1. INTRODUCTION

NOTE: RELEVANT TO POWERMAX+ VERSION B AND ABOVE

The MKP-150 / MKP-151 (different color) operates using two-way encrypted coded transmission and provides aural and visual indications. For each PowerMax+, PowerMax Pro, PowerMaxComplete, PowermaxExpress control panel, a maximum of two MKP-150/MKP-151 keypad devices may be enrolled.

The MKP-150/151 includes an optional partition feature. Partitioning allows you to have up to three independently controllable areas with different user codes assigned to each partition or one user code assigned to up to three partitions. A partition can be armed or disarmed regardless of the status of the other partitions within the system.

Note: The Partition feature appears only after Partitioning is enabled via the control panel.

The MKP-150/MKP-151 may be operated either by AC power supply or by battery power. If AC power is used, the device operates continuously and the system status is constantly updated. If powered by batteries, the keypad enters sleep mode 15 sec after last key press. The keypad immediately becomes operational again upon pressing of any key.

Note: In the event of an AC power failure, the MKP-150/MKP-151 operates on batteries as described above.

The device enables the user to arm/disarm the alarm system, to initiate emergency/fire/panic alarms and to turn lighting devices on and off. The main features of the MKP-150/MKP-151 are:

- Status, alarm memory, and trouble data retrieval from the control panel.
- Automatic reporting to the control panel of low battery voltage, AC failure, tamper.
- Visual indications by red/green/amber LED and LCD display.
- Keypad and LCD backlighting activation.
- Light dim / brightness
- Various audible signals sounded by the speaker in response to specific actions.
- Automatic supervision messages.
- Diagnostic test of the control panel.
- Two long-life 3 Volt Lithium batteries.
- Wall mounting.
- Friendly programming.

The Power (green) LED lights when operated using AC power. The Trouble (amber) LED lights if a "trouble" state is currently detected within the control panel. The Chime (green) LED lights when the chime function is active. The Arm (red) LED lights when the system is in an armed state (away mode), or flashes (home mode).

A periodic supervision message is transmitted, at regular intervals, from the MKP-150/MKP-151 to the control panel. This ensures active participation of the MKP-150/MKP-151 in the system.

Operating power is obtained from two 3 Volt Lithium batteries, or by AC. A weak battery causes a "low battery" message to be sent to the control panel.

A Screen Saver appears on the display (if enabled by the installer on the control panel unit) when no key is pressed for more than 30 seconds. The display reads "POWERMAX" and the LEDs do not light (to prevent an intruder of knowing the system status). The normal display returns after pressing the OFF button followed by entering user code (Refresh by Code) or after pressing any key (Refresh by Key), depending on the control panel settings of the installer. If Refresh by Key was selected, the first key press (except for Fire and Emergency) causes the normal display to return while a second press performs the key function. In the case of the Fire and Emergency keys, the first key press causes the normal display to return and also performs the Fire/Emergency function.

Figure 1: External View
2. SPECIFICATIONS

ELECTRICAL
Battery Power Source: Two 3 Volt Lithium batteries, type CR123A (Sanyo or equivalent).
Battery Life Expectancy: 2 years (for typical use).
120 VAC, 60 Hz / 9 VAC, 0.35 A min. (in the U.S.A.)
230 VAC, 50 Hz / 9 VAC, 0.35 A min.
UL installation: Use transformer type OH-35048AT, manufactured by Oriental Hero Electrical Factory.
In Europe and elsewhere: Use only Safety National Approved AC adapter, mains-to-9 VAC, 0.35 A min.
AC Current Drain: Approx. 30 mA standby, 300 mA max. at full load.
Display: Single line, backlit 16-character LCD and 4 LED indicators.
Control Functions: Home Arming, Away Arming, Bypass, Disarming, Latchkey, Light ON / OFF, Light Dim / Brightness, Recording, Forced Arming, Panic, Fire and Emergency calls.
Sleep Mode: Used to minimize current consumption. The unit enters sleep mode 15 seconds after last use (applies only when using batteries or when there is a power failure).
Supervision: A periodic supervision message (programmable) is transmitted automatically once every 15 minutes (Europe), once every 60 minutes (USA), or according to the local standards. This function can be disabled.
Panic Alarm Message: Activated by simultaneously pressing the and keys.

Tamper Switch: Normally closed. A tamper signal is transmitted in three ways: when the MKP-150/MKP-151 case is opened; when the keypad assembly is separated from the bracket; or if the MKP-150/MKP-151 unit is ripped from the wall.
Compliance with Standards: FCC part 15, EN 50131-1 Grade 2 Class II, TS 50131-3 and Directive 1999/5/EC

RF SECTION
Operating Frequencies: 315 MHz (in USA & Canada) or other UHF channels per local requirement in the country of use.
Note: At 315 MHZ the MKP-150 complies with UL 1023.
Receiver Type: Super-heterodyne, fixed frequency
Receiver Range: 600 ft (180 m) in open space
Antenna Type: Spatial
Coding: Two-way wireless protocol

ENVIRONMENTAL
For indoor use only.
Operating Temp. Range: 0°C to 49°C (32°F to 120°F)
Storage Temp. Range: -20°C to 60°C (-4°F to 140°F)
Humidity: 85% relative humidity, @ 30°C (86°F)

PHYSICAL
Dimensions: 172 x 99 x 39 mm (6 7/8 x 3 15/16 x 1 9/16 in.)
Weight: 375 g. (13 oz)
Mounting: Surface-mounted
Color: Light gray

3. INSTALLATION AND WIRING

Perform the procedures as illustrated in the following Figures.

Note: Mount the unit inside the secured premises, in a location providing optimum signal reception from the control panel unit, (refer to Installing Wireless Systems Installation Guide – The Right Way, document no. DE2000W, for further details).
4. ENROLLING/DELETING THE KEYPAD FROM THE POWERMAX+ MEMORY

To enroll all the MKP-150/MKP-151 functions (for complete list see PowerMax+ Installer Guide), enter the PowerMax+ Installer Mode from the PowerMax+ keypad, and proceed as shown in the following illustration.

**Note:** For PowerMax Pro, PowerMaxComplete and PowerMaxExpress control panels, please refer to the respective Installer Guide.

**Note:** Refer to PowerMax+ Installer Guide for details on performing a diagnostic test.

![Diagram](image_url)

Figure 7: Enrolling / Deleting a MKP-150/MKP-151 Device from PowerMax+ Memory

5. DEFINING MKP-150/MKP-151 PARAMETERS

5.1 Installer Menu Functions

**Important:** All installer settings affect only the specific keypad on which the settings were performed.

The installer’s menu enables you to perform the following functions:

**SUPERVISION**

The keypad transmits supervision reports periodically to the control panel.

The options are: 15 minutes, 1 hour and disable.

**Note:** In FCC installations, the keypad must be set to 1 hour.

**PIEZO BEEP**

Here you determine whether warning beeps will sound or be muted during exit and entry delays.

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

**BACK LIGHT**

The keypad and LCD back light can be activated in one of two ways:

- By key press: back light is activated for ten seconds by a long press (2 sec) of any key.
- Always on: back light remains on continuously. (Enabled only when the unit is connected to the AC supply.)

The options are: OFF after 10s and always ON.

**JAM DETECTION**

**Note:** For PowerMax+ control panel, this feature is enabled only with version 3.3.14 and above.

Here you determine whether jamming (interfering transmissions on the radio channel used by the system) will be detected.

The options are: UL 20/20, EN 30/60, class 6 (30/60), or disable.

**RECORD SPEECH**

This mode allows you to record up to 5 custom zone names.

**SERIAL NUMBER**

Enables reading the system serial number for support purposes only.

5.1.1 To Set Supervision Time

Make sure the system is not in Arm mode.

The installer’s menu is accessible only to those who know the installer’s code, which is 9-9-9 by factory default.

A. Press the next button (►) repeatedly until the display reads:

```
INST	M	O	D	E
```

B. Press the Show / OK button (✓). The display should read:

```
ENTER CODE: ___
```

**Note:** For control panels with two installer codes, the default INSTALLER code is 8888 and the default MASTER INSTALLER code is 9999.

C. Enter the installer code. The display will change to:

```
SUP	E	R
```

D. Press ◄.

E. Press ◄► repeatedly to select one of the available options.

F. Press ◄ to set the selected option.

5.1.2 To Activate the Recording Mode

A. Upon gaining access to the installer menu (see section 5.1.1 A to C), the display will read "SUPERVISION".

B. Press ◄►; RECORD SPEECH is displayed.

C. Press ◄. The display will change to:

```
USER TERM #1
```

**Note:** User Term refers to the name assigned to the recorded zone.

**Note:** It is recommended to assign custom names that are identical to the custom names defined in the control panel.

D. Press the key until this is displayed briefly:

```
RECORD A MESSAGE
```

Immediately thereafter, the display will change to:

```
TALK NOW
```

DE2462U
5.1.3 To Enable/Disable Piezo Beeps

A. Upon gaining access to the installer menu (see section 5.1.1 points A to C) the display will read “SUPERVISION”.

B. Press ➤ twice; PIEZO BEEP is displayed.

C. Press ◄.

D. Press ➤ to select between enable beeps, off when home and disable beeps.

E. Press ◄ to set the selected option.

5.1.4 Keypad Back Light

A. Upon gaining access to the installer menu (see section 5.1.1 points A to C) the display will read “SUPERVISION”.

B. Press ➤ repeatedly until BACK LIGHT is displayed.

C. Press ◄.

D. Press ➤ to select between OFF after 10s and always ON.

E. Press ◄ to set the selected option.

5.1.5 Jam Detection

A. Upon gaining access to the installer menu (see section 5.1.1 points A to C) the display will read “SUPERVISION”.

B. Press ➤ repeatedly until JAM DETECTION is displayed.

C. Press ◄.

D. Press ➤ to select between UL 20/20, EN 30/60, class 6 (30/60), disable and other.

E. Press ◄ to set the selected option.

5.1.6 To Read the Device Serial Number

A. Upon gaining access to the installer menu (see section 5.1.1 points A to C) the display will read “SUPERVISION”.

B. Press ➤ repeatedly until SERIAL NUMBER is displayed.

C. Press ◄ to read the serial number assigned to the unit.

5.2 User Setting Functions

Note: The Partition feature appears only after Partitioning is enabled via the control panel.

The user settings on your MKP-150/MKP-151 keypad include the following functions (for instructions see PowerMax+, PowerMax Pro, PowerMaxComplete, PowerMaxExpress User’s guide):

- Set Bypass
- Show Bypass
- Recall Bypass (applicable when Partition is disabled)
- Set Phone Number
- Set User Codes
- Set Voice Option
- Auto Arm Option
- Auto Arm Time
- Squawk Option
- Light by Timer (for further details, refer to the control panel User's Guide).
- Light by Sensor (for further details, refer to the control panel User's Guide).
- Make sure the system is not in Arm mode. The display should read:

...
6. OPERATION

**Function** | **Actions**
--- | ---
Partition selection (when enabled) | ![Partition No.]
Arming HOME | ![user code] (1) ![user code] (1)
Arming HOME INSTANT | ![user code] (1) ![user code] (3)
Arming AWAY | ![user code] (1)
Arming AWAY INSTANT | ![user code] (1) ![user code] (1)
Forced Arming HOME | ![user code] (1) ![user code] (1)
Forced Arming AWAY | ![user code] (1)
Disarming | ![user code] (1)
X-10 device (1-15) ON | ![unit #] [1-15]

**NOTES**
(1) Function inside black rectangles are accessible only if master user code was entered.
(2) Press OK to display the number, state and name of first bypassed zone. Press NEXT/BACK repeatedly to view all the bypassed zones.
(3) To enter “A” (AM) press ![key] (or one of the 3 keys above it), to enter “P” (PM) press ![key] (or one of the 3 keys above it). (Not functional if the time format has been set to the 24 hour clock via the PowerMax+.)
(4) SET/SHOW/RECALL BYPASS menus are accessible only if “manual bypass” has been selected by the installer via the PowerMax+.
(5) In the SET VOICE OPTION, if you select “enable prompts”, the PowerMax+ mute speaker button ![button] is active.
(6) RECALL BYPASS is applicable when Partition is disabled.

**Figure 9: User Settings Flow Chart**

DE2462U

**Frequency Allocations for Wireless Devices in European Countries:**
- 315 MHz is not allowed in any EU member state.
- 433.92 MHz has no restriction in any EU member state.
- 868.95 MHz (wide band) is allowed in all EU member states.
- 869.2625 MHz (narrow band) is not restricted in any EU member state.
- 315 MHz is not allowed in any EU member state.

The digital circuit of this device had 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 on and off, 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.
- Use a power outlet on a circuit different from that to which the receiver is connected.

7. **Compliance with Standards**

The User Manual describes operational instructions, neglect, willful damage, misuse or vandalism, accidental damage, alteration or misapplication, such as improper installation, failure to follow recommended installation and operational instructions, neglect, wildfire damage, misuse, or vandalism, accidental damage, alteration or tampering, or repair by persons 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 or detect 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. This 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 operational 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, wildfire damage, misuse, or vandalism, accidental damage, alteration or tampering, or repair by persons other than the Manufacturer, are not covered by this Warranty. These warranties do not apply to any loss or damage arising out of the corruption and/or malfunctioning of any telecommunication or electronic equipment or any programs.

**Warranty:**

Visonic Limited (the "Manufacturer") warrants this product only (the "Product") to the original purchaser (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 Manufacturer's recommended installation and operational 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, wildfire damage, misuse, or vandalism, accidental damage, alteration or tampering, or repair by persons 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 or detect 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. This 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 operational 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, wildfire damage, misuse, or vandalism, accidental damage, alteration or tampering, or repair by persons other than the Manufacturer, are not covered by this Warranty. These warranties do not apply to any loss or damage arising out of the corruption and/or malfunctioning of any telecommunication or electronic equipment or any programs.

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. This 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 operational 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, wildfire damage, misuse, or vandalism, accidental damage, alteration or tampering, or repair by persons other than the Manufacturer, are not covered by this Warranty. These warranties do not apply to any loss or damage arising out of the corruption and/or malfunctioning of any telecommunication or electronic equipment or any programs.

**WEEE Product Recycling Declaration:**

The technical documentation as required by the European Conformity Assessment procedure is kept at:

UNIT 6 MADINGLEY COURT CHIPPERNAM DRIVE KINGSTON MILTON KEYNES MK10 0BZ. Telephone number: 0870 7300800, Fax number: 0870 7300801