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D-302989
MESSAGE TO THE INSTALLER

The PowerMaxExpress control panel is supplied with 2 instruction manuals:

- **Installer Guide** (this manual - for your exclusive use)

- **User's Guide** (for your use during installation only - Must be handed over to the master user after testing the system).

Appendices A.1 and A.2 will help you prepare an installation plan. Please take time to fill out the forms - your job will become much easier and confusion will be prevented. Filling out the forms will also help you create a list of detectors and transmitters that must be obtained for the particular application. Compatible detectors and transmitters are listed and described briefly in Appendix D.

Remember - it is advisable to power up the control panel temporarily after unpacking and program it on the workbench, in accordance with the installation plan.

The programming flow charts in the programming section show all options available for each parameter. Factory defaults are marked with a dark box to their right, and other options (that can be selected instead) are marked by clear boxes. This method allows you to put a checkmark in the appropriate clear box whenever you deviate from the factory defaults.

Most of the programming section paragraph numbers correlate with the programming menu numbers. For example, paragraph 4.4.19 describes the "Jam detect", that exists in menu 4 (define panel), sub-menu 19 (Jam detect).

Although setting the correct time and date is one of the user tasks, we recommend that you set the time and date in the course of programming. Access to the "User Settings" for the installer is possible through item 10 on the installer's menu or through the user menu (see User’s manual section 7).

After programming, proceed to install the system as detailed in the Installation Instructions, from paragraph 3.4 onward.

The installer should verify line seizure. Be aware of other phone line services such as DSL. If DSL service is present on the phone line, you must install a filter. It is suggested to use the DSL alarm filter model Z-A431PJ31X manufactured by Excelsus Technologies, or equivalent. This filter simply plugs into the RJ-31X jack and allows alarm reporting without breaking the internet connection. If the user has a Voice over IP phone system only, the control panel will not be able to communicate with the central station via the PSTN telephone line. In this case, the user will either need to install an additional telephone line, or connect a GSM module.
1. INTRODUCTION

Compatibility: This manual refers to PowerMaxExpress v1.3.71 and above. The PowerMaxExpress is a user and installer-friendly, 29-zone fully-supervised wireless control system. The system is designed to function in an appealing way to the user and also offers features that make installers’ life easier than ever before:

EASY TO MAINTAIN
• Alarm memory and trouble data are displayed upon request.

2. SPECIFICATIONS

2.1 General Data
Zones Number: 28 wireless zones, 1 hardwired input.
Hardwired Zone Requirements: 2.2 kΩ E.O.L. resistance (max. resistance of wires 220 Ω).
Zone Types: Interior follower, interior, perimeter, perimeter follower, delay 1, delay 2, 24h silent, 24h audible, fire, non-alarm, emergency, gas, flood, temperature and home/delay.
User Codes: 8 codes, 4 digits each (9999 different combinations). Code 0000 is not allowed.
Control Facilities:
- Integral keypad
- One way / two way keypads.
- SMS commands via optional GSM/GPRS module.
- Remote control by telephone.

Note: For SIA CP-01 compliance, when using MCT-234 an external siren must also be used.

Display: Single line, backlit 16-character LCD.
Arming Modes: AWAY, HOME, AWAY-INSTANT, HOME-INSTANT, LATCHKEY, FORCED, BYPASS.
Alarm inhibited during a single arming period (swinger stop) after: 1, 2, 3, alarm/tamper/fault, or not inhibited (programmable / selectable).
Note: To comply with EN requirements, the swinger stop should be set to 3.
Alarm Types: Silent alarm, siren alarm (future option) or sounder (internal) alarm, in accordance with zone attributes.
Siren Signals: Continuous (intrusion / 24 hours / panic); triple pulse - pause - triple pulse... (fire).
Siren (bell) Timeout: Programmable (4 min. by default).
Internal Sounder Output: At least 85 dBA at 10 ft (3 m).
Supervision: Programmable frame time for inactivity alert
Special Functions:
- Chime zones
- Diagnostic test and event log.
- Local and Remote Programming over Telephone, GSM /GPRS connections.
- Calling for help by using an emergency transmitter.
- Tracking inactivity of elderly, physically handicapped and infirm people.
Data Retrieval: Alarm memory, trouble, event log.
Real Time Clock (RTC): The control panel keeps and displays time and date. This feature is also used for the log file by providing the date and time of each event.

Compliance with U.S. Standards:
USA: (FCC) CFR 47part 15 and part 68, UL 1023, UL 985, UL 1635, UL 1637, SIA CP-01
Canada: RSS 210, ULC S545-02, ULC C1023,CSA C22.2#205

On the bottom (side) panel of this equipment is a label, that contains among other information, a product identifier in the format US/VSQAL03BPMEXPRESS. If requested, this number must be provided to the telephone company.

Compliance with European CE Standards:
The Powermax Express has been certified to EN 50082-1, EN301489-3.7, EN61000-4-6, EN60950, EN300220, EN50130-4, EN50130-5, EN50131-3, EN50131-6 tested by the Dutch testing and certification body Telefication B.V.


According to the European standard EN50131-1, the PowerMaxExpress security grading is 2 – “low to medium risk” and environmental classification is II – “indoor general” and the power supply type is A.

GSM standards:
Europe: Complies with CE standards 3GPP TS 51.010-1, EN 301 511, EN301489-7
USA: FCC 47 Part 22 (GSM850) and Part 24 (GSM 1900).

2.2 RF Section
Operating Frequencies (MHz): 315 (in USA & Canada), 433.92, 868.95 or other UHF channel per local requirement in the country of use.
Receiver Type: Super-heterodyne, fixed frequency
Receiver Range: 600 ft (180 m) in open space

Antenna Type: Spatial diversity
Coding: PowerCode and/or CodeSecure™

2.3 Electrical Data
External AC/AC adapter:
• Europe: 230VAC 50Hz input, 9VAC 700mA output.
• USA: 120VAC 60Hz input, 9VAC 1000mA output.
Current Drain: Approx. 70 mA standby, 1600 mA peak at full load.
Minimum battery voltage: 4.8V

Note: For CE compliance the battery backup period shall exceed 12 hours.

Backup Battery Pack: 4.8V 1300 mAh, rechargeable NiMH battery pack, p/n GP130AA4MYMX, manufactured by GP or equivalent.

Note: For compliance with UL standards the battery backup period shall exceed 24 hours.
Backup Battery Pack: 4.8V 2200 mAh, rechargeable NiMH battery pack, p/n GP230AAHC4YMX, manufactured by GP.
Battery Test: Once every 10 seconds.
2.4 Communication
Built-in Modem: 300 baud, Bell 103 protocol
Data Transfer to Local Computer: Via RS232 serial port
Report Destinations: 2 central stations, 4 private telephones.
Reporting Format Options: SIA, Pulse 4/2 1900/1400 Hz,
Pulse 4/2 1800/2300 Hz, Contact ID, Scancom.
Pulse Rate: 10, 20, 33 and 40 pps - programmable
Message to Private Phones: Tone
Ring Detection: The unit does not support ring detection
without DC voltage present on the telephone lines.

2.5 Physical Properties
Operating Temp. Range: 14°F to 120°F (-10°C to 49°C)
Storage Temp. Range: -4°F to 140°F (-20°C to 60°C)
Humidity: 85% relative humidity, @ 30°C (86°F)
Size: 193 x 178 x 50 mm (7-5/8 x 7 x 2 in.)
Weight: 658g (23 Oz) (with battery)
Color: White

3. INSTALLATION
Note: This system must be checked by a qualified technician at least once every three (3) years.
This equipment is designed to be connected to the telephone network using RJ11 connector which complies with Part 68 rules and requirements adopted by ACTA and properly installed RJ31X connector. See drawing below for details.
In the case that RJ31X is not available (consult your telephone company or a qualified installer), the telephone line should be connected to the PowerMaxExpress unit first and then all other home equipment should be connected to PowerMaxExpress "Phone" outlet.

3.1 Unpacking the Equipment
Open the cardboard packing box and check whether all items have been included. If you find out that an item is missing, contact your vendor or dealer immediately.

3.2 Supplying Power to the Unit
Connect power to the PowerMaxExpress temporarily (see figure 3.8). Alternatively, you may power up from the backup battery, as shown in figure 3.3.
Disregard any “trouble” indications pertaining to lack of battery or lack of telephone line connection.
For Europe Safety Compliance:
a. The model shall be installed according to the local electrical code.
b. The circuit breaker shall be readily accessible.
c. The rating of the external circuit breaker shall be 16A or less.
d. The cables for the AC mains connection shall have an overall diameter of 13mm and 16mm conduit.
Please refer to Figure 3.6 "Power Cable Connection".

3.3 System Planning & Programming
It pays to plan ahead - use the tables in appendices A and B at the end of this guide to register the intended location of each detector, the holder and assignment of each transmitter.
Gather up all transmitters and detectors used in the system and mark each one in accordance with your deployment plan.
Program the system now as instructed in the programming section.

3.4 Mounting
Required tool: Philips screwdriver #2.
PowerMaxExpress mounting process is shown in figure 3.1 - 3.8.

3.5 Wiring
Required tools: Cutter and slotted screwdriver - 3 mm blade.
PowerMaxExpress wiring is shown in figure 3.2.
Release screws

Remove front cover

Mark 4 drilling points on mounting surface

Fasten the back unit with 4 screws

Drill 4 holes and insert wall anchors

Figure 3.1 – Back Unit Mounting

CABLES ROUTING GUIDE

Cables entry possibilities

Back unit

Remove the left or right side cables entry knockout(s) and enter the required cable(s).

Remove and use as cable clamp(s)
PERFORM STEP 1, 2 & 3 ON A DESKTOP, BEFORE THE MOUNTING!

1. Extract either plastic segments (will be used later)
2. Extract plastic segment (will be used later)
3. Extract plastic segment (left or right, according to the power wiring direction)

4. Remove power supply terminals cover
5. Insert power cable and connect it to the Power Supply Unit terminals. Verify that the wires are properly fastened!
6. Insert plastic cap to the power cable entry (extracted in step 1)

7. Fasten power cable by clamp (extracted in step 2). Note: The clamp direction depends on the cable thickness.
8. Close power supply terminals cover

Power cable clamp options:
- for thin cable
- for thick cable (reversed clamp)
PHONE WIRING

Connect telephone cable to SET connector and telephone line cable to LINE connector (through the desired wiring cable entry).

PHONE WIRING IN NORTH AMERICA

PHONE WIRING

Note: Do not use mains cable other than that supplied by the manufacturer (3 m long).

Figure 3.2 - Wiring

WARNING! When plugging SIREN & ZONE terminals back into place, be sure to align them carefully with the pins on the PCB. Misaligned or reverse insertion of terminals may damage internal PowerMaxExpress circuits!

3.6 Backup Battery Insertion

Connect battery pack as shown in the next drawing.
3.7 Optional GSM Module Mounting

Note: The GSM module is used with an internal antenna. Optional external antenna can be used.

Caution: Do not install or remove the GSM module when the system is powered by AC power or backup battery.

1. Plug in the GSM Module and fasten it as follows:

2. Insert the SIM card into the GSM module

3.8 Power Cable Connection

External power connections (Option)

Connect the power cable and close the control panel as shown below. Electrical socket-outlet shall be installed near the equipment and shall be easily accessible.

WARNING! DO NOT USE AN OUTLET CONTROLLED BY A WALL SWITCH.

Note: This equipment should be installed in accordance with Chapter 2 of the National Fire Alarm Code, ANSI/NFPA 72, (National Fire Protection Association).

3.9 Control Panel Final Closure

Control panel final closure is shown below.

Connect the power adapter to the power connector.

Internal Power Connection (Option)
4. PROGRAMMING

4.1 INTRODUCTION

4.1.1 General Guidance

We recommend to program the PowerMaxExpress on the work bench before actual installation. Operating power may be obtained from the backup battery or from the AC power supply.

The installer’s menu is accessible only to those who know the installer’s 4-digit code, which is 9999 by factory default. **Note:** Access to the installer menu, in PowerMaxExpress that has “User Permission” enabled (for example in UK) is accessible only at the end of the user menu. This option can be changed if necessary (see par. 4.4.36).

For PowerMaxExpress that has 2 installer codes (not applicable in UK), the default INSTALLER code is 8888 and the default MASTER INSTALLER code is 9999.

The following actions can be done only by using the master installer code:
- Changing master installer code.
- Resetting the PowerMaxExpress parameters to the default parameters,
- Defining specific communication parameters, as detailed in a note in figure 4.5C.

Obviously, you are expected to use this code only once for gaining initial access, and replace it with a secret code known only to yourself.

You will mainly use 5 control pushbuttons during the entire programming process:

- To move one step forward in a menu.
- To move one step backward in a menu.
- To enter the relevant menu or confirm data.
- To move one level up in a menu.
- To return to the "OK TO EXIT" state.

The sounds you will hear while programming are:

- Single beep, heard whenever a key is pressed.
- Double beep, indicates automatic return to the normal operating mode (by timeout).
- Happy Melody (- - - - - --), indicates successful completion of an operation.
- Sad Melody ( --- --- --), indicates a wrong move or rejection.

4.1.2 Entering an Invalid Installer Code

If you enter an invalid installer code 5 times, the keypad will be automatically disabled for 90 seconds and the message WRONG PASSWORD will be displayed.

4.1.3 Installer’s Menu

The installer’s menu is shown in figure 4.1a. The text in rectangles represents the current PowerMaxExpress display.

4.1.4 Setting a New Installer Code

To set an installer code, perform the actions that are presented in figure 4.1b. When you are instructed to enter code, enter a 4-digit code.

---

4.1.5 Setting a New Installer Code in PowerMaxExpress that has 2 Installer Codes

For PowerMaxExpress with 2 installer codes, INSTALLER code (default 8888) and MASTER INSTALLER code (default 9999), set new codes as shown in figure 4.1c.

For details regarding the different authorization levels when logging in with installer code and master installer code, refer to the note inside figure 4.5C (DEFINE COMM).

By using the master installer code, the menu enables changing both master installer code and installer code. By using the installer code, the menu enables changing the installer code only.
4.2 ENROLLING WIRELESS DEVICES AND KEYFOB TRANSMITTERS

4.2.1 General Guidance
The ENROLLING mode has the following sub-modes:
• ENROLLING TYPE (wireless devices)
• ENROLL SENSORS (including wireless repeater MCX-610).
• ENROLL KEYFOB (multi-button CodeSecure transmitters)
• ENROLL WL 1WAY KP (wireless commander MCM-140+)
• ENROLL WL 2WAY KP (wireless 2-way keypad MKP-150/MKP-151)
• ENROLL WL SIREN (wireless siren)

Before beginning, gather all the devices that you intend to enroll and make sure they all have batteries installed.

Your control panel must recognize the unique identification code (ID) of each such device in order to supervise them, receive their signals and respond accordingly.

Attention! CodeSecure transmitters are mainly used for arming/disarming and can not be enrolled to zones. In order to enroll to zones, use only non-CodeSecure wireless devices.

4.2.2 Enrolling Type
Here you determine whether to enroll a wireless device by normal transmission or by device Tamper function (opening its cover). Options: normal, or by tamper.

4.2.3 Enroll/Delete Sensors
Wired detector can be enrolled in zone 29 and wireless detectors can be enrolled in zones 01-28.

• Before enrolling, the lens at the front of PIR and dual-technology sensors should be masked to prevent inadvertent transmission.
• Make sure that magnetic contact transmitter is together with its magnet, to prevent it from sending alarm transmission.

To enroll / delete wired / wireless sensors, refer to Fig. 4.2.

4.2.4 Enroll/Delete Keyfob Transmitters
Keyfob transmitters are multi-button wireless CodeSecure™ transmitters. Eight system users use them for better, quicker and safer control over various system functions.

To enroll / delete 1-way or 2-way keyfob transmitters, refer to figure 4.2.

4.2.5 Enroll/Delete Wireless Commander
The Wireless Commander (MCM-140+) is a remote control unit that enables the user to remotely control the system.
To enroll / delete up to 8 wireless commanders, refer to figure 4.2 (Enroll WL 1-way KP).

4.2.6 Enroll/Delete 2-Way Keypad
The 2-way keypad, type MKP-150/MKP-151, enables the user to remotely control the system and also to receive data from the system (alarm and trouble data). To enroll up to two 2-way keypads, refer to figure 4.2.

4.2.7 Enroll/Delete Wireless Siren
The wireless siren is a remote siren that is activated upon predefined events by the PowerMaxExpress system.
To enroll / delete up to 2 wireless sirens, refer to figure 4.2.
**Figure 4.2 - Enrolling / Deleting Wireless Devices / Keyfobs / Wireless Commanders / Wireless Sirens**

- Keyfob enrolling can be performed by the installer or by the user (via USER SETTINGS menu).
- A black box in the display means that a device is enrolled (the system has learned its ID). No black box indicates that the device is not enrolled.
4.3 DEFINING ZONE TYPES, NAMES & CHIME ZONES

This mode allows you to assign one of 15 zone types to each of the system's 29 (wireless & wired) zones. In addition, it also allows you to assign a name to each zone and determine whether the zone will operate as a chime zone (only while the system is in the disarmed or Home arming state). When a chime zone is triggered, chime melody or zone name is heard (there are 2 selectable chime modes - Melody chime or Chime Off).

A list of factory defaults is printed in table 1. You may fill out the blank columns even before you start and proceed to program according to your own list.

Remember!
A delay zone is also a perimeter zone by definition.
Zone types are fully explained in Appendix C.

<table>
<thead>
<tr>
<th>Zone No.</th>
<th>Zone Type</th>
<th>Zone Name</th>
<th>Chime (melody Zone Name or Off) (*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Delay 1</td>
<td>Front Door</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Delay 1</td>
<td>Garage</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Delay 2</td>
<td>Garage Door</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Perimeter</td>
<td>Back Door</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Perimeter</td>
<td>Child Room</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Interior</td>
<td>Office</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Interior</td>
<td>Dining Room</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Perimeter</td>
<td>Dining Room</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Perimeter</td>
<td>Kitchen</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Perimeter</td>
<td>Living Room</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.3 - DEFINE ZONES Flow Chart

- The currently saved option is displayed with a dark box at the right side. To review the options, repeatedly click or button, until the desired option is displayed, then click OK. (a dark box will be displayed at the right side).
- Key ON/OFF is an optional function that enables you to arm or disarm the system via zones 21-28, 29 or 21-29, provided that "non-alarm" was pre-defined for these zones.
4.4 DEFINING CONTROL PANEL PARAMETERS

4.4.1 Preliminary Guidance
This mode allows you to customize the control panel and adapt its characteristics and behavior to the requirements of the particular user. An illustrated process is shown in Figure 4.4. In this illustration, each selected option is displayed with a dark box at the right side. To review the options, repeatedly click or button, until the desired option is displayed, then click SHOW/OK button.

4.4.2 Entry Delays 1&2
(Fig. 4.4, location 01, 02). Two different entry delays allow the user to enter the protected site (while the system is in the armed state) via 2 specific doors and routes without causing an alarm. Following entry, the user must disarm the control panel before the entry delay expires. Slow-rate warning beeps start sounding once the door is opened, until the last 10 seconds of the delay, during which the beeping rate increases. Locations No. 1 (entry delay 1) and 2 (entry delay 2) allow you to program the length of these delays. Available options for each delay are: 00s, 15s, 30s, 45s, 60s, 3m, and 4m.

Note: To comply with CP-01 requirements, "00s" and "15s" options are not available.

Note: To comply with UL requirements, the entry delay must not exceed 45 sec.

4.4.3 Exit Delay
(Fig. 4.4 location 03). An exit delay allows the user to arm the system and leave the protected site via specific routes and doors without causing an alarm. Slow-rate warning beeps start sounding once the arming command has been given, until the last 10 seconds of the delay, during which the beeping rate increases. Location No. 3 allows programming of the exit delay length. Available options are: 30s, 60s, 90s, 120s, 3m, and 4m.

Note: To comply with CP-01 requirements, "30s" option is not available.

Note: To comply with UL requirements, the exit delay must not exceed 120 sec.

4.4.4 Bell Time
(Fig. 4.4, location 04). Here you select the length of time the bell (or siren) is allowed to function upon alarm. The bell time starts upon activation of the siren. Once the bell time expires, the siren is automatically shut down. Available options are: 30s, 60s, 90s, 120s, 3m, and 4m.

Note: To comply with EN requirements, the Bell Time should be set to 15 min. max.

4.4.5 Abort Time
(Fig. 4.4 location 05). Here you select the length of time allowed by the system to abort an alarm (not applicable to alarms from FIRE, 24H SILENT, EMERGENCY, GAS, FLOOD and TEMPERATURE zones). The PowerMaxExpress is programmed to provide an “abort interval” that starts upon detection of an event. During this interval, the buzzer sounds a warning but the siren remains inactive and the alarm is not reported. If the user disarms the system within the allowed abort interval, the alarm is aborted. Available options are: 00s, 15s, 30s, 45s, 60s, 3m, and 4m.

Note: To comply with CP-01 requirements, "60s", "3m" and "4m" options are not available.

Note: To comply with UL requirements, the abort time must not exceed 45 sec.

4.4.6 Alarm Cancel
(Fig. 4.4 location 06). Here you determine the "cancel alarm" period that starts upon reporting an alarm to the central station. If the user disarms the system within that time period, a “cancel alarm” message is sent to the central station. Available options are: 1, 5, 15, 60 minutes, 4 hours and also cancel inactive.

Note: To comply with CP-01 requirements, "1 minute" option is not available.
4.4.7 Quick Arm
(Fig. 4.4, location 07). Here you determine whether the user will be allowed to perform quick arming or not. Once quick arming is permitted, the control panel does not request a user code before it arms the system.

The two options are: quick arm ON and quick arm OFF.

4.4.8 Bypass
(Fig. 4.4, location 08). Here you permit either manual bypassing of individual zones (through the USER SETTINGS menu), or allow the system to "force arm" (perform automatic bypassing) of open zones during the exit delay. If desired, press the arming key again if you want to eliminate the protest tone that sounds during forced arming. If a zone is open and forced arming is not permitted, "NOT READY" is displayed and the system does not arm (the "Sad Melody" will sound). If "no bypass" is selected, neither manual bypassing nor force arming is allowed.

Options: manual bypass, force arm and no bypass.

Note: To comply with EN requirements, "manual bypass" or "force arm" must be selected.

4.4.9 Exit Mode
(Fig. 4.4, location 09). Here you determine exit mode options. Three types of exit modes are available:

Restart Exit - Exit delay restarts when the door is opened during exit delay. The restart occurs once only. Restarting the exit delay is helpful if the user re-enters immediately after going out to retrieve an item that he left behind.

Off by door - When the door is closed, the exit delay is automatically terminated (even if the defined exit delay was not completed).

Normal - The exit delay is executed as defined, regardless of whether the door is open or closed.

Restart + Arm Home - Exit delay restarts when the door is opened during exit delay. In the case that no door was opened during exit delay "AWAY", the control panel will be armed "HOME".

4.4.10 Piezo Beeps
(Fig. 4.4, location 10). Here you determine whether warning beeps will sound or muted during exit and entry delays. An additional option is to mute the warning beeps only when the system is armed "HOME".

Options: enable beeps, off when home and disable beeps.

Note: When exit beeps are disabled toward the end of a delay, the happy (success) melody will sound.

4.4.11 Trouble Beeps
(Fig. 4.4, location 11). Under trouble conditions, the siren emits a series of 3 short beeps once per minute. Here you determine whether this special beeping sequence will be active, inactive, or just inactive at night (the range of "night" hours is defined in the factory). The 3 options are: enable beeps, off at night (8 PM through 7 AM) and disable beeps.

4.4.12 Panic Alarm
(Fig. 4.4, location 12). Here you determine whether the user will be allowed to initiate a panic alarm by simultaneous pressing either the two panic buttons (on the keypad / wireless commander) or away + home (on a keyfob transmitter). Audible panic activates the siren and simultaneously transmits a message via telephone. Silent panic only transmits a message via telephone. The options are: silent panic, audible panic and disable panic.

4.4.13 Swinger Stop
(Fig. 4.4, location 13). Here you determine the number of times each zone is allowed to initiate an alarm within a single arming/disarming period (including tamper & power failure events of detectors, PowerMaxExpress, wireless siren, etc.). If the alarms number from a specific zone exceeds the programmed number, the control panel automatically bypasses the zone to prevent recurrent siren noise and nuisance reporting to the central station. The zone will be reactivated upon disarming, or 48 hours after having been bypassed (if the system remains armed).

Available options are: shut after 1, shut after 2, shut after 3 and no shutdown.

4.4.14 Cross Zoning
(Fig. 4.4, location 14). Here you determine whether cross zoning will be active or inactive. Cross zoning is a method used to counteract false alarms - an alarm will not be initiated unless two adjacent zones are violated within a 30-second time limit.

This feature is active only when arming AWAY and only with zone couples from zone No. 18 to 27 (18 and 19, 20 and 21, etc.). You may use any one of these zone couples to create a "cross-zoned" area.

Note: If one of two crossed zones is bypassed (see Para. 4.4.8), the remaining zone will function independently.

Note: Every 2 crossed zones must be of the allowed zone type (Interior, Perimeter, Perimeter follower).

The options are: cross zone ON and cross zone OFF.

Note: A common zone should not be defined as a cross zone.

Cross zoning is not applicable in Entry/ Exit zones and 24h zones (Fire, Emergency, 24h audible, 24h silent).

4.4.15 Supervision
(Fig. 4.4, location 15). Here you determine the time limit for reception of supervision reports from various supervised wireless devices. If any device does not report at least once within the selected time limit, an "INACTIVITY" alert is initiated.

The options are: 1, 2, 4, 8, 12 hours and disable.

Note: To comply with EN requirements, 1 or 2 hours must be selected.

4.4.16 NOT READY
(Fig. 4.4, location 16). Here you determine if the system will be in NOT READY status when there is a supervision failure. In the "in supervision" mode, the system will be in NOT READY status if during the last 20 minutes a supervision message was not received. Options: normal and in supervision.

Note: To comply with EN requirements, "in supervision" must be selected.

4.4.17 AUX Button A
(Fig. 4.4, location 17). Here you select the function of the AUX button/ button A on keyfob transmitters MCT-234, MCT-237 and wireless commanders MCM-140+. Two options are offered for each AUX button:

Instant: Pressing the AUX button while the exit delay is in progress will cause the system to arm "instant" (the entry delay is canceled).

Skip exit delay: Pressing the AUX button will immediately cause the system to arm immediately.

4.4.18 AUX Button B 2-W-KF
(Fig. 4.4, loc. 18). Applicable only for 2-way keyfob MCT-237. Same as 4.4.17 but for AUX button B.
4.4.19 Jam Detect
(Fig. 4.4, location 19). Here you determine whether jamming (interfering transmissions, on the radio channel used by the system) will be detected and reported or not. If a jam detection option is selected, the system does not allow arming under the relevant jamming conditions.

Jam Detection Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Detection and Reporting when</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL (20/20)</td>
<td>There is continuous 20 seconds of jamming</td>
</tr>
<tr>
<td>(USA standard)</td>
<td></td>
</tr>
<tr>
<td>EN (30/60)</td>
<td>There is an accumulated 30 seconds of jamming within 60 sec.</td>
</tr>
<tr>
<td>(European standard)</td>
<td></td>
</tr>
<tr>
<td>class 6 (30/60)</td>
<td>Like EN (30/60) but the event will be reported only if the jamming duration exceeds 5 minutes.</td>
</tr>
<tr>
<td>(British standard)</td>
<td></td>
</tr>
<tr>
<td>Disabled</td>
<td>(No jamming detection and reporting).</td>
</tr>
</tbody>
</table>

4.4.20 Latchkey
(Fig. 4.4, location 20). Here you determine whether the system can be armed in the latchkey mode. If the system is armed this way, a “latchkey” message will be sent to specific telephones upon disarming by a “latchkey user” (users 5-8 or keyfob transmitters 5-8). This mode is useful when parents at work want to be informed of a child’s return from school. The options are: Latchkey ON and Latchkey OFF.

4.4.21 “Not Active”
(Fig. 4.4, location 21). Here you determine the time limit for reception of signals from sensors used to monitor the activity of sick, elderly or disabled people. If no sensor detects and reports movement at least once within the defined time limit, a “not-active” alert is initiated.
Options: 3, 6, 12, 24, 48, 72 hours and no act disable.

4.4.22 Back Light (Optional)
(Fig. 4.4, location 22). Here you determine whether the keypad back lighting will remain on at all times or will turn on when a key is pressed and turn off within 10 seconds if no further keystrokes are sensed.
The two options are: always on and off after 10 s.
Note: Back Light can be used only if this option is available on the purchased control panel.

4.4.23 Duress
(Fig. 4.4, loc. 23). A duress alarm (ambush) message can be sent to the central station if the user is forced to disarm the system under violence or menace. To initiate a duress message, the user must disarm the system with the duress code saved in this memory location as an existing user code.

4.4.24 Piezo Siren
(Fig. 4.4, location 24). Here you determine whether the internal siren will sound or remain silent upon alarm (according to the user preference). Options: piezo siren on, piezo siren off.

4.4.25 Reset Option
(Fig. 4.4, location 25). (Not applicable in the USA) Here you determine whether the system can be rearmed (after an event) by the user or only by the installer.
Options: user reset or engineer reset.
If Engineer Reset is selected, the system can be rearmed only by the installer; by entering and exiting the installer menu, by entering and exiting the event log (see section 7), or by remote telephone. To perform Engineer Reset via the telephone, establish communication with the PowerMaxExpress (see user guide, par. 6.3.A, steps 1-5) and continue as follows:
a. ex [*], [installer code], [#]
b. Wait for 2 beeps
c. ex [*], [1], [#]
d. ex [*], [99], [#]

4.4.26 Tamper Option
(Fig. 4.4, location 26). Here you determine whether zone tamper will be reported or ignored. Available options are: zone tamper ON and zone tamper OFF.
Note: To comply with EN requirements, “zone tamper ON” must be selected.

4.4.27 Siren On Line
(Fig. 4.4, location 27). Here you determine whether the siren will be activated or not when the telephone line fails during system armed state. Available options are: enable on fail, disable on fail.

4.4.28 Memory Prompt
(Fig. 4.4, location 28). Here you determine whether the user will receive indication that an alarm has been activated.
Available options are: enable and disable.

4.4.29 Disarm Option
(Fig. 4.4, location 29). Here you determine when it is possible to disarm the system:
A. Any time.
B. In AWAY mode, during entry delay, by using the PowerMaxExpress keypad or wireless sensor (keyfob).
C. In AWAY mode, during entry delay, by using a wireless device (keyfob) only (this is set as a default in UK to comply with DD243).
D. During entry delay, or by using the PowerMaxExpress keypad in AWAY mode.
Options: any time, on entry all, on entry wireless, or entry + away kp.

4.4.30 Bell/Rep. Option
(Fig. 4.4, location 30). Here you determine whether an alarm will be initiated (siren / report) when there is a supervision / jamming failure during AWAY arming state.
Available options are: EN standard and other. When "EN standard" is selected, if there is supervision / jamming failure during AWAY arming state, the siren is activated and the events are reported as tamper events. When “Other” is selected, there is no such activity during AWAY arming.

4.4.31 Low-Bat Ack
(Fig. 4.4, location 31). Here you determine whether the user will hear or will not hear low battery sound when he tries to disarm the system with a keyfob whose battery voltage is low. Available options are: keyfob L-B on (the user has to acknowledge the keyfob low battery message) or keyfob L-B off (the user does not have to acknowledge the keyfob low battery message).

4.4.32 Screen Saver
(Fig. 4.4, location 32). Here you can determine that if no key is pressed during more than 30 seconds, the display will be “PowerMax” (to prevent possible intruder of knowing the system status). You can determine that normal display will return after pressing the button followed by entering user code (Refresh by Code) or after pressing any key (Refresh by Key).
If Refresh by Key is selected, the first pressing of any key (except Fire and Emergency) will cause normal display return and the second press will perform the key function. Regarding the Fire and Emergency keys, the first key press will cause normal display return and also will perform the Fire/Emergency function.

Options: scrn saver OFF, refresh by code, refresh by key.

4.4.33 Confirm Alarm
(Fig. 4.4, location 33). Here you determine that if 2 successive alarms will occur during a specific period, the second alarm will be considered as a confirmed alarm (for confirmed alarm reporting, see par. 4.5.3).
Options: disable 30 min., 45 min., 60 min., or 90 min.

4.4.34 AC FAIL REP
(Fig. 4.4, location 34). Here you determine the time interval between AC power failure occurrence and the failure reporting.
Options: 5 minutes, 30 minutes, 60 minutes or 180 minutes.

4.4.36 User Permission
(Fig. 4.4, location 36). Here you determine whether the access to the INSTALLER MODE requires user permission. If you select ENABLE, the installer mode will be accessible only through the user menu after entering the user code.
Options: Enable, Disable.

Note: To comply with EN requirements, set to 60 min. max.

4.4.39 Key Zones Options (Optional)
(Fig. 4.4, location 39). Here you determine whether or not the system can be armed and disarmed by zones 21-28, 29 or 21-29, provided that for these zones "non-alarm type" and "z-key enable" was predefined (see para. 4.3 and Appendix C14).

Key zones can be wireless or wired zones.

When using wireless key zones, only the MCT-100 and MCT-102 transmitters are used. The right pushbutton on the MCT-102 transmitter or input 2 of the MCT-100 transmitter is used for arming in AWAY mode. The left pushbutton on the MCT-102 transmitter or input 1 of the MCT-100 transmitter is used for disarming.

When using wired key zones an open circuit arms the alarm system in AWAY mode and a closed circuit changes the state of the alarm system from AWAY mode to Disarm. (For information on how to connect to wired key zones, see Fig. 3.1C Zones and Sirens Wiring.

IMPORTANT! Enrolment of the MCT-100 or MCT-102 transmitter must be performed via the right pushbutton on the MCT-102 transmitter or input 2 of the MCT-100 transmitter (see section 4.3).

Note: Key Zones does not comply with Belgium TO14A and EN 50131-5-3.

Caution! Arming the system using a transmitter assigned to zones 21 and 28, or via wired zone 29 compromises security. This function is, therefore, only available in specific PowerMaxExpress versions according to the customer’s request.
Options: disable option, z. 21-28 enable, z. 29 enable, or z. 21-29 enable.

4.4.41 Cancel Announcement
(Fig. 4.4, location 41). (Applicable in the USA only).

Here you determine whether a special beep will sound when an alarm cancel event is sent to the central station.
Options: Enable, Disable.

4.4.42 Abort Announcement
(Fig. 4.4, location 42). (Applicable in the USA only)

Here you determine that when the user disarms the system within the allowed abort interval, a special beep will sound to indicate "no alarm transmission".
Options: Enable, Disable.

4.4.43 CP-01
(Fig. 4.4, location 43). (Applicable in the USA only)

Here you determine whether to enable or disable some of the CP-01 standard requirements.
Options: Enable, Disable.
4.5 DEFINING COMMUNICATION PARAMETERS

Preliminary Guidance
This mode allows you to adapt the telephone communication parameters to the local requirements.

Compatible central station receivers are:
Osborne-Hoffman model 2000, Ademco Model 685,

IMPORTANT: In telephone / pager number locations and account number locations, you may be required to enter hexadecimal digits. In telephone number locations, these digits are used as codes to control the dialer:

<table>
<thead>
<tr>
<th>Hex. Digit</th>
<th>Keying Sequence</th>
<th>Code Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>&lt;#&gt; ⇒ &lt;0&gt;</td>
<td>Applicable only at the beginning of a number - the dialer waits 10 seconds or waits for dial tone, whichever comes first and then dials.</td>
</tr>
<tr>
<td>D</td>
<td>&lt;#&gt; ⇒ &lt;3&gt;</td>
<td>Applicable only at the beginning of a number - the dialer waits 5 seconds for dial tone and goes on hook if none is received.</td>
</tr>
<tr>
<td>E</td>
<td>&lt;#&gt; ⇒ &lt;4&gt;</td>
<td>Applicable only in the middle of the number - the dialer waits 5 seconds for dial tone and goes on hook if none is received.</td>
</tr>
<tr>
<td>F</td>
<td>&lt;#&gt; ⇒ &lt;5&gt;</td>
<td>Not applicable in phone numbers</td>
</tr>
</tbody>
</table>

Note: A “*” can be entered at the beginning of the line by pressing [1] and then [8].

To enter a series of digits, use the following keys:
- <Numeric keypad> - to enter the number
- moves the cursor from left to right
- moves the cursor from right to left
- deletes everything after the cursor (to the right)

4.5.1 PSTN / GSM [Fig. 4.5.1(1)]
Area Code [Fig. 4.5.1(1)]
Here you enter the system tel. area code (up to 4 digits).
Line Prefix [Fig. 4.5.1(2)]
Here you enter the number that is used as a prefix to access an outside telephone line (if exists).
Dial Method [Fig. 4.5.1(3)]
Here you determine the dialing method used by the automatic dialer built into the PowerMaxExpress control panel.
The options are: Pulse and tone (dtmf).

GSM Keep Alive [Fig 4.5.1(4)]
Here you prevent the GSM service provider from disconnecting the GSM line if the user has not initiated any outgoing telephone calls during the last 28 days.
The options are: disable and every 28 days.

4.5.2 GPRS / BB [Fig. 4.5 Detail B]
The GSM/GPRS module is capable of communicating with the Central Station receiver by GPRS, GSM Voice and SMS channels. Each of the channels can be separately enabled or disabled in order to allow or prohibit the module from using it for the event reporting. If all channels are enabled, the GSM/GPRS module will always try GPRS first. If fails, it will try GSM Voice. If fails, it will try any other possible method (PSTN, Broadband) and only then will it try SMS. This is due to the fact that SMS is the most unreliable option of communication. Disabling any of the GSM Module channels will cause the module to use a different sequence than the one described above.

GPRS Report [Fig 4.5.2(1)]
Here you determine whether the alarm system will report events to the central station via the GPRS channel.
The options are: disable and enable.

GSM Report [Fig 4.5.2(2)]
Here you determine whether the alarm system will report events to the central station via the GSM voice channel.
The options are: disable and enable.

SMS Report [Fig 4.5.2(3)]
Here you determine whether the alarm system will report events to the central station via the SMS channel.
The options are: disable and enable.

GPRS APN [Fig 4.5.2(4)]
Here you enter the name of the APN (Access Point) used for the internet settings for the GPRS (up to 40 digits).

GPRS Username [Fig 4.5.2(5)]
Here you enter the username of the APN used for GPRS communications (up to 30 digits).

GPRS Password [Fig 4.5.2(6)]
Here you enter the password of the APN used for GPRS communications (up to 16 digits).
The following table provides a list of the keys used by the PowerMaxExpress editor for the GPRS APN, GPRS Username, GPRS Password menus and Custom Zone Name option.
Toggles between address manually. automatically using a DHCP server or to enter an IP address. Here you determine whether to obtain an IP address

Enable DHCP

Broadband Module exists in the PowerMaxExpress alarm system. [Fig 4.5.2(10)]

Note:

LAN Settings

Here you define the third priority of method used to report events. If the method defined to report events in the first priority fails, the control panel will attempt to report using the method defined in the third priority (see notes in 1st Report Method).

The options are: disable, broadband, cellular and PSTN.

3rd Report Method [Fig 4.5.3(4)]

Here you define the 3rd priority of method used to report events. If the method defined to report events in the 2nd priority fails, the control panel will attempt to report using the method defined in the 3rd priority (see notes in 1st Report Method).

The options are: disable, broadband, cellular and PSTN.

Dual Reporting [Fig 4.5.3(5)]

Here you determine whether to report events using PSTN and cellular at the same time instead of waiting for the 1st method to fail before trying the 2nd method.

The options are: disable and PSTN & cellular, PSTN & broadband and broadband & cellular.

Receiver 1 Account No. [Fig 4.5.3(6)] - see note in Fig. 4.5 Detail C

Here you enter the number that will identify your specific alarm control system to the 1st central station. The number consists of 6 hexadecimal digits.

4.5.3 C.S. Reporting (Fig. 4.5 Detail C)

Report Events [Fig 4.5.3(1)] – see note in Fig. 4.5 Detail C

Here you determine which types of event will be reported to central stations. Due to lack of space in the display, abbreviations are used: alarm is "alrm", alert is "alrt" and open/close is "o/c". The asterisk (*) is a separator between events reported to central station 1 and events reported to central station 2.

Messages are divided by type into four groups:

<table>
<thead>
<tr>
<th>No.</th>
<th>Group</th>
<th>Events Reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Alarms</td>
<td>Fire, Burglary, Panic, Tamper</td>
</tr>
<tr>
<td>2</td>
<td>Open/close</td>
<td>Arming AWAY, Arming HOME, Disarming</td>
</tr>
<tr>
<td>3</td>
<td>Alerts</td>
<td>No-activity, Emergency, Latchkey, Gas, Flood, Temperature</td>
</tr>
<tr>
<td>4</td>
<td>Maintenance</td>
<td>Low-battery AC failure</td>
</tr>
</tbody>
</table>

"Alarm" group has the highest priority and "Alert" group has the lowest priority.

The selectable options are as follows:

<table>
<thead>
<tr>
<th>Plan name</th>
<th>Sent to center 1</th>
<th>Sent to center 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>all -o/c</td>
<td>backup</td>
<td>All but open/close</td>
</tr>
<tr>
<td>all</td>
<td>all</td>
<td>All</td>
</tr>
<tr>
<td>all -o/c</td>
<td>all</td>
<td>All but open/close</td>
</tr>
<tr>
<td>all</td>
<td>all -o/c</td>
<td>Open/close</td>
</tr>
<tr>
<td>all (alrm)</td>
<td>all -alrm</td>
<td>Alarms</td>
</tr>
<tr>
<td>all -alrm</td>
<td>all</td>
<td>All but alarms</td>
</tr>
<tr>
<td>Disable</td>
<td>report</td>
<td>Nothing</td>
</tr>
<tr>
<td>all -backup</td>
<td>all</td>
<td>All</td>
</tr>
<tr>
<td>all</td>
<td>all (–alrm)</td>
<td>Nothing</td>
</tr>
</tbody>
</table>

Note: "All" means that all 4 groups are reported and also trouble messages - sensor / system low battery, sensor inactivity, power failure, jamming, communication failure etc.

1st Report Method [Fig 4.5.3(2)]

Here you define the 1st priority of method used to report events. The options are: disable, broadband, cellular and PSTN.

2nd Report Method [Fig 4.5.3(3)]

Here you define the 2nd priority of method used to report events. If the method defined to report events in the 1st priority fails, the control panel will attempt to report using the method defined in the 2nd priority (see notes in 1st Report Method).

The options are: disable, broadband, cellular and PSTN.

3rd Report Method [Fig 4.5.3(4)]

Here you define the 3rd priority of method used to report events. If the method defined to report events in the 2nd priority fails, the control panel will attempt to report using the method defined in the 3rd priority (see notes in 1st Report Method).

The options are: disable, broadband, cellular and PSTN.

Dual Reporting [Fig 4.5.3(5)]

Here you determine whether to report events using PSTN and cellular at the same time instead of waiting for the 1st method to fail before trying the 2nd method.

The options are: disable and PSTN & cellular, PSTN & broadband and broadband & cellular.

Receiver 1 Account No. [Fig 4.5.3(6)] - see note in Fig. 4.5 Detail C

Here you enter the number that will identify your specific alarm control system to the 1st central station. The number consists of 6 hexadecimal digits.
Receiver 2 Account No. [Fig 4.5.3(7)] - see note in Fig. 4.5 Detail C
Here you enter the number that will identify your system to the 2nd central station. The account number consists of 6 hexadecimal digits.

PSTN/GSM RCVR1 [Fig 4.5.3(8)] - see note in Fig. 4.5 Detail C
Here you program telephone number of the 1st central station (including area code, 16 digit max) to which the system will report the event groups defined in Report Events.

PSTN/GSM RCVR2 [Fig 4.5.3(9)] - see note in Fig. 4.5 Detail C
Here you program telephone number of the 2nd central station (including area code, 16 digit max) to which the system will report the event groups defined in Report Events.

IP RCVR 1 [Fig 4.5.3(10)]
Here you enter the IP address of the IP receiver that is located in the 1st central station.

IP RCVR 2 [Fig 4.5.3(11)]
Here you enter the IP address of the IP receiver that is located in the 2nd central station.

SMS RCVR 1 [Fig 4.5.3(12)]
Here you enter the telephone number of the SMS receiver that is located in the 1st central station.

SMS RCVR 2 [Fig 4.5.3(13)]
Here you enter the telephone number of the SMS receiver that is located in the 2nd central station.

PSTN Report Format [Fig 4.5.3(14)] - see note in Fig. 4.5 Detail C
Here you select the reporting format used by the control panel to report events to central stations.

The options are: ■ SIA text ■ Contact-ID ■ SIA ■ 4/2 1900/1400 ■ 4/2 1800/2300 ■ Scancom (see Appendix B - code lists).

4/2 Pulse Rate [Fig 4.5.3(15)] - see note in Fig. 4.5 Detail C
Here you select the pulse rate at which data will be sent to central stations if any one of the 4/2 formats has been selected in PSTN Report Format.

The options are: 10, 20, 30 and 40 pps.

PSTN Report Retry [Fig 4.5.3(16)] - see note in Fig. 4.5 Detail C
Here you determine the number of times the communicator will dial the central station's number via PSTN.

The options are: 2, 4, 8, 12 and 16 attempts.

Note: To comply with UL requirements, the unit shall make no less than five attempts and no more than ten attempts to contact the central station.

GSM Report Retry [Fig 4.5.3(17)] - see note in Fig. 4.5 Detail C
Here you determine the number of times the communicator will try to report via a cellular group (GPRS, GSM and SMS) to the central station.

The options are: 2, 4, 8, 12 and 16 attempts.

GSM Report Retry [Fig 4.5.3(18)] - see note in Fig. 4.5 Detail C
Here you determine the number of times the communicator will try to report via the Broadband Module communication to the central station.

The options are: 2, 4, 8, 12 and 16 attempts.

Auto Test Time [Fig 4.5.3(19)]
Here you determine the time at which the telephone line will be tested and reported to the central station.

Auto Test Cycle [Fig 4.5.3(20)]
Here you determine the time interval between consecutive telephone line test messages sent to the central station. The control panel performs this at regular intervals to verify proper communications.

The options are: test every 5 hours, test every 1, 2, 4, 8, 12 days, 30 days and test OFF.

Line Fail Report [Fig 4.5.3(21)]
Here you determine the PSTN telephone line disconnection will be reported or not and determine the delay between detection of line disconnection and report failure. If the telephone line is disconnected, the event “tel line fail” will be stored in the event log.

The options are: don't report, immediately, 5 minutes, 30 minutes, 60 minutes or 180 minutes.

Note: To comply with EN requirements, "immediately" must be selected.

GSM/GPRS [Fig 4.5.3(21b)]
Here you determine if the GSM/GPRS line disconnection will be reported or not and determine the delay between detection of line disconnection and report failure. If the telephone line is disconnected, the event "GSM line fail" will be stored in the event log.

The options are: don't report, 2 minutes, 5 minutes, 15 minutes, or 30 minutes.

Broadband [Fig 4.5.3(21c)]
Here you determine if the Broadband Module line disconnection will be reported or not and determine the delay between detection of line disconnection and report failure. If the telephone line is disconnected, the event “BBA line fail” will be stored in the event log.

The options are: don't report, 2 minutes, 5 minutes, 15 minutes, or 30 minutes.

PSTN Up / Down [Fig 4.5.3(22)]
Remote Access [Fig 4.5.3(22a)]
Here you give or deny permission to access the system and exercise control from a remote telephone.

The options are: rem. access ON and rem. access OFF.

Mast. Downl Code [Fig 4.5.3(22b)]
Here you determine the master installer 4-digit password for downloading/uploading data into/from the PowerMaxExpress memory.

Attention! If "0000" is used, it will not enable connection of the PowerMaxExpress to the PC for upload/download purpose.

Inst. Downl Code [Fig 4.5.3(22c)]
Here you determine the installer 4-digit password for downloading data into the PowerMaxExpress memory.

Attention! If "0000" is used, it will not enable connection of the PowerMaxExpress to the PC for upload/download purpose.

Upload Option [Fig 4.5.3(22d)]
Here you determine whether the PowerMaxExpress data can be uploaded into a computer while the system is in disarm state or at any time (in HOME/AWAY arming & disarm state).

The options are: when system OFF and any time.

Up Download Tel# [Fig 4.5.3(22e)]
Here you enter the telephone number (up to 16 digits) of the UL/DL server.

Note: Only for use with control panels monitored by compatible central stations. Leave empty if not used.
**GPRS Up / Down** [Fig 4.5.3(23)]

My SIM Tel. # [Fig 4.5.3(23a)]

Here you enter the PowerMax SIM card telephone number. The central station dials this number when it needs to connect to the PowerMaxExpress for uploading / downloading data.

1st Caller ID# [Fig 4.5.3(23b)]

Here you determine the 1st IPMP receiver telephone number. When the PowerMaxExpress responds to an incoming call from the telephone number defined here, it creates a connection to the IPMP for uploading / downloading data.

**Note:** Caller ID#1 / ID#2 should be 6 or more digits for wake-up by IPMP to work.

2nd Caller ID# [Fig 4.5.3(23c)]

Here you determine the 2nd IPMP receiver telephone number. When the PowerMaxExpress responds to an incoming call from the telephone number defined here, it creates a connection to that IPMP for uploading / downloading data.

**Report Cnfrm Alarm** [Fig 4.5.3(24)] - see note in Fig. 4.5 Detail C

Here you determine whether the system will report whenever 2 or more events (confirmed alarm) occur during a specific period (see par. 4.4.33).

Available options are: enable report, disable report, enable + bypass (enabling report and bypassing the detector - applicable to PowerMaxExpress that is compatible with DD243 standard).

**Report 24H Zones (Optional)** [Fig 4.5.3(25)]

Here you determine whether 24 hour (silent and audible) zones will function as normal 24 hour zones or as panic zones.

The options are: both original, audible as panic, silent as panic, or both as panic.

**Recent Close** [Fig 4.5.3(26)]

Here you enable or disable the “recent closing” report, that is sent to the central station if an alarm occurs within 2 minutes from the expiry of the exit delay.

The options are: recent close ON and recent close OFF.

**Zone restore** [Fig 4.5.3(27)]

Here you determine whether a zone restore will be reported or not.

**System Inactivity Report** [Fig 4.5.3(28)]

Here you determine whether the central station will receive a message if the system is inactive (not armed) during a defined period (days).

The options are: disable, rep. after 7d, rep. after 14d, rep. after 30d, rep. after 90d.

**Call Waiting OFF (Optional)** [Fig 4.5.3(29)]

Here you enter a code to cancel “call waiting” when calling the central station.

**4.5.4 Private Report** (Fig. 4.5 Detail D)

**Report To Private** [Fig 4.5.4(1)]

Here you determine which event groups will be reported to private telephone subscribers.

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>all</td>
<td>All messages</td>
</tr>
<tr>
<td>all (-op/cld)</td>
<td>All messages, except open/close</td>
</tr>
<tr>
<td>all (-alerts)</td>
<td>All messages, except alerts</td>
</tr>
<tr>
<td>alarms</td>
<td>Alarm messages</td>
</tr>
<tr>
<td>alerts</td>
<td>Alert messages</td>
</tr>
<tr>
<td>op/cld</td>
<td>Open/close</td>
</tr>
<tr>
<td>disable report</td>
<td>No message will be reported</td>
</tr>
</tbody>
</table>

Note: “All” means all events including the L. BAT and AC FAIL trouble messages.

**Note:** All the above options can be reported to private telephone subscribers by SMS. When Voice Report is enabled alarms and alerts only can be reported.

The following siren signal will be sent to private telephone upon event reporting:

- **FIRE:** ON - ON - ON - pause.... (- - - - - - - - - .......).
- **BURGLAR:** ON continuously (_______)
- **EMERGENCY/LATCHKEY:** 2-tone siren; like an ambulance.

**Voice report** [Fig 4.5.4(2)]

1st Private Tel# [Fig 4.5.4(2a)]

Here you program the 1st telephone number (including area code, if required) of the private subscriber to which the system will report the event groups defined in Report To Private.

2nd Private Tel# [Fig 4.5.4(2b)]

Here you program the 2nd telephone number (including area code, if required) of the private subscriber to which the system will report the event groups defined in Report To Private.

3rd Private Tel# [Fig 4.5.4(2c)]

Here you program the 3rd telephone number (including area code, if required) of the private subscriber to which the system will report the event groups defined in Report To Private.

4th Private Tel# [Fig 4.5.4(2d)]

Here you program the 4th telephone number (including area code, if required) of the private subscriber to which the system will report the event groups defined in Report To Private.

**Redial Attempts** [Fig 4.5.4(2e)]

Here you determine the number of times the communicator will dial the called party’s number (private telephone).

The options are: 1, 2, 3 and 4 attempts.

Attention! A maximum of 2 dialing attempts is permitted by the Australian Telecommunication Authority.

**Tel. acknowledge** [Fig 4.5.4(2f)]

Here you determine whether the system will use the single acknowledge or the all acknowledge mode when reporting to private telephones.

**Note:** In the single acknowledge mode, receiving an acknowledge signal from a single telephone is sufficient to consider the current event closed and call off the communication session. The remaining telephones serve for backup purposes only. In the all acknowledge mode, an acknowledge signal must be received from each telephone before the current event is considered reported.

The options are: single ack and all ack.

**SMS Report Tel#** [Fig 4.5.4(3)]

1st SMS Tel# [Fig 4.5.4(3a)]

Here you define the first SMS phone number (including area code, 16 digits maximum) to which pre-selected event types (see par. 4.6.3) will be reported.

2nd SMS Tel# [Fig 4.5.4(3b)]

Here you define the second SMS phone number (including area code, 16 digits maximum) to which pre-selected event types (see par. 4.6.3) will be reported.

3rd SMS Tel# [Fig 4.5.4(3c)]

Here you define the third SMS phone number (including area code, 16 digits maximum) to which pre-selected event types (see par. 4.6.3) will be reported.

4th SMS Tel# [Fig 4.5.4(3d)]

Here you define the fourth SMS phone number (including area code, 16 digits maximum) to which pre-selected event types (see par. 4.6.3) will be reported.
Note
For Control Panel that has installer code & master installer code, the following functions are available only if the MASTER INSTALLER code is entered:

- PSTN/GSM RCVR1
- RCVR 1 ACCOUNT#
- PSTN/GSM RCVR2
- RCVR 2 ACCOUNT#
- PSTN RPRT FORMAT
- 4/2 PLS RATE
- REPORT EVENTS
- RPRT CNFRM ALRM
- SEND 2WV CODE
- VOICE C.S.
- RINGBACK TIME
- PSTN RPRT RETRY
- GSM RPRT RETRY
- MAST. DL CODE

1: PSTN / GSM
4: PRIVATE REPORT
2: GPRS / BB

PAR. 4.5.1(1)
Par. 4.5.1(2)
Par. 4.5.1(3)
Par. 4.5.1(4)

- tone (dtmf)
- pulse

PAR. 4.5.2(1)
Par. 4.5.2(2)
Par. 4.5.2(3)
Par. 4.5.2(4)

(Enter GPRS username)
(Enter name of APN)
(Enter GPRS password)
(Enter SIM card PIN code)

PAR. 4.5.2(5)
Par. 4.5.2(6)

PAR. 4.5.2(7)
Par. 4.5.2(8)

PAR. 4.5.2(9)
Par. 4.5.2(10)

Figure 4.5 – Defining Communications
4.6 GSM Auto Detection
The GSM modem auto detection feature enables automatic enrollment of the GSM modem into the PowerMaxExpress control panel memory. GSM modem auto detection is activated in one of two ways: after tamper restore and after reset (power-up or after exiting the installer menu). This causes the PowerMaxExpress to automatically scan GSM COM ports for the presence of the GSM modem.

In the event that the GSM modem auto detection fails and the modem was previously enrolled in the PowerMaxExpress control panel, the message "Cel Rmvd Cnfrm" will be displayed. This message will disappear from the display only after the user clicks OKI. The modem is then considered as not enrolled and no GSM trouble message will be displayed.

Note: A message is displayed only when the PowerMaxExpress alarm system is disarmed.

4.7 Broadband Module Auto Detection
The Broadband Module modem auto detection feature enables automatic enrollment of the Broadband Module modem into the PowerMaxExpress control panel memory. Broadband Module modem auto detection is activated in one of two ways: after tamper restore and after reset (power-up or after exiting the installer menu). This causes the PowerMaxExpress to automatically scan the Broadband Module COM ports for the presence of the Broadband Module modem.

In the event that the Broadband Module modem auto detection fails and the modem was previously enrolled in the PowerMaxExpress control panel, the message "BBA Rmvd Cnfrm" will be displayed. This message will disappear from the display only after the user clicks OKI. The modem is then considered as not enrolled and no Broadband Module trouble message will be displayed.

Notes:
A message is displayed only when the PowerMaxExpress alarm system is disarmed.
In the event of a power failure the Broadband Module will not operate. Power (AC or battery) must be disconnected from the circuit before connecting / disconnecting the Broadband Module.

4.8 DEFINE PGM PARAMETERS
4.8.1 Preliminary Guidance
This mode enables you to determine PGM output.
a. Events/conditions selection under which PGM (programmable) output will function.
b. Function type selection for PGM output.
The process is shown in Fig. 4.8. Each selected option is displayed with a dark box at the right side. To review the options, repeatedly click or button, until the desired option is displayed, then click button.

4.8.2 Define PGM
For the PGM output, you can select disable, turn on, turn off or pulse active (turn on for predefined period, selected by PULSE TIME), as follows:
- BY ARM AWAY (upon AWAY arming).
- BY ARM HOME (upon HOME arming).
- BY DISARM (upon disarming).
- BY MEMORY (activated upon registration of an alarm in the memory, turned off upon memory clearing).
- BY DELAY (during exit / entry delays).
- BY KEYFOB (upon AUX button pressing in the keyfob transmitter / MCM-140+, if "PGM" is selected in "Define Panel" menu, locations 17 and 18).
- BY ZONES (by disturbance in each of 3 selected zones, irrespective of arming / disarming). If you select toggle, the PGM output will be turned on upon event occurrence in these zones and will be turned off upon next event occurrence, alternately.
- BY LINE FAIL: PGM output is ON if telephone line is disconnected.

4.8.3 PGM General Definition
Here you determine the PGM LOCKOUT TIME - daytime limits between which PGM output (that is controlled by sensors) will be off even when the associated sensors are triggered. To disable the lockout time, the START and STOP times should be identical (see figure 4.9).
** Upon selecting any one of the 3 options (zone a, b and c) you may enter a zone number and then select "disable", "turn on", "turn off", "pulse active" or "toggle".

Figure 4.8 Define PGM

4.9 DEFINE CUSTOM

This mode allows you to define up to 5 zones names (in addition to the zone names that can be defined in the DEFINE ZONES mode - see par. 4.3).

To edit User Terms, use the following buttons on the control panel keypad:
press [ ] to scroll backward; press [ ] to scroll forward;
press [ ] to change from small caps to big caps; press [ ] for space

Figure 4.9 – Define Custom

4.10 DIAGNOSTIC TEST

This mode allows you to test the function of all protected area wireless sensors / wireless sirens / wireless keypads / GPRS / LAN connection / options for resetting the Broadband Module and to receive / review information regarding the received signal strength.

The diagnostic test process is shown in figure 4.10.

For WL Sensors / WL Sirens / WL Keypads:
Three reception levels are sensed and reported.
Received Signal Strength Indication:

<table>
<thead>
<tr>
<th>Reception</th>
<th>Buzzer Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong</td>
<td>Happy Tune twice ( - - - - - - - - )</td>
</tr>
<tr>
<td>Good</td>
<td>Happy Tune ( - - - - - - - )</td>
</tr>
<tr>
<td>Poor</td>
<td>Sad tune ( ------ )</td>
</tr>
</tbody>
</table>

IMPORTANT! Reliable reception must be assured. Therefore, a "poor" signal strength is not acceptable. If you get a "poor" signal from a certain detector, re-locate it and re-test until a "good" or "strong" signal strength is received. This principle should be followed during the initial testing and also throughout subsequent system maintenance.
4.10.1 GPRS Communication Test

The GPRS Communication diagnostic procedure tests
GSM/GPRS communication and reports the diagnostic
result. In case of communication failure, detailed
information of the failure is reported.

The following GSM/GPRS messages are reported:

<table>
<thead>
<tr>
<th>Message</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit is OK</td>
<td>GSM / GPRS is functioning correctly.</td>
</tr>
<tr>
<td>GSM comm. loss</td>
<td>The GSM/GPRS module does not communicate with the Panel.</td>
</tr>
<tr>
<td>Pin code fail</td>
<td>Missing or wrong PIN code. (Only if SIM card PIN code is enabled.)</td>
</tr>
<tr>
<td>GSM net. fail</td>
<td>Unit failed with registration to local GSM network.</td>
</tr>
<tr>
<td>SIM card fail</td>
<td>SIM not installed or SIM card failure.</td>
</tr>
<tr>
<td>GSM not detected</td>
<td>GSM auto enroll failed to detect GSM/GPRS module.</td>
</tr>
<tr>
<td>No GPRS service</td>
<td>The SIM card does not have the GPRS service enabled.</td>
</tr>
<tr>
<td>GPRS conn. fail</td>
<td>Local GPRS network is not available or, wrong setting to GPRS APN, user</td>
</tr>
<tr>
<td></td>
<td>and/or password.</td>
</tr>
<tr>
<td>Srvr unavailable</td>
<td>IPMP Receiver cannot be reached – Check the Server IP.</td>
</tr>
<tr>
<td>IP not defined</td>
<td>Server IP #1 and #2 are not configured.</td>
</tr>
<tr>
<td>APN not defined</td>
<td>APN is not configured.</td>
</tr>
<tr>
<td>SIM card locked</td>
<td>After entering a wrong PIN code 3 consecutive times the SIM is locked.</td>
</tr>
<tr>
<td></td>
<td>To unlock it enter a PUK number. The PUK number cannot be entered by the</td>
</tr>
<tr>
<td></td>
<td>PowerMaxExpress.</td>
</tr>
<tr>
<td>Denied by server</td>
<td>The IPMP denies the connection request. Check that the Panel is registered</td>
</tr>
<tr>
<td></td>
<td>to the IPMP Receiver.</td>
</tr>
</tbody>
</table>

4.10.2 LAN Connection Test

The LAN Connection diagnostic procedure tests
Broadband Module communication to the IPMP and
reports the diagnostic result. In case of communication failure, detailed information of the failure is reported.

If the Broadband Module is not registered to the PowerMaxExpress, the menu "LAN CONNECT.TEST" will not be displayed.

The following LAN messages are reported:

<table>
<thead>
<tr>
<th>Message</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit is ok</td>
<td>Broadband Module is functioning correctly.</td>
</tr>
<tr>
<td>Test aborted</td>
<td>The diagnostic test is aborted, as follows:</td>
</tr>
<tr>
<td></td>
<td>• AC failure – Broadband Module is set to OFF mode.</td>
</tr>
<tr>
<td></td>
<td>• Broadband Module has not completed the power-up procedure.</td>
</tr>
<tr>
<td></td>
<td>In this case, the installer should wait a maximum of 30 seconds before</td>
</tr>
<tr>
<td></td>
<td>re-testing.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comm. loss</th>
<th>The RS-232 serial interface between the Broadband Module and the PowerMaxExpress failed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rcvr Ip missing</td>
<td>Receivers IP 1 and 2 settings are missing in the PowerMaxExpress.</td>
</tr>
<tr>
<td>Cable unplugged</td>
<td>The Ethernet cable is not connected to the Broadband Module.</td>
</tr>
<tr>
<td>Check lan config</td>
<td>This message appears in any of the following cases:</td>
</tr>
<tr>
<td></td>
<td>• Incorrect Broadband Module IP has been entered.</td>
</tr>
<tr>
<td></td>
<td>• Incorrect subnet mask has been entered.</td>
</tr>
<tr>
<td></td>
<td>• Incorrect default gateway has been entered.</td>
</tr>
<tr>
<td></td>
<td>• DHCP server failure.</td>
</tr>
<tr>
<td>Rcvr#1 UnReach.</td>
<td>Receiver 1 or 2 is inaccessible, as follows:</td>
</tr>
<tr>
<td>Rcvr#2 UnReach.</td>
<td>• Wrong receiver IP has been entered.</td>
</tr>
<tr>
<td></td>
<td>• Receiver failure.</td>
</tr>
<tr>
<td></td>
<td>• WAN Network failure.</td>
</tr>
<tr>
<td>Rcvr#1 UnReg.</td>
<td>The PowerMaxExpress unit is not registered to IP receiver 1 or 2.</td>
</tr>
<tr>
<td>Rcvr#2 UnReg.</td>
<td>Broadband Module does not respond to test result within 70 sec.</td>
</tr>
<tr>
<td>Invalid result</td>
<td>Broadband Module responds with a result code that is not recognized by the PowerMaxExpress.</td>
</tr>
</tbody>
</table>
10. DIAGNOSTICS

**GPRS CONN. TEST**
- Please wait...
- Unit is ok

**LAN CONNECT. TEST**
- Please wait...
- Unit is ok

**LAN RESET OPTION**
- Reboot
- Factory def

**DIAG. TESTING**
- (Perform walk test)
- Example of test result display
- Example of test result display
- Example of test result display

- (Each time the OK button is pressed, the next test result is displayed)

**WL SENSORS TEST**
- S1 CPU=STRONG
- S2 CPU=STRONG

**WL SIRENS TEST**
- S1 CPU=STRONG
- S2 CPU=STRONG

**WL KEYPADS TEST**
- K1 CPU=STRONG
- K2 CPU=STRONG

**LAN RESET OPTION**
- Reboot
- Factory def

Figure 4.10 - Diagnostic Test Flow Chart

**4.11 USER FUNCTIONS**

This mode provides you with a gateway to the user functions through the regular user programming menu. You may:
- Program the 4 (private) telephone numbers
- Program user codes
- Enroll keyfobs
- Set the auto arm option
- Set arming time
- Set the squawk option

- Set the system time and time format
- Set the date and date format

Refer to the User Guide for detailed procedures.

Caution! If after having programmed the user codes the system does not recognize your installer code, this indicates you must have programmed a user code that is identical with your installer code. If so, access the user menu and change the code that is identical with your installer code. This will re-validate your installer code.

**4.12 RETRIEVING FACTORY DEFAULTS**

If you want to reset the PowerMaxExpress parameters to the factory default parameters, you should enter the installer menu and perform the "FACTORY DEFLT" function, as described in the right side illustration. To get the relevant parameters defaults, contact the PowerMaxExpress dealer.

*Note:* For PowerMaxExpress with 2 installer codes, INSTALLER code and MASTER INSTALLER code, only the master installer code enables to perform factory default function.

**4.13 SERIAL NUMBER**

The menu "13. SERIAL NUMBER" enables reading the system serial number and panel ID for support purposes only.

**4.14 CALLING UPLOAD/DOWNLOAD SERVER**

*Note:* This option is only used during the installation of panels monitored by compatible central stations.

Panel ID is a unique number of the control panel that is used for registering the PowerMaxExpress to IPMP when using GPRS.

This option allows the installer to initiate a call to the upload/download server. The server uploads the PowerMaxExpress configuration to its data base and can unload predefined parameters to the PowerMaxExpress.
Figure 4.14 – Start UL/DL

4.15 WALK-TEST

This mode (see Figure 4.1a) provides you with the means to conduct a periodic test, via the walk-test menu, at least once a week and after an alarm event.

5. TESTING PROCEDURES

5.1 Preparations

Make sure all windows and doors are closed. If all zones are secured (undisturbed), the display should read:

![READY](HH:MM)

If the display is "NOT READY", query the control panel by pressing the **OK** button repeatedly. The source(s) of the problem(s) will be displayed and read aloud. Take the necessary measures to eliminate the problem(s) before testing the system (see next paragraph).

5.2 Diagnostic Test

To verify proper function of all detectors in the system, a comprehensive diagnostic test is required. To perform this test, refer to figure 4.10.

5.3 Keyfob Transmitter Test

Initiate transmission from each transmitter enrolled as a keyfob unit (according to the list in Table A2, Appendix A). Use each transmitter to arm the control panel AWAY and immediately disarm it. Upon pressing the keyfob unit’s AWAY key, the ARM indicator should light. The display should respond as follows:

- **ARMING AWAY**

- **PLEASE EXIT NOW**

The exit delay beeps will begin. Press the keyfob unit’s DISARM (d) key. The ARM indicator should extinguish, the announcement “Disarm, ready to arm” should be heard and the display should revert to:

- **READY** (HH:MM)

Test the AUX button in each keyfob in accordance with the information noted in Table A2, Appendix A. Verify that the AUX button performs its duty as programmed.

- If the AUX (e) button is defined as “INSTANT”, press the AWAY button and then the AUX button. The response should be:

  - **ARMING INSTANT**

  - (alternating)

  - **PLEASE EXIT NOW**

and the exit delay beeps will start. Press the DISARM (d) key immediately to disarm.

If UL/DL server tel. # is already defined (see par. 4.5.34)

If UL/DL server tel. # was not defined before (see par. 4.5.34)

Displayed during dialing process

- **COMMUNICATING**

- **TEL # NOT DEFINED**

- **DIAL ATTEMPT FAIL**

Displayed during download process

- **DOWNLOADING**

- **DOWNLOAD OK**

- **DOWNLOAD FAILED**

Displayed for half a minute approx. accompanied by sad (failure) melody

Displayed for half a minute approx. accompanied by sad (failure) melody

Displayed for half a minute approx. accompanied by happy (success) melody

Displayed for half a minute approx. accompanied by sad (failure) melody

Displayed for half a minute approx. accompanied by sad (failure) melody
If the AUX (*) button is defined as "skip exit delay", press the AWAY button and while you hear the exit beeps press the AUX button – the exit beeps will be stopped immediately and the system will be armed AWAY. Press the DISARM key ( ) immediately to disarm the system.

5.4 Emergency Transmitter Test
Initiate transmission from each transmitter enrolled to an emergency zone (according to the list in Table A3, Appendix A). For example, upon pressing the transmit button of an emergency transmitter enrolled to zone 22, the display should read:

![Display Example](image)

It is advisable to let the central station know that you are conducting this test, or just disconnect the telephone line from the PowerMaxExpress during the test, to prevent false alarms.

6. MAINTENANCE

6.1 Dismounting the Control Panel
A. Remove the screw that fastens the front unit to the back unit (see figure 3.1H).
B. Remove the 3 screws that fasten the back unit to the mounting surface (see figure 3.1A) and remove the control panel.

6.2 Replacing the Backup Battery
Replacement and first-time insertion of battery pack is similar (see figure 3.1C).
With fresh battery pack, correct insertion and tightened battery compartment lid, the TROUBLE indicator should extinguish. However, the “MEMORY” message will now blink in the display (caused by the “tamper” alarm you triggered when opening the battery compartment lid). Clear it by arming the system and immediately disarming.

6.3 Fuse Replacement
The PowerMaxExpress has an internal fuse that has automatic reset. Therefore, there is no need to replace fuse. When over current condition occurs, the fuse cuts off the circuit current. Upon fault current being removed for several seconds, the fuse is automatically reset and allows current flow through the circuit again.

6.4 Replacing/Relocating Detectors
Whenever maintenance work involves replacement or relocation of detectors, always perform a full diagnostic test according to par. 4.10.
Remember! A “poor” signal is not acceptable, as stated at the end of the test procedure.

7. READING THE EVENT LOG
Events are stored in the event log. You can access this log and review the events, one by one. If the event log fills up completely, the oldest event is deleted upon registration of each new event.
The date and time of occurrence are memorized for each event.

![Event Log Diagram](image)

When reading the event log, events are shown in chronological order - from the newest to the oldest. Access to the event log is provided by clicking the key and not through the installer's menu. Reading and erasing process of the event log is shown in the next drawing.

* While the system is in normal operation mode, click to review the event log.
** Event is displayed in 2 parts, for example, “Z13 alarm” then “09/02/00 3:37 P”. The two displays will be shown alternately until clicking again to move to the next event or until the end of the event log (4 minutes).
*** Applicable only if installer code is entered.
## A1. Detector Deployment Plan

<table>
<thead>
<tr>
<th>Zone No.</th>
<th>Zone Type</th>
<th>Sensor Location or Transmitter Assignment (in non-alarm or emergency zones)</th>
<th>Chime (Yes / No)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
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**Zone Types:**
- 1 = Interior follower
- 2 = Perimeter
- 3 = Perimeter follower
- 4 = Delay 1
- 5 = Delay 2
- 6 = 24 h silent
- 7 = 24 h audible
- 8 = Fire
- 9 = Non-alarm
- 10 = Emergency
- 11 = Gas
- 12 = Flood
- 13 = Interior
- 14 = Temperature
- 15 = Home / delay

**Zone Locations:**
Note down the intended location for each detector. When programming, you may select one of 26 available zone names (plus 5 custom zone names that you can add - see Figure 4.3 - Define Zones).

* Zones 29 only is hardwired zones.

## A2. Keyfob Transmitter List

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### A3. Emergency Transmitter List

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### APPENDIX B. Event Codes

#### Contact ID Event Codes

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<td>Emergency</td>
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<td>Telco fault</td>
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<td>Loss of supervision RF</td>
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#### SIA Event Codes

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<td>Opening Report</td>
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#### 4/2 Event Codes

**Note:** The report to central station is on the following zones: First wireless siren - zone 31, second wireless siren - zone 32, GSM - zone 33, first 2-way keypad (MKP-150/MKP-151) - zone 35, second 2-way keypad (MKP-150/MKP-151) - zone 36.
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<td>8</td>
<td>9</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>8</td>
<td>9</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
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</tr>
</tbody>
</table>

### Forced Arming – 8 users

<table>
<thead>
<tr>
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<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st digit</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
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<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
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### Zone Bypass

<table>
<thead>
<tr>
<th>Zone #</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
<th>21</th>
<th>22</th>
<th>23</th>
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<th>25</th>
<th>26</th>
<th>27</th>
<th>28</th>
<th>29</th>
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</thead>
<tbody>
<tr>
<td>1st digit</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
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<td>A</td>
<td>A</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
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<td>B</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd digit</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<td>9</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
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<td>7</td>
<td>8</td>
<td>9</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td></td>
</tr>
</tbody>
</table>

### Panic / 24 Hours - 8 users

<table>
<thead>
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<th>User No.</th>
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<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>Panic CP</th>
<th>Duress</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st digit</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
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<td>2</td>
<td>2</td>
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</tr>
<tr>
<td>2nd digit</td>
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<td>2</td>
<td>3</td>
<td>4</td>
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<td>6</td>
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<td>8</td>
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<td>A</td>
</tr>
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</table>

### Arm HOME and AWAY (Closing)

<table>
<thead>
<tr>
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<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>Cancel alarm</th>
<th>Recent Close</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st digit</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
</tr>
<tr>
<td>2nd digit</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>C</td>
</tr>
</tbody>
</table>

### Disarm (Opening)

<table>
<thead>
<tr>
<th>User No.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st digit</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>2nd digit</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>

### Trouble

<table>
<thead>
<tr>
<th>Event</th>
<th>Fuse Fail</th>
<th>Fuse Restore</th>
<th>Jamming</th>
<th>Jamming Restore</th>
<th>AC Failure</th>
<th>AC Restore</th>
<th>CPU Low Battery</th>
<th>CPU Low Battery Restore</th>
<th>CP Tamper</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st digit</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2nd digit</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
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</tbody>
</table>

### Event

<table>
<thead>
<tr>
<th>CP Tamper Restore</th>
<th>No Active COMM. &amp; LINE Restore</th>
<th>Enter Test</th>
<th>Exit Test</th>
<th>Auto Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st digit</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2nd digit</td>
<td>7</td>
<td>8</td>
<td>A</td>
<td>D</td>
</tr>
</tbody>
</table>
Understanding the Scancom Reporting Protocol Data Format

The SCANCOM data format consists of 13 decimal digits divided into 4 groups, from left to right, as shown at the right side.

Each channel is associated with a specific event as follows:

1st “C”: Exterior
2nd “C”: Fire
3rd “C”: Intruder
4th “C”: Open/close
5th “C”: Personal attack
6th “C”: Emergency
7th “C”: Second alarm
8th “C”: Second alarm
9th “C”: Second alarm
10th “C”: Second alarm
11th “C”: Second alarm
12th “C”: Second alarm
13th “C”: Second alarm

C1. Delay Zones
A delay zone has exit and entry delays set by you in the course of programming the system. Warning beeps will sound throughout these delays, unless you choose to mute them.

- Exit Delay - The exit delay begins once the user arms the system. It allows him to leave via interior zones and a doorway before arming actually takes effect. When the exit delay starts, the buzzer beeps slowly and maintains a slow beeping rate until the last 10 seconds, during which it beeps rapidly. The PowerMaxExpress has two types of delay zones, for which different delay times may be set.

- Entry Delay - The entry delay begins once the user enters the protected area via a specific doorway (his entry is sensed by a delay zone detector). To avoid an alarm, he must reach the keypad via interior zones (which become “follower zones” during the entry delay) and disarm the system before the delay expires. When the entry delay starts, the buzzer beeps slowly until the last 10 seconds, during which it beeps rapidly.

C2. Emergency Zones
You can provide incapacitated, sick or elderly people with a miniature single-button transmitter to be carried on the neck like a pendant or to be worn on the wrist like a watch. In distress situations, they can press the button on their transmitter, causing the PowerMaxExpress to send an emergency call to the central monitoring station or to private telephones designated by the installer.

To make this possible, define the required number of zones as emergency zones and enroll a portable transmitter or a wireless device (detector) to this type of zone.

C3. Fire Zones
A fire zone uses smoke detectors and is permanently active (a fire alarm is triggered regardless of whether the system is armed or disarmed). Upon detection of smoke, a pulsating siren sounds immediately and the event is reported via the telephone line.

C4. Flood Zone
A flood zone is permanently active (a flood alarm is triggered regardless of whether the system is armed or disarmed). Upon detection of flood leak, the event is reported via the telephone line.

C5. Gas Zone
A gas zone is permanently active (a gas alarm is triggered regardless of whether the system is armed or disarmed). Upon detection of gas leak, the event is reported via the telephone line.

C6. Interior Zone
Interior zones are zones within the protected premises that have nothing to do with perimeter protection. Their most important feature is that they allow free movement within the protected area without initiating an alarm, provided that the system is armed in the “HOME” mode. People can therefore stay at home and move about freely, as long as they do not disturb a PERIMETER zone.

Once the system is armed in the AWAY mode (all zones are protected), interior zones will initiate an alarm if violated.

C7. Interior Follower Zones
“Interior Follower” zone is a zone that is located between entry/exit zone and the alarm system control panel. This zone is temporarily ignored by the alarm system during entry/exit delay periods, to enable you to walk (without causing an alarm) in front of a motion detector that is associated with the Interior Follower zone, after you enter through an entry zone on the way to the control panel, or when leaving the protected premises after system arming.

C8. Home/Delay Zones
A zone type which functions as a delay zone when the system is armed HOME and as a perimeter-follower zone when the system is armed AWAY.

C9. Non-Alarm Zones
A non-alarm zone does not directly participate in the alarm system. It can be used for chime or for optional KEY ON-OFF feature (when enabled).

You can define the desired number of non-alarm zones and enroll a portable transmitter or a wireless device (detector) to this type of zone.

C10. Perimeter Zones
Perimeter zones rely on detectors designed to protect doors, windows and walls. An immediate alarm is initiated when such a zone is violated by opening the door/window or by trying to break the wall.

C11. Perimeter Follower Zones
A non-entry/exit zone, typically a perimeter zone located on an entry/exit path, that is treated as an entry/exit zone during an entry/exit time.

C12. Temperature Zone
A temperature zone uses a wireless temperature detector to detect both indoor and outdoor temperatures and is permanently active. The detector monitors room temperature using an internal sensor. For outdoor or refrigerator installations, a waterproof temperature probe (optional) is used. There are a total of four fixed temperature points and the user can enable one or more temperature points. Upon detection of change in temperature a digital message is transmitted and the event is reported.

C13. 24-Hour Zones
24 hour zones are mainly used for PANIC buttons, perimeter detectors and anti-tamper protection. They therefore trigger an alarm in both armed and disarmed states.

- 24 Hour Zone - Silent. - Upon detection, this zone initiates a silent alarm, meaning that the sirens do not

APPENDIX C. Programmable Zone Types

<table>
<thead>
<tr>
<th>Account Code</th>
<th>Channels</th>
<th>Channels</th>
<th>System Status:</th>
</tr>
</thead>
<tbody>
<tr>
<td>aaaaa</td>
<td>1 - 4</td>
<td>SCCCC</td>
<td>no trouble, test, low battery</td>
</tr>
</tbody>
</table>

The digit in this position conveys the status of channel 1
The digit in this position conveys the status of channel 8
function. Instead the PowerMaxExpress dials telephone numbers and reports the event to central stations and/or to private telephones, as programmed.

- **24 Hour Zone - Audible.** Upon detection, this zone initiates a siren alarm. The PowerMaxExpress also dials telephone numbers and reports the event to central stations and/or to private telephones, as programmed.

### C14. Key Zones (Optional)

Key zones are zones that can be used for arming and disarming the system by MCT-100 and MCT-102.

### APPENDIX D. PowerMaxExpress Compatible Devices

#### D1. PowerMaxExpress Compatible Detectors

Each detector compatible with the PowerMaxExpress system is packed with its own installation instructions. Read them carefully and install as indicated.

**A. PIR Motion Detectors**

The wireless passive infrared (PIR) motion detectors used in the system are of the PowerCode type. The PowerMaxExpress is capable of "learning" each detector's identification code and linking it to a specific zone (see par. 4.3 in this Guide). Some units are shown below:

- NEXT® K9-85 MCW
- MCT-234
- MCPIR-3000 or K-940 MCW
- DISCOVERY K9-80/MCW

**Note:** K9-940 MCW, Discovery K9-80/MCW and NEXT K9-85 MCW are pet immune units.

In addition to its unique 24-bit identification code, each detector transmits a message, containing status information:

- The detector is in alarm (or not).
- The detector is being tampered with (or not).
- The battery voltage is low (or normal).
- "This is a supervisory message".

If any of these detectors detects motion, it sends out a message to the alarm control panel. If the system is in the armed state, an alarm will be triggered.

**B. Magnetic Contact Transmitter**

MCT-302 is a PowerCode magnetic-contact transmitter used to detect the opening of a door or a window. The alarm contacts are closed as long as the door or window remains closed.

The unit has an extra alarm input that acts as if it were a separate wireless transmitter. It sends (or does not send) a "restored to normal" message to the alarm system, depending on the setting of an on-board "DIP" switch.

**C. MCT-100 Wireless Adapter for Wired Detectors**

MCT-100 is a PowerCode device used mainly as a wireless adapter for 2 regular magnetic switches installed on 2 windows in the same room. It has two inputs, behaving as separate wireless transmitters with different PowerCode IDs. Each input sends (or does not send) a "restored" message to the alarm system, depending on the setting of an on-board "DIP" switch.

**D. Wireless Smoke Detector**

MCT-425. A photoelectric smoke detector equipped with a PowerCode-type transmitter. If enrolled to a fire zone, it initiates a fire alarm upon detection of smoke.

**E. Glass Break Detector**

MCT-501 An acoustic detector equipped with a PowerCode-type transmitter. Since it restores automatically after detection, this unit does not send a restoral message to the control panel.

#### D2. PowerMaxExpress Compatible Transmitters

The PowerMaxExpress system is compatible with multi-button and single button key-ring and hand-held transmitters that use PowerCode and CodeSecure coding methods.

Multi-button PowerCode transmitters transmit the same code each time the same button is pressed. They can be used for emergency signaling. They can not be used for arming / disarming.

CodeSecure transmitters are of the rolling code type - they transmit a new code each time the same button is pressed. They can be copied ("grabbed") by unauthorized people.

Following are the basic details of several compatible transmitters. The possible applications for each push-button are indicated in each drawing.

**A. MCT-234**

Keyfob transmitter. You can program the AUX (auxiliary) button to perform various tasks, in accordance with the user's needs.

Pressing AWAY and HOME together for 2 sec. initiates PANIC alarm.

Pressing AWAY for 2 sec. initiates Latchkey arming.

**B. MCT-231 / 201**

(N.A. in North America) Single-button pendant units. The MCT-231 (Code-Secure) and the MCT-201 (PowerCode) can be enrolled to perform functions as shown. Both units look alike.
D. MCT-132 / 102*
(N.A. in North America) 2-button units. MCT-132 (CodeSecure) can perform functions as shown. MCT-102 (PowerCode) can perform emergency and non-alarm tasks. Both units look alike.

E. MCT-131 / 101*
(N.A. in North America) Single-button units. The MCT-131 (CodeSecure) and the MCT-101 (PowerCode) can be enrolled to perform functions as shown. Both units look alike.

F. MCT-211*
Water-proof, wrist-worn Power-Code transmitter. Can be enrolled to perform emergency or non-alarm functions.

* Not UL listed.

D3. PowerMaxExpress Compatible WL Siren
The MCS-710 / MCS-720 / MCS-730 AC (*) wireless siren can be integrated with the PowerMaxExpress in areas in which wiring action is difficult or impossible. The MCS-710 / MCS-720 / MCS-730 is a fully supervised, 2-way communication device (it includes a receiver, to receive activation commands from the alarm system, and a transmitter to periodically transmit its status signal to the alarm system). The MCS-730 AC is powered by an External 9VAC adaptor and non-rechargeable backup battery. When an identifiable activation command is received from the PowerMaxExpress, the siren activates its sounder and the flash light (strobe light every 1.5 seconds).

* Not UL listed.

D4. PowerMaxExpress Compatible WL Repeater
The MCX-610 repeater is a mains powered range extender designed to relay digital data between wireless devices and a control panel.

Industry Canada Declaration
This product meets the applicable Industry Canada technical specifications/Le présent matériel est conforme aux specifications techniques appliables d’Industrie Canada.
The Ringer Equivalence Number is an indication of the maximum number of devices allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the RENs of all the devices does not exceed five/L’indice d’équivalence de la sonnerie (IES) sert à indiquer le nombre maximal de terminaux qui peuvent être raccordés à une interface téléphonique. La terminaison d’une interface peut consister en une combinaison quelconque de dispositifs, à la seule condition que la somme d’indices d’équivalence de la sonnerie de tous les dispositifs n’excède pas 5.
The Ringer Equivalence Number (REN) for this terminal equipment is 0.3B.
WARNING

The manufacturer warrants this product only (the "Product") to the original purchaser only (the "Purchaser") against defective workmanship and materials under normal use of the Product for a period of twelve (12) months from the date of shipment by the Manufacturer.

The Warranty is absolutely conditional upon the Product having been properly installed, maintained and operated under conditions of normal use in accordance with the Manufacturer's recommended installation and operation instructions. Products which have become defective for any other reason, according to the Manufacturer's discretion, such as improper installation, failure to follow recommended installation and operational instructions, neglect, willful damage, misuse or vandalism, accident damage, alteration or tampering, or repair by anyone other than the manufacturer, are not covered by this Warranty.

The User must follow the Manufacturer's installation and operational instructions including testing the Product, proper installation and maintenance, only reduces the risk of such events without warning and it is not a guarantee or insurance that such events will not occur.

THIS WARRANTY IS EXCLUSIVE AND EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, OBLIGATIONS OR LIABILITIES, WHETHER WRITTEN, ORAL, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE. IN NO CASE SHALL THE MANUFACTURER BE LIABLE TO ANYONE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF THIS WARRANTY OR ANY OTHER WARRANTIES WHATSOEVER, AS HEREBEFORE STATED. THE MANUFACTURER SHALL IN NO EVENT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES OR FOR LOSS, DAMAGE, OR EXPENSE, INCLUDING LOSS OF USE, PROFITS, REVENUE, OR GOODWILL, DIRECTLY OR INDIRECTLY ARISING FROM PURCHASER'S USE, OR INABILITY TO USE THE PRODUCT, OR FOR LOSS OR DESTRUCTION OF OTHER PROPERTY OR FROM ANY OTHER CAUSE, EVEN IF MANUFACTURER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

THE MANUFACTURER SHALL HAVE NO LIABILITY FOR ANY DEATH, PERSONAL AND/OR BODILY INJURY AND/OR DAMAGE TO PROPERTY OR OTHER LOSS WHETHER DIRECT, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR OTHERWISE, BASED ON A CLAIM THAT THE PRODUCT FAILED TO FUNCTION. However, if the Manufacturer is held liable, whether directly or indirectly, for any loss or damage arising under this limited warranty, THE MANUFACTURER'S MAXIMUM LIABILITY (IF ANY) SHALL NOT IN ANY CASE EXCEED THE PURCHASE PRICE OF THE PRODUCT, which shall be fixed as liquidated damages and not as a penalty, and shall be the complete and exclusive remedy against the Manufacturer.

When accepting the delivery of the Product, the Purchaser agrees to the said conditions of sale and warranty and he recognizes having been informed about any limitations which may not apply under certain circumstances. The Manufacturer shall be under no liability whatsoever arising out of the corruption and/or malfunctioning of any program included in the Product.

The Manufacturer makes no warranty or representation, expressed or implied, that the Product will prevent any death and/or personal injury and/or damage to property resulting from burglary, robbery, fire or otherwise, or that the Product and all its parts provide adequate warning or protection. The Product, properly installed and maintained, only reduces the risk of such events without warning and it is not a guarantee or insurance that such events will not occur.

The Purchaser agrees to accept the Product in the current condition and to accept the said Warranty as it is. The Manufacturer does not represent that this Product may not be compromised and/or circumvented or that the Product will prevent any death and/or personal injury and/or damage to property resulting from burglary, robbery, fire or otherwise, or that the Product and all its parts provide adequate warning or protection. The Product, properly installed and maintained, only reduces the risk of such events without warning and it is not a guarantee or insurance that such events will not occur.

This Warranty is exclusive and expressly in lieu of all other warranties, obligations or liabilities, whether written, oral, express or implied, including any warranty of merchantability or fitness for a particular purpose, or otherwise. Any provision in this warranty which is contrary to the Law in the state or country were the Product is supplied shall not apply.

This Warranty is in addition to and does not affect your legal rights. Any provision in this warranty which is contrary to the Law in the state or country were the Product is supplied shall not apply. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so these limitations may not apply under certain circumstances. The Manufacturer shall be under no liability whatsoever arising out of the corruption and/or malfunctioning of any program included in the Product.

The Manufacturer's obligations under this Warranty are limited solely to repair and/or replace at the Manufacturer's discretion any Product or part thereof that may prove defective. Any repair and/or replacement shall not extend the original Warranty period. The Manufacturer shall not be responsible for demanding and/or reinstallation costs. To exercise this Warranty the Product must be returned to the Manufacturer freight pre-paid and insured. All freight and insurance costs are the responsibility of the Purchaser and are not included in this Warranty. The Manufacturer does not represent that this Product may not be compromised and/or circumvented or that the Product will prevent any death and/or personal injury and/or damage to property resulting from burglary, robbery, fire or otherwise, or that the Product and all its parts provide adequate warning or protection. The Product, properly installed and maintained, only reduces the risk of such events without warning and it is not a guarantee or insurance that such events will not occur.

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