 2 seconds during pauses in the audible message. (On mobile phones, press the # key in short bursts. Many mobile phones enter sub menus if the # key is pressed continuously).



CENTRAL STATION MONITORING

The dialler sends alarm reports to a central station using Central Station Telephone numbers 1 and 2, (P70E & P71E, Page 36).

It is not necessary to program a reporting format. Alarm reports are automatically sent in Contact ID format to the telephone numbers programmed at P70E and/or P71E.

Events are reported to the central station using the Contact ID format as follows:

SSSS 18 Q XYZ GG CCC E

SSSS18 = Client Account Number +Contact ID identifier.
Q = Event qualifier(1 = New Event, 3 = Restore).
XYZ = Event code.
GG = Group Number (always 00).
CCC = Qualifier (0-9) + User ID (uu) / Zone ID (zz), or Unique Code (030-099)
E = Checksum.

RESTORAL REPORTS

Restores are always sent for the following alarms when the device alarm condition is physically removed:
137 Siren box tamper
302 Panel low battery
383 Tamper (Detector)
381 Radio device supervision poll fail

Restores are always sent for the following alarms on disarming when a valid code is entered, (if Restores are enabled):
101 Radio Key Medical alarm
120 Panic alarm
121 Duress alarm
130 Burglary alarm
133 24 hour alarm
355 Radio jamming alarm

CONTACT ID REPORTS	CONTACT ID CODE			
REPORT NAME	Q	XYZ	CCC	Reported in Voice format
Zone Alarm	q	130	0zz	Yes
Zone 24 Hour Alarm	q	133	0zz	Yes
Keypad Panic	q	120	032	Yes
Keypad/Radio Key Duress	q	121	1uu	Yes
Keypad Medical	q	100	033	Yes
Keypad Fire	q	110	034	Yes
Radio Key Panic	q	120	1uu	Yes
Radio Key Medical	q	101	1uu	Yes
Radio Detector Supervision	q	381	4zz	
Radio Panic Button Supervision	q	381	1uu	
Radio Jamming or Substitution	q	355	060	
Panel/Siren Tamper	q	137	040	Yes
Keypad Tamper	q	137	042	Yes
Radio Sensor Tamper	q	383	3zz	Yes
Mains Fail	q	301	050	
Panel Battery Low	q	302	052	
Radio Detector Battery Low	q	384	3zz	
Open/Disarm	1	401	0uu	
Close/Arm	3	401	0uu	
Shorcut Arm (ARM + E)	3	401	025	
Cancel/Disarm	1	406	0uu	
Zone Manual Exclude	q	573	0zz	
Zone Auto Exclude	q	380	0zz	
Exit Install mode	1	306	035	
Test Report	1	602	063	

RELATED OPTIONS:
P91E, Required rings.
P90E 3E, Remote arming.
P90E 4E, Remote disarming.

NOTES
If the R16 does not receive remote commands for periods longer than 60 seconds it will assume that the call is finished and it will hang up.

AUDIBLE FEEDBACK
♪♪♪ 3 BEEPS:
Valid command/user code.

1 LONG BEEP:
Invalid command or user code, try again.

SUMMARY OF TELEPHONE COMMANDS

[0] PREPARE TO RECEIVE COMMANDS.

[User Code] [#]
VERIFIES THE USER.

[1] [#] ARM.

[2] [#] DISARM.

[*] [#] HANG UP.

REMOTE TELEPHONE ARM/DISARM

The R16 can be armed and disarmed remotely using a standard fixed or mobile telephone.

To maintain panel security, remote operations can only be activated after entering a valid user code.

To operate the R16 by telephone, you need a DTMF capable telephone, a valid User Code and you must know the Telephone number of the line to which the R16 is connected.

Program options P90E 3E and/or 4E must be on to enable remote arming and/or disarming. Option P91E, required rings to answer, must be a value other than zero.

SEQUENCE OF OPERATION.

1. Phone the R16 telephone number and listen for the required number of double rings and then hang up.
2. Call the number again within 60 seconds.
3. The R16 will answer the second call immediately, sound a beep for 2 seconds then, after a pause, it will sound a lower frequency tone. The R16 is now ready to receive telephone commands.
4. Press the [0] button on the telephone. This tells the R16 that telephone commands will follow.
5. Now enter a valid User Code followed by the [#] button.
   The R16 will respond with 3 beeps if it recognises the code or 1 long beep to signal the code was invalid and to try again.
6. Enter the command to arm or disarm the panel.
   See: Summary Of Telephone Commands.
7. Press [*] [#] to finish. This tells the R16 to hang up. Also hang up your telephone.

NESS RADIO OPTIONAL ACCESSORIES

100-067 RK4 4 BUTTON RADIO KEY

RK4 Radio Key is a fully sealed and fully waterproof four channel radio key with click action rubber buttons.

Functions: ON, OFF, PANIC, AUX. The RK4 is a sealed unit powered by a Lithium battery with an expected life of 10 years, (@ 7 transmissions per day).

100-664 RK3 3 BUTTON RADIO KEY

RK3 Radio Key, fully waterproof radio key.

Functions: ON, OFF, PANIC. Lithium battery supplied.

100-683 RK1B RADIO KEY PENDANT

Fully waterproof pendant style transmitter can be used as a portable wireless Panic button. Supplied with a neckchain as well as wristwatch straps. Includes long life lithium battery.

100-056 RDB RADIO DOOR BELL

The Ness Radio Doorbell requires almost no installation. Long life lithium battery powered, simply screw it to the wall.

The doorbell chime is heard through the R16 panel onboard siren. Choose from one of 9 doorbell tunes built-in to the R16 panel.

* If the optional Radio Doorbell is available in your region.

100-283 RPB RADIO EMERGENCY BUTTON

The Ness Radio Emergency Button is designed to be wall mounted as an easy to install alternative to hardwired emergency buttons. Long life Lithium battery is supplied.

100-001 RKP RADIO KEYPAD

A unique fully portable radio keypad. The Ness Radio Keypad provides totally wireless Arming/Disarming of the control panel as well as operating Home Mode and provides a Panic alarm.

MADE IN AUSTRALIA

100-663 R15 RADIO PIR

The Ness R15 Radio PIR has a detection range of 15m, automatic temperature compensation and vertical creep zones. Features Radio Supervision and Encryption when used with a compatible Ness control panel. With Pulse Count, battery saving mode and low battery reports. 9V Lithium battery supplied.

100-663PET R15 PET AWARE RADIO PIR

The Ness R15PET Pet Aware model detects humans but is immune to household pets. Allows you to protect your home with your pets inside.

100-691 R12 RADIO PIR

Radio PIR with 12m detection range and automatic temperature compensation. Features Radio Supervision and Encryption when used with a compatible Ness control panel. With Pulse Count, battery saving mode and low battery reports. 9V Lithium battery supplied. Ness Quantum mounting bracket supplied.

100-662 RR1 RADIO REED SWITCH

Ness Radio Reed Switch for wireless door and window protection. Includes long life lithium battery.

100-527 RR2 MULTI-PURPOSE TRANSMITTER

The Ness Universal Transmitter is a 9V battery operated transmitter with onboard reed switch, an external input and vibration analyser.

The external input can be used to take inputs from normally closed reed switches or emergency buttons. This allows connection of any type of N.C. switch or button to send an alarm signal.

The external input can also be used to connect a Nessensor™ vibration sensor for completely wireless vibration sensing with sensitivity adjustment.

106-040 RSM RADIO SMOKE DETECTOR

The Ness Radio Smoke Detector provides a wireless smoke detection option which can sound the R16 siren/s and dialler if required (or as programmed by your installer.)

The Ness Radio Smoke Detector uses Photo-electric smoke detection technology. On board sounder and test button for the sounder and radio transmitter. A single battery powers the smoke detector and the transmitter. Includes 9V lithium battery.

Option No.	Description	Default	Page
u P00E	Voice Dialling Format Tel. No. 1	none	20
u P01E	Voice Dialling Format Tel. No. 2	none	
u P05E	Doorbell Volume	3	21
u P06E	Doorbell Tune	3	
P08E	Radio Signal Strength Test		22
P09E	Program Radio Devices	none	23
u P10E	Program Radio Keys	none	24
u P11E	Program Master Code (Keypad Code 1)	123	26
u P12E-P25E	Program Keypad Codes 2-15	none	
u P26E	Entry Delay Time	20 sec	27
u P28E	Exit Delay Time	60 sec	
P29E	Siren Reset Time	5 min	
P40E	Instant Zones	Zones 3-16	28
P41E	Entry Delay Zones	Zone 1	
P42E	Handover Zones	Zone 2	
P44E	Reset Lockout Zones	All zones	29
P51E	Monitor Zones	No zones	
P52E	24hr Zones	No zones	
P53E	Day Zones	No zones	30
P60E 1E	Entry beeps	ON	31
2E	[not used]	OFF	
3E	[not used]	OFF	
4E	Tamper Siren Lockout	ON	
5E	[not used]	OFF	
6E	Auto Exclude Zones	ON	
7E	Keypad Backlight Blanking	OFF	
8E	Disable onboard siren	OFF	

Option No.		Description	Default	Page
P62E	1E	Memory Display Shor tcut	ON	32
	2E	Zone Exclude Shortcut	ON	
	3E	Monitor Mode Shortcut	ON	
	4E	[not used]	OFF	
	5E	Arming Shortcut	ON	
P62E	7E	Siren Burst On Auto Exclude	ON	
P64E	1E	Brief Monitor Alarm	OFF	33
	2E	Brief Day Alarm	ON	
	3E	[not used]		
	4E	Siren chirps Arm/Disarm	OFF	
	6E	Keypad Panic Alarm	ON	
	7E	Fire Alarm	OFF	
	8E	Medical Alarm	OFF	
P65E	1E	Radio Jamming Alarm	OFF	34
	2E	Radio Substitution Alarm	OFF	
P67E		Radio Supervision Time	0 hrs	35
P68E	4E	Radio Key Arming Warning	OFF	
P70E		Central Station Telephone. No. 1	none	36
P71E		Central Station Telephone. No. 2	none	
P72E		Client Account No.	0000	37

u Options marked "u" can be programmed in User Program Mode

u *All* options can be programmed in Installer Program Mode

Option No.		Description	Default	Page
P74E		Report Zone Alarms 1-16	All zones	37
P75E	1E	Report Duress Alarm	OFF	38
	2E	Report Medical Alarm	ON	
	3E	Report Panic Alarm	ON	
	4E	Report Fire Alarm	ON	
	5E	Report Tamper Alarm	ON	
	6E	[not used]	OFF	
	7E	Report Keypad Tamper Alarm	ON	
	8E	Report Exit From Installer Mode	OFF	
P76E		Report Zone Restorals 1-16	All zones	37
P77E		Report Misc. Restorals (see P75E for full list)	All ON	39
P78E		Report Multiple Zone Alarms 1-16	All OFF	
P82E	1E	Send Restoral Immediately when Resealed	OFF	
	2E	Send Restoral After Siren Time & Resealed	OFF	
	3E	Send Restoral on Disarm & Resealed	OFF	
	4E	Send Restoral on Disarm always	ON	
P83E		Test Call Interval	168 hrs	40
P84E		Time Before Next Test Call	0 hrs	
P85E	1E	Auto, Pulse or DTMF depending on dial tone	ON	41
	2E	Pulse Dialling always	OFF	
	3E	DTMF Dialling always	OFF	
P86E	1E	Disable Dialler	OFF	
P87E	2E	Check For Dial Tone	ON	
P88E	1E	Open/Close Reports	OFF	42
	5E	Alarm Cancel Report	ON	
	6E	Report Supervision Alarms	OFF	

Option No.		Description	Default	Page
P89E	5E	Telephone Line Monitor	OFF	43
P90E	1E	Remote Access	OFF	43
	2E	[not used]	OFF	
	3E	Remote Arming	OFF	
	4E	Remote Disarming	OFF	
P91E		Required Rings to answer incoming calls	1	44
P96E		Clear Event Memory		45
P97E	1E	Factory Default Panel Options		
	2E	Factory Default Radio Zones		
	3E	Factory Default User Codes & Radio Keys		
P99E		Program Installer Code	000000	44

NESS LIMITED WARRANTY:

Ness Security Products Pty Ltd warrants its products to be free from manufacturing defects in materials or workmanship for the warranty period as detailed in Ness' Terms and Conditions of Sale and all other obligations detailed in those Terms and Conditions.

Whilst Ness Security Products, the manufacturer, is accredited to ISO9001 and all possible care and diligence has been applied during manufacture to ensure the reliable operation of this unit, there are various external factors that MAY impede or restrict the operation of this unit in accordance with the product's specification.

These factors include, but are not limited to,

1. Failure to communicate to the monitoring company due to a telephone service provider's line fault or due to the incorrect configuration of the telephone/Product to the Telephone Network. It is the responsibility of a qualified Installer to ensure correct configuration to the telephone network.

2. Erratic or reduced radio range as detailed in the manufacturer's specifications. Ness' radio based products are sophisticated low power devices however the presence of in-band radio signals, high power transmissions or interference caused by electrical appliances e.g. computers, televisions etc. MAY reduce the range performance. Whilst such occurrences are unusual, they are possible none the less. If a problem such as this is encountered and the performance is unsatisfactory, the installer of the product should be contacted immediately.

3. Unauthorised tampering, physical damage, electrical interruptions such as mains failure, electrical spikes or lightning.

Ness Security Products is not an insurer of either property or safety of the user and limits its liability for any loss or damage including incidental or consequential damages to Ness' original selling price. There are no warranties, expressed or implied, which extend beyond the description on the face hereof. Ness Security Products recommend that the system is tested weekly to confirm reliable operation.