MODEL MS5500

VEHICLE SECURITY SYSTEM

INSTALLATION MANUAL

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Before You Begin

1. Be sure to read the manual thoroughly before beginning the installation to ensure a proper understanding of the MS5500 and its functions.
2. Verify system contents:
   - ❑ Main Unit
   - ❑ Two 3-Button Remote Transmitters
   - ❑ Siren
   - ❑ Logic Sensor II
   - ❑ Harnesses
     - 14-Pin main harness
     - 4-Pin auxiliary function harness
     - 2-Pin Status LED harness
     - 2-Pin Override Switch harness
     - Pre-wired starter kill relay socket with relay
3. Discuss the location of the status LED and the Emergency Override Switch with the vehicle's owner.
4. Discuss the optional features of the MS5500 and the features that must be programmed during installation, with the vehicle's owner.
5. Check all of the vehicle's operating systems before and after the installation.

Installation Tips

1. Use a Volt / Ohm meter to test all wires. ***Do not*** use a test light.
2. Good power and ground connections are essential for proper operation.
3. Route all wires from the engine compartment to the interior of the vehicle through a grommet and use electrical tape and split loom tubing for protection.
4. When adding optional accessories such as door locks, window modules, etc., be sure to fuse each additional accessory power lead separately from the main power source. This will insure that the security system power is retained in the event that an accessory malfunctions.
5. Avoid extending the system's wires, the supplied wiring harnesses provide sufficient length to connect to the required vehicle circuits. If a wire must be extended, be sure to use the appropriate gauge wire in order to avoid a drop in current.
6. ***Never*** bypass the fuses included in the MS5500 wiring harness. They are necessary safety items designed to protect both the system and the vehicle.
7. Be sure to perform a full function test of all of the systems components to verify proper operation. Also, be sure to check all of the vehicle's operating systems before and after the installation.
8. For maximum security, disguise all system wires with black electrical tape and split loom tubing to prevent a thief from being able to identify the system wiring.

Mounting Components

Main Unit

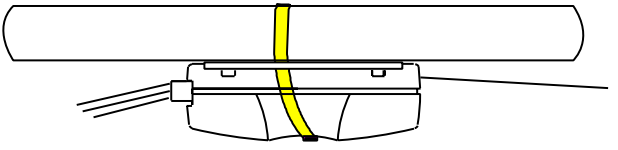
The main unit should be mounted in the interior of the vehicle. *Do not* mount the main unit in the engine compartment. For maximum security, avoid mounting the main unit where it will be easily accessible to a thief.

If you are mounting the unit under the dash board, be sure to mount the unit as high as possible and in a location where it will not interfere with the operation of the pedals.

Be sure to extend the antenna as high as possible so that optimum range can be achieved.

Before securing the unit, be sure that you have made all of the necessary jumper selections and perform a thorough function test of the system.

The case of the MS5500 is designed to be mounted using screws, or secured using wire ties through the wire tie mounting tabs on the bottom of the unit as shown below.



Siren

Mount the siren facing downward and away from sources of heat and face the opening downward to prevent water from collecting inside the housing. Be sure that the wires are not easily accessible from underneath the vehicle.

For maximum security, it is best to disguise all under hood system wires with factory style split loom tubing so that they cannot be easily identified by a thief.

Run all wires from the engine compartment into the interior of the vehicle through a grommet.

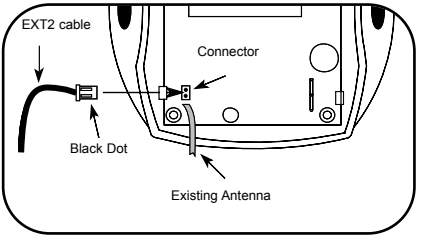
EXT2 Extended Range Antenna (optional)

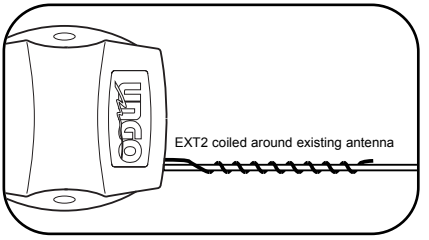
The optional EXT2 is a tuned, coaxial antenna, designed to be used with the MS5500 security system to increase transmitter range. When properly installed, the EXT2 will add greater installation flexibility to the system, allowing the antenna to be placed high in the vehicle to achieve maximum range.

Open the cover of the MS5500 main unit and plug the 2-Pin EXT2 connector into the antenna port located directly on the alarm board, next to the existing antenna. Be sure that the side of the connector marked with a black dot (center conductor) is facing the side of the alarm opposite the alarm 14-Pin main connector.

Run the EXT2 cable through the same hole used for the existing antenna. Once you have replaced the cover, twist the existing antenna around the EXT2 cable to prevent any potential RF interference.

Route the EXT2 up as high as possible inside the vehicle and be sure to avoid running the exposed end of the cable along any wire harnesses.





Logic Sensor II

The Logic Sensor II, included with the system, is designed to be mounted in the interior of the vehicle using a tie wrap or double sided tape. Be sure to avoid mounting the sensor to sources of strong electrical interference such as cellular phone transceivers or the vehicle's engine computer.

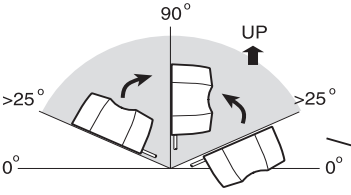
Suggested mounting locations are an air conditioning duct, or a dashboard or center console support brace.

Shock and Motion

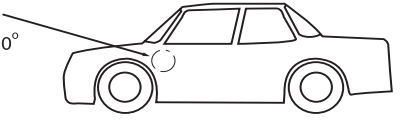
When mounted horizontally, the Logic Sensor II will detect both shock and motion. The Logic Sensor II's motion detection is most effective on the axis on which it is mounted, which means that careful selection of the mounting location of the sensor will help to insure it's effectiveness. See ***Jumper Selections*** to select motion sensitivity.

Shock Only

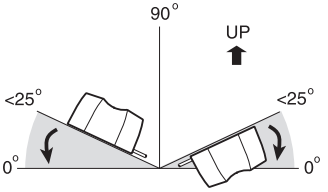
When mounted vertically, the Logic Sensor will detect shock or impacts to the vehicle only and will be unaffected by slow rocking movements of the vehicle. This is especially useful in vehicles that are normally parked in areas subject to high wind or parked in tall parking structures that tend to move or sway.



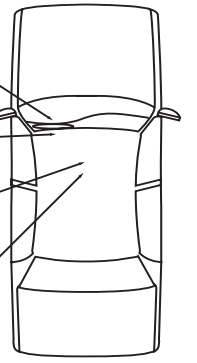
Mounting For Shock Sensitivity Only



Mounting For Shock *and* Motion Sensitivity



Motion Sensitivity		Position
Front/Rear	Side to Side	
Least	Best	
Good	Good	
Good	Good	
Best	Least	



Override Switch

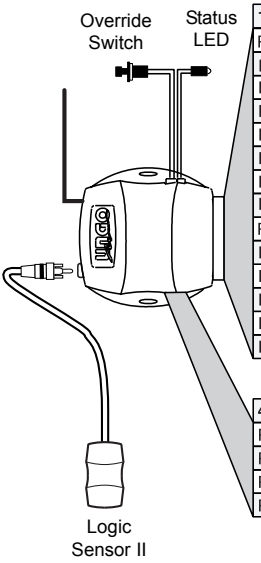
Mount the Override Switch in a location near the driver where it is easily accessible but not plainly visible. Plug the blue override switch connector into the blue 2-pin socket on the main unit.

Be sure that the switch cannot accidentally be pressed or damaged by movement of passengers or contents within the vehicle.

LED Status Indicator

Mount the status LED so that it is visible from both sides of the vehicle. Plug the white LED connector into white 2-pin socket on the Main Unit.

Wiring Diagram



14 Pin Main Harness		
Pin 1 - **Black:** Chassis Ground		
Pin 2 - **Red:** Main Power +12v input	[**10A fuse**]	
Pin 3 - **Violet:** Ignition Key +12v input		
Pin 4 - **White:** Door Trigger (-) input		
Pin 5 - **Yellow:** Door Trigger (+) input		
Pin 6 - **White/brown:** Hood / Trunk (-) input		
Pin 7 - **White/violet:** Optional Sensor (-) input		
Pin 8 - **Orange:** Siren +12v output	[1 Amp]	
Pin 9 - **White/green:** Door Lock (-) / Unlock (+) output	[250mA]	
Pin 10 - **White/blue:** Door Unlock (-) / Lock (+) output	[250mA]	
Pin 11 - **Blue:** Normally Closed Starter Disable (-) output	[250mA]	
Pin 12 - **Blue/red:** Normally Open Starter Disable (-) output	[250 mA]	
Pin 13 - **Red/yellow:** Parking Light (+/-) output	[**7.5A fuse**, built-in relay]	
Pin 14 - **Yellow/white:** Auxilliary Function 1 (-) output	[250mA]	

4 Pin Auxilliary Function Harness		
Pin 1 - **Yellow/black:** Auxilliary Function 2 (-) output	[250mA]	
Pin 2 - **Orange/blue:** Alarming / Horn Honk (-) output	[250mA]	
Pin 3 - **Black/white:** Dome Light (+/-) output	[**5A fuse**, built-in relay]	
Pin 4 - **Violet/yellow:** Optional Sensor (-) input		

Wiring Description

14-Pin Main Harness

Pin 1 - BLACK: Ground.
Connect to a solid chassis ground. Be sure to use a ring connector of proper size. Scrape away the paint at the grounding point.

Pin 2 - RED: Main Power (+12v) input [3A fuse]
Connect to constant +12v. A clean source of power is essential. This connection can be made at either the battery or at the constant power supply wire to the ignition switch. Be sure to install a fuse near the connection. ***Do not*** remove or bypass the fuse holder included on the wire harness.

Pin 3 - VIOLET: Ignition input (+12v) input.
Connect to a source that maintains +12v when the ignition key is in both the "on" and "start" positions.

Pin 4 - WHITE: Door Trigger (-) input
Connect to negative door switch circuit. This circuit will show ground (-) when the door is open.

Pin 5 - YELLOW: Door Trigger (+12v) input
Connect to positive door switch circuit. This circuit, commonly found in Ford vehicles, will show +12v when the door is open.

Pin 6 - WHITE/brown: Hood/Trunk Trigger (-) input
Connect to negative output from hood and/or trunk switches.

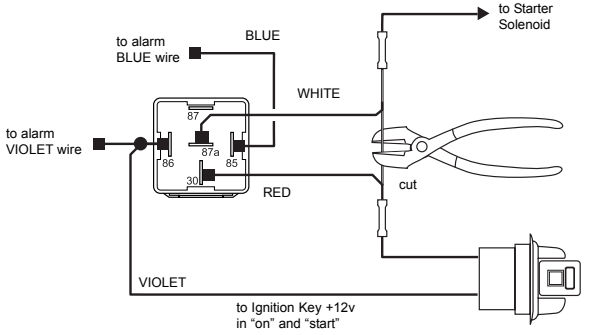
Pin 7 - WHITE/violet: Optional Sensor (-) trigger input.
Connect to the negative trigger output from an optional sensor.

Pin 8 - ORANGE: Siren (+12v) output
Provides +12v to drive the siren. Connect to the Red siren wire. Connect the Black siren wire to chassis ground.

Pin 9 - WHITE/green: Door Lock (-) / Door Unlock (+)
Pin 10 - WHITE/blue: Door Unlock (-) / Door Lock (+)
These wires can be directly connected to negative and positive triggered door lock systems. For Voltage Reversal systems and After-market actuators, add relays. For further information, see ***Door Lock Diagrams***. For selection of Double Pulse output and 4-second pulse, see ***Programming*** and ***Jumper Settings***.

Pin 11 - BLUE: Starter Defeat Normally Closed (-) output

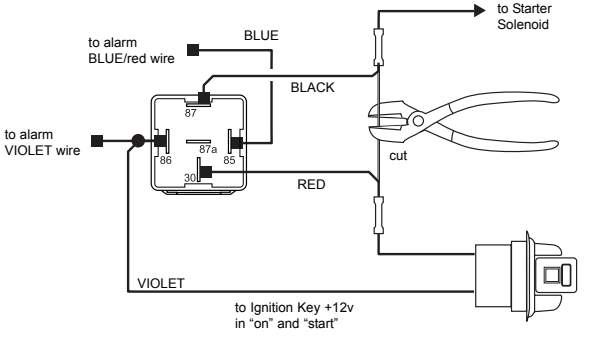
Provides a negative output while the alarm is Armed and during alarming to disable the vehicle's starter circuits. Connect to the provided Starter Kill Relay socket as shown.



In this configuration, the vehicle's starter will be disabled only when the system is armed and alarming. If power to the system is lost or the system becomes disconnected, the vehicle will be able to start.

Pin 12 - BLUE/red: Starter Defeat Normally Open (-) output

Provides a negative output while the system is Disarmed to enable the starter circuits. Connect to the provided Starter Kill Relay socket as shown.



In this configuration, the vehicle will only start when the system is both connected and disarmed.

Pin 13 - RED/yellow: Parking Light (+/-) output [on-board relay, 7.5A Fuse]

Provides +12v or ground (-) to flash the parking lights. Do not connect this wire to parking light circuits that exceed 10 amps. For vehicles that have independent left and right parking light circuits, the parking light wires must be connected using diodes to keep the circuits separate. See ***Jumper Settings*** to select polarity.

Pin 14 - YELLOW/white: Auxiliary Function 1 negative output

Provides negative (-) output. Output will stay on for as long as the Button is pressed.

4-Pin Auxiliary Function Harness

Pin 1 - YELLOW/black: Auxiliary Function 2 (-) output (resets with arm and disarm).

Provides a negative output to activate a relay. The output of this wire can be programmed to operate in one of three operating modes. See ***Programming***.

Momentary - provides output for as long as the transmitter button is pressed.
Latched - provides an output that stays active until the transmitter button is pressed again.
Timed - provides an output that stays active for 30 seconds when the transmitter button is pressed. If the transmitter button is pressed again during the 30 seconds, the output will turn off.

Possible uses of the latched and timed outputs include: audio system valet, auxiliary lighting control, timed headlight operation, etc.

When latched or timed operation is selected, the output will reset (turn off) each time the system is armed or disarmed.

Pin 2 - ORANGE/blue: Alarming / Horn Honk (-) output

Provides a negative output when the system is triggered to activate a relay. The output is selectable for continuous or pulsed operation. See ***Jumper Settings.***

This wire can be connected to a relay to honk the vehicle's horn, or activate an auxiliary siren or air horns when the system is triggered.

Pin 3 - BLACK/white: Dome Light (+/-) output [on-board relay, 5A Fuse]

Illuminated Entry/Exit output. Provides a selectable positive (+12v) or negative (-) output to turn on the vehicle's dome light when the system is disarmed and when the ignition key is turned off. Normally, this wire can be connected directly to the door switch circuit. Be sure to set the polarity of this output. See ***Jumper Settings.***

Pin 4 - VIOLET/ yellow: Warn Away (-) input.

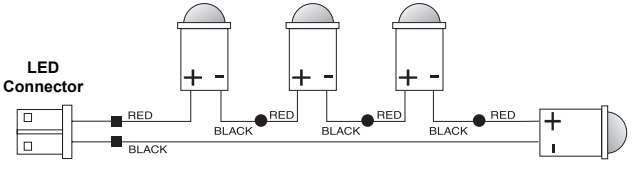
Connect to the negative Warn Away output from an optional sensor.

Other Harnesses

For details on the Status LED and Override Switch, see ***Mounting Components***.

Extra LEDs

Up to 3 extra LEDs can be added. Cut the Red LED wire and connect in series as shown.



Jumper Settings

Jumper Selections

Parking Light Polarity. Selects the polarity (+/-) for the output of the on-board Parking Light relay.

Pin 1 + Pin 2 = positive
Pin 2 + Pin 3 = negative

Dome Light Polarity. Selects the polarity (+/-) for the output of the on-board Illuminated Entry/Exit relay.

Pin 1 + Pin 2 = positive
Pin 2 + Pin 3 = negative

Door Lock Pulse Width. Selects between a 1-second and a 4-second output for door locking and unlocking. Set to 4 seconds when interfacing into vehicles equipped with vacuum door locking systems.

Ignore Delayed Domelight. For use with vehicles equipped with a timed dome light circuit that stays on after door has been closed. When the jumper is **on**, the system will ignore the dome light circuit during arming to prevent the system from responding with an open zone indication each time the system is armed.

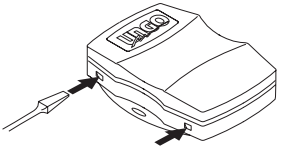
Passive Door Locking. When the jumper is **on**, the system will automatically lock the doors with Auto Rearm and Passive Arming.

Horn Honk / Arming Output. Selects between pulsed or constant output for the Orange/blue wire.

Logic Sensor Motion Sensitivity. When the jumper is **off**, the system will respond to shock only. When the jumper is set to **on**, the system will respond to both shock and motion.

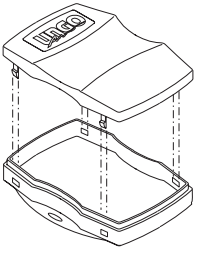
Accessing the Jumpers

Using a flathead screwdriver, carefully press in on the access tabs on the sides of the case until the hooks release.

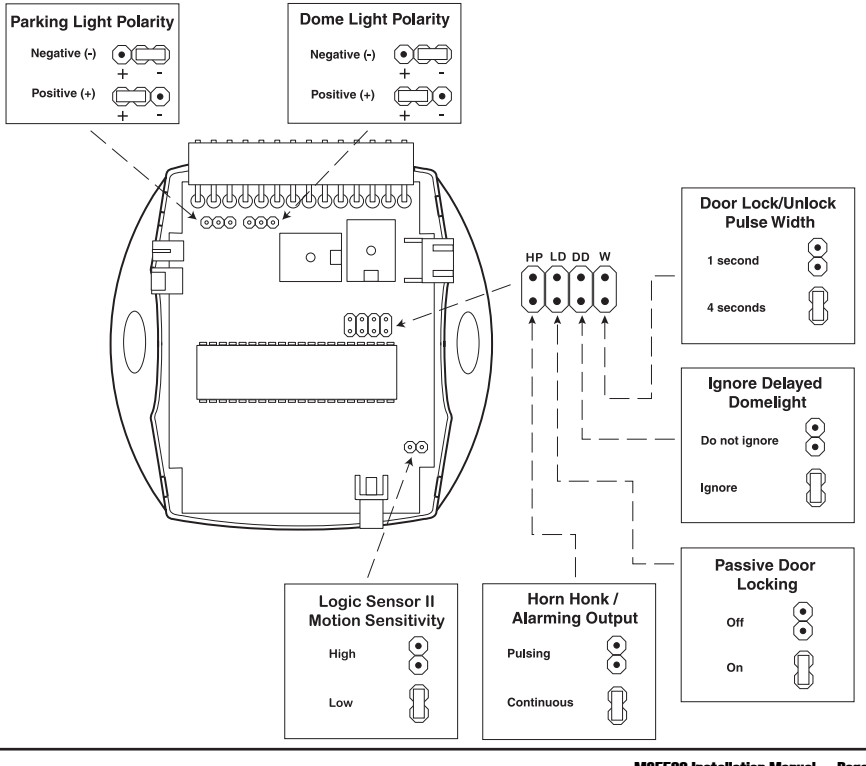


Take care not to push the tabs in too far or they may break.

Once you have made your selections, close the case by aligning the top and button halves of the case, making sure that the tabs are over their mounting holes.

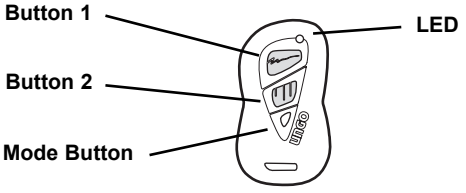


Setting the Jumpers



Remote Transmitters

Remote Transmitter Layout



Each system comes with 2 Remote Transmitters, pre-programmed to operate in the **Ungo Standard Mode** and will Arm and Disarm the system *with* chirp confirmation using Button 1.

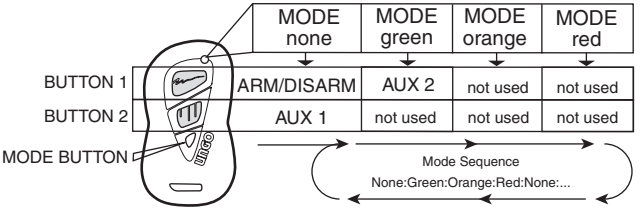
Transmitter Operating Modes

The MS5500 can be configured to work with the remote transmitters in one of three ways, Ungo Standard Mode (default), Convenience Mode, or Driver Door Priority Mode. To select or change the transmitter operating mode, see ***Programming***.

For ease of understanding, any references made in this manual to the Remote Transmitter, are assuming that the Transmitter Operating Mode is set to Ungo Standard Mode, unless otherwise stated.

Ungo Standard Mode

This mode is the default setting for transmitter operation.



Button 1 Arms and Disarms the system. This Button also locks and unlocks the doors when the system is in Valet Mode.

Button 2 controls the system's Auxiliary Function 1.

When the Arm/Disarm Button is pressed together with any other Transmitter Button, the system will Arm or Disarm *silently* (without chirp confirmation).

> **If the system was programmed to arm *without* chirp, pressing Buttons 1 and 2 together will arm the system *with* chirp.**

The **Mode Button** will change the function of Buttons 1 and 2 each time it is pressed, allowing Buttons 1 and 2 to control the system's Auxiliary Function Outputs.

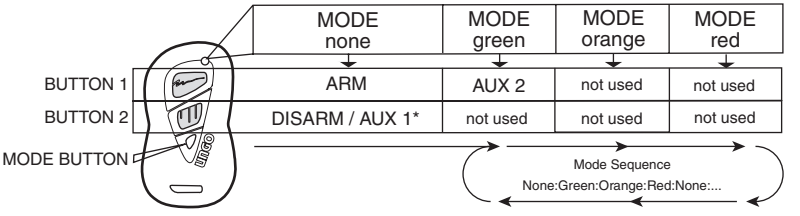
Note also that the LED on the transmitter changes color each time the Mode Button is pressed to indicate the current function of Buttons 1 and 2. The LED will stay on for 5 seconds, then turn off, returning Buttons 1 and 2 to their off settings.

It is also possible to set individual Remote Transmitters to arm and disarm the system using any of the Transmitter's function buttons, which is extremely useful when a Transmitter is used to control multiple systems. See ***Adding a New Transmitter into the System.***

The button assignment of Arming and Disarming will not affect the operation of the Remote during Programming, Logic Sensor II Adjustment, or any other system set-up function. The buttons used to control those features will remain as they are described in this manual, regardless of how the Transmitter is set up to arm and disarm the system.

Convenience Mode

This mode will configure the system to Arm and Disarm on separate buttons for convenience and ease of use.



*AUX 1 when system is Disarmed

Button 1 Arms the system. This Button also locks the doors when the system is in Valet Mode.

Button 2 Disarms the system. Pressing Button 2 again activates the system's Auxiliary Function 1. This Button also unlocks the doors when the system is in Valet Mode.

If the system is Armed, pressing Button 2 will Disarm the system.

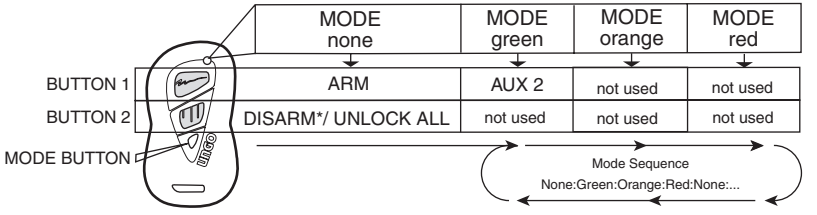
If the system is Disarmed, pressing Button 2 will activate the Auxiliary Function 1.

If the system is in Valet and the doors are locked, pressing Button 2 will unlock the doors.

Driver Door Priority Mode

This mode operates in a similar manner as the *Convenience Mode*, with the added safety of unlocking just the driver's door when the system is disarmed. Pressing the Disarm button again within 10 seconds will unlock the remaining doors.

To properly utilize this mode, the Auxiliary Function 1 output must be connected directly to a relay that controls the driver 's door lock actuator. See ***Driver Door Priority Wiring Diagrams***



*Disarming the system will unlock only the driver's door.

Button 1 Arms the system. This Button also locks the doors when the system is in Valet Mode.

Button 2 Disarms the system and at the same time activates Auxiliary Function 1 (which unlocks the driver's door). This Button also unlocks the doors when the system is in Valet Mode.

If the system is Armed, pressing Button 2 will Disarm the system and unlock the driver's door only.

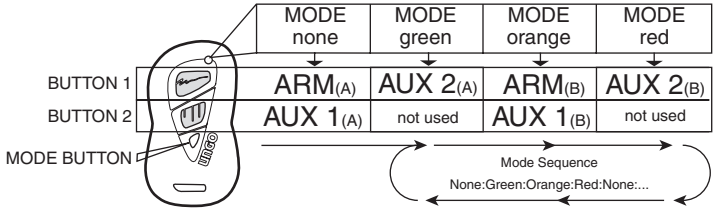
If the system is Disarmed, pressing Button 2 will unlock all remaining doors.

If the system is in Valet and the doors are locked, pressing Button 2 will unlock the driver's door. Pressing Button 2 again will unlock all remaining doors.

Multi Car Operation

For your convenience, you may use a single transmitter to operate multiple vehicles. The Transmitter can be set to arm Car #1 with Button 1 and arm additional cars with the first available Buttons not being used by Car #1. For ease of use, we recommend using Mode, Mode, 1 to arm Car #2, although any available button may be used

The following diagram illustrates how a single transmitter can operate a two-car system while retaining all of the Auxiliary Functions. The Auxiliary functions for Car #2 will follow the arm/disarm button in sequential order.



(A) = Car 1
(B) = Car 2

As stated, the Programming and set-up functions of Car #2's system *will not* be affected by this Transmitter configuration and will operate exactly as described in this manual.

Following the button configurations described above, it is possible to control as many as 8 vehicles using a single Transmitter, provided no Auxiliary Functions are being used.

Adding a New Transmitter into the System

1. Turn on the ignition.
2. Press and hold the Override switch.
   - The status LED will turn on red.
3. Within 5 seconds:

   Continue holding the Override switch and Press Transmitter Button 1*
   For remote arming ***with*** chirp confirmation.

   --- or ---

   Release the Override switch and Press Transmitter Button 1*
   For remote arming ***without*** chirp confirmation.

   - The status LED will flash once quickly to confirm that the new Remote Transmitter has been added.
4. Turn off the ignition.

Deleting Transmitters (Adding a Remote Transmitter and Erasing All Other Remote Transmitters From the System)

1. Turn on the ignition.
2. Press and hold the Override switch.
   - The status LED will turn on red.

   Continue to hold the override switch.
   - After 5 seconds, the status LED will flash 4 times, then turn on red again.
3. Within 5 seconds:

   Continue holding the Override switch and Press Transmitter Button 1*
   For remote arming ***with*** chirp confirmation.

   --- or ---

   Release the Override switch and Press Transmitter Button 1*
   For remote arming ***without*** chirp confirmation.

   - The status LED will flash once quickly to confirm that the new Remote Transmitter has been added.
4. Turn off the ignition.

*** The Button that is pressed will be the Arm/Disarm Button on that Remote Transmitter. You may program *any* of the Transmitter's buttons to arm and disarm the system at this point.**

Programming

System Initialization and Default Reset

Following this procedure will set all System Programming Parameters to factory default settings.

1. Turn on ignition.
2. After 4 seconds, press and hold Buttons 1 and 2 together for 5 seconds. The siren will emit one chirp, indicating that the reset signal was received.
3. Turn ignition off.
   - All System Programming parameters are now set to factory default settings.
   - The Arming Mode is set to Remote Arming only.
   - The Valet Mode is off.
   - The Logic Sensor II shock sensitivity is set to Level 6.

Arming Mode Selection (Passive or Active Arming)

Using the Remote Transmitter, you may select Passive Arming with chirp confirmation, Passive Arming without chirp confirmation, or Active Arming (Remote only).

To set the Arming Mode:

1. Turn the ignition on.
2. Within 4 seconds, press Transmitter Buttons 1 and 2 together.

First push:	**one chirp**	**=**	**Passive Arming with chirp**
Second push:	**two chirps**	**=**	**Active Arming**
Third push:	**three chirps**	**=**	**Passive without chirp**

3. Turn off the ignition key to save your selection.

Entering System Programming

To enter System Programming:

1. Turn the ignition on.
2. Within 4 seconds, press Transmitter Button 2.
   - The siren will emit one short chirp, indicating that you have entered Programming Step 1.
   - The status LED will show the current setting of Step 1 (solid or flashing).
3. You can now make changes to the Programmable System Parameters.

   Press Button 1 to change the setting.
   Press Button 2 to move to the next step.

4. When you are finished, turn the ignition key off to save your changes. You can turn the key off at any time during programming. When the key is turned off, the changes that you have made will be saved.

Programmable System Parameters

Button 2 ↓	Step	Function	Status LED Button 1 → solid*	flashing (quickly)	flashing (slowly)
	1	Ignition Controlled Door Locking	ON	OFF	
	2	Ignition Controlled Door Unlocking	ON	OFF	
	3	Logic Sensor II Warn Away Level	High	Low	
	4	Audible Tamper Alert Report	audible	LED only	
	5	Door Unlock Pulse	single pulse	double pulse	
	6	Auto Rearm	OFF	ON	
	7	Entry Delay for Passive Arming	no delay	10 seconds	
	8	Trunk Bypass	OFF	ON	
	9	Illuminated Exit	ON	OFF	
	10	Auxiliary Function 2 output	momentary	latched	30 seconds
	11	Logic Sensor Defeat	OFF	Aux 1	Aux 2
	12	Transmitter Operating Mode	Standard	Convenience	Driver Door Priority

* default setting

1. **Ignition Controlled Door Locking.** Selects whether or not the system automatically locks the doors when the ignition is turned on. When selected, the Ignition Controlled Door Locking feature will automatically lock the doors 10 seconds after the ignition key is turned on.

   To prevent the keys from being locked inside the vehicle when Ignition Controlled Door Locking is on:
   - The system will not lock the doors if any door is open when the ignition is turned on.
   - The system will not lock the doors if any door is opened during the 10 second countdown.

2. **Ignition Controlled Door Unlocking.** Selects whether or not the system automatically unlocks the doors when the ignition is turned off. When selected, the Ignition Controlled Door Unlocking feature will automatically unlock the doors when the ignition key is turned off.

3. **Logic Sensor II - Warn Away Level**. Allows you to set the level of the Logic Sensor II's Warn Away sensitivity. When **High** is selected, a lighter impact will produce a warning chirp, while the **Low** setting requires a stronger impact.

4. **Audible Tamper Alert Report.** When Audible Tamper Alert is selected, the siren will chirp to indicate which zone had triggered the system, upon disarming.

   If the system was triggered, the siren will emit one long chirp, followed by a series of short chirps indicating the violated zone.

   no chirp = ignition
   1 chirp = door

2 chirps = Logic Sensor II
3 chirps = Optional sensor
4 chirps = hood/trunk

When Audible Tamper Alert report is turned off, the siren will emit a long chirp on disarming to indicate the system was triggered, but the zone indication will be from the status LED only.

5. **Door Unlock Pulse - Single/Double.** Selects between a *single* pulse or a *double* pulse door unlock output.

   On many late model Nissan vehicles, as well as some European makes, the factory door locking system requires two pulses on the proper wire to unlock the vehicle's doors. By programming the system for double pulse door unlocking, these systems can be interfaced directly without the use of relays or any additional circuitry.

6. **Auto Rearm.** When selected, the system will automatically rearm if no other activity is detected within one minute of Remote Disarming.

   One minute after Remote Disarming, the system will alert you with a 10 second series of chirps, then arm. (If the Passive Door Locking feature is selected during the installation, the system will also relock the doors.)

   Any of the following will cancel Automatic System Rearming:
   - **Turn on the ignition.**
   - **Open the Trunk or Hood.**
   - **Activate Auxiliary Function 1 or 2.**

   Automatic System Rearming is independent of Passive Arming and only takes place if the system was Armed (actively or passively) for at least 20 seconds and then Disarmed by the Remote Transmitter.

7. **Entry Delay for Passive Arming.** When selected, the door input trigger will be delayed for 10 seconds, allowing access to the emergency override switch. During the delay cycle, a series of warning chirps wil be heard until the system fully triggers. Only delays when the system is armed passively.

8. **Trunk Bypass.** When selected, pressing an auxiliary function to open the trunk while the system is armed will allow the trunk to be accessed without triggering the alarm. The Logic Sensor, optional sensors, and trunk pin switch will be disabled until the trunk is closed.

9. **Illuminated Exit.** When selected, the vehicle's dome light will illuminate for 20 seconds when the ignition is turned off.

10. **Auxiliary Function 2 - Momentary / Latched / Timed Operation. (resets with arm and disarm)** Selects between Momentary, Latched, or Timed output for Aux. 2.

    When ***Momentary*** operation is selected, the system will provide an output for as long as the Transmitter button is held.

    When ***Latched*** operation is selected, the system will provide an output that turns on when the transmitter button is pressed and turns off when the transmitter button is pressed again.

    When ***Timed*** operation is selected, the system will provide an output that turns on for 30 seconds each time the transmitter button is pressed. If the button is pressed again during

the 30 seconds, the output will turn off.

When the Latched or Timed outputs are activated:

- Arming the system will turn **off** the Aux. 2 output if it was turned **on** while the system was disarmed.
- Disarming the system will turn **off** the Aux. 2 output if it was turned **on** while the system was armed.

11. **Logic Sensor Defeat (Dedicated Remote Start Mode).** When selected, this feature will allow the user to temporarily disable the Logic Sensor II using the Remote Transmitter.

    When the ***Off*** position is selected, the Logic Sensor will operate normally.

    When the ***Aux 1*** position is selected, pressing Auxiliary function 1 will temporarily disable the Logic Sensor until the next time the system is armed.

    When the ***Aux 2*** position is selected, pressing Auxiliary function 2 will temporarily disable the Logic Sensor until the next time the system is armed.

    This feature allows a remote starter to be connected to either Auxiliary function 1 or 2

12. **Transmitter Operating Mode.** Selects one of the three Remote Transmitter Operating Modes: Standard Mode, Convenience Mode, and Driver Door Priority Mode. See ***Remote Transmitters -*** *Transmitter Operating Modes.*

Logic Sensor II

Because of its advanced design, the Logic Sensor II can be set for Shock and Motion detection or Shock detection only. The way the sensor is mounted and the Motion Sensitivity jumper is set determines if motion is detected. See ***Mounting Components*** and ***Jumper Selections.***

Adjustment

The shock sensitivity of the Logic Sensor II is set using the Remote Transmitter. There are 12 levels of sensitivity.

- If the sensitivity is set to Level 1, the Logic Sensor II is off.

When the sensitivity is set to Level 1, the siren will emit 1 chirp, followed by 3 chirps each time the system is Armed to indicate that the Logic Sensor II is off.

Logic Sensor II Sensitivity			
Level	1 off	2 lowest	12 highest

To Adjust the sensitivity:

1. Turn the ignition key on.
2. Within 4 seconds, press Transmitter Button 1.
   - The siren will chirp (1 through 12) to indicate the current sensitivity level. The default shock sensitivity setting is 6.
3. Test the sensitivity. The siren will respond with a **short chirp** when shock or motion is detected.

   Be sure that the Logic Sensor II is mounted horizontally if motion detection is desired.
4. To make adjustments:

   Press Button 1 to *increase* the sensitivity.
   Press Button 2 to *decrease* the sensitivity.

   - The siren will chirp to indicate the sensitivity level each time the Button is pressed.
5. When you are satisfied with the sensitivity, turn off the ignition.

Motion Sensitivity

The motion sensitivity of the Logic Sensor II can be fine-tuned through internal jumper selection. There are two settings for motion sensitivity, **High** and **Low**. The default setting is **Low**. To change to setting the setting, see ***Jumper Selections.***

Warn Away Sensitivity

The sensitivity of the Logic Sensor II's Light Impact Response can also be adjusted. There are two settings for Warn Away, **High** and **Low**. The default setting is **High**. To change the setting, see ***Programming***.

Remote Logic Sensor II Bypass

In case of extreme weather conditions such as high winds, the Logic Sensor II can be temporarily bypassed from the Remote Transmitter while the system is armed to prevent the system from false alarming.

To Bypass the Logic Sensor II:

1. With the system armed, press the Mode Button on the Remote Transmitter 3 times, holding down on the third press.
2. Continue holding the Mode Button.
   - **After 5 seconds, the LED on the Remote Transmitter will begin to flash rapidly.**
   - **The siren will chirp 3 times, indicating the Logic Sensor II has been bypassed.**
3. Release the Mode Button.
   - The Logic Sensor II will remain bypassed until the next time the system is armed.

Full Time System Diagnostics

The system continuously monitors all protected zones, even when it is not armed, and warns you if it detects a problem when you turn off the ignition.

1. Turn off the ignition.
2. If the siren chirps twice, the system has detected a problem.*
3. The status LED will flash to indicate the zone where the problem has been detected.

1 flash	**=**	**door**
2 flashes	**=**	**Logic Sensor II**
3 flashes	**=**	**optional sensor**
4 flashes	**=**	**hood / trunk**

*** The system must see the zone open or active for at least 20 seconds before the zone is determined to be defective. This way, opening the car door before turning off the ignition will not cause the siren to emit the warning chirps.**

Tamper Alert

On Disarming, if the system responds with one long chirp, indicating the system was triggered, the LED will flash for 60 seconds to indicate the zone that triggered the system. If the **Audible Tamper Alert Report** feature is turned on during installation, the siren will chirp to indicate the triggered zone.

LED Flashes (60 seconds):

1 flash	**=**	**door**
2 flashes	**=**	**Logic Sensor II**
3 flashes	**=**	**optional sensor**
4 flashes	**=**	**trunk**

example: flash-flash-pause-flash-flash-pause = Logic Sensor

Siren Chirps (once only)

1 chirp	**=**	**door**
2 chirps	**=**	**Logic Sensor II**
3 chirps	**=**	**optional sensor**
4 chirps	**=**	**trunk**

Reference Chart

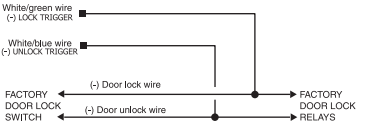
You can use this chart to quickly identify and interpret the MS5500 system's chirp indications and LED flashes.

Output	When	Status
1 chirp	arming	normal arming
1 + 3 chirps	arming	Logic Sensor II sensitivity is off
1 + 4 chirps	arming	door, hood, or trunk is open
Double chirps	while armed	system triggered (Passive Arming Entry Delay)
2 quick chirps	arming	Valet Mode is on
LED double flashes	Valet Mode	Starter Defeat Activated
2 chirps	disarming	normal disarming
1 long chirp	disarming	Tamper Alert - system was triggered
no chirps	after Tamper Alert	ignition
1 chirp	after Tamper Alert	door
2 chirps	after Tamper Alert	Logic Sensor II
3 chirps	after Tamper Alert	optional sensor
4 chirps	after Tamper Alert	hood or trunk
no LED flashes	after Tamper Alert	ignition
1 LED flash	after Tamper Alert	door
2 LED flashes	after Tamper Alert	Logic Sensor II
3 LED flashes	after Tamper Alert	optional sensor
4 LED flashes	after Tamper Alert	hood or trunk
1 chirp	while armed	Warn Away
5 quick chirps	while armed	Dedicated Remote Start Mode activated
3 quick chirps	while armed	Logic Sensor II Defeat activated
Double chirps (for 10 seconds)	1 minute after disarming	Automatic Rearming
LED flashing quickly	ignition key off	Passive Arming sequence started
Two chirps	ignition key off	Full Time System Diagnostics
1 LED flash	after Full Time Sys. Diag.	door
2 LED flashes	after Full Time Sys. Diag.	Logic Sensor II
3 LED flashes	after Full Time Sys. Diag.	optional sensor
4 LED flashes	after Full Time Sys. Diag.	hood or trunk

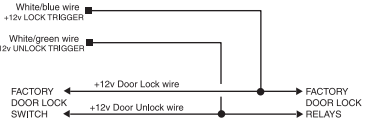
Door Lock Diagrams

White/green = (-) Lock / +12v Unlock
White/blue = (-) Unlock / +12v Lock

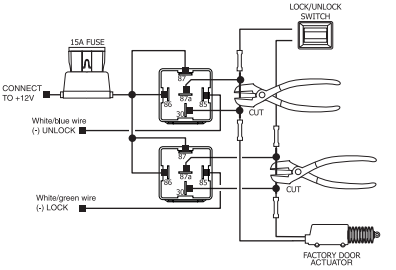
Negative Trigger



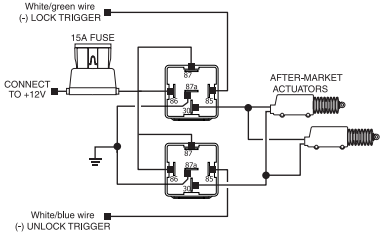
Positive Trigger



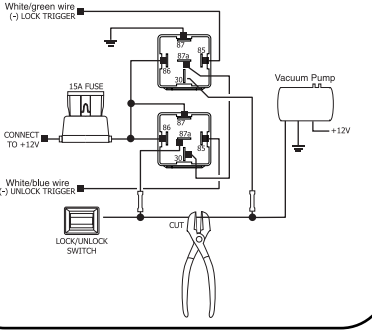
Voltage Reversal



Aftermarket Actuators



Vacuum Lock System

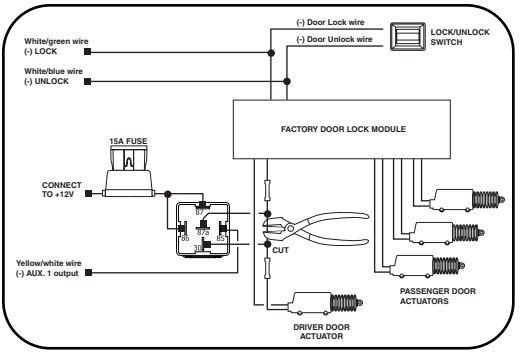


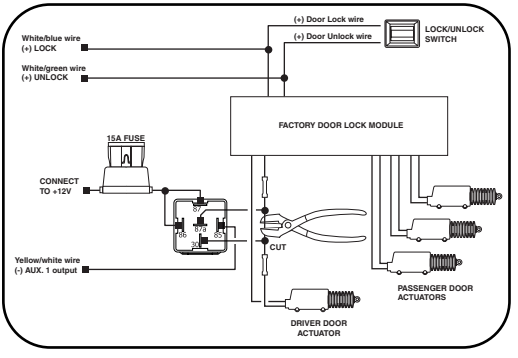
Driver Door Priority Wiring Diagrams

For a description of Driver's Door Priority Mode, see ***Remote Transmitters*** - *Transmitter Operating Modes.*

Negative Trigger System

For negative trigger door locking systems, wire as shown at right.



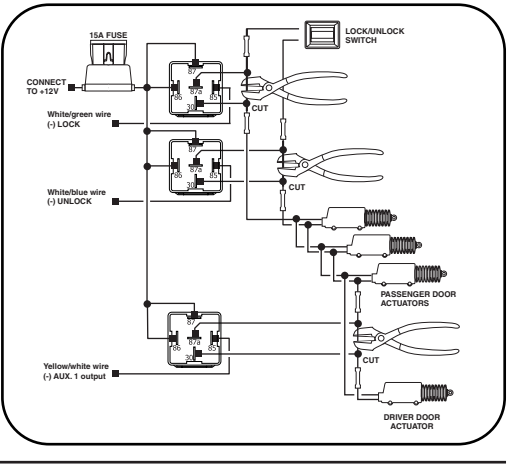


Positive Trigger System

For positive trigger door locking systems, wire as shown at left.

Voltage Reversal System -or- Aftermarket Actuators

For voltage reversal door locking systems, wire as shown at right.



Tech Tips

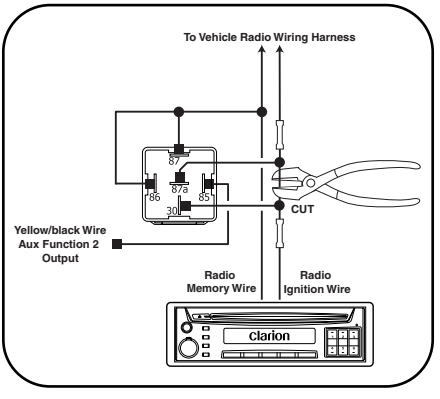
The following are some suggested uses for the programmable Auxiliary Function 2 Output.

Remote Control of Audio System (Latched Operating Mode)

This enables the user to listen to the vehicle's audio or video system for extended periods without need of the vehicle's ignition key.

When the Aux 2 function is pressed, the radio will turn on until either the Aux 2 function is pressed again, or the user arms the alarm. In this manner, the user cannot forget to turn off the radio and drain the vehicle's battery.

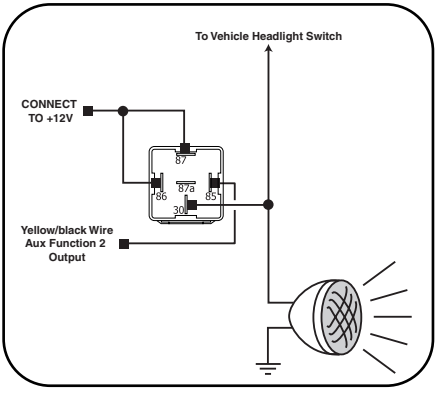
Normal operation of the audio system using the ignition key is unaffected.



Remote Headlight Activation (Timed Operating Mode)

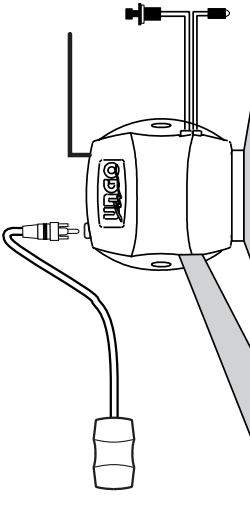
This enables the user to conveniently light the path to their door for nighttime safety.

When the Aux 2 function is pressed, the vehicle's headlights will turn on for 30 seconds, then turn off.



Notes

MS5500 Wiring Diagram



14 Pin Main Harness	
Pin 1 - **Black:** Chassis Ground	
Pin 2 - **Red:** Main Power +12v input	[**10A fuse**]
Pin 3 - **Violet:** Ignition Key +12v input	
Pin 4 - **White:** Door Trigger (-) input	
Pin 5 - **Yellow:** Door Trigger (+) input	
Pin 6 - **White/brown:** Hood / Trunk (-) input	
Pin 7 - **White/violet:** Optional Sensor (-) input	
Pin 8 - **Orange:** Siren +12v output	[1 Amp]
Pin 9 - **White/green:** Door Lock (-) / Unlock (+) output	[250mA]
Pin 10 - **White/blue:** Door Unlock (-) / Lock (+) output	[250mA]
Pin 11 - **Blue:** Normally Closed Starter Disable (-) output	[250mA]
Pin 12 - **Blue/red:** Normally Open Starter Disable (-) output	[250 mA]
Pin 13 - **Red/yellow:** Parking Light (+/-) output	[**7.5A fuse**, built-in relay]
Pin 14 - **Yellow/white:** Auxilliary Function 1 (-) output	[250mA]

4 Pin Auxilliary Function Harness	
Pin 1 - **Yellow/black:** Auxilliary Function 2 (-) output	[250mA]
Pin 2 - **Orange/blue:** Alarming / Horn Honk (-) output	[250mA]
Pin 3 - **Black/white:** Dome Light (+/-) output	[**5A fuse**, built-in relay]
Pin 4 - **Violet/yellow:** Optional Sensor (-) input	

Ungo Security Corporation
A Clarion Company
661 West Redondo Beach Blvd.
Gardena, CA 90247
800-Go-Clarion
www.clarionmultimedia