

# KE 531

## DELUXE 4-CHANNEL KEYLESS ENTRY SYSTEM

### Installation And Operation Manual

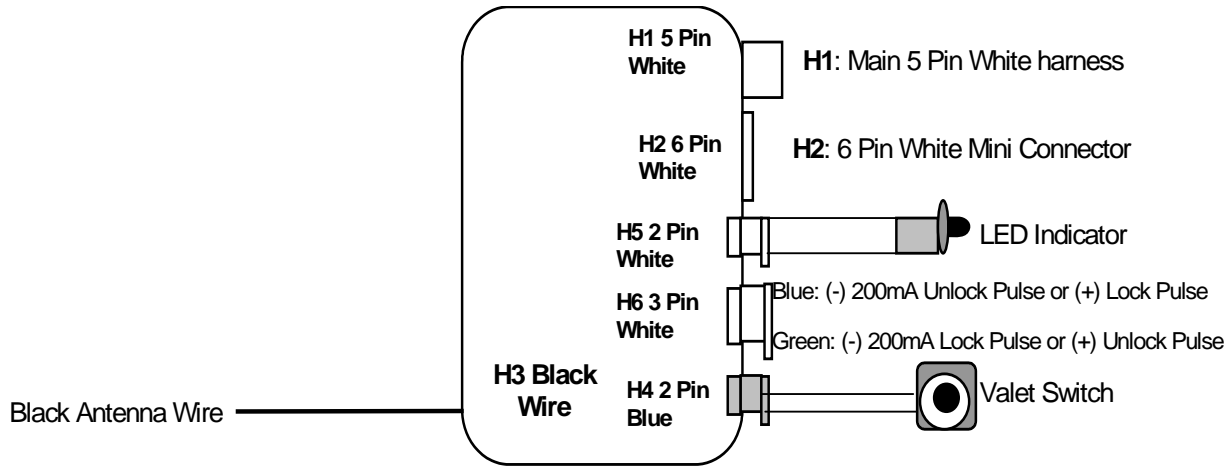


**MEGATRONIX**  
CALIFORNIA, U.S.A.

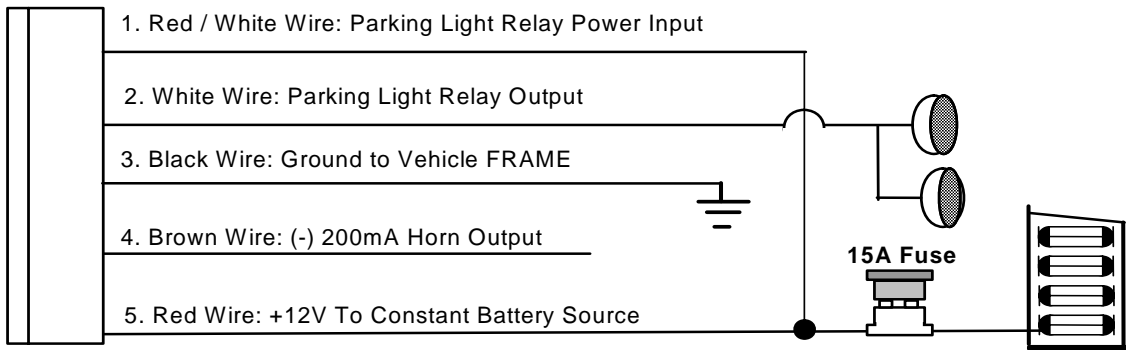


# REMOTE CONTROL KEYLESS ENTRY SYSTEM INSTALLATION & OPERATION INSTRUCTIONS

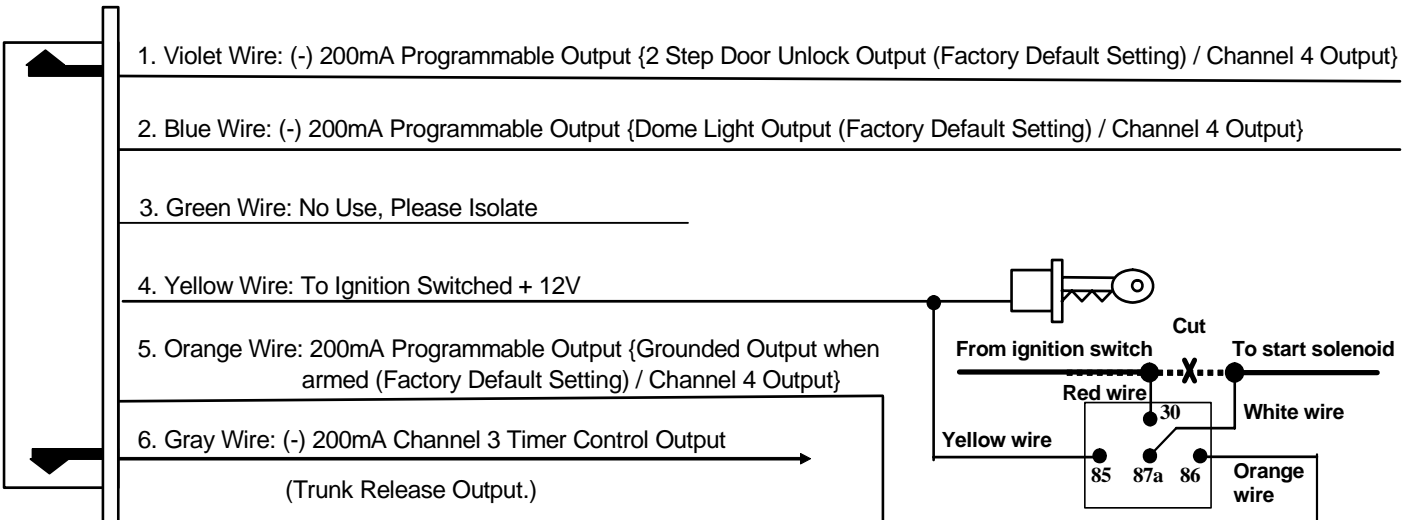
## WIRING DIAGRAM



### H1: MAIN 5 PIN WIRE HARNESS:



### H2: 6 PIN MINI CONNECTOR WIRE HARNESS:



## WIRING

Keep wiring away from moving engine parts, exhaust pipes, and high-tension cables. Tape wires that pass through holes on the firewall to prevent unraveling. Watch out for sharp edges that may damage wires and cause short-circuiting.

CAUTION: Do not connect the wire harness to the control module until all the wiring to the vehicle is complete.

### H1: MAIN 5 PIN WIRE HARNESS:

#### H1/1. Red / White wire – Parking Light Relay Input –

The RED/WHITE wire is the input to the flashing parking light relay. The connection of the RED/WHITE wire will determine the output polarity of the flashing parking light relay.

If the vehicle you are working on has a +12 volt switched parking light, you do not need to connect this wire. This wire is already connected to the +12 volt.

If the vehicle's parking light is ground switched, cut the RED/WHITE wire, connect the RED/WHITE wire to chassis ground.

#### H1/2. White wire – Parking Light Relay Output (+12V 10A Output) –

Connect the WHITE wire to the parking light wire coming from the headlight switch. Do not connect the WHITE wire to the dashboard lighting dimmer switch. (Damage to the dimmer will result). The limitation of the WHITE wire is 10 Amp max. Do not exceed this limit or damage to the alarm and parking light relay will result.

#### H1/3. Black wire – System Ground –

This is the main ground connection of the alarm module. Make this connection to a solid section of the vehicle's frame. Do not connect this wire to any existing ground wires supplied by the factory wire loom. Make the connection to the vehicle's frame directly.

#### H1/4. Brown wire – (-) 200mA Horn Output –

This wire is provided to use the existing vehicle's horn as the alarm system's optional warning audible device. It is a transistorized low current output and should only be connected to the low current ground output from the vehicle's horn switch. When the system is triggered, the horn will sound.



#### H1/5. Red wire – System Power (+12V Constant) –

The RED wire supplies power to the system. Connect this wire to a constant +12 volt source.



### H2: 6-PIN MINI CONNECTOR WIRE HARNESS.

#### H2/1. Violet WIRE – (-) 200mA Programmable Output –

##### **2 Step Door Unlock Output** (Factory Default Setting) –

The 2 step unlock feature will work for the most fully electronic door lock circuit. The vehicle must have an electronic door lock switch (not the lock knob or key switch), which locks and unlocks all of vehicle's doors. When wired for this feature, press the  button one time to disarm the keyless entry system and unlock the driver's door only. Press  button two times within 3 seconds and the keyless entry system will disarm and all doors will unlock.

##### **Timer Control Channel 4 Output** (Set Feature III – 1 / 2 Programming) –



This wire is a built-in user-programmable timer output that provides a ground through this wire. Press the  and  / **AUX** buttons at the same time on the transmitter. You may program the built-in timer to send a ground signal for any time interval between 1 second and 2 minutes. For instance, this timer output may be used to turn on the headlight with the remote control. Also on certain BMW, Mercedes Benz, Jaguar and Volkswagen vehicles, you can use this unique timed output to allow remote closure of all power window and sunroof without the need for an external module.

#### H2/2. Blue wire – (-) 200mA Programmable Output –

##### **Domelight Output** (Factory Default Setting) –

This wire is grounded when the dome light control circuit activates. The current capacity of this wire is 200mA. This wire can control the operation of the interior lights. An optional 10 Amp relay can be used on this system for interior lights operation.

##### **Timer Control Channel 4 Output** (Set Feature III – 1 / 2 Programming) –

This wire is a built-in user-programmable timer output that provides a ground through this wire. Press the  and  / **AUX** buttons at the same time on the transmitter. You may program the built-in timer to send a ground signal for any time interval between 1 second and 2 minutes. For instance, this timer output may be used to turn on the headlight with the remote control. Also on certain BMW, Mercedes Benz, Jaguar and Volkswagen vehicles, you can use this unique timed output to allow remote closure of all power window and sunroof without the need for an external module.

#### H2/3. Green wire – No Use, Please Isolate It –

#### H2/4. Yellow wire – To Ignition Switched +12V –

This wire is connected to a switched 12 volts source. This wire should receive "12 volts" when the ignition key is in the "ON" and "START" position. When the ignition is turned "OFF", this wire should receive "0" voltage.



#### H2/5. Orange wire – (-) 200mA Programmable Output –

##### **Grounded Output When Armed** (Factory Default Setting) –

This wire will become grounded when the keyless entry system is armed. The current capacity of this wire is 200mA.

This output can control starter disable to prevent the vehicle from an unauthorized starting.

**Timer Control Channel 4 Output (Set Feature III – 1 / 2 Programming) –**

This wire is a built-in user-programmable timer output that provides a ground through this wire. Press the  and  / **AUX** buttons at the same time on the transmitter. You may program the built-in timer to send a ground signal for any time interval between 1 second and 2 minutes. For instance, this timer output may be used to turn on the headlight with the remote control. Also on certain BMW, Mercedes Benz, Jaguar and Volkswagen vehicles, you can use this unique timed output to allow remote closure of all power window and sunroof without the need for an external module.

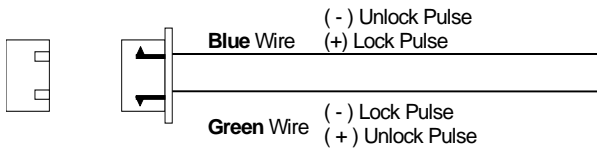
**H2/6. Gray wire – (-) 200mA Timer Control Channel 3 Output – (Factory default setting on 1 second pulse grounded)**

This will become a 1 second pulse ground by activating Channel 3 on the transmitter for two seconds. The current capacity of this wire is 200mA. This feature allows you to remotely control the trunk release or another electronic device. This output can also be programmed to provide the following type of output: 1-second pulse, latched and timer control output. (See Feature III - 3 Programming)

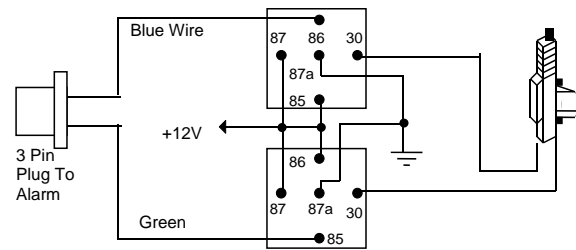
**H3: RF ANTENNA - BLACK THIN WIRE (DO NOT CUT!!!)**

The black thin wire on control module is the receiver antenna wire. Antenna placement is very important! Ensure that it is unwrapped and stretched out with the last 6" straight and keep it away from large metal objects or the chassis for best reception.

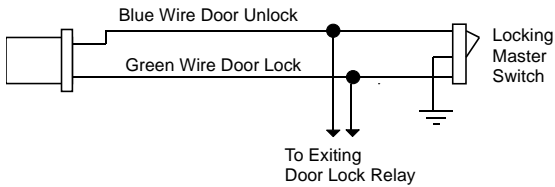
**H6: 3 PIN DOOR LOCK CONNECTOR:**



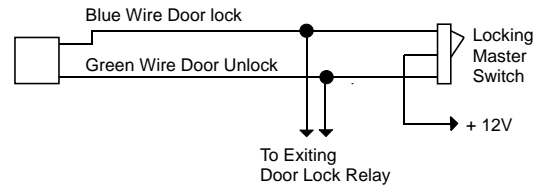
**INSTALL NEW DOOR LOCK MOTOR**



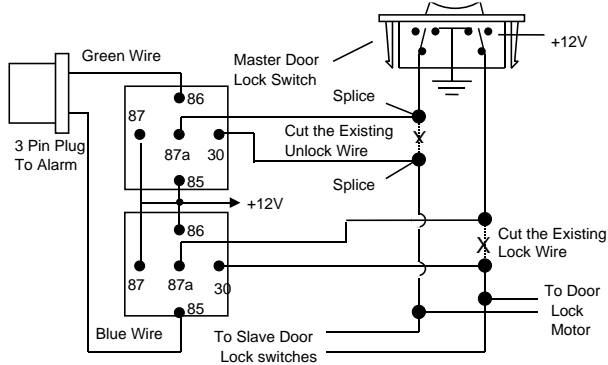
**NEGATIVE TRIGGER DOOR LOCK SYSTEM**



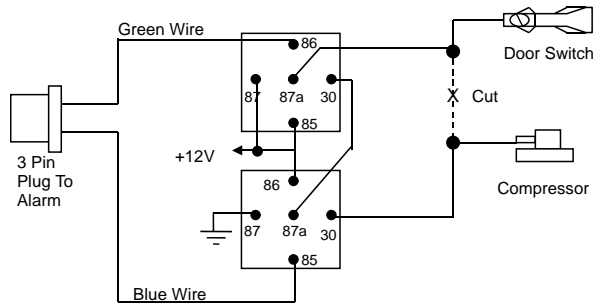
**POSITIVE TRIGGER DOOR LOCK SYSTEM**



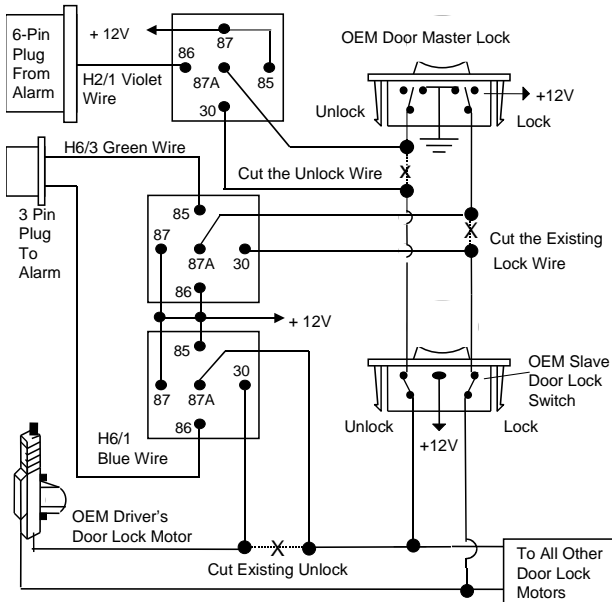
**5-WIRE ALTERNATING DOOR LOCK**



**VACUUM OPERATED CENTRAL LOCKING**



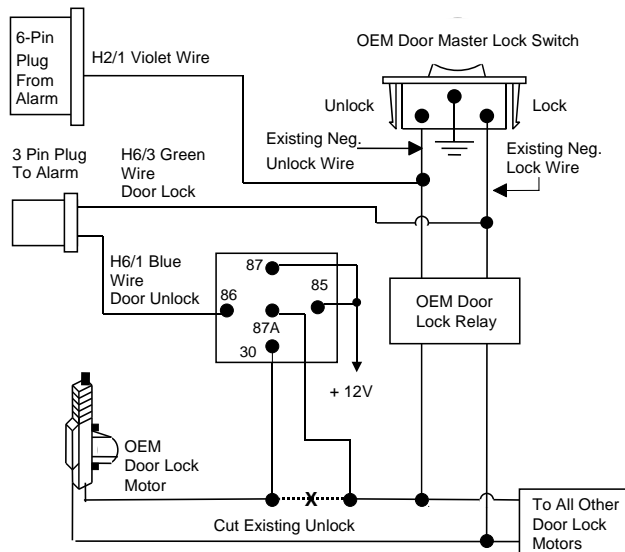
## 2 STEP DOOR UNLOCK WIRE CONNECTION FOR 5 WIRE ALTERNATING DOOR LOCKS



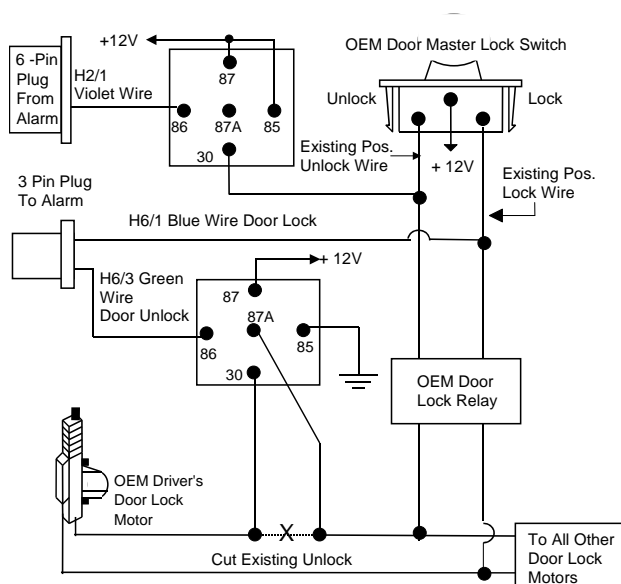
## VACUUM OPERATED DOOR LOCKING SYSTEM: TYPICAL OF MERCEDES BENZ AND AUDI.

Locate the wire under the driver's kick panel. Use the voltmeter connecting to ground, verify that you have the correct wire with the doors unlocked, the voltmeter will receive "12 volt". Lock the doors and the voltmeter will read "0 volt". Move the alligator clip to +12V and the voltmeter will receive "12 volt". Cut this wire and make connections. Be sure to program door lock timer to 3.5 seconds. (See Feature II – 1 Programming.)

## 2 STEP DOOR UNLOCK WIRE CONNECTION FOR GROUND SWITCHED DOOR LOCKS



## 2 STEP DOOR UNLOCK WIRE CONNECTION FOR POSITIVE SWITCHED DOOR LOCKS



## PROGRAMMING

### A. PROGRAMMING TRANSMITTER:

**Note:** This module will only retain the last 4 remote transmitters programmed. If the transmitter memory is exceeded, the security system will start deleting transmitters from the memory in chronological order.

1. Turn the Ignition 'switch 'OFF/ON' 3 TIMES and stay in ON position. Within 15 seconds.
2. Push the Valet switch 3 times and holding it on the 3<sup>rd</sup>, push until a long chirp from horn is heard and the LED flashes. Then release the valet switch. You are now in the Transmitter programming mode.
3. Press button one on the transmitter until the siren responds with a chirp and a flash from the parking lights and the LED turns on for 2 seconds to confirm that the first transmitter is programmed.
4. Apply the same procedure (step 3) to program 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup>

**Exit:** Turn the Ignition to 'OFF' position, or leave it for 15 seconds. 3 long chirps and the LED turns off to confirm exit.

### B. FEATURES PROGRAMMING:

#### FEATURE "I" PROGRAMMING:

1. Turn the Ignition 'switch 'ON/OFF' 3 TIMES and stay in the OFF position.
2. Push the Valet switch 2 times and holding it in on the 2<sup>nd</sup> push until one chirp with a long chirp is heard and the LED flashes. Then release the valet switch. You are now in the Alarm feature 'I' programming mode.

3. Press and release the transmitter button 'A' corresponding to the feature 'A' you want to change.
  - a. The horn chirps and LED pause will indicate previous setting.
  - b. The system would advance to [2] LED flash, [2] chirp. (The factory default setting is always [1] LED flash, [1] chirp.)
4. Depress the transmitter button 'A' again to change the feature again. Keep re-depressing the transmitter button 'A' again until the module advances to your desired setting.
5. Depress the transmitter button 'B' corresponding to the feature 'B' you want to program.

Press Transmitter Button	One Chirp / LED one pulse <b>Factory Default Setting</b>	Two Chirps / LED two pulse	Three Chirps / LED three pulse
1	Chirps on	Chirps off	
2	Automatic Rearm Off	Automatic Rearm On	
3	Pathway illumination feature "Off"	Parking light "on" for 30-second upon an unlock signal	Parking light "on" for 30-second upon an unlock signal & 10-second upon a lock signal.

**Exit:** Turn Ignition to 'ON' position, or leave it for 15 seconds. 3 long chirps and the LED turns off to confirm exit.

### FEATURE "II" PROGRAMMING:

1. Turn the Ignition 'switch 'ON/OFF' 3 TIMES and stay in OFF position.
2. Push the Valet switch 4 times and holding it in on the 4<sup>th</sup> push until **two** chirps with a long chirp is heard and the LED start to flash then release the valet switch. You are now in the Alarm feature 'II' programming mode.
3. Press and release the transmitter button 'A' corresponding to the feature 'A' you want to program.


Press Transmitter Button	One Chirp / LED one pulse <b>Factory Default Setting</b>	Two Chirps / LED two pulse	Three Chirps / LED three pulse	Four Chirps / LED Four pulse
1	0.9-second Door lock pulses.	3.5-second Door lock pulse.	Double pulse unlock	
2	Active arming	Passive arming without passive door locking	Passive arming with passive door locking.	
3	Ignition controlled door locks & unlocks	Ignition controlled door locks only	Ignition controlled door unlocks only	Without ignition controlled door locks & unlocks

**Exit:** Turn Ignition to 'ON' position or leave it for 15 seconds. 3 long chirps and the LED turns off to confirm exit.

### FEATURE "III" PROGRAMMING:



1. Turn the Ignition 'switch 'ON/OFF' 3 TIMES and stay in OFF position.
2. Push the Valet switch 6 times and holding it in on the 6<sup>th</sup> push until three chirps with a long chirp is heard and the LED flashes. Then release the valet switch. You are now in the Alarm feature 'III' programming mode.
3. Press and release the transmitter button 'A' corresponding to the feature 'A' you want to program.

Press Transmitter Button	One Chirp / LED one pulse <b>Factory Default Setting</b>	Two Chirps / LED two pulse	Three Chirps / LED three pulse	Four Chirps / LED Four pulse
1	Violet Wire = 2 Step Door Unlock Output Blue Wire = Dome Light Output Orange Wire = Ground Output When Armed	<b>Violet Wire = Channel 4 Output</b> Blue Wire = Dome Light Output Orange Wire = Ground Output When Armed	Violet Wire = 2 Step Door Unlock Output <b>Blue Wire = Channel 4 Output</b> Orange Wire = Ground Output When Armed	Violet Wire = 2 Step Door Unlock Output Blue Wire = Dome Light Output Orange Wire = <b>Channel 4 Output</b>
2	Channel 4 = Momentary output	Channel 4 = Latched output	Channel 4 = Latched output and reset with ignition "on"	Channel 4 = Timer programming (set to any interval between 1 second and 2 minutes.)

3  / AUX	H2/6 Gray Wire Channel 3 Output = 1 Second pulse Output for Trunk Release	H2/6 Gray Wire Channel 3 Output = Latched output	H2/6 Gray Wire Channel 3 Output = Latched output and reset with ignition "on"	H2/6 Gray Wire Channel 3 Output = Timer programming (set to any interval between 1 second and 2 minutes.)
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**Exit:** Turn the Ignition to 'ON' position or leave it for 15 seconds. 3 long chirps and the LED turns off to confirm exit.

### Channel 3 (4) Timer Control Output Programming

1. Turn the Ignition 'switch 'ON/OFF' 3 TIMES and stay in the OFF position.
2. Push the Valet switch **6** times and holding it in on the **6<sup>th</sup>** push until **three** chirps with a long chirp is heard and the LED flashes. Then release the valet switch. You are now in the feature 'III' programming mode.
- 3-a. Press and release  button 4 times, [4] LED flash, [4] siren/horn chirp to indicate the system in features "Channel 4 Timer Programming mode".
- 3-b. Press and release transmitter  / **AUX** button 4 times, [4] LED flash, [4] siren/horn chirp to indicate the system in features "Channel 3 Timer Programming mode".
4. Press and hold the valet switch, the timer will immediately start.
5. When the desired interval has passed, release the valet switch. One long chirp from horn, one flash from parking light, and the LED turn on for 2 seconds to confirm this setting. (Set to any interval between 1 second and 2 minutes).

**Note 1:** If your built-in timer controls window/sunroof closure in your car DO NOT change the timer setting! This requires installer-only programming. Changing the value will adversely effect operation and may cause damage.



**Note 2:**

**Momentary output** = The momentary output selection will output a negative signal from the Channel 4 output immediately when the Channel 4 button is pressed and will continue until the button is released.

**Latched output** = The latched output selection will output a negative signal as soon as the Channel 3 (4) button is pressed and will continue until the button is pressed again.

















**Latched output / reset with ignition** = The latched / reset with ignition output selection operates just like the latched output but will reset or stop when the ignition is turned on.

### Return To Factory Default Setting:


1. Turn the ignition ON then OFF 3 TIMES and stay in the OFF position.
2. Push the Valet switch **12** times and holding in on the **12<sup>th</sup>** push until five chirps with a long chirp is heard and the LED flashes. Then release the valet switch. You are now in the "Return to Factory Default Setting" programming mode.
3. Press  and  / **AUX** buttons at the same time for 5 seconds, there will be a confirmation: six chirp with 3 long chirps to confirm the system. Alarm Feature I & II & III & IV Programming all returns to factory default setting.

## OPERATION MANUAL

### A. TRANSMITTER OPERATION:

Transmitter Button	System Function	Remark
 Button	Arm / Lock door	
 –  Button	Car Locator	Press twice within 3 seconds.
 Button for 3 seconds	Panic function	Press 3 seconds
 Button	Disarm & Unlock Door	
 –  Button	Two Steps Door Unlock & Disarm System	Press twice within 3 seconds.
 / <b>AUX</b> Button for 2 sec.	Pop Trunk Release	Press 2 seconds
 / <b>AUX</b> –  / <b>AUX</b>	Passive arming by-pass	Press twice within 3 seconds.
 +  Buttons	Silent Arm / Disarm	
 +  / <b>AUX</b> Buttons	Activate Channel 4	
 / 	<b>NO USE</b>	



 / "II"	Switching code For 2nd Vehicle Operation or Garage Door Opener	Press once. LED will illuminate for 3.5 seconds to allow control of 2nd system.
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### Second Vehicle Transmitter Programming (KE 551 & KE 555):

Your 5-button remote transmitter can be utilized to control a 2nd system.

To program to transmitter to the 2nd system, follow instructions for Transmitter programming.

All programming parameters are the same except:

1. Prior to pushing any button on the transmitter, press the side button (KE 551) or the middle II button (KE 555) first.
2. Once this button is pressed, the LED on the transmitter will illuminate for 3.5 seconds.
3. While the LED is illuminated, press any button on the remote control transmitter.

### B. LED INDICATORS:

LED	Function
Off	Disarmed
Slow flash	Armed
Fast flash	Passive arming
On (solid)	Valet mode

### C. CHIRP INDICATORS:

Chirp	Function
1 chirp	Arm
2 chirps	Disarm
6 chirps	Car Locator


### D. PARKING LIGHT:



Parking light	Function
1 flash	Arm
2 flashes	Disarm
12 flashes	Car Locator

### E. KEYLESS ENTRY SYSTEM OPERATING CONDITION:

	Horn	Parking Light	LED	Doors	Starter disable	Dome light
1. Arming	1 Chirp	1 Flash	Slow flash	Locking	On	
2. Disarming	2 Chirps	2 Flashes	Off or Fast flash	Unlocking	Off	On 30-second
3. Panic	Alarming	Flashes	Slow flash	Locking		Flashes

### F. ACTIVE ARMING – LOCK & ARM:

1. Press  button on transmitter.
2. The horn will chirp once and parking lights will flash once indicating that the vehicle's starter has been disabled (if installed). The vehicle doors will lock upon arming when interfaced with the keyless entry system.

**SILENT ARMING / DISARMING:** Press  and  buttons together on the transmitter. This will arm or disarm your keyless entry system and no chirp sound will be heard, confirmations will be through the vehicles parking lights only.




### G. PASSIVE ARMING: (See Feature "II - 2" Programming)

Active arming / disarming are controlling your keyless system via the remote transmitter. This keyless system is equipped with an optional Passive Arming feature, which allows the keyless system to arm 60 seconds after the ignition turns off.


1. Turn the ignition to the "OFF" position.
2. The keyless system LED will flash quickly for 60 seconds.
3. After the 60-second timer has elapsed, the keyless system will automatically "Disable the Vehicle's Starter". The horn will chirp [1] time and the parking lights will flash [1] time.


### PASSIVE DOOR LOCKING: (See Feature "II - 2" Programming)

The vehicle doors will automatically lock after passive arming cycle has been completed.

**PASSIVE ARMING BY-PASS:** While the system disarmed, press the  / **AUX** button twice, the security will respond with [1] chirp and LED will turn "ON". The security system will remain in this temporarily state for as long as you wish. To exit passive by-pass, press  or  button and the system will return to normal status.

### H. ACTIVE DISARMING – UNLOCK & DISARM:

1. Press the  button on the transmitter.
2. The horn will chirp twice and parking lights will flash twice indicating that the vehicle's starter disable device (where installed) will be enabled allowing the vehicle to start. The vehicle doors will unlock and dome light will turn on for 30 seconds upon disarming when interfaced with the keyless entry system.

**TWO STEP DOOR UNLOCK:** Will independently unlock the driver's door only when disarming the keyless entry system. Pushing the  button on the transmitter a second time within 3 seconds will unlock the entire vehicle.

**AUTOMATIC RE-ARM** (See Feature "I - 2" Programming): If this feature is selected, the keyless entry system will automatically re-arm itself 60 seconds after disarming with remote transmitter. Automatic rearm will cancel if the ignition switch turns on before the 60 seconds timer has elapsed.

#### **I. DISARMING WITHOUT A TRANSMITTER**

The Override function may be used if the remote transmitter is lost or inoperative.

1. Enter the vehicle and turn the ignition switch to the 'ON' position.
2. Within 10 seconds push and release the valet switch.

The system enters the disarm mode. The vehicle's starter disable device (where installed) will be enabled allowing the vehicle to start.

#### **J. VALET MODE:**






The valet switch allows you to temporarily bypass starter disable & passive arming function, eliminating the need to hand your transmitter to parking attendants or garage mechanics. When the system is in valet mode, all starter disable & passive arming function are bypassed, however the remote panic feature and remote door locks will remain operational.

**Enter Valet Mode:** 1. Turn the ignition to the "ON" position.  
2. Push and hold valet switch for 2 seconds until the LED turns on. The LED will remain on as long as the system is in 'valet mode'.

**Exit Valet Mode:** 1. To return to normal operation, turn the ignition 'ON'.  
2. Push and hold the valet switch for 2 seconds, The LED will turn off indicating the system is exiting the valet mode.

#### **K. PANIC FUNCTION:**

The transmitter can be used as a remote panic switch to manually trigger the keyless entry system in case of emergency.

1. Press and hold the  button on the transmitter for 3 seconds. The keyless entry system will immediately sound.
2. During panic mode, the normal function of this transmitter button will be suspended. The  and  buttons can be used to lock and unlock the doors (if the option is installed), however once the  button is pressed, the vehicle's starter disable device (where installed) will be enabled allowing the vehicle to start.
3. To stop the alarm, press and hold the  button on the transmitter again for 3 seconds. If the button is not pressed, the alarm will automatically stop after 30 seconds.

#### **L. DOME LIGHT CONVENIENCE DELAY & SUPERVISION**

The keyless entry with a unique feature that will turn on your vehicle's dome light as following:

1. Upon disarming, the interior lights will remain on for 30 seconds.
2. If the vehicle is intruded, the interior light will flash for the same duration as the horn.


Note: Turning on the ignition switch or arming the keyless entry system will turn off the dome light.

#### **M. IGNITION CONTROL DOOR LOCKS.** (See Feature II – 3 Programming.)

If the vehicle's door locks have been interfaced to the keyless entry system, the system will automatically lock the vehicle's doors when the ignition is turned "ON" and /or unlock the vehicle's doors when the ignition is turned "OFF".



#### **N. TRUNK RELEASE (Factory default setting) / CHANNEL 3 TIMER CONTROL OUTPUT**

(See Alarm Feature III – 3 Programming.)

Press and hold the  / **AUX** button on transmitter for two seconds to remote control the trunk release or other electronic devices. Channel 3 is user-programmable timer output. You may program the built-in timer to send a ground signal for any time interval between 1 second and 2 minutes. For instance, this timer output may be used to turn on the headlight, power window, or sunroof.


Note: Factory default setting at 1 second pulse grounded for trunk release output.

#### **O. CHANNEL 4 TIMER CONTROL OUTPUT** (See Alarm Feature III – 1 / 2 Programming.)

Press  and  / **AUX** button at same time to active Channel 4 function.

Channel 4 is user-programmable timer output. You may program the built-in timer to send a ground signal for any time interval between 1 second and 2 minutes. For instance, this timer output may be used to turn on the headlight, power window, or sunroof.

#### **P. CAR LOCATOR**

Press  button twice on the transmitter will active car locator function. The siren will chirp 6 times. The parking light will flash 12 times, for you to easily locate your car.

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions.

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

