

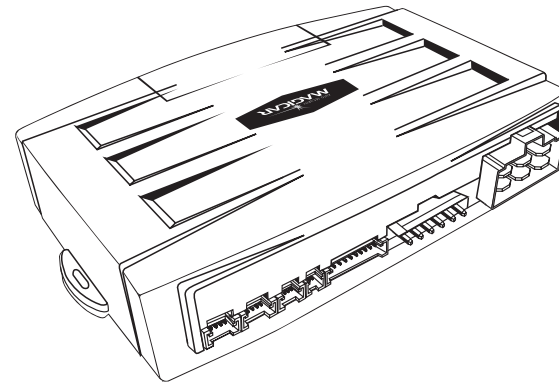


## Installation Guide

### M9000 Controllers

#### M9000

[www.magicar.com](http://www.magicar.com)



### Installation GUIDE

M9000

By Youngshin Electronics Co., Ltd.

**YOUNGSHIN**  
Electronics Co., Ltd.



## M9000 Installation GUIDE

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## Installation Tips & Recommendations

### 1-1. Please be careful not to lock yourself out.

Please lower the glass windows before you starting the installation in case the door locks with the key inside. Also, learn the remote to the brain module after the installation has been completed.

### 1-2. Use Digital Multimeter for testing

Use a Digital Multimeter for all testing of wires in the vehicle.

This should be done on all wires even if you feel that you know exactly what they are and how they should test. Use of lamp tester may damage the electrical circuit of the vehicle.

### 1-3. Find Good Ground

One of the most important wire connection is the connection to the ground.

Please find a spot that does not have any resistance to the battery ground.

Improper ground will result in malfunction of the system.

### 1-4. Make sure your installation does not become a driving hazard later to the driver.

During installation process, please try to foresee there are any potential problems to the driver later.

#### Potential Driving Hazards

There should be no wiring around the brake.

#### Connection problem or Insulation problem

Please make sure all the connections are done by soldering and properly insulated by the electrical tapes.

#### Will any of your installation be affected by the vibration and engine heat during driving?

Tie securely every components of your installation by use of bolts or cable tie. Be careful not to damage any wiring inside of the engine compartment by the engine heat.

### Organizing wiring after the installation

Improper wiring organization will result in making noisy, connection problems, safety hazards.

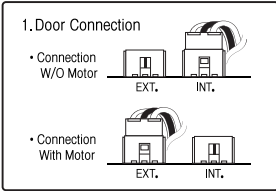
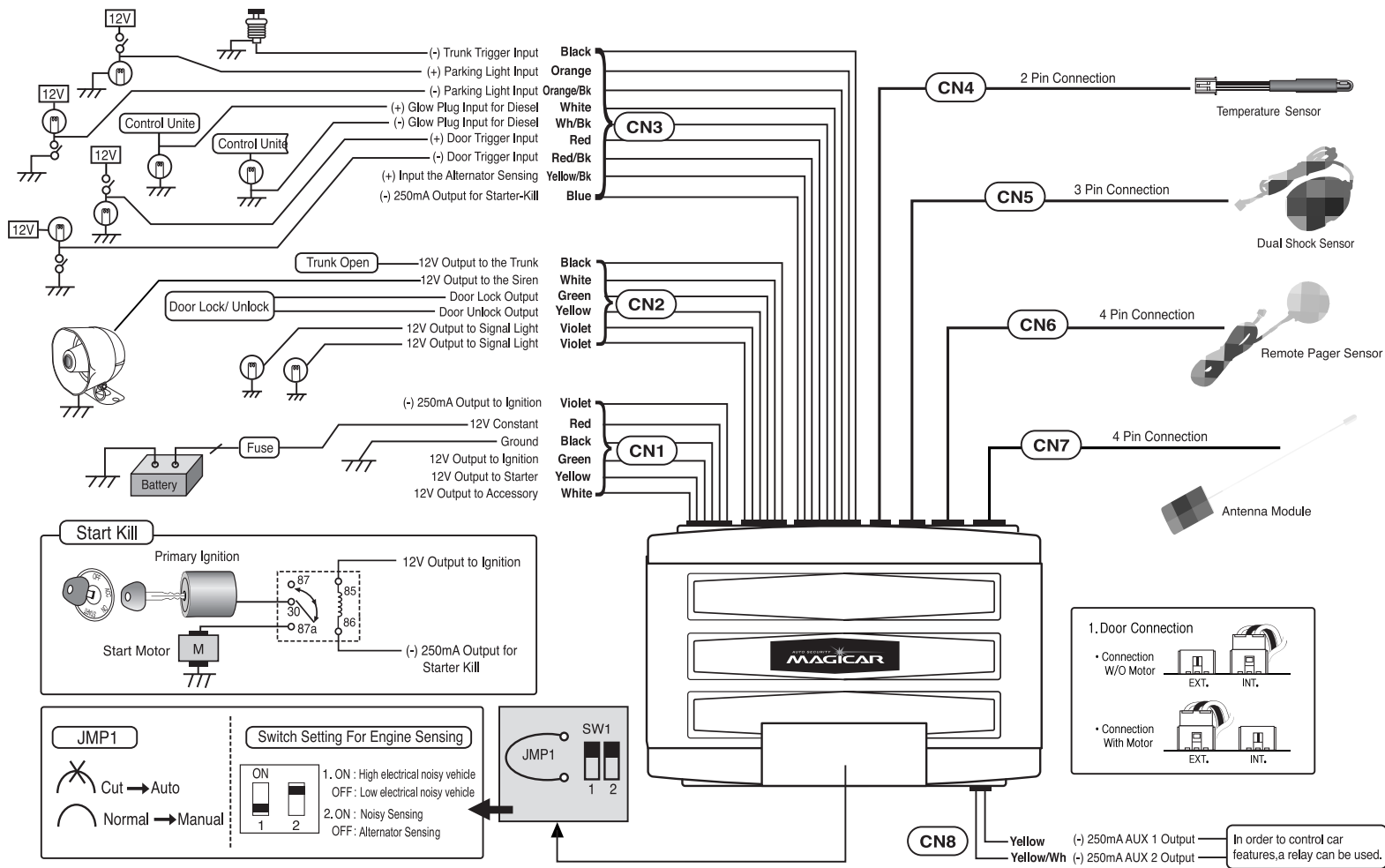
### User 's familiarity with operating manual

Installer should explain the user thoroughly about the system operation.

### 1-5. Vehicle check-up prior to and after the installation.

For your protection, check the vehicle inside and out including all of the vehicle operating conditions and various factory systems to make sure they work properly after installation in the same manner as prior to the installation.

# M9000 Wiring Diagram



In order to control car features, a relay can be used.

## CN1

**No 1 (White) : (+12V) Accessory Output**

This wire will read **(using your digital multi-meter)** 0V with the key off, and 12V with the key in the accessory or ' ON ' position.

The Accessory wire will usually drop out during cranking.

This wire supplies 12V to climate control and other accessories in the vehicle and is capable of supplying up to 30A.

Some vehicles do not have accessory wire - the ignition wire of such vehicles supply power to the accessories.

So don't connect this wire for such vehicles.

**No 2 (Yellow) : (+12V) Start Motor Output**

This wire will read (using your digital multi-meter) 12V when the key is in the crank position. This wire supplies power to the starter motor.

**No 3 (Green) : (+12V) Ignition Output**

This wire will test (using your digital multi-meter) 0V with the key off, and 12V with the key in the ' ON or RUN ' position.

The ignition wire will not drop out during cranking of the vehicle.

This wire supplies 12V to the ignition coil and other electrical systems needed for the vehicle to run properly.

**No 4 (Black) : Chassis Ground**

This will be the one of the most important connection.

Connect this wire to bare metal of the vehicle.

We do not recommend using the steering column for a grounding point.

Make sure you strip back the paint or use a factory grounding point.

Bad grounding on this wire will be the beginning of future troubles.

**No 5 (Red) : (+) 12V Constant**

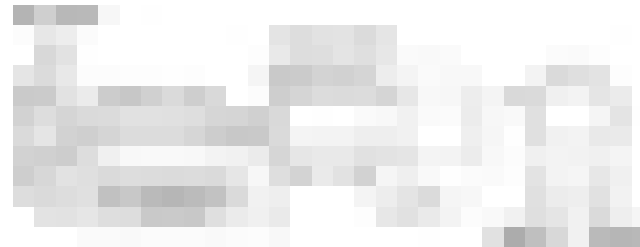
Solder this wire to the vehicle's 12V constant.

This wire must be supplied power all of the time and must be able to withstand high current draw.

**No 6 (Violet) : (-) Ignition Output****1. Installation of the solenoid valve for Benz Engines**

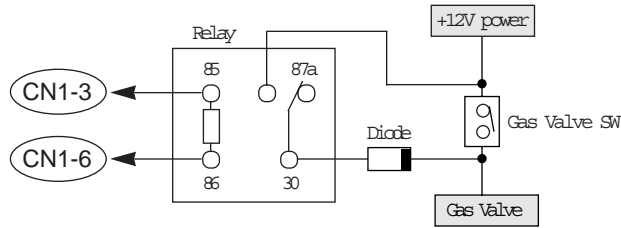
Benz Vehicle has a vacuum hose underneath of the key ignition harness.

The hose is vacuumed when engine starts with a key. To simulate this, a solenoid has to be installed to create vacuum for remote start.

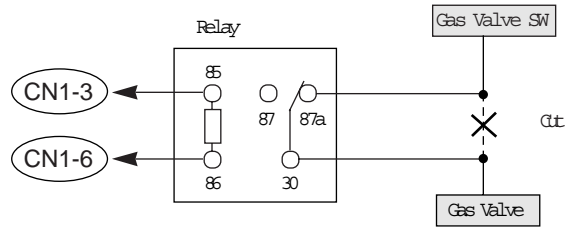
**2. Propane Gas Powered Vehicles**

There is a gas valve switch for such vehicles. For remote start, this switch has to be turned on. There are two different types of switch.

**Method1 :** Parallel Connection with the switch



**Method2 :** Serial Connection with the switch



**CN2**

**No 1, No 2 (Violet) : Positive Signal Light Output**

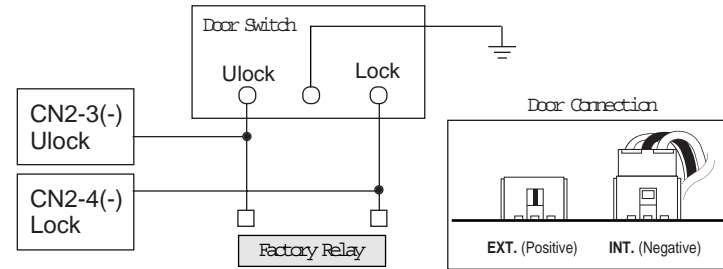
Connect this wire to the (+) signal light wire on the vehicle. This wire will read (using your digital multi-meter) either open or ground before the signal light circuit is turned on and then it will read (+)12V after the signal light circuit is turned on.

**No 3 (Yellow) : Door Unlock Output**

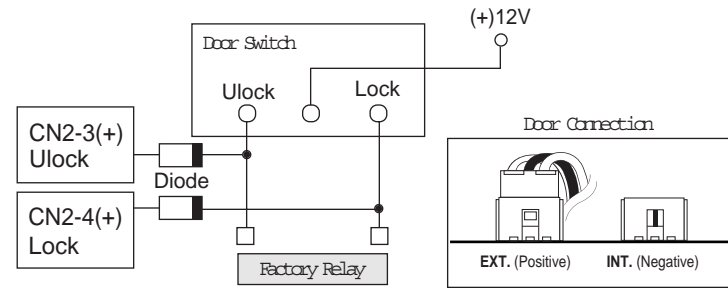
**No 4 (Green) : Door Lock Output**

The following three door lock systems are the most common systems.

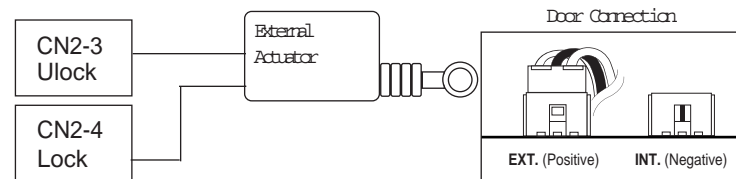
**Method1 :** Negative Trigger Door Lock System (W/O Actuator)



**Method2 :** Positive Trigger Door Lock System (W/O Actuator)



**Method3 :** External Actuator

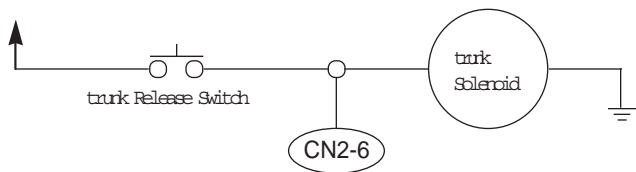


**No 5 (White) : (+)12V Siren Output**

The Black wire at the siren is to be chassis grounded.  
 The siren volume can be reduced by cutting the volume wire attached to the siren.

**No 6 (Black) : (+)12V Trunk Output**

If the vehicle is equipped with electrical trunk release, the trunk out is connected to trigger the trunk solenoid.

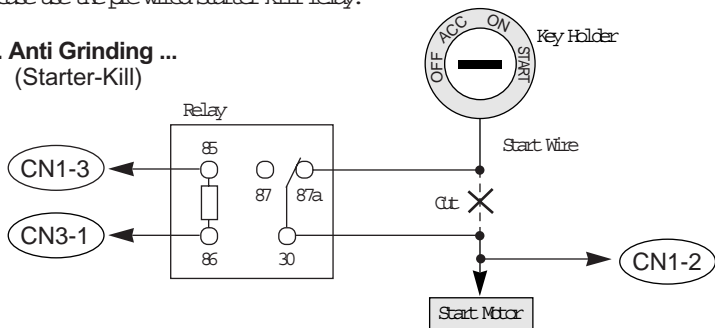


CN3

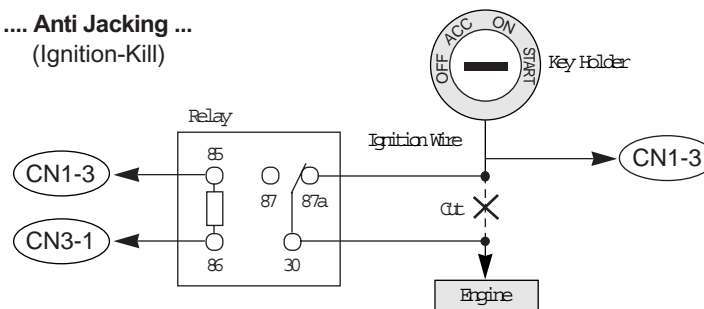
**No 1 (Blue) : Negative Starter-Kill output**

Please use the pre-wired starter kill relay.

**.... Anti Grinding ... (Starter-Kill)**



**.... Anti Jacking ... (Ignition-Kill)**



**No 2 (Yellow/Black) : Alternator sensing to monitor the engine running**

This wire is to monitor engine running. Locate a small gauge wire from the alternator. When tested with your meter, it should show you about 2V when the key is on but the vehicle is not started. When the vehicle is started using the key, the wire should read about 14V.

**.... What is Noisy sensing ....**

**A. Noisy Sensing**

When it is running, the engine generates sound and electrical noisy. Human ears recognize the engine running by sound but Magicar can recognize by electrical noisy. If you select the noisy setting, you do not have to connect the alternator sensing wire. The factory default setting is Noisy Sensing with High Sensitivity - Switch 1 Off and Switch 2 On.

Switch setting for engine sensing	
ON	1. ON : High electrical noisy vehicle
OFF	OFF : Low electrical noisy vehicle
1	2. ON : Noisy Sensing
2	OFF : Alternator Sensing

### B. Potential Problem with Noisy Sensing

Every vehicle generates different level of electrical noisy and a same vehicle may generates different level of electrical noisy under different circumstances. In some cases, therefore, it will be possible that Magicar thinks the engine is running even though only heater fan is running.

### C. Dip Switch Setting

#### Dip Switch #1

ON : For a vehicle that generates high level of electrical noisy.

This setting will reduce the sensitivity of Magicar.

OFF: For a vehicle that generates low level of electrical noisy when engine is running – Factory Setting.

#### Dip Switch #2

ON : Noisy Sensing – Factory Setting

OFF: Alternator Sensing

### D. Noisy Sensing LED

Please find the LED inside of the cover. The LED will come on when it senses electrical noisy beyond preset level.

### E. Verifying Noisy Sensing

If you are selecting Noisy Sensing, please verify if it works properly as follows

- Step 1. Disconnect the siren wire.
- Step 2. Maximize the heater fan volume. Also, turn on radio and wind shield wipers
- Step 3. Leave the switch #1 Off, and #2 On.
- Step 4. Try remote starting.

a. The LED should stay off until the starter cranks and come on steady when engine is running. Wait 2-3 minutes. If the LED stays on steady without any blinking, you are done.

b. If the LED comes on before the engine is running, shut off the remote starting, turn on the switch #1 and try remote starting again. The LED should stay off until the starter cranks and come on steady for the next 2-3 minutes when engine is running. However, if the LED comes on again before the engine is running, or the LED does not come on at all, or the LED light blinks time to time while the engine is running, elect Alternator Sensing. Noisy Sensing does not work for this vehicle.

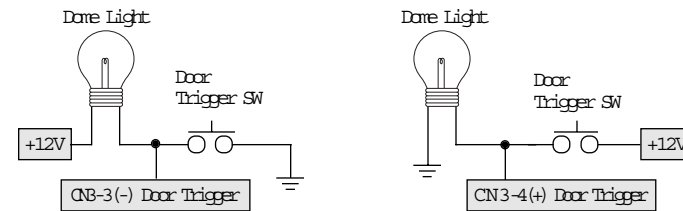


**Note 1 :** For any diesel vehicles, we recommend you using Alternator Sensing. In case you are using Noisy Sensing for a diesel vehicle, please make sure you connect the glow plug wire.

**Note 2 :** Noisy Sensing will not work for a vehicle that has an alternator problem.

### No 3 (Red/Black) : Negative Trigger Door Open Sense

### No 4 (Red) : Positive Trigger Door Open Sense



Please make sure you have found a correct door sensing wire that monitors all doors.

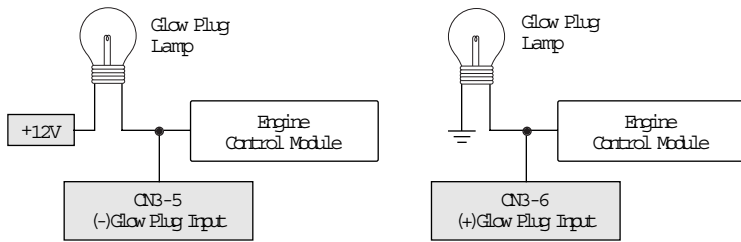


**No 5 (White/Black) : Negative Glow Plug Input**

**No 6 (White) : Positive Glow Plug Input**

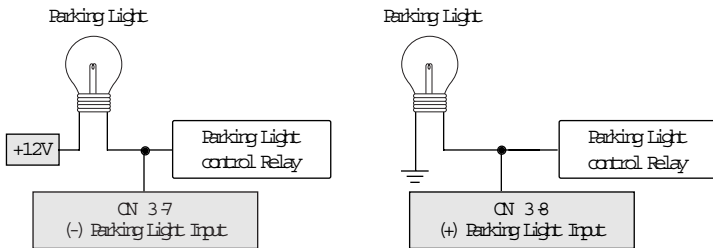
If you don't connect one of these wires (negative or positive Glow sensing), the system will act as gasoline vehicles.

Only when one of these wires are connected, your system will know the diesel engine. The differences between gasoline and diesel engine are pre-heating time and the running time (15minutes for gasoline engine, 25minutes for diesel engines) when remote starting.



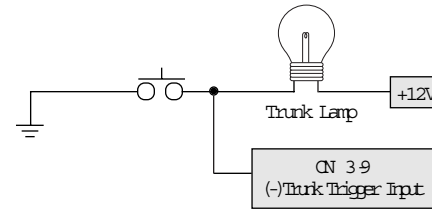
**No 7 (Orange/Black) : Negative Parking Light Input**

**No 8 (Orange) : Positive Parking Light Input**



**No 9 (Black) : (-)Trunk Trigger Input**

Connect this wire to the trunk lamp wire as shown below.



CN4

**No 1 (Black) : (-)**

**No 2 (Black/White) : (+)**

} Temperature Sensor

CN5

**No 1 (Black) : (-)**

**No 2 (Blue) : Sense**

**No 3 (Red) : (+)**

} Shock sensor

CN6

**No 1 (Black) : (-)**

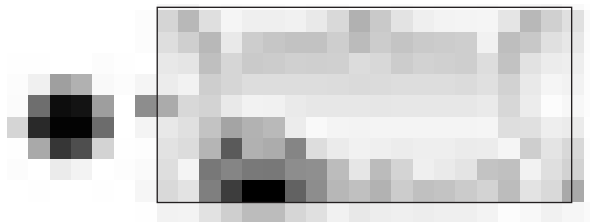
**No 2 (White) : Sense**

**No 3 (Red) : (+)**

**No 4 (Yellow) : LED**

} Remote Pager sensor

Pager Location



CN7

**No 1 (Yellow) : RX**

**No 2 (White) : TX**

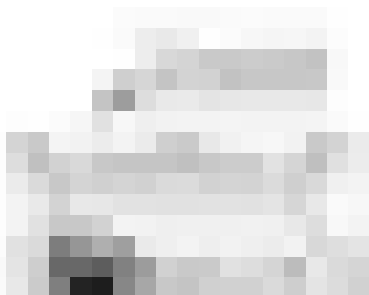
**No 3 (Red) : (+)**

**No 4 (Net wire) : (-)**

} Antenna Ass y

The antenna have been calibrated for horizontal installation at the top corner of the windshield. Different installation may affect the transmitting distance quite se

Antenna Location



CN8

**No 1 (Yellow) : AUX 1**

**No 2 (Yellow/White) : AUX 2**

} AUX Output

The Various exterior devices are controlled by using of AUX output. A selection of four output types is available with option 2-4 & 2-5.

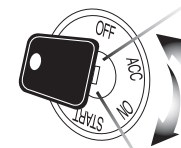
## Transmitter Learning Routine

### 1. Most vehicles

#### Step #1:

Cycle the ignition key from the off position to the on position and back 3 times WITHIN 3 SECONDS thus giving the Green wire (harness #1) 12V 3 times.

When this procedure is done the signal lights will flash one time to confirm that you are in the valet/programming mode.



#### Step #2:

Once in the valet/programming mode and within 6 seconds, press Button **I** for a 1/2 second. The parking lights will flash once (and the relay inside the Controller will click once) to confirm that step #2 was completed.

#### Step #3:

Press button **I** on the new remote to teach it to the unit within 3 seconds of Step #2. The unit will accept up to 3 remotes. Each time when the unit has learned a remote, the parking lights will flash once (and the relay inside the Controller will click once) to confirm the programming of the remotes.

If you learn only 1 remote, Press button **I** of one remote for three times so that any of the previous learning is deleted.

If you learn 2 remotes, press button **I** of the first remote two times and press button **I** of the second remote one time.

The parking lights will flash twice (and the relay inside will click twice) to confirm the completion of the programming.

## 2. Benz types of vehicles that have vacuum hose underneath the ignition key box.

Follow the same steps of the above 1, except that you use button **III** instead of button **I**.

The vehicle has a programming of automatic self-unlock when you turn off the engine with a key. So, in this case you have to choose this Benz type option programmed locks doors upon remote-running end. The controller generates a negative relay output for the relay that controls the vacuum hose.

## 3. Propane Gas Powered Vehicles

Follow the same steps of the above 1, except that you use button **IV** instead of button **I**.

### Option Programming for Four Button Remotes

**Step1 :** For Programming menu 1: Key on, engine off, then Press Buttons **(I+II)** for 2 seconds.

For Programming menu 2: Key on, engine off, then Press Buttons **(I+IV)** for 2 seconds. The car will chirp once indicating that you are in programming mode.

**Step2 :** Within a 4 seconds after pressing **(I+II)** or **(I+IV)**, press Button **IV** the number of times to go to the option number you want to change. **You have to hear a chirp and see the parking light flash each time when you press Button IV.**

**Step3 :** Wait a few seconds. You will hear a number of chirps and see a number of parking light flashes corresponding to the option number you want to change. If the number of chirps or flashes is not what you want, go back to Step 1.

**Step4 :** Press Button **I** for the default factory settings and your car will respond by one chirp and one flash. Press Button **II** for the optional setting and your car will respond by two chirps and two parking flashes.

If you hear a long chirp, you are going out of programming mode, please go back to Step1.

If you want to change more options, go back to Step1.

Resetting all of Menu #1 or Menu #2 of Programming Options to the factory default settings - if you are not sure about current programming, change everything to the factory settings and start again.

### 1. Resetting all of Menu #1 to the factory setting

**Step1:** Press buttons **(I+II)** simultaneously for 2 seconds. This will be confirmed by a siren chirp and a one-time flashing of the parking light.

**Step2:** Press button **III** once. This will be confirmed by a car chirp and parking light flash. Press button **III** again. You will be confirmed by a car chirp and parking light flash again. Press button **III** third time. You will be confirmed by a car chirp and parking light flash third time. A few second later, your car will chirp and parking light flash three times rapidly to confirm the resetting.

### 2. Resetting all of Menu #2 to the factory setting.

Follow the same steps above except that you press buttons **(I+IV)** for 2 seconds at the Step 1 instead of buttons **(I+II)**.

Option Programming for Six Button(ONE WAY) Remotes

The procedures will be same as the 4 button remotes except the use of the different buttons.

Programming	6 Button Remote	4 Button Remote
Programming Menu 1	(Trunk+Start)-	(I+II)-
Programming Menu 2	(Trunk+Stop)-	(I+IV)-
Option Selection	(Stop)-	(IV)
Factory Setting	Lock	( I )
Option Selection	Unlock	( II )
Default Setting Selection	(Start)-	( III )

Programming Menu #1

Option1	Feature	(Factory Default) Button I	Button II	Button III
1-1	Starter Delay for Diesel vehicle	4 sec	10 sec	
1-2	Signal-light flash when door remains open	N/A	Activated	
1-3	Duration of Door Lock Output	0.8 sec	4 sec	
1-4	Application of Pre-wired Kill Relay	Anti-Grinding (Starter-Kill)	Anti-jacking (Ignition-Kill)	
1-5	Ignition Unlock	ON	OFF	
1-6	Remote Start Reservation	Automatic Manual	Reservation is not available when any door remains open	For Manual only
1-7	Cranking Time	Standard	Standard+ Min	Standard+ Max

**Note :**

**1-2 Signal Light Flashing :** With this option, the signal will flash if any door remains open while the vehicle is disarmed.

**1-4 Anti-Grinding (Starter-Kill) :** The #1 wire of CNB can be programmed to send a signal to a relay to disconnects the starter wire of the vehicle upon arming and upon remote-start to **prevents you from reanking the starter on a remote - started vehicle.**

**Anti-Jacking (Ignition-Kill) :** The #1 wire of CNB can be programmed to send a signal to a relay to disconnect the ignition wire of the vehicle upon anytime the vehicle is armed so that the vehicle cannot start or run by a remote or a key. And the running of vehicle can be shut off by remote's panic command.

Programming Menu #2

Option2	Feature	(Factory Default) Button I	Button II	Button III	Button IV
2-1	Turbo	Utilization	N/U		
2-2	Hour Timer Start	Utilization	N/U		
2-3	Remote Start Engine Running Time	15 Minutes	25 Minutes	45 Minutes	5 Minutes
2-4	AUX 1	0.5 sec	20 sec	60 sec	Latch
2-5	AUX 2	0.5 sec	20 sec	60 sec	Latch

**Note : 2-1, 2-2**

If you want to utilize the Turbo mode and 24 Hr mode with your remote control unit, you need to program the main module at the time of installation.

## Diagnosing Problems with Auto-Start

If there is a problem in auto-starting your car, you will hear three chirps when you attempt to auto-start the car.

Wait for 2 seconds and the cause for the error will be indicated by the number of times parking lights flash.

Error Number (# of times parking lights flash)	Error Reason
1	Engine On
2	Key On
3	Door Open
4	Trunk Open
5	Reservation Off (Manual Transmission Only)