VISION

1770S

PREMIUM 2-WAY PAGING SYSTEM

Owner's Guide

KIRAMEK INCORPORATED

Ver. 1.3, Jul'10

Thank you for purchasing this VISION 1770S Vehicle Security System. The 1770S 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 Owner's Guide 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 Owner's Guide, 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

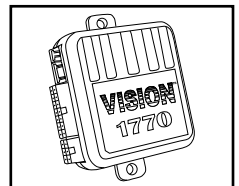
The VISION 1770S system control module is backed by a limited lifetime warranty against defective components and/or improper product assembly to the original purchaser for as long the vehicle is owned by that same purchaser, contingent upon installation by an Authorized VISION Dealer. All product warranties become void if the VISION 1770S 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 1770S 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 1770S 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.

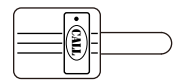
This warranty is limited to defective parts only and does not provide any compensation whatsoever for damages associated with the VISION 1770S system or its accessories. This warranty does not cover installation labor, product removal and/or reinstallation fees. This warranty is valid for the original 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 1770S 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 1770S 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.

INCLUDED ITEMS

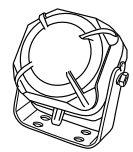


Control Module (1pc)


Antenna Unit (1pc)


P/N: TR53A-7X
Pager Remote (1pc)

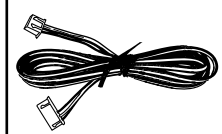

Program Switch (1pc)

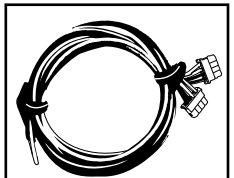

Normal Siren (1pc)

Shock Sensor (1pc)

Window Decals (2pcs)


Status LED (1pc)


Antenna Harness (1pc)


Sensor Harness (1pc)


Main Harness (1pc)


Door Lock Harness (1pc)

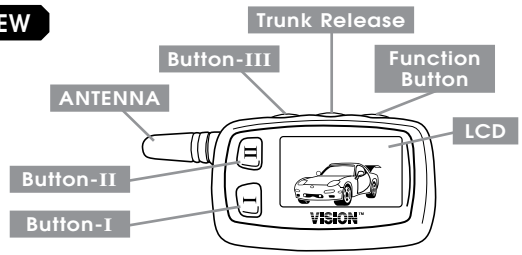
OTHER INCLUDED ITEMS:

- Double-Sided Mounting Tape for Antenna Unit (1pc)
- Double-Sided Mounting Tape & Screws for Shock Sensor
- AAA Battery for Pager Remote (1pc)
- Owner's & Installation Guides

NOTE: Starter Kill Relay & Hood Pin Switch are options that are *not* included.

2-WAY PAGER REMOTE

OVERVIEW



(p/n TR53A-7X)

GENERAL PAGER FUNCTIONS

- (S) stands for a **Short** press, while (L) means a **Long** press.
- ① indicates the icon blinks ON/OFF.
- # stands for a 2-digit number icon that will appear.
- After pressing any pager button, if the ℹ icon disappears, you are either out of range or RF noise is interfering with the pager signal.

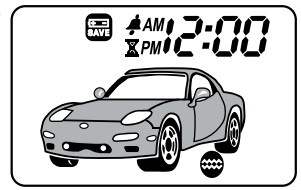
SELECTABLE FUNCTIONS	BUTTON OPERATION	ICON ALERT	PAGER BEEPS	SIREN CHIRPS	LIGHT FLASHES
Lock/Arm	I (S)		1	1	1
Unlock/Disarm	I (S)		2	3	3
Silent Mode Arm	II (S)		1 (L)	none	1
Silent Mode Disarm	II (S)		2	none	3
No Confirmation Arm	III (S)		1	none	1
No Confirmation Disarm	III (S)		2	none	3
Sensor Bypass **ON**	I + II (S)	①	1	1	1
Sensor Bypass **OFF**	I + II (L)		MELODY1	3	2
Door Lock/Unlock*	II + III (S)	none	none	none	1/3
Panic Siren	I or II or III (L)	①	MELODY4	Siren Blast	Continuous
Check Temperature	(S)	#	MELODY2	none	3
Trunk Release	(L)	①	3	none	3
Valet Mode **ON***	II + III + (L)		MELODY3	4	4
Valet Mode **OFF**	II + III + (S)	none	MELODY1	3	3

*** Door Lock/Unlock and Valet Mode ON work only when system is Disarmed.**

SPECIAL PAGER FUNCTIONS

- (S) means a **Short** press, (L) means a **Long** press.
- ① RF receiver sleeps, power cut to 1/3 of normal.
- ② **hour** digit(s) selected for adjustment.
- ③ **minute** digits selected for adjustment.
- ④ III adjusts upward; II adjusts downward.
- ⑤ routine exists after **8 seconds** of inactivity.

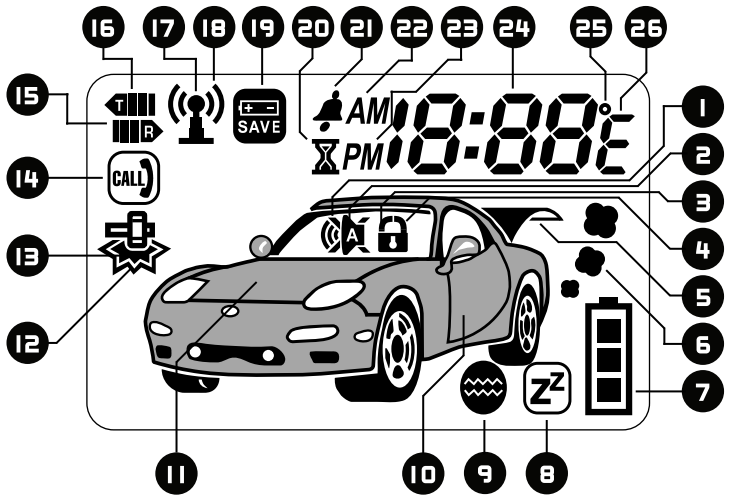
TIP: When pressing F along with other buttons, Press & Hold F *before* pressing other buttons.



SELECTABLE FUNCTIONS	BUTTON OPERATION	ICON ALERT	PAGER BEEPS	FUNCTIONAL DETAILS
E.L. Backlight ON	F (S)	none	none	Turns off in 5 sec.
Power Save Mode①	I + F (S)	SAVE	2	Activates in 2 min.*
Audio/Vibe Alert	II + F (S)		none	
Time Adjustment Mode ①⑤	(1st) F (L)	AM 12:00 ②	2	Keep adjusting hour to change AM/PM.
	(2nd) F (S)	AM 12:00 ③	none	
Alarm Clock	(3rd) F (S)	AM 12:00 ②	none	When alarm goes off, a special melody plays on the pager for 25 sec.
	(4th) F (S)	AM 12:00 ③	none	
ON or OFF	(5th) F (S)	OFF	none	
Countdown Timer	(6th) F (S)	0:00 ②	none	When count reaches zero, the pager will beep continuously for 10 sec.
	(7th) F (S)	0:00 ③	none	
ON or OFF	(8th) F (S)	OFF	none	
Alarm Toggle	III + F (S)	(when ON)	2	
Fixed Timer ⑤	(1st) II + F (S)	0:10	2	
	(2nd) II + F (S)	0:20	2	All times in **hours:min**.
	(3rd) II + F (S)	0:30	2	Use the Time Adjustment Mode "Countdown Timer" feature to set a custom timer that is not shown here.
	(4th) II + F (S)	1:00	2	
	(5th) II + F (S)	1:30	2	
	(6th) II + F (S)	2:00	2	
OFF	(7th) II + F (S)	0:00	2	

*** Pager Power Save Mode only works while the system is DISARMED.** If you try to activate Power Save Mode while Armed, the SAVE icon will appear but Power Save Mode is in fact not active (the ℹ icon never disappears). The reason for not working while Armed is that your pager would not automatically receive notification of vehicle threats in Power Save Mode because Power Save Mode improves battery life only by shutting down the pager's RF receiver. When the RF receiver is off, your pager won't update. If you push any button, Power Save Mode will deactivate (even though the SAVE icon will continue displaying on the pager) and then reactivate 2 minutes later.

PAGER ICON DESCRIPTIONS



1. Silent Mode ARMED (no siren)
2. Siren Active Mode ARMED
3. Vehicle Doors Locked
4. Vehicle Doors Unlocked
5. Trunk Opened
6. Engine Running
7. Pager Battery Level
8. Valet Mode Active
9. Pager Vibration Alert Mode
10. Door Open/Closed
11. Hood Open/Closed
12. Sensor: Heavy Impact or Bypass
13. Sensor: Light Impact
14. Incoming Page-out Call
15. RF Receive Active (icon) or Standby (no icon)
16. RF Transmit Active (icon) or Standby (no icon)
17. In-range Indicator (icon vanishes if out of range or in Pager Power Save Mode)
18. Pager Button Pressed ("Transmitting")
19. Pager Power Save Mode Active
20. Countdown Timer Mode
21. Alarm Clock Enabled
22. Morning Time Indicator
23. Afternoon Time Indicator
24. Hour & Minute Display
25. Temperature Degree Mark
26. Temperature Scale (°C)

PAGER USAGE & CARE

PRECAUTIONS ⚠

Your 2-way pager is a delicate device that can be easily damaged by excessive heat, direct sunlight, humidity, dirt, oil and water. Never immerse your pager in water. If it gets wet, remove the battery and allow to dry. Never drop your pager because impact can break the LCD and/or cause internal malfunction to occur. *Rough handling of the pager is not covered under warranty!*

COMMUNICATION RANGE

Your pager's range is adversely affected by RF noise. Typical in-city range is often greater than 300m (>985ft), and normal range in the country (any low RF noise area) can be as high as 600m (2,000ft.). Keep in mind that if metal objects (coins in your pocket) or even your hand touches or surrounds the antenna, range can be adversely affected. Also, your proximity to high-power TV antennas and or powerful mobile phones will also limit range.

RESPONSIVENESS

It can take up to 3 seconds before your pager is updated with the current status of the vehicle (e.g., door open, siren blast, etc.). During this 3 seconds, the pager may become less responsive to your button presses. Also, the pager will not receive updates while you are pressing any button.

CHANGING THE BATTERY

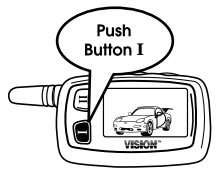
Pager batteries last an average of 2 months with normal use. If the icon appears on the LCD pager, it is time to replace the battery. The battery icon may flash and the pager may beep 6 times when the battery is just about to die. Replace the battery soon with a fresh (+)1.5v AAA Alkaline. *(You can use non-Alkaline batteries, but the life will be shorter.)*

Follow this procedure every time you replace the battery, to ensure proper operation of your pager:

(1) Remove the cover and take out the old battery.
(2) Press the button for 2 seconds to clean out the pager memory.
(3) Insert the new battery and replace the cover.
(4) Press the button again to initiate communication.

ARMING

NORMAL METHOD



This method is the typical way to arm the 1770S, with the shock sensor enabled. Ensure that all doors are closed and then press Button-I on the Pager remote. After you press Button-I, the doors will lock and hazard lights will flash once (if so installed). The siren will chirp 1 time, the Pager remote will beep once and update (see **Fig-1** below), and Status LED will light solid for 5 seconds. (Some triggers are ignored while the LED is lit solid — *See "Error Chirp" on the next page.)*

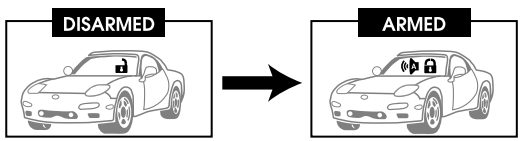
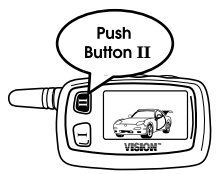


FIG-1: Pager LCD Icon Change After Arming

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 Pager Button II then release. The doors will lock and hazard lights will flash once (if so installed). The Pager will make 1 long beep and update (see **Fig-2** below), and Status LED will light solid for 5 seconds. (Some triggers are ignored while the LED is lit solid — *See "Error Chirp.")*

TIP: If you accidentally press Button-I to Arm to you can switch to Silent Mode by quickly pressing Button-II while the LED is lit solid.

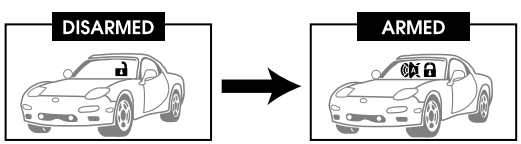
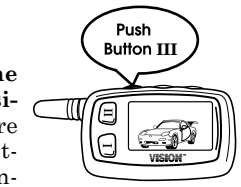


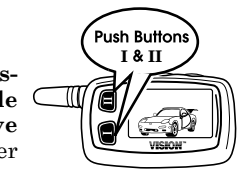
FIG-2: Pager LCD Icon Change After "Silent Mode" Arming

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-III on the Pager remote. After you press Button-III, the doors will lock and hazard lights will flash once (if so installed). The Pager Remote will beep once and update (see **Fig-1**), and Status LED will light solid for 5 seconds. (Some triggers are ignored while the LED is lit solid — *See "Error Chirp" below.)*

SENSOR BYPASS METHOD



This method of arming allows you to disable all sensors (e.g., shock sensor) while keeping all other alarm triggers active (e.g., door, trunk, hood, IG). Press Pager Buttons I & II at the same time then release. The doors will lock and hazard lights will flash once (if so installed). The siren will chirp 1 time, the Pager will beep once and update (see **Fig-1**) also displaying the icon, and Status LED will light solid for 5 seconds. (Some triggers are ignored while the LED is lit solid — *See "Error Chirp" below.)*

Error Chirp

When you arm the 1770S, the system ignores all triggers for 5 seconds while Status LED is lit solid. If the **Door** is still open after the 5 seconds, the door input will be bypassed and the siren will emit 2 Error Chirps and the hazards will flash twice. If the **Hood** or **Trunk** was opened when you arm, the hood or trunk input will be bypassed but the siren will immediately *(no 5sec. delay)* emit 4 Error Chirps and hazards will flash 4 times. The **IG** input will not produce Error Chirps, nor will the **Sensor** input; and they are able to trigger the siren after the 5 second delay concludes *(except for IG when IIP is On).* If the door, trunk or hood is later secured (i.e., the opened door was later closed), the system will immediately re-enable that sector and the siren will chirp once.

NOTE: Error Chirps will sound even in Silent Mode.

*(See **Table-1**, No.5, on page 18 to change the 5 second delay.)*

AUTO-ARM

This method of arming is <u>disabled</u> by default — *see page 18 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. Upon seeing this sequence of events, the 1770 will chirp once and lights will flash once to indicate the system will soon arm. Then, 20 seconds after the first chirp, you will hear 1 more chirp and 1 more light flash. Five seconds later, the lights will flash 1 time again, 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 <u>2nd</u> **Auto Arm** chirp, the system will wait until you close the door. After the door closes, the siren will chirp, and 20 seconds later chirp again, showing the system is Armed.*

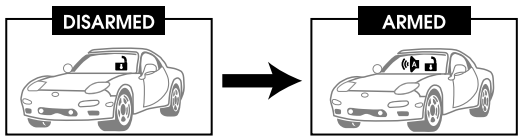


FIG-3: Pager LCD Icon Change After Auto-Arming

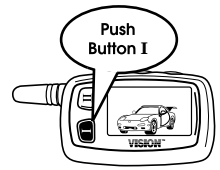
AUTO-REARM

This method of arming is <u>disabled</u> by default — *see page 18 for details.* This feature automatically arms your system 30 seconds after it is disarmed. (If a door is opened during the thirty seconds, the 1770 will not automatically rearm.) **Fig-1** on page 7 shows the pager LCD display for Auto-Rearm.
<u>NOTE</u>: Doors *will be locked*, unlike Auto Arm.

⚠ ***NOTE:*** *During the 20 second delay of Auto Arm or the 30 second delay of Auto Rearm, the siren cannot be triggered because the system is not yet armed.*

DISARMING

NORMAL METHOD



This method is the typical way to disarm the 1770, with confirmation chirps active. Press Button-I on the Pager remote while the system is armed. The doors will then unlock and hazard lights will flash 3 times (if so installed). The siren will chirp 3 times. The Pager remote will beep 2 times *(or vibrate twice, if in Vibe mode)*, and icons will update (see **Fig-4** below). The system is now disarmed, and you may enter the vehicle without triggering the siren.

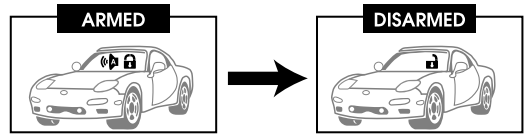
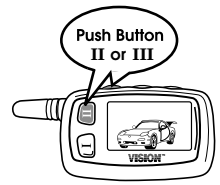


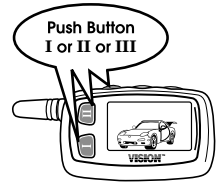
FIG-4: Pager LCD Icon Change After Disarming

NO-CHIRP METHOD



This method of disarming is identical to the "Normal" method except there are no siren chirps emitted when you disarm. Press Pager Button-II <u>or</u> Button-III then release. (You may have to press Button-II *twice*.) The doors will then unlock and hazard lights will flash 3 times (if so installed). The Pager Remote will beep 2 times *(or vibrate twice, if Vibe Mode is selected)*, and icons will update (see **Fig-4** above). 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, hazard flash),* two button presses 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 Buttons I or II or III *(continues on the next page).*

Your first press stops the trigger (kills the siren, or kills hazard light flash if in Silent Mode). Your second press disarms the system. *("2 presses" are required to disarm whenever there is a system trigger, such as the siren going off.)*

> ⚠ ***NOTE:*** *For the first 3 seconds after the pager siren tone (or vibration) begins, you may not be able to disarm with only 2 presses. If you wait 3 seconds, two presses will always work (you can stop the siren with one press, and disarm with the second). But during the first 3 seconds, it may take multiple presses before you can stop the siren and disarm.*

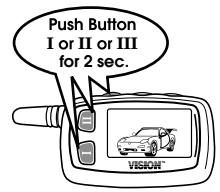
> ***TIP:*** *If the shock sensor triggers the Warning Chirps and you immediately press Button I or II or III before the pager finishes the initial chime and/or before the pager displays the flashing shock icon, the pager may temporarily lose synch with the security system (i.e., the pager won't auto-update). If this occurs, simply press and release the button to re-synchronize your pager with the security system (or disarm and arm).*

MANUAL DISARM CODE

Also known as "Emergency Reset" or "Force Reset," Manual Disarming allows you to disarm your 1770 system by program switch code. This is useful if the battery in your pager dies or the pager itself is lost. Manual Disarm is secure only when you program your unique code into the system *(see page 24 for programming details)*. The factory default code is: **11**. Follow the steps below (while the system is Armed) to Disarm your system:

1. Turn Ignition ON. *(NOTE: Siren goes off when you do this.)*
2. Push the Program Switch the same number of times as the **1st digit** in your Manual Disarm Code *(e.g., "1 time" in the case of the factory code)*.
3. After releasing, immediately turn Ignition OFF and then back ON.
4. Push the Program Switch the same number of times as the **2nd digit** in your Manual Disarm Code *(e.g., "1 time" in the case of the factory code)*.
5. After releasing, immediately turn Ignition OFF. The siren will stop sounding, the LED will stop flashing and the system is now disarmed.

Panic Mode



Panic Mode allows you to trigger the full siren blast from your remote, whether the system is armed or disarmed. Press Button-I or Button-II or Button-III for 2 seconds. When you release, the pager icons will update as shown in **Fig-5** below, and the pager will emit a siren tone (or vibrate). Vehicle hazard lights will flash, the Status LED will flash quickly, and the siren will go off for 30 seconds. **You can exit Panic Mode (and silence the siren) approximately 4 seconds after you initiate Panic Mode.**

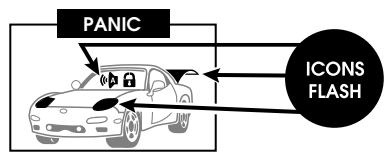


FIG-5: Pager LCD Icon Display During Panic Mode

Valet / Car Maintenance Mode

Valet mode allows you to offer your car keys to a valet or car maintenance person without worry the siren will go off. You can also use this mode to lock and unlock the doors without having to arm or disarm the security system.

To activate, Disarm and then press pager buttons **II** & **III** & at the same time for more than 2 seconds. The siren will chirp 4 times and lights will flash 4 times, and the LCD pager will display the icon and play a melody. The Status LED will light solid red. All 1770 functions *except remote trunk release and door locking* will then become inoperative.

To deactivate, press the **II** & **III** & buttons for a short duration. The siren will chirp 3 times, the system will exit Valet mode and be disarmed.

> ***TIP:*** *If you are having a hard time entering Valet mode, press and hold the button first and then quickly press and hold buttons **III & II**.*

GWA (Ground When Armed)

The 1770 feeds a (–) 300mA Ground output while the system is armed. *Optional* components can be added to this control line, such as LED scanners or secondary immobilizer relays. When the system is disarmed, power to this output is removed and all attached devices shutdown.

STARTER KILL IMMOBILIZER

(OPTIONAL PART NEEDED)

Your vehicle's starter can be automatically immobilized whenever the 1770 is Armed by the addition of an *optional* **JD2912-1Z** relay.

2-STAGE SENSOR TRIGGER

1st Stage ("Warning Chirps"). When the shock sensor detects a light impact, the siren will chirp 5 times, the pager will beep and update icons as shown in **Fig-6** below. Any optional sensors attached to the 1st Stage sensor input can also trigger the 5 warning chirps. *No chirps will be produced 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 15 seconds (or until stopped by a button press on your pager remote), and the pager will emit a siren tone and update icons as shown in **Fig-6** below. 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.*

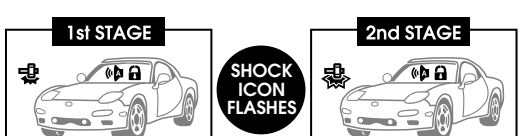


FIG-6: Pager LCD Icon Change Upon Shock Detection

STATUS LED

The LED flashes slowly (once every 4 seconds) 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 for your 2-way pager to be updated about the alert. The Status LED flashes rapidly after the siren has triggered for 30 seconds (via door, trunk, ignition, or hood input — *not shock*). The Status LED will continue to flash rapidly until you disarm. The siren will also chirp *4 times* when disarmed with Button-I.

SBS (Sector Bypass System)

When a *door* or the *sensor's 1st or 2nd Stage* is triggered **10 times**, the security system will automatically bypass that specific sector until you disarm and arm the system again. This feature is useful to limit noise pollution caused by multiple siren triggers in a short period of time. Parking near construction sites or having animals jump on the vehicle can cause such shock sensor triggers to occur, especially if the sensitivity is set to maximum.

DOOR TRIGGER

The siren will blast for 30 seconds whenever a door is opened while the system is armed. Vehicle hazard lights will flash if so installed, and your pager will emit a siren tone and update icons as shown in **Fig-7** below.

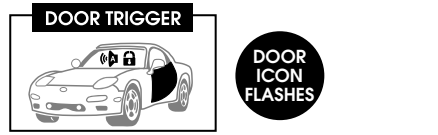


FIG-7: Pager LCD Icon Change Upon Door Trigger

STATE MEMORY

The 1770 remembers its armed or disarmed state if the vehicle's battery power is cut and later restored. If the system was armed when the battery power was cut, the system will be armed when the power is restored. State Memory also remembers if the system was in Valet mode.

IIP (Intelligent Ignition Protect)

"IIP" is a feature unique to VISION security products that automatically switches from **Remote Start Compatibility Mode** to **IG Protect Mode** when needed. These two modes are described in detail below. *(See **Table-1**, No.10, on page 18 for programming.)*

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. A siren tone will be emitted on the pager, and icons will update as shown in **Fig-8** below. *(This mode is the **OFF** setting shown in No.10 of **Table-1** on page 18.)*

REMOTE START 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, hood and trunk triggers remain active. A melody tone will sound on the pager, and icons will update as shown in **Fig-8** below. *(This mode is the indicated by the two **ON** settings shown in No.10 of **Table-1** on page 18.)*

This feature allows 3rd party remote starters or turbo timer systems to run the engine without triggering the 1770's siren. The 1770 is still protecting the vehicle, so any attempt to open a door, the trunk or the hood will trigger the siren. And when the remote starter or turbo timer turns off the ignition, the shock sensor and ignition triggers are then re-activated. (A separate pager melody will sound when the Ignition is turned off.)

FIG-8: Pager LCD Icon Change Upon Ignition ON

Why IIP is Needed. Most competing "remote start / turbo timer" compatible car alarms bypass all trigger inputs when the ignition goes on while armed: *so if a thief opens the 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 car alarms trigger the siren when the ignition goes on while armed, but such is incompatible with remote start and turbo timer systems. **IIP** solves this "compatibility versus security" problem.

How IIP Works. If the ignition (IG) is turned on in **Remote Start Compatibility Mode**, the siren will not trigger 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.

TRUNK TRIGGER

The siren will blast for 30 seconds if the trunk (or back hatch) is opened while Armed. Vehicle hazard lights will flash if so installed, and your pager will emit a siren tone and update icons as shown in **Fig-9** below.

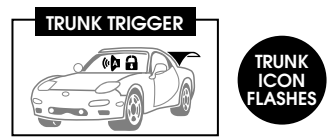


FIG-9: Pager LCD Icon Change Upon Trunk Trigger

HOOD TRIGGER (OPTIONAL PART NEEDED)

The siren will blast for 30 seconds whenever the hood is opened while the system is armed. Hazards will flash if so installed, and your pager will emit a siren tone and update icons as shown in **Fig-10** below. Requires purchase of the *optional* **S-113** hood pin switch.

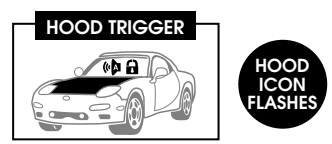


FIG-10: Pager LCD Icon Change Upon Hood Trigger

OTHER FEATURES

LIGHT FLASH

The 1770 has two built-in light flash relays ("+" control, for left/right turn signals), making light flash easy to install in most vehicles. (Note that your VISION dealer may need to change the polarity, requiring the purchase of an *optional* **VISION 896H-1C relay**.)

When installed, lights will flash continuously while the siren is going off (during the full 30 seconds), flash 1 time during arm and flash 3 times during disarm, flash 6 times during "Warning" triggers (e.g., shock sensor 1st-stage trigger), and flash 2 or 4 times during Error Chirp.

DOOR AJAR ALERT

If a door is opened while the ignition is turned on, the Status LED will flash rapidly to remind you it is not fully closed. When the door is closed the LED will turn off. This feature can be programmed to also flash the hazard lights when a door is opened or left ajar while the ignition is already turned on *(see **Table-1**, No.7, on the next page for details).*

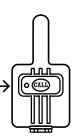
TRUNK RELEASE

Pressing the pager's button for more than 2 seconds will automatically open the trunk (if so installed), and the trunk and shock sensor will be temporarily **bypassed** so the siren will not go off when the system is Armed *(see pages 9 & 11 in the Installation Guide).*

Alternatively, this channel output may be wired to another feature of your choosing, should you not wish to have it connected to your trunk (or if your vehicle lacks a trunk).

Page-out Call

A passenger inside your vehicle can send an alert to your LCD pager by pressing the "CALL" button on the RF Antenna Unit. The LCD pager will display the icon and play a melody.



FEATURE PROGRAMMING

To program features, have your vehicle's key ready to turn the ignition (IG) "on-and-off." ***(TIP:** You can use the "ACC" position as IG "off" if you wish.)* Perform the following 6-step procedure to alter the features shown in **Table-1** below:

1. Arm & Disarm the system.
2. Turn IG on *within 10 seconds* of Disarming.
3. Push & Release the Program Switch 6 times *within the 10 seconds.*
4. Turn IG off *immediately* (less than 1 sec.) after releasing the Program Switch for the 6th time. The Status LED will then flash 6 times and the siren will chirp 6 times.
5. Press the Program Switch the same number of times as the feature "No." you wish to program, as shown in the left column of **Table-1** below. The LED will flash and siren will chirp according to the "No." you select via the Program Switch.
6. Press one of the 4 pager buttons shown below to change the feature you have selected. The LED/siren will then flash/chirp 1~4 times, according to the pager button pressed. **Turn IG on & off to exit programming.**

TABLE-1 Feature Selection Menu

No.	Feature Description	I	II	III	
1	Siren/Horn, Chirp Duration	**Siren, 20ms**	Horn, 30ms	Horn, 50ms	Horn,100ms
2	Door Lock Pulse Duration	**0.8s**	5s	Double	30s Lock
3	Door Lock upon IG	**OFF**	Unlock Only	10s	30s
4	Auto Arm / Auto Rearm	A. Rearm	A. Arm	Both	**OFF**
5	Exit Delay Time Selection	**5s**	30s	60s	15min
6	Remote Start Hazard Lights	**OFF**	Flash	~~OFF~~	~~OFF~~
7	Door Ajar Hazard Flash	**OFF**	ON	~~ON~~	~~ON~~
8	Worry-Free Immobilization	**OFF**	ON	~~ON~~	~~ON~~
9	Starter Kill Relay: N.O. / N.C.	**N.C.**	N.O.	~~N.O.~~	~~N.O.~~
10	IIP	**OFF**	ON: SDTH	ON: DTH	~~OFF~~
11	Exterior Illumination	ON	**OFF**	~~OFF~~	~~OFF~~

FACTORY DEFAULT SETTINGS SHOWN IN BOLD TEXT ABOVE

1 Siren/Horn, Chirp Duration

Siren produces a continuous output, whereas **Horn** is pulsed. The Siren setting is not recommended when connecting to the vehicle's horn. The time shown in milliseconds (20ms, 30ms, 50ms & 100ms) sets the **Chirp Duration**—the longer the chirp, the louder it will sound. Keep in mind that you can only choose 30/50/100ms chirps when you choose the Horn setting.

2 Door Lock Pulse Duration

Choose the lock/unlock duration that is most compatible with your vehicle. Note that the "**Double**" setting sends *two unlock* pulses of 0.8sec duration each and *one lock* pulse of 0.8sec duration.

3 Door Lock upon IG

Automatically locks/unlocks doors based on IG position:

Off ..... feature disabled
Unlock Only ..... unlocks doors immediately after IG turned off
10s ..... locks 10sec after IG turned on, unlocks when off
30s ..... locks 30sec after IG turned on, unlocks when off

4 Auto Arm / Auto Rearm

Allows enabling of **Auto Rearm** or **Auto Arm** or **Both**. *See page 9 for details.*

⚠ ***NOTE:*** *The Auto Rearm feature is incompatible with vehicles that automatically illuminate the dome light upon door unlock, unless the 1770's door input is wired directly to the "door switch" (and not wired to "door dome light switch"). The reason is that the system cannot automatically rearm if it sees "a door open" condition.*

PROGRAM FEATURES EXPLAINED

5 Exit Delay Time Selection

After Arming, there is a default **5s** delay before the system will trigger the full siren *(see "**Error Chirp**" on page 8)*. This delay is sufficient to let the vehicle settle after you exit and close the door so the shock sensor will not be triggered by residual vibration. You can change this delay to **30s** or **60s** or **15 min**. Longer times are useful for compatibility with vehicles that have long door lock pulses or engine cooling fans.

NOTE: *After programming 60s or 15min, if you change to another setting, you need to kill and restore power to the control module for the change to take effect.*

6 Remote Start Hazard Lights

When set to **Solid ON**, vehicle hazard lights will illuminate continuously for safety while the Ignition is turned on by a remote start system. Alternatively, the **Flash** setting will flash the Hazard lights once every 5 seconds.

Keep in mind that remote start is an *option* for the 1770. This light flash feature will work with the VISION ESA-10 or 3rd party remote starter device.
⚠ ***IMPORTANT:*** *This feature only works if Light Flash is installed, and only if **IIP** is turned **ON**.*

7 Door Ajar Hazard Flash

When set to **ON**, vehicle hazard lights will flash for *10 seconds* whenever a door is opened or left ajar while the Ignition is turned on. Flashing will immediately stop when the door is closed. Note that if a door is opened *before* IG is turned on, lights will not flash when IG is later turned on.
NOTE: *Status LED flashes when a door is opened while IG on. This cannot be disabled.*

8 Worry-Free Immobilization

When set to **ON**, the vehicle's starter will be automatically immobilized 30 seconds after the Ignition is switched off, even when the system is disarmed. This feature provides peace of mind for users who worry they may forget to Arm the system.
NOTE: *This feature requires the installation of an optional **JD2912-1Z** starter kill relay.*

9 Starter Kill Relay: N.O. / N.C.

The starter kill immobilizer relay prevents unauthorized starting of your vehicle whenever the Ignition switch is turned on. (The relay coil is never powered until IG is turned on.) This feature allows your installer flexibility in setting the security level of your immobilizer, as follows:

When set to **N.C.** (default), the ST line (START wire between IG switch & starter motor) must be cut and connected to the starter kill relay's BLU(30) & BLU/WHT(87a) wires. The ST line will be *connected* normally (starting allowed), then severed (started disallowed) when IG is turned on while the 1770 is Armed (when IIP is off).

When set to **N.O.**, the ST line (START wire between IG switch & starter motor) must be cut and connected to the starter kill relay's BLU(30) & BLU/RED(87) wires. The ST line will be *disconnected* normally (starting disallowed), then connected (starting allowed) when IG is turned on while the 1770 is Disarmed.

The **N.O.** setting is more secure than **N.C.** because the relay breaks the ST connection all the time (until the security system makes the connection). So even if a thief kills power to the 1770 control module or removes the control module altogether, the starter kill relay will continue to prevent starting. But you will need to inform your maintenance professional about the "Normally Open Relay" if your vehicle undergoes extensive maintenance.

IMPORTANT: After programming N.O. or N.C., be sure to Arm then Disarm the 1770 or you will not be able to start the engine when Disarmed.

Note: This feature requires the installation of an *optional* **JD2912-1Z** starter kill relay. See the 1770S Installation Guide for wiring details.

10 IIP

When set to **OFF**, the system will trigger the siren whenever the Ignition is turned on while armed.

When set to either ON setting, you must select which "trigger sectors" IIP uses to switch the system from Remote Start Compatibility Mode to IG Protect Mode. The two ON choices are described on the next page.

PROGRAM FEATURES EXPLAINED

When set to "ON: SDTH":

- If the siren triggers by the ***Sensor*** (2nd Stage), ***Door***, ***Trunk*** or ***Hood***, the system will automatically switch to IG Protect Mode and trigger the siren, and turning on IG will continue to trigger the siren up to 7 times (30 sec. each time). IIP will then automatically switch back to Remote Start Compatibility Mode when the system is disarmed by the remote.

When set to "ON: DTH":

- If the siren triggers by the ***Door***, ***Trunk*** or ***Hood***, the system will automatically switch to IG Protect Mode and trigger the siren, and turning on IG will continue to trigger the siren up to 7 times (30 sec. each time). IIP will then automatically switch back to Remote Start Compatibility Mode when the system is disarmed by the remote.

- If only a ***sensor*** was triggered (either 1st or 2nd stage) and later if the ignition goes on, *the siren will not go off* and the shock sensor will be bypassed in accordance with normal "Remote Start Compatibility Mode" functionality *(as described on page 15).*

TIP: *If the system is armed and a trigger sector results in a switch back to IG Protect Mode, IIP will reset back to Remote Start Compatibility Mode when you Disarm and then Arm again.*

⚠ ***NOTE:*** *The Starter Kill Relay will continue to protect the Ignition switch while IIP is active (while the system is Armed). This prevents* ***manual*** *starting via the Ignition switch but allows* ***remote*** *starting by optional remote start device (VISION ESA-10).*

11 Exterior Illumination

When set to **OFF** (default), hazard lights will simply flash 3 times after disarming.

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

TRANSMITTER LEARNING

Purpose

You can program additional remotes to your 1770 system, or program a replacement for one you have lost. You can program a total of **4**.

> ⚠ ***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.*

Programming Transmitters

The following procedure will allow you to program transmitters:

1. Disarm the 1770 (if it's not already).

2. IG → ON.

3. Press and hold the Program Switch for about ***6 seconds***, and release when the siren chirps 4 times.

4. Press and hold the III and ⚑ buttons until the siren chirps.

5. Repeat Step-4 for each remote you wish to learn. The siren will chirp twice after learning the 2nd remote, three times after the 3rd, and four times after the 4th remote.

6. This learn routine will end after 6 seconds of inactivity, or after you turn off the ignition.

> 💡 ***TIP:*** *If more than one LCD pager is learned to the 1770, only the pager which sent the last control signal will be automatically updated with system status information.*

MANUAL DISARM CODE PROGRAMMING

Purpose

If the battery in your remote dies or the remote itself is lost, the 1770 can be manually disarmed. *See page 11 for usage.*

Programming Your Unique Disarm Code

The default Reset Code is factory set to "11." It is strongly recommended that you change this code to something unique soon after your 1770 system is installed.

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

1. Arm & Disarm the 1770, then perform steps 2~4 below *within 10 sec.*

2. IG → ON.

3. *Quickly* press and release the Program Switch ***8 times***.

4. IG → OFF *immediately* (less than 1 sec.) after releasing the Program Switch for the 8th time. The siren will chirp 8 times.

5. Press the Program Switch ***1 time***.

6. Program the **1st digit** of your Disarm Code from 1 of the following 4 choices. *(Note that the siren will then chirp the same number of times as the Button number you pressed.)*

I = 1 II = 2 III = 3 ⚑ = 4

7. Press the Program Switch ***1 time***. Siren will chirp twice.

8. Program the **2nd digit** of your Disarm Code from 1 of these 4 choices:

I = 1 II = 2 III = 3 ⚑ = 4

9. Programming complete! You can now wait several seconds for the routine to exit, or exit immediately by IG on and off.

> ⚠ ***NOTE:*** *Record your new Disarm Code and store it in a safe place.*

RESET TO FACTORY DEFAULT

RESET Manual Disarm Code

This procedure restores your Disarm Code back the factory setting of **"11."**

1. IG → ON.

2. Kill power to the 1770 control module—*the easiest way is to simply remove the blue 5A fuse on the red power line.*

3. Press and Hold the Program Switch.

4. Restore power to the 1770 control module.

5. Keep holding the Program Switch until the siren chirps 4 times (about 6 seconds.) The siren will then chirp 4 times, showing a successful reset.

System RESET

A System RESET is useful to restore all the system settings (except Disarm Code) to the factory default. This feature is especially useful to reset system programmable features *(see page 18).* But a System RESET is also used to eliminate system operational problems that may occur in some rare cases (system not responding as written in this manual, LED staying on all the time, etc.)

The following procedure will RESET your 1770 system:

1. Arm & Disarm the 1770, then perform steps 2~4 below *within 10 sec.*

2. IG → ON.

3. *Quickly* press and release the Program Switch ***10 times***.

4. IG → OFF *immediately* (less than 1 sec.) after releasing the Program Switch for the 10th time. The siren will chirp 10 times.

5. Press the Program Switch ***1 time***. Siren will chirp once.

6. Press and release the **1** button on the pager. Siren will chirp once.

7. Turn IG on and off, or wait several seconds for the routine to exit.

TROUBLESHOOTING

MY PAGER REMOTE USED TO WORK FINE BUT NOW IT DOESN'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 1770 be disconnected BEFORE you disconnect the vehicle's battery.*

RE-LEARNING: Use your Manual Disarm Code (see pages 11 & 24) to disarm the system if its not already, then relearn your pager (see page 23). *(Note that the Ignition input and Program Switch must be connected for you to do this.)*

TRANSMITTER LOST, WORRIED ABOUT SECURITY.

Simply relearn the transmitter(s) you have. Learning transmitters always erases previously learned transmitters from memory.

TRANSMITTER BATTERY DIED.

Replacement batteries for the pager (1 AAA) can be purchased at any convenience store.

CAN'T MAKE SIREN GO OFF AFTER ARMING.

- You may have Armed using Silent Mode *(See bottom of page 7.)*
- You may have Armed using the Sensor Bypass Method. *(See page 8.)*
- If you Armed using Button-I (Normal Method), did you hear a single chip when you Armed the system? If not, the Ignition may be turned on. You cannot Arm the system when the Ignition is ON—the doors will merely lock instead.

FULL SIREN SOUNDS EVEN WITH ONLY LIGHT IMPACT TO THE VEHICLE. WARNING CHIRPS KEEP GOING OFF OVER AND OVER.

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 controller units) were installed too close together. They must be separated by more than 30cm (1 ft.) or interference will cause a continual 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 Installation Guide page 20 for details).*

CANNOT USE REMOTES WHEN THE SIREN GOES OFF.

You may not be able to effectively control your vehicle with the remote for the first 3 seconds after the full siren goes off. Simply wait for 3-5 seconds before pushing transmitter buttons. *See "Responsiveness" on page 6 for more information.*

PAGER REMOTE STOPPED RECEIVING ICON UPDATES.

- Are you using more than one pager remote? If so, keep in mind that only one remote can receive updates at a time.
- The pager battery may have been partially dislodged when you dropped it recently; or the battery itself simply might be in need of changing.
- Perform a **System RESET** *(see page 25)*. But be sure to consult with your installer first to avoid resetting any features that are vital to your system (which your installer may have set without your knowledge).
- Read through page 21 (Troubleshooting) of the Installation Guide.

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 check power connections to the sensor. The ground (–) connection may be bad.
- 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 your wiring to the sensor.

AFTER TURNING OFF MY ENGINE, A FAN RUNS AND TRIGGERS THE SIREN.

See "Exit Delay Time Selection" on page 20. You need to program this feature to "**15 min**" for compatibility with such vehicles.

CAN'T PROGRAM FEATURES AND/OR MANUALLY DISARM.

You aren't performing the steps fast enough — especially with regard to pressing the Program Switch and then quickly turning off the Ignition.

LED STAYS LIT SOLID FOR A LONG TIME AFTER ARMING.

You or your installer must have programmed a 60s or 15min selection for **Exit Delay Time Selection** at one point. See the **Note** in that section, at the top of page 20, for information on how to fix the problem.

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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VISION

1770S

PREMIUM 2-WAY PAGING SYSTEM

Installation Guide

KIRAMEK INCORPORATED

Ver. 1.3, Jul'10

⚠

INSTALLERS, READ THIS MANUAL THOROUGHLY!
The 1770S must be connected by an experienced VISION installer. All product warranties immediately become void if the 1770S is not installed by an authorized dealer.

If you acquired this product *without* professional installation, DO NOT install it yourself to save a little money at the risk of damaging your vehicle or causing physical injury.

TABLE OF CONTENTS

⚠ ***NOTE:*** *Consult Owner's Guide page 18 for Feature Programming.*

NOTICE! Although reasonable efforts have been taken to ensure accuracy in this Installation Guide, 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.

PRECAUTIONS & SAFETY

⚠ **OPERATION.** Use of the 1770S outside its intended purpose as described in this Installation Guide and the 1770S Owner's Guide, 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 airbag systems, anti-theft radios or vehicle diagnostics. If you absolutely must disconnect the vehicle's battery, first disconnect the main power wiring harness of the 1770S and then disconnect the vehicle's battery.

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

4. Do not install the 1770S control module or associated sensors in or near water, or in a location where water could gather. The 1770 is 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 1770S 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 1770S 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 unit 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. Solder is recommended. Never use electrotaps as they cause intermittent connectivity problems over time and such will be the responsibility of the installer to fix! Securely cover all connections with electrical tape, heat shrink tubing 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, Antenna Unit, and Sensors should be mounted.
- If you cannot find a suitable constant +12 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 +12v 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

TECHNICAL SPECIFICATIONS

Control Module

*(Conforms to **IP40** standard)*

Operating Voltage:	12Vdc
Current Consumption:	6.5mA (Armed w/ LED flashing, excludes shock sensor) (Antenna Unit draws an additional 24mA.)
Operating Temp.:	-40°C to +85°C
Main Power Fuse:	15A (blue)
Door Lock Fuses:	7.5A (brown), two pieces

2-Way Pager

*(p/n **TR53A-7X**)*

Battery Power:	One AAA Alkaline
Battery Life:	1-2 months (normal, every-day use)
Maximum Range:	1000m (3,280ft.)
RF Transmission:	Digital, 66-bit Rolling Code Security
Backlight:	Electroluminescent (E.L.)

Shock Sensor

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

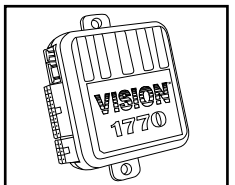
Operating Voltage:	12Vdc (fed from Control Module)
Current Consumption:	5.0mA (avg.)
Operating Temp.:	-40°C to +85°C
Sensor Technology:	Infra-red Beam Deflection

Siren

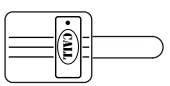
*(Conforms to **IP54** standard)*

Operating Voltage:	12Vdc
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 loop on siren)
Housing:	Water-resistant (cannot be submerged)

INCLUDED ITEMS



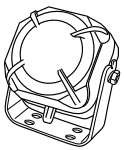
Control Module (1pc)



Antenna Unit (1pc)


P/N: TR53A-7X
Pager Remote (1pc)

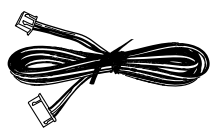

Program Switch (1pc)

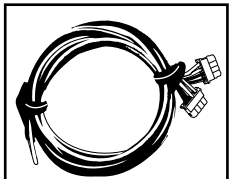

Normal Siren (1pc)

Shock Sensor (1pc)

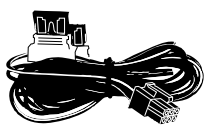
Window Decals (2pcs)


Status LED (1pc)


Antenna Harness (1pc)


Sensor Harness (1pc)


Main Harness (1pc)

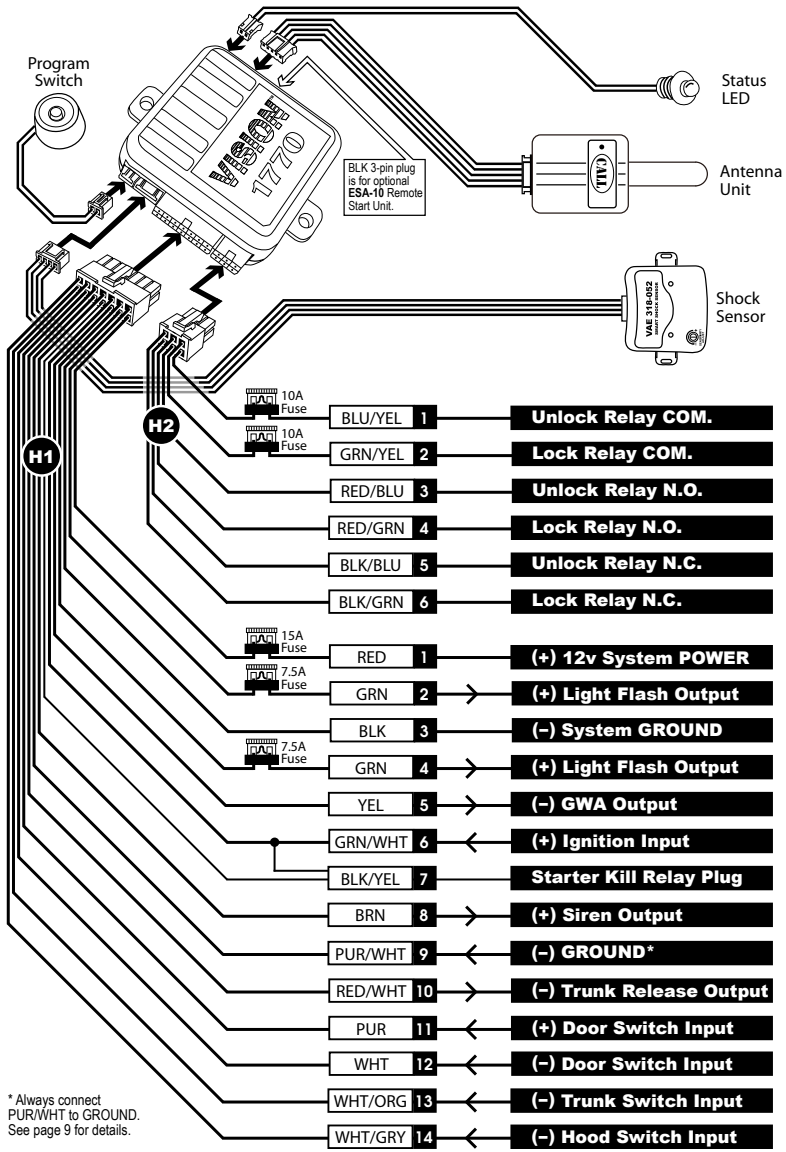

Door Lock Harness (1pc)

OTHER INCLUDED ITEMS:

- Double-Sided Mounting Tape for Antenna Unit (1pc)
- Double-Sided Mounting Tape for Shock Sensor
- AAA Battery for Pager Remote (1pc)
- Owner's & Installation Guides

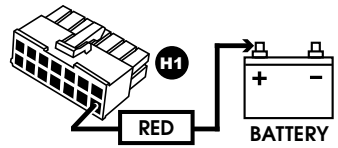
NOTE: Starter Kill Relay & Hood Pin Switch are options that are *not* included.

SYSTEM WIRING DIAGRAM



H1 THE 14-PIN MAIN HARNESS

H1-1 RED wire: (+) 12v System POWER



This wire is the main (+) 12v power input to the 1770 system. Be sure to connect this wire securely to a *constant* 12v source. Connect this wire *last* so the siren doesn't go off. If you need to extend this 12v power wire, use wire thicker than the RED wire. (A female bullet connector splits off from the RED wire, making access to power more convenient.)

H1-2 GRN wire: (+) Light Flash Output

This wire supplies a (+)12v (6A max.) output for flashing the vehicle's hazard (turn signal) lights during security breaches (i.e., at times of Warning Chirps and Full Siren Blast). See **Fig-1** below.

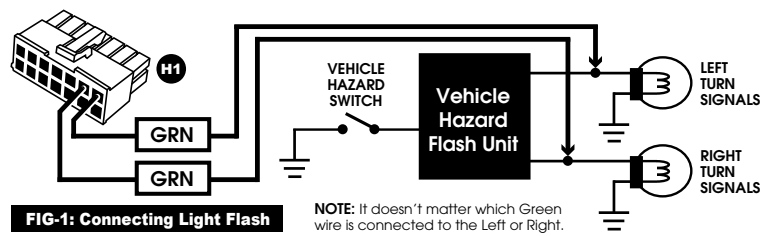
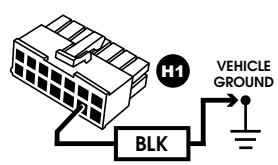


FIG-1: Connecting Light Flash

NOTE: It doesn't matter which Green wire is connected to the Left or Right.

H1-3 BLK wire: (–) System Ground



This wire is the main (–) ground input to the 1770 system. Be sure to connect this wire securely to a good ground source. *Most security system installation problems result from a bad ground connection!* (A female bullet connector splits off from the BLACK wire, making access to ground more convenient.)

H1-4 GRN wire: (+) Light Flash Output

This second light flash output supplies a (+)12v (6A max.) output for flashing the vehicle's hazard (turn signal) lights during security breaches (i.e., at times of Warning Chirps and Full Siren Blast). See **Fig-1** on page 6.

H1-5 YEL wire: (–) GWA Output (OPTIONAL)

This wire supplies (–) 0v ground (300mA max.) while the 1770 is armed. You may attach low-current devices such as optional scanning LEDs to the YELLOW wire, as shown in **Fig-1** below. These devices will turn on when the 1770 is armed.

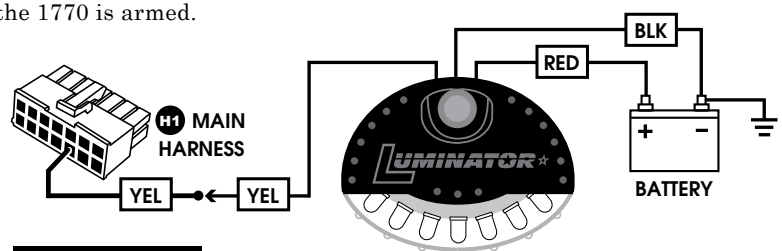
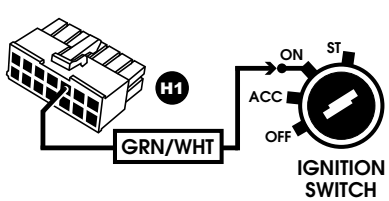


FIG-2: GWA Output

EXAMPLE: Optional LED Scanner

H1-6 GRN/WHT wire: (+) Ignition Input



This wire must be connected to the (+) 12v Ignition line (showing 12v when IG switch is turned on). The connection of this wire is vital for triggering the siren when the ignition goes on (while armed) or for remote start compatibility, for system programming, and for Manual Disarming.

H1-7 BLK/YEL wire: Starter Kill Relay Plug (OPTIONAL)

When plugged into the optional **JD2912-1Z** starter kill relay, the BLK/YEL and GRN/WHT wires connect to the relay's coil as shown in **Fig-3** below.

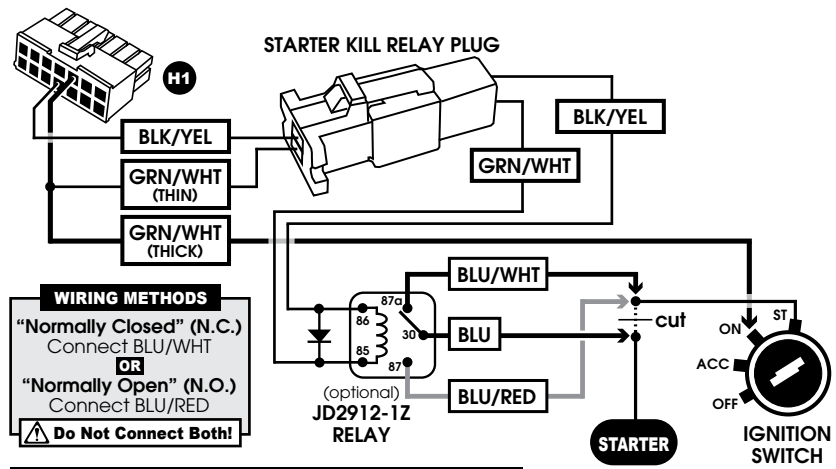


FIG-3: Starter Kill Wiring, Showing N.O. & N.C. Connections

The relay is only energized when the Ignition is turned on to prevent unnecessary drain on the vehicle's battery. As shown in **Fig-3** above, the relay can be wired either as Normally Open, or Normally Closed *(also requires programming — see pages 18 & 21 of the Owner's Guide).*

The **N.O.** setting is more secure than **N.C.** because the relay breaks the ST connection all the time (until the security system makes the connection). So even if a thief kills power to the 1770 control module or removes the control module altogether, the starter kill relay will continue to prevent starting.

⚠ ***IMPORTANT!*** *You cannot switch between N.O. & N.C. functionality simply by switching the feature programming. For example, if you wire for N.C. (BLU/WHT) but then program the control module to be N.O., the immobilization function will not work properly! If you wire for N.O. you must program for N.O.*

H1-8 BRN wire: (+) Siren Output

This wire supplies a (+)12v (1.5A max.) output to operate the included siren during a security breach. See **Fig-4** below.

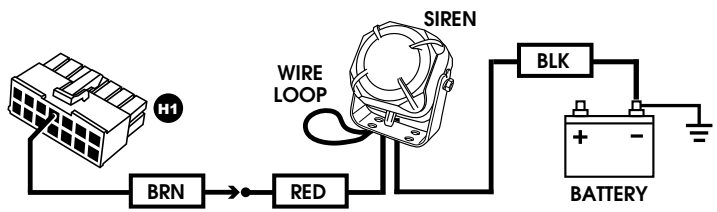


FIG-4: Connecting to the Siren Cut wire loop for 6-tone sound.

H1-9 PUR/WHT wire: (–) GND

This wire *must be* connected to a solid ground source. If you leave this wire floating or if you connect this wire to +12v, vehicle hazard lights may flash continually whenever the engine is remote started, regardless of the "Remote Start Hazard Flash" setting *(see Feature#6 on page 18 of the Owner's Guide).* Always connect the PUR/WHT wire to (–) ground.

H1-10 RED/WHT wire: (–) Trunk Release Output

This wire supplies (–)0v ground (300mA max.) for 1 second when the button is pressed for more than 2 seconds. It can also be used to activate automatic sliding doors on some mini-vans. An optional relay (p/n 896H-1CN) is required for vehicles that lack a factory trunk-open relay.

⚠ ***TRUNK BYPASS.*** *When using the RED/WHT wire in conjunction with the WHT/ORG wire (see pg. 11) when the system is Armed, the trunk and shock sensor will be bypassed and the siren will not go off. See pg. 17 of the Owner's Guide for details on* ***using Trunk Release*** *with the pager.*

H1-11 PUR wire: (+) Door Switch Input

This input wire detects if a door is opened. If opened while the 1770 is armed, the siren will go off for 30 seconds or until disarmed. The connection is made according to the schematic shown below in **Fig-5**. The switches shown are open-circuit (no +12v) when the door is closed.

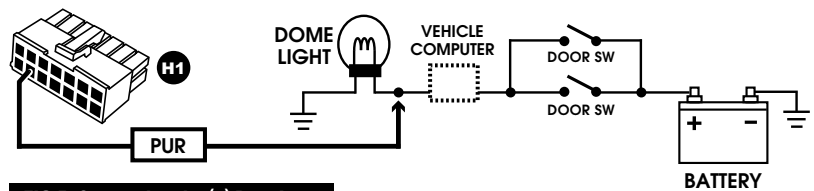


FIG-5: Connecting the (+) Door Input

⚠ ***IMPORTANT!*** *Sometimes a factory computer sits in between the dome light and the door switches as shown in* ***Fig-5*** *and* ***Fig-6****. In this case, you must connect to the point closest to the dome light, as shown. This is especially important in vehicles with 3rd party remote starters installed.* ***Failure to connect to the correct point can cause false triggering of the 1770's siren. AND NEVER USE BOTH the PUR & WHT wires!***

H1-12 WHT wire: (–) Door Switch Input

This input wire detects if a door is opened. If opened while the 1770 is armed, the siren will go off for 30 seconds or until disarmed. The connection is made according to the schematic shown below in **Fig-6**. The switches shown are open-circuit (no ground) when the door is closed.

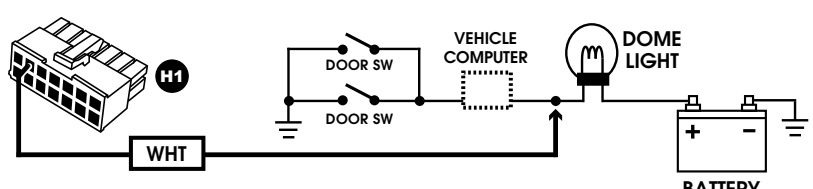


FIG-6: Connecting the (–) Door Input

H1-13 WHT/ORG wire: (–) Trunk Switch Input

This input detects if the trunk is opened. Always connect this wire in vehicles with a rear hatch *if* the rear hatch has a switch that is *independent* of the main door switches. If the trunk/hatch is opened while the 1770 is armed, the siren will go off for 30 seconds or until disarmed, *unless* **Trunk Release** is used (see pg. 9).

Wiring is shown below in **Fig-7**. The switch shown is open-circuit (no ground) when the trunk/hatch is closed.

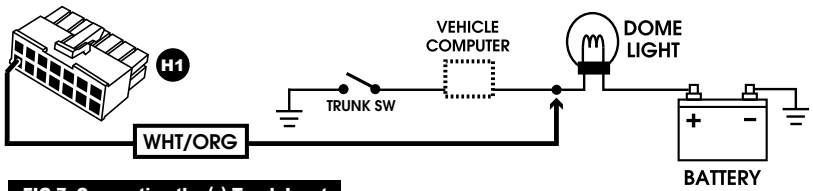


FIG-7: Connecting the (–) Trunk Input

H1-14 WHT/GRY wire: (–) Hood Switch Input (OPTIONAL)

This input wire detects if the hood is opened. If the hood is opened while the 1770 is armed, the siren will go off for 30 seconds or until disarmed. The connection is made according to the schematic shown below in **Fig-8**. The pin switch shown is open-circuit (no ground) when the hood is closed. *(KIRAMEK S-114R waterproof pin switches can be used instead of S-113.)*

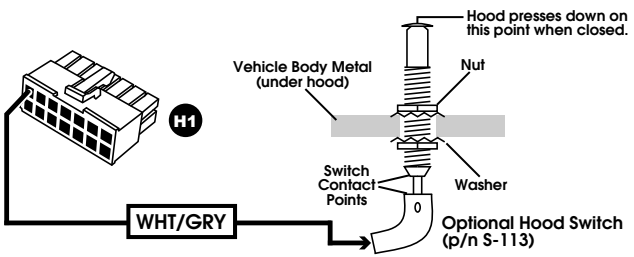


FIG-8: Optional Hood Pin Switch Installation

Onboard Relay Outputs

The 1770 features two onboard 20A relays that can be used to interface with most common door locking systems without additional parts. The diagram below describes the wires in the 6-pin door lock harness:

LOCK RELAY WIRES	UNLOCK RELAY WIRES
GRN/YEL wire: Common	**BLU/YEL wire:** Common
RED/GRN wire: Normally Open	**RED/BLU wire:** Normally Open
BLK/GRN wire: Normally Closed	**BLK/BLU wire:** Normally Closed

Determining the Locking System Type

First, remove the master door lock switch (usually found in the driver's door) and examine the harness connected to the back of the switch block. If you can't find the door lock switch, you likely will need to add optional door lock motors ("TYPE-D" locking system, as described on page 14).

Next, note the color of the wires you see in the master switch harness and then open the driver's door kick panel and search for the same wires. Test the kick panel wires with your DMM to ensure they are the same as in the switch block harness. Take DMM readings on the kick panel wires when the master switch is at rest, pressed to the Lock position, and press to the Unlock position. Note the voltage, duration and number of pulses you see. Then go through each of the following 7 door locking types to determine which installation method applies to your vehicle.

TYPE-A Positive (+)12v Locking Systems

Vehicles with positive Type-A locking systems have 3 wires at the master switch harness. Probe the three wires and you should find one *constant (+)12v* wire, with the other two wires showing (+)12v only when the door lock switch is pressed. Install according to **Fig-9** on the next page.

⚠ ***Type-A Test:*** *Since Type-C systems are very similar to Type-A, you should perform this test. Cut the wire that shows (+)12v when you press the Lock switch. Next, press the Unlock switch and see if all the doors unlock. If all the doors unlock, you can safely proceed with a Type-A installation using the wiring diagram on the next page. If all the doors didn't unlock, you either cut a motor wire or you have a Type-C locking system.*

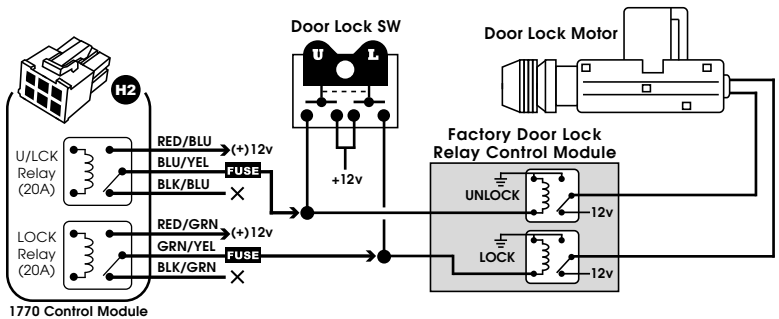


FIG-9: Connecting (+) Positive Control Door Locking **Type-A**

⚠ *IMPORTANT! Always tap a different +12v Power source than what is used by the 1770S control module. Run a wire to the battery if required.*

TYPE-B Negative (–) GND Locking Systems

Vehicles with negative Type-B locking systems have 3-wires at the master switch harness. Probe the three wires and you should find one *constant* (–)0v ground wire, with the other two wires showing (–)0v only when the door lock switch is pressed. Most vehicles from Asian manufacturers use this locking system. Install according to **Fig.10** below.

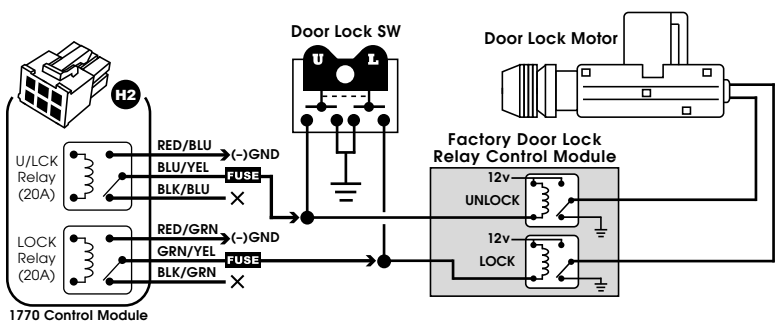


FIG-10: Connecting (–) Negative Control Door Locking **Type-B**

TYPE-C Reversing Polarity Locking Systems

Like Type-A locking systems, Type-C lock/unlock wires *typically* show (+)12v 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, as shown in **Fig-11** below. On Type-C systems, pushing the lock switch reverses the electrical polarity on the door lock motors according to the switch you pressed; and so the polarity on the motor for LOCK will be opposite the polarity on the motor for UNLOCK. When neither switch is pressed, the lock and unlock wires *typically* rest at (–)0v ground.

⚠ *WARNING! If your vehicle is actually Type-C but install as Type A, you might short (+)12v to GND which will damage the door lock system and/or the 1770's lock relays. Perform the* ***Type-A Test*** *on page 12.*

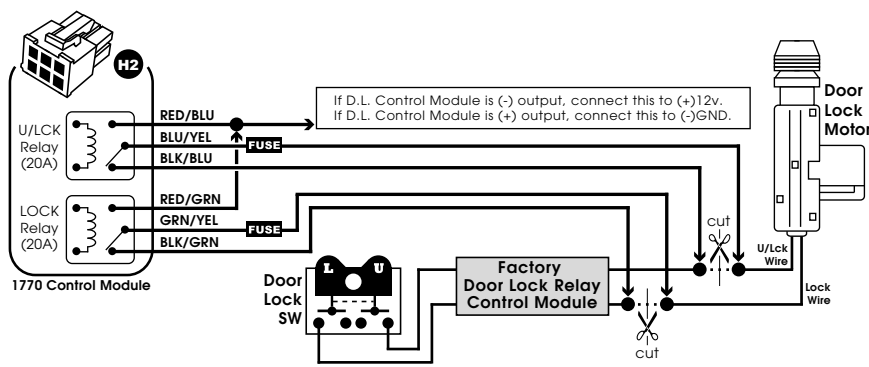


FIG-11: Connecting to Reversing Polarity Door Locks **Type-C**

TYPE-D Add-on Door Lock Motors

This door locking installation type covers all vehicles that lack power door locks and all vehicles that simply have no door lock motor in the driver's door. Optional door lock motors *(Kiramek p/n: 316-12)* will need to be installed into all doors which lack motors, and your (+)12v power source will need to be fused accordingly (5.0A *times* the number of added motors). Wire according to **Fig-12** on the next page.

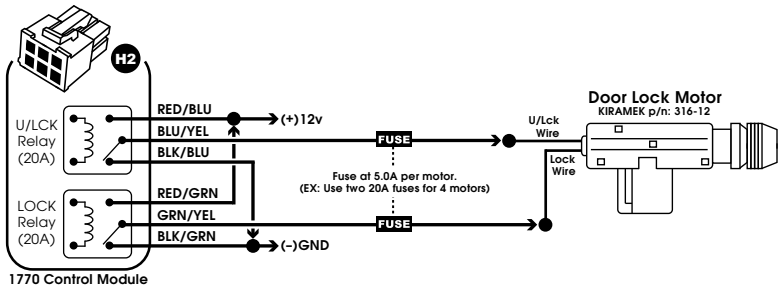


FIG-12: Vehicles Without Factory Door Lock Motors **Type-D**

TYPE-E Vacuum Pump Locking Systems

Many German made vehicles incorporate Type-E locking systems. There are typically 3 wires in the door lock harness: (1) constant +12v, (2) constant (-) 0v ground, and (3) the control wire. The control wire normally shows (+)12v when the doors are unlocked and (-) 0v when locked. It most often can be found in the driver's side kick panel. See **Fig-13** below.

⚠ *NOTE: You must program the door lock output pulse to 5.0 seconds for most Type-E vehicles. See No.2 on page 18 of the 1770* ***Owner's Guide****.*

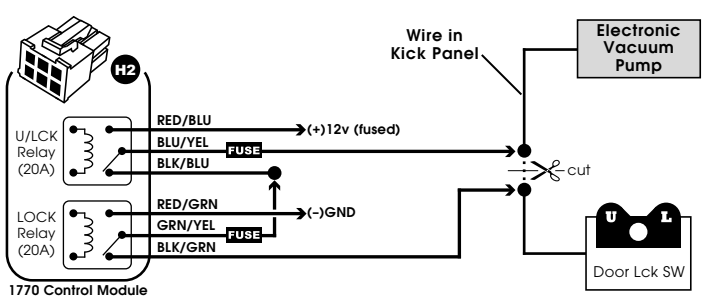


FIG-13: Connecting to Vacuum Pump Door Locks **Type-E**

TYPE-F Single Wire Locking Systems

Like Type-E, Type-F systems use a single control wire. Typically, doors lock by open-circuiting the control wire, and doors unlock by grounding the wire. See **Fig-14** below. Note that some Type-F vehicles ground the control wire to Lock and open-circuit it to Unlock, while others may follow the circuit in Fig-14 below but use (+)12v instead of ground. Be sure to determine the variation of Type-F that applies to your vehicle and wire accordingly.

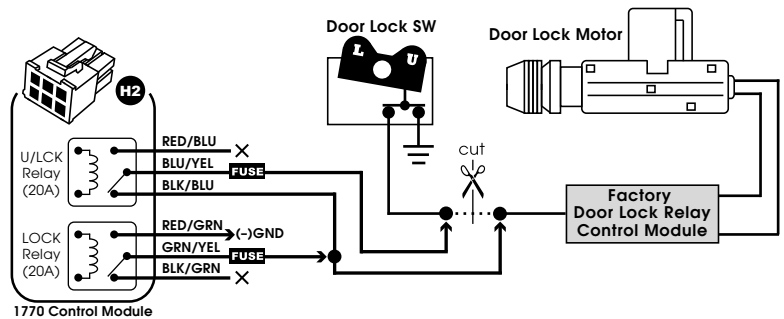


FIG-14: Connecting to Single Wire Door Locks **Type-F**

TYPE-G Toyota Multiplex Locking Systems

An increasing number of new Toyota vehicles use multiple computers in each door to control locking and unlocking. The computer within each door is located within the Master Power Window Switch. When the door lock button is pressed on a given door, that door's switch computer immediate informs the main vehicle body computer about the switch press. The body computer then gives the commands necessary to lock/unlock the door. This form of communication is called "multiplex."

Interfacing with this type of door lock system requires the use of the optional **318-16D** multiplex interface module. Wiring for this module is shown in **Fig-15** on the next page. Colors of the 5 wires coming from the Master Switch are listed in the 318-16D User Guide. Note that you must cut the LSW wire coming from the master door switch and connect the WHITE wire to the switch side and the BROWN wire to the other side.

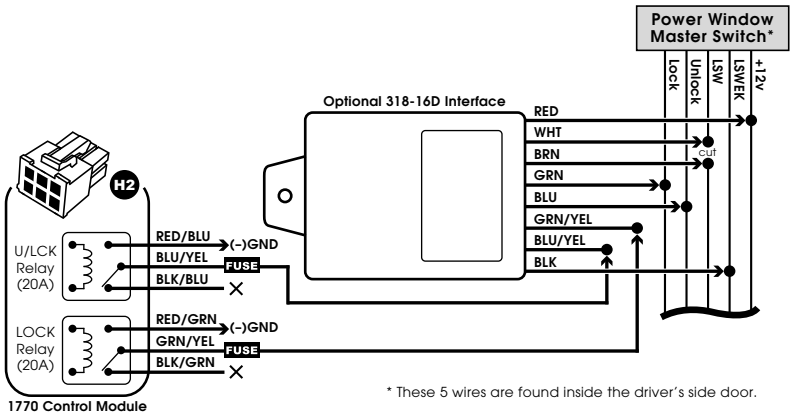


FIG-15: Connecting to Toyota Multiplex Door Locks **Type-G**

> ***TIP:*** *Since the LSWEK wire is just a (–) GND, you can connect the 318-16D's BLK wire to any ground source you like. But most often, it's easier to connect to LSWEK wire because its already in the door.*

Other Locking Systems

Resistor Multiplex. Some cars have multiplex door locks that use resistors. It is beyond the scope of this Guide to discuss each and every variant, but you can check for resistors (often 250Ω to 7.5kΩ in size) by cutting the control wire, setting your DMM to Ohms and measuring the "switch side" of the control wire between ground or (+)12v while pressing Lock or Unlock.

Five-Wire. Some vehicles have Lock and Unlock wires that rest at ground but rise to (+)12v when the switch is operated. It is therefore necessary to relay-isolate the switch wires while feeding (+)12v to the door lock motors.

Double Pulse. Some vehicles require 2 *unlock* pulses. To accommodate, program the 1770 according to No.2 on page 18 of the **Owner's Guide**.

Independent Driver's & Passenger Doors. Optional **318-16U** door lock module may be required if driver's door connections don't work on all doors.

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.

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.

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 6.5mm (0.25in.) 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. Find an existing bolt or bolt hole for mounting; 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.

Program Switch

The Program Switch is used to customize 1770 features, manually disarm or reset the system. It's not necessary to hide the switch due to the security features of the 1770; however, you should ask the vehicle owner for their mounting preference. If the owner wishes to have it concealed, suggest a location that will not prove too difficult to reach from the driver's seat.

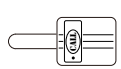
To mount, clean dirt and oils from mounting location and affix the switch with the double-sided tape. Hide the wires for a professional appearance.

Shock Sensor

The shock sensor is not waterproof so only mount it *inside the car*. Use the included 2-sided tape and mount the sensor to the steering column plastic or any plastic surface near the steering column. It's not necessary to hide the shock sensor from view, and it would even make changing the sensitivity easier by mounting it in open view. **NEVER** use screws or wire ties to mount the sensor! Always mount to plastic! Mounting to metal can cause false triggering. *Try to test the sensor before permanently attaching it with the 2-sided tape.*

⚠ ***IMPORTANT!*** *Always mount the 318-052 shock sensor more than 30cm (1ft.) away from the antenna unit and the control module of the optional 318-04 Ultrasonic Sensor. Keep the shock sensor and shock sensor wires more than 30cm away from the antenna unit and antenna unit wires. Failure to do so may cause the shock sensor to randomly false trigger the siren. Also, try to keep the antenna out of direct sunlight!*

Antenna Unit

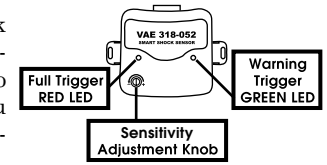


The Antenna Unit is a vital component of the 1770 and must be mounted in an appropriate location to obtain the best RF reception and transmission. Consider mounting at an elevated point on the driver's side window pillar, but keep out of direct sunlight! Mount with the included double-sided tape away from metal, and hide the wire harness inside the plastic pillar cover. *Mounting too close to metal, or tangling the Antenna harness with the sensor harness can cause bad reception or unexpected operation!*

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 get good sensitivity at a 50% or 60% setting, relocate the shock sensor onto a more firm plastic surface.

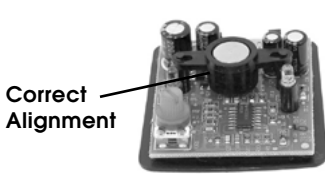
False Alarms

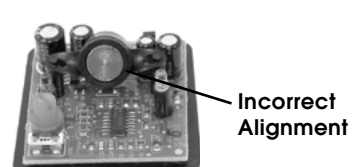
The VISION 318-052 "Active-IR" shock sensor has been engineered to avoid false triggers in most situations. However, there is still the possibility the sensor could trigger the siren during a strong earthquake, jackhammer operation adjacent to the vehicle, hurricane/typhoon, large explosions/fireworks, 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 8 of the Owner's Guide)*.

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.





TROUBLESHOOTING

STATUS LED FLASHES WHEN DOOR IS OPEN WHILE IGNITION TURNED ON.

This is normal. You cannot disable this safety feature.

GWA WILL NOT OUTPUT EVEN THOUGH I'VE ARMED THE SYSTEM!

Keep in mind that the GWA output will not appear until 5 seconds after you've armed the system. And if you've re-programmed the Exit Delay Time Selection (see page 18 of the Owner's Guide), GWA will not output until after that delay (30s, 60s or 15min.). You can tell if the system is in 5s/30s/60s/15min mode by looking at the Status LED, which will be lit solid during that time (when GWA will not be output). Also note that immediately after your Arm the system, the GWA output will be cut off.

THE SYSTEM RESPONDS STRANGELY TO A DOOR OPEN CONDITION.

You have most likely connected *both* the (+) positive and (–) negative door inputs. You must use one or the other, but never both. (See page 10.)

PAGER REMOTE STOPPED WORKING AFTER VEHICLE MAINTENANCE.

If the car battery was disconnected or if substantial noise was present on the 12-volt line in the vehicle, it is possible that transmitter memory was lost. *For this reason we strongly recommend that the main wire harness of the 1770 be disconnected BEFORE you disconnect the vehicle's battery.*

RE-LEARNING: Use the Manual Disarm Code (see pages 11 & 24 of the Owner's Guide) to disarm the system if its not already, then relearn the pager (see page 23 of the Owner's Guide). *(Note that the Ignition input and Program Switch must be connected for you to do this.)*

UNUSUAL SIREN TRIGGERING / NO PAGER ANSWER-BACK RESPONSE

The optional 318-04 Ultrasonic sensor and/or harness may be too close to the standard 318-052 shock sensor harness and/or sensor. Separate by more than 30cm (1 ft.). Even without a 318-04 sensor though, problems will occur if you bundle the *Antenna harness* with a *Sensor harness*.

If Answer-Back is the problem, disconnect the Antenna unit, press the Call button for several seconds, then reconnect the Antenna unit. *Low car battery voltage or charging your battery with the 1770 connected can cause this.*

You may have connected the 1770S +12v Power to the same Power source as used by Door Lock control. Tap separate +12v Power sources!

For shock problems, be sure to read page 20 of this manual.

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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