ElkGuard™

Self-Contained Wireless Security System

Installation & Programming Manual

FCC STATEMENT:

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause Interference to radio and television reception. It has been type tested. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

* If using an indoor antenna, have a quality outdoor antenna installed.
* Reorient the receiving antenna until interference is induced or eliminated.
* Move the receiver away from the security control.
* Move the antenna leads away from any wire runs to the security control
* Have the device or controller plugged into a different outlet so that it and the receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user or installer may find a booklet titled "Interference Handbook" prepared by the Federal Communications Commission helpful: This booklet is available from the U.S. Government Printing Office, Washington, DC 20402. The user shall not make any changes or modifications to the equipment unless authorized by the Installation Instructions or Users Manual. Unauthorized changes or modifications could void the user's authority to operate the equipment.

List of Available Devices

Part #	Description	FCC ID Number
106058	ElkGuard Wireless Alarm System with GSM Communicator Contains GSM/GPRS Modem Transmitter Module	FCC ID: O2K-106058 FCC ID: MIVGSM0108
106064	Wireless Mini Door & Window Switch Transmitter (RR1)	FCC ID: O2K-106064
106065	Wireless Universal Transmitter w/ext input & Vib analyser (RR2)	FCC ID: O2K-106065
106068	Wireless 4 Button Keyfob Transmitter (RK4)	FCC ID: O2K-106068
106053	Wireless 3 Button Keyfob Transmitter (RK3)	FCC ID: O2K-MK304
106050	Wireless 1 Button Bracelet / Neckless Panic Transmitter (RK1)	FCC ID: O2K-106050
106054	Wireless Emergency Button Transmitter (RPB)	FCC ID: O2K-106054
106056	Wireless Door Bell Button Transmitter (RDB)	FCC ID: O2K-106056
106051	Wireless PIR with Pet Immunity (R15PET)	FCC ID: O2K-106051
106062	Wireless PIR - Non Pet Immune (R15)	FCC ID: O2K-SPIR304
106060	Swivel Mounting Bracket for Wireless PIR	N/A

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Application, Features, & Specifications

ElkGuard is a fully self contained security system. It features an on-board motion sensor, loud siren, and wireless receiver for remote sensors and Arm/Disarm keyfobs. It offers a selection of “AC Pwr” mode and “Battery Only” mode. In the “Battery Only” mode the unit is capable of operating for 3 months or more between recharges, which means less maintenance for the homeowner or building manager. It is manufactured to world class standards using the latest surface mount technology and state of the art in-circuit probe testers, together with strict process controls and adherence to an ISO9001 Quality Assurance Program, ensuring a quality product and a long service life.

ElkGuard can communicate to a central monitoring station using GSM cellular radio technology, making it completely independent of landline phones. This feature alone affords ElkGuard with unprecedented ease of installation and portability.

Complete control of the ElkGuard is available from waterproof remote wireless keyfobs, which provides the user with separate on and off buttons plus a panic button.

ElkGuard not only visually reports all events to the user via its large, bright alphanumeric display, it actually speaks to the user to report events and advises on the action to take.

ElkGuard contains the latest microprocessor technology ensuring the highest level of security and dependability. The wireless keyfobs utilize proprietary encryption algorithms to remove the risk of code duplication by would be intruders though the use of “Code Grabbers.” Detection devices such as wireless passive infrared detectors and wireless reed switches also offer a high level of security through the use of programmable supervision techniques and constant monitoring of their battery condition.

ElkGuard also helps resolve the growing issue of manpower and experience when it comes to installation. A basic install can be completed in minutes using only a screwdriver to mount the equipment. Minimal programming is required allowing a comprehensive system to be installed in under one hour.

Features

- Built In Passive Infrared (PIR) Motion Detector
- Built In Wireless Receiver for sensors and keyfobs
- Up to 23 supervised and encrypted wireless devices inclusive of 1 keyfob min.
- 6 Character alphanumeric display
- Capable of operating on battery for 3 months or longer between recharges (in Battery Only mode)
- Available with Built-in GSM Cellular Alarm Communicator
- Voice Annunciation (status, events, user instructions)
- Multiple arming modes (ARMED, STAY, STAY2)
- Adjustment volume of system sounds and voice annunciation
- Optional Strobe Light with alarm memory
- Optional External Speaker for Siren
- Memory and Visual indication of Last Alarm Event
- Non-Volatile Program Memory

Specifications

- Dimensions (H x W x D): 20.5 x 4.5 x 3.3 Inches
- Operating Voltage: 12Vdc
- Standby Battery: 12V 3.3 Ah
- Weight: 5.75 lbs (including battery)
- Plug-in Power Pack/Charger: 18VAC 400mA Class 2 Transformer

Mounting

Select a mounting location for the ElkGuard in a main area of the building or home with consideration of the following recommendations:

1) ElkGuard needs to be high enough in the corner of the room for the motion detector to cover the most space possible. The ideal mounting height is at least 70" from the floor to the bottom of the unit.

2) The GSM Cellular Radio requires access to a nearby GSM transmission tower. It cannot function without adequate signal strength. Some buildings or locations may not be conducive to GSM coverage OR the location within the building may so critical that the location of ElkGuard will need to be adjusted to obtain the best possible signal strength.

3) Even though ElkGuard is capable of operating on battery for 3 or more months between recharges (in Battery Only mode), connection to an AC electrical outlet (if available) is certainly a good practice as it would eliminate the need to remember to periodically recharge the unit manually.

The design of the ElkGuard makes it ideal for mounting in the corner of a room or to any flat surface. A different set of mounting holes are used when mounting the unit in a corner versus a flat surface as illustrated in Figure 3 on the following page.

To access the mounting holes first remove the speaker grill by holding the main unit and pulling the speaker grill away from the main cover at the top using the opening tab as shown below.

Figure 1

Next, remove the display face plate by holding the main unit and pulling the face plate away from the main unit using the opening tabs located on each side of the face plate as shown below.

Figure 2

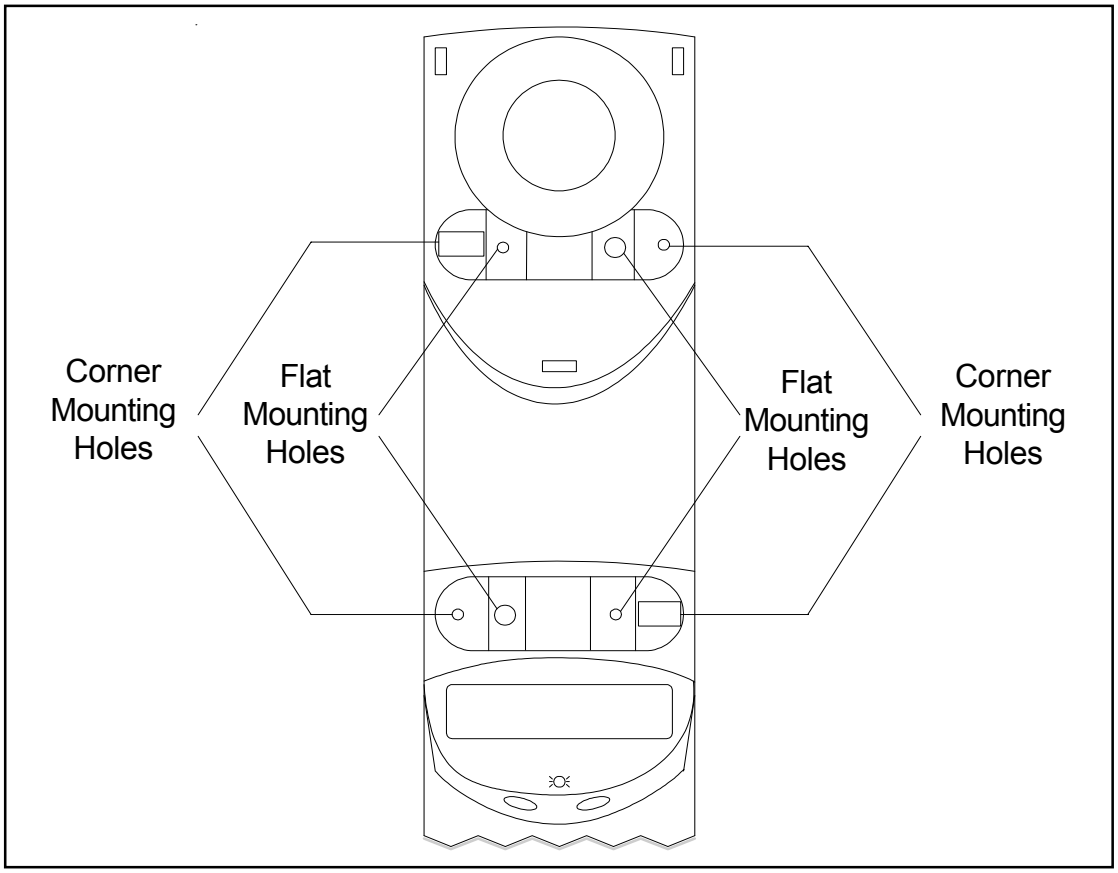


Figure 3

After removing the speaker grill and faceplate, position the unit on the wall vertically level where it will be mounted and mark the appropriate mounting holes. This will indicate where to drill the holes for the anchors. Use a 3/8" drill bit.

Squeeze the anchor tabs down and press the anchor into the hole. The anchors will fit tight so try not to bend the anchor. Repeat for all of the holes you drilled.

When all the mounting anchors are in place, insert the screws through the mounting holes and into the anchors. Do not overtighten the screws. Anchors can be stripped out if screws are over tightened.

Snap the speaker grill and display face plate back into place.

After mounting the unit, plug in the AC transformer for 24 hours. This will ensure the onboard battery is fully charged.

Start Up

To power up ElkGuard it will be necessary to insert one of the two keys provided into the round barrel lock on the bottom edge of the unit. Turn the key clockwise 1/4 turn and the unit will display “Learn”. If the unit was previously in any state other than disarmed, this mode will time out in 30 seconds. During this time the triggers for the main motion detector are ignored. After the time has expired the unit will resume the mode quietly (without usual arming sounds).

User Modes

ElkGuard has four different modes, DISARMED, ARMED, STAY, and STAY2. This allows the user to set different levels of security when they are home or away. It is very easy to scroll through the available armed modes by pressing Arm/Lock key on the keyfob multiple times. To disarm simply press the Disarm/Unlock key on the keyfob. The chart below suggests the type of sensor definition that should be used for specific protection areas and also illustrates in which Arm Mode the sensor definitions will be active.

Sensor Definitions

INT - This definition is for Interior Sensors that are to be Active with the system in the ARMED mode but NOT Active in the STAY and STAY2 modes. Typically used for PIR motion sensors.

NTINT - This definition is for specific Interior Sensors that are to be Active with the system in the ARMED and STAY modes but NOT Active in the STAY2 mode. Typically this should only be used for sensors in unoccupied areas (high security areas) because they will be Active in the STAY mode and a false alarm could occur if someone accidentally crossed into the area.

PERIM - This definition is for Perimeter Sensors (doors and windows) that are to be Active always when the system is in the ARMED, STAY, and STAY2 modes.

CHIME - This definition is currently usable for NON ALARM Sensors and is only active when the ElkGuard is in a DISARMED state.

ICHIME, NCHIIME, PCHIME - As shown below, these 3 Sensor definitions provide various reactions depending upon the current mode or state of the ElkGuard.

Sensor Definitions and Response

ARM MODE	INT	NTINT	PERIM	CHIME	ICHIME	NCHIME	PCHIME
Disarmed				C	C	C	C
Armed (Away)	**A**	**A**	**A**	C	**A**	**A**	**A**
Stay			**A**	C			S *
Stay2		**A**	**A**	C		S *	S *

LEGEND
A = Alarm - In the Arm Modes shown the Sensor will activate an alarm if tripped.
C = Chime - Sensor will only cause a single chime tone to sound if tripped.
S * = Special Alert - Sensor will cause 5 Special Alert tones to sound if tripped.
blank = Inactive - Sensor is inactive and can not create an alarm or sound the chime.

☞ **NOTE: ElkGuard will not permit arming to the STAY or STAY2 modes if no sensors are defined as INT or NTINT. Refer to the programming section of this manual for more information.**

Device Allocation

ElkGuard can have up to 24 devices learned into the system (this is inclusive of the main PIR detector that is built into the main unit.) This provides up to 23 remote wireless devices like keyfobs, door/window sensors, and motion detectors. ElkGuard will accept any combination of motion detectors, sensord, and keys, however you must always have at least one keyfob programmed.

Device Categories

Main Motion Detector

The ElkGuard features a PIR motion sensor integrated into the main unit. This sensor is permanently allocated as SENSOR 1. Depending on the ElkGuard operating mode and the programming attributes the PIR on the main unit can be locked out (or excluded from the system). NOTE: When “Locked Out” the Main PIR is incapable of sensing or reacting to movement.

PROGRAM mode, PULSE or RANGE options selected	No Lockout
PIR configured as EXCLUD in any operating mode.	Full Lockout
DISARM mode and PIR not configured as CHIME.	Locked out for 4 minutes
All other modes	Locked out for 5 seconds

Wireless Keys

Wireless Keys are considered any type of wireless device that the user operates by a button. There are several different types of keys. The chart below outlines the different types of keys, the programming options available for each type, and if the device is supervised by the main unit.

Key Type	Description	Program Options	Supervision
User Keyfob	3 Button Pendant Keyfob	KEY, DURESS, NO PAN	Not Supervised
Medical Transmitter	Pendant Medical Button	MEDIC	Not Supervised
Panic Transmitter	Single Panic Button	KEY (Panic), DURESS	Selectable
Doorbell	Single Button Doorbell	BELL	Not Supervised

For more information on the programming options listed in the chart above please refer to the Programming section of this manual.

Sensors

Detector Type	Description	Supervision
Motion Detectors	PIR Motion Sensors	Selectable
Reed Switch	Door and Windows Contacts	Selectable

For information on the programming options available for the detectors listed in the chart above, please refer to the Programming section of this manual.

Alarms

Intruder Alarms

Activation of the intruder alarm will cause the internal siren to sound for the programmed time. An optional external speaker may also be wired to ElkGuard for additional sound. Also, an optional strobe light may be wired to ElkGuard for visual indication of events. The strobe light can flash for 1 hour if the unit is powered only by the battery, or for 12 hours if the unit is connected to the AC transformer power. Refer to the section titled: Optional Auxiliary Connections for more information.

Pressing the Disarm/Unlock button immediately after an alarm will disarm ElkGuard. For the next 5 minutes the display will indicate the source of the alarm, and the time at which the alarm occurred.

Note: ElkGuard features a 6 character display. When displaying messages with more than 6 characters the message will scroll across the display in segments. In this manual messages that contain more than 6 characters are shown with a (<) sign to indicate the separate segments.

Display	Description
ALARM< SENSOR<1	ALARM was set off by the main motion detector
ALARM< SENSOR< 2-22	ALARM from a learned device such as a reed switch, wireless motion detectors, etc.
TAMPER< SIREN < BOX	Siren Tamper If used in ARMED mode the unit will sound a full alarm and report to central station when applicable. Used in STAY, STAY2, or DISARMED mode the unit will sound a low volume warning sound & report. The warning will sound again if tripped again. Otherwise, Siren Tamper Exclude will be displayed and the unit will beep. Arming and Disarming the system will clear the display.
TAMPER< SENSOR < 2-23	Sensor has reported a tamper alarm. If the unit is in ARMED mode it will sound a full alarm & report. In STAY, STAY2 and DISARMED modes the unit will sound a low volume warning sound. Tamper deactivation will cause an alarm restore and re-arm for subsequent Tamper activations. Event log will clear after ARM/DISARM cycle.
PANIC < KEY < 1-23	PANIC ALARM from a learned keyfob, fixed panic or medical key. When the alarm is silenced the display will show which key activated the alarm.
MEDIC < KEY < 1-23	PANIC ALARM from a medical key. The display will show “PRESS < OFF < TO < CANCEL < MEDIC < ALARM” for several minutes. When the system is disarmed the display will show which key caused the alarm.
RADIO < JAMMED	Radio jamming signal detected. If a radio signal is detected in the operating bandwidth of the ElkGuard the unit will go into ALARM mode if enabled.
RADIO < TAMPER	Radio message that is not an original message has been received. (If RADSUM = ON). 1. A code that is a retransmitted code of an original message has been received to try to defeat the system. 2. 20 multiple messages have been received by the system to crack the encryption. Arming/Disarming the system will reset the count.

System Troubles

System troubles are not indicated in ARMED, STAY, or STAY2 modes. If DISARMED or upon DISARMING any existing trouble condition will be displayed along with a time stamp. The message will be displayed by the unit for 5 minutes.

☞ Note: ElkGuard has a 6 character display. When displaying messages with more than 6 characters the message will scroll across the display in segments. In this manual messages that contain more than 6 characters are shown with a (<) sign to indicate the separate segments.

Display	Description
BATTRY < KEY (or PANIC or BELL)	Low Battery from the device (keyfob, Panic, etc.). Low battery is in the device and needs to be changed.
BATTRY < SENSOR < 2-22	Low Battery in the detector. Low battery is in the device and needs to be changed
FAIL < SENSOR < 1-22	Only works with supervised devices. A radio message has not been received in supervised number of hours. The device needs to be checked to ensure it is working properly.
OPEN < SENSOR < 2-22	Reed Switch is open on ARMING. The reed switch programmed for Check mode operation is un-secure when entering ARMED, STAY, or STAY2 modes. The device should be checked to see if it is secure. A warning tone will sound at the end of EXIT DELAY when ARMED.
LOW < MAIN < BATTRY	The main battery in the ElkGuard is low. This condition is cleared when AC power goes from off to on or when the battery passes a load test.
FAULT < MAIN < BATTRY	The main battery in the ElkGuard failed a load test immediately after being charged. This alarm can only be cleared by switching the master switch off then on.
DIALER < RADIO < FAIL	ElkGuard failed to communicate with the Radio GSM Communicator.

Panic/Duress Operation

Audible Panic alarms (including siren and optional strobe light) may be activated by pressing the special panic button on the 3 or 4 button keyfobs if they have been programmed as “KEY”. Audible Panic alarms may also be activated by pressing the single button on the emergency transmitter, provided the emergency transmitter is programmed as “KEY”.

A silent Duress alarm (without any siren or strobe activation) can be activated by pressing the special panic button on the 3 or 4 button keyfobs if they have been programmed as “DURESS”. The system will also be armed or disarmed at the same time. A silent Duress alarm may also be activated by pressing the single button on the emergency transmitter, provide the emergency transmitter has been programmed as “DURESS”.

Silent Duress means that the system will arm or disarm while a silent Duress alarm is being sent to the central station.

Battery Management

ElkGuard operates in one of two modes. 1) AC Powered (plug in AC charger) with built-in standby battery for brief power outages. 2) Battery Powered only - with occasional connection to AC power to recharge.

Recharging

AC Powered - When ElkGuard has a full time connection to AC power, it utilizes a constant trickle charge method for keeping the internal battery charged. Under the following conditions ElkGuard will switch to "fast charge" using a higher voltage charging method to quickly bring the battery back to full charge.

- On initial connection to AC power or when the AC power goes from off to on it will fast charge for 24 hours.
- If it detects the main battery as being low it will switch to fast charge for 24 hours.
- Every 30 days it will fast charge for 12 hours
- Whenever the Siren sounds it will fast charge for 12 hours.
- Exception: If a FAULT<MAIN<BATTERY is detected, the unit will limit charging of the main battery to 6 hours. This is to help prevent overcharging a battery which has become weak or is near its end or life.

NOTE: When ElkGuard has a permanent connection to AC power, a low battery display is an indication that the battery has reached its end of life and needs to be replaced.

Battery Powered - Without a full time connection to AC power, ElkGuard's internal battery is designed to provide up to 3+ months of operation before it must be recharged. MANDATORY: The "AC PWR" programming option MUST BE set to "OFF" if ElkGuard is not connected to a full time AC power connection. This allows ElkGuard to enter a semi-sleep mode to conserve its energy.

NOTE: When ElkGuard displays "Low Main Battry" it is time to connect the unit to its AC power charger in order to recharge the battery. Plug the AC power charger into a 110V AC outlet and plug the charging connector into ElkGuard for at least 24 hours.

Important: Each time ElkGuard is connected to its AC power charger it starts the 24 hr "fast charge" using a higher voltage charge cycle. It then drops back to a maintenance or "trickle" charge at the end of 24 hrs. For this reason, we do not recommend frequent or repeated unplugging and plugging of the ElkGuard unit to its AC power charger unless: A) It displays a Low Main Battery message. OR B) Unless it has been operated on battery only for a substantial period of time. Repeated unplugging and plugging of the AC power charger without sufficient time for the battery to be depleted can eventually damage the battery due to the higher voltage "fast charging".

Battery Load Test

The unit briefly performs a battery test:

- Upon power up of the main unit
- Every 24 hours
- Upon disarming
- 3 hours after the completion of a recharge cycle (only at the end of a recharge cycle and no siren was activated after the recharge cycle.)

Battery Alarm

If a low battery is detected while the AC transformer is connected, no alarm is displayed or reported to the central station. However, the ElkGuard battery recharge circuitry will immediately kick-in to recharge the battery for 24 hours.

If a low battery is detected while the AC power is not connected, a low battery alert will be displayed and reported (if applicable) to the Central Station, provided that option is enabled. Once the AC power (transformer) is connected, the ElkGuard battery recharge circuitry will immediately kick-in to recharge the battery for 24 hours. If the battery passes the next load test the low battery alert condition will be cleared and restored immediately.

Nonvolatile Memory

Nonvolatile memory is memory that will be retained if the unit is turned off or resets due to abnormal conditions. Data stored in nonvolatile memory includes:

- All programmed devices and options associated with the device (keys and detectors).
- The arm state of the system when the problem occurred to allow the state to be restored after a power cycle or reset.

System Feedback

The chart below outlines the audible and visual feedback from the system when armed in the various user arming modes.

Mode	Display	Siren Internal	Siren External (Optional)	Strobe (Optional)
ARMED	ARMED	1 chirp at the start of exit delay and one at the end of exit delay if V-ARM is disabled	1 Chirp at end if enabled	Flash for 2 seconds
STAY	STAY	STAY Arming tone if V-ARM is disabled	N/A	Flash for 5 seconds
STAY2	STAY2	STAY2 Arming tone if V-ARM is disabled	N/A	Flash for 5 seconds
DISARMED	DISARMED	3 Chirps	3 Chirps if enabled, and if disarming from ARMED Mode	Flash for 4 seconds

Programming

There must be at least one keyfob programmed into the system. The unit is shipped with 2 keyfobs which are already programmed into the system.

Entering Programming Mode

Programming mode may be accessed in two different ways:

Method 1
Turn the system on by using the master on/off key switch.

ElkGuard will briefly display its firmware version number and will then flash “LEARN” for 10 seconds.

Alternate Method 2
If the system is already on and disarmed, the programming mode can be accessed by doing the following:

1. Press and hold down the right button on the main unit.
2. Once “ElkGrd” is displayed, continue to hold the right button while pressing the Disarm/Unlock key on a programmed keyfob.
3. The unit should go into programming mode showing “Key 1”.

Exiting from Programming Mode

Once all programming changes are complete there are two (2) ways to exit programming mode.
1) Navigate forwards to the last program option labeled **”P-EXIT”** and then press the Arm/Lock key on a programmed keyfob. In is also possible backup or navigate backwards while in programming mode. See Program Mode Navigation below.
2) You may also exit programming mode by power cycling the unit with the master on/off key switch.

NOTE: The ElkGuard will automatically exit programming mode after 10 minutes of inactivity.

Programming Mode Navigation and Selection

When navigating through the programming menus devices and system options are displayed steady. The current programmed value for each device/option is displayed flashing.

- The DISARM/UNLOCK button on the keyfob is used to advance forward through the program menus.
- The ARM/LOCK button on the keyfob is used to select and advance into a displayed menu. The current value of that menu option will be displayed in a flashing mode. Repeated presses of the Arm/Lock button will then scroll through the various values or options for that particular menu.
- The PANIC buttton on the keyfob is used to pick or store the value currently being displayed. The new value will then flash indicating that it is now the programmed value for that option.
- On the Main ElkGuard unit there are two pushbuttons. While in the programming mode the left most button can be used to navigate backwards though the program menus. This is handy to go backwards, particularly if you are trying to get to the P-EXIT (program exit) menu or if you just accidentally step forward past a menu that you wished to program.

Learning New Devices

Learning a new wireless device requires the Master On/Off key. Proceed with the following:

Step 1 Enter programming mode using Method 1. The display will show the version # and flash LEARN for 10 seconds. *NOTE: If unit is ever completely defaulted (erased), it will display "LEARN KEY 1" until at least 1 keyfob has been programmed. This can be done by simply activating the Learn Procedure with the keyfob that you want to be Key 1.*

Step 2 Press the Arm/Lock button on any existing programmed keyfob to advance the display to "READY". This now indicates that the unit is waiting for a wireless transmission from the new device.

Step 3 Proceed to the device to be learned and perform the Learn Procedure (see chart below) while the display is showing Ready. After a LEARN message is received from a new device it will be added to the next available empty slot. It is not possible to specify the slot number.

The chart below outlines the Learn Procedure for specific devices:

Device	**Learn Procedure**
Keyfob, Doorbell, or Emerg. Button	Hold the panic button down for approx. 8 seconds
PIR, Reed Switch Dr/Wnd Sensors	Disconnect battery in device for 10 seconds, then reconnect.

☞ OPTIONAL: Reed Switch devices (door/window sensors) may be learned as a "checked" item. If the sensor is not closed when the system is armed it will announce and display the sensor number. In order for a sensor to become learned as a "checked" item it must be in the secure or closed position (non violated) when it is learned.

Once the device is learned into the system, it will automatically be set to the default definition for that type of device. Sensor devices default to INT, but can be changed to NTINT or PERIM by pressing the arm/lock button. Key devices default to KEY, but can be changed to MEDIC, DURESS, etc. by pressing the arm/lock button. When the desired mode is selected press the Panic button to save the new mode selection. The new mode will flash indicating the programming change has been stored into memory. To learn another device simply press the Disarm/Unlock button to go back to the main menu at "LEARN".

Erasing/Replacing Devices

To erase a device:

Step 1 Enter programming mode using either Method 1 or 2. When using method 1 you must wait for approx. 10 seconds until the LEARN goes away. Once the unit displays Key 1 you may press the Disarm/Unlock button to step through to the device to be erased. When the device you wish to remove appears on the display, press the Arm/Lock button. The current definition for that device will be displayed flashing. Press the Arm/Lock button until ERASE is displayed, then press the Panic button. The display will now show LEARN, allowing you to program a new device in that slot. This allows a faulty device to be replaced while keeping the same slot number.

To replace the old device with a new one at this slot number repeat steps 2 and 3 from the top of this page. To exit from programming follow the procedure for exiting.

☞ The last keyfob cannot be used to erase itself. The only way to erase everything is to default the ElkGuard. When the unit is defaulted a keyfob will need to be programmed into the system.

Programming Notes

The ElkGuard will flash FULL if an attempt is made to program a device when no slot is available. It will allow programmed devices to be viewed in sequence and erased if desired.

PROGRAM MENU OPTIONS

(Displayed in this order as you scroll forward through programming)

Keys 1-23 Keyfobs, Medical Key, Emergency Panic Key, Doorbell (Default = KEY)

Definition	Description
KEY	User Keyfob (Arm, Disarm, and Panic) Panic is Audible. This definition should also be used for single (1) button Emergency Transmitters when audible Panic is desired.
DURESS	User Keyfob (Arm, Disarm, and Panic) Panic is Silent. "Duress" activation
MEDIC	User Keyfob (Arm, Disarm) Panic button activates silent Medical Alarm - no audible
BELL	For single (1) button Doorbell Transmitter. Choice of 3 sounds
NO PAN	User Keyfob (Arm, Disarm) Panic button is disabled except in Program mode.
ERASE	Allows you to permanently remove a key from the system.

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

SENS 1 Main Detector in the System (Default = INT)

Definition	Description
INT	Sensor will be active in the ARMED (Away) mode but not in the Stay or Stay2 modes.
NITE	Sensor will be active in the ARMED and STAY2 modes.
PERIM	Sensor will be active in the ARMED, STAY, or STAY2 modes (All Arm modes).
~~*FIRE*~~	~~*NOT APPLICABLE -Fire detection devices are not currently available.*~~
CHIME	No Alarm - Sensor only provides a Chime Tone in the Disarmed mode.
ICHIME	Sensor will Alarm in ARMED (Away) mode. If Disarmed it produces 5 alert tones.
NCHIME	Sensor will Alarm in ARMED (Away) mode. In Stay mode it only produces 5 alert tones.
PCHIME	Sensor will Alarm in ARMED (Away) mode. If Stay or Stay2 modes it only produces 5 alert tones.
ERASE	Permits you to permanently remove a sensor from the system. Changing any sensor to this will effectively ERASE or remove it.

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

SENS 2-23 Detector 2-23 (Default = INT)

Definition	Description
INT	Sensor will be active in the ARMED (Away) mode but not in the Stay or Stay2 modes.
NITE	Sensor will be active in the ARMED and STAY2 modes.
PERIM	Sensor will be active in the ARMED, STAY, or STAY2 modes (All Arm modes).
~~FIRE~~	~~*NOT APPLICABLE -Fire detection devices are not currently available.*~~
CHIME	No Alarm - Sensor only provides a Chime Tone in the Disarmed mode.
ICHIME	Sensor will Alarm in ARMED (Away) mode. If Disarmed it produces 5 alert tones.
NCHIME	Sensor will Alarm in ARMED (Away) mode. In Stay mode it only produces 5 alert tones.
PCHIME	Sensor will Alarm in ARMED (Away) mode. If Stay or Stay2 modes it only produces 5 alert tones.
ERASE	Permits you to permanently remove a sensor from the system. Changing any sensor to this will effectively ERASE or remove it.

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

RANGE **Sets the Range of the Main Unit Motion Detector** **(Default = LOW)**

Option	Description
LOW	Low range of 8 meters (26.25 ft)
HIGH	High range of 14 meters (45.93 ft)

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

PULSE **Sets the Pulse Count on the Main Unit Motion Detector** **(Default = 3)**

Option	Description
1 PULS	Number of times (1-4) the main unit motion detection beam needs to be crossed
2 PULS	before an alarm occurs
3 PULS	
4 PULS	

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

SIGNAL **Signal Check of detectors, keyfobs, etc.**

ElkGuard has the ability to show the signal strength of programmed devices. After the unit receives a signal from an enrolled device it will display the signal strength and beep the corresponding number of times.

Press the arm/Lock button at “SIGNAL” for the System to be ready to receive a signal from the device.

Display	Description
SEND	Waiting to receive the signal from the device
SENS 2-23 LEVL 1-9	Detector received signal strength at level shown on the display
KEY 1-23 LEVL 1-9	Key received signal strength at level shown on the display

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

RADJAM **Radio Jamming** **(Default = OFF)**

In the case that the system is receiving a continuous source of Radio Frequency Interference (RFI) it will generate a chime in modes DISARMED, STAY, STAY2. In ARMED mode it will go into a full alarm.

Option	Description
ON	Radio Jamming Detection Enabled
OFF	Radio Jamming Detection Disabled
SILENT	Dialer report only. (no local siren, display or logging).
	Limit of 10 reports ; cleared on arming.

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

RADSUB **Radio Message Substitution** **(Default = OFF)**

Radio Message substitution refers to any radio signal that is not an original message from a valid ElkGuard device. This may be an original code that has been retransmitted in an attempt to defeat the system or a message transmitted multiple times to attempt to crack the encryption. In the event an intentional message substitution is detected, the system can generate a CHIME in DISARMED, STAY or STAY2 modes. A full alarm will be activated if the system is ARMED.

Option	Description
ON	Enabled
OFF	Disabled

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

SUPVIS Supervision Status (Default = 24)

A system trouble will occur if a valid supervisory message has not been received from the detector within a specific period.

Option	Description
1, 4, 8,16,24	Supervision alarm will occur if no supervisory message has been received within a set time period (period = hours)
OFF	Supervision alarm disabled

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

LOKOUT Detector Lockout (Default = OFF)

Alarm lockout prevents multiple sirens sounding due to an alarm from the same device. The external siren will not sound again until the system is disarmed with the Disarm/Unlock button. The internal siren will always sound unless the lockout option is on and then the internal siren will behave like an external siren.

Option	Description
ON	Enabled
OFF	Disabled

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

ENTRY Entry Delay Time (Default = 15)

The amount of time, in seconds, before the ElkGuard goes into Alarm mode once a detector has been activated. If the system is disarmed during this time the unit will not go into Alarm mode.

Option	Description
5-30	Time in seconds; values in 5 second steps

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

EXIT Exit Delay Time (Default = 30)

The amount of time, in seconds, before the sensors become active once the Arm/Lock button has been pressed. Provides time for users to exit from the building. A warning tone is sounded at the end of the time.

Option	Description
5-60	Time in seconds; values in 5 second steps

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

SIREN Siren Reset Time (Default = 5)

The amount of time, in minutes, that the siren or sirens will sound before automatic reset (cut-off) once the unit goes into actual Alarm.

Option	Description
1, 2, 3, 4, 5	Reset time in minutes

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

Chirps External Siren Chirps (Default =ON)

If set to ON, this causes the external siren to chirp on ARM and DISARM, providing audible feedback to the user. The siren never chirps when disarming from the Stay or Stay2 modes, even when this option is enabled.

Option	Description
ON	Enabled (External Siren will chirp on ARM and DISARM)
OFF	Disabled (External Siren will NOT chirp on ARM and DISARM)

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

V-ARM Voice Annunciation ARM/DISARM (Default =ON)

Option	Description
ON	Armed and disarmed events annunciated
OFF	Armed and disarmed events not annunciated

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

V-ALRM Voice Annunciation Alarm (Default =ON)

Option	Description
OFF	Alarm events not annunciated
ON	Alarm events annunciated

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

V-BATT Voice Annunciation Low Battery (Default =ON)

Option	Description
OFF	Low Battery events not annunciated
ON	Low Battery events annunciated

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

V-FALT Voice Annunciation Fault (Default =ON)

Option	Description
OFF	System faults not annunciated
ON	System faults annunciated

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

V-DEMO Factory use Only! (Default =OFF)

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

ElkGuard can contact the Central Alarm Station Monitoring Station wirelessly using it's built-in GSM Cellular Communicator. The following options are available.

✱OPEN Open/Close Reports * ***Do NOT turn this option OFF*** * (Default =ON)

Open/close reports are messages sent to the monitoring station each time the system is ARMED and DISARMED. This includes the ID number of the keyfob/user. This option should NOT be turned OFF as it is important for maintaining the current system status. NOTE: Additional monthly charges will only be accessed if the Central Station and customer wish to receive printout or logs showing the event trails. Restores can also be sent for alarm events when a key Disarm/Off button is subsequently pressed.

Option	Description
OFF	All disabled
ON	Open/Close reports enabled (sent at end of exit delay)
RESTOR	Alarm Restores enabled
RES+OC	Alarm Restores and Open/Close Reports enabled

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

✱LOWBAT Low Battery Reporting (Default =MAIN)

Option	Description
NONE	No low battery reporting
MAIN	Report low main battery
SENSOR	Report low detector batteries (including Fixed Panic Buttons)
ALL	Report low main unit battery and all detector batteries

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

✱CLIENT Central Station Acct # **** Not used for GSM 'GPRS' reporting*** * (Default =0000)

Press Arm/Lock button to view the programmed account number.
Press Arm/Lock button to step through the values for the first digit.
Press Panic/Red button to store the digit. The second digit will now flash.
Repeat for remaining digits.
Press Panic/Red button to store the last digit, now the first digit will flash.
Repeat programming procedure to make corrections, or press Unlock/Disarm to return to top menu in programming.

0000-FFFF	Client account number (digits can be 0 through F in hexadecimal but A is not allowed for protocol compatibility).

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

✱ These programming locations only pertain to the communication/reporting feature.

✱PHONE1 Phone Number 1 *** Not used for GSM 'GPRS' reporting *** (Default = -)

This location was originally used for an external add-on telephone POTS dialer. It is not used in ElkGuard units that incorporate the GSM GPRS reporting mode.

Pressing the Arm/Lock button will cause the current programmed number to be displayed in successive 6-digit segments. The number can be up to 20 digits. Afterwards the first 6-digit segment will lock in with the first digit flashing. Pressing the Disarm/Unlock button at this time will leave the number unchanged and step on to the next location. Pressing the Arm/Lock button will step through and display the values available for the 1st digit. Pressing the Panic/Red button when the correct value is displayed will lock in that digit and move forward to the 2nd digit which will now begin to flash. Repeat for each digit. When done press the Disarm/Unlock button to leave this option and step on to the next programming option.

Valid Characters	
-	In 1st digit location this means the Phone number is disabled
-	In other digit locations it is a 3 sec. Pause
0 - 9	Digits 0 - 9
*	Star DTMF Tone
#	Pound DTMF Tone

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

✱PHONE2 Phone Number 2 *** Not used for GSM 'GPRS' reporting *** (Default = -)

This location was originally used for an external add-on telephone POTS dialer. It is no longer used in ElkGuard units that incorporate the GSM GPRS reporting module. For a telephone POTS dialer the length of the number could be up to 20 digits. If used this option would be programmed in the same manner as PHONE1 above.

✱GSM SG GSM Signal Strength

This menu indicates GSM Cellular tower signal strength. Signal strength is displayed in a range of 0-9 where 0 indicates no signal and 9 indicates a strong signal.

✱ABORT Dialer Abort Delay (Default = 0)

The is the amount of time from alarm activation until the signal is transmitted to a monitoring station. Essentially this option allows a person to cancel a false alarm.

Option	Description
0-60	Time in seconds, 5 second steps

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

✱MEDIC Medical Key Abort Delay (Default = 0)

Programmed time a user can abort sending a medical alarm message to the monitoring station.

Option	Description
0-60	Time in seconds, 5 second steps

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

✱ These programming locations only pertain to the communication/reporting feature.

✱T-CALL Dialer Test Call (Default = OFF)

Option	Description
OFF	Test calls disabled
1, 7, 14, 30	Test call period in days

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

✱DIALER GSM Mode Selection (Default = GPRS)

The GSM mode selection is chosen from this programming location. For North American operation the only valid selection is currently GPRS.

Option	Description
GPRS	Global Packet Radio - Enables the transmission of digital data using the GSM network
~~R-DIAL~~	~~Not available for North American operation.~~
~~GSMCID~~	~~Not available for North American operation.~~
~~GSMSMS~~	~~Not available for North American operation.~~
OFF	Disables the dialer functionality of ElkGuard

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

☞ AC PWR Power Selection Mode * VERY IMPORTANT * (Default = OFF)

Sets the expected power operating mode. If ElkGuard can be connected full time to an AC power outlet this option may be set to "ON". However, if ElkGuard is going to be primarily operated from its internal battery only, with only an occasional recharge from the AC power, this option SHOULD be set to OFF (Battery Only mode).

Press Arm/Lock button to view the available selections. Press the Panic button when the correct option is displayed. Press the Disarm/Unlock button to back up and then to move forward to another programming location. Press the Disarm/Unlock button to leave the selection unchanged and step on to the next option.

Option	Description
ON	In this mode ElkGuard MUST be constantly connected to an AC power outlet using its plug-in transformer. The AC power will automatically maintain the backup battery in a fully charged condition, ready for any intermittent AC power outages. The GSM Radio will remain powered up 100% of the time in order for it to be possible to remotely contact it and/or control it remotely. The operating time during an AC power outage will be approximately 40 hours or less.
OFF	In this mode ElkGuard functions in a ultra low energy mode (Battery Only mode). Basically, it hibernates (sleeps) and completely powers down the GSM Radio if there is no activity. It will automatically wake up upon any alarm, trouble, or keyfob action. The GSM Radio will power up every 2 hours for a short time to listen for any remote commands. [Any remote message will therefore be delayed for as long as 2 hours] It is possible for ElkGuard to operate for 3 months or longer on a fully charged battery. There are no guarantees and the actual length of time can vary depending on the age of the battery, the operating conditions, and other factors such as the number of alarms, arms, disarms, troubles, etc. **IMPORTANT REMINDER! ElkGuard must be periodically connected to AC power in order to recharge its internal battery.** **NOTE: Setting the unit to Battery Only mode and then connecting it full time to AC power results in it NOT hibernating UNTIL the AC power fails. Essentially, this allows it to receive remote commands without having a 2 hour delay, provided AC is present.**

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

✱ These programming locations only pertain to the communication/reporting feature.

DEFALT Reset to Factory Defaults

Erase devices and/or default options as required.

If ALL or Key is selected, ElkGuard will jump to the start of Program Mode, displaying LEARN /KEY1.

Option	Description
ALL	Erases all programmed devices and defaults all options
OPTION	Defaults all option values
KEY	Erases all keys
SENSOR	Erases all detectors; defaults SENSOR 1 (units PIR)

*** DISARM/UNLOCK button advances to next menu - ARM/LOCK button selects menu and advances through its options - Panic button stores the desired option.***

☞ If you factory default "ALL" the following procedures will be required to initialize the unit before any key learning or programming may be performed.

1. Turn the Master Power Switch "OFF"
2. While Holding Down both buttons on the main unit, turn the master power switch to "ON"
3. "FACTORY" will flash on the display
4. Press "Button 3 / Panic Button" and continue to hold until "1-"is displayed.
5. Press the "OFF" button on the key fob, until "1- *" is displayed.
6. Turn the Master Power Switch "OFF" and then "ON"
7. Display flashes "Learn"
8. Press the "Button 1/ OFF" button on the Key fob until the Key fob is learned, "Key 1" will be displayed.

P-EXIT Program Mode Exit

To exit from programming mode there are two choices.

1) Navigate to this programming location and then press the Arm/Lock button.

☞ It may be helpful to know that the left button of the main unit (just below the display) will permit you to navigate backwards in the programming mode. This is particularly helpful if you accidentally skip past a particular location or if you are near the first locations and need to navigate quickly to the end of the locations.

2) The other choice for exiting the programming mode is to simply turn off (or power cycle) the main unit using the master key switch. However, be aware that when the unit is powered up there is a 10 second period in which the unit does nothing but wait to see if you would like to LEARN a new device. After this 10 seconds with no keyfob or button presses the unit will resume normal operation.

OPTIONAL AUXILIARY CONNECTIONS

ElkGuard has three optional auxiliary outputs and 1 optional tamper input available from a plug-in connector on the back of the unit. Packed with the unit is a mating wiring harness that plugs into connector. See instructions below.

Red Wire - +12Volts 'fused' (common for the Strobe, Siren speaker, and Aux,) Outputs ***

Black Wire - Strobe or lamp (open collector switched 0V) Output. ***

For a 12 VDC strobe light to provide Visual indication during operation. For Arming and Disarming this output is momentary only. Constant status not provided. For Alarms this output remains constant unttil system is disarmed.

> Connect strobe lamp positive (+) to the RED "Positive" (+) wire, strobe negative (-) to the Black (-) switched wire.

Arming:	12 VDC for 2 seconds upon arming the system.
Disarming:	12 VDC for 4 seconds upon disarming the system
Alarm / Panic:	12 VDC when an alarm event occurs. It continues to provide 12 VDC until the system is disarmed. (This output is not turned off or affected by the "SIREN" reset time)
Duress:	No voltage output when a Duress alarm event occurs

Blue Wire - External Speaker Siren (open collector switched 0V) Output. ***

For a single 8 Ohm external speaker. Provides an external audible indication for Alarms and system Arming and Disarming (momentary only).

> Connect 1 speaker wire to the BLUE wire and the other speaker wire to the RED wire.

Arming:	External speaker will beep once upon arming.
Disarming:	External speaker will beep three times upon disarming.
Disarm after Alarm:	If an alarm has occurred the external speaker will beep 5 times when disarmed.
Alarm / Panic:	External speaker will sound continuously until the end of the "Siren Reset" time or until the system is disarmed.
Duress:	Nothing - External speaker is silent when a Duress alarm occurs

White Wire - Aux. (open collector switched 0V) Output. ***

For a relay or external self contained piezo type siren. Provides a constant output upon an alarm.

> Connect negative (-) of the device to the WHITE wire and the positive (+) of the device to the RED wire.

Alarm / Panic:	Output will be continuously on until "Siren Reset" time or system is disarmed.
Duress:	Nothing - Output will NOT be on for a Duress alarm.

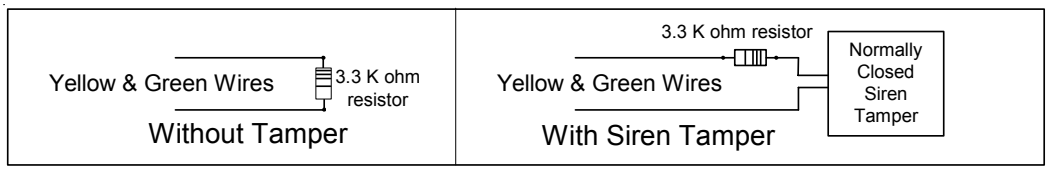
Warning: Do NOT exceed a combined current draw of 2 Amps. It is not recommended that these optional outputs be used if ElkGuard is being installed without a continuous AC power source. The battery backup time and the amount of time the unit could operate after an alarm would be seriously degraded.

Yellow and Green Wires - Siren Box Tamper Input

Designed to supervise an outdoor siren box. ElkGuard continually monitors this supervised input regardless of the armed status of the system. It will give audible and visual notification if this input has been violated.

Armed:	If tamper is violated in the Armed mode, the internal sounder and ext. siren output will activate until the "Siren Reset" time expires or until the system is disarmed. The display will scroll "Tamper Siren Box"
Disarmed:	If tamper is violated in the disarmed mode the internal sounder will sound for 4 Seconds. The display will scroll "Tamper Siren Box"
Tamper Fault:	If tamper has been violated and cannot be re-secured, the system can still be armed. The tamper will be automatically bypasssed. Upon disarm the display will scroll "Tamper Siren Box" until it is secure.

Connect the Yellow wires as shown to the siren box tamper switch. (See Diagram) NOTE: The 3.3K Ohm Resistor must be securely attached to each end of the yellow leads even if the siren box tamper is not utilized.



Red Individual Wires (2) - Permanent 'hidden' connection point for AC Transformer

There are two single RED wires on the back of the unit with the ends insulated by heat shrink tubing. Internally, these wires are parallel to the AC Power connector. These wires permit a more permanent installation of ElkGuard by allowing a 2 conductor cable to be spliced between these wires and the AC Transformer wires. No Polarity required. Run this 2 conductor wire inside the wall or otherwise hide it from view for a cleaner installation.

WARRANTY AND LIMITATIONS

Elk Products, Inc. (“Manufacturer”) warrants to the original purchaser (the “Customer”) that the ElkGuard self contained wireless alarm control and its associated component products shall be free from defects in material and workmanship for a period of one (1) year from the date of manufacture. In addition, in the event said product is found to be defective during the first 180 days, manufacturer may allow an over the counter exchange, subject to inspection and approval by one of it’s representatives. Manufacturer’s obligations under this Warranty shall be limited to repairing or replacing, at its option, free of charge, any product returned to Manufacturer freight prepaid. Manufacturer shall have no obligation under this Limited Warranty or otherwise if (1) the Product has been damaged by negligence, accident, mishandling, lightning or flood, transients or surges, or other Acts of God, (2) the Product has not been operated in accordance with its operating instructions, (3) the Product has been altered or repaired by anyone outside Manufacturer’s authorized facilities (4) adaptations or accessories have been made or attached to the Product which, in Manufacturer’s sole determination, have adversely affected its performance, safety or reliability. Products such as Controls and Batteries have their own warranties. After the expiration of this warranty period, product will be subject to an inspection fee, after which the customer will be notified of the applicable repair charges prior to commencing any actual repairs.

OBTAINING WARRANTY

If a Product should malfunction or fail during it’s warranty period, contact Manufacturer or one of its authorized distributors for a Return Authorization (RA) number. Returned Products must include a complete description of the problem, along with the RA number clearly marked on outside of the package. Manufacturer will not be responsible for any unnecessary items included with any returned Product.

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