VISION

2310B

24V TRUCK SECURITY

Instruction Manual

KIRAMEK INCORPORATED

Ver. 1.1, Jun. 2017

Thank you for purchasing this VISION 2310B Truck Security System. The 2310B is a state of the art device that will provide you with years of trouble free service if used properly. Please familiarize yourself with the content of this Instruction Manual to get the most out of your new system. We trust you will enjoy using the product.

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NOTICE! Although reasonable efforts have been taken to ensure accuracy in this Instruction Manual, Kiramek Inc. shall not be held liable for any errors, omissions, property damage, or injury resulting from the use of this information.

All product specifications and features are subject to change without notice.

LIMITED LIFETIME WARRANTY

The VISION 2310B system control module is backed by a limited lifetime warranty against defective components and/or improper product assembly to the original purchaser for as long the vehicle is owned by that same purchaser, contingent upon installation by an Authorized VISION Dealer. All product warranties become void if the VISION 2310B system was not sold and installed by an Authorized VISION Dealer or the system is moved to another vehicle. All other parts and/or accessories that connect to VISION 2310B systems, including the shock sensor and status LED, are warranted for one (1) year from the original date of purchase.

During the warranty period, Kiramek Inc. will repair or replace, at its sole discretion, any system component that is found defective in material or assembly during the warranty period, provided that the product is returned to Kiramek Inc. by an Authorized VISION Dealer and is accompanied by a clear and legible copy of the original purchaser's receipt. Any damage to your VISION 2310B system that results from normal wear-and-tear, accidents, improper use, neglect, faulty wiring, incorrect installation, modification, removal or defacement of the product serial number, alteration or repair outside Kiramek Inc or its Authorized VISION Dealers immediately voids this warranty.

This warranty is limited to defective parts only and does not provide any compensation whatsoever for damages associated with the VISION 2310B system or its accessories. This warranty does not cover installation labor, product removal and/or reinstallation fees. This warranty is valid for the original purchaser only and may not be transferred to another party. Kiramek Inc makes no warranty against theft or vandalism of the vehicle in which the VISION 2310B system was installed. This warranty shall not be interpreted as an insurance policy against loss, nor shall Kiramek Inc be liable any in way for such loss, financial or otherwise.

⚠**WARNING!** DO NOT ATTEMPT TO INSTALL THIS VISION 2310B VISION PRODUCT YOURSELF BECAUSE SUCH WILL IMMEDIATELY VOID THE WARRANTY. THIS SECURITY SYSTEM MUST BE PROFESSIONALLY INSTALLED BY YOUR AUTHORIZED VISION DEALER TO VALIDATE YOUR WARRANTY.


INSTALLATION

PRECAUTIONS & SAFETY

OPERATION. Use of the 2310B outside its intended purpose as described in this Instruction Manual, could result in damage to the vehicle or surrounding property, or cause serious injury or even death. As the installer of this security system, it is your responsibility to ensure that the vehicle owner is properly informed of all the details of your installation which are pertinent to safety.

☞ SAFETY POINTS TO ABIDE BY:

1. Never start the vehicle's engine in enclosed spaces that lack adequate ventilation. Extended exposure to carbon monoxide exhaust fumes can result in death!

2. Do not disconnect the vehicle's battery, as it could cause serious problems with modern airbag systems, anti-theft radios and/or vehicle diagnostics. Resulting problems could be so severe that you would need to have the vehicle serviced, at your expense, by your vehicle dealer. If you ignore this warning and choose disconnect the vehicle's battery anyway, first disconnect the main power wiring harness of the 2310B and then disconnect the vehicle's battery.

3. Do not proceed with installing this system in vehicles that do not have a 24-volt electrical system. This system will not function properly in 12-volt vehicles, and any damage resulting from such installation shall be the sole responsibility of the installer.

4. Do not install the 2310B control module or associated sensors in or near water, or in a location where water could gather. The 2310 control module and accessories are not waterproof, and an electrical short could occur if water gets inside. *Only the siren can safely be installed in the engine compartment.*

5. Do not install the 2310B control module in an environment of intense condensing humidity or steam, in an area with an unusually large number of airborne particles, or any place where oil could build up inside the control module case. All of these extreme environments could lead to an electrical short and possible cause a fire.

6. Avoid installing the 2310B and its associated sensors near sources of intense RF transmissions which could possibly interfere with the operation of the system. If you find the system is randomly working and not working, consider relocating the antenna wire and sensors.

INSTALLATION TIPS

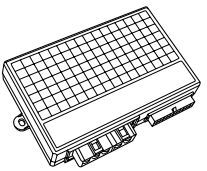
Steps Toward a Professional Installation:

- Secure all electrical contacts so you cannot easily break the connection by tugging on the wires. Use solder if required, and securely cover all connections with electrical tape, heat shrink tubing and/or corrugated tubing.
- Use only a DMM (digital multi-meter) to test leads or take voltage readings. Do not use "test lights" or "logic probes" ("computer-safe test lights" included) because they draw a large amount of electrical current that could overload and destroy sensitive circuitry in the vehicle.
- Manually turn off all lights (such as the dome light) that trigger when a hatch is opened so you will not run down the battery. If you cannot manually turn off all the lights, then remove the appropriate fuses and don't forget to replace the fuses after your installation is complete.
- Remember to not lock the keys in the car during your installation! Leave a door open or roll down a window, just in case.
- Consult the vehicle owner about where the Status LED, Control Module, Siren, and Sensors should be mounted.
- If you cannot find a suitable constant +24 volt power source under the dash, run a thick-gauge wire direct to the battery terminal. Do not disconnect the battery, but rather connect to the battery terminal clamps by removing the appropriate bolts.
- When running extension wires (such as a +24v lead to the battery), use a wire gauge that is at least as big or bigger than the wire you are extending.

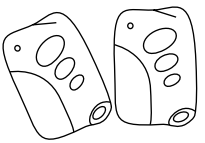
Recommended Tools and Accessories:

- DMM (digital multi-meter)
- Battery-powered drill & driver
- Electrical Tape or Heat Shrink Tubing
- Soldering Iron & Solder
- Corrugate Tubing
- Wire Stripper/Crimper

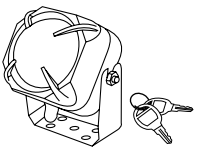
INCLUDED ITEMS



Control Module (1pc)

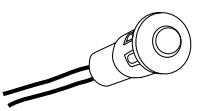


3-Button Remotes (2pcs)



24v Backup Siren (1pc)

Shock Sensor (1pc)



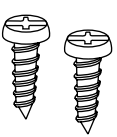
Status LED (1pc)

Window Decal (1pc)

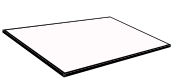
Main Harness (1pc)

Immobilizer Harness (1pc)

Power Harness (1pc)



Mounting Screws (2pc)



Sensor Tape (1pc)

Instruction Manual

TECHNICAL SPECIFICATIONS

Control Module

Operating Voltage:	24Vdc
Current Consumption:	15mA (armed w/ LED flashing, excludes shock sensor)
Operating Temp.:	-40°C to +85°C
Housing:	Not waterproof—avoid rain or splashing

Shock Sensor

*(Certified for **IP40**, but also passed IP50 tests)*

Operating Voltage:	12Vdc (supplied by control module)
Current Consumption:	5.0mA (avg.)
Operating Temp.:	-40°C to +85°C
Sensor Technology:	Infra-red Beam Deflection
Trigger:	2-Stage

Transmitter

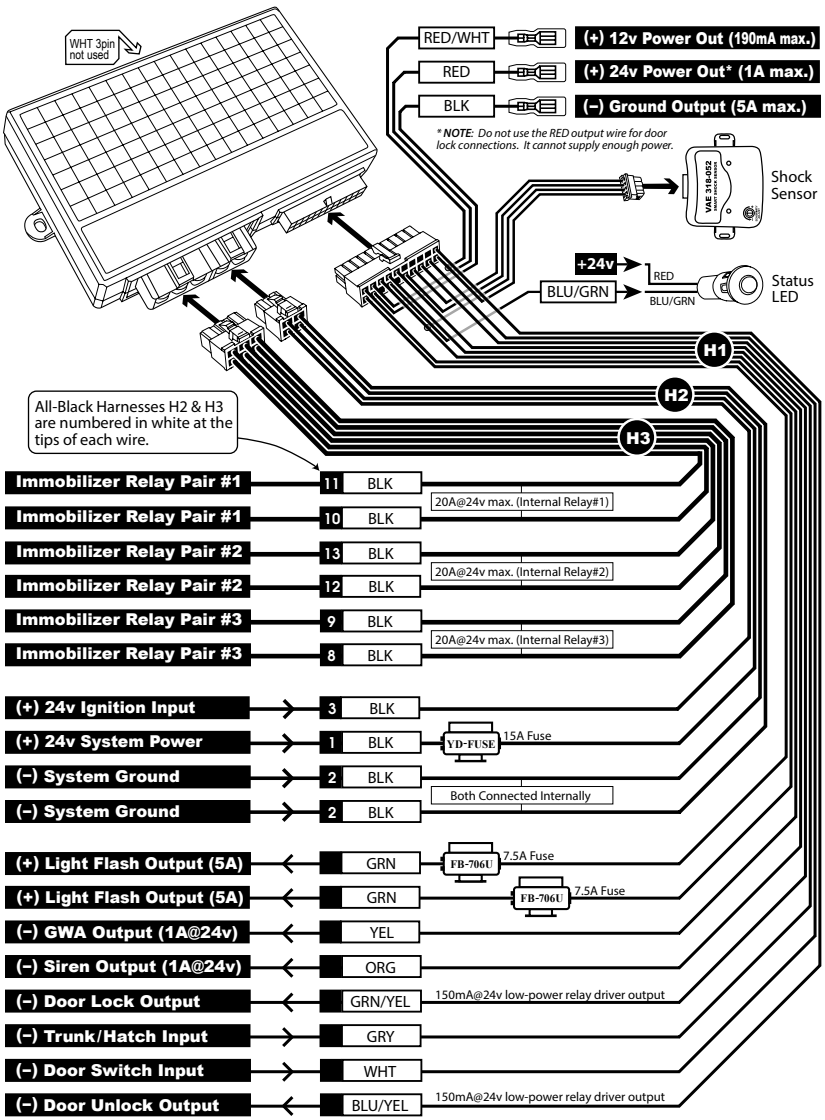
Battery Power:	Two CR2032 Lithium Button Cells
Battery Life:	1 Year (10 presses per day)
Normal In-City Range:	20~30m (65~100ft.)
RF Transmission:	Digital, 66-bit Rolling Code Security
Housing:	Waterproof to 1.8m (6ft.)

Siren

*(Conforms to **IP54** standard)*

Operating Voltage:	24Vdc
Current Consumption:	1A max. (during full siren blast)
Operating Temp.:	-40°C to +125°C
Loudness:	125dB (measured 30cm/1ft from speaker)
Audio Generator:	1-tone (6-tone selectable by cutting wire on siren)
Housing:	Water-resistant (cannot be submerged)

SYSTEM WIRING DIAGRAM



H1-GRN (+) Light Flash Output

There are two Green wires that supply +24v (5A max. each) for flashing the vehicle's hazard lights during security breaches (at times of Warning Chirps and Full Siren Blast) and system programming. Connection to the hazard lights is also required if you wish to enable Exterior Illumination (see pages 34 & 36).

Connections are shown **Fig-1** below. Although we recommend connecting to the hazard lights (turn signal lights), you may connect to the parking lights or small lights. Keep in mind that *each* Green wire output can supply only 5-amps max.

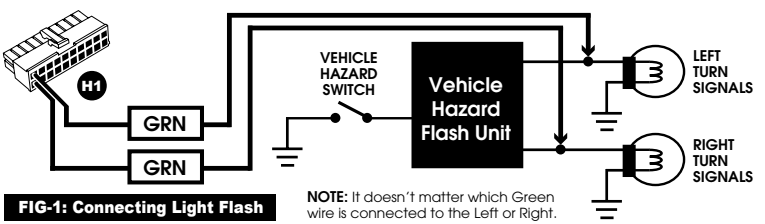


FIG-1: Connecting Light Flash

H1-YEL (–) GWA Output

"GWA" stands for "Ground When Armed." This wire supplies (–) 0v ground (1A max.) while the 2310 is Armed. This output can be used for powering low-current devices such as scanning LEDs or automotive illumination products when the 2310 is armed. See **Fig-2** below for example wiring of an optional LED scanner.

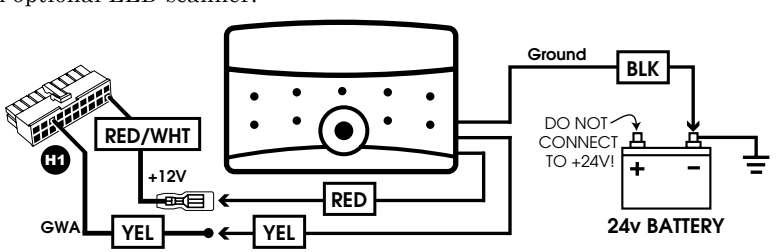


FIG-2: GWA Output **EXAMPLE: Connecting an optional LED Scanner**

H1-ORG (–) Siren Output

⚠ Important Connection!

This wire supplies a (–) 0v Ground (1.0A@24v max.) output to operate the included external siren during a security breach. See **Fig-3** below.

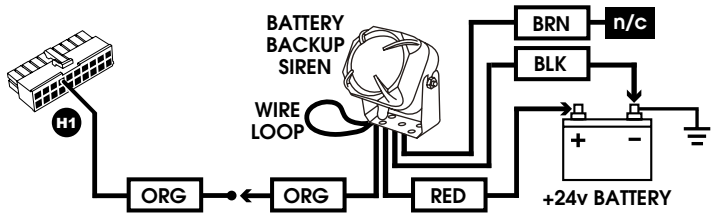


FIG-3: Connecting to the Siren

Cut wire loop for 6-tone sound.

H1-GRN/YEL (–) Door Lock Output

H1-BLU/YEL (–) Door Unlock Output

The 2310 can easily interfaced with vehicles that have (–) negative "Type-B" door locking systems, in most cases without any optional parts. Most Asian made vehicles use this (–) door lock scheme.

TYPE-B Vehicles that use a (–) negative door lock scheme have 3 wires at the master door lock switch. Probe the 3 wires and you should find one *constant* (–) 0v ground wire, and the other two wires will show (–) ground only when the switch is pressed. See **Fig-4** on the next page for connections.

⚠ ***IMPORTANT:*** *The 2310 does not support door locking on vehicles that use vacuum pump door locks or vehicles that require 2 pulses for unlock.* *See "Type-E" on page 12.*

⚠ ***NOTE:*** *Vehicles with door lock systems other than (–) B-Type will require purchase of optional parts such as relays and/or motors, as is explained in the following pages.*

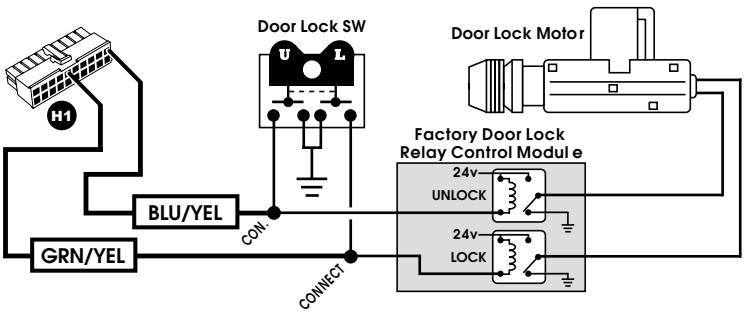
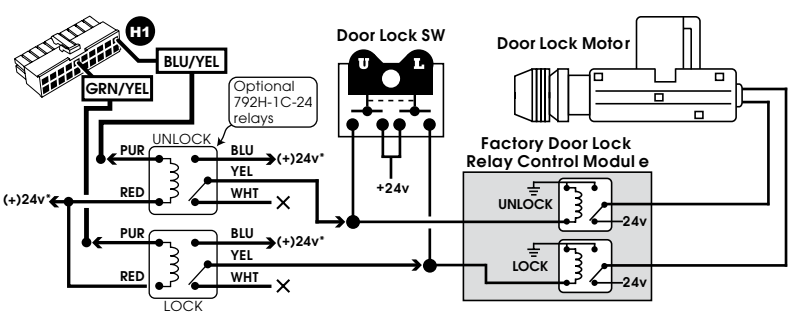


FIG-4: Connecting (–) Ground Control Door Locking **Type-B**

OTHER VEHICLE DOOR LOCK SCHEMES:

TYPE-A Most American made vehicles use (+) Positive control "Type A" door locks. Type-A vehicles have 3 wires at the master door lock switch. Probe the 3 wires and you should find one *constant* (+)12v wire, and the other two wires will show (+)12v only when the switch is pressed. *The 2310 can interface with Type-A only with the use of a pair of optional* ***VISION 792H-1C-24*** *relays (which need to be used to invert the polarity from – to +).* See **Fig-5** below for connections.



* NOTE: Do not connect these three +24v points to H1-RED. Tap the battery or another constant +24v source.

FIG-5: Connecting (+) Positive Control Door Locking **Type-A**

OTHER VEHICLE DOOR LOCK SCHEMES *CONTINUED...*

⚠ ***IMPORTANT TEST!*** *Type-C systems are very similar to Type-A. Mixing up the two types could damage the vehicle. To test, cut the wire that shows (+)24v when you press the Lock switch. Next, press the Unlock switch and see if all the doors unlocked. If all the doors unlocked, you can safely proceed with a Type-A installation. If the doors did not unlock, you either cut a motor wire or you have a Type-C system.*

TYPE-C Like Type-A locking systems, Type-C lock and unlock wires *typically* show (+)24v when you press the door lock switch. However, Type-C systems lack factory relays, and ***power is sent directly from the switch to the door lock motors***. Pushing the lock switch reverses the electrical polarity on the door lock motors according to the switch you pressed—so the polarity on the motor for Lock is opposite the polarity on the motor for Unlock. When neither switch is pressed, the lock and unlock wires *typically* rest at (–) ground. *The 2310 can interface with Type-C only with the use of a pair of optional* ***VISION 792H-1C-24*** *relays.* See **Fig-6** below for connections.

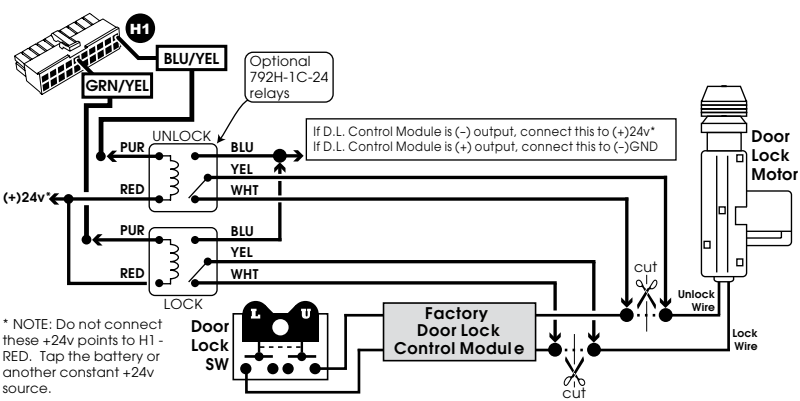
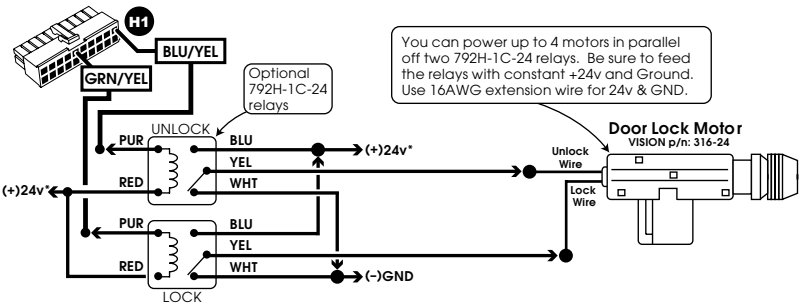


FIG-6: Connecting to Reversing Polarity Door Locks **Type-C**

TYPE-D All vehicles without power door locking and vehicles without door lock motors are Type-D. *The 2310 can interface with Type-D only with the use of a pair of optional VISION **792H-1C-24** relays and the purchase of optional VISION **316-24** door lock motors.* See **Fig-7** below for connections.



* NOTE: Do not connect these +24v points to H1-RED. Tap the battery or another constant +24v source.

FIG-7: Vehicles Without Factory Door Lock Motors **Type-D**

TYPE-E Vehicles which have vacuum pump locking systems are **not supported** by the 2310 at this time.

TYPE-F Vehicles that use a single wire to control door locking are Type-F. Typically, doors lock by open-circuiting the control wire and unlock by grounding the control wire. However, some Type-F vehicles do the exact opposite — ground the control wire to Lock and open-circuit the control wire to Unlock. Yet other Type-F vehicles use (+)24v instead of ground. *The 2310 can interface with Type-F only with the use of a pair of optional **VISION 792H-1C-24** relays.*

MULTIPLEX Many vehicles now use computer-controlled locking systems that send varying pulse widths on the control wire, often in conjunction with resistors. Also known as "multiplex" door locks, the control wire leads from the lock switch straight to the Body Computer (BCM) or to the fuse box. You can test for the presence of resistors (typically 250Ω to 7.5kΩ in size) by cutting the control wire, setting your DMM to measure Ohms, and measuring the "switch side" of the control wire between ground or (+)24v while pressing Lock or Unlock. *Multiplex door lock systems are **not supported** by the 2310 at this time.*

H1-GRY (–) Trunk/Hatch Input

This input detects if a trunk or hatch is opened. If a trunk/hatch opens while Armed, the siren will go off for 30 seconds or until Disarmed. The connection is made between the trunk/hatch switch and the dome (and/or trunk/hatch) light as shown below in **Fig-8**. The switch shown is open-circuit (no ground) when the trunk/hatch is closed.

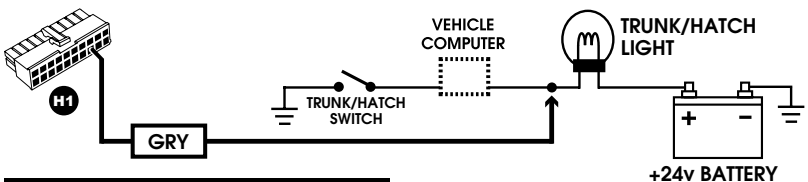


FIG-8: Connecting the (–) Trunk/Hatch Input

⚠ ***NOTE:*** *If you connect the GRAY wire to the trunk/hatch, keep in mind that the siren will go off when the trunk/hatch is opened while armed. Disarm the system before opening the trunk/hatch.*

H1-WHT (–) Door Switch Input

⚠ Important Connection!

This input detects if a door is opened and is also used for Manual Disarming — *see page 37*. If a door opens while Armed, the siren will go off for 30 seconds or until Disarmed. The connection is made between the door switch and the dome light as shown below in **Fig-9**. The switches shown are open-circuit (no ground) when the door is closed.

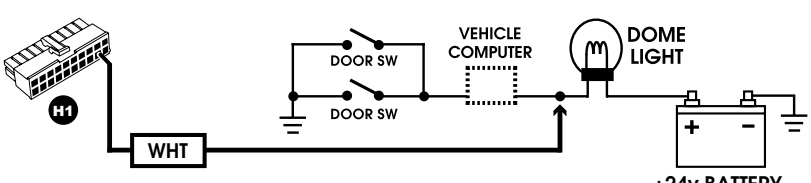


FIG-9: Connecting the (–) Door Input

H1-BLU/GRN Status LED

⚠ Important Connection!

The Status LED is used as a visual theft deterrent when the system is armed. It also is used to notify the user if the siren goes off while away from the vehicle, as well as for feature programming. Connections are shown below in **Fig-10**.

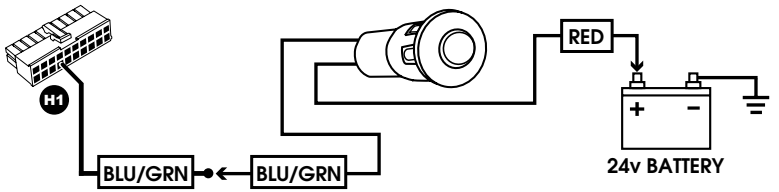


FIG-10: Connecting the Status LED

H1-RED/WHT (+) 12v Output

⚠ 190mA max!

This wire is a general purpose power output for automotive devices that cannot run on 24v. It is commonly used to power optional devices that are also grounded by the 2310's GWA Output (see page 8). Take care not to exceed the 190mA rating, especially when powering multiple devices.

H1-RED (+) 24v Output

⚠ 1-Amp max!

This is a general purpose power output wire for +24v devices only. Never connect +12v devices to this wire! This wire can be used to power the included Siren (see page 9) and/or to power the Status LED (shown above). But always keep in mind the 1-Amp rating of this wire! If you connect to the Siren and/or LED, you should not connect this RED wire to anything else. But if you connect the Siren to the +24v battery, then you have more freedom to connect multiple, low-power 24v devices to this RED wire.

H1-BLK (–) Ground Output

⚠ 5-Amp max!

This is a general purpose ground that can be used to power any combination of devices up to 5-Amp. Keep in mind this is an Output, not an Input. As such, you still must connect the two System Ground wires, as described on page 16. **DO NOT use this ground for your door locking connections!**

H1-4 pin Shock Sensor Connector

There are four wires which attached to cream-colored 4-pin connector that branch off from the **H1** Main Harness. Simply snap into the included 318-052 shock sensor, as shown in the diagram on page 7.

OPTIONAL SENSORS *(such as VISION **RSA-series** field sensors or the **318-022** digital tilt sensor or the **318-04** Ultrasonic sensor)* can be easily added to the 2310 without splicing wires by the purchase of an optional **318-035** Sensor Splitter, as shown in **Fig-10** below. (Sensor splitter not needed if only connecting the included shock sensor to the 2310.)

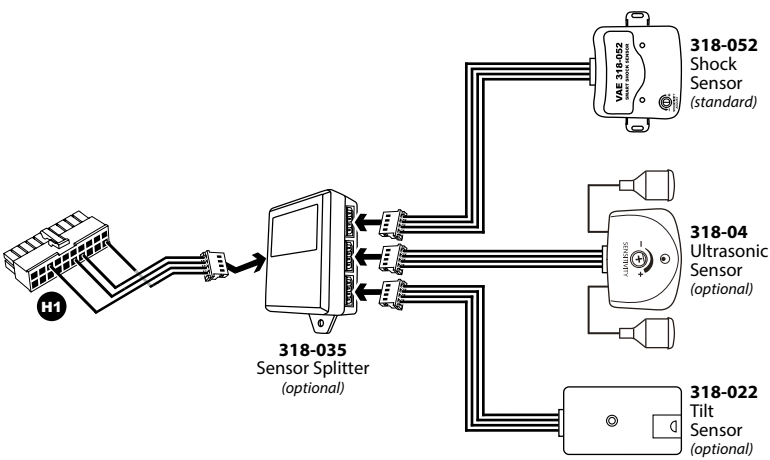


FIG-11: Easily Connect Multiple Sensors with the Optional 318-035

⚠ ***NOTE:*** *All wires in this harness are black. A number is printed in at the tip of each wire, corresponding to the numbers mentioned below.*

H2-1 (+) System POWER

⚠ Important Connection!

This wire is the main (+)24v power input to the 2310. Be sure to connect this wire securely to a *constant* 24v source, but connect this wire *last* so the siren doesn't go off.

If you cannot find a constant 24-volt source under the dash, you may need to run a wire directly to the positive battery terminal in the engine compartment. If you need to extend this 24v power wire, use wire thicker than the H2-1 wire. Do not bypass the fuse! If you blow the fuse, replace with a 15A blade type.

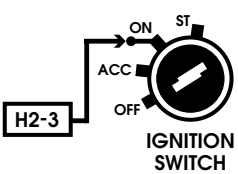
H2-2 (–) System GROUND

⚠ Important Connection!

There are two (–) ground inputs to the 2310, both marked "02" at the wire tips. Because both wires are connected internally, the 2310 will function fine if you only connect one. However, the reason for having two grounds is increased security through wire redundancy. Hence, we strongly recommend you connect both wires, connecting each to a different ground source on the vehicle. There is no meaning whatsoever to connect both wires if you connect both to the same ground point! *And keep in mind that most security system installation problems result from a bad ground connection, so select your ground points with care!*

H2-3 (+) Ignition Input

⚠ Important Connection!



This wire must be connected to the (+)24v Ignition line (showing 24v when IG switch is turned on). You must connect this wire to trigger the siren when the ignition goes on while Armed, for Engine Idling compatibility (pg. 32), for Manual Disarming (pg. 37), for Feature Programming (pg. 34), and for Transmitter Learning (pg. 39).

H3 IMMOBILIZER HARNESS

⚠ ***NOTE:*** *All wires in this harness are black. A number is printed in at the tip of each wire, corresponding to the numbers mentioned below.*

⚠ *NORMALLY OPEN RELAY WARNING* ⚠

When considering whether or not to immobilize the fuel pump and/or Ignition lines, keep in mind that all immobilizer relays used in this 2310B security system are "normally open." This means that even if a thief kills power to the security system, the engine still will be immobilized. Only when the system is Disarmed and the Ignition is later turned on will the immobilizer relays Switch Closed, allowing the engine to be started.

The potential problem is that if something undesirable were to happen to the relays that are connected to the fuel pump and/or Ignition lines, there is the possibility the relays could switch back to their normal state of "open," forcing an immediate shutdown of the engine even while the vehicle is in motion.

The installer therefore assumes all risk of connecting to the Ignition or Fuel Pump lines! KIRAMEK offers information on how to connect the 2310 to the Ignition or Fuel Pump lines in the event the installer absolutely must connect to those points. ***HOWEVER, it is strongly recommended for maximum safety that you choose instead to severe only the Starter line at 3 different points (shown in Fig-12 on the next page).*** *This is almost as secure and makes for a much safer installation.*

H3 3 Points of Immobilization

There are 3 pairs of wires in the H3 harness (see page 7) that lead to 3 internal 20-Amp relays inside the 2310 control module. The relays function as "**Normally Open**" immobilizers. Normally Open means that the each wire pair (e.g., Wire-08 and Wire-09) are normally not connected together. But when the system is Disarmed and then the Ignition turned on, the immobilizer relay switches and connects the two wires together, allowing the engine to be started. *(None of the immobilizer relays draw power until the Ignition goes on while Disarmed.)*

Three different points of immobilization make the 2310 more secure than many automotive alarms which have only one starter kill immobilizer relay. It is therefore possible to use one immobilization point for Starter Kill, another for Ignition Kill and yet another for Fuel Pump Kill.

However, there are "safety" issues involved when connecting to the Fuel Pump and Ignition (see "Warning" on the previous page). It is therefore recommended to break only the Starter line, at 3 different places. See **Fig-12** below. This method of installation ensures the engine can never shut off unexpectedly as the result of a 2310B malfunction or faulty relay.

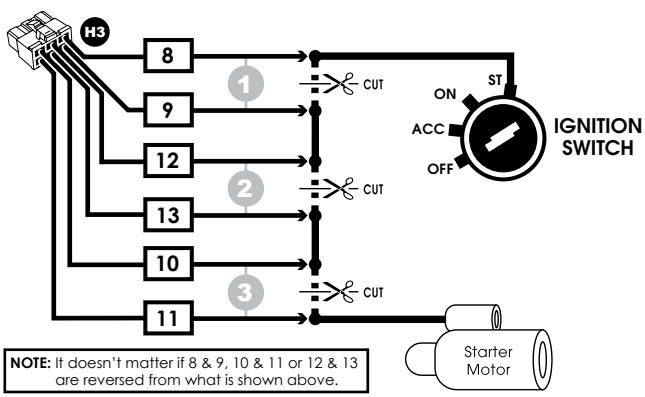


FIG-12: RECOMMENDED – Immobilizing the STARTER at 3 Different Points

We highly recommend the installation shown above in **Fig-12**, but we are aware that some installers are required to connect to 3 "unique" points in the vehicle (such as the Fuel Pump and Ignition Coil). Often times insurance company requirements or governmental regulations dictate this type of installation for maximum security. We therefore present these 3 methods in the following two pages. ***Nevertheless, installers must take full responsibility for whatever immobilization method is ultimately implemented!*** KIRAMEK assumes no liability for installations other than what is shown in **Fig-12** above. Installers must also confirm the wishes of the vehicle owner/driver before choosing an immobilization method.

⚠ ***WARNING!*** *DO NOT PROCEED with the wiring shown on this page or the next page without first having completely read pages 17 & 18.*

H3-08&09 Immobilizer Relay#1 – Starter Motor

Wire-08 and Wire-09 of the H3 harness (see page 7) lead to an internal "**Normally Open**" 20-Amp relay inside the 2310 control module. To immobilize the Starter motor with these two wires, connect as shown in **Fig-13** below.

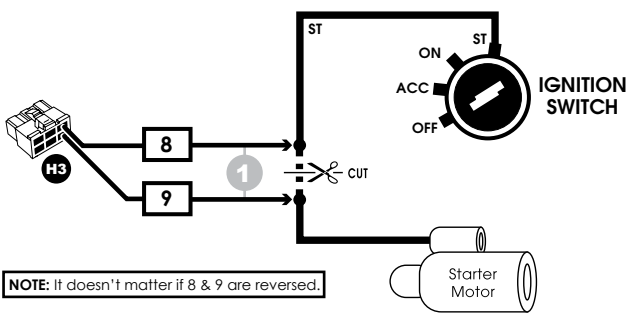


FIG-13: Immobilizing the STARTER

H3-10&11 Immobilizer Relay#2 – Ignition Coil

Wire-10 and Wire-11 of the H3 harness (see page 7) lead to an internal "**Normally Open**" 20-Amp relay inside the 2310 control module. To immobilize the Ignition Coil with these two wires, connect as shown in **Fig-14** on the next page.

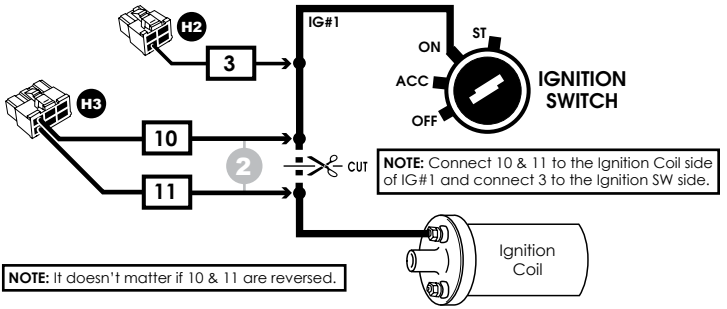


FIG-14: Immobilizing the IGNITION COIL

H3-12&13 Immobilizer Relay#3 –Fuel Pump

Wire-12 and Wire-13 of the H3 harness (see page 7) lead to an internal "**Normally Open**" 20-Amp relay inside the 2310 control module. To immobilize the Fuel Pump with these two wires, connect as shown in **Fig-15** below.

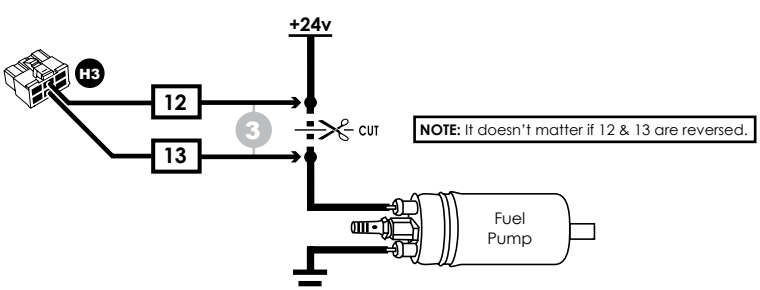


FIG-15: Immobilizing the FUEL PUMP

MOUNTING SYSTEM COMPONENTS

Control Module

The Control Module is "the brain" of the system and therefore must be installed in a secure location under the dash. *NEVER install the Control Module in the engine compartment or near any source of heat or moisture! NEVER place the Control Module near moving parts or in a location where it can vibrate or move around excessively.*

⚠ ***IMPORTANT!*** *When considering an appropriate mounting location, keep in mind that most thieves hot-wire vehicles by removing the plastic panel just under the steering column.*

Locations above or behind the glove box, behind the radio or high up under the dash (such as above the fuse box) are all good mounting places. However, you may need to extend wires if your chosen location is too far from the steering column. *If you extend wires, always use the same or larger gauge wire!* ***Solder*** *all connections (never use splice clips) and cover with electrical tape or heat shrink tubing or corrugate tube.* Mount the control module to a secure, flat surface or use wire ties to affix to a factory wire harness.

Shock Sensor

The shock sensor is not waterproof so only mount it *inside the cabin*. Use the included double-sided tape and mount the sensor to the inside of the plastic cover that surrounds the steering column. **NEVER** use screws or wire ties to mount the sensor! You can also mount to the outside of an air duct, to the inside of a trim panel. But ALWAYS mount to *plastic*, not to metal! Mounting the sensor to the metal body of the car will cause sensitivity to become poor. *Make an effort to test the sensor in your preferred mounting location prior to permanently attaching it with the 2-sided tape.*

⚠ ***IMPORTANT!*** *Always mount the 318-052 shock sensor more than 30cm (1ft.) away from the main module of the optional 318-04 Ultrasonic Sensor. Keep the shock sensor and shock sensor wires more than 30cm away from high power antennas in the vehicle. Failure to do so may cause the shock sensor to randomly false trigger the siren.*

Status LED

The Status LED is used as a visual theft deterrent when the system is armed. It also is used to alert the user if the siren went off in their absence, as well as for feature programming.

Ask the vehicle owner where the Status LED should be placed. If they have no particular preference, suggest a location near the door window on the driver's side where it can be easily seen (e.g., on a *switch blank*). Drill a 8.0mm (0.31in.) hole to mount and run the wires out of view.

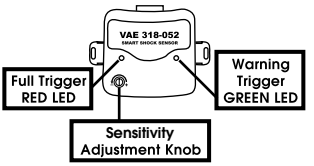
Siren

Find a location in the engine compartment (such as the firewall) that is far from heat sources or moving parts such as belts or the radiator fan. Locate a bolt or bolt hole for securing the siren mount; otherwise, you will need to drill holes and use self-tapping screws. Mount in a place that will not be splashed excessively with water! And remember that the siren will be 1-tone until you cut the blue loop wire, which enables 6-tone sound.

ADJUSTING THE SHOCK SENSOR

Sensitivity

The shock sensor is factory preset to work well with most vehicles out-of-the-box. However, if you find that the siren is going off too easily, or if the siren doesn't go off when you think it should, it's time to adjust the sensitivity.



Turn the sensitivity adjustment knob clockwise to *increase* sensitivity and counter-clockwise to *decrease*. If you cannot find a suitable adjustment level, consider remounting the shock sensor.

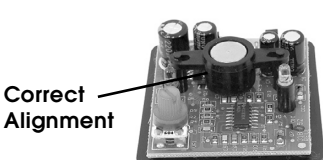
False Alarms

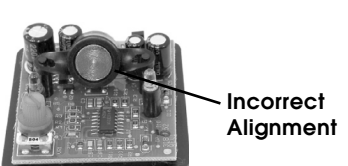
The VISION 318-052 "Active-IR" shock sensor has been engineered to avoid false triggers in most situations. However, there is still the possibility the sensor could trigger the siren during a strong earthquake, jackhammer operation adjacent to the vehicle, hurricane/typhoon, large explosions/fireworks, large animals ramming against the vehicle, etc. If any of these extreme cases are anticipated, you can avoid false siren triggers simply by arming the system with the Sensor Bypass Method, which ignores the shock sensor *(see page 28)*.

Another consideration is temperature. The sensitivity can vary by as much as 20% under extreme temperature conditions. You may wish to *reduce* the sensitivity in *hot* weather and *increase* sensitivity in *cold* weather.

Suspended Reflector Malfunction

If the shock sensor is not working well or at all, it may be that the suspended element inside the case was jolted out of position. Disconnect the wire harness, snap open the shock sensor case, and adjust as shown below.

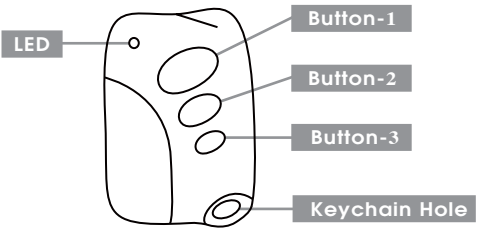





OPERATION

TRANSMITTER FUNCTIONS

OVERVIEW



BUTTON FUNCTIONS

- **Button-1**: "Normal Mode" Arm/Disarm *(siren sound enabled)*
- **Button-2**: "Silent Mode" Arm/Disarm *(siren sound disabled)*
- **Button-3**: "No Confirmation" Arm/Disarm *(siren chirps disabled)*
- **Buttons 1 & 2 (short press)**: "Sensor Bypass" Arm
- **Buttons 2 & 3 (short press)**: Door Lock/Unlock only
- **Any Button (long press)**: Panic Mode

TRANSMITTER USAGE & CARE

PRECAUTIONS

Your two 3-button transmitters are fairly durable devices that can endure common jolts or falls from a pocket. (Be aware that falls on hard surfaces may nick the plastic or the painted surface.) Your transmitters can even be submerged in water to 1.8 meters (5.9ft.) However, your transmitters can still be damaged by excessive heat, direct sunlight for extended periods, rapid movement through water *(we advise against diving/surfing with your transmitter)*. If water gets inside, remove batteries and allow to dry thoroughly before testing.

Never keep both transmitters on the same keychain. Always keep one transmitter in a safe place at home or work, so if you lose the one on your keychain you will have a spare available.

CHANGING THE BATTERIES

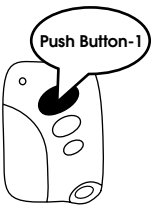
There are two CR2032 Lithium button-cell batteries inside your transmitters, which last about 1 year with normal every-day use. When the battery is getting low, the range will become shorter and the LED will become dim or not light at all. Snap open the case at the keychain hole to open. Be careful when snapping open the case with a screw-driver, so you don't dent the plastic.

COMMUNICATION RANGE

Your transmitter's range is adversely affected by RF noise. However, the typical in-city range is often greater than 20m (>65ft), and normal range in the country side (or any low RF noise area) can be as high as 50m (165ft.). Please keep in mind, however, that if metal objects (coins in your pocket) come in contact with the transmitter, range may be adversely affected. Also, your proximity to high-power TV station antennas and or powerful mobile phones will also limit range.

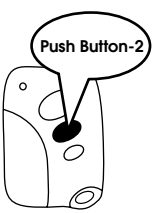
ARMING

NORMAL METHOD



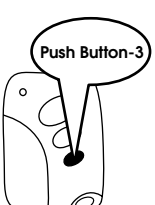
This method is the typical way to arm the 2310, with the siren and sensors enabled. Ensure that all doors are closed and then press Button-1 on your transmitter. After you press Button-1, the doors will lock (if so installed) and vehicle lights will flash once (if so installed). The siren will chirp 1 time and Status LED will light solid for 5 seconds. Some triggers (sensor, door, etc.) may be bypassed if they occur while the LED is lit solid. *(See "Error Chirp" on the next page.)*

SILENT MODE METHOD



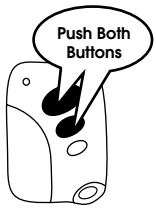
This method of arming will prevent the siren from making any sound (no confirmation chirps, no warning chirps, no siren blast, etc.). Press Button-2 on the transmitter, then release. The doors will lock and vehicle lights will flash once (if so installed), and the Status LED will light solid for 5 seconds. Some triggers (sensor, door, etc.) may be bypassed if they occur while the LED is lit solid. *(See "Error Chirp" on the next page.)*

NO CONFIRMATION CHIRP METHOD



This method of arming is identical to the "Normal" method except there is no siren chirp emitted after you arm. Ensure that all doors are closed and then press Button-3 on the remote. After you press Button-3, the doors will lock and vehicle lights will flash once (if so installed). The Status LED will then light solid for 5 seconds. Some triggers (sensor, door, etc.) may be bypassed if they occur while the LED is lit solid. *(See "Error Chirp" on the next page.)*

SENSOR BYPASS METHOD



This method of arming allows you to disable the included shock sensor while keeping all other alarm triggers active (e.g., door, ignition, trunk/hatch). Press Transmitter Buttons 1 & 2 at the same time then release. The doors will lock and vehicle lights will flash once (if so installed). The siren will chirp 2 times quickly, and Status LED will light solid for 5 seconds. Some triggers (sensor, door, etc.) may be bypassed if they occur while the LED is lit solid. *(See "Error Chirp" below.)*

ERROR CHIRP

When you arm the 2310, the system ignores shock sensor *"Warning" triggers* while Status LED is lit solid. If there is *any other trigger* while the LED is lit solid (IG, Door, Trunk/Hatch, Shock Full Trigger), the siren will chirp 2 times ("error chirp") and the vehicle lights will flash twice and that trigger sector will be bypassed. (No siren chirps will sound in Silent Mode.) If the bypassed sector is later secured (i.e., the opened door was later closed), the system will silently re-enable that sector 5 seconds later.

AUTO-ARM

PROGRAMMABLE

This method of arming is <u>disabled</u> by default — *see page 34 for programming details.* This feature automatically arms your system when you do the following: (1) Turn Ignition ON, (2) Turn Ignition OFF, (3) Open a Door and then (4) Close the Door. Twenty seconds later, you will hear 1 chirp and see 1 vehicle light flash. Five seconds later, the Status LED will start flashing, and all zones will be secured (i.e., the system will be Armed). **<u>NOTE</u>: Doors will *not* be locked.**

> ⚠ ***NOTE:*** *If you open a door before hearing the **Arm** chirp, the system will wait until you close the door. After the door closes, the 20 second delay-to-Arm timer will reset and start again.*

AUTO-REARM

PROGRAMMABLE

This method of arming is <u>disabled</u> by default — *see page 34 for programming details.* This feature automatically arms your system 60 seconds after it is disarmed. (If a door is opened during the sixty seconds, the 2310 will not automatically rearm.)

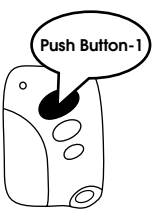
<u>NOTE</u>: Doors *will be locked*, unlike Auto Arm.

⚠ ***NOTE:*** *During the 20 second Auto Arm delay or the 60 second Auto Rearm delay, the siren cannot be triggered because the system is not yet armed.*

DISARMING

NOTE: To disarm <u>without the remote</u>, see page 37.

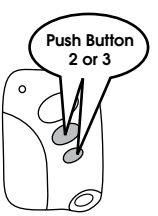
NORMAL METHOD



This method is the typical way to disarm the 2310, with confirmation chirps active. Press Button-1 on the transmitter while the system is armed. The doors will then unlock and vehicle lights will flash 3 times (if so installed). The Status LED will turn off and the siren will chirp 3 times. The system is now disarmed, and you may enter the vehicle without triggering the siren.

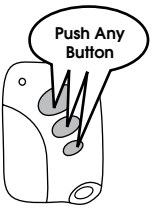
TIP: *Vehicle lights will illuminate solid for 30 seconds upon disarming if Exterior Illumination is enabled (see page 34).*

NO-CHIRP METHOD



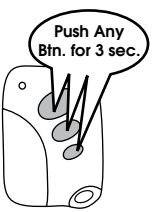
This method of disarming is identical to the "Normal" method except there are no siren chirps emitted after you disarm. Press transmitter Button-2 or Button-3 then release. The doors will then unlock and vehicle lights will flash 3 times (if so installed). The Status LED will turn off and the siren will chirp 3 times. The system is now disarmed, and you may enter the vehicle without triggering the siren.

HIGH SECURITY DISARM



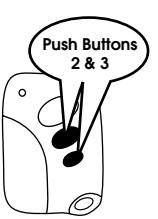
When the system is "triggering" *(warning chirps, siren blast, light flash),* two presses of the transmitter are required to disarm. This feature allows you to stop the trigger condition with only 1 press while keeping the system armed. You can press Button 1 or 2 or 3. Your first press stops the trigger (kills the siren, or kills only light flash if in Silent Mode). And a second press disarms the system.

PANIC MODE



Panic Mode allows you to trigger the full siren blast from your remote, whether the system is armed or disarmed. Press Button-1 or Button-2 or Button-3 for 3 seconds. *(Note that **Button-2** initiates "**Silent Panic**" which will flash vehicle lights but no siren will sound.)* When you release the button, vehicle lights will flash, the Status LED will flash quickly, and the siren will go off for 30 seconds *(siren will not go off if you pressed Button-2).* **You can exit Panic Mode (and silence the siren) any time after you initiate Panic Mode by pressing any button.**

DIRECT DOOR LOCK



Pressing Button-2 & Button-3 at the same time for a short duration will lock or unlock the doors without Arming or Disarming the security system. This feature can be useful if someone is inside the vehicle and you temporarily leave the vehicle and secure it but keep the siren from accidentally being triggered by the passenger inside. ***Never use this feature to leave unattended children in a vehicle!***

This feature only works when the 2310 is *Disarmed*. If you press Buttons 2 & 3 while the system is Armed, the security system will Disarm. And if you lock doors with this feature and later try to Arm, the doors will unlock and the system will be Disarmed—a second press will then be required to Arm.

SYSTEM "ARMED" FEATURES

STATUS LED

The LED flashes slowly "once per second" while Armed, acting as a visual theft deterrent. The LED turns off when the system is disarmed.

TRIGGER MEMORY

This feature informs you if the siren went off in your absence and you were too far away to hear the siren. The Status LED flashes rapidly while the siren is going off. The Status LED will continue to flash rapidly even after you disarm, until you turn on the Ignition (or until you disarm and then arm again).

SBS (Sector Bypass System)

When the *ignition* or *trunk/hatch* or *sensor* is triggered **10 times**, the security system will automatically bypass that specific sector until you disarm and arm the system again. If a *door* is left open, it will be bypassed after the siren goes off 5 times. Parking near construction sites or having animals jump on the vehicle can cause shock sensor triggers to occur, especially if the sensitivity is set to maximum. SBS makes this alarm comply with most laws that limit noise pollution resulting from multiple siren triggers in a short period of time.

DOOR TRIGGER

The siren will blast for 30 seconds whenever a door is opened while the system is armed (if the door input is connected). Vehicle lights will also flash, if so installed, during the 30 seconds.

POWER-UP ARMED

If the vehicle's power is cut and then restored, the 2310 will always power-up in the Armed state for greater security.

IIP (Intelligent Ignition Protect)

PROGRAMMABLE

IIP is a unique VISION security feature that intelligently switches as needed between 2 modes: **IG Protect Mode & Idling Compatibility Mode**.

IG PROTECT MODE (enabled by default)

When the ignition goes on while the system is armed, the siren will go off for 30 seconds. Vehicle lights will flash if so installed. *(See page 34 for programming.)*

IDLING COMPATIBILITY MODE

When the ignition goes on while the system is armed, the siren will *not* go off. Instead, shock sensor and ignition triggers are bypassed while door and trunk/hatch triggers remain active. *(See page 34 for programming.)*

Idling Compatibility Mode allows the driver to leave the engine idling and Arm the security system. Even though the ignition is on in this situation, the 2310 is still protecting the vehicle and any attempt to open a door or the trunk/hatch will trigger the siren. And when the ignition is turned off, the shock sensor and ignition triggers are then re-activated.

Why IIP is Needed. Most competing alarms bypass all trigger inputs when the ignition goes on while armed: *so if a thief opens a door the siren will go off, but the thief can then close the door, turn on the ignition and wait; when the siren stops, he can drive away in silence because the Ignition-ON state prevents the siren from going off again!* Yet other competing alarms trigger the siren when the ignition goes on while armed, but such prevents arming with the engine idling (with IG on). **IIP solves this "compatibility versus security" problem.**

How IIP Works. If the ignition (IG) is turned on in **Idling Compatibility Mode**, the siren will not go off because IG is bypassed; but sectors other than IG can still trigger the siren. However, if the siren was triggered *before* IG was turned on (via door, trunk, etc.), IIP switches back to **IG Protect Mode** and will trigger the siren if IG is later turned on.

GWA (Ground When Armed)

The 2310 feeds a (–) Ground output while the system is armed. Optional components can be added to this control line, such as a Starter Kill Immobilizer Relay, door lock interface, or vehicle lighting devices. When the system is disarmed, power to this output is removed and all attached devices shutdown. *See page 7 for details on electrical specifications.*

2-STAGE SENSOR TRIGGER

1st Stage ("Warning Chirps"). When the included shock sensor detects a light impact to the vehicle body, the siren will chirp 5 times. Note that any optional sensors attached to the shock sensor's 1st Stage input can also trigger the 5 warning chirps. *No siren chirps will be produced while in Sensor Bypass Mode (or Silent Mode).*

2nd Stage ("Full Siren"). When the included shock sensor detects hard impact to the vehicle body, the siren will go off for 30 seconds (or until stopped by a button press on your transmitter). Note that any optional sensors attached to the shock sensor's 2nd Stage input can also trigger the full siren blast sequence. *The siren will not be triggered while in Sensor Bypass Mode or Silent Mode.*

LIGHT FLASH

When installed, vehicle lights (in most cases, "hazard" lights) will flash continuously while the siren is going off (during the full 30 seconds). Lights will also flash 1 time during arm and 3 times during disarm, flash 5 times during "Warning" triggers (e.g., shock sensor 1st-stage trigger), and flash 2 times during Error Chirp. *See pages 7 and 8 for details on installation.*

FEATURE PROGRAMMING

To program features, have your vehicle's key ready to turn the ignition (IG) "on-and-off" several times. ***(TIP:** Use the "ACC" position as IG "off" because its easier to switch.)* Perform the following 3-step procedure to alter the features shown in **Table-1** below:

1. Disarm the system. *(Or "Arm-then-Disarm" if repeating this procedure.)*

2. Turn IG on-and-off the same number of times as the feature you wish to program *(refer to "No." in **Table-1** below),* **within 20 sec. of disarming**. *(For example, if you want to change "Auto Arm," you must turn the IG on-and-off 8 times within 20 sec.)*

3. Push Button-1 on the transmitter. *(Your chosen setting has toggled. The Status LED will then flash the same number of times as the feature you just programmed. Your programming session is now finished.)*

☞ When the Status LED stops flashing in Step-3 above, you can program another feature only by restarting this procedure at Step-1.

⚠ ***NOTES:*** ***(1)*** *The Status LED will flash the same number of times as the feature you just programmed but there will be no indication of the chosen Toggle Setting—test your 2310 system to confirm your programming.*
(2) *There is no "reset to factory default" feature.*
(3) *Don't perform Step-3 when choosing No. 20 in Table-1 below. See pg. 36.*

TABLE-1	Feature Selection Menu		
No.	**Feature Description**	**Toggle Settings**	
3	IG Protect Mode / Idling Compatibility Mode	**IG Protect**	Idling
4	Turn On Lights When Engine Idling	**OFF**	ON
8	Auto Arm	**OFF**	ON
10	Auto Rearm	**OFF**	ON
17	Exterior Illumination	**OFF**	ON
20	Transmitter Learning & Manual Disarm Code	See page 36.	
FACTORY DEFAULT SETTINGS SHOWN IN BOLD TEXT ABOVE			

3 IG Protect Mode / Idling Compatibility Mode

When set to **IG Protect**, the system will trigger the siren when the Ignition goes on while armed, as described on page 32.

When set to **Idling**, the system will bypass the Sensor and Ignition triggers and IIP will become active when IG goes on while armed, as described on page 32.

4 Turn On Lights When Engine Idling

When set to **ON**, vehicle hazard lights will illuminate for safety while the Ignition is turned on (engine idling). *(Requires light flash to be installed, and requires* **Idling Compatibility Mode** *to be turned* **ON**.*)*

8 Auto Arm

This feature automatically arms the system when you do the following: (1) Turn IG on, (2) Turn IG off, (3) Open and Close any door. Upon seeing these events, the system will arm 20 seconds after the last door is closed. The doors will NOT be locked (so you won't be locked out if you leave your keys in the car by accident), but the system will be armed.

10 Auto Rearm

This feature automatically rearms the system 60 seconds after it is disarmed, unless a door is opened or the Ignition goes on during the 60 seconds. Doors will be locked when the system rearms, if door locking is installed. *Note that this feature is incompatible with vehicles that automatically illuminate the dome light upon door unlock, unless the 2310's door input is wired directly to the "door switch" (and not wired to "door dome light switch"). The reason is that the system will not rearm if it sees "a door open" condition.*

17 Exterior Illumination

When set to **OFF** (default), vehicle lights (hazards) will not illuminate after disarming.

When set to **ON**, vehicle lights (hazards) will flash 3 times upon disarming and then light solid for 30 seconds (or until the Ignition switch is turned on) to illuminate the area surrounding the vehicle for greater security.

20 Transmitter Learning & Manual Disarm Code

Refer to the three-step Feature Programming section on page 34. It is important to note that you *do not perform* **Step-3** when selecting this feature.

When you turn the Ignition on-and-off 20 times in **Step-2**, you can then select one of two features:

To choose Manual Disarm Code, you must wait and turn the Ignition on again (for the 21st time) when the hazard lights finish flashing 20 times, and then leave the Ignition on. *Complete steps given on page 37.*

To choose Transmitter Learning, you must leave the Ignition turned off (no need to turn it on for the 21st time). *Complete steps given on page 39.*

The Transmitter Learning feature allows you to add new transmitters to your system. The Manual Disarm Code feature allows you to program a unique code that will allow you to disarm the system even without your remote. *The factory default Manual Disarm Code is "6," but you should change this as soon as possible to your own unique code for greater security.*

MANUAL DISARMING

Purpose

Also known as "Emergency Reset" or "Force Reset," Manual Disarming allows you to disarm your 2310 system without the wireless remote. So long as you have your vehicle's ignition key, you can manually disarm the 2310 with a special Disarm Code. This is useful if the battery in your remote dies or the remote itself is lost or if RF interference prevents your remote from disarming the system.

Programming Your Unique Disarm Code

The default Disarm Code is factory set to "6." It is strongly recommended that you change this code to something unique soon after your security system is installed.

The following procedure will allow you to change the Disarm Code:

1. Disarm the system. *(Or "Arm-then-Disarm" if repeating this procedure.)*
2. Turn IG on-and-off **20 times** *within 20 sec. of disarming.* Hazard lights will then flash 20 times.
3. Wait until hazard lights flash 20 times, then turn IG on and leave it on.
4. The Status LED will light solid for 20 seconds and then it will start to flash very slowly (up to 30 times). Decide beforehand what code you want to program (1~30). When the number of flashes matches the code you wish to program, quickly turn off IG. The Status LED will now flash the same number of times as the Disarm Code you just programmed, and the siren will chirp 3 times and vehicle hazards will flash 3 times.

⚠ ***NOTE:*** *Make time now to record your new Disarm Code and store it in a safe place.*

Using Your Disarm Code

1. With the system armed, open the driver's side door. *The siren will now go off.*

2. With the door still open, turn the Ignition ON and OFF the same number of times as the Disarm Code you programmed. *(If no unique Disarm Code has been programmed, then turn the Ignition ON and OFF 6 times.)*

When the siren finishes sounding for 30 seconds, the siren will turn off and the system will then be disarmed.

IMPORTANT NOTES

- Don't worry that the siren doesn't stop immediately after you enter your Disarm Code. The system forces the siren to go off for the full 30 seconds for security.

- The siren will go off for a full 30 seconds when you open the door *unless the system was armed in Silent Mode*. And since the 2310 comes with a battery backup siren, you should use your siren key to disable the siren temporarily to avoid disturbing the neighbors. When you open a door, the system will trigger and the Status LED will flash rapidly. The Status LED will then shut off when the system has been successfully disarmed. DO NOT forget to re-enable the siren with your siren key after the disarm sequence is complete.

- If you enter an incorrect Disarm Code, or if you fail to enter your code within 30 seconds, the siren will shut off for 8 seconds and then sound for another 30 seconds (because the door is open). You must try to enter your Disarm Code again during the next 30 seconds. If you fail again, you must wait until the siren stops and starts again. DO NOT CLOSE THE DOOR, or the siren will eventually stop and the system will not recognize your Disarm Code. **You should close the door only when you have successfully disarmed the system.**

TRANSMITTER LEARNING

Purpose

You can program additional remotes to your 2310 system, or program a remote to replace one that you have lost. You can program a total of 3 transmitters to the 2310.

⚠ ***NOTE:*** *Initiating Transmitter Learning deletes all transmitters from memory for security. You must therefore relearn all your existing remotes each time you want to learn new remotes.*

⚠ ***NOTE:*** *You must have the Ignition Input wire connected to perform the transmitter learning steps on this page! See pages 7 and 16 for wiring details.*

Programming Transmitters

The following procedure will allow you to program transmitters:

1. Disarm the system. *(Or "Arm-then-Disarm" if repeating this procedure.)*
2. Turn IG on-and-off 20 times **within 20 sec. of disarming**. *Vehicle hazard lights will now flash 20 times.*
3. After the hazard lights flash 20 times, you have 10 seconds to press and release Button-1 on the first transmitter you wish to program. The siren will then chirp once and the vehicle lights will flash once to confirm your transmitter is learned. You will then have 10 seconds to press and release Button-1 on the *next* transmitter you wish to program. (You can program up to 3 total.)
4. Turn the Ignition on-and-off. The Status LED will flash the same number of times as the Manual Disarm Code, and the siren will chirp 3 times and the vehicle hazard lights will flash 3 times. *Transmitter learning is now complete!*

TROUBLESHOOTING

THE SENSOR 1ST-STAGE TRIGGER ISN'T WORKING.

- Check the green LED on the shock sensor (or the 1st-Stage indicator light on other sensors you have attached). If you never see the 1st-Stage indicator light up, adjust the sensitivity and/or check the connector to the sensor to ensure it is seated properly. Also try disconnecting and reconnecting the 4-wire harness to the sensor body.
- If you can see the indicator light on the sensor for the 1st-Stage trigger, then it is likely a timing issue. After you connect the harnesses, wait 2 minutes before testing the sensor. If that doesn't work, remember that sensors are ignored for 5 seconds after arming. If that is not the issue, check the 4-wire harness from the sensor to the control module.

MY TRANSMITTERS USED TO WORK FINE BUT NOW THEY DON'T.

If you sent your vehicle in for maintenance and/or the battery was disconnected, or if substantial noise was present on the 12-volt line in the vehicle, it is possible that transmitter memory could be lost. *For this reason we strongly recommend that the main wire harness of the 2310 be disconnected BEFORE you disconnect the vehicle's battery.*

- If the system is Armed, please use your Manual Disarm Code to disarm the system, then relearn your transmitters. (Both the Ignition and Door inputs must be connected for you to do this!)
- If the system is Disarmed, you will need to disconnect then reconnect the main harness of your 2310 system. When you do this, the system will come back online in the "Armed" state. You can then use your Manual Disarm Code to disarm and then relearn your transmitters.

TRANSMITTER LOST, WORRIED ABOUT SECURITY.

- Simply relearn the transmitter(s) you have. Relearning always erases previously learned transmitters from memory. If you lost all your remotes, see **"MY TRANSMITTERS USED TO WORK..."** above.
- ***NOTE:*** *You must connect Ignition Input wire to learn transmitters! The Door Input must also be connected for Manual Disarming.*

TRANSMITTER BATTERY DIED.

Replacement batteries for the 2-button transmitters (2 CR2032 Lithium button cells) can be purchased at any convenience store.

CAN'T MAKE SIREN GO OFF AFTER ARMING

- You may have Armed using the Sensor Bypass Method. See page 28.
- You may have Armed using Silent Mode. See page 27.
- If you Armed using the Normal Method, did you hear a single chip when you Armed the system? If not, the Ignition may be on. You *cannot Arm* the system when the Ignition is ON while "IG Protect Mode" is active. See page 32 for details on IG Protect Mode.

FULL SIREN GOES OFF WITH ONLY LIGHT IMPACT TO THE VEHICLE.

If you are using the optional 318-04 Ultrasonic Sensor along with the included 318-052 IR Shock Sensor, it is likely that the two sensors (the main body of each sensor) were installed too close together. They must be separated by more than 30cm (1 ft.) or interference will cause false triggering of the siren.

If you do not have the Ultrasonic Sensor installed, try adjusting sensitivity of your shock sensor. If that doesn't work, you will need to snap open the housing of the shock sensor and verify if the suspended reflector has been jolted out of position *(see bottom of page 23 for details).*

NOTES

NOTES

VISION products are engineered in Japan and manufactured in strict accordance with Japanese QC standards at an ISO9000/ QS9000 certified factory.

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