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Program Summary List **Page 49 to 51****EQUIPMENT****INTRODUCTION**

Thank you for purchasing the PRO-LX Control Dialler System. The PRO-LX Control Dialler is an Australian designed and manufactured product by NESS SECURITY PRODUCTS. Using the many years of experience and utilising valuable customer feedback, the Ness team of engineers have been able to provide you with a complete package providing; Security features, User friendly operation, Easy installation and a competitive price which does not compromise quality. Indeed Ness Security Products commitment to meet the stringent AS3901 Australian Standard will ensure you of a product built to the highest quality standards found anywhere in the world.

Ness Security Products commitment to innovative design preceded by the famous 5000 series control equipment continues with the PRO-LX. The new PRO series polycarbonate housing is another first for security control panels incorporating features never seen before in this type of product. All built to help you provide an installation of the highest professional standards.

This Manual will tell you all you need to know about installing and programming the PRO-LX Control Dialler; please take the time to read this manual fully so to familiarise yourself with the many unique features found in the PRO-LX.

For information about day to day operation and user instructions please refer to the PRO-LX User Manual.

PACKAGE CONTENTS

Your PRO-LX package should contain the following items:-

1 x PRO-LX Cabinet (complete with lid screws and clips)

1 x PRO-LX Control Board

1 x PRO-LX LED Keypad

1 x PRO-LX Zone List

2 x PRO-LX Operating instruction cards

1 x User Manual

1 x 12 Volt 6.5 A.H. Sealed Lead Acid Battery

1 x 17 Volt A.C. 1.4 Amp Transformer

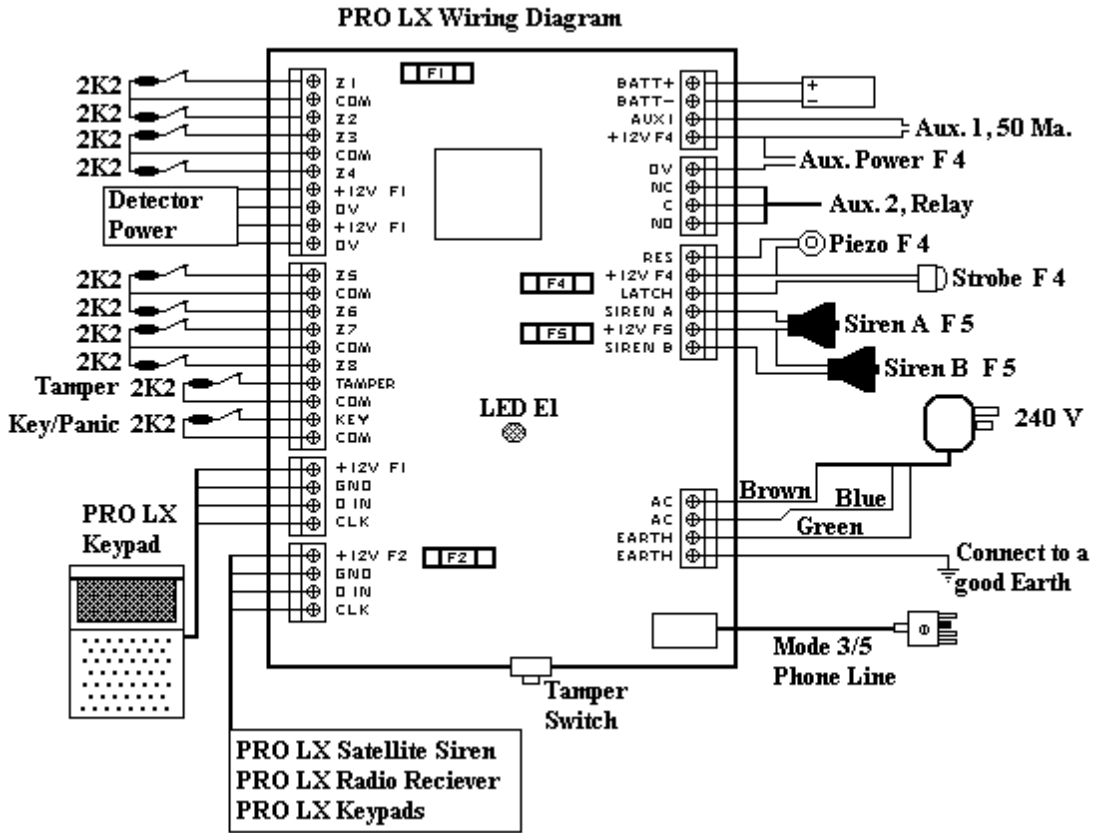
1 x Spare 1.5 Amp 2AG fast blow fuse

12 x 2K2 5% End of Line resistors

20 x 4K7 5% End of Line resistors

1 x Telephone Lead

1 x Conduit Adaptor



WIRING OF ZONE, TAMPER AND PANIC INPUTS *****

There are two methods that can be used to wire the PRO LX Control Panel. One method uses a single 2K2 resistor per zone, the other method uses two 4K7 resistors per zone. Using the two 4K7 resistors will enable the control panel to have both an alarm and tamper condition on each zone, and is the recommended method of wiring.

See Page 3 for 2K2 wiring.

See Page 4 for 4k7 wiring.

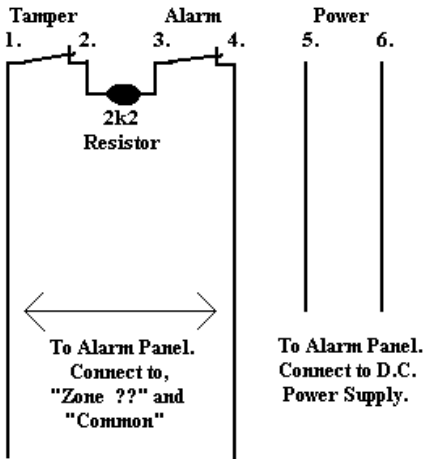
TYPICAL WIRING OF INPUTS USING A SINGLE 2K2 RESISTOR PER ZONE. *****

Wiring of detector, reed and tamper switches to the PRO LX Control Panel when cable tamper is **not** enabled.

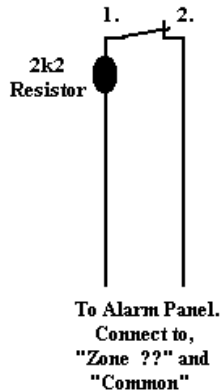
Note 1 : All wiring is shown in a powered, secure state. (ie. P.I.R. powered up with the red light off or door closed with a reed switch.)

Note 2 : End of line resistors are designed to go at the end of the line ie. inside the detectors.

TYPICAL DETECTOR WIRING



TYPICAL REED AND TAMPER SWITCH WIRING



TESTING

To test alarm cable resistance,

Use a suitable multi-meter with an OHM (Ω) range capable of measuring 5000 OHMS.

Most multi-meters will cater for this on the 20 000 OHM (20K Ω) range.

Connect the detector or reed switch as per diagram.

Disconnect the two alarm wires from the control panel and connect the multi-meter probes to the alarm wires. The meter should read,

Secure	2200 Ω	(ie. Door closed on a reed switch and red light off with a P.I.R.)
Un-secure	$\infty \Omega$	(open circuit ie. Door open on a reed switch and red light on with a P.I.R.)
Un-secure	0 Ω	(short circuit. This would indicate a fault condition using the wiring diagram shown.)

Note ; The values may vary due to resistance in the cable and internal resistance of the detectors.

Alternatively you can test the zone while it is connected to the PRO LX Control panel.

Use a suitable multi-meter with a range capable of measuring 10 Volts D.C.

Most multi-meters will cater for this on the 20 Volt D.C. range.

With the detector connected to a powered PRO LX alarm panel, connect the multi-meter probes to "ZONE " and "COMMON " on the control panel. The meter should read,

Secure:	4 Volts D.C.	(ie. Door closed on a reed switch and red light off with a P.I.R.)
Un-secure:	8 Volts D.C.	(Open circuit)
Un-secure:	0 Volts D.C.	(Short Circuit. This would indicate a fault condition using the wiring diagram shown.)

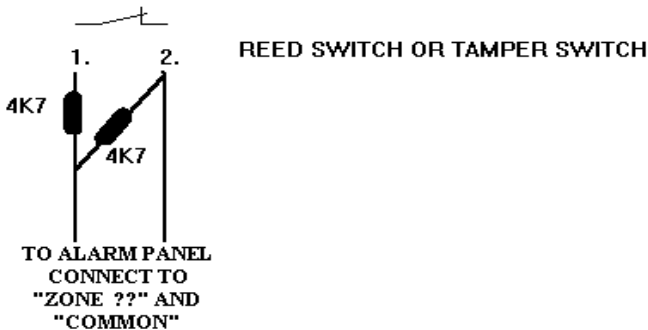
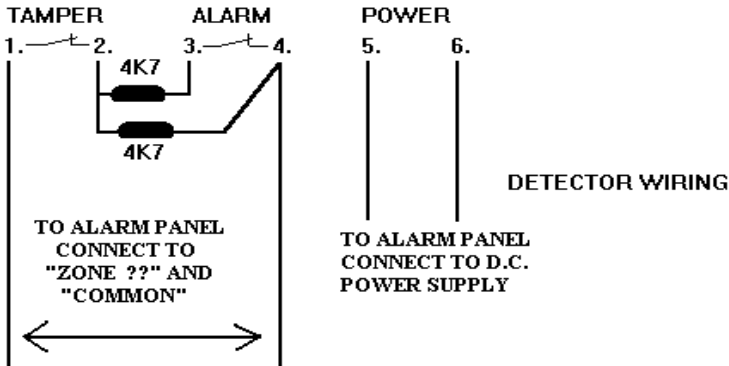
Note ; The values may vary due to resistance in the cable and internal resistance of the detectors.

TYPICAL WIRING OF INPUTS USING TWO 4K7 RESISTORS. *****

Wiring of detectors, reed and tamper switches to the PRO LX Control Panel when cable tamper has been enabled. Program 34 Enter 6 Enter (No. 6 light off enables this feature)

Note 1 : All wiring is shown in a powered, secure state. (ie. P.I.R. powered up with the red light off or door closed with a reed switch.)

Note 2 : End of line resistors are designed to go at the end of the line. (ie. Inside the detectors.)



TESTING

To test alarm cable resistance,

Use a suitable multi-meter with an OHM (Ω) range capable of measuring 5000 OHMS.

Most multi-meters will cater for this on the 20 000 OHM (20K Ω) range.

Connect the detector or reed switch as per diagram.

Disconnect the two alarm wires from the control panel and connect the multi-meter probes to the alarm wires. The meter should read,

Secure	2350 Ω	(ie. Door closed on a reed switch and red light off with a P.I.R.)
Un-secure	4700 Ω	(ie. Door open on a reed switch and red light on with a P.I.R.)
Tamper	0 Ω	(short circuit. This would indicate a fault condition using the wiring diagram shown.)
Tamper	∞ Ω	(open circuit. This would indicate a fault condition using the wiring diagram shown. Check the Tamper switch on the detector.)

Note ; The values may vary due to resistance in the cable and internal resistance of the detectors.

Alternatively you can test the zone while it is connected to the PRO LX Control panel.

Use a suitable multi-meter with a range capable of measuring 10 Volts D.C.

Most multi-meters will cater for this on the 20 Volt D.C. range.

With the detector connected to a powered PRO LX alarm panel, connect the multi-meter probes to "ZONE " and "COMMON " on the control panel. The meter should read,

Secure	4 Volts D.C.	(ie. Door closed on a reed switch and red light off with a P.I.R.)
Un-secure	5.5 Volts D.C.	(ie. Door open on a reed switch and red light on with a P.I.R.)
Tamper	0 Volts D.C.	(Short Circuit. This would indicate a fault condition using the wiring diagram shown.)
Tamper	8 Volts D.C.	(Open circuit. This would indicate a fault condition using the wiring diagram shown.. Check the Tamper switch on the detector.)

Note ; The values may vary due to resistance in the cable and internal resistance of the detectors.

OUTPUTS *****

12 VOLT OUTPUT

A regulated nominal 13.8 Volt D.C. supply is available to power ancillary equipment such as P.I.R. and Smoke Detectors.

The Output is available from 3 different sets of terminals marked +12V and 0V.

Two sets of terminals can be found between Zone inputs 4 and 5 for ease of connection of detector power. These outputs are fused via F1.

The other set of terminals can be found between the AUX output and the Relay output for ease of connection of switched relay voltage or as a common I2V for the AUX output. This output is fused via F4

Note a maximum continuous load of 0.8 Amps in total should be connected to these terminals.

SIREN A

An oscillating output for connecting Horn speakers. A maximum load of 3 x 8 ohm or 1 x 8 ohm plus 1 x 4 ohm should be connected to the Siren A and +12 V COM terminals.

Siren A is fused via F5 (1.5 Amp fastblow 2AG)

SIREN B

As per Siren A

Note - Since Siren A and Siren B share a fuse the load restriction applies to Siren A and B as a total.

If you require more load you will need to use a separate + 1 2V output as the common.

RESETTING OUTPUT (RES)

This is a 12V D.C. output for connecting Piezo sirens relays, buzzers etc. This output when activated will turn on for the programmed Siren reset time.

The Resetting output is fused via F4 (1.5 Amp fast blow 2AG).

Note - The Strobe and the Resetting outputs share Fuse F4. Therefore a total continuous load of 1.5 Amps is available from these outputs. As per the siren outputs, if you require more load than this you will need to use a separate +12V output as the common.

AUX 1

The Aux output is a programmable open collector output suitable for connecting LED's, Relays etc. The Aux output will supply a total of 50 mA.

RELAY (AUX 2)

The relay contacts are a set of dry change-over contacts (normally open, common, normally closed) with a contact rating of 2 Amps at 24 Volts. The relay could be used to reset latching smoke detectors.

JUMPER J10 LISTEN OUTPUT

The Siren B output can be turned into a listen output which is used for listening to the phone line while a dialler is transmitting. Set the jumper to the "a-b" position and connect any speaker of 8 Ohms or greater. For maximum volume, a horn speaker is ideal.

Note: Remember to return the jumper to the "b-c" position when you have finished. This should only be used for fault finding and diagnostics.

STROBE (LATCH)

This is a latched 12 V D.C. output for connecting strobe lights or internal Piezo sirens. This output when activated will only turn off when a code is entered. The Strobe output is fused via F4 (1.5 Amp fast-blow 2AG)

Refer Page 2 for wiring details.

PRO-LX LED KEYPAD *****

The PRO-LX LED Keypad consists of a back lit 18 button rubber keypad, 24 LED indicators and one internal buzzer contained in a modem white plastic housing. The housing has a hinged front lid to protect the rubber buttons when not in use. All the electronics are contained on a single circuit board inside the housing

Keypads are joined to the PRO-LX control panel via a 4 wire parallel connection. Up to 8 keypads may be connected to a PRO-LX control panel. For further information regarding installation refer to the Keypad Installation section.

BUTTONS

The 18 rubber buttons are used for the following: The numeric keys are used in Program modes for entering option selections and new values. In normal operating mode the numeric keys are normally used for entering Access Codes or selecting particular options only available in normal operating mode.

The buttons with text are used to select the option as indicated by the text and normally precede other button presses eg. to enter Exclude mode Press EXCLUDE ENTER.

The PROGRAM key is used to start programming option selections in the Program modes, e.g. PROGRAM 17 ENTER selects Entry time. The PROGRAM key is also entered prior to the Master code to enter User Program mode from normal operating mode.

The ENTER key is used to enter access or program codes. It is normally used at the end of the button sequence.

AUDIBLE INDICATIONS *****

Every time a button is pressed on the keypad a brief beep is sounded to indicate acknowledgment.

1 long beep will indicate if the button presses are invalid.

The beeper is also used to indicate whether a button entry is valid or invalid. When the ENTER button is pressed all other buttons pressed before it are checked to see if they were valid entries. If they are valid entries 3 short beeps will sound to indicate they are valid.

At other times the beeper will sound out warnings such as continuous beeps for a Power alarm (e.g. low battery).

VISUAL INDICATORS *****

Normally the green lights show the status of the 8 Zones when the red ZONE indicator is also illuminated. The green lights can also show the status of the following alarms when the associated red indicator is illuminated;

TAMPER - Where the 5 green numbered LEDs indicate the following:-

- 1 External tamper
- 2 Panel tamper
- 3 Zone tamper
- 4 Satellite tamper
- 5 Radio board tamper

POWER - when illuminated the 10 green numbered LEDs indicate the following:

- 1 Mains fail
- 2 Panel low battery
- 3 Panel Supply reference voltage fail
- 4 Zone Reference voltage fail
- 5 Spare
- 6 Spare
- 7 Satellite Low Battery
- 9 Radio Device Low Battery
- 0 Radio Pendant Low Battery

SYSTEM - When illuminated the 8 green numbered LEDs indicate the following:-

- 1 Keyswitch alarm
- 2 Telephone Line fail
- 3 Equipment Buss fail
- 4 Panel fail
- 5 Duress alarm
- 6 Panic alarm
- 7 Medical alarm (timeout)
- 8 Code alarm (too many invalid entries)

PRO LX KEYPAD INSTALLATION *****

Unclip the top half of the housing by pushing the top clips down with a small screwdriver and pull the housing forward. Remove the circuit board by pushing the top clip upwards.

DO NOT USE THE LED TUBES TO HOLD THE CIRCUIT BOARD

Screw the base to the wall using mounting holes provided. These holes match a standard switch plate spacing.

Clip the circuit board into the base. Connect the 4 wires to the terminal block provided.

Clip the hinged lid onto the base and leave it fully opened. Check that the LED tubes have not been disturbed and are still flat on the board.

Clip the front half of the keypad onto the base by first engaging the top clips and then swing the bottom closed until it clips. Do not worry about the rubber keys jamming at this stage—simply pick them out after the top half is clipped into place. This will not damage the keys. If you have trouble clipping the top closed it is probably due to the LED tube out of alignment. Re-open the plastics and re-align the tubes.

Stick the Zone List to the inside of the hinged lid and then slide the extra instruction sheet under the Zone List.

WIRING

The PRO-LX Keypad connects to the PRO-LX Control Panel via a 4 wire connection. A maximum of 8 keypads can be connected, each wired in parallel.

The maximum recommended cable run is 100m for one keypad using 14/0.20 cable on each keypad address. Always use good quality cable. Some installations may require low capacitance cable. Each additional keypad will reduce the maximum distance accordingly.

LINK LK1

To prevent a clash of key-presses from separate keypads, the PRO-LX Keypad should be set with one of 4 addresses. Select the addresses by placing the jumper on the appropriate number. If you have more than 4 keypads you may “double up” on the keypad addresses.

DIALLER TELEPHONE LINE CONNECTION *****

The PRO-LX dialler connects to a telephone line via a Mode 3 or 5 socket. A Mode 3 or 5 connection allows the dialler to cut off any existing devices (e.g. phones, faxes) and seize the Telephone line for its own use. This is to ensure secure operation.

If a mode 3 or 5 socket is not available on site then a mode 3 double adaptor, which allows for a phone and a dialler to be connected can be purchased from retail outlets.

The dialler must always be connected directly to the incoming phone line. Connection to a PABX line will either dramatically lessen your security and increase your problems and in some cases the dialler will not work at all eg. a Telecom Commander System does not allow you to connect to extension lines.

EARTH TERMINAL

For maximum protection against damage caused by lightning strikes to the phone line, connect a good earth to the earth terminal of the PRO-LX. The PRO-LX incorporates two 600 Volt Gas Surge Arresters from each phone line to earth and a 275 Volt MOV. surge arrestor across the two lines.

PRO-LX SATELLITE *****

The PRO-LX satellite is a self contained external powered siren and warning strobe. It is used for higher security applications instead of a traditional horn speaker in a cover. If the Satellite is tampered with in any way, or an attempt made to remove it from a wall, its own 120 db siren will still operate independently from the PRO-LX control panel.

The satellite is connected to the PRO-LX via a 4 wire connection (+12V GND, DIN, CLK). The satellite power supply from the PRO-LX (used for charging the satellite battery) is fused via F2 (1.5 Amp 2AG Fast blow fuse).

Should a satellite low battery occur, the PRO-LX will indicate a power warning on it's keypad. The satellite has a single jumper connector which can be configured so as to identify the satellite as either No.1 or No.2. This allows the PRO-LX dialler to identify which satellite battery is low when using Contact ID Dialler Format.

INSTALLATION

The PRO-LX satellite is wired as shown below :- installation is a simple procedure as follows:

1. Remove the lid and the battery compartment.
2. Screw the base to the wall.
3. Connect all the devices as shown in the diagram.
4. Connect the 4 wires from the PRO-LX panel (it does not matter if the panel is powered or not).
5. Set the link M1 to identify' the satellite number.
6. Check all your wiring.
7. Hook the top of the lid on and hinge it closed.
8. Screw the lid shut.
9. Enable the satellite by selecting option P82E 1E (LED No. 1 ON) in Installer program mode. Failure to select this option will leave the satellite disabled.

If you wish you can follow the procedure to test below before closing the lid. but this would require you to seal the lid tamper of the satellite by some other means first.

TO TEST

Test the siren and strobe as per other siren and strobe outputs by causing an alarm, or select the siren or strobe option in TEST mode in normal run mode.

TO SERVICE THE SATELLITE

You can service or disable the satellite by the following methods;

1. Place the PRO-LX into installer program mode (this automatically disables the satellite siren).
2. Service the satellite as necessary.
3. Ensure the satellite is wired correctly and the lid is closed fully.
4. Exit installer program mode. The satellite is now fully functional again.
5. Test the satellite as above.

NOTE - If you remove the satellite altogether in installer program mode the PRO-LX will still generate a satellite tamper and fail alarm. If you wish to remove the satellite follow the procedure below.

To Disable the satellite for temporary removal;

1. Place the PRO-LX into Installer Program Mode.
2. Select program option P 82 E 1 E (LED 1 OFF).
3. Exit Installer program mode.
4. The satellite siren is disabled and the PRO-LX ignores all satellite alarms.

WARNING *****

The PRO-LX Dialler carries in Australia the Austel Permit A93/02B/025 1. Please note that under the Telecommunications Act 1991 it is illegal to tamper with or to wire into the carriers network for connection of telephones, diallers, Securitel devices etc. unless the work is carried out by or under the supervision of an Austel licensed wiring technician. Breaches of the Telecommunications Act leave the installer liable to prosecution with penalties of up to \$12,000 per offence and immediate disconnection of any illegally wired devices. Note: it is possible to connect the dialler to an existing telephone socket using an approved double adaptor type plug and socket available from some electronic retailers without the need for licensed installation. This is not recommended however.

Your attention is also drawn to the Act which states that where a permitted alarm device is connected to a carriers network all cabling including connection to keypads, detectors etc. shall be carried out to Austel Technical Standards using Austel approved cable only. Note - wiring of the alarm system cables apart from the telephone line connection does not require an Austel licensed technician to carry out the work.

PROGRAMMING and TESTING

PROGRAMMING *****

Program Mode Entry From First Power Up

When the Panel is installed, it should be powered up with the cover off so that the Panel Tamper switch is in the unsealed position. This is a special condition which forces the panel to start up in install programming mode.

The Panel also powers up into this mode if the master code is not programmed or when the software is updated by changing the EEPROM.

NOTE: The master code must be programmed before you are allowed to go into normal operation mode.

Programming Levels.

There are three levels of programming each requiring an entry code to bar unauthorised changes.

All programming options are available to the remote programmer in this mode, however, the user is barred access to any program changes.

The first level allows the client to program all access codes and entry and exit times. A Master Code is required to do this.

We recommend that clear and accurate records be kept at each installation of the options selected to assist in on-going support to the client. Keep the record of installation in the document holder inside the PRO-LX box (see page 2). Chapter 9 is set up for recording configuration settings (and shows the defaults as well). It contains a handy quick reference guide in addition to tables for recording settings.

The second level allows installers and service personnel to program all PRO-LX options and perform some installation or maintenance procedures.

The third level allows the user to place the PRO-LX into a mode which allows it to be remotely Up and Down loaded with a MODEM.

PROGRAMMING PROCEDURE *****

All program options commence by pressing PROGRAM key followed by a 1 to 4 digit address. What comes next depends on the option, but it may be ENTER or one or two digits then ENTER. In most cases, zones or other items must then be entered to make selections. 3 beeps sound each time the Panel accepts what has been entered.

This convention is used throughout the manual. Also, where extra digits are required, you see

“x” (one only) or “xx” (one or two).

The programming code for each option is included in the option’s heading. For example

For example Area Exit Delay P18xE

where P181E, P182E and P183E are all valid codes which select areas 1, 2 and 3 respectively.

Exit Delay P18E

“P” = PROGRAM and “E” = ENTER.

PROGRAM MODE ENTRY *****
 from Normal Operating Mode

PROGRAM MODE 1 (CLIENT PROGRAM MODE)

A Master Code is needed to get into Program Mode 1 (Client Program Mode) In this mode you may:

- Program or re-program any of a maximum 16 codes
- Re-program entry time(s)
- Re-program exit time(s)
- Enter Program Mode 2 (install code may be needed)
- Exit Program Mode

To enter program mode 1 from Normal Operating mode:

P master code E
 PROGRAM LIGHT COMES ON

Note: The PRO-LX will automatically swap back to normal operating mode after 4 minutes if no keys are pressed within that time.

PROGRAM MODE 2 (INSTALL PROGRAM MODE)

In this mode you may:

- Program any PRO-LX option (rest of manual)
- Re-program install code
- Perform test operations
- Set configuration defaults
- Exit Program Mode
- Upload/Download all options using a modem

To enter program mode 2 using the Install code, first go into Program mode mode 1 (you may need the assistance of a client who does not wish to reveal what the Master Code is).

From Program Mode 1:
 P install code E
 PROGRAM LIGHT FLASHES FAST

Note that the default install code is 6 zeros (ie P 000000 E).

PROGRAM MODE 3 (UPLOAD/DOWNLOAD)

In this mode and by using the modem you may:

- Program all available options
- Read all programmed options
- Read the 50 event alarm memory
- Read the status of the panel

To enter program mode 3 from normal operating mode,

Ensure that the panel is in the disarmed state with no alarms present, Press:

<Any valid code> ENTER
 TEST label turns on, then press:
 0
 PROGRAM LIGHT FLASHES FAST

The dialler will now auto-answer any incoming phone calls and may be uploaded/down loaded with a modem.
 (See pload/download for details.)

INSTALL CODE P 99 E *****

The install code is used to enter Program Mode 2 and is set initially to six 0's (ie 000000). You may re-program the install code while in program mode 2 to prevent unauthorised changes to the system.

To re-program the install code:

P 99 E code E code E

NOTE: You can leave it programmed to 000000 as it is not mandatory to program the Install Code.

Exit Program Mode P E *****

To exit Program mode:

P.E.

Note : The panel WILL NOT EXIT PROGRAM MODE if a Master Code has not been programmed. Refer to page 15 for Master Code Program details.

SET DEFAULTS P 98 X E *****

The default settings may be found in the Record Tables of Chapter 9. Most of the defaults are also included in the Codes Summary at the end of the manual. The system memory in which the configuration information is stored is divided into 4 sections, each of which may be individually initialized:

1. Standard Settings - all except Access Codes Entry and Exit Delay, Dialler and Install Code

To Set Standard Defaults P 98 1 E

2. Client Settings - those programmable by the client, namely Access Codes and Entry and Exit Delay (plus Install Code)
This clears all Access Codes including the Install Code.

Set Client Program Defaults P 98 2 E

Note that after setting Client defaults, the Master Code must be programmed before you are allowed to go into normal operation mode.

To program the Master Code:

P 1 E master code E master code E

3. Dialler Settings -
To set Dialler Defaults, P 98 3 E

4. Clear Alarm memory
This clears the PRO-LX 50 event alarm memory. P 98 4 E

5. Clear Dialler
when selected, the dialler will clear all outstanding alarm messages stored in the alarm buffer waiting to be sent. This is useful if you have been testing without the phone line plugged in. P 98 5 E

UPLOAD/DOWNLOAD *****

The PRO-LX allows all program data to be remotely programmed over the phone line to a Modem connected to a computer running the NESS Upload/Download Communication Software.

To run remote Upload/download you will require the following:-

1. An IBM compatible computer XT, AT, 386, 486 with the minimum of 1 floppy disk drive 3.5 inch or 5.25 inch and a Serial port. To get the maximum from the available features, we recommend you have a hard drive.
2. A Hayes compatible Modem communicating in V.21 mode.
3. Ness Upload/Download Communications software.

The PRO-LX allows for two methods of Upload/download operation as listed below.

1. IMMEDIATE

In this mode the Modem calls the panel phone number, the PRO-LX will answer the call immediately provided it is in Program mode or Test Mode (therefore you still require a Master Code to enable upload/download).

Once the PRO-LX has answered the call the PRO-LX will allow Upload/Download after a further exchange of security information.

2. CALL BACK

In this mode the Modem calls the panel phone number, the PRO-LX will answer the call and after an exchange of security information it will hang up and call the modem phone number back (the modem number must already be programmed in the PRO-LX). After a further exchange of security information the PRO-LX will allow Upload/Download.

SECURITY

In both cases above it must be noted that the PRO-LX is always the controlling device, that is it decides whether to allow the Upload/download or not. If for some reason an error occurs in the exchanging of security information the PRO-LX will assume that an unauthorised attempt has been made to Upload/Download and will disable Upload/download until it is re-enabled by entering a Master code at the panel.

ENTRY TO UPLOAD/DOWNLOAD MODES

There are two modes of operation in which Upload/Download can be active.

1. Install Program Mode. To enter Install program mode either Power-up with the lid off, or Enter your Installer Code from Client Program mode.
2. TEST Mode. To enter Test Program mode, enter any valid code from normal operating mode and then press;
<code> E 0

CALL BACK

when using the call back option of upload/download, you will need to set the number of rings that the PRO-LX requires before answering the phone.

To program the number of rings press;

P 59 E value E

The default = 1 ring.
The valid range is 0 to 20 rings

TESTING *****

The PRO-LX incorporates 3 maintenance and test procedures, 2 are accessible in Install program mode and 1 is active in normal operating mode.

You may view, set and cancel these procedures at any time while in the Install mode by entering a 2 digit code. ON means feature active.

Install Mode

To cancel an active procedure, or turn an inactive one on, hit the digit key associated with the procedure and press ENTER.

- 1. Walk Test
- 2. Automatic Test

Operating Mode

1. Test Mode

1.WalkTest P 45 E 1 E *****

This test runs only while the panel is in maintenance mode. Outside this mode, the test is suspended but the zone selection is retained.

- OFF - Zone not selected
- STEADY - Zone not triggered
- FAST FLASH - Zone triggered

To enter test mode:

P45E
TEST (ON)

You may wish to restart the test, in which case you must cancel and re-select Walk Test.

Individual zones may be de-selected by entering the zone number again.

To select Walk Test:

1E
TEST (fast flash)

To cancel walk test
ENTER

To select zones for test:

1 (light on) (shows Walk Test started)
TEST (ON)

zone E zone E...

As each zone is selected, the corresponding zone indicator lights.

To restart walk test:

1E
TEST (fast flash)

Each test zone will now, on going unsealed, cause the zone indicator to fast flash and the device connected to reset output to give a 2 second burst (should be an internal siren). Zone indicators show the following information during the walk test:

The zone indicators show that the previously selected zones are now ready to be tested again.

AUTOMATIC TEST P 45 E 2 E *****

A useful feature of the PRO-LX is its ability to determine not only that a Zone is unsealed but also to determine if a zone is stuck in a sealed state (faulty detectors etc.).

Once all offending Zones are Unsealed to verify correct operation, exit the View mode by pressing "VIEW" "ENTER", the TEST label will turn off if all zones are O.K., however if the offending Zone does not unseal the TEST label will remain on as a warning that a Zone(s) is faulty.

If selected this test runs during the normal operation of the panel. The test checks that all Night Only type Zones actually unseal during a 20 Arm and Disarm sequence. If a Zone or Zones does not unseal in this period the PRO-LX will alert the User by turning on the TEST label.

To view Automatic Test status:

P 45 E
2 Light on = Auto Test enabled
2 Light off = Auto Test disabled (Default)
TEST (ON)

You can view the offending Zone(s) by pressing "VIEW" "7 " The offending Zone(s) LED will be ON steady. To clear the Zone Test label, unseal the offending Zone(s) while still in the "VIEW" " 7 " mode. This will result in the steady Zone LED changing to a fast flash. This will verify whether the Zone is functioning correctly or not.

To change test status:
2 E

TEST MODE *****
<valid Code> Enter (Accessible in normal operation mode with program light off)

The PRO-LX has a User accessible TEST mode which can be used to test various Alarm outputs as well as being used to enable Upload/Download.

To turn on TEST mode, first ensure the PRO-LX is disarmed and no alarms are active then enter any valid Access code.

<code> ENTER

The TEST label will illuminate to indicate test is active.

Press the key as described in the table below to turn on an output. Press the same key again to turn the output off or press any other key. Cancel TEST by pressing ENTER.

Note the green LEDs which light to indicate the output is active.

KEY	LED	OUTPUT
1	1	Siren A-Tone 1(+ satellite)
2	2	Siren B-Tone 1
3	3	Reset
4	4	Strobe
5	5	Auxiliary 1
6	6	Auxiliary 2
7	7	Keypad Beeps
8	1	Siren A-Tone 2(+satellite)
9	2	Siren B-Tone 2
0	0	Upload/Download Program LED flashes

PROGRAMMING QUICK START *****

This page will show you how easy it is to get your PRO-LX fully operational. The PRO-LX comes programmed with default values that should suit the average installation. Your installation must be complete with all zones, tampers and the Keypad wired.

In the following steps you will enter a master code to allow Arming and Disarming and a Client Code for Dialler operation. After Arming and Disarming the panel you will return to Install Program mode to continue any additional programming that may be required.

	DESCRIPTION	PRESS THESE BUTTONS	EXPECT THESE RESULTS
Step 1	Enter Install Program mode		Power up the PRO LX with the Panel Housing Tamper OPENED. You will notice the Red LED on the main board flashing and the Program LED on the Keypad will also be flashing.
Step 2	Program a Master Code	(PROGRAM) 1 (ENTER) 1,2,3,4 (ENTER) 1,2,3,4 (ENTER)	The AREA labels and the ARMED LED will be flashing and 3 beeps will sound. The master code in this example is 1234. You must enter it twice - this will stop the flashing and 3 beeps will sound
Step 3	Program a Client Code.	(PROGRAM) 5 0 (ENTER) 9 8 7 6 (ENTER)	The 0 LED will flash slowly 4 times indicating the default Client Code of 0000. The Client Code in this example is 9 8 7 6 and will be flashed out on the green LEDs.
Step 4	Program a Central Station telephone number.	(PROGRAM) 5 1 (ENTER) 1 2 3 1 2 3 4 (ENTER)	The 0 LED will flash once Indicating no number programmed. The phone number is now 1231234 and will be flashed out on the green LEDs.
Step5	Enter normal run mode.	(PROGRAM) (ENTER)	The Program Led will extinguish and the Zone Label turns on indicating you are in View Zones mode. The panel is Disarmed.
Step 6	Arm the Panel.	(ARM)	The Armed Led will turn on.
Step 7	Disarm the panel	1 2 3 4 (ENTER)	The Armed Led will extinguish.
Step 8	Enter User program mode from run mode	(PROGRAM) 1 2 3 4 <ENTER>	The program LED is on.
Step 9	Enter Install program mode from user program mode to do any further programming that may be require	0, 0, 0, 0, 0, 0 (ENTER)	000000 is the default Installer's code.

Your PRO LX is now programmed as follows:

Master Code	1234	This is the Arm/Disarm Code
Client Code.	9876	Control Room Allocated
Telephone Number	1231234	Control Romm Allocated
Zone 1 Delay	Night Zone, full Burglary alarm	
Zone 2 Handover	Night Zone, full Burglary alarm	
Zone 3 - 8 Instant	Night Zone, full Burglary alarm	
Entry Time	20 seconds	
Exit Time	60 seconds	
Alarm Time	10 minutes	
Dialler Reporting	Ademco Extended Format	

For more programming information, refer to the relevant sections in this manual.

ACCESS CODES *****

PROGRAMMING CODES

There are 16 access codes numbered 1 to 16. To program a code, enter the user number and then enter the new code twice.

If you get an audible error indication, then check the following advice:

Here is an example of programming the first code to 1234:

A code must contain more than 2 digits and not more than 6.

P 1 E 1 2 3 4 E 1 2 3 4 E

A code may be rejected the first time you enter it because it matches an existing code (or possibly matches a duress code).

After entering the user number, you will see the code type displayed on indicators ARM, AREA 1, AREA2 and AREA3. If user number 1 (fixed master code) has been used to enter program mode, then the actual code is also flashed out as well.

If you enter a different code the second time, you will also get an error indication. You may try again to enter a valid code or hit ENTER key to cancel.

NOTE: User And Master Access Codes MUST NOT start with the digit " 0 "

TYPES OF ACCESS CODES *****

MASTER CODE P 1 E

Label indicators all fast flash:

To program the fixed master code:
P 1 E code E code E

- ARM (fast flash)
- AREA 1 (fast flash)
- AREA 2 (fast flash)
- AREA 3 (fast flash)

Extra Master Codes
You may have more than one master code as an option.

The Master Code is used to enter Program Mode 1 and arm the entire Panel. The first access code is always a master code and if it is somehow disabled you will not be permitted to exit out of program mode.

To program a master code with a user number of 2 to 15:
P user number E 0 E code E code E

ORDINARY CODE P2E... PI6E (No area operation)

Label indicators all on:

This is an access code to arm the entire Panel but does not permit the owner entry into programming mode. Any code except the first may be an ordinary code.

- ARM
- AREA 1
- AREA 2
- AREA 3

To program an ordinary code:
P user number E code E code E

ADMINISTRATOR CODE P2E... PI6E (Area Operation)

Label indicators all on:

To program an administrator code:
P user number E code E code E

- ARM
- AREA 1
- AREA 2
- AREA 3

An administrator code is able to arm and disarm all areas of a divided system but it is not permitted entry into programming mode. Any code except the first may be an administrator code.

TYPES OF ACCESS CODES CONT.....
 AREA CODE P2EXE...P 16 E x E

Individual Area labels turn on to indicate which Area:

P user number E 1 E code E code E
 AREA 1 (ON)

P user number E 2 E code E code E
 AREA 2 (ON)

P user number E 3 E code E code E
 AREA 3 (ON)

DISABLED CODE

No Label indicators are displayed.
 Any access code except the fixed master code may be taken out of service by programming its first digit to be 0.

To disable a code
 P user number E 0 code E 0 code E
 Note, all access codes are disabled until programmed for use by people who need to operate the Panel.

VIEWING CODES

Viewing codes is only possible when you enter User Program Mode using Code 1 (fixed Master Code).

The code number will be flashed out on the Zone indicators at 1 second intervals, the type of Code (e.g. Area, Administrator etc.) will also be displayed using the Label indicators as described for each of those codes above.

To view codes:
 P master code ENTER
 PROGRAM LED comes on.
 P user number ENTER

ZONES and AREAS *****

The options are presented here in a deliberate order to suggest an approach to programming the Panel. Options which apply to all active zones are Sensitivity, Tamper, Lockout and "Can Exclude".

Delay and area programming apply only to zones which are not 24-hour. Area assignment appears last because all the preceding options need to be programmed as well.

ZONE OPTIONS

SENSITIVITY P 25 X E & P 26 X E *****

ZONE OPTIONS

All Zones must be selected to either a Normal type or Vibration type and each type allows you to have 8 different sensitivity levels, 1 being the highest sensitivity and 8 the lowest.

NOTE: Levels 1 and 8 should not be used as proper settings. They are provided as a guide to show you the upper and lower thresholds. If you find the Nessensor will not operate correctly unless it is set to either 1 or 8 levels then you should change the Sensitivity of the Nessensor itself or re-locate the sensor.

Normal (timing) P 25 x E

To view normal sensitivity zones at level 1 to 8:

To view vibration sensitivity zones at level 1 to 8:

P 25 level E (level = 1 - 8)

P 26 level E (level = 1 - 8)

Zone LED on = This zone set to this level
 Zone LED off = This zone set to another sensitivity or type

Zone LED on = This zone set to this level
 Zone LED off = This zone set to another sensitivity or type

To add a zone to this level press: zone E

To add a zone to this level press: zone E

(Default = all zones level 4)

(Default = No zones set to vibration)

Vibration (pulse count) P26xE

Time in ms Pulses

P 25 1 E	100ms	P 26 1 E	1
P 25 2 E	200ms	P 26 2 E	2
P 25 3 E	400ms	P 26 3 E	3
P 25 4 E	440ms Default	P 26 4 E	5
P 25 5 E	480ms	P 26 5 E	10
P 25 6 E	520ms	P 26 6 E	15
P 25 7 E	560ms	P 26 7 E	20
P 25 8 E	600ms	P 26 8 E	25

For Vibration settings the PRO-LX will count pulses at 20 ms intervals for a time window of 600ms. The Sensitivity level set will determine the number of pulses required to cause an alarm. The pulse number can be set from level 1(1 pulse) up to level 8 (25 pulses).

TRIGGER P 27 1 E & P 27 2 E *****

ZONE OPTIONS

You may choose between one or two trigger operation. Two triggers are only suitable for devices such as PIRs which self-reset. After the Panel receives one trigger, it waits up to 4 minutes for the second, otherwise there is no alarm. However if a two-trigger zone remains unsealed for more than 15 seconds, then an alarm will also be generated. Note that a 2-trigger alarm will result from any two zones each trigger contributing a single trigger.

To set 1-trigger zones:

P 27 1 E zone E zone E
Zone LED on = 1 trigger (Default = all zones)
Zone LED off = 2 trigger

To set 2-trigger zones:

P 27 2 E zone E zone E
Zone LED on = 2 trigger
Zone LED off = 1 trigger

ZONE TAMPER P 34 E 6 E *****

ZONE OPTIONS

You may select the Zones and the Keyswitch input to report a Tamper alarm as well as a Normal alarm if you are using an extra Tamper switch or if you wish to indicate Tampering of the Zone wires. This can be achieved by using an extra end of line resistor as shown in Chapter 1.

To view Zone Tamper option:

P 34 E
6 LED on = NO zone tamper (Default)
6 LED off = Zone tamper

To toggle Zone Tamper option press: 6 E

NOTE - If you select the Zone Tamper option then all Zones and the Keyswitch must be wired with the two 4K7 end of line resistors, failure to do so will result IN Zones reporting a Tamper alarm instead of Normal.

SIREN LOCKOUT P 29 1 E *****

ZONE OPTIONS

Zones that have been programmed to Lockout will only sound the Siren output the first time they alarm, any subsequent alarms from these zones will only tum on Resetting or Strobe outputs until the Panel has been reset by a code entry or a keyswitch operation.

To view lockout zones:

P 29 1 E
Zone LED on = lockout (Default = all zones)
Zone LED off = NO lockout

To toggle lockout zone press: zone E

CAN EXCLUDE P 30 1 E *****

ZONE OPTIONS

You may disallow a zone being excluded

To view excludable zones:

P 30 1 E
Zone LED on = can be excluded (Default)
Zone LED off = can NOT be excluded

To toggle excludable zone press: zone E

EXIT DELAY TYPES P 20 E P 23 E *****

ZONE OPTIONS

Each Zone may be programmed to one of 4 delay options. All of the 4 types have an Exit time which disables the Zone for that period upon Arming allowing the User time to depart the premises.

The 4 Delay options determine whether an intrusion is reported immediately upon Entry to a premises or after an Entry delay time to allow access for Disarming. The 4 Delay options follow.

INSTANT P 20 E *****
ZONE OPTIONS

The zone reports as soon as the zone unseals.

DELAY P 21 E *****
ZONE OPTIONS

Allows temporary access into a secured area.
when the zone unseals, it starts an entry delay.

If the area is not disarmed before the delay expires, the intrusion is reported. This is true even if the zone has re-sealed.

HANDOVER P 22 E *****
ZONE OPTIONS

A handover zone acts as a delay zone during entry delay and as an instant zone at all other times

SECONDARY ENTRY DELAY P 23 E *****
ZONE OPTIONS

A secondary entry delay zone operates with an entry delay the same as the exit delay.

To select zone press: zone E

SUMMARY *****

To view delay options:

Instant P 20 E (Default = zones 3-24)

Delay P 21 E (Default = zone 1)

Handover P 22 E (Default = zone 2)

Secondary P 23 E

Note that these delay types are standard, and that a 5th called "security delay" is reserved for area operation only.

Zone LED on = zone set to delay option
Zone LED off = assigned to other option

EXIT TIME SECURITY P 44 1 E *****
ZONE OPTIONS

All Delay type Zones (P20E to P23E) have an Exit time upon Aiming of the Panel as described above. By programming this option you can remove the Exit timer so that the Zones are ready to Alarm immediately upon Arming. If used in conjunction with a Delay Zone (P21E), then the Zone can only be used to enter the premises.

To view Exit Time Security zones:

P 44 1 E

Zone LED on = exit time security

Zone LED off = secure at end of exit time

To toggle Exit Time Security option for zone press: zone E

ENTRY AND EXIT TIMES

Entry Delay Time P 17 E & P 17 X E *****
ZONE OPTIONS

Entry delay allows you time to approach the keypad (or key switch) while the Panel is armed in order for you to disarm it. The default value is 20 seconds, and it may be reduced to as short as 1 second or increased up to 99 seconds.

AREA ENTRY DELAY TIME

Entry delay may be programmed individually for each area.

To change the entry delay time for particular area:

Area 1 - P 171 E delay E
Area 2 - P 172 E delay E
Area 3 - P 173 E delay E
(All Defaults 20 seconds)

The current value is flashed on the zone indicators when you select this option. If you program a new value, then this is also flashed out.

To change the entry delay time press:

P 17 E delay E

(Default 20 seconds)

when zones are assigned to more than one area, then a universal entry delay operates.

To change the universal entry delay time press:
P 17 0 E delay E

EXIT DELAY TIME P 18 E & P 18 X E *****

ZONE OPTIONS

Exit delay allows you time to vacate an area made secure by arming the Panel. The default value is 60 seconds, and it may be reduced to as short as 1 second or increased up to 99 seconds. The current value is flashed on the zone indicators when you select this option. If you program a new value, then this is also flashed out.

AREA EXIT DELAY TIME

Exit delay may be programmed individually for each area. To change the exit delay time for particular area:

- Area 1 - P 181 E delay E
Area 2 - P 182 E delay E
Area 3 - P 183 E delay E
(All Defaults 60 seconds)

To change the exit delay time:

P 18 E delay E (Default = 60 seconds)

ARM MODE OUTPUT P 35 XX E *****

ZONE OPTIONS

The way in which the zone is to report while armed may be selected from one of 31 output options, or it may be disabled altogether.

To set zones to an output (1 to 31):
P 35 output E zone E zone E...

- Zone LED on = zone assigned to output
Zone LED off = zone NOT assigned to output

(Default = all zones set to output 17)

To disable zone in arm mode:
P 35 0 E zone E

For Output Selection see pages 24 to 28

DISARM MODE OUTPUT P 36 XX E *****

ZONE OPTIONS

The way in which the zone is to report while disarmed may be selected from one of 31 output options, or it may be disabled altogether.

To set zones to an output (1 to 31):
P 36 output E zone E zone ...

- Zone LED on = zone assigned to output
Zone LED off = zone NOT assigned to output

(Default = no disarm mode zones, output = 0)

To disable zone when disarmed press:
P 36 0 E zone E

For Output Selection see pages 24 to 28

MONITOR MODE OUTPUT P 37 XX E *****

ZONE OPTIONS

The way in which the zone is to report while in monitor mode may be selected from one of 31 output options, or it may be disabled altogether (that is, the zone is outside the area to be monitored).

To set zones to an output (1 to 31):
P 37 output E zone E zone E...

- Zone LED on = zone assigned to output
Zone LED off = zone NOT assigned to output

(Default = all zones set to output 20)

To disable zone in monitor mode press:
P 37 0 E zone E

For Output Selection see pages 24 to 28

24-HOUR OPERATION P 38 XX E *****

ZONE OPTIONS

You may program a zone for 24-hour operation. This means that it is always in a high security state and delay or area options do not apply. At the same time, you select the way in which the zone is to report from one of 31 output options.

To set 24-hour zones to an output (1 to 31):
P 38 output E zone E zone E...

- Zone LED on = zone assigned to output
Zone LED off = NOT assigned to output
(Default = no 24 hour set - output = 0)

For Output Selection see pages 24 to 28

MONITOR MODE OPERATION *****

ZONE OPTIONS

There are 3 distinct ways in which Monitor mode operates, each requiring a different approach to programming -

- 2. Two areas, one code - Monitor 1/2 or Dual Monitor (see "Area Assignment")
Use P 32 1 E to build area 1 and
Use P 32 2 E to build area 2

- 1. One area, one code - Plain monitor mode
Use P 37xxE to build the area
(Use for home monitoring.)

Note: Any zone common to both areas is armed if any area is armed

- 3. 1 to 3 areas, each with code - Area Operation (see "Area Assignment" below)
Use P 31 x E to build areas 1 to 3

AREA ASSIGNMENT

MONITOR 1 / 2 P 32 1 E & P 32 2 E *****

ZONE OPTIONS

You may create 2 monitor areas in a system which is otherwise not split into Areas.

To view zones in monitor 1/2:

Note: Both areas must have zones assigned to them to activate the dual monitor operation.

- Monitor 1 - P 32 1 E
- AREA 1 (slow flash)
- Monitor 2 - P 32 2 E
- AREA2 (slow flash)

When the PRO-LX has zones assigned to areas (split system P31 x E), you cannot assign zones to be monitor 1 or 2. The split areas may be individually monitored which is similar to monitor 1 and 2.

Zone indicators show zones in monitor area.

To toggle zone press: zone E

(Default = no zones set to monitor 1 or 2.)

SPLIT SYSTEM P 31 X E *****

ZONE OPTIONS

You may assign a zone to one of 4 areas.

To view zones assigned to admin. area or Area 1,

The default setting is all zones in the administration area. When the PRO-LX does not have zones assigned to areas, a full Arm or a full Disarm turns the administration area on or off.

- Admin. Area - P 31 0 E
- ARM LED (on)
- Area 1 - P 31 1 E
- AREA 1 LED (on)
- Area 2 -P 31 2 E
- AREA 2 LED (on)
- Area 3 -P 31 3 E
- AREA 3 LED (on)

NOTE: Do not assign zones to areas unless you actually intend to use the Panel as a divided system, that is, with more than 1 area. Refer to the Area Operation chapter in the PRO-LX User Manual for more information.

Zone indicators show zones in area.

To toggle zone press: zone E

(Default = All zones set to Admin Area P 31 0 E.)

SECURITY DELAY P 19 E *****

ZONE OPTIONS

A security delay zone is assigned to 2 or more areas and maintains access control to all of them. It is referred to as a common access zone. The operation of a security delay common access zone is different from normal in that the zone is secure if any area to which it belongs is armed

To view Security Delay zones:

- P 19 E
- Zone LED on = zone set to Security Delay
- Zone LED off = assigned to other option

(Default = No security delay zones.)

To select zone press: zone E

TAMPER ALARMS *****

The table on the right shows the Tamper alarm inputs and which zone indicator is used to identify each one.

Number. TAMPER INPUT

Key to indicators:

- 1 External Tamper input
- 2 Control Panel Tamper
- 3 Key switch and Zone Tampers
- 4 Satellite Tamper
- 5 Radio Board Tamper

Tamper unsecure = indicator ON
Tamper secure = indicator OFF
Tamper alarms are active all the time.

SIREN LOCKOUT P 29 2 E *****

TAMPER OPTIONS

You may determine whether to lockout siren after the first alarm is reported or allow siren to go off every time until end of siren time or Panel reset.

To view lockout tamper inputs:

P 29 2 E

Tamper LED on = lockout (Default)
Tamper LED off = NO lockout

To toggle lockout option for tamper input press: tamper No. E

CAN EXCLUDE P 30 2 E *****

TAMPER OPTIONS

You may disallow a tamper input being excluded

To view excludable inputs:

P302E

Tamper LED on = can be excluded (Default)
Tamper LED off = cannot be excluded

To toggle excludable zone press: tamper No. E

TAMPER ALARM OUTPUT P 39 XX E *****

TAMPER OPTIONS

ENABLE - P 39 output E tamper No. E

DISABLE - P 390 E tamper No. E
(Default = Tamper 1-5 set to output 27.)

For Output Selection see pages 24 to 28

SYSTEM ALARMS *****

The table on the right shows the System alarm inputs and which zone indicator is used to identify each one.

SYSTEM INPUT

Key to indicators:

System unsecure = indicator ON
System secure = indicator OFF System alarms are active all the time.

- 1 Key switch input used as 24 hour zone
2 Telephone line fail
3 Keypad or satellite connection fault
4 Control Panel fault
5 Duress emergency alarm
6 Panic emergency alarm
7 Medical emergency alarm
8 Access code alarm

SIREN LOCKOUT P 29 3 E *****

SYSTEM OPTIONS

You may determine whether to lockout sirens after the first alarm is reported or allow sirens to go off every time until end of siren time or Panel reset.

To view lockout system inputs:

P 29 3 E

System LED on = lockout
System LED off = NO lockout (Default)

To toggle lockout option for system input press: system No. E

CAN EXCLUDE P 30 3 E *****

SYSTEM OPTIONS

To view excludable inputs:

To toggle excludable system inputs press: system No. E

P 3 0 3 E

System LED on = can be excluded (Default)
System LED off = cannot be excluded

KEY SWITCH INPUT P 40 XX E 1 E *****

SYSTEM OPTIONS

The Key switch input may be used either as a 24 hour zone or to arm a Panel which is not split into areas.

To program key switch input as a 24 hour zone, assign it to a non-zero output:

For Output Selection see pages 24 to 28

P 40 output E 1 E
(Default = Output 22)

DIALLER LINE FAIL P 40 XX E 2 E *****

SYSTEM OPTIONS

A line fail alarm is generated when the dialler detects a loss of telephone line voltage or if it fails to communicate to a central station.

ENABLE - P 40 output E 2 E
DISABLE - P 40 0 E 2 E
(Default = output 24)

For Output Selection see pages 24 to 28

KEYPAD / SATELLITE CONNECTION FAULT P 40 XX E 3 E *****

SYSTEM OPTIONS

A Keypad/Satellite Connection fault is generated when the PRO-LX detects abnormal data on the 4 wire interface.

ENABLE - P 40 output E 3 E
DISABLE -P 400 E 3 E
(Default = output 24)

For Output Selection see pages 24 to 28

CONTROL PANEL FAULT P 40 XX E 4 E *****

SYSTEM OPTIONS

EPROM Checksum Fail.

ENABLE - P 40 output E 4 E
DISABLE -P 400 E 4 E
(Default = output 24)

For Output Selection see pages 24 to 28

DURESS ALARM P 40 XX E 5 E *****

SYSTEM OPTIONS

Duress alarm is reported when you disarm the Panel with an access code preceded by the duress prefix. The duress alarm is available to bring assistance to a person being forced to disarm the Panel during a hold up. This alarm should be reported to the Central Station without sounding the siren.

To change duress alarm output option (1 to 31):
P 40 output E 5 E

Note that you cannot create a valid access code which is duress prefix + another valid access code.

To disable duress alarm:
P 40 0 E 5 E
(Default = output 29)

For Output Selection see pages 24 to 28

PANIC ALARM P 40 XX E 6 E *****

SYSTEM OPTIONS

Panic Alarm is initiated by pressing the PANIC button on any keypad. It may be used for a wide range of emergencies. The default output options are: Siren(s) - Tone 2, Strobe and Reset.

To change Panic alarm output option (1 to 31):
P 40 output E 6 E

For Output Selection see pages 24 to 28

To disable Panic alarm:
P 400 E 6 E
(Default = output 27)

ACCESS CODE ALARM P 40 XX E 8 E *****

SYSTEM OPTIONS

You may program the PRO-LX Panel to sound the siren if more than a certain number of wrong codes are entered one after another.

To change Access Code alarm output option (1 to 31):
P 40 output E 8 E

For Output Selection see pages 24 to 28

To disable Access Code alarm:
P 400 E 8 E
(Default = output 27)

POWER ALARMS *****

The table on the right shows the Power alarm inputs and which zone indicator is used to identify each one.

Key to indicators:

Power unsecure = indicator ON
Power secure = indicator OFF
Power alarms are active all the time.

Number.	POWER INPUT
1	Mains Fail
2	Battery Low
3	DC Supply Fail
4	Zone Reference Supply Fail
7	Satellite Battery Low
8	Radio Device Low Battery
9	Radio Pendant Low Battery

SIREN LOCKOUT P 29 4 E *****

POWER OPTIONS

You may determine whether to lockout siren after the first alarm is reported or allow siren to go off every time until end of siren time or Panel reset.

To view lockout power inputs:

P 29 4 E

Power LED on = lockout
Power LED off = NO lockout (Default)

To toggle lockout option for power input press:
power No. E

CAN EXCLUDE P 30 4 E *****

POWER OPTIONS

To view excludable inputs:

Power LED on = can be excluded (Default)
Power LED off = cannot be excluded

P304E

To toggle excludable power press:
power No. E

POWER ALARM OUTPUT P 41 XX E *****

POWER OPTIONS

ENABLE - P 41 output E power No. E
DISABLE - P 41 0 E power No. E

For Output Selection see pages 24 to 28

Default = Power 1,2,7,8,9. = Output 30
Power 3,4 Output 23

OUTPUTS *****

The power of the PRO-LX can best be seen in its ability to map" all alarm inputs (Zones, Tamperers, System, Power) to turn on any output group. Each output group can contain a combination of 16 Outputs.

Further, the PRO-LX allows the Zone inputs to be mapped to different outputs depending on the Panel operating mode (Armed, Disarmed, Monitor). This can be best understood with a simple List;

	Zones	1	2	3	4	5	6	7	8	
Armed Default (P 35 XX E)		17	17	17	17	17	17	17	17	
Disarmed Default (P 36 XX E)		0	0	0	0	0	0	0	0	
Monitor Default (P 37 XX E)		20	20	20	20	20	20	20	20	
24 Hour Default (P 38 XX E)		0	0	0	0	0	0	0	0	
	Input	1	2	3	4	5	6	7	8	9
Tamper Default (P 39 XX E)		27	27	27	27	27	N/A	N/A	N/A	N/A
System Default (P 40 XX E)		24	24	24	24	24	24	24	24	N/A
Power Default		30	30	23	23	N/A	N/A	30	30	30

As you can see, each input is programmed to an output group. Take Zone 1 for example; Zone 1 uses output group 17 (as default)when the panel is Armed. If Zone 1 goes unsecure when the panel is Armed, it will trigger output group 17. Output group 17 contains,
Siren A Dialler
Siren B Alarm State
Reset Siren Tone 1
Latched
All of the above will be activated when output group 17 is triggered.

Changing Output Group Sample
If the default output group programmed to **Zone 1** when it is Armed is not suitable you may change the output group **Zone 1** uses when it is Armed by pressing;
(PROGRAM) 35 **XX** (ENTER) (1) (ENTER)
The 35 represents Armed Mode Program.
The **XX** represents the output group you want **Zone 1** to use when it is Armed. (Chose the output group required from the list on pages #####).
The **1** represents **Zone 1**.

As another example Zone 4 uses output group 20 when the panel is in Monitor Mode. If Zone 4 goes unsecure when the panel is in Monitor Mode, output group 20 will be triggered. Output group 20 contains;
Sonalert pre-alarm followed by 2 Sec. Siren A
Dialler
Alarm State
All of the above will be activated when output group 20 is triggered.

Changing Output Group Sample
If the default output group programmed to **Zone 4** when it is in Monitor Mode is not suitable you may change the output group **Zone 4** uses when it is in Monitor Mode by pressing;
(PROGRAM) 36 **XX** (ENTER) (4) (ENTER)
The 36 represents Monitor Mode Program.
The **XX** represents the output group you want **Zone 4** to use when it is in Monitor Mode.
(Chose the output group required from the list on pages #####).
The **4** represents **Zone 4**

OUTPUTS DESCRIPTION *****

The PRO-LX has 16 different output options which can be selected for mapping. These 16 outputs can be described as 8 Logical, 5 Direct and 3 Qualifier Outputs and are explained below;

LOGICAL OUTPUT OPTIONS

Each of these are logically controlled by all the inputs assigned to them. They include all the wired outputs (Siren A and B, Reset, Strobe and Aux 1 & 2) plus Sonalert and Fire. An output is active while any input assigned to it is on.

OPTION 1: Siren A (Satellite Siren)

OPTION 2: Siren B

Siren sounds when an input turns on, and continues until end of siren delay or reset. Lockout does not apply.

OPTION 3: Reset

The output turns on when an input turns on and turns off after a time out equal to the siren delay. Lockout does not apply.

OPTION 4: Latch

The output turns on when an input turns on and turns off only when the Panel is reset

OPTION 5: Aux 1 (Open Collector)

OPTION 6: Aux 2 (Relay)

The output turns on when any input turns on.

OPTION 7: Sonalert

Sonalert beeps on all keypads when an input turns on.

OPTION 8: Fire

FIRE indicator lights up on keypad(s).

DIRECT OUTPUT OPTIONS

A direct option reports any time an input turns on and handles inputs independently of each other. The dialler is the most important direct option, and there are various audible options including siren burst. A general purpose timer is another option.

OPTION 9: Siren A Burst (Satellite Siren)

Siren burst is for 2 seconds

OPTION 10: Reset Burst

Reset burst is for 1 second

OPTION 11: Sonalert Pre Alarm

Sonalert beeps on all keypads when an input turns on.

Pre-alarm time is equal to entry delay. Siren A burst sounds at end of pre-alarm if Panel reset has not cancelled it.

The Sonalert is turned off upon Panel reset.

OPTION 12: Dialler

a Report alarm when input turns on. Restore and multiple Dialler options apply.

OPTION 13: General Purpose Timer

Timer is programmable, refer below.

During the Timer pulse, the Timer activates one of the other outputs.

The timer remembers which input started it and reports this input if the dialler option is selected.

QUALIFIER OUTPUT OPTIONS

Select whether alarm requires code to reset or allow output to follow input(s) as an alternative. Also select one of 4 possible siren tones for siren options.

OPTION 14: Alarm State

If selected, alarm indicators fast flash when any input assigned to the output turns on. The alarm clears only when the panel is reset by entering a code.

If this option is not selected, outputs follow the inputs and alarm indicators turn on steady to show input(s) on.

OPTION 15: Siren Tone 1

OPTION 16: Siren Tone 2

One of 4 siren sounds for SIREN A and B outputs may be chosen by combining these two options.

OUTPUT DESCRIPTION CONT.....

SPECIAL OUTPUTS 16 AND 26

There are 2 special outputs which change the function of any input assigned to them:

16 Medical alarm, any input assigned to this output becomes a Medical Alarm input. Any 24 hour zone, the key switch or even Panic key may control the Medical Alarm

26 Fire alarm, any input assigned to this output becomes a Fire alarm input and the FIRE indicator gives a continuous display of the fire input(s) state.

Any 24 hour zone or Key switch input or Panic input may be assigned to Fire alarm. Just assign the chosen input to output 26. This drives: Siren(s) - Tone 2 , Strobe and Reset plus FIRE indicator:

FIRE (fast flash)

Note: Fire indicator may be selected as an option in building an output as well - Option 8. In this case the indication will cease upon entering a code to reset the alarm. Using output 26 gives you continuous FIRE indication in the same manner as a zone.

OUTPUTS GROUPS *****

The Outputs Groups are different combinations of the 16 available outputs selected on the basis that they are the most commonly used. This means that mapping outputs to inputs can be carried out in one programming step instead of up to sixteen steps.

In summary when you map your Outputs to Inputs you actually map the Output Groups 1-31 which have the combinations of outputs already selected. Outputs 16-31 are fixed and cannot be changed, Outputs 1 - 15 are programmable for your convenience.

As an example. if you wished to program a Zone to turn on the following outputs: Siren A, Siren B, Reset, Latch, Dialler and a Latched LED, you would need to program each Output individually, in this case 6 program steps would be required. Alternatively you could program one Output Group which contained all of those outputs (in this example Group 17), it can be seen that this is a far simpler task to perform.

To disable an input you map Output Group 0 to the input, Output 0 has no Outputs selected.

The Fixed Output groups are numbered 16 through to 31 and a table with descriptions is listed below.

FIXED OUTPUT GROUPS TABLE

DESCRIPTION	Number	0	16	17	18	19	20	21	22	23
1 SIREN A		Special	Special	YES	.	.	.	YES	YES	.
2 SIREN B		Output	Output	YES	.	.	.	YES	YES	.
3 RESET		Disable	Medical	YES	.	.	.	YES	YES	.
4 LATCH		.	.	YES	.	.	.	YES	YES	.
5 AUX	
6 AUX 2 (relay)		YES
7 SONALERT	
8 FIRE	
9 SIREN A Burst	
10 RESET Burst	
11 S' alert pre alarm		YES	YES	.	.	.
12 DIALLER		.	.	YES	YES	.	YES	.	YES	YES
13 TIMER	
14 ALARM STATE		.	.	YES	YES	YES	YES	YES	YES	YES
15 SIREN TONE 1		.	.	YES	.	.	.	.	.	.
16 SIREN TONE 2		YES	YES	.

OUTPUT GROUPS CONT.....

	Number	24	25	26	27	28	29	30	31
DESCRIPTION									
1	SIREN A	.	.	YES	YES	.	.	.	.
2	SIREN B	.	.	YES	YES	.	.	.	.
3	RESET	.	.	YES	YES	.	.	.	.
4	LATCH	.	.	YES	YES	.	.	.	.
5	AUX 1	.	.	YES	.	.	.	.	.
6	AUX 2 (relay)	.	.	.	.	.	.	.	.
7	SONALERT	YES	.	.	.	.	.	YES	.
8	FIRE	.	.	YES	.	.	.	.	.
9	SIREN A Burst	.	YES	.	.	.	.	.	.
10	RESET Burst	.	.	.	.	YES	.	.	.
11	S' alert pre alarm	.	.	.	.	.	.	.	.
12	DIALLER	.	.	YES	YES	.	YES	YES	.
13	TIMER	.	.	.	.	.	.	.	YES
14	ALARM STATE	YES	YES	YES	YES	YES	.	.	.
15	SIREN TONE 1	.	.	.	.	.	.	.	.
16	SIREN TONE	.	.	YES	YES	.	.	.	.

SPECIAL OUTPUT GROUPS

OUTPUT GROUP 0 (Disable Output Group)
Output group 0 is used when an input is required to be disabled.

OUTPUT GROUP 16 (Medical Alarm Output Group)
Output Group 16 is used when a 24Hr. input is required to be a Medical Alarm input.

Programming Output Groups 1 to 15

PROGRAM OUTPUTS P 80 XX E and P 81 XX E *****

You may program outputs 1 to 15, configuring each one with a combination the 16 output options to give the desired reporting characteristics.

Programming the first 10 options for an Output
P 80 output E (output=1-15)

Options 1 to 10 for selected output appear on indicators 1 to 10

To toggle an option:

option E (option=1-10)

Program options 11 to 16 P81xxE
P 81 output E (output 1 - 15)

Options 11 to 16 for selected Output appear on indicators 1 to 6

To toggle an option:

option E (option 1-6)

Example: To Program (or build) Output Group 1 with: Siren B, Aux 2, Alarm State and Siren Tone 1,press;

P 801 E (select first 10 outputs of Output Group 1) 2 E, 6 E, (select Siren B and Aux 2 (relay)

P 8 11 E (select second 6 outputs of Output Group 1) 4 E, 5 E, (select Alarm State and Siren Tone 2)

ALTERNATIVE METHOD P 43 XX E *****

You may clear an output and then select from any of the 16 options without visual feedback.

To clear all options to build new output

P 43 output E 0 E (output=1-15)

To add an option to an output

P 43 output E option E (option = 1 - 16)

PROGRAMMABLE OUTPUTS GROUP TABLE

		Number	1	2	3	4	5	6	7	8
DESCRIPTION										
1	SIREN A	-	-	-	-	-	-	-	-	-
2	SIREN B	-	-	-	-	-	-	-	-	-
3	RESET	-	-	-	-	-	-	-	-	-
4	LATCH	-	-	-	-	-	-	-	-	-
5	AUX 1	-	-	-	-	-	-	-	-	-
6	AUX 2 (relay)	-	-	-	-	-	-	-	-	-
7	SONALERT	-	-	-	-	-	-	-	-	-
8	FIRE	-	-	-	-	-	-	-	-	-
9	SIREN A Burst	-	-	-	-	-	-	-	-	-
10	RESET Burst	-	-	-	-	-	-	-	-	-
11	S' alert pre alarm	-	-	-	-	-	-	-	-	-
12	DIALLER	-	-	-	-	-	-	-	-	-
13	TIMER	-	-	-	-	-	-	-	-	-
14	ALARM STATE	-	-	-	-	-	-	-	-	-
15	SIREN TONE 1	-	-	-	-	-	-	-	-	-
16	SIREN TONE 2	-	-	-	-	-	-	-	-	-

		Number	9	10	11	12	13	14	15
DESCRIPTION									
1	SIREN A	-	-	-	-	-	-	-	-
2	SIREN B	-	-	-	-	-	-	-	-
3	RESET	-	-	-	-	-	-	-	-
4	LATCH	-	-	-	-	-	-	-	-
5	AUX 1	-	-	-	-	-	-	-	-
6	AUX 2 (relay)	-	-	-	-	-	-	-	-
7	SONALERT	-	-	-	-	-	-	-	-
8	FIRE	-	-	-	-	-	-	-	-
9	SIREN A Burst	-	-	-	-	-	-	-	-
10	RESET Burst	-	-	-	-	-	-	-	-
11	S' alert pre alarm	-	-	-	-	-	-	-	-
12	DIALLER	-	-	-	-	-	-	-	-
13	TIMER	-	-	-	-	-	-	-	-
14	ALARM STATE	-	-	-	-	-	-	-	-
15	SIREN TONE 1	-	-	-	-	-	-	-	-
16	SIREN TONE 2	-	-	-	-	-	-	-	-

SYSTEM OPTIONS *****

OPERATION OPTIONS

The most often-used features of the PRO-LX are provided with a variety of ways to operate them to suit different situations.

In most cases there are just 2 alternatives provided and you will need to direct your client on the correct procedure.

BUTTON SETTINGS P 33 E *****

LED 1	LED 2	LED 3	ARM	MONITOR	EXCLUDE	PANIC	VIEW
OFF-----	OFF-----	OFF-----	CODE----	CODE-----	CODE-----	1 KEY-----	1 KEY
OFF-----	ON-----	OFF-----	1 KEY----	1 KEY-----	CODE-----	1 KEY-----	1 KEY
OFF-----	OFF-----	ON-----	CODE----	CODE-----	1 KEY-----	1 KEY-----	1 KEY
OFF-----	ON-----	ON-----	1 KEY----	1 KEY-----	1 KEY-----	1 KEY-----	1 KEY (Default)
ON-----	OFF-----	ON-----	CODE----	CODE-----	CODE-----	2 KEY-----	2 KEY
ON-----	ON-----	OFF-----	2 KEY----	2 KEY-----	CODE-----	2 KEY-----	2 KEY
ON-----	OFF-----	OFF-----	CODE----	CODE-----	2 KEY-----	2 KEY-----	2 KEY
ON-----	ON-----	ON-----	2 KEY----	2 KEY-----	2 KEY-----	2 KEY-----	2 KEY

ONE OR TWO BUTTON P 33 E 1 E *****

Keys affected:

With two button you need to press ENTER as well. eg ARM ENTER to arm.

- ARM
- MONITOR
- EXCLUDE
- PANIC
- VIEW

To view 1/2 Button Operation: P 33 E

- 1 LED on = 2 button
- 1 LED off = 1 button (Default)

With one button selected you press ARM to arm, MONITOR to monitor, EXCLUDE to exclude, etc. This is the default.

To toggle option press: 1 E

CODE TO ARM P 33 E 2 E *****

You may select to arm the PRO-LX with access codes.

To view Code to Arm: P 33 E

- 2 LED on = No code required to Arm (Default)
- 2 LED off = Code required to Arm

To toggle option press: 2 E

CODE TO EXCLUDE P 33 E 3 E *****

You may select to enter exclude mode by code only.

To view Code to Exclude: P 33 E

- 3 LED on = No code required to Exclude (Default)
- 3 LED off = Code required to Exclude

To toggle option press: 3 E

SYSTEM SETTINGS

MEDICAL ALARM P 93 E *****

Any 24 hour zone or Key switch input or Panic input may be used to control Medical alarm. Just assign the chosen input to output 16.

If the Medical Alarm Delay option is being used, an immediate emergency alarm can be transmitted by pressing the button twice within a 12 second period. On the first press, all keypads beep once a second until the end of the 12 second. If the button is pressed twice, this beep rate doubles to indicate to the caller that the emergency alarm is being reported and help is on the way.

The medical alarm is operated by pressing a button accessible to anyone who may need assistance. This alarm may be used in one of two ways:

- a. the alarm is reported immediately.
- b. the alarm is reported only if the medical button is not pressed within the Medical Alarm Delay.

The current delay or duration value is flashed on the zone indicators when first selected. If you program a new value, then this is also flashed out. Valid values are 0 to 48 hours.

To change the Medical Delay:

P 93 E delay E

Default: 0 = INSTANT
The Medical Alarm output may be changed to give a different report to that described above, which happens to be Fixed Output 30.

When only 20 minutes of the time remains and the button has still not been pressed, then all keypads will beep as a reminder. This will be repeated 10 minutes later as a last reminder.

(Default = Output 30)

To change the Medical Alarm output option press (1 to 31):

P 40 output E 7 E

GENERAL PURPOSE TIMER *****

The General Purpose Timer (GPT) is a versatile extra timer which can be used along with all the other standard features of the PRO-LX to turn on an extra output for a pre-determined period of time with an optional pre-alarm delay. The GPT can be programmed to trigger from any alarm input of the PRO-LX (whether that input is used for other functions or not) and can turn on for a maximum 120 minutes with a maximum pre-alarm delay of 120 minutes.

A typical case may be that you require a zone or zones to work as normal in, say, Monitor mode, turning on sirens and strobe etc. but you may also want to turn on the relay for 1 Hour as well, this can be achieved using the GPT. Listed below is a typical programming set-up.

EXAMPLE

To set up the timer to turn on the Relay for 1 Hour with a pre-delay of 30 seconds when a Monitor Zone triggers.

1. Program the timer delay to 30 seconds.
P 94 E 30 E.
2. Program the timer duration to 60 minutes
P 95 E 160 E.
3. Build up an output which includes the Relay for the Timer to turn on. We will use output 1 for the example.
P 80 1 E 6 E
4. Program the timer to drive this output.
P 42 1 E 1 E

Assign your zone inputs to trigger a monitor output which includes the timer selected (to do this you will need to build another output, for this example we will use output 2).
Build the output,

P 8 0 2 E 1 E 2 E 3 E 4 E P 8 1 2 E 1 E 3 E 4 E

Assign Monitor Zones (1-6) to output 2;

P 3 7 2 E 1 E 2 E 3 E 4 E 5 E 6 E

NOTE - If you program the timer to control an output, the timer will take priority over any other function. For example, if you program the timer to pulse the Siren for 10 seconds, and the siren has been triggered by a zone to run for the Reset time i.e. 10 minutes, the Siren will turn off after 10 seconds. The Timer should only be used to operate on unused outputs wherever possible to save confusion.

TIMER DELAY P 94 E *****

The current delay value is flashed on the zone indicators when first selected. If you program a new value, then this is also flashed out.

This is the time from input on to start of the output pulse.

Valid values: 0 - 100 = 0 to 100 seconds
101-220=1 to 120 minutes

To change the Timer Delay:
P 94 E delay E
(Default = 0 seconds)

TIMER PULSE DURATION P 95 E *****

Valid values: 0 - 100 = 0 to 100 secs
101-220=1 to 120 minutes

To change the Timer Duration:

P 95 E delay E
(Default = 0 seconds)

TIMER OUTPUT P 42 XX E 1 E *****

Valid values:0 - 31 Selecting the 1 E will enable and disable the timer.

To change the Timer Output:

P 42 output E 1 E
1 LED on = (Timer output active)
(Default = Output set to 0 - timer not active)

ACCESS CODE RETRIES P 96 E *****

The number of retries to enter a valid code may be set from 1 to 9. A value of 0 disables the alarm.

To change the number of retries:

P 96 E retries E
(Default = 2)

DURESS PREFIX P 97 E *****

By default, the Duress Prefix is 9. This may be changed and any digits including 0 may be selected.

To change Duress Prefix:

P 97 E prefix E

Note that if the Duress Prefix is to be changed, be careful that you do not get an access code = Duress Prefix + another access code. This can only happen if access codes of mixed length are used and the Duress Prefix is changed after programming access codes.

(Default=9)

ENABLE PERIPHERALS P 82 E *****

The PRO-LX Satellite and the PRO-LX Radio Receiver communicate to the PRO-LX on a 4 wire connection shared with the Keypad. To operate correctly, these devices must be enabled to work.

To enable Satellite: P 82 E 1 E
1 LED on = Satellite enabled
1 LED off = Satellite disabled

To enable Dialler: P 82 E 2 E
2 LED on = Dialler enabled
2 LED off = Dialler disabled

To enable Radio Receiver: P 82 E 3 E
3 LED on = Radio Receiver enabled
3 LED off = Radio Receiver disabled

To enable Output Expander: P 82 E 4 E
4 LED on = Output Expander enabled
4 LED off = Output Expander disabled

Defaults
Satellite disabled 1 off
Dialler enabled 2 on
Radio Receiver disabled 3 off
Output Expander disabled 4 off

SIREN RESET TIME P 28 E *****

The siren will sound continuously no longer than the siren reset time.

To change the siren reset time:

P 28 E time E
Default: 10 minutes

The current value is flashed on the zone indicators when you first select this option. If you program a new value, then this is also flashed out.

MISCELLANEOUS STANDARD OPTIONS P 34 E

KEY SWITCH OPERATION P 40 XX E AND P 34 E 1 E *****

The Key switch input may be used either as a 24 hour zone or to arm a Panel which is not split into areas.

Enable Keyswitch to Arm and Disarm Panel
The key switch may be used to arm the Panel by disabling it as a zone:

P 40 0 E 1 E

You then have the choice of restricted or unrestricted Key switch operation.

24 Hour Zone

To program key switch input as a 24 hour zone, assign it to a non-zero output:

P 40 output E 1 E

SYSTEM

(Default = output 22)

KEYSWITCH OPERATION *****

To Arm or Disarm the PRO-LX, the Keyswitch input must be activated momentarily or pulsed. from armed mode.

To Arm - pulse keyswitch once

To Disarm - pulse keyswitch once

2 Security Modes P 34 E 1 E

These apply to Arming and Disarming the Panel.

- a. Restricted operation for higher security. A Delay zone must be activated prior to operating the Key switch otherwise an alarm will occur (default)
- b. Unrestricted.

Keyswitch operates at all times

To view Key switch operation:

P34E

- 1 LED on = restricted
- 1 LED off = Unrestricted (Default)

To toggle Key switch operation:

1 E

POP SIRENS P 34 E 2 E *****

When selected, the following outputs will "pop" when the PRO-LX is operated with a Keyswitch or Radio Pendant.

- ARM Pop once - Siren A, Reset, Strobe
- DISARM Pop twice - Siren A, Reset, Strobe
- MONITOR Pop 4 times - Strobe only.

To view Pop Sirens:

P 34 E

- 2 LED on = Pop sirens
- 2 LED off = Do not pop sirens (Default)

To toggle option:

2 E

AUTO-EXCLUSION P 34 E 3 E *****

On Arming, all unsecured zones can be treated in the following ways:

- a. Automatically be Excluded at the end of exit time
- b. Cause the panel to ALARM at the end of exit time

To view Automatic Exclusion:

P 34 E

- 3 LED on = full alarm
- 3 LED off = auto exclude (Default)

To toggle option:

3 E

ENTRY WARNING BEEPS P 34 E 4 E *****

Whenever a delay zone is unsecured and entry time begins, the system's keypads may:

- a. Beep at one second intervals for entry time
- b. Remain silent for the duration of entry time

To view Entry Warning Beeps:

P 34 E
 4 LED on = entry beeps (default)
 4 LED off = no beeps

To toggle option:
 4E

TAMPER ON ZONE INPUTS P 34 E 6 E *****

You may enable Zone inputs to generate a tamper alarm when voltage levels move outside specified limits (short or open circuit). See page 4 for circuit details.

To view Zone Tamper:

P 34 E
 6 LED on = NO zone tamper (Default)
 6 LED off = zone Tamper

To toggle option:
 6 E

NOTE: If this option is enabled, the Keyswitch input also has zone tamper.

ARMED OUTPUT P 34 E 7 E *****

You may turn the AUX 1 output into an Open/Close type output where AUX 1 will turn on whenever the Administration Area is Armed.

To View Armed Output

P 34 E
 7 LED on = AUX 1 is an Armed output
 7 LED off = AUX 1 is not affected by Arming (Default)

ZONE WARNING P 34 E 8 E *****

When this option is selected the PRO-LX will sound the siren for 2 seconds immediately upon arming if any instant zone is unsealed. This is useful as a warning when the panel is armed without access to a keypad.

To select zone warning

P 34 E 8 E
 8 LED on = Zone warning enabled
 8 LED off = Zone warning disabled (Default)

DIALLER OPTIONS *****

The PRO-LX dialler is capable of reporting:

- Zone, tamper, system and power alarms
- Area opening and closing reports
- Manual and automatic exclude reports
- Entries and exits from install program mode
- Automatic test calls

The PRO-LX Dialler allows you to individually map" all reporting events which allows customising to suit central stations. For ease of operation and programming the PRO-LX is default programmed with commonly used channel allocations. The only programming required is the 4 digit client code and a telephone number.

Reporting can be done in either:

- ADEMCO high speed extended
- ADEMCO contact ID format
- PRO-LX audible format

The PRO-LX Dialler's auto ring detect and answer capability allows it to be remotely up and down loaded via a modem and allows the user to Arm all areas and turn on auxiliary outputs via a DTMF telephone.

All reporting can be:

- Multiple
- Abort delayed
- Restore of the event

DISABLE DIALLER P 82 E 2 E *****

If the dialler is to be disabled altogether, a simple method is to change this option. This may be useful if you need to install the PRO-LX as a local alarm and at some later time connect to a central station.

P 82 E 2 E LED on = dialler enabled (default)

P 82 E 2 E LED off = dialler disabled

DEFAULT DIALLER P 98 3 E *****

If you wish to clear all the dialler options back to default, press:

Use this to clear previously programmed information.

P98 3E

Clear Dialler P 98 5 E *****

When selected, the dialler will clear all outstanding alarm messages stored in the alarm buffer.

Use this to clear the messages that will have built up during testing while the phone line is not connected.

P98 5E

CLIENT CODE P 50 E *****

The client code is a 4 digit number which identifies the panel to the central station. This number must be programmed if the dialler is to be made functional.

To view client code:

P 5 0 E

The number is flashed out on the green indicators. To change the client code:

(client number) E

The new number is flashed out on the green indicators.

TELEPHONE NUMBERS P 51 E, P 52 E, P 53 E *****

Two telephone numbers are provided to dial a central station for alarm reporting:

For the special digits the following keys are used for programming and the flashing green number is the indicator.

Primary telephone No. P51E

* = Arm-flashing 2

Secondary telephone No. P52E

= Monitor - flashing 3

A third telephone number is provided for the PRO-LX to call when doing an upload/download call back. To view telephone numbers:

Pause 1.6 sec = Area = flashing 6

Modem telephone No. P53E

P51 E - Primary

The telephone numbers are allowed to have up to 18 digits with the following digits being valid; 1 to 9 and 0, *, # and a 1.6 second pause.

P52E - Secondary

P53E - Modem

The number is flashed out on green indicators. To change telephone number:

Phone no. E

The new value is flashed out.

(Default - all telephone No.s. = 0)

DIALLER REPORTING P 54 E *****

The PRO-LX can transmit alarm information in one of three formats.

The third format is a PRO-LX audible format for reporting to a standard telephone:

Two formats are for central stations, they are: P54 E 3 E 3 3 LED on = audible format

P 54 E 1 E 1 1 LED on = ADEMCO extended format
 P 54 E 2 E 2 2 LED on = ADEMCO contact ID

Descriptions of the Ademco formats appear later in the Channel Mapping Section on pages 35 to 39 (Default = 1 LED on, ADEMCO extended format)

NESS PRO LX CONTACT ID MAPPING. LX SOFTWARE VERSION 4.6 *****

A Contact ID message is transmitted as 13 digits with the following structure;

Client Code	Status	Event Code	Group No.	Alarm Number.
Nnnn	S	ABC	GG	CCC

- nnnn = 4 Digit Client Account Code
- S = Status Fixed in PRO LX Panel (eg. E = Event, R = Restore)
- ABC = Event Code programming in PRO LX [Programmable] (Refer page 56 of LX installation Manual for full list of available codes)
- GG = Group numbering allocated by PRO LX for Area Open / Close reports
- CCC = Alarm number allocated by PRO LX (Fixed Numbers) (Refer page 56 of LX installation Manual for full list of codes.)

The following is a list of all alarm events sent as default on the Ness PRO LX Control Panel (Software Version 4.6)

Event	Message Sent (nnnn = Client Account No.)	
Arming / Disarming (Or Arming of a Non Partitioned Panel)	Arming nnnn R 402 01 UCCC	Disarming nnnn E 402 01 UCCC
Arming / Disarming Area 1	nnnn R 402 02 UCCC	nnnn E 402 02 UCCC
Arming / Disarming Area 2	nnnn R 402 03 UCCC	nnnn E 402 03 UCCC
Arming / Disarming Area 3	nnnn R 402 04 UCCC	nnnn E 402 04 UCCC

(Note: UCCC would be the user ID of Person Arming the Panel . Eg. If a panel (non partitioned) was armed by User 4 message would be “nnnn R 402 01 U004”)

NOTE : If the system is programmed NOT to send Open / Close reports and an alarm occurs, the systems will then ‘force’ send an opening report in the following format.

	Disarming
Disarming (Or disarming of a Non Partitioned Panel)	nnnn E 406 01 UCCC
Disarming Area 1	nnnn E 406 02 UCCC
Disarming Area 2	nnnn E 406 03 UCCC
Disarming Area 3	nnnn E 406 04 UCCC

	Zone Alarms	Zone Alarms
Zone 1 - Zone 24 Alarm	nnnn E 130 00 cCCC	nnnn R 130 00 cCCC

(Note: cCCC would be the Zone that went into Alarm. EG If Zone 7 went into alarm the message would be “nnnn E 130 00 C007”)

Event	Message Sent (nnnn = Client Account No.)	
	Tampers Alarms	Tamper Restores
External Tamper	nnnn E 137 00 C026	nnnn R 137 00 C026
Panel Tamper	nnnn E 137 00 C033	nnnn R 137 00 C033
Zone Circuit Wiring Tamper	nnnn E 144 00 C048	nnnn R 144 00 C048
Satellite Tamper	nnnn E 330 00 C052	nnnn R 330 00 C052
Radio Tamper	nnnn E 383 00 C072	nnnn R 383 00 C072

CONTACT ID EVENT CODES *****

Code Description	135 Day/Night	202 Low CO2	331 Polling Loop Open
	136 Outdoor	203 Gate Valve Sensor	332 Polling Loop Short
100 Medical	137 Tamper	204 Low Water Level	333 Exp. Module Failure
101 Personal emergency	138 Near Alarm	205 Pump Activated	334 Repeater Failure
102 Fail to report in	140 General Alarm	206 Pump Failure	335 Printer Paper Out
110 Fire Alarm	141 Polling Loop Open	300 System Trouble	336 Local Printer Failure
111 Smoke	142 Polling Loop Short	301 AC Power	350 Communication
112 Combustion	143 Exp'n Module Failure	302 Low System Battery	351 Telco 1 Fault
113 Water Flow	144 Sensor Tamper	303 RAM Checksum Bad	352 Telco 2 Fault
114 Heat Sensor	145 Exp'n Module Tamper	304 ROM Checksum Bad	353 Long Range Radio
115 Pull Station	150 24 Hour Non-Burg	305 System Reset	Xmitter Fault
116 Duct Sensor	151 Gas Detected	306 Panel Pgm Changed	354 Fail to Communicate
117 Flame Sensor	152 Refrigeration	307 Self Test Failure	355 Loss of Radio Super
118 Near Alarm	153 Loss of Heat	308 System Shutdown	356 No Central Polling
120 Panic Alarm	154 Water Leakage	309 Battery Test Failure	370 Protection Loop
121 Duress	155 Foil Break	310 Ground Fault	371 Protection Loop Open
122 Silent	156 Day Zone	320 Sounder/Relay	372 Protection Loop Short
123 Audible	157 Low Gas Level	321 Bell 1	373 Fire Trouble
130 Burglary	158 High Temperature	322 Bell 2	380 Sensor Trouble
131 Perimeter	159 Low Temperature	323 Alarm Relay	381 Loss of Super - RF
132 Interior	161 Air Flow	324 Trouble Relay	382 Loss of Super- RPM
133 24 Hour	200 Fire Supervisory	325 Reversing	383 Sensor Tamper
134 Entry/Exit	201 Low Water Pressure	330 System Peripheral	384 RF xmtr low battery

NESS PRO LX ADEMCO EXTENDED FORMAT MAPPING. LX SOFTWARE VERSION 4.6 *****

An Ademco Extended format message is transmitted as 13 digits with the following structure;

Client Code	Channels 1-8	ID
nnnn	CCCC CCCC	B
nnnn =	4 Digit Client Account Code	
CCCC CCCC =	the status of the 8 Channels	
B =	the identifier which determines what type of alarms have been set in the previous 8 channels where:	

Message = nnnn CCCC CCCC B
 nnnn = Client Account Number as programmed via programming option P 50 E

C=	B=
1 New alarm	1 Alarm Channels 9-16
2 Opening	2 Opening Report
3 Restore	3 Manually Isolate
4 Closing	4 Closing report
5 O.K.	5 Auto Isolate
6 Previously Reported Event still outstanding.	6 System Alarms 1-8
7 Alarms on Channels 1 - 8	
8 Unused (Old low battery report)	
9 Test call	

The following is a list of all alarm events sent as default on the Ness PRO LX Control Panel (Software Version 4.6)

Event	Message Sent (nnnn = Client Account No.)
	Arming Disarming
Arming / Disarming	nnnn X444 4444 4 nnnn X222 2222 2

(Note: X would be the user ID of Person Arming the Panel . Eg. If a panel was armed by User 9 the message would be “ nnnn 9444 4444 4”)

NOTE : If the system is programmed NOT to send Open / Close reports and an alarm occurs, the systems will then 'force' send an opening report in the above format.

ADEMCO EXTENDED CONT.....

Event	Message Sent (nnnn = Client Account No.)	
	Zone Alarms	Zone Restores
On an 8 Zone Panel		
Zone 1	nnnn 1555 5555 7	nnnn 3555 5555 7
Zone 2	nnnn 5155 5555 7	nnnn 5355 5555 7
Zone 3	nnnn 5515 5555 7	nnnn 5535 5555 7
Zone 4	nnnn 5551 5555 7	nnnn 5553 5555 7
Zone 5	nnnn 5555 1555 7	nnnn 5555 3555 7
Zone 6	nnnn 5555 5155 7	nnnn 5555 5355 7
Zone 7	nnnn 5555 5515 7	nnnn 5555 5535 7
Zone 8	nnnn 5555 5551 7	nnnn 5555 5553 7
On a 24 Zone Panel		
Zone 1 , 2 , 3	nnnn 1555 5555 7	nnnn 3555 5555 7
Zone 4 , 5 , 6	nnnn 5155 5555 7	nnnn 5355 5555 7
Zone 7 , 8 , 9	nnnn 5515 5555 7	nnnn 5535 5555 7
Zone 10 , 11 , 12	nnnn 5551 5555 7	nnnn 5553 5555 7
Zone 13 , 14 , 15	nnnn 5555 1555 7	nnnn 5555 3555 7
Zone 16 , 17 , 18	nnnn 5555 5155 7	nnnn 5555 5355 7
Zone 19 , 20 , 21	nnnn 5555 5515 7	nnnn 5555 5535 7
Zone 22 , 23 , 24	nnnn 5555 5551 7	nnnn 5555 5553 7

(Note: the 1 inserted into the Channel 1- 8 would be the Zone that went into Alarm. EG If Zone 7 went into alarm the message would be "nnnn 5555 5515 7")

Event	Message Sent (nnnn = Client Account No.)	
	Tampers Alarms	Tamper Restores
External Tamper	nnnn 5555 5155 1	nnnn 5555 5355 1
Panel Tamper	nnnn 5555 1555 1	nnnn 5555 3555 1
Keyswitch / Zone Circuit Wiring Tamper	nnnn 5555 5155 1	nnnn 5555 5355 1
Satellite Tamper	nnnn 5555 5155 1	nnnn 5555 5355 1
Radio Tamper	nnnn 5555 5155 1	nnnn 5555 5355 1

Event	Message Sent (nnnn = Client Account No.)	
	System Alarms	System Alarm Restores
24 Hour Keyswitch Zone Alarm	nnnn 5155 5555 1	nnnn 5355 5555 1
Dialler Telephone Line Fault	nnnn 5551 5555 1	nnnn 5553 5555 1
Keypad Bus Fail	nnnn 5551 5555 1	nnnn 5553 5555 1
Control Panel Fail	nnnn 5551 5555 1	nnnn 5553 5555 1
Duress Alarm	nnnn 1555 5555 1	nnnn 3555 5555 1
Keypad / Radio Key Panic Alarm	nnnn 5155 5555 1	nnnn 5355 5555 1
Medical Alarm	nnnn 5555 5515 1	nnnn 5555 5535 1
Access Code Alarm	nnnn 5515 5555 6	nnnn 5535 5555 6
Access to installer Program mode.	nnnn 5555 5551 1	
Exit from install Program mode		nnnn 5555 5553 1

Event	Power Events	
	Power Events	Power Event Restores
Mains fail	nnnn 1555 5555 6	nnnn 3555 5555 6
Panel Battery Fail	nnnn 5155 5555 6	nnnn 5355 5555 6
D.C. (13.8 Volt) Supply Voltage Fail	nnnn 5551 5555 1	nnnn 5553 5555 1
Zone Reference Supply rail Fail	nnnn 5551 5555 1	nnnn 5553 5555 1
Satellite Battery Low	nnnn 5155 5555 6	nnnn 5355 5555 6
Radio Device Low Battery	nnnn 5551 5555 1	nnnn 5553 5555 1
Radio Pendant Low Battery	nnnn 5551 5555 1	nnnn 5553 5555 1

Event	Zone Manually Excluded	
	Zone Manually Excluded	Zone Included
Manual Excludes	nnnn 5555 5555 3	nnnn 5555 5555 3

(Note: The Zone that was manually excluded will be distinguished with the insertion of a "1" in its channel 1-8. EG If Zone 5 was excluded, the message would be "nnnn 5555 1555 3")

300 BAUD MODEM UPLOAD / DOWNLOAD *****

The PRO-LX dialler communicates with a modem in the 300 Baud V.21 format when carrying out Upload or Download.

Note - You must use the latest V4.0 Upload/Download software for your computer to communicate with a V4.0 PRO-LX.

ENABLE UPLOAD / DOWNLOAD AND REMOTE ARMING P 58 E *****

The following options will enable the PRO-LX to auto answer an incoming call and carry out the functions as described.

P 58 E

- 1 E Remote command / callback / upload Opt 1
 - 2 E Remote command / callback / upload Opt 2
 - 3 E enable remote admin area arming
 - 4 E enable remote area 1 arming
 - 5 E enable remote area 2 arming
 - 6 E enable remote area 3 arming
 - 7 E enable rem6te toggle of AUX1+ AUX2
 - 8 E enable remote disarm all areas
- (Default - all disabled)

	P58E		PROGRAM MODE		TEST 0 MODE		ARM/DISARM/ MONITOR MODE	
	1	2						
Remote Command	OFF	OFF	-	-	-	-	NO	-
	OFF	ON	-	-	-	-	YES	-
	ON	OFF	-	-	-	-	YES	-
	ON	ON	-	-	-	-	YES	-
Up / Download	OFF	OFF	YES	NO	NO	NO	NO	NO
	OFF	ON	YES	NO	YES	NO	NO	NO
	ON	OFF	YES	NO	NO	NO	NO	NO
	ON	ON	YES	NO	YES	NO	NO	YES
Upload Status	OFF	OFF	YES	NO	NO	NO	NO	NO
	OFF	ON	YES	NO	YES	NO	NO	NO
	ON	OFF	YES	NO	NO	NO	NO	NO
	ON	ON	YES	NO	YES	NO	NO	YES

REMOTE ARMING *****

The PRO-LX will allow a user to call in using a standard DTMF telephone and remotely arm or disarm all areas and turn on or off Aux 1 and Aux 2. To ensure security of operation a user can only carry out remote operations after entering a valid user code. The appropriate options 3E to 8E must be enable to allow these functions to operate.

Your PRO-LX will allow you to carry out Remote Arming and Disarming of all Area's of your PRO-LX as well as turning ON or OFF two Auxiliary outputs which could be used for control of other functions.

To carry out remote control functions you will need the following;

1. A telephone capable of outputting DTMF tones.
2. A Valid User code programmed in your PRO-LX.
3. The Telephone number that the PRO-LX is connected to.

Sequence of Operation.

1. Phone the PRO-LX telephone number and listen for at least 2 sets of rings (Ring ring.. ring ring).
2. Hang-up and call the number again between 15 and 60 seconds of the first call.
3. The PRO-LX will answer your second call immediately and will sound a beep for 2 seconds then after a pause it will sound a lower frequency tone. This signals that the PRO-LX is ready to receive telephone commands.
4. Press the "0" button on your telephone. This tells the PRO-LX that telephone commands will follow, the PRO-LX will respond with 3 beeps to tell you to continue or one long beep to tell you to try again.
5. Now press in your valid User code that you normally use for Arming or Disarming of your PRO-LX followed by the "#" button. The PRO-LX will respond with 3 beeps if it recognises the code or 1 long beep to signal the code was invalid try again.
6. Depending on the security level of your code and the programming of the PRO-LX, pressing

the following buttons will have the affect as described.

PRESS

- 0 # Arm the Main panel +
- 1 # Arm Area 1+
- 2 # Arm Area 2+
- 3 # Arm Area 3 +
- 4 # Turn Aux 1 Output ON or OFF *
- 5 # Turn Aux 2 Output ON or OFF *
- 99 # Disarm all Areas and zones.
- * # Finished - hang up

NOTE

+ The PRO-LX will sound 3 beeps to signal a Valid Arming or Disarming has been made. If an Area is already Armed any further attempts to Arm it by pressing the appropriate button will sound 1 long beep.

* The PRO-LX will sound 3 beeps to signal that an Auxiliary output has been turned ON and 1 short beep to signal that the output has been turned OFF.

If the PRO-LX does not receive commands for periods longer than 10 seconds it will assume that you have either finished or the call has been lost and it will hang up. You must re-initiate the call as described above.

Should an alarm occur on the PRO-LX which requires it to dial out while you are attempting remote control, the PRO-LX will treat the alarm as a priority and warn you with a constant tone before hanging up.

When you have finished carrying out remote control commands you should press * it to tell the PRO-LX you have finished and it should hang up.

Summary example of Arming

1. Dial Pro-LX telephone number (ring ring...ring ring) then hang up.
2. Dial Pro-LX telephone number (LX answers 2 second beep followed by low tone)
3. PRESS 0 (3 beeps)
4. PRESS User Code nnnn # (3 beeps)
5. PRESS 0 # Arm Main panel (3 beeps)
6. PRESS * # Finish (hang up)

COUNTRY DIAL P 56 E *****

Decadic pulse dialling varies from country to country, select your option as below:

P 56 E 1 E 1 LED on = Australia (Default)
Where 1 = 1 pulse 9 = 9 pulses

P 56 E 2 E 2 LED on = New Zealand
Where 1 = 9 pulses 9 = 1 pulse

PRIMARY AND SECONDARY NUMBER OPTIONS P 57 E *****

Telephone Number 1 is the primary number and Telephone Number 2 is the secondary. There are three options for using these numbers:

1. Alternate between numbers 1 and 2
P 57 E 1 E

2. Try primary number 5 times.
If fail, try secondary number 5 times
P 57 E 2 E

3. Dial number 1 and repeat on number 2
P 57 E 3 E

FAX DEFEAT *****

Two previous functions of the PRO-LX that required the dialler to detect incoming ringing and answer of the phone a) Upload/Download call-back and b) Remote Arming now operates in a 'fax defeat" mode when answering the phone as follows.

- 1. An incoming telephone call is made.
- 2. The dialler detects and counts the incoming rings. When the count has reached the number set in the P59E option, the dialler will ready itself to answer the phone for either Upload/Download or Remote Arming. It will not answer this initial call.

3. For the next 60 seconds the dialler is ready to answer the very next incoming call on the first ring detected (this may require one or two rings in practice).
If 60 seconds has expired before the next call, the dialler will revert back to the count-ring mode as above.

4. On the next incoming call the dialler will answer the phone and will be ready to either be Remote Aimed or commanded to call-back for Upload/Download.

NOTE - Version 4.0 Upload/Download software will automatically carry out the two phone calls for Call-Back Upload/Downloads.

NUMBER OF RINGS BEFORE ENABLING AUTO-ANSWER P59E *****

This sets the number of double rings to be received before the PRO-LX attempts to answer an incoming call.

1 double ring = approx. 3 seconds
(This value may be set from 0 to 20 rings)

To set no. of rings:

P 59 E value E
(Default = 1 ring)

The P59E option in previous software versions controlled the number of rings before Auto-Answer and was defaulted to 10. This option now controls the number of rings counted by the dialler before it enables answering of the next call as described in the Fax Defeat option above.

It is recommended that this be left at 1 ring if you want the dialler to enable auto-answer before a Fax machine or an answering machine answers the phone when you first call the panel.

OPEN / CLOSE REPORTING P 60 E *****

You may choose one of 3 methods for reporting opening and closing depending on your application. You may also select not to send any opening/closing reports at all.

P 60 E 2 E

Only send administration area opening/closing reports (valid for either format).

An explanation of opening/closing reports and how they are sent with particular formats follows at the end of this section. We suggest you read this if you are unfamiliar with their operation.

P 60 E 3 E

Send all area opening/closing reports using individual client codes. (Valid for either format - see over.)

For ADEMCO high speed
P 60 E 1 E

P 6 0E 4 E

Do not send any opening/closing reports.

Send all partial opening/closing reports on one. Client code where, a closing report is sent when all areas are armed and an opening is sent on ANY area disarmed

For Contact ID

P 60 E 1 E

All areas opening/closing are reported individually (set only for SIMMS-2 package)

OPEN / CLOSE REPORTING AND AREAS *****

Ademco extended format

Ademco Contact ID

Ademco extended format does not allow more than one open/close report to be sent on a single client code. If the PRO-LX is split into areas and you require individual open/dose reports for each area using extended format they can only be sent using individual client codes.

Contact ID allows all individual alarm reports and open/close reports to be sent on a single client account number. However some software monitoring packages will not accept individual open/close reports in contact ID. If this is the case you will need to select option P60E 3E as described for extended format and send the area open/close reports on individual client codes.

If you require individual area open/close then program

If you are using SIMMS software only SIMMS version 2.0 and greater will accept multiple open/close reports on a single client account.

P 60 E 3 E 3 LED on
The PRO-LX will automatically allocate area client codes where: If Client account = 1234

If you require individual open/close reports for areas on a single client code:

Administration open/close sent on client code 1234

P 60 E 1 E 1 LED on (default)

Area 1 open/close sent on client code 1235 (1234+1)

To select open/close reports with areas identified with separate client codes:

Area 2 open/close sent on client code 1236 (1234+2)

P 60 E 3 E 3 LED on

Area 3 open/close sent on client code 1237 (1234+3)

The default setting for open/close reporting is:

P 60 E 1E 1 1 LED on

You may choose to only report administration open/close:

With this option selected the PRO-LX will send:

P 60 E 2 E 2 LED on

A closing report on client code 1234 when ALL areas including administration are armed

NOTE - If you are using either contact ID or Ademco extended format you should always check with the central station on the preferred method of reporting.

An opening report on client code 1234 when ANY area including administration is disarmed

You may decide to only send administration open/close reports.

P 60 E 2 E 2 LED on

ZONE CHANNEL MAPPING PROCEDURE P 61 E ZONE E CHANNEL E *****

This is a 3 step procedure

Note: To disable individual alarms from reporting set the channel to 0.

For zone channel mapping P 61 E zone number E channel number E

e.g. P 61 E 18 E 0 E

Eg. As described in the contact ID mapping, if you wish to program zone 5 as a fire alarm press: P 61 E 5 E 110 E

Disable zone 18 reports

If you wish to program zone 5 as channel 2 in high speed press:

See pages 35 to 39 for default report settings.

P 61 E 5 E 27 E

TAMPER MAPPING P 62 E TAMPER E CHANNEL E *****

E.g. If you want to program the control panel tamper to channel 15 in Ademco extended;

Press P 62 E 2 E 71E

See pages 35 to 39 for default report settings.

P 62 E Tamper E channel data E

SYSTEM CHANNEL MAPPING P 63 E SYSTEM CHANNEL E *****

For example, set panel alarm to report as a 101 personal emergency in contact ID

See page 35 to 39 for default report settings.

Press P 63 E 6 E 101 E

POWER CHANNEL MAPPING P64E POWER E CHANNEL E *****

For example, set satellite low battery to report as a 309 battery test failure in contact ID

See pages 35 to 39 for default report settings.

Press P 64 E 7 E 309 E

Alarm Reporting

MULTIPLE REPORTING P 65 E *****

Multiple alarms are repeat zone alarms during an intrusion incident. If reporting of multiples is required then the Central Station will be sent a sequence of alarms and restorals as they happen.

- 1. Do not send multiples
P 65 E 1 E 1 LED on = Do not send multiples
- 2. Send multiples
P 65 E 2 E 2 LED on = Send multiples

RESTORE REPORTING P 66 E *****

These options only apply to the Zone alarms. Restorals are reported when they happen for all other alarms except Duress, Panic, Access Code and Medical for which a restore is never sent. Select one of 4 options for when the Restore reports will be transmitted:

- 2. Send restores on opening
Transmit restores on Disarm.
P 66 E 2 E 2 LED on = Send restores on opening.
- 3. Send restore report when restored
If the input restores, then it will be transmitted immediately.
P 66 E 3 E 3 LED on = Send restores when restored.
- 4. Do not send restores
No restores are transmitted.
P 66 E 4 E 4 LED on = Do not send restores.

1. Send restores at end of siren time
A restore will not be transmitted until the end of siren time and the input has revealed.

P 66 E 1 E 1 LED on = Send restores at end of siren run time.

MAINS FAIL DELAY P 67 E *****

If there is a general power failure in an area for a few minutes or even seconds, the stand-by battery in the Panel will operate. The Mains Fail Abort Time prevent these temporary, non-critical alarms from being transmitted. If the duration of the Mains Failure is less than this Abort Time then no alarm is transmitted.

The mains fail abort delay is initially set to 60 minutes

To view mains fail abort time:

P 67 E
The number of minutes is flashed out on the indicators.

To change this time

minutes E

The new number of minutes is flashed out.

ABORT DELAY P 68 E *****

Any zone may be programmed for abort operation in which an alarm must exist a certain time before it will be transmitted. The Abort Time Delay has 2 ranges: 0 - 100 seconds and 1 - 120 minutes (use values 101 to 220). The default is 30 seconds.

To view abort delay time:

P 68 E
The current value is flashed out on the indicators.
To change this value

abort value E

The new value is flashed out.

ABORT ZONES P 69 E *****

To select abort zones:

P 69 E zone E zone E...

TEST CALLS *****

Test calls check the integrity of the link to the Central Station.

You may determine both the frequency of these calls and when they commence.

TIME TO FIRST TEST CALL P 70 E *****

This is entered as a number of hours, with 0 indicating that the first call is to be made immediately. The maximum is 240 hours and the default is 168 (7 days).

To view time to first test call:

P 70 E
The number of hours is flashed out on the indicators.

To change this time
hours E

The new number of hours is flashed out.

TIME BETWEEN TEST CALLS P 71 E *****

This is entered as a number of hours. To disable enter 0. The maximum is 240 hours and the default is 0 (disable).

To view time between test calls:

P71 E
The number of hours is flashed out on the indicators.
To change this time
hours E

The new number of hours is flashed out.

Engage Diversion	<p>P 74 E * 21 Phone Number # Pause Pause Pause E</p> <p>eg. P 74 E ARM, 21, Phone Number, MONITOR, AREA, AREA, AREA, E</p> <p>(Display would display ; LED 2 Flash , 21, Phone Number, LED 3 Flash, LED 6 Flash, LED 6 Flash, LED 6 Flash,)</p>	<p>DTMF digits up to a maximum of 18 after a CLOSING report. * = ARM Button (LED 2 Flashes) # = MONITOR button (LED 3 Flashes) 1.6 second pause = AREA button (LED 6 Flashes)</p>
Disengage Diversion	<p>P 73 E # 21 # E eg P 73 E MONITOR 21 MONITOR PAUSE, PAUSE, E</p>	<p>DTMF digits sent after an OPENING report * = ARM Button (LED 2 Flashes) # = MONITOR button (LED 3 Flashes) 1.6 second pause = AREA button (LED 6 Flashes)</p>

OPERATION

Easycall™ Diversion selection is automatically initiated upon ARMING and DISARMING the PRO LX panel.
When the client ARMS the panel the Call Diversion will automatically commence and when they DISARM the panel the call diversion will cease. This is done with no other intervention from the client

SPECIFICATIONS *****

Construction	3mm Polycarbonate (equivalent to 1.2mm mild steel)
Dimensions	350 wide x 270 high x 120 deep
Weight	4.2kg (inc battery)
Plug pack	Input 240 Vac, Output 1 7Vac ~ 1 .4A
Power Supply	13.8Vdc @ 1.25A (current limited)
Quiescent Current	110 mA with 1 Keypad - 20mA per additional keypad
Operating Voltage	9.5V - 14V dc
Rechargeable Battery	12V 2.4 - 6.5Ah Lead Acid
Batt. Charge Voltage	13.4 - 13.8V float
Batt. Charge Current	350mA max. current limited
Dynamic Battery Test	Every 2 hours and on Arming
Dynamic Battery Test	10.75V with 5A load
Fuses	4 x 1.5A fast blow (5 x 20mm 2AG)
Zone Input	End of Line Resistor 2,200 ohm (+/- 1100 ohm)
Tamper + Keyswitch Input	End of Line Resistor 2,200 ohm (+/- 1100 ohm)
Remote Keypad Input	Proprietary
Maximum Keypads	8
Siren Outputs	Open Collector Fused (1 .5A) 500Hz - 2700Hz
Maximum Sirens	3 X 8 ohm or 1 x 8 ohm + 1 x 4 ohm
Strobe Output	Open Collector fused 1.
Reset Output	Open Collector fused 1 .5A
Auxiliary Output	1A ~ 12V
Satellite Input	Proprietary
AUSTEL PERMIT No.	A92/03/0361

Important Test Points and Voltages

12 V Output Terminals	13.2 - 13.8V (load connected)
Battery Terminals -	13.4 - 13.8V(no battery connected)
Zone & Tamper Inputs	4V t 0.4V Secure
	8V Open Circuit
	0V Short Circuit
	5.6V Unsecure using 4K7 Resistors
Siren and Strobe + 12 Terminal	13.2V- 13.8 via fuse F1
AC. Terminals	17-23Vac

INSTALL PROGRAM CODES SUMMARY			
CODE	PROGRAM OPTION	DEFAULT	Page No.
P1E-P16E	Client codes 1 to 16 (allowed in client mode)		15, 16
P17E	Entry delay time (also client mode)	20 secs	18
P17xE	Entry delay time for Area (also client mode)		18
	P170E Entry Delay for common access zones	20 secs	18
	P171E Area 1 Entry Delay	20 secs	18
	P172E Area 2 Entry Delay	20 secs	18
	P173E Area 3 Entry Delay	20 secs	18
P18E	Exit delay time (also client mode)	60 secs	19
P18xE	Exit delay time for Area (also client mode)		19
	P181E Area 1 Exit Delay	60secs	19
	P182E Area 2 Exit Delay	60 secs	19
	P183E Area 3 Exit Delay	60 secs	19
P19E	Security delay Zone	None	20
P20E	Instant Zone	Zones 3-24	17, 18
P21E	Delay Zone	Zone 1	17, 18
P22E	Handover Zone	Zone 2	17, 18
P23E	Secondary Delay	None	17, 18
P24E	Spare		N/A
P25xE	Zone sensitivity level		
	P251E Level = 1 (Highest)		16
	to	4 - All zones	16
	P258E Level = 8 (lowest)		16
P26xE	Zone sensitivity Vibration		
	P261E Level = 1 (highest)		16
	to	None	16
	P268E Level = 8 (lowest)		16
P27xE	Zone triggers		
	P271E 1 Trigger	1 trigger (all zones)	17
	P272E 2 Trigger		17
P28E	Siren reset time		31
P29xE	Lockout		
	P291E Zone Lockout	All Lockout	17
	P292E Tamper Lockout	All Lockout	21
	P293E System Lockout	None Lockout	21
	P294E Power Lockout	None Lockout	23
P30E	Excludable		
	P301 E Zone Excludable	All Excludable	17
	P302E Tamper Excludable	All Excludable	21
	P303E System Excludable	All Excludable	21
	P304E Power Excludable	All Excludable	23
P31xE	Zone assignment to area		
	P310E Zone to Admin. Area	All Zones 26	20
	P311E ZonetoArea1	None	20
	P312E Zone to Area 2	None	20
	P313EZonetoArea3	None	20
P32xE	Dual Monitor Zone assignment		
	P321 E Zone to Monitor 1	None	19, 20
	P322E Zone to Monitor 2	None	19, 20
P33E	Button Options:		
	1 off = One Key 1 on = Two key	1 off	28, 29
	2 off = Arm with code 2 on = Code optional	2 on	28, 29
	3 off = Exclude with code 3 on = Code optional	3 on	28, 29
P34E	Miscellaneous system options:		
	1 LED on = Keyswitch unrestrict 1 LED off = Keyswitch restrict	1 off	32
	2 LED on = "Pop" sirens on KS 2 LED off = Silent KS	2 off	32
	3 LED on = No Auto-exclude 2 LED off = Auto-exclude	3 off	32
	4 LED on = Entry beeps 4 LED off = No entry beeps	4 on	33
	6 LED on = No zone Tamper 6 LED off = Zone Tamper	6 on	17, 33
	7 LED on = Aux 1 Armed 7 LED off = No Aux 1 Armed	7 off	33
	8 LED on = Instant zone warning 7 LED off = No zone warning	8 off	33

INSTALL PROGRAM CONT.....

CODE	PROGRAM OPTION	DEFAULT	Page No.
P35xxE	Zone armed output (0-31)		
	P35 0 E Disable		19
	P35 1 E Output 1	17 all zones	19
	to		19
	P35 31 E Output 31		19
P36xxE	Zone disarmed output (0 - 31)	0 all zones	19
P37xxE	Zone monitor output (0 - 31)	20 all zones	19
P38xxE	Zone 24 Hour Output (0 - 31)	0 all zones	19
P39xxE	Tamper Output (0 - 31)	27 all zones	21
P40xxE	System Output (0 - 31)	see reference page	22
P41xxE	Power Output (0 - 31)	see reference page	23
P42xxE	General Purpose timer output (0 - 31)		30
P43xxE	Options for configurable output		
	P43 1 E Output 1 options		27
	to		27
	P43 15E Output 15 options		27
P44xE	Zone exit security either P441 E or change to P44E	No zones	18
P45E	Maintenance procedures		
	P45E 1 E Walk Test		12
	P45E 2 E Auto Test Enable		12
P80xE	Set options 1 to 10 for outputs		
	P80 1E Output 1 options 1-10		27
	to		27
	P80 15 E Output 15 options 1-10		27
P81xxE	Set options 11 to 16 for outputs		
	P81 1E Output 1 options 11-16		27
	to		27
	P81 15E Output 15 options 11-16		27
P82E	Enable Peripherals		
	1 LED on = Enable Satellite	1 LED off = Disable Satellite	1 off
	2 LED on = Enable Dialler	2 LED off = Disable Dialler	2 on
	3 LED on = Enable Radio RX	3 LED off = Disable Radio RX	3 off
	4 LED on = Enable o/p expander	4 LED off = Disable o/p expander	4 off
P93E	Medical delay (0-48)	0	29
P94E	General purpose timer delay	0	30
P95E	General purpose timer duration	0	30
P96E	Code retry limit (0 - 9)	2	31
P97E	Duress prefix (0 - 9)	9	31
P98xE	Set defaults		
	P98 1 E Standard defaults		11
	P98 2E Client Program defaults		11
	P98 3E Dialler default		11, 34
	P98 4E Clear Alarm Memory		11
	P98 5E Reset Dialler if in Dial Mode		11, 34
P99E	Install Program Access Code	000000	10

P E Exit Program Mode

DIALLER PROGRAM

CODE	PROGRAM OPTION	DEFAULT	Page No.
P50E	Client Code XXXX	0000	34
P51 E	Phone Number 1	0	34
P52E	Phone Number 2	0	34
P53E	Upload/download phone number	0	34
P54E	Transmit Format 1 = HSX 2 = Contact Id 3 = Audible	1	35 to 39
P55E	Type of dial I = Auto, 2 = Pulse, 3 VF	1	39
P56E	Country dial 1 = Australia, 2 = New Zealand	1	42
P57E	Primary/Secondary Reporting	1	42
P58E	Auto Answer Upload/download		
	1 - Remote command call-back upload Opt1		11, 40
	2 - Remote command call-back upload Opt2		11, 40
	3- Remote Admin Arm		40, 41
	4 - Remote area 1 Arm	40, 41	
	5 - Remote area 2 Ann	40, 41	
	6 - Remote area 3 Ann	40, 41	
	7 - Remote toggle Aux. 1 and Aux. 2		40, 41
	8 - Remote disarm		40, 41
P59E	Number of Rings to Auto Answer	1	42
P60E	Open / Close Mapping		
	1.- Send all Open/Close reports with 1 client code	1	43
	2 - Send Administration Area Open/Close reports only.		43
	3 - Send all Open/Close reports and use client codes to identify Area.		43
	4 - Do not send any Open/Close reports at all.		43
P61E	Zone Channel Mapping		44
P62E	Tamper Channel Mapping		44
P63E	System Channel Mapping		44
P64E	Power Channel Mapping		44
P65E	Multiple Reporting (1 = do not send or 2 = send)		44
P66E	Restore Reporting		
	1 - Send Restores after siren time and if restored	1	44
	2 - Send Restores on Opening		44
	3 - Send Restores when restored		44
	4 - Do not send Restores		44
P67E	Mains Fail Delay 0-255 Minutes	60 mins	45
P68E	Abort Delay 0-255 hours	30 secs	45
P69E	Abort Zones		45
P70E	Time Before First Call 0-255 hours	168	45
P71E	Time between Test Calls 0-255 hours	0 (disable)	45
P72E	Call diversion.		46, 47
	1 - On = Panel controls call diversion.		46, 47
	1 - Off = Panel does not control call diversion	1 off	46, 47
P73E	Call Diversion disable sequence	0	46, 47
P74E	Call diversion enable sequence	0	46, 47

PRO-LX Area Operation

To switch individual Areas ON and OFF

Having programmed the panel for area (partition) operation and established user codes for each area the method of Arming and Disarming the panel by Areas is as follows:

Assume that codes have been program so that,

User code for Area 1 is	111
User code for Area 2 is	222
User code for Area 3 is	333
Master User Code is	1234
Ordinary User Code is	456

To **ARM** areas

ARM 111 Enter	Area 1 armed
ARM 222 Enter	Area 2 armed
ARM 333 Enter	Area 3 armed
ARM 456 Enter	Admin Area armed
ARM 1234 Enter	Admin Area armed

Arm an Area or Areas using a Master user code or an Ordinary user code.

AREA 1 Enter ARM 1234 Enter	Area 1 armed
AREA 2 Enter ARM 456 Enter	Area 2 armed etc.

or, multiple areas

AREA 1 Enter 2 Enter 3 Enter ARM 1234 Enter	Areas 1, 2, 3 armed
AREA 1 Enter 2 Enter 3 Enter ARM 456 Enter	Areas 1, 2, 3 armed

Indicators: Areas 1, 2 and 3 are indicated by names lighting up in window
Admin area is indicated by the ARM light illuminating.

To **DISARM** areas

111 Enter	Area 1 disarms
22 Enter	Area 2 disarms
333 Enter	Area 3 disarms
1234 Enter	All areas disarm
456 Enter	All areas disarm

PRO-LX Area Programming

- Define the areas (partitions)

P 310 E All zones default to Admin area

P 311 E zone E zone E etc. Defines area 1 zones

P 312 E zone E zone E etc. Defines area 2 zones

P 313 E zone E zone E etc. Defines area 3 zones

- Change Keypad operation to ARM via a User Code

P 33 E 2E Turn No. 2 led Off (default is single digit, leds 2, 3 ON)

- Assign User Codes

P 1 E code E code E Master User Code

P 2 E 1 E code E code E Area 1 user code

P 3 E 2 E code E code E Area 2 user code

P 4 E 3 E code E code E Area 3 user code

P 5 E code E code E Ordinary user code. (operates all Areas)

P 6 E etc.

Note: Any user code can be assigned to any Area and they do not have to assigned in sequence.
Suggestion: For testing and commissioning purposes use simple codes.

P 1 E 1234 E 1234 E	Master Code	1234
P 2 E 1 E 111 E 111 E	Area 1 user code	111
P 3 E 2 E 222 E 222 E	Area 2 user code	222
P 4 E 3 E 333 E 333 E	Area 3 user code	333
P 5 E 456 E 456 E	Ordinary user code	456

PRO-LX

NESS Audible Format

To make the panel work on initial installation
carry out the following instructions:

1. Power up the panel by switching on Mains Power supply.
Panel tamper must be unsecured. (lid open)

2. At remote keypad program the following:

Program 1 Enter (your Master Code) Enter (your Master Code) Enter
(3 to 6 digits) (3 to 6 digits)

Program 51 Enter First phone number **Enter.**

Program 52 Enter Second phone number **Enter.**

Program 54 Enter 3 Enter. This enables Audible Format.

Program 63 Enter 9 Enter 00 Enter. Stops the Program Tamper report.

3. Finally press: **Program, Enter**

The panel will now operate with the following defaults:

Zone 1	Delay
Zone 2	Handover
Zone 3 to 8	Instant
Single button to Arm panel	

To switch the panel **On:** Press **ARM**

Off: Press **Code Number, ENTER**

When the LX is triggered and makes a telephone call, a series of beeps followed by a pause are heard. The panel can make a maximum of 20 calls if it is not “kissed-off”. This is done by pushing the “#” button on the receiving telephone during the pause.

REMOTE ARMING THE PRO-LX

Procedure:

- Call the telephone number that the panel is connected to.
- Allow the phone to ring three times (3 double rings), then hang up.
- Wait 10 seconds, then call the panel back. (The time period between the first ring of the initial call and the first ring of the 2nd call must be at least 15 seconds)
- PRO-LX panel will answer the call and transmit a high-pitched tone followed by a long low-pitched tone.
- **During the low-pitched tone, press 0.** Panel beeps 3 times.
- **Enter a valid code number, then #.** Panel beeps 3 times.

Panel will now accept the following commands:

0 #	Arm main panel.
1 #	Arm area 1.
2 #	Arm area 2.
3 #	Arm area 3.
4 #	Toggle Aux 1 relay.
5 #	Toggle Aux 2 relay.
99 #	Disarm panel.
* #	Forces the panel to hang up.

After each # the panel beeps 3 times for a valid command, or once for an invalid command.

EXCEPTION: If the panel is programmed to report Open/Close reports to a Central Monitoring Station and a remote Arm or Disarm is attempted, then it will only beep once to signal that a communication is about to take place.

NOTE: In this situation further remote commands are unavailable as the dialler has taken control of the telephone line while it communicates.

Aux 1 and Aux 2 beep 3 times when they are turned on, and once when turned off.

If the panel detects no commands for approximately 10 seconds it will automatically hang up.

PRO-LX

Central Station Format

To make the panel work on initial installation
carry out the following instructions:

1. Power up the panel by switching on Mains Power supply.
Panel tamper must be unsecured. (lid open)
2. At remote keypad program the following:

Program 1 Enter (your Master Code) Enter (your Master Code) Enter
(3 to 6 digits) (3 to 6 digits)

Program 50 Enter Client Code Enter.

Program 51 Enter First phone number Enter.

Program 52 Enter Second phone number Enter.

Program 54 Enter 2 Enter. This selects Contact ID format.

Program 66 Enter 2 Enter. Selects Restores on Disarm.

Program 70 Enter Hours Enter. Time before the first Test Call.

Program 71 Enter Hours Enter. Time between Test Calls.

3. Finally press: **Program, Enter**

The panel will now operate with the following defaults:

Zone 1	Delay
Zone 2	Handover
Zone 3 to 8	Instant

Single button to Arm panel

To switch the panel **On:** Press **ARM**

Off: Press **Code Number, ENTER**

PRO-LX V4.5+

Automatic Easycall Call Diversion

This feature enables the Telstra Easycall service to be used automatically every time the LX panel is armed and disarmed.

Diversion is engaged when the panel is armed and disengaged on disarm.

Central Station Monitoring and Audible reporting are unaffected.

For local systems, the dialler can remain disabled.

- **P72E 1E** Enables option (led 1 on).
- **P73E number E** Disengage diversion sequence.
(Usually #21#)
- **P74E number E** Engage diversion sequence
(Usually *21 Phone number #)

Example: To divert incoming call to the phone number 328 2511

P73E # 21 #E

P74E * 21 328 2511 # E

Programming #, * and Pauses.

#	Monitor button.	Indicated by led 3 flashing.
*	Arm button.	Indicated by led 2 flashing
1.6 second pause	Area button	Indicated by led 6 flashing

PRO-LX

Local Format

To make the panel work on initial installation
carry out the following instructions:

1. Power up the panel by switching on Mains Power supply.
Panel tamper must be unsecured. (lid open)

2. At remote keypad program the following:

Program 1 Enter (your Master Code) Enter (your Master Code) Enter
(3 to 6 digits) (3 to 6 digits)

Program 82 Enter 2 Enter. This disables the Dialler

3. Finally press: **Program, Enter**

The panel will now operate with the following defaults:

Zone 1	Delay
Zone 2	Handover
Zone 3 to 8	Instant

Single button to Arm panel

To switch the panel **On:** Press **ARM**

Off: Press **Code Number, ENTER**

PRO-LX MONITOR MODE

⇒ **This program enables a 12vdc sonalert to be connected to the panel, which can be installed at a point remote from the keypad. This can be useful if the customer needs annunciation in a position where there are no keypads, or background noise is excessive.**

Wire red +ve leg of sonalert to +12v supply. Wire black -ve to N/O relay contact. Wire from common C terminal of relay to 0v supply.

P 371 E zone E zone E etc	Zones to be monitored assigned to output 1
P 370 E zone E zone E etc.	Zones not to be monitored
P 431 E 6E 13 E 14E	Create output 1. Relay and Timer
P 421 E 1 E	Timer assigned to output 1
P 95 E time E	Duration of relay operation in seconds

⇒ **This program gives a 2 second reset burst, followed by a 30 second delay, then full alarm for 1 minute.**

P 431 E 10E 13E 14E	Programs output 1 to include reset burst, timer, leds
P 371 E zone E zone E etc	Assigns zones to monitor mode and output 1
P 370 E zone E zone E etc	Disables unused zones
P 4217 E 1E	Assigns full alarm output to the timer
P 94 E 30E	30 second delay period
P 95 E 60E	1 minute alarm run time

⇒ **This program gives pre-alarm Sonalert, then full alarm.**

P 370 E zone E zone E	Disable unwanted monitor zones
P 431 E 7E 13E 14E	Create output 1
P 371 E zone E zone E	Assign output 1 to monitor zones
P 4217 E 1E	Assign timer to output 17 (full alarm operation)
P 94 E time E	20 = Entry time in seconds
P 95 E time E	110 = Siren run time in minutes

Note: By substituting **P 36xx E** in the above programs, the panel will operate as a Day Alarm.