PowerMaster-33 G2
Version 18

Installer's Guide

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1. INTRODUCTION

PowerMaster® is a PowerG-enabled professional all-in-one wireless security, fire and safety system supporting advanced applications and Visonic's PowerG™ Two-Way, Time Division Multiple Access (TDMA) and Frequency Hopping Spread Spectrum (FHSS) wireless technology. This offers unmatched wireless robustness, superior range and long battery life; a perfect and user friendly solution for both monitoring service providers and professional installers.

The system consists of the PowerMaster-33 G2 control panel that does not include a built-in keypad and that operates in conjunction with a wireless keypad display device (KP-250 PG2). The control panel accommodates all control circuitry and operation software for a programmable 64-zone alarm system, while the keypad display unit enables the installer and the user to enter their commands and provides visual and audible feedback.

This manual refers to PowerMaster-33 G2 v18 and above. The most updated manuals can be downloaded from the Visonic Web site http://www.visonic.com.

Note: "Pmaster" is used as an abbreviation for "PowerMaster".

The system is supplied with 3 instruction manuals:

■ **PowerMaster-33 G2 Installer's Guide** (this manual) – for use of system installer during system installation.

■ **KP-250 PG2 Installer's Guide** — for use of system installer during KP-250 PG2 installation and PowerMaster-33 G2 configuration.

■ **KP-250 PG2 User's Guide** — also for use of system installer during system installation and configuration, but also for the master user of the system, once installation is completed. Hand over this manual to the master user of the system.

1.1 System Features

The following table lists the PowerMaster features with a description of each feature and how to use it.
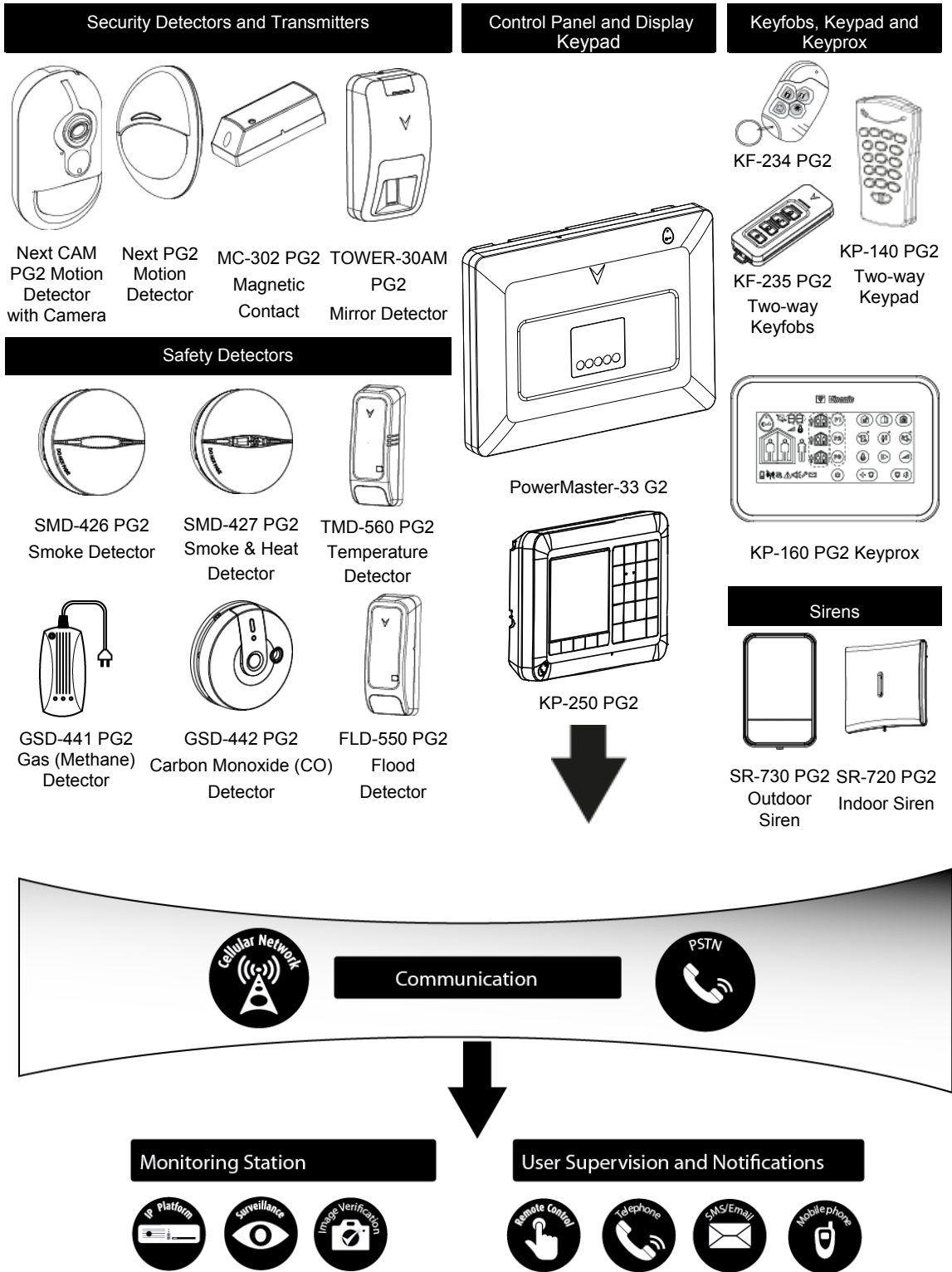
Feature	Description	How to configure and use
Visual Alarm Verification	The PowerMaster when used with Next CAM PG2 PIR-camera detector and GPRS communication is able to provide the Monitoring Station with clips captured in alarm situations. The system sends the clips to the Monitoring Station automatically for burglary alarms and, depending on setup, also for fire and personal emergency alarms.	**1. Setup GPRS communication:** see GSM Module Installation section 3.5) **2. Configure camera settings:** refer to the Next CAM PG2 Installation Instructions **3. Enable fire and personal alarm verification:** see KP-250 PG2 Installer's Guide, section 3.6.6 Configuring Motion Cameras for Video Alarm Verification
On demand clips from cameras	The PowerMaster can provide images from the Next CAM PG2 by demand from a remote PowerManage server. Pictures are taken based on a command from the monitoring station. To protect customers' privacy, the system can be customized to enable the "On Demand View" only during specific system modes (i.e. Disarm, Home & Away) and also to a specific time window following an alarm event.	**1. Setup the On demand feature:** see KP-250 PG2 Installer's Guide, section 3.6.6 Configuring Motion Cameras for Video Alarm Verification **2. To request and view images:** refer to the PowerManage User's Guide, Chapter 5 Viewing and Handling Events
Easy Enrollment	PowerG devices are enrolled from the control panel. "Pre-enrollment" can also be performed by entering the PowerG device ID number and then activating the device in the vicinity of the panel.	**To enroll or pre-enroll devices:** see KP-250 PG2 Installer's Guide, section 3.4.2 Adding New Wireless Devices or Wired Sensors

Device Configuration	Device parameters and related system behavior can be configured from the KP-250 PG2 keypad or from a remote location. Each PowerG device has its own settings which can be configured through the KP-250 PG2 keypad by entering the "DEVICE SETTINGS" menu.	**To configure devices from the KP-250 PG2:** see KP-250 PG2 Installer's Guide, Chapter 3 Programming and also the individual device's Installation Instructions. **To configure devices from a remote location:** refer to the PowerManage User's Guide Chapter 3 Working with Panels and to the Remote Programmer PC software User's Guide, Chapters 6 and 7.
Diagnostics of the control panel and peripherals	You can test the function of all wireless sensors deployed throughout the protected area, to collect information about the received signal strength from each transmitter and to review accumulated data after the test.	**To perform diagnostics and to obtain signal strength indication:** see KP-250 PG2 Installer's Guide, section 3.9 Diagnostics
Conducting periodic tests	The system should be tested at least once a week and after an alarm. The periodic test can be conducted locally or from a remote location (with the assistance from a non-technical person in the house).	**To conduct a walk test locally**: see KP-250 PG2 Installer's Guide, Chapter 4 Periodic Test by Installer Code or KP-250 PG2 User's Guide, Chapter 8 Periodic Test by User Code **To conduct a walk test from remote location:** refer to the Remote Programmer PC software User's Guide, Chapter 6 Data Details Tables.
Partitions	The partitioning feature, when enabled, divides your alarm system into distinct areas each of which operates as an individual alarm system. Partitioning can be used in installations where shared security systems are more practical, such as a home office or warehouse building.	**1. Enable partitioning:** see KP-250 PG2 Installer's Guide, section 3.13 Partitioning **2. Setup partition association for each device:** see KP-250 PG2 Installer's Guide, section 3.4.2 Adding New Wireless Devices or Wired Sensors **To understand more about partitioning:** see KP-250 PG2 Installer's Guide, APPENDIX B. Working with Partitions.
Two-way voice communication[*]	The PowerMaster system enables voice communication with Monitoring Stations	**To enable and configure two way voice:** see KP-250 PG2 Installer's Guide, section 3.6.4 Configuring Events Reporting to Monitoring Stations
Device configuration templates	The default parameters with which a new device is enrolled into the system can be set before you enroll devices. This default template saves time on device configuration.	**1. Define enrollment defaults for devices:** see KP-250 PG2 Installer's Guide, section 3.4.7 Defining Configuration Defaults for "Device Settings" **2. Enroll or pre-enroll devices:** see KP-250 PG2 Installer's Guide, section 3.4.2 Adding New Wireless Devices or Wired Sensors
SirenNet - distributed siren using Smoke detectors	All PowerG smoke detectors are able to function as sirens, alerting on any of 4 types of alarm in the system: burglary, gas, fire or flood.	**Enable and configure SirenNet for each smoke detector:** refer to the SMD-426 PG2 / SMD-427 PG2 Installation Instructions

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[*] Refers to PowerMaster-33 G2 with voice option only

Integrated Siren built into the panel	The control panel has a high-powered built-in siren that sounds in case of alarm, enabled by default.	**To define whether or not the control panel's siren will sound upon alarms:** see KP-250 PG2 Installer's Guide, section 3.5.5 Configuring Sirens Functionality
Wired Siren outputs	The control panel can operate a wired siren and strobe devices	**Install and connect wired siren:** see section 3.8 Optional Expander Module
Wired zones and programmable outputs (PGM)	The control panel can support wired detectors and control automation devices with programmable wired outputs.	**1. Connect a wired zone or PGM device:** see section 3.4 Adding a Wired Zone and Siren. **2. Program the wired zone:** see KP-250 PG2 Installer's Guide, section 3.4.2 Adding New Wireless Devices or Wired Sensors **3. Program PGM outputs behavior:** see KP-250 PG2 Installer's Guide, section 3.7 PGM Output.
Reporting to Private Users and/or Monitoring Station by telephone, SMS and IP communication	The PowerMaster system can be programmed to send notifications of alarm and other events to 4 private telephone subscribers by voice and also to 4 SMS cellular phone numbers and to report these events to the Monitoring Station by SMS, PSTN or IP communication.	**To configure notifications to Private phones:** see KP-250 PG2 User's Guide, Chapter 6, section B.12 Programming Private Phone and SMS Reporting **To configure reporting to the Montioring Station:** see KP-250 PG2 Installer's Guide, section 3.6.4 Configuring Events Reporting to Monitoring Stations
Quick installation with link quality indication	With PowerG devices, there is no need to consult the KP-250 PG2 keypad when mounting a wireless device, because PowerG devices include a built-in link quality indicator. Choosing the mounting location is a quick and easy process.	To choose the ideal location to mount a wireless device, see Chapter 2 Choosing the Installation Location.
Device Locator	Helps you to easily identify the actual device displayed on the KP-250 PG2 LCD display.	**To read more on the Device Locator:** see KP-250 PG2 User's Guide, Chapter 3, Arming and Disarming the System **To use the device locator when bypassing a zone or when clearing a bypassed zone:** see KP-250 PG2 User's Guide, Chapter 6, section B.1 Setting the Zone Bypass Scheme **To use the device locator when conducting the periodic test:** see KP-250 PG2 Installer's Guide, Chapter 4 Periodic Test by Installer Code or KP-250 PG2 User's Guide, Chapter 8 Periodic Test by User Code.
Guard key-safe	PowerMaster is able to control a safe that holds site keys that are accessible only to the site's guard or Monitoring Station's guard in the event of an alarm.	**1. Connect the safe to the panel:** see section 3.8 Optional Expander Module Mounting, Figure 3.8b **2. Configure the safe's zone type to "Guard Zone":** see KP-250 PG2 Installer's Guide, section 3.4.2 Adding New Wireless Devices or Wired Sensors **3. Setup guard code:** see KP-250 PG2 Installer's Guide, section 3.3 Setting Installer Codes
Arming key	External system may control arming and disarming of the PowerMaster system	**Connect the external system output to the panel:** see section 3.8 Optional Expander Module Mounting, Figure 3.8b

System Architecture:

Security Detectors and Transmitters	Control Panel and Display Keypad	Keyfobs, Keypad and Keyprox

Next CAM PG2 Motion Detector with Camera

Next PG2 Motion Detector

MC-302 PG2 Magnetic Contact

TOWER-30AM PG2 Mirror Detector

KF-234 PG2

KF-235 PG2 Two-way Keyfobs

KP-140 PG2 Two-way Keypad

Safety Detectors

SMD-426 PG2 Smoke Detector

SMD-427 PG2 Smoke & Heat Detector

TMD-560 PG2 Temperature Detector

GSD-441 PG2 Gas (Methane) Detector

GSD-442 PG2 Carbon Monoxide (CO) Detector

FLD-550 PG2 Flood Detector

PowerMaster-33 G2

KP-250 PG2

KP-160 PG2 Keyprox

Sirens

SR-730 PG2 Outdoor Siren

SR-720 PG2 Indoor Siren

Cellular Network   Communication   PSTN

Monitoring Station

IP Platform   Surveillance   Image Verification

User Supervision and Notifications

Remote Control   Telephone   SMS/Email   Mobile phone

2. CHOOSING THE INSTALLATION LOCATION

To ensure the best possible mounting location of the PowerMaster control panel, the following points should be observed:

- The selected location should be approximately in the center of the installation site between all the transmitters, preferably in a hidden location.
- In close proximity to an AC source
- In close proximity to a telephone line connection (if PSTN is used)
- Where there is good cellular coverage, if GSM-350 PG2 is used
- Far from sources of wireless interference, such as:
  - o Computers or other electronic devices, power conductors, cordless phones, light dimmers, etc.
 - o Large metal objects (such as metal doors or refrigerators)
    - *Note: A distance of at least 1 meter (3 ft) is recommended.*

When mounting wireless devices:
- Make sure that the signal reception level for each device is either "Strong" or "Good", but not "Poor".
- Wireless magnetic contacts should be installed in a vertical position and as high up the door or window as possible.
- Wireless PIR detectors should be installed upright at the height specified in their Installation Instructions
- Repeaters should be located high on the wall in mid-distance between the transmitters and the control panel.

WARNING! To comply with FCC and IC RF exposure compliance requirements, the control panel should be located at a distance of at least 20 cm from all persons during normal operation. The antennas used for this product must not be co-located or operated in conjunction with any other antenna or transmitter.

Customer Premises Equipment and Wiring
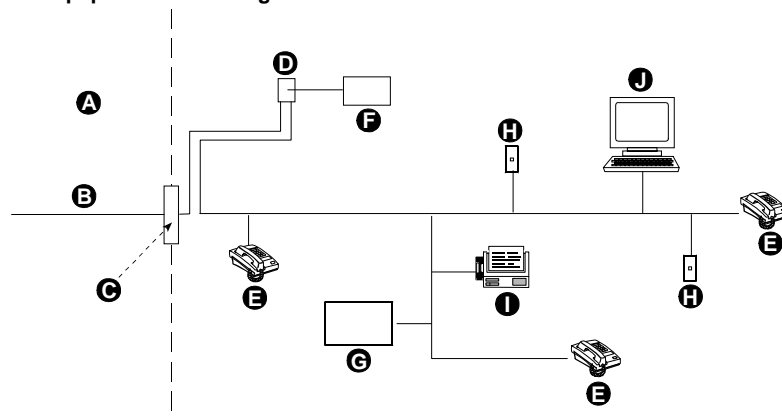
A. Network Service Provider's Facilities	**F.** Alarm Dialing Equipment
B. Telephone Line	**G.** Answering System
C. Network Demarcation Point	**H.** Unused RJ-11 Jack
D. RJ-31X Jack	**I.** Fax Machine
E. Telephone	**J.** Computer

Note: The REN is used to determine the number of devices that may be connected to a telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company.

Connection to telephone company provided coin service is prohibited. Connection to party lines service is subject to state tariffs.

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.

3. POWERMASTER-33 G2 INSTALLATION

Required tool: Philips screwdriver #2.
PowerMaster-33 G2 mounting process is shown in Figures 3.1 - 3.10.

3.1 PowerMaster-33 G2 Wiring Diagram
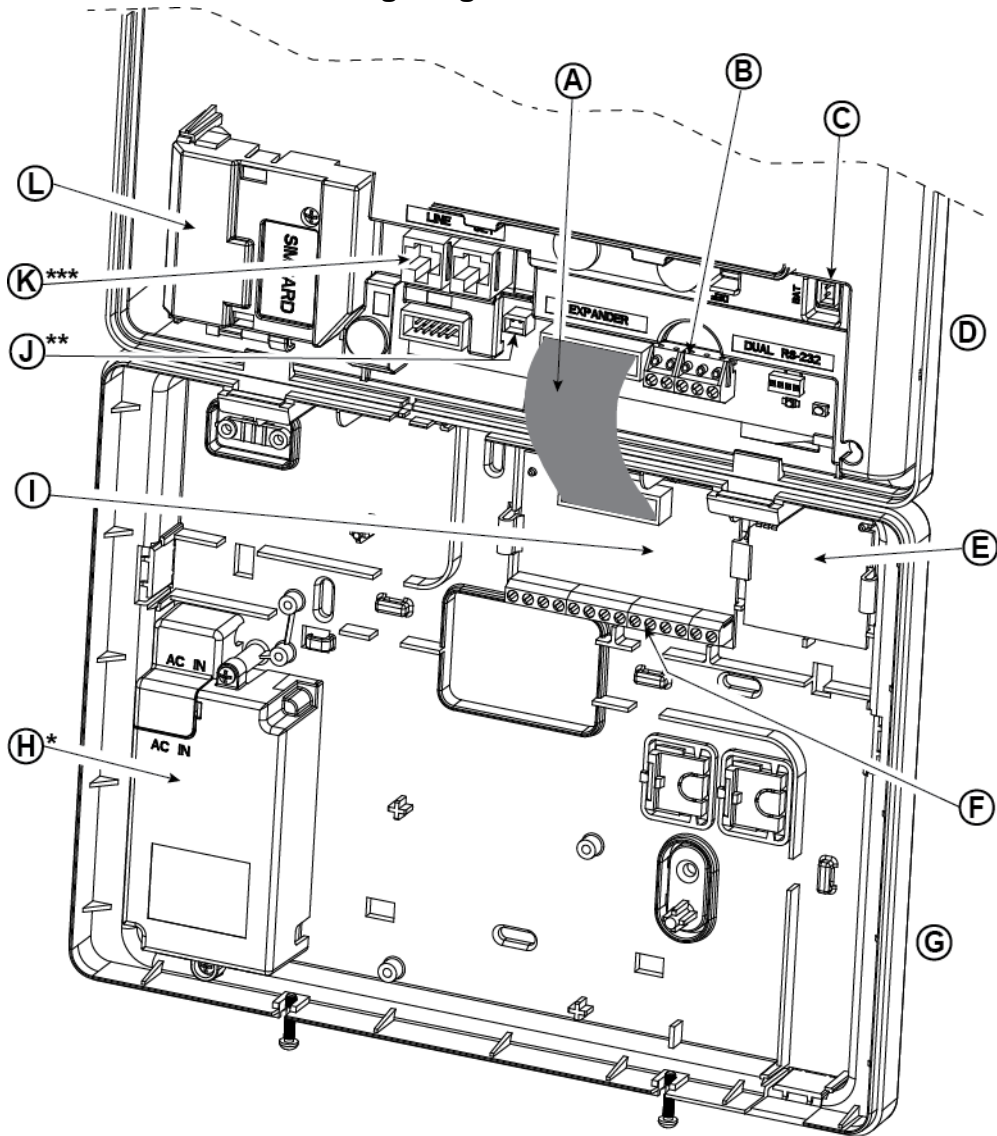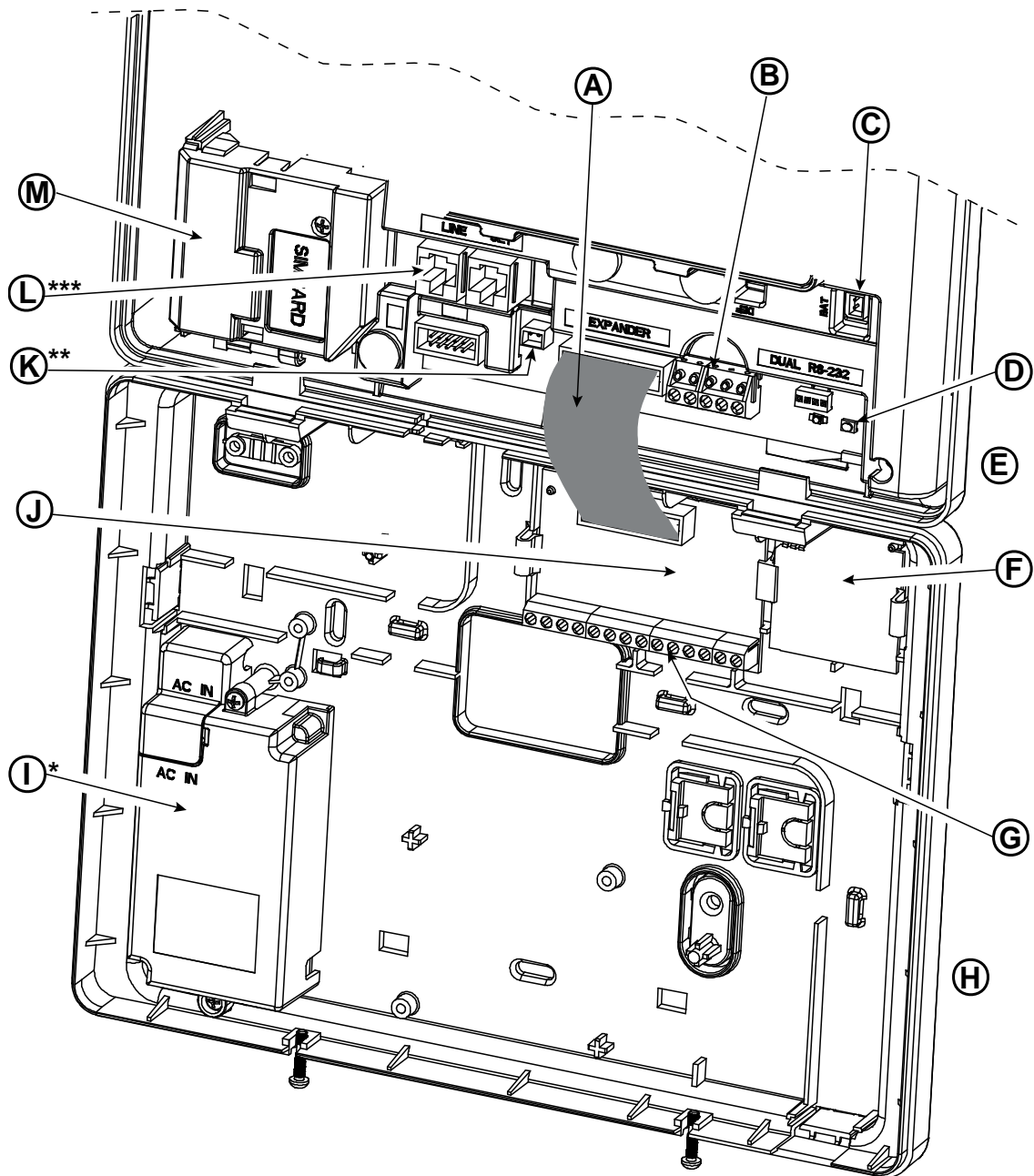
A. Expander Module Flat Cable	B. Wired Zone / Special Siren Terminal Block	C. Battery Connector	D. Front UnitEnroll 1st Keypad button
E. PGM-5 ModuleFront Unit	F. Expander Module Wiring Terminal BlocksPGM-5 Module	G. Back Unit Expander Module Wiring Terminal Blocks	H. Power SupplyBack Unit
I. Expander ModulePower Supply	J. Power Connector Expander Module	K. Phone Wiring Connectors Power Connector	L. Phone Wiring ConnectorsGSM-350 PG2
M. GSM-350 PG2			

*   or External Power Supply Unit
**   or External Power Connector

Figure 3.1 – PowerMaster-33 G2 Wiring Diagram

3.2 Opening the PowerMaster-33 G2 Control Panel and Bracket Mounting

To Mount the Unit:	**A.** Mounting surface
1. Release the screws	**B.** Back unit
2. Remove the front cover	**C.** 5 screws
3. Mark 5 drilling points on the mounting surface, then drill 5 holes and insert wall anchors and then fasten the back unit with 4 screws	* For back tamper
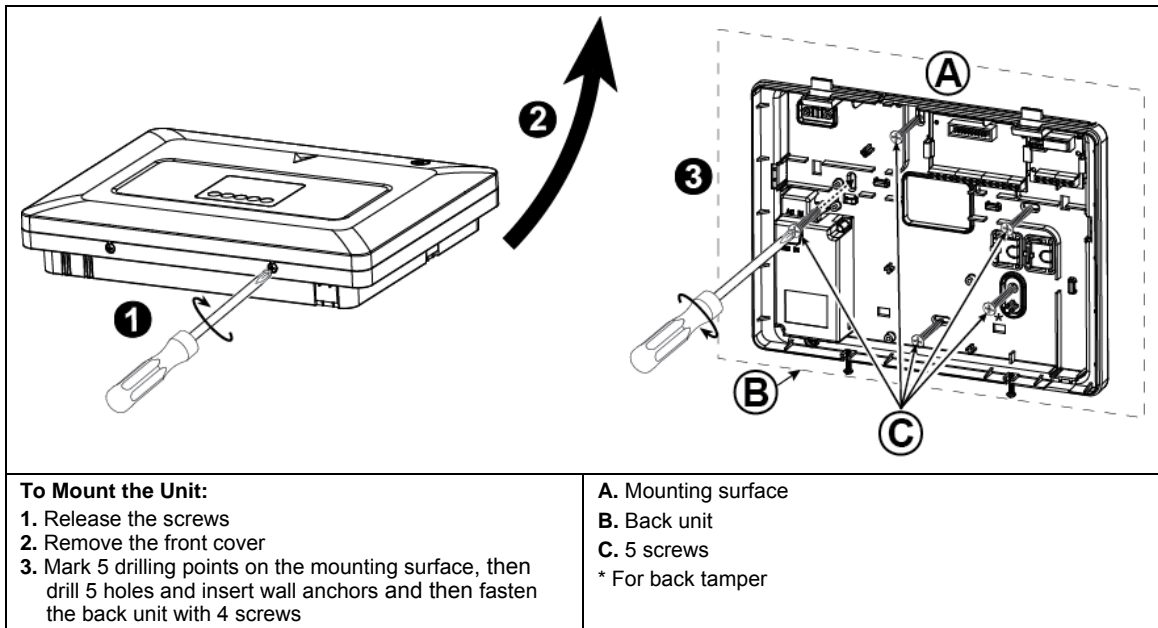
Figure 3.2 – Back Unit Mounting

3.3 Connecting to the Telephone Line (detail "K" in Figure 3.1)

PHONE WIRING

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

Note: The telephone cable should be no longer than 3 meters.

A. LINE   **B.** SET   **C.** Tel line wall jack

Figure 3.3a – Phone Wiring

PHONE WIRING IN NORTH AMERICA

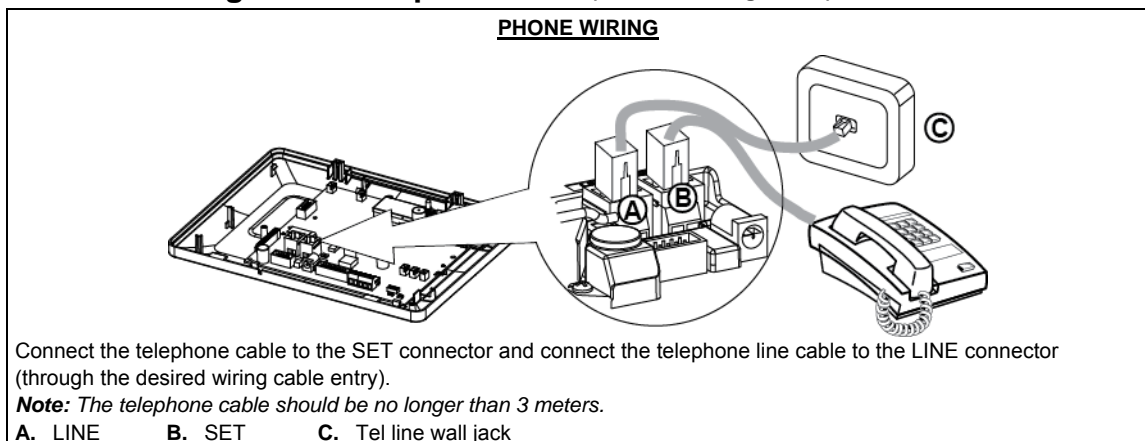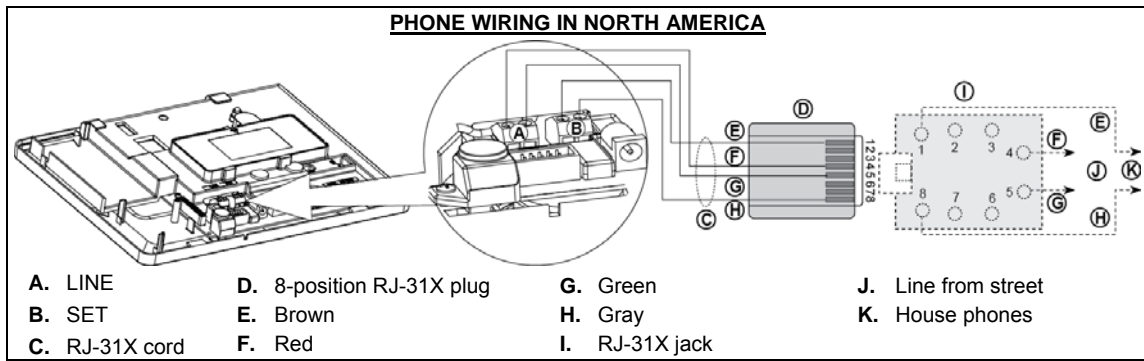|			
A. LINE	**D.** 8-position RJ-31X plug	**G.** Green	**J.** Line from street
B. SET	**E.** Brown	**H.** Gray	**K.** House phones
C. RJ-31X cord	**F.** Red	**I.** RJ-31X jack	

Figure 3.3b – Phone Wiring in North America

Phone wiring in the UK: Line terminals must be connected to pins 2 and 5 of the wall jack.
For all installations: If DSL service is present on the phone line, you must route the phone line through a DSL filter (refer to MESSAGE TO THE INSTALLER on page 2 for further details).

3.4 Connecting Wired Zone and Siren (detail "B" in Figure 3.1)

If an expander module is not used, one wired zone and one low voltage siren can be connected directly to the front panel PCB.

WIRED ZONE* &SIREN WIRING

A. GND

B. Wired Zone

C. Siren

D. For future use

E. Site external siren MG electronics MG441PDS or equivalent 6-12VDC, 150 mA Max

F. Magnetic contact or any other contact (not a detector)
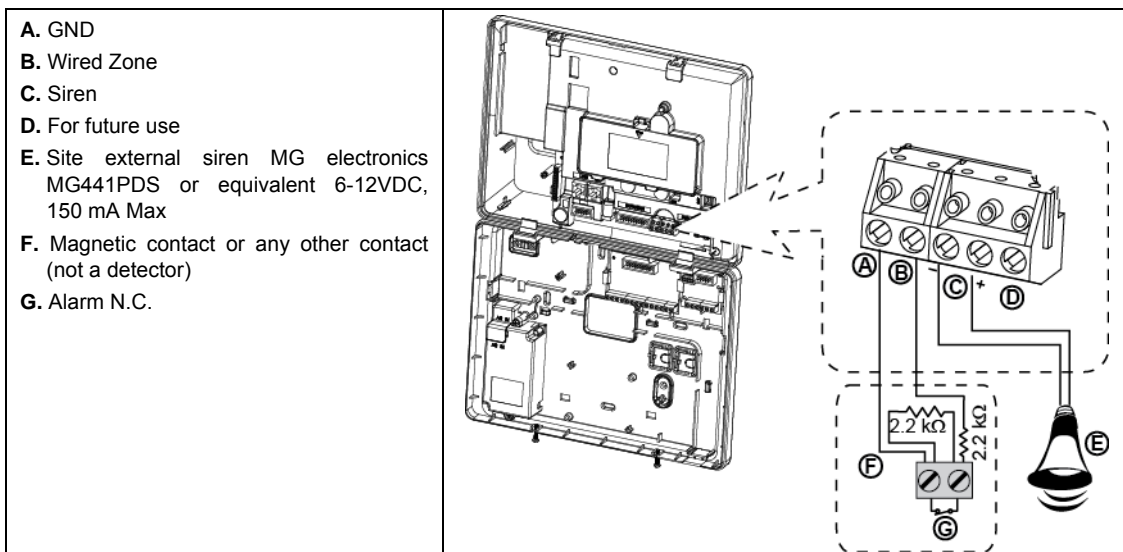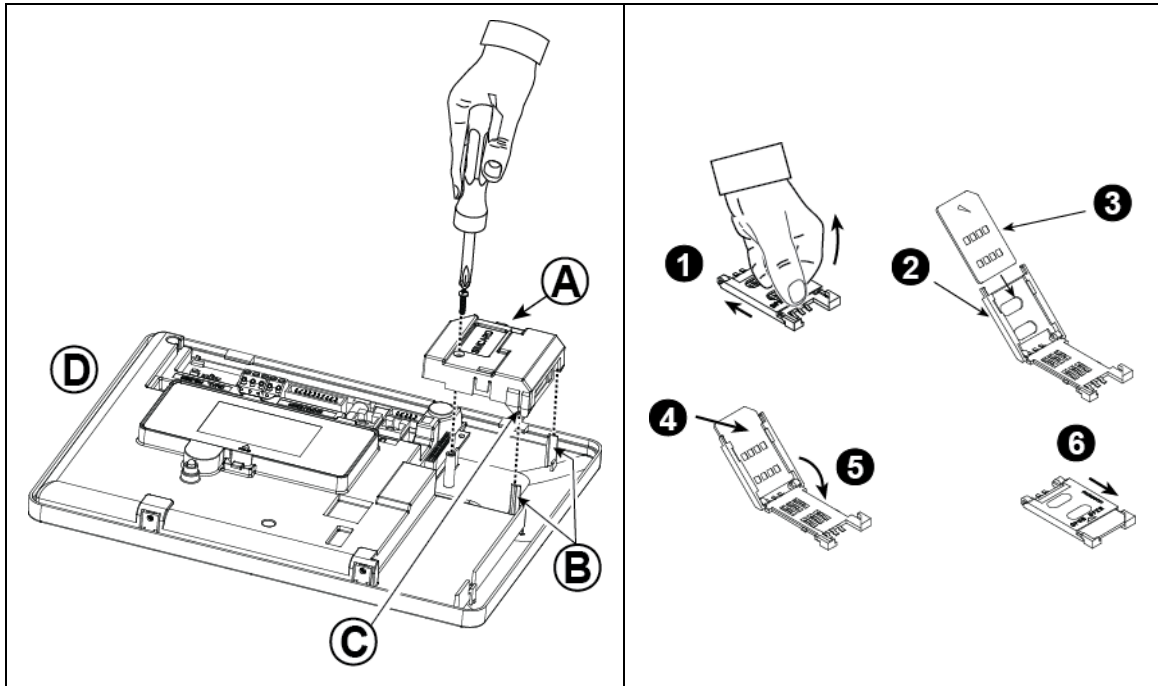
G. Alarm N.C.

Figure 3.4 – Wired Zone and Siren Wiring

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* Wired zones can be enrolled in any zone in the PowerMaster-30 G2 control panel from 01 to 64

3.5 GSM Module and SIM Installation (detail "L" in Figure 3.1)

Plug in the GSM module and fasten it as shown in the above drawing making sure that the two leading slots on both sides of the GSM module slide along the two leading ribs on the front unit.

A. GSM module
B. Leading ribs
C. Leading slot (1 of 2)
D. Front unit

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

Insert the SIM card into the GSM module as shown in the above drawing.

1. Slide top cover.
2. Open cover
3. Align SIM card in cover (note cover orientation)
4. Slide SIM card into cover
5. Rotate cover to close
6. Lock cover to close

IMPORTANT! Do not insert or remove SIM card when the control panel is powered by AC power or battery.

Figure 3.5 – Optional GSM Module Mounting and SIM Card Insertion

3.6 PGM-5 Installation (located in place of detail "E" in Figure 3.1)

PGM-5 is an output interface module designed to provide alarm, trouble events and status signals to external devices such as long range wireless monitoring transmitters, CCTV systems, home-automation systems and LED annunciation panels (for further details see the PGM-5 Installation Instructions).

The PGM-5 provides 5 solid state relay contact outputs and is designed to be used as a plug-in internal add-on module with the PowerMaster-33 G2 control panel.

Mount the PGM-5 module as shown in Figure 3.6.

1. Press downward on the PGM-5 module (D), located in the back panel, between its 2 clips.
2. Connect the PGM-5 module flat cable (F) to the front panel PGM-5 receptacle and to the flat cable receptacle of the PGM-5 (G).

Caution! The connector with strain relief clip (F1) is for the front unit – <u>do not</u> connect it to the back unit!

Notes:

The PGM-5 will be active only if the PGM-5 option was enabled in the control panel (see section 4.7.6, "PGM Output Configuration".

For wiring instructions, refer to the PGM-5 Installation Instructions included in the module's package.

Caution! When mounting the PGM-5 module it is strongly recommended to route the wiring cable (E) as shown in Figure 3.6) to prevent interference which may occur if routed too close to the control panel antennas.

A. PowerMaster-33 G2 connector
B. Front unit
C. PGM-5 Module
D. Back unit
E. Wiring Cable
F. Flat cable
   F1. This side for front unit
   F2. This side for back unit
G. PGM-5 flat cable receptacle	

Figure 3.6 – PGM-5 Module Mounting

D-304267 PowerMaster-33 G2 Installer's Guide
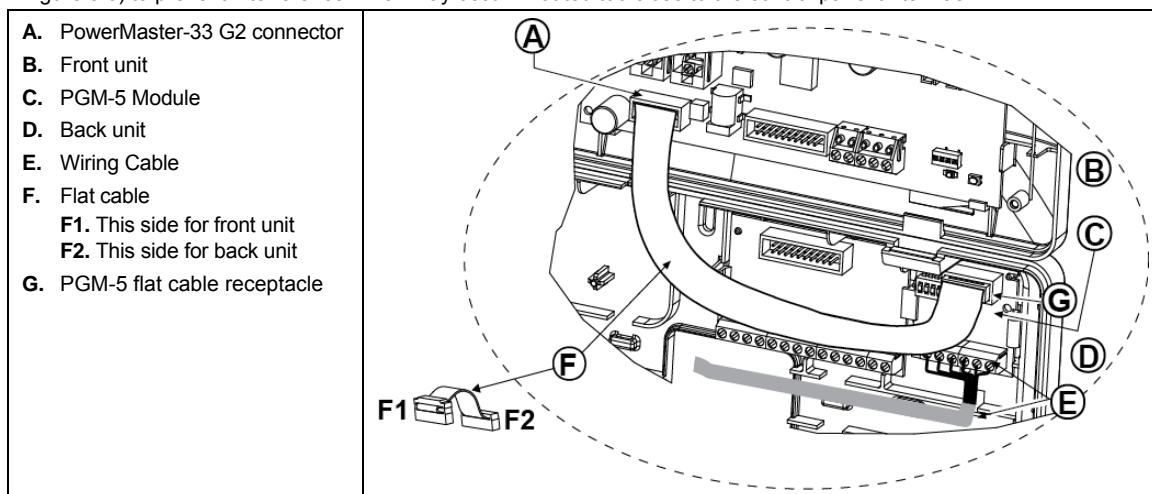
3.7 Installing the PowerLink3

The PowerLink3 is used to view and control the PowerMaster system over the Internet.

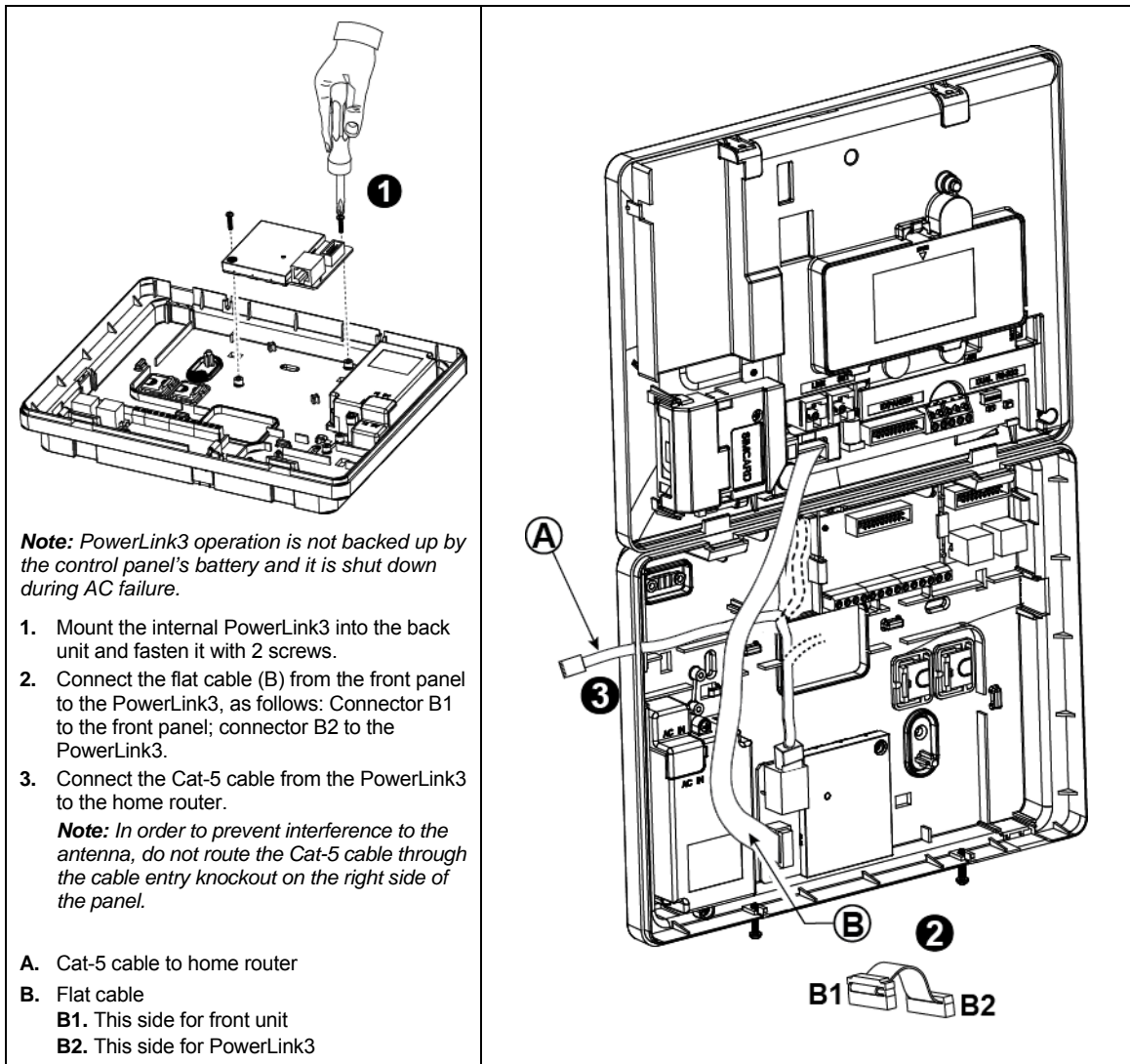Perform the following instructions for the PowerLink3 installation.

Note: PowerLink3 operation is not backed up by the control panel's battery and it is shut down during AC failure.

1. Mount the internal PowerLink3 into the back unit and fasten it with 2 screws.
2. Connect the flat cable (B) from the front panel to the PowerLink3, as follows: Connector B1 to the front panel; connector B2 to the PowerLink3.
3. Connect the Cat-5 cable from the PowerLink3 to the home router.
   Note: In order to prevent interference to the antenna, do not route the Cat-5 cable through the cable entry knockout on the right side of the panel.

A. Cat-5 cable to home router
B. Flat cable
   B1. This side for front unit
   B2. This side for PowerLink3

Figure 3.7 – PowerLink3 Mounting

3.8 Optional Expander Module (detail "I" in Figure 3.1)

The Expander module is an optional module. If this optional module is used, the wired zone or special siren on the front panel should not be used.

Mount the Expander module as shown in Figure 3.8a.

1. Press downward on the Expander module (located in the back panel) between its 2 clips.
2. Connect the Expander module flat cable to the front panel Expander receptacle.

Caution! The receptacle with strain relief clip is for the front unit – <u>do not</u> connect it to the back unit!

A. 2 clips
B. Flat cable with one strain relief clip
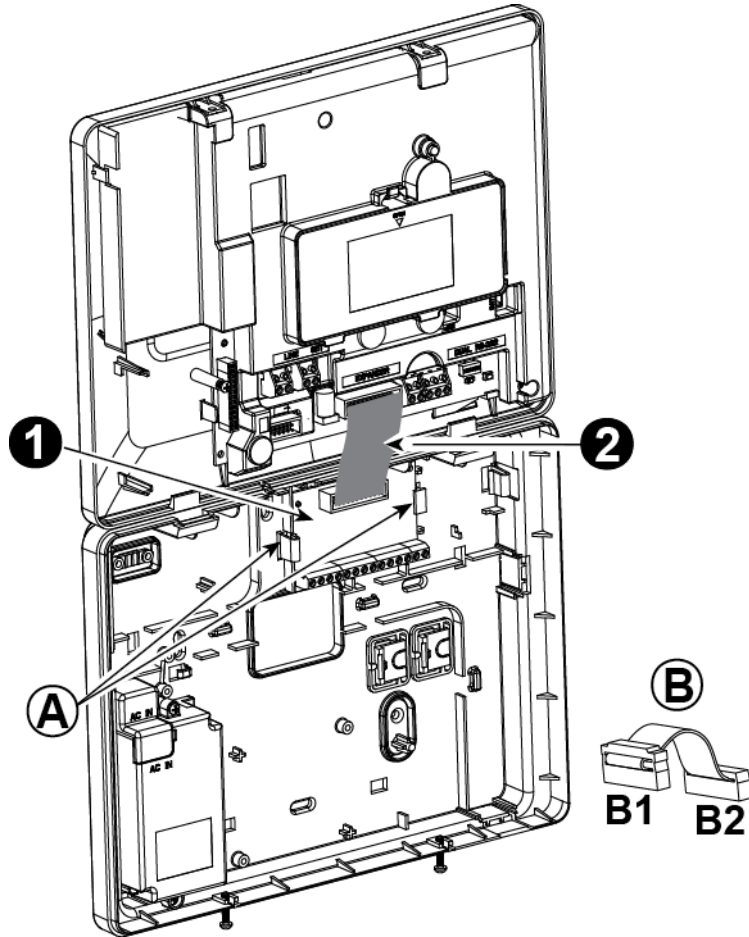   **B1.** This side for front unit

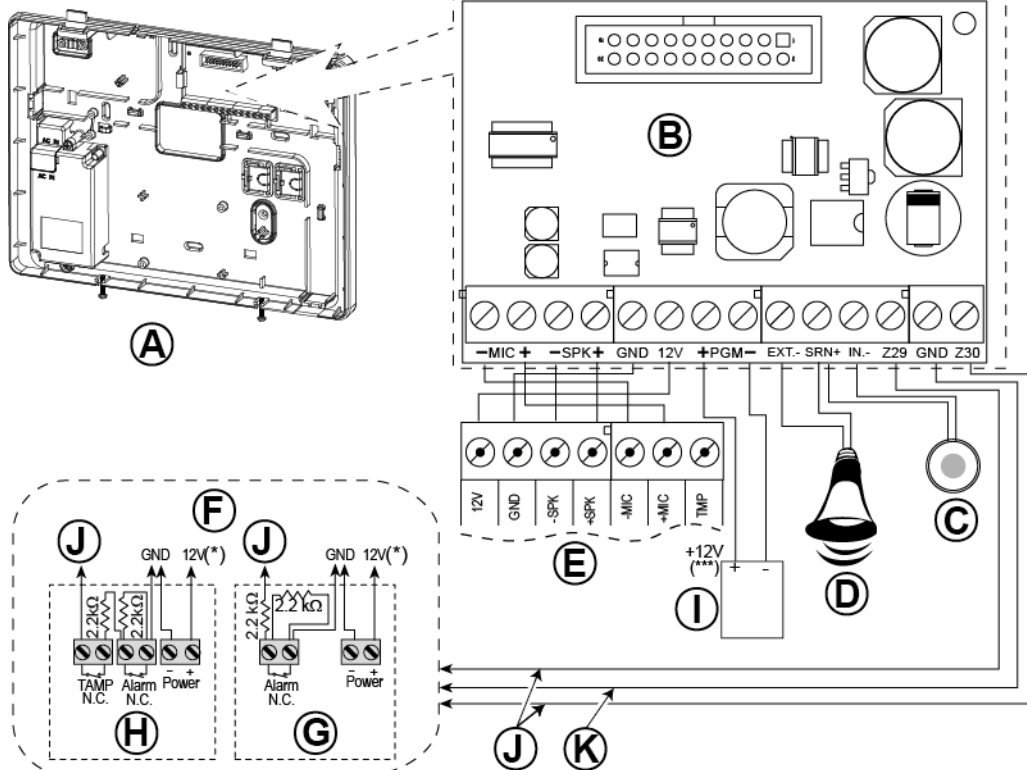   **B2.** This side for back unit

Figure 3.8a –Expander Module

OPTIONAL EXPANDER MODULE, ZONES, SIRENS, AUDIO BOX AND WIRED DETECTORS WIRING

A. Back Unit
B. Expander
C. Internal siren or strobe 6-12 VDC, 150 mA Max.
D. External siren MG441PDS or similar siren 12 VDC (nominal) 350 mA Max.
E. Voice box
F. Connect wired detectors as illustrated.
   Note:
   The wired detector should be installed at least 2 meters away from the control panel.

Regarding the two wired zones, the control panel classifies the events according to the resistance it measures as shown in the table below.

E.O.L or Arming Key Resistance

Range	Zone	Arming Key
0 kΩ ↔ ~1.76 kΩ	Tamper	Tamper
~1.76 kΩ ↔ ~2.64 kΩ	Normal	Arm
~2.64 kΩ ↔ ~3.52 kΩ	Tamper	Tamper
~3.52 kΩ ↔ ~5.26 kΩ	Alarm	Disarm
~5.26 kΩ ↔ ∞	Tamper	Tamper

G. Detector without tamper switch or arming key
H. Detector with tamper switch or arming key's tamper
I. PGM device
J. Wired zone A or B
K. Ground (GND)

***Figure 3.8b – Zone* and Siren Wiring**

Notes for EXPANDER module wiring:

*   *Wired zone* terminals can be connected to a normally closed contact of a detector, switch (for example a Tamper switch of any device), or a pushbutton, via a 2.2 KΩ resistor. **The 12V terminal can be used to supply 12V** (up to 36mA) to a detector (if necessary).*

**   *The EXT terminal can be used to trigger an external siren.*

   The INT terminal can be programmed for an "internal siren" or "strobe" (see par. 4.7).

   The 12V and "GND" terminals can be connected to a siren (for constant DC power supply).

*** *The.12V supply to the PGM device is fused. Current is limited to 100 mA.*

WARNING! *When plugging 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 PowerMaster-33 G2 circuits!*

IMPORTANT! The terminals for internal and external sirens are DC outputs intended for 12V sirens. Connecting a loudspeaker to any of these outputs will cause a short circuit and will damage the unit.

3.9 Connecting Power to the Control Panel

Note: *This equipment should be installed in accordance with Chapter 2 of the National Fire Alarm Code, ANSI/NFPA 72.*
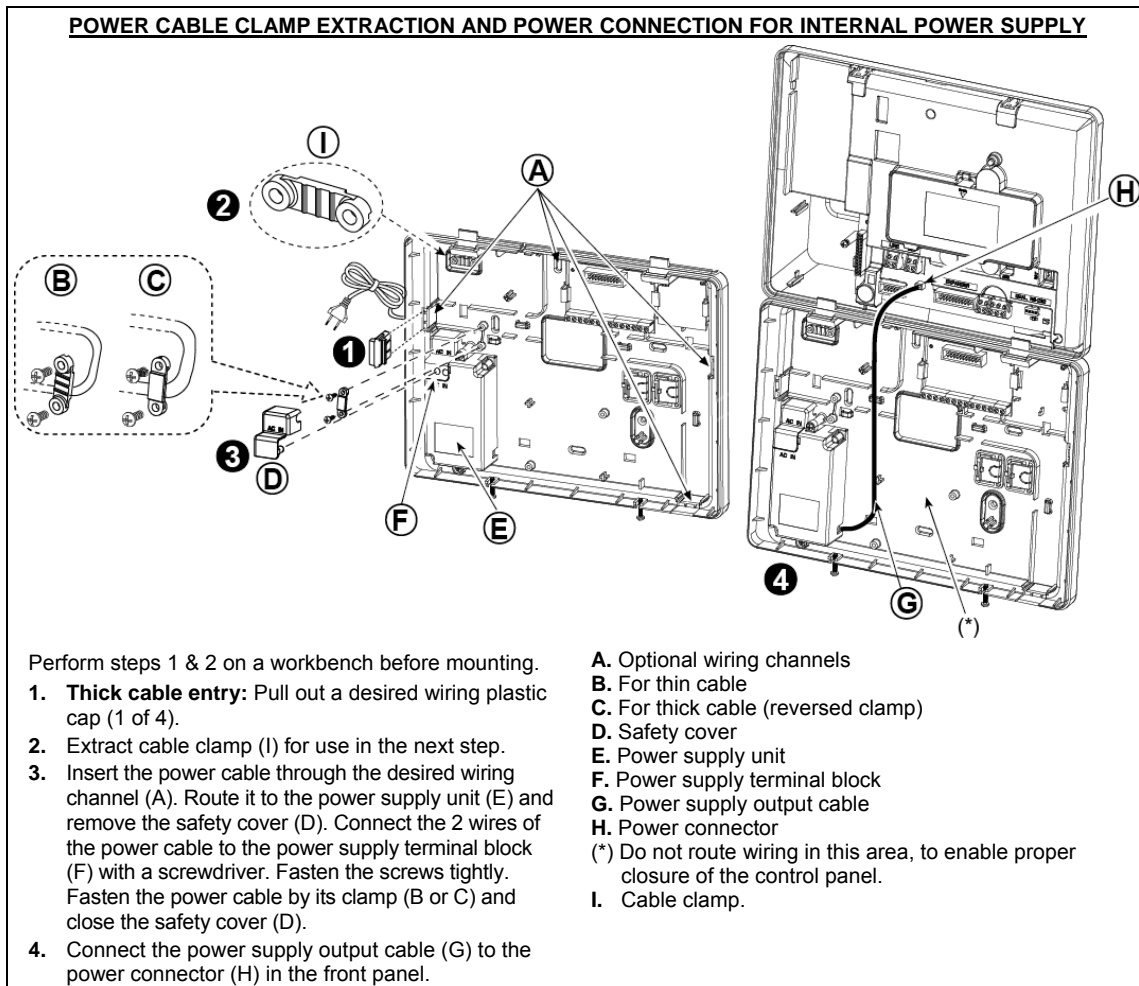Connect the power cable and close the control panel as shown in Figures 3.9a –3.10.

POWER CABLE CLAMP EXTRACTION AND POWER CONNECTION FOR INTERNAL POWER SUPPLY

Perform steps 1 & 2 on a workbench before mounting.

1. **Thick cable entry:** Pull out a desired wiring plastic cap (1 of 4).
2. Extract cable clamp (I) for use in the next step.
3. Insert the power cable through the desired wiring channel (A). Route it to the power supply unit (E) and remove the safety cover (D). Connect the 2 wires of the power cable to the power supply terminal block (F) with a screwdriver. Fasten the screws tightly. Fasten the power cable by its clamp (B or C) and close the safety cover (D).
4. Connect the power supply output cable (G) to the power connector (H) in the front panel.

A. Optional wiring channels
B. For thin cable
C. For thick cable (reversed clamp)
D. Safety cover
E. Power supply unit
F. Power supply terminal block
G. Power supply output cable
H. Power connector
(*) Do not route wiring in this area, to enable proper closure of the control panel.
I. Cable clamp.

Figure 3.9a – Power Cable Clamp Extraction and Power Connection for Internal Power Supply

EXTERNAL POWER CONNECTION

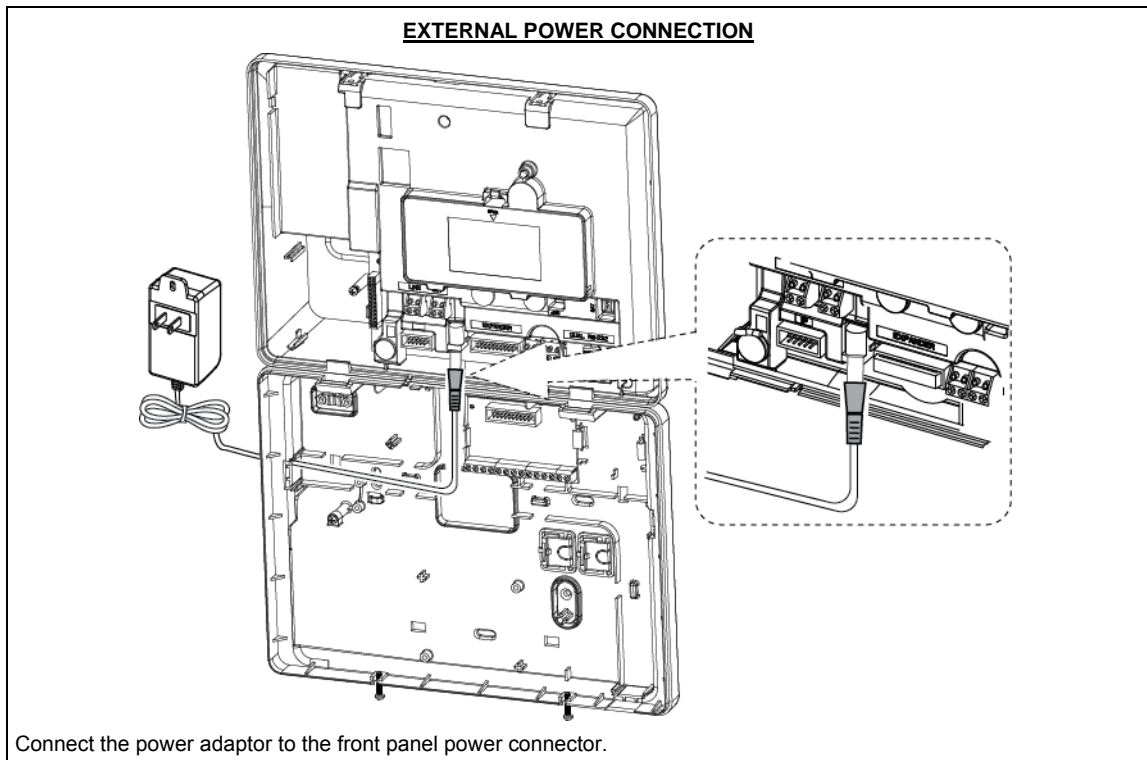Connect the power adaptor to the front panel power connector.

Figure 3.9b – External Power Connection

3.9.1 Battery Insertion

Open battery compartment cover. Insert one 6-battery pack or 8-battery pack and connect its connector as shown in Figure 3.8c.

A. Front unit

B. Battery cable

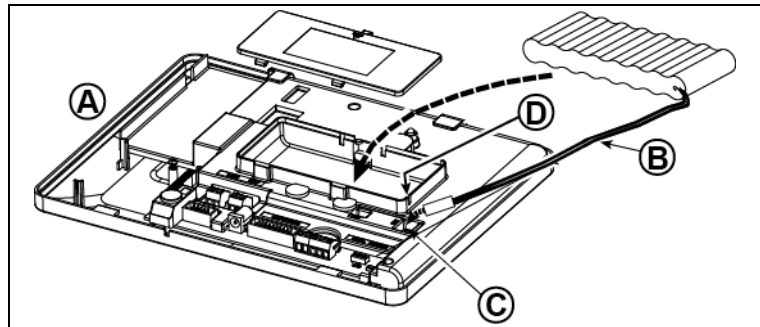**C.** Battery cable connector

D. Slot for battery cable

Figure 3.9c – Battery Insertion

3.9.2 Connect AC Power to the Unit

Connect power to the PowerMaster-33 G2 to mains power outlet (see Figures 3.8a and 3.8b).
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.

3.10 Closing the PowerMaster-33 G2 Control Panel

Control panel final closure is shown below.

To Close the Control Panel:

1. Connect the flat cables, between front and back units, in their respective connectors (up to 3, according to options).

2. Make sure that the "Power" indicator on the control panel lights green.
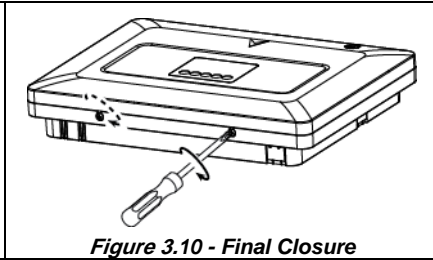
3. Close the panel and fasten the 2 screws.

Figure 3.10 - Final Closure

4. VISUAL INDICATIONS, FIRST KEYPAD ENROLLMENT AND USING PROX TAG

4.1 PowerMaster-33 LED Indications

The following table provides a detailed description of the LED indications on the PowerMaster-33 panel.

	Color	Definition	LED Operation
⏻	Green	Local Power indication	**STEADY:** Indicates that system has mains power **BLINKING:** Low battery state **NO LIGHT:** AC failure
✔	Green	Ready / Not Ready Indication	**STEADY:** All partitions are ready **NO LIGHT:** Not Ready / at least one partition is Not Ready
🔒	Red	System Arming State Indication	**STEADY:** AWAY / At least one partition is AWAY **BLINKING:** HOME / At least one partition is HOME <u>and no partitions are in AWAY</u> **NO LIGHT:** The system is presently in the disarmed state
🔧	Orange	System Not Online Indication	**STEADY:** System is unavailable (Sync/Updating/In-menu) **NO LIGHT:** System is available
⚠	Orange	System Trouble indication	**STEADY:** System has trouble **NO LIGHT:** No trouble – all is well

4.2 Enrollment of the First KP-250 PG2 Keypad

The PowerMaster-33 G2 is designed to operate wirelessly with the KP-250 PG2 keypad display device installed anywhere within the protected premises.

The first keypad must always beis always enrolled as Keypad no. 1. If a keypad is already enrolled at Keypad no.1, the keypad will be deleted and the LED will light to indicate this.

Step	Action
1	Press the "Enroll 1st Keypad" button (located on the front unit of the PowerMaster-33 G2 control panel – see Figure 3.1) on the PowerMaster-33 G2 control panel for 2 seconds. If no keypad exists in the first location, the "Enroll 1st Keypad" LED on the PowerMaster-33 G2 blinks slowly for one 1 minute (go to step 3). If a keypad already exists in the first location, the "Enroll 1st Keypad" LED on the PowerMaster-33 G2 control panel lights steady for 10 seconds (go to step 2). ***Note:** Pressing the "Enroll 1st Keypad" button takes the system out of any of the system modes, programming modes, etc., and disarms the system menu mode (Installer Mode, User Settings and Periodic Test).*
2	If you still want to proceed (any keypad that was enrolled in keypad no. 01 is deleted from the system), press the "Enroll 1st Keypad" button again within the timeout period (10 seconds). Any keypad that was enrolled in keypad no. 01 is deleted from the system. The "Enroll 1st Keypad" LED on the PowerMaster-33 G2 blinks slowly for 1 minute.
3	During this 1 minute period, hold the ✱ button on the KP-250 PG2 keypad for 2-55-7 seconds, until the ⏻ LED on the keypad lights bluered, and release[*]. The enrollment "Enroll 1st Keypad" LED on the PowerMaster-33 G2 will indicate the result of the enrollment procedure. **PowerMaster-33 G2 "Enroll 1st Keypad" LED indication** **Result** Blinks fast for 5 sec. Successful enrollment of keypad

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[*] **If the KP-250 PG2 unit is battery-powered:** first press any button on the KP-250 PG2 keypad momentarily to take the KP-250 PG2 keypad out of sleep mode and then hold the ✱ button for 5-7 seconds, until the ⏻ LED on the keypad lights red, and release.

	Lights steadily for 5 sec. Wrong device type
4	Upon completion of the enrolling procedure, the keypad is ready for immediate use even if the system is currently in the Armed state. ***Note:*** *If the keypad was previously enrolled at a different keypad no., it will be automatically relocated automatically to Keypad no. 1. However, all of the configured parameters will be lost and the keypad will revert to the default parameters.*

4.3 Using the Prox Tag

Proximity tags enable authorized people to enter restricted areas. Presenting a valid proximity tag to the tag reader (as shown in the drawing) while the system is armed causes the system to disarm. Presenting a valid proximity tag to the tag reader while the system is disarmed causes the system to be armed in AWAY (optional HOME) mode. To enroll / delete proximity tags, refer to the KP-250 PG2 User's Guide.
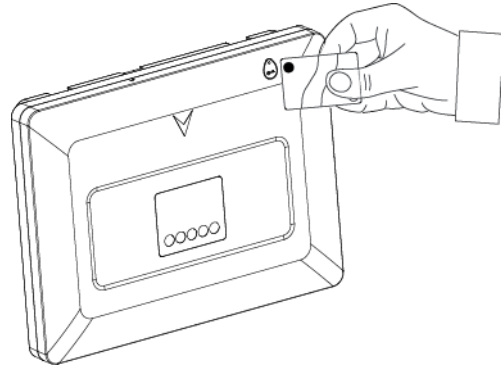
Notes:

1. *Use of the Proximity tags is optional.*

2. *Proximity tags are not compatible for use when partition is enabled.*

5. MAINTENANCE

5.1 Dismounting the Control Panel

A. Remove the screw that fastens the front unit to the back unit, see Figure 3.2.

B. Remove the 4 screws that fasten the back unit to the mounting surface - Figure 3.2 - and remove the control panel.

5.2 Replacing the Backup Battery

Replacement and first-time insertion of battery pack is similar, see Figure 3.9c.

With a fresh battery pack, correct insertion and tightened battery compartment lid, the TROUBLE indicator on the kp-250 PG2 keypad 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.

5.3 Fuse Replacement

The PowerMaster-33 G2 has two internal fuses that has automatic reset. Therefore, there is no need to replace the fuses.

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.

5.4 Replacing/Relocating Detectors

Whenever maintenance work involves replacement or re-location of detectors, always perform a full diagnostic test according to the KP-250 PG2 User's Guide, section 12.9.

Remember! A "poor" signal is not acceptable.

5.5 Annual System Check

Note: *The PowerMaster system must be checked by a qualified technician at least once every three (3) years (preferably every year).*

The annual system check is designed to ensure proper operation of the alarm system by performing the following checks:

- Periodic test
- Arm/disarm function
- No trouble messages are displayed on control panel
- The clock displays the correct time
- Reporting: generating an event to be transmitted to the Monitoring Station and to the user.

APPENDIX A. Specifications

A1. Functional

Zones Number	Up to 64 wireless zones, (including 2 hard-wired inputs).
Hard-wired Zone Requirements	2.2 kΩ E.O.L. resistance (max. resistance of wires 220 Ω).
Maximum Loop Current	1.5 mA
Maximum Loop Voltage	3.3 V
Loop Shorted	0 – 1.47 V (0 – 1.770 Ω)
Loop Normal	1.47 – 1.8 V and 2.02 – 2.3 V
Loop Open	2.3 – 3.3 V (5.06 - ∞ Ω)

Installer and User Codes
- 1 master installer (9999 by default)*
- 1 installer (8888 by default)*
- 1 master user, no. 1 (1111 by default)
- Users nos. 2 - 48

* Codes must not be identical

Control Facilities	- Integral keypad, wireless keyfobs and keypads - SMS commands via optional GSM/GPRS module. - Remote control by telephone.
Arming Modes	AWAY, HOME, AWAY-INSTANT, HOME-INSTANT, LATCHKEY, FORCED, BYPASS.
Alarm Types	Silent, personal panic/emergency, burglary, gas, fire and flood.
Siren Signals	<u>Continuous</u> (intrusion / 24 hours / panic); <u>triple pulse – short pause - triple pulse...</u> (fire); <u>four pulses – long pause – four pulses...</u> (gas); <u>long pulse – long pause – long pulse...</u> (flood).
Siren (bell) Timeout	Programmable (4 min. by default)
Internal Sounder Output	At least 85 dBA at 10 ft (3 m)
Supervision	Programmable time frame 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. - Message center (recording and playback) - Two-way voice communication
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
Battery Test	Once every 10 seconds

A2. Wireless

RF Network	PowerG – 2-way synchronized Frequency Hopping (TDMA / FHSS)		
Frequency bands (MHz)	433 – 434	868 - 869	912 - 919
Hopping frequencies	8	4	50
Region	Worldwide	Europe	North America and selected countries
Encryption	AES-128		

A3. Electrical

External AC/AC adaptor	NA
External AC/DC adaptor	External (wall-mounted) switching power supply 100VAC to 240VAC, 50/60 Hz, 0.5A / 12.5 VDC, 1.2A
Internal AC/DC	Internal switching power supply: Input: 100-240VAC, 0.5A Output: 12.5 VDC, 1.6A.
Current Drain	Approx. 260 mA standby at the beginning (power ON) and then goes down to 60 mA, 1400 mA max. current drain during alarm.
Low Battery Threshold	7.2 V (6-cell battery pack) 9.6 V (8-cell battery pack)
Backup Battery Pack	Backup Battery Options:

Backup period	Maximum external devices current (1)		
	1300 mAh 6 Battery Pack (2)	1800 mAh 8-BatteryPack (3)	2200 mAh 8-Battery Pack (4)
4h	180 mA	300 mA	380 mA
8h	70 mA	125 mA	160 mA
12h	35 mA	70 mA	95 mA
24h	max backup w/o load 22 hours	12 mA	25 mA
32h	no backup	0 mA	10 mA
39h	no backup	no backup	0 mA

(1) The external devices must be connected between 12V and ground. The current for each specified backup period can be drawn from the batteries with the internal GSM and the proximity reader connected to the PowerMaster-33 G2.

(2) 7.2V 1300 mAh, rechargeable NiMH battery pack, p/n 130AAH6BMX, manufactured by GP or p/n LTT-AA1300LSDX6B, manufactured by LTT.

(3) 9.6V 1800 mAh, rechargeable NiMH battery pack, p/n GP180AAH8BMX, manufactured by GP or p/n LTT-AA1800LSDX8B, manufactured by LTT.

(4) 9.6V 2200 mAh, rechargeable NiMH battery pack p/n 220AAH8BMX, manufactured by GP or p/n LTT-AA2200LSDX8B, manufactured by LTT.

Caution! Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the manufacturer's instructions.

Notes:

1. *For compliance with CE standards the battery backup period must be at least 12 hours*

2. *For compliance with UL standards the battery backup period must be at least 24 hours*

Time to Charge	80 % (~ 30 Hrs) for all battery types
Optional Backup Battery Pack	See "Backup Battery Options" table above
Time to Charge (optional backup battery pack)	NA
Wired Detectors Total (Sum) Current	36* mA max.
Site External Siren Current (EXT)	450* mA max @ 12.5 VDC when powered by AC/DC (10.5 VDC when in standby mode)
Site Internal Siren Current (INT)	450* mA max @ 12.5 VDC when powered by AC/DC (10.5 VDC when in standby mode)
	* Total PowerMaster-33 G2 output current (of INT & EXT sirens, PGM output and detectors) cannot exceed 550 mA.
PGM	Current sink to control panel GND 100 mA max.
	Max. external DC voltage +15 VDC
High Current / Short Circuit Protection	All outputs are protected (automatic reset fuse)

A4. Communication

Communication	PSTN; GSM; GPRS; IP
Built-in Modem	300 baud, Bell 103 protocol
Data Transfer to Local Computer	Via RS232 serial port
Report Destinations	2 Monitoring Stations, 4 private telephones
Reporting Format Options	SIA, Contact ID, Scancom, SIA IP, Visonic PowerNet.
Pulse Rate	10, 20, 33 and 40 pps - programmable
Message to Private Phones	Tone or voice
Ring Detection	The unit does not support ring detection without DC voltage present on the telephone lines

A5. 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 (WxHxD)	266 x 201 x 46 mm (10-7/16 x 7-7/8 x 1-13/16 in.)
Weight	1.44Kg (3.2 pounds) (with battery)
Color	White

A6. Peripherals and Accessory Devices

Modules	GSM/GPRS, IP
Additional wireless devices	64 detectors, 32 keyfobs, 32 keypads (10 KP-250 PG2), 8 sirens, 4 repeaters , 32 proximity tags
Wireless Devices and peripherals	**Magnetic Contact:** MC-302 PG2, MC-302E PG2, MC-302EL PG2, MC-302V PG2
	Motion Detectors: Next PG2; Next K9 PG2, TOWER-32AM PG2, TOWER-32AM K9 PG2, TOWER-30AM PG2, TOWER-30AM K9 PG2, TOWER-20 PG2, TOWER-CAM PG2, CLIP PG2
	PIR Camera Detectors: Next CAM PG2; Next CAM-K9 PG2
	Smoke Detector: SMD-426 PG2, SMD-427 PG2
	GSM Module: GSM-350 PG2
	Keyfob: KF-234 PG2, KF-235 PG2
	Keypad: KP-140 PG2/KP-141 PG2 (with proximity tag), KP-160 PG2, KP-250 PG2
	Indoor Siren: SR-720 PG2
	Outdoor Sirens: SR-730 PG2, SR-740 PG2, SR-740 HEX PG2
	Repeater: RP-600 PG2
	Gas: GSD-441 PG2, GSD-442 PG2
	Glass-break: GB-501 PG2
	Temperature: TMD-560 PG2
	Flood: FLD-550 PG2
	Shock: SD-304 PG2

APPENDIX B. Compliance with Standards

Compliance with Standards

♲ CE

Hereby, Visonic Group declares that the PowerG series of central units and accessories are designed to comply with:

- **European CE Standards**

The PowerMaster complies with the RTTE requirements - Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999.

According to the European standard EN50131-1 and EN 50131-3, the PowerMaster security grading is 2 - "low to medium risk" and environmental classification is II – "indoor general" and the power supply type is A. EN 50131-6, and ATS4 according to EN 50136.

- **GSM standards:**

Europe: Complies with CE standards 3GPP TS 51.010-1, EN 301 511, EN301489-7

- **Security Grade:**

According to EN 50131-1:2006 and A1:2009, this equipment can be applied in installed systems up to and including Security Grade 2.

- **EN 50131-1 Environmental Class**

Class II

WARNING! Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Canada: *Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.*

Industry Canada Declaration

This product meets the applicable Industry Canada technical specifications/Le présent materiel 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.

This device complies with FCC Rules Part 15 and with Industry Canada licence-exempt RSS standard(s). Operation is subject to two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference that may be received or that may cause undesired operation.

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in residential installations. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio and television reception. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause such interference, which can be verified by turning the device off and on, the user is encouraged to eliminate the interference by one or more of the following measures:

– Re-orient or re-locate the receiving antenna.
– Increase the distance between the device and the receiver.
– Connect the device to an outlet on a circuit different from the one that supplies power to the receiver.
– Consult the dealer or an experienced radio/TV technician.

WARRANTY

Visonic Limited (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.

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

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 of.

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 telecommunication or electronic equipment or any programs.

The Manufacturers 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 dismantling 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.

This warranty shall not be modified, varied or extended, and the Manufacturer does not authorize any person to act on its behalf in the modification, variation or extension of this warranty. This warranty shall apply to the Product only. All products, accessories or attachments of others used in conjunction with the Product, including batteries, shall be covered solely by their own warranty, if any. The Manufacturer shall not be liable for any damage or loss whatsoever, whether directly, indirectly, incidentally, consequentially or otherwise, caused by the malfunction of the Product due to products, accessories, or attachments of others, including batteries, used in conjunction with the Products. This Warranty is exclusive to the original Purchaser and is not assignable.

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.

Warning: The user must follow the Manufacturer's installation and operational instructions including testing the Product and its whole system at least once a week and to take all necessary precautions for his/her safety and the protection of his/her property.

1/08

Visonic

D-304267

Quick User Guide to Main Alarm Control Operations by KP-250 PG2 Keypad

> **The Quick Start Guide is intended for the user of the system. Please remove this detachable sheet and hand it to the user.**

Arming and Disarming the System

Step		Operation	User Actions	Key & Keypad Response
Optional	1	Press the Partition Selection button and then select a PARTITION (if Partition is enabled)	☞ **#** followed by any combination of **1** **2** **3**	The selected key blinks.
	2	Arm AWAY	☞ 🏠 + [🗝] or enter code	The selected key and the "Present Prox Tag" LED (☺) begin to blink and prompt you to present your Tag or enter your user code. The keypad's LED blinks red once to indicate transmission of the arming command to the control panel. The LED and the buzzer then indicate the control panel's response – refer to the KP-250 PG2 User's Guide, Chapter 4 "System Status and Indications".
		Arm HOME	☞ 🏠 + [🗝] or enter code	
		Disarm (OFF)	☞ 🏠 + [🗝] or enter code	
Optional		Quick arm AWAY (If Quick Arm is enabled)	☞ 🏠	
		Quick arm HOME (If Quick Arm is enabled)	☞ 🏠	
		Forced arming AWAY (system not ready)	☞ 🏠 + [🗝] or enter code / ☞ 🏠 to silence the "protest" buzzer	
		Forced arming HOME (system not ready)	☞ 🏠 + [🗝] or enter code / ☞ 🏠 to silence the "protest" buzzer	
Optional	3	INSTANT	(After arming HOME/AWAY) ☞ **0**	
		LATCHKEY	☞ 🏠	

Note: The factory default master user code is 1111. The code is not required if <u>quick arming</u> has been permitted by the installer. Change the factory default code to a secret code without delay (refer to the KP-250 PG2 User's Guide, Chapter 6, section B.4).

Initiating Alarms

Alarms	Actions	Notes
Emergency alarm	☞ +|♡ (≈ 2 sec.)	When pressing the Fire or Emergency icons, the KP-250 PG2 starts beeping. After pressing the button for approx. 2 seconds, the KP-250 PG2 sends the command.
Fire alarm	☞ ♡|🔥 (≈ 2 sec.)	
Panic alarm	+|♡ ♡|🔥 (≈ 2 sec.)	

Preparing to Arm

Before arming, make sure that READY is displayed.

| HH:MM READY | This indicates that all zones are secured and you may arm the system as desired. |

If at least one zone is open (disturbed) the display will read:

| HH:MM NOT READY | This indicates that the system is not ready for arming and in most cases that one or more zones are not secured. However, it can also mean that an unresolved condition exists such as certain trouble conditions, jamming etc., depending on system configuration. |

To review the open zones click **⊙|OK**. The details and location of the first open zone detector (usually an open door or window sensor) will be displayed. To fix the open zone, locate the sensor and secure it (close the door or window) – see "device locator" below. Each click of **⊙|OK** will display another open zone or trouble indication. It is highly recommended to fix the open zone(s), thus restoring the system to the state of "ready to arm". If you do not know how to do this, consult your installer.

**Note:** To quit at any stage and to revert to the "READY" display, click **◄━** .

Device Locator: The PowerMaster system has a powerful device locator that helps you to identify open or troubled devices indicated on the LCD display. While the LCD displays an open or faulty device, the LED on the respective deice flashes indicating "**it's me**". The "**it's me**" indication will appear on the device within max. 16 seconds and will last for as long as the LCD displays the device.

Zone Bypass Scheme

Bypassing permits arming only part of the system and at the same time allowing free movement of people within certain zones when the system is armed. It is also used to temporarily remove from service faulty zones that require repair work or to deactivate a sensor if, for example, you are decorating a room.

You can set the Zone Bypass Scheme i.e. to scroll through the list of registered (enrolled) sensors to your PowerMaster system and to Bypass (deactivate) faulty or disturbed sensors (either READY or NOT-READY) or to Clear (reactivate) BYPASSED zones (sensors).

Once you have set a Bypass Scheme you can use the following 3 options:
- To quickly review the bypassed zones – refer to Chapter 6, section A.2 of the KP-250 PG2 User's Guide.
- To quickly clear a bypassed zone i.e. to reactivate the bypassed zone – refer to Chapter 6, section A.1 of the KP-250 PG2 User's Guide.
- To repeat (recall) the last used zone bypassing scheme – refer to Chapter 6, section A.3 of the KP-250 PG2 User's Guide.

**Notes:**

1. Zones will be bypassed throughout one disarm-arm period only. Disarming the system after arming will suspend the entire bypassing scheme but you can recall and reuse it as described in Chapter 6, section A.3 of the KP-250 PG2 User's Guide.
2. Fire zones cannot be bypassed.