UNGO ProSecurity

K20

KEYLESS ENTRY SYSTEM

Features
- (2) 4-Button Remote Transmitters (SAA474U)
- 2 Auxiliary Outputs
- On-Board Relays for Door Locks and Dome Light Supervision
- Horn Honk Output
- Driver's Door Unlock Priority Compatible
- Comfort Closure
- (+/-) Parking Light Output
- Common Features

RK20

REMOTE ENGINE START WITH KEYLESS ENTRY

Features
- (2) 4-Button Remote Transmitter (SAA474U)
- Intelli-Tach RPM Detection
- On-Board Remote Start Relays
- D2D Serial Port for D2D Compatible Xpresskit Modules
- 1 Auxiliary Output
- (-) Door Lock Outputs
- Short Run / Turbo Timer Mode
- (+/-) Parking Light Output
- Comfort Closure
- ProSecurity Programmer Compatible

S100

SECURITY SYSTEM

Features
- (2) 4-Button Remote Transmitters (SAA474U)
- 2 Auxiliary Outputs
- (+/-) Parking Light Output
- ProSecurity Programmer Compatible
- Common Features
- Common Security Features

S670

TWO-WAY SECURITY SYSTEM

Features
- (1) 2-Way LCD Remote Transmitter (SAA477U)
- (1) 4-Button Remote Transmitter (SAA474U)
- 3 Auxiliary Outputs
- On-Board Relays for Door Locks and Dome Light Supervision
- Horn Honk Output
- (+/-) Parking Light Output
- Comfort Closure
- Common Features
- Common Security Features

Ungo – Information

SR7000

TWO-WAY SECURITY SYSTEM WITH REMOTE ENGINE START

Features

- (1) 2-Way LCD Remote Transmitter (SAA477U)
- (1) 4-Button Remote Transmitter (SAA474U)
- Intelli-Tach RPM Detection
- D2D Serial Port for D2D Compatible Xpresskit Modules
- 3 Auxiliary Outputs
- Short Run / Turbo Timer Mode
- Compact Satellite Relay Pack
- Driver's Door Unlock Priority Compatible
- (+/-) Parking Light Output
- Dedicated Horn Honk Output
- ProSecurity Programmer Compatible
- Common Features
- Common Remote Start and Security Features

SR9000

1-MILE RANGE TWO-WAY SECURITY SYSTEM WITH REMOTE ENGINE START

Features

- 2-Way LCD Remote Transmitter (SAA7701U)
- SDC (Secure Digital Communication) capable of 1-Mile Range
- 4 Auxiliary Outputs
- Short Run / Turbo Timer Mode
- Compact Satellite Relay Pack
- Driver's Door Unlock Priority Compatible
- Built-In Wait to Start Diesel Timer
- Driver's Door Priority
- Defroster Output
- Comfort Closure
- Dedicated Horn Honk Output
- ProSecurity Programmer Compatible
- Common Features
- Common Remote Start and Security Features

UNGO – Features and Technologies

Common UNGO Features

Anti-Code Grabbing Technology
Individual Remote Recognition
Keyless Entry*
Remote Enabled Valet
Hyper Blue Status LED
Remote Panic
Selectable Ignition Controlled Door Locks
ProSecurity Starter Disable*
ProSecurity Power Up
Progressive Door Unlock*
Dome Light Supervision Output*
Trunk/Hatch Release Output*

* May Require Additional Parts & Labor

Common Security Features

Extended Range Antenna
Dual Stage Impact Sensor
Programmable Override Sequence
Remote Silent Arm/Disarm Capability
Event History Diagnostics
Selectable Siren Duration and Tones
False Alarm Prevention Circuitry

Common Remote Start Features

Extended Range Antenna
Anti-Grind Circuitry
Tachometer or Voltage Sensing
Gasoline or Diesel Vehicle Compatible
Over and Under Rev Protection
Built-in Wait-to-Start Timer
Selectable Run Timer
Short Run Timer / Turbo Timer Mode
Rear Defroster Activation

UNGO Feature Descriptions

Secure Digital Communications

In order to achieve a reliable 1-Mile of range from the SR9000, Clarion has implemented Spread Spectrum Technology Secure Digital Communication. Spread Spectrum Technology takes a signal (in the case of the SR9000, a rolling code that tells the system what do to) and spreads the code over a wide range of frequencies. The advantage of this is that because the signal is so spread out, it becomes more resistant to interference, and helps to guarantee the signal is received and decoded.

Ungo Spread Spectrum Technology operates at 900Mhz, further improving its resistance to interference

Anti-Carjacking

The optional anti-carjacking system feature is designed to ensure that any unauthorized user of the vehicle (even using the keys and remote control) will not be able to permanently separate the owner from their vehicle.

This system cannot prevent a carjacking attempt; however, it does ensure that if an unauthorized user takes the vehicle, it will be disabled (after several progressive warnings) as a safely as possible.

Anti-Code Grabbing Technology (a.k.a. Code Hopping):

The receiver and remotes use a mathematical formula called an algorithm to change their code each time the remote is used. This technology has been developed to increase the security of the unit. The control unit knows what the next codes should be. This helps to keep the remote “in sync” with the control unit even if you use the remote control out of range of the vehicle.

Anti-Grind Circuitry

Whenever the vehicle is remote started, advanced anti-grind circuitry prevents the starter from engaging, even if the key is turned to the start position. This prevents damage to the starter motor if the key is turned to the start position during remote start operation.

Built-in Wait-to-Start Timer

Diesel vehicles need adequate time to warm up the glow plugs prior to starting. When the remote start is activated, the wait-to-start timer will allow the glow plugs to properly warm up before engaging the starter circuit. This feature prevents damage to the motor and glow plugs during remote start operation.

Comfort Closure

If programmed ON the door lock output will activate the Comfort Closure output for 20 seconds. This output will begin 200mS after the final door lock output has completed regardless of the door lock programming. This feature is designed to integrate with vehicle that can close the power windows and sunroof by holding the key in the driver door lock position, and will operate on both single input systems and two pulse dead bolt systems.

Dome Light Supervision Output

The dome light will illuminate for 30 seconds each time the system is disarmed using the remote control. This is useful for seeing inside the vehicle at night prior to entering it.

Dual Stage Impact Sensor

A sensor mounted in the vehicle that is designed to pick up impacts to the vehicle or glass. Depending on the strength of the impact, the sensor can determine whether it's an accidental contact or actual violation attempt.

Event History Diagnostic

ProSecurity systems can provide notification that the alarm was previously triggered. The status LED will indicate which zone was involved. The system will retain this information in its memory, until the next time the ignition key is turned ON.

Extended Range Antenna

An optional external receiver/antenna used to upgrade the remote/receiver performance in areas of high radio interference such as military bases, airports, and hospitals.

False Alarm Prevention

It prevents annoying repetitive sequences due to faulty door pins switches or environmental conditions such as thunder, jackhammers, airport noise, etc.

Gasoline or Diesel Vehicle Compatible

ProSecurity remote start systems can be installed into either gasoline or diesel vehicles.

Hyper Blue LED

A blue LED (Light Emmiting Diode) mounted at a discretionary location inside the vehicle. It is used to indicate the status of your system.

Individual Remote Recognition

Individual Remote Recognition makes it possible to program different settings for each remote that is used with the system. Then, whenever a specific remote is used, the system will recall the setting assigned to that remote. IDR lets up to four users of the system have different settings that meet their specific needs. It is almost like having four separate alarms in your vehicle, one for each user.

Keyless Entry

Allows for easy entry or exiting of the vehicle without having fumbling around for keys. May require additional parts and labor.

Over and Under Rev Protection

The system monitors the engine speed and will automatically shut the engine off if the RPMs rise above or fall below the programmed levels. This feature prevents damage to the motor due to fuel delivery system failures or other problems, which may cause the engine to race.

Programmable Override Sequence

ProSecurity systems can be programmed to respond to one to five pulses of the Valet/ Override Switch for the disarm function.

Progressive Door Unlock

For added security, the ProSecurity system can be configured to unlock the driver's door only, leaving the passenger doors locked. Pressing the UNLOCK button an additional time will unlock the passenger doors. This option requires additional parts and labor.

ProSecurity Power Up

The ProSecurity system will store its current state of non-volatile memory. If the power is lost and then reconnected the system will recall the stored state from memory. This means if the unit is in Valet Mode and the battery is disconnected for any reason, when the battery is reconnected the unit will still be in Valet Mode.

ProSecurity Starter Disable

An automatic switch controlled by your system that prevents the vehicle's starter from cranking whenever the system is armed. The vehicle is never prevented from cranking when the system is disarmed, in Valet Mode, or if the starter interrupt switch itself fails.

Rear Defroster Activation

During remote start operation, the rear defroster can be activated. This option requires additional parts and labor.

Remote Enabled Valet (REV)

The security system will not arm, even with the remote, but all convenience functions (door locks, trunk release, etc.) will still continue to work normally. REV allows access to Valet Mode without having to disclose the location of the Valet/Override switch.

Remote Panic

If you are threatened in or near your vehicle, you can attract attention by triggering the system with your remote control. Just press the "PANIC" or "LOCK" button for two seconds, and you will enter Panic Mode. The siren will sound and the parking lights will flash for the programmed siren duration. To stop Panic Mode at any time, press the "LOCK" button on the remote.

Remote Silent Arm/Disarm Capability

The siren chirps upon arm or disarm can be temporarily eliminated for that one operation only. The siren arm/disarm chirps can be turned off permanently, if desired. The siren chirps will also be eliminated during the warn-away trigger of the Dual Stage Impact Sensor.

Selectable Ignition Controlled Door Locks

When the ignition is turned ON, the doors will lock within 3 seconds and unlock when the ignition is turned OFF. Ignition controlled lock and unlock are independent features are can be programmed separately.

Selectable Siren Duration and Tones

The duration of the siren can be programmed to either 30 or 60 seconds. Some states have laws regulating how long a security system can sound. The multi-tone sirens included with ProSecurity systems can be easily modified to select desired tones or single tone.

Short Run Timer / Turbo Timer Mode

Short run turbo mode keeps the engine running after arriving at your destination for a programmable period of time.

Intelli-Tach RPM Detection

Intelli-Tach is a new feature for Ungo in 2009. It is the default RPM-sensing method for the RK20 and SR7000 systems.

Intelli-Tach gives the installer the performance of a hard wired tach wire, with the convenience of voltage sensing. It is far superior to any voltage-sense feature you've tried before

Intelli-Tach monitors the cranking voltage of the vehicle using a very fast micro controller and an analog-to-digital converter. The microprocessor "saves" the base voltage as a reference. When Intelli-Tach "sees" the slightest uptick in voltage, indicating that the alternator is charging the battery, the starter motor shuts off instantly.

Tachometer or Voltage Sensing

ProSecurity remote start systems either use a tachometer signal or sense the voltage of the vehicle during remote start activation. These signals inform the remote start system that the vehicle has successfully started and is running.

Trunk/Hatch Release Output

The system's auxiliary output can be programmed to operate a factory power release for the vehicle's trunk or hatch. If the factory release is not power activated, an optional trunk release solenoid can often be added. This output will then disable / ignore the two-stage shock sensor as you load and unload the vehicle.

D2D

The system has the ability to interface with an XK module through the D2D port. The advantage of using a D2D interface is that there is less wiring involved in the installation. Check the XK module installation guide to determine which wires are not needed, and which options are available.

Obtaining Optimal Range

Mounting the Extended Range Antenna:
1. Clean the mounting area with a quality glass cleaner or alcohol to remove any dirt or residue.
2. Plug the receiver/antenna cable into the receiver/antenna.
3. Mount the receiver/antenna vertically using the supplied double-sided tape.
4. Route the receiver/antenna cable to the control module and plug it into the four-pin antenna connector.

Important:
• To achieve the best possible range, DO NOT leave the antenna cable bundled up tightly underneath the dash. Try to extend the cable the full length during installation.
• DO NOT mount the control module to close the vehicle's Body Control Module and/or Electronic Control Modules.

Mounting the Standard Antenna:
1. Route the antenna as high up as possible, extending it to its full length.
2. Secure it in place using a cable tie.

Important:
• DO NOT cut or extend the antenna, as it's tuned precisely to the control unit.
• Route the antenna away from moving parts under the dash and from the vehicle's Body Control Module and/or Electronic Control Modules.

Mounting the Control Unit:
• Do not mount or secure the control unit to close to the vehicle's Body Control Module and/or Electronic Control Modules.
• Do not mount or secure the control unit to close sources of heat, such as the heater core and/or air ducts.
• Ground the control unit to a clean, paint-free sheet metal location using a factory bolt that DOES NOT have any vehicle component grounds attached to it. A screw should only be used when in conjunction with a two-sided lock washer. Under dash brackets and door sheet metal are not acceptable ground points.

It is recommended that all security components be grounded at the same location.

Turning Off the Anti-Code Grabbing Technology (a.k.a. Code Hopping):
Although this is a feature designed to prevent the remote transmitters from being cloned and retransmitted to the control unit, it is virtual impossible to do. "Code Grabbers" have a very limited range, usually required to within 5 feet of the remote transmitter while the button is being depressed. By turning the off the Anti-Code Grabbing feature, it can increase the receiving/transmitting range by 30-35%.

Refer to the "System Features Menu" for the Feature Number and programming instructions.

Double Stacking (2) CR2016 Batteries:
The CR2032 3-volt micro lithium coin cell battery inside of the SAA474U (4-button) remote transmitter can be substituted with (2) CR2016 3-volt batteries. This can increase the range between 65-75%, depending on the surroundings.

Procedure:
1. Insert a small flat head screwdriver into the notch on the bottom of the remote transmitter.
2. Gently twist the screwdriver to spreading apart the two halves of the remote transmitter.
3. Open up the remote transmitter exposing the CR2032 battery and slide it out.
4. Slide (2) CR2016 batteries into the battery holder with the "+" facing upwards. (It may be easier to slide one battery in at a time. With the first battery in place, slide the second battery between the PC board and battery.)
5. Prior to closing the two halves of the remote transmitter, verify the batteries are installed correctly by pressing any of the buttons. The green LED indicator should illuminate when a button is pressed. If the LED does not illuminate, double-check the direction of the batteries. The "+" should be facing upwards matching the "+" on the battery retaining clip.
6. Snap together the two halves of the remote transmitter.

Obtaining a Tachometer Reference Signal

The tachometer reference signal is an essential signal for the safe operation of a remote start system. This signal informs the remote start module that the vehicle has successfully started and is running. It can also determine whether the vehicle is idling at a safe RPM level. In the event the vehicles idle is racing or below safer operating level, the remote start module will shut down.

To test for a tachometer wire, a multi-meter capable of test AC voltage must be used. The tachometer wire will show between 1V and 6V AC. In multi-coil systems, the system can learn individual coil wires. Individual coil wires in a multi-coil ignition system will register lower amounts of AC voltage. Also, if necessary, the system can use a fuel injector control wire for engine speed sensing. Common locations for a tachometer wire are at the ignition coil, back of the gauge cluster, engine computers, and automatic transmission computers.

How to Find a Tachometer Wire with a Multi-Meter:
1. Set the multi-meter to ACV or AC voltage (12V or 20V is fine)
2. Attach the (-) probe of the meter to chassis ground.
3. Start the vehicle and allow it to reach its normal idle speed.
4. Probe the wire you suspect of being the tachometer wire with the red probe of the meter.
5. If it's the correct wire the meter will read between 1V and 6V.

Multi-Coil Systems:
1. Examine the individual coils and determine which wires are common on each coil. (Example: 2002 Chevy Pick-up: Each coil has 4 wires, three common wires on each coil and the 4th wire changes.)
2. The "different" colored wire can be used for the tachometer reference signal for the remote start module. (Only one coil wire is necessary.)
3. Teach tachometer reference signal to the remote start module.

It is highly recommended to solder this connection, due to the heat generated inside the engine bay. Using t-taps or scotch-locks are likely to fail due to the heat.

Fuel Injector Wire:
1. Examine the individual fuel injectors and determine which wire(s) are common on each fuel injector.
2. The "different" colored wire can be used for the tachometer reference signal for the remote start module. (Only one fuel injector wire is necessary.)
3. Teach tachometer reference signal to the remote start module.

It is highly recommended to solder this connection, due to the heat generated inside the engine bay. Using t-taps or scotch-locks are likely to fail due to the heat.

Tachometer Reference Options

Tachless
If programmed to the voltage sense setting, the unit will crank the starter for a preset time during. Once the starter has been engaged, the system will check the voltage level to verify the engine is running.

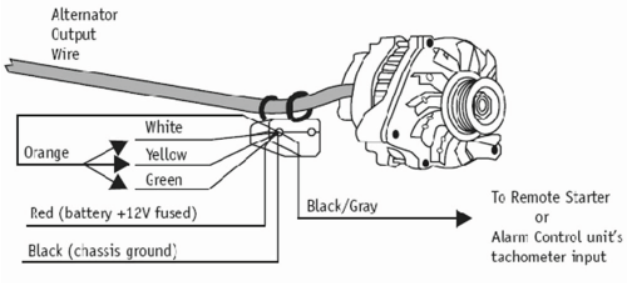
When using tachless operation, it is essential to determine the correct crank time to prevent damage to the starter. It may take several remote start activations to determine the crank time.

Some vehicles have many accessories, which are turned on during remote start activation. In these vehicles, the variation of voltage between the engine off and the vehicle running is very slight and the remote start module may "think" the vehicle has not started. This can cause the remote start module to shut down after the vehicle has been started. If this is the case, the Voltage Check Level must be set to the LOW position.

Voltage sensing is not recommended in areas that experience extreme cold temperatures. The resistance in the vehicles wiring increases which can cause intermittent remote start reliability.

454T: Alternator RPM Monitor

The 454T Alternator RPM Monitor is for use with remote engine starts as an alternative to direct connection to the vehicle's tachometer or fuel injector wire. It detects electrical spikes in the vehicles electrical system and converts them into an output that simulates a tachometer.



Remote Start Terms and Definitions

Immobilizer (a.k.a.: Transponder)

The Immobilizer uses an antenna ring around the ignition cylinder to energize a small transponder chip hidden in the ignition key. When the ignition is turned on, the chip is energized and the antenna rings sends the code to the Immobilizer control unit. The vehicle will only start if the code matches the one programmed into the vehicle.

Passkey/VATS

The Passkey/VATS system consists of four parts: the Passkey cylinder, the ignition switch, the instrument cluster panel (IPC), and the power train control module (PCM). The system requires that the key cylinder be mechanically turned using a key. When the key cylinder is properly turned, it generates a resistance code (R-Code), which is sent to the IPC. The vehicle will only start if the R-Codes match the key and key cylinder.

Passlock 2

The Passlock 2 system must see the correct resistance code at the correct time. When the ignition switch is turned to the crank position, the "Bulb Check" wire is switched to ground. This starts a time window during which the instrument cluster panel (IPC) analyzes the resistance code (R-Code). If the R-Code is valid and is received in the proper window of time, the IPC sends a code via data bus to the PCM to enable the fuel injection system. If the key cylinder itself is pulled out or damaged, it will not generate the resistance code and the vehicle will not run.

Passkey 3

The Immobilizer uses an antenna ring around the ignition cylinder to energize a small transponder chip hidden in the ignition key. When the ignition is turned on, the chip is energized and the antenna rings sends the code to the Immobilizer control unit. If the code is incorrect the vehicle will not start.

PATS

Passive Anti-Theft System (PATS) uses a specially programmed key to start the vehicle, similar to the Immobilizer. It uses an antenna ring around the ignition cylinder to energize a small transponder chip hidden in the ignition key. When the ignition is turned on, the chip is energized and the antenna ring sends the code to the PATS control unit. If the code is incorrect the vehicle will not start.

Resistor

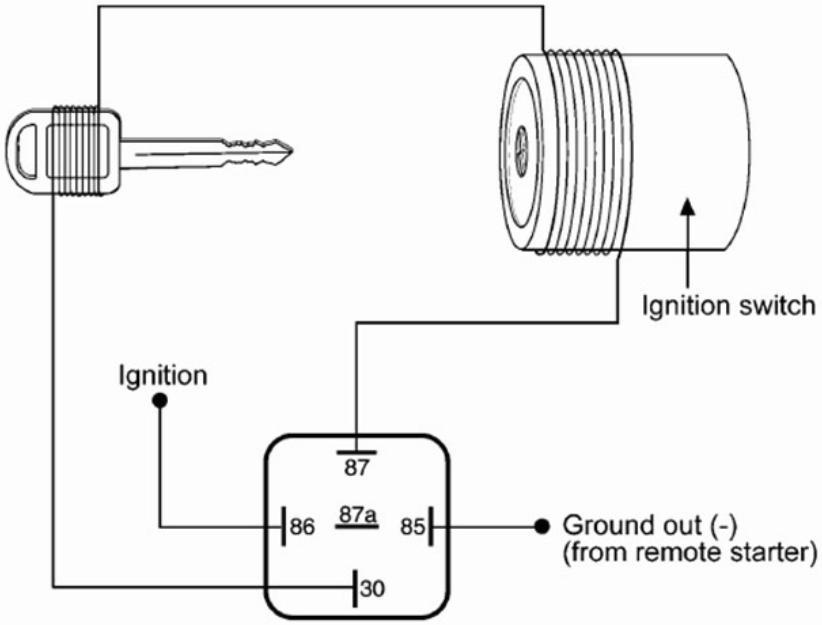
One of the components necessary in interface with VATS factory anti-theft systems. A resistor(s) are used in conjunction to reproduce the resistance code (R-Code) embedded in the vehicle's key

Replacement Remote Controls

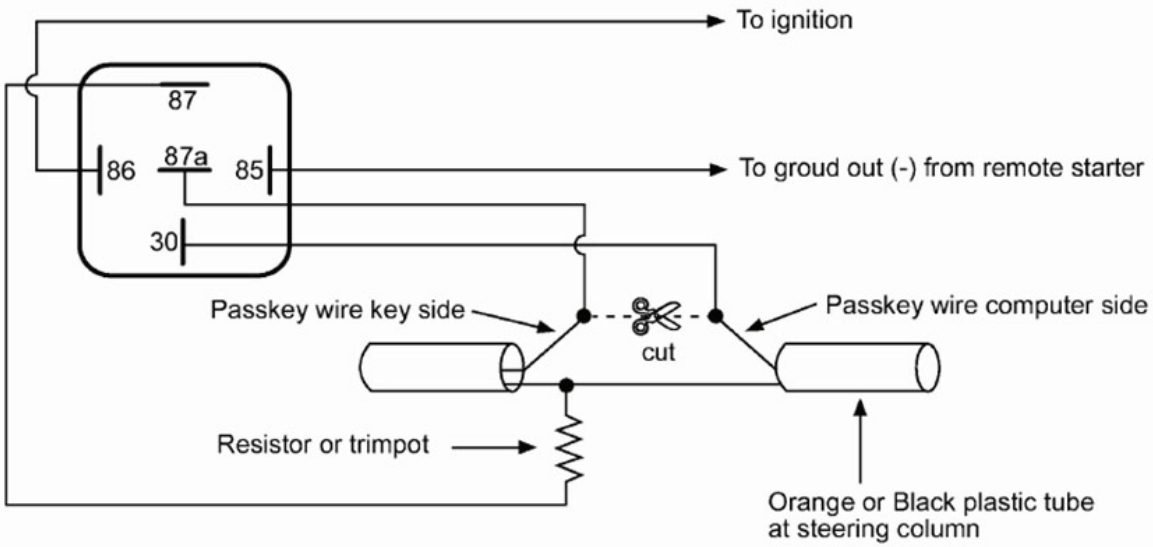
Model Number	Remote Description	Remote Part Number
5000-1	1 BUTTON TRANSMITTER FOR 5000 SERIES	SAA3651
5000-2	2 BUTTON TRANSMITTER FOR 5000-2 SERIES	SAA3652
6200	2 BUTTON TRANSMITTER (RED LED)	SAA3623
6200V	2 BUTTON VARICODE TRANSMITTER	SAA3624
6400	2 BUTTON TRANSMITTER (RED LED)	SAA3623
6400V	2 BUTTON VARICODE TRANSMITTER	SAA3624
6500	4 BUTTON TRANSMITTER (RED LED)	SAA3649
6500V	4 BUTTON VARICODE TRANSMITTER	SAA3650
CS100	2 BUTTON VARICODE TRANSMITTER	SAA3624
CS105	2 BUTTON REMOTE TRANSMITTER FOR CS105	SAA200T
CS150	3 BUTTON REMOTE TRANSMITTER	SAA150T
CS200	2 BUTTON REMOTE TRANSMITTER FOR CS200	SAA200T
G1100	3 BUTTON REMOTE TRANSMITTER	SAA003T
G1100	4 BUTTON REMOTE TRANSMITTER	SAA004T
GUARDSMAN	2 BUTTON GUARDSMAN TRANSMITTER	SAA3601
GUARDSMAN	VARICODE TRANSMITTER - 1000V SERIES	SAA3100
K10	4 BUTTON REMOTE TRANSMITTER	SAA474U
KE106	3 BUTTON REMOTE TRANSMITTER	SAA003T
KE106	4 BUTTON REMOTE TRANSMITTER	SAA004T
MC500	2 BUTTON VARICODE TRANSMITTER	SMA3255
MS1000	2 BUTTON VARICODE TRANSMITTER	SAA3624
MS1001	2 BUTTON VARICODE 2 TRANSMITTER	SAA3704
MS2000	3 BUTTON REMOTE TRANSMITTER	SAA003T
MS2000	4 BUTTON REMOTE TRANSMITTER	SAA004T
MC2000V	2 BUTTON VARICODE TRANSMITTER	SMA3255
MS2002	3 BUTTON REMOTE TRANSMITTER W/PURPLE BUTTONS	SAA3715
MS2004	4 BUTTON REMOTE TRANSMITTER	SAA004T
MS2005	4 BUTTON REMOTE TRANSMITTER	SAA004T
MS2006	5 BUTTON REMOTE TRANSMITTER	SAA005T
MS2007	5 BUTTON FM 2-WAY LCD TRANSMITTER	SAA217T Generic
MS2100	5 BUTTON REMOTE TRANSMITTER	SAA205T
MS2105	5 BUTTON REMOTE TRANSMITTER	SAA205T
MS2106	5 BUTTON REMOTE TRANSMITTER	SAA205T
MS2107	5 BUTTON REMOTE TRANSMITTER	SAA205T
MS2107	5 BUTTON FM 2-WAY LCD TRANSMITTER	SAA217T
MS3001	3 BUTTON VARICODE 2 TRANSMITTER	SAA3705

MS3200	3 BUTTON VARICODE 2 TRANSMITTER	SAA3705
MS3200	3 BUTTON VARICODE 2 TRANSMITTER	SAA3706
MS3200	3 BUTTON REMOTE TRANSMITTER W/PURPLE BUTTONS	SAA3715
MS5000	3 BUTTON VARICODE 2 TRANSMITTER	SAA3703
MS5500	3 BUTTON REMOTE TRANSMITTER W/ BLUE BUTTONS	SAA3716
MS5505	3 BUTTON VARICODE 2 TRANSMITTER	SAA3716
MS7000	3 BUTTON VARICODE 2 TRANSMITTER	SAA3703
MS8200	3 BUTTON VARICODE 2 TRANSMITTER	SAA3706
MS8200	3 BUTTON REMOTE TRANSMITTER W/ BLUE BUTTONS	SAA3716
MS8300	3 BUTTON VARICODE 2 TRANSMITTER	SAA3706
MS8300	3 BUTTON REMOTE TRANSMITTER W/ BLUE BUTTONS	SAA3716
MS850	2 BUTTON REMOTE TRANSMITTER W/PURPLE BUTTONS	SAA3714
MS9000	3 BUTTON VARICODE 2 TRANSMITTER	SAA3703
RK1/RK20	4 BUTTON REMOTE TRANSMITTER	SAA474U
RS151	4 BUTTON REMOTE TRANSMITTER	SAA004T
RS251	4 BUTTON REMOTE TRANSMITTER	SAA251T
RS300	5 BUTTON REMOTE TRANSMITTER	SAA205T
S100	4 BUTTON REMOTE TRANSMITTER	SAA474U
S400	4 BUTTON REMOTE TRANSMITTER	SAA474U
S660	2-WAY REMOTE TRANSMITTER	SAA477U
S670	2-WAY REMOTE TRANSMITTER	SAA477U
RS10	4 BUTTON REMOTE TRANSMITTER (Number Pads SAA874)	SAA474U
K10	4 BUTTON REMOTE TRANSMITTER	SAA474U
K20	4 BUTTON REMOTE TRANSMITTER	SAA474U
SAS6200	2 BUTTON VARICODE TRANSMITTER	SAA3624
SAS6400	2 BUTTON VARICODE TRANSMITTER	SAA3624
SAS6500	4 BUTTON VARICODE TRANSMITTER	SAA3650
SMS0500	2 BUTTON VARICODE TRANSMITTER	SAA3624
SMS2000	2 BUTTON VARICODE TRANSMITTER	SAA3624
SR1000	4 BUTTON REMOTE TRANSMITTER	SAA474U
SR5000	2-WAY LCD TRANSMITTER	SAA477U
SR5000	4 BUTTON REMOTE TRANSMITTER	SAA474U
SR6000/7000	2-WAY LCD TRANSMITTER	SAA477U
SR6000/7000	4 BUTTON REMOTE TRANSMITTER	SAA474U
SR9000	2-WAY SST REMOTE TRANSMITTER	SAA7701U
TECHNE	1 BUTTON TRANSMITTER - JUMPER PROGRAMMING	SAA3621
TECHNE	2 BUTTON TRANSMITTER - JUMPER PROGRAMMING	SAA3622

HOW IT WORKS: There is a small chip in the ignition key called a ***transponder***. When the key is inserted into the ignition switch it sends a code to the vehicles computer through a receiver coil mounted to the barrel. Once the computer has identified it as a valid key, it enables the starter and fuel management systems. At present, there is no way to get around this security without sacrificing 1 of the vehicles keys and installing it under the dash as shown in our diagram. If the vehicle only has 2 keys and 1 can not be spared, a new key must be purchased ***and coded*** to the vehicle by the dealer. That key can then be used in the bypass.

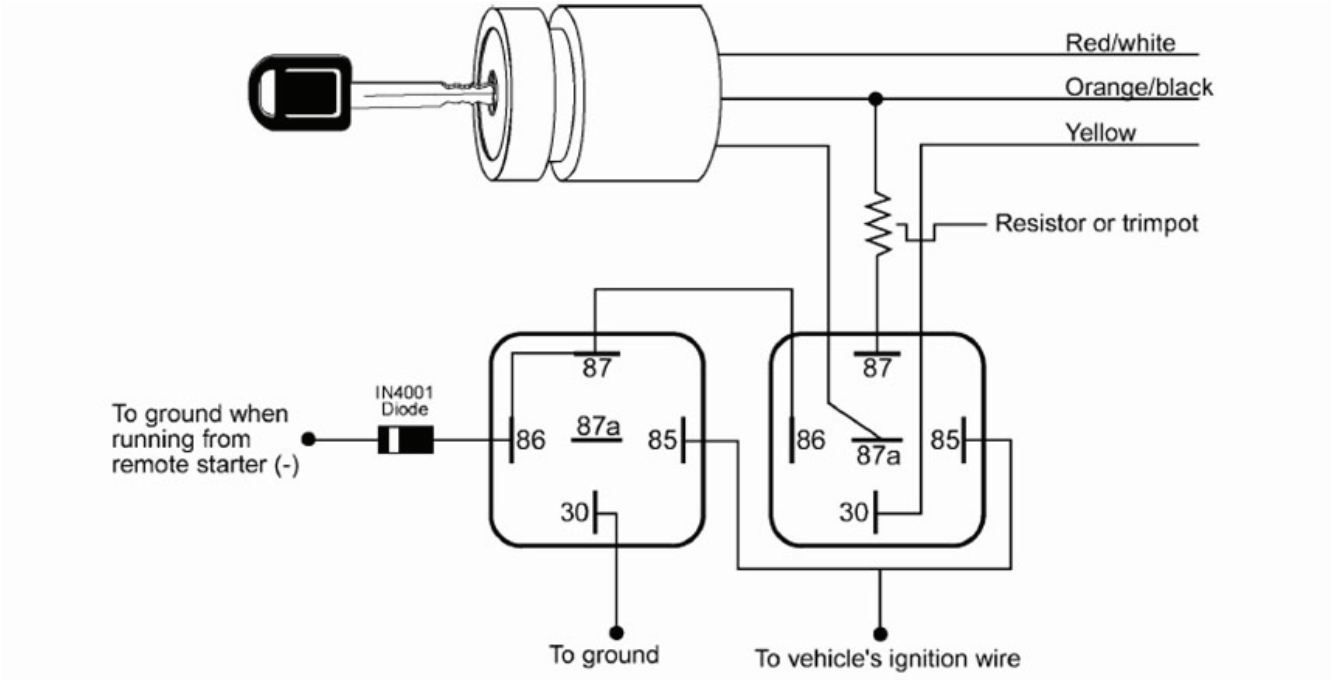


Use small 24-26 gauge wire. Wrap the wire around the up most front of the ignition switch approximately 9-10 times, then extend the wire out about 12-15 inches and wrap it around the key about 9-10 times. Take both ends of the wire and connect then to a relay as shown above. The **GROUND OUT** on pin #85 of the relay refers to the wire from your remote starter that goes to ground when the starter is activated. Once this circuit is tested and working, the keyway should either be cut in half or the key should be hidden well under the dash.



This system uses a resistor in the key, use a digital volt meter set to ohms and put 1 lead on each side of the vats chip in the center of the key, find a resistor to match your reading and proceed to wire a relay as per the diagram.
Locate the Orange or black tube running down the steering column from the ignition switch. Cut open the tube to expose the passkey wires inside. Your resistor or trumpet should be within +/- 10 ohms of the key. Either of the passkey wires can be cut. GM uses only a fixed number of different resistors with their **PASSKEY/VATS** system, your measurement should correspond to one of the following values.

390 Ohms	**1800 Ohms**	**7500 Ohms**
520 Ohms	**2370 Ohms**	**9530 Ohms**
680 Ohms	**3010 Ohms**	**11800 Ohms**
885 Ohms	**3740 Ohms**	
1130 Ohms	**4750 Ohms**	
1470 Ohms	**6040 Ohms**	



All GM trucks 1998 & up are equipped with PASSLOCK II security systems. In many ways it is like the PASSLOCK I system found on the 96-97 Cavalier and Sunfire, but with a few small changes. There is no bulb test wire on the ignition switch and the measurement for your resistor must be taken with the engine running.

1. Start the car with the key
2. Locate the 3 small wires (YELLOW, ORANGE/BLACK and RED/WHITE) coming from the ignition switch.
3. Separate the wires and cut the YELLOW wire in half.
4. Splice open the ORANGE/BLACK wire but do not cut it.
5. Use a digital ohm meter, attach 1 lead to the ORANGE/BLACK wire and the other lead to the Key side of the YELLOW wire.
6. Find a resistor of the same value +/- 10 ohms.
7. Wire 2 relays as shown

PLEASE NOTE: This is a fuel cut-off system. If the PASSLOCK II system is not properly bypassed the engine will immediately shut down after remote start. If this occurs verify that all the wiring is properly connected and that your resistor is within the allowable parameters.

ByPass Notes:

UNGO – Remote Start Diagnostics

Remote Start Diagnostics

In the event that a remote start system fails to start, or stops running after a short period of time, you can retrieve the source of the shutdown from the UNGO ProSecurity system

1. Turn the Ignition off
2. Press and hold the Override switch
3. Turn the ignition on then off
4. Release the Override switch
5. Press and release the Override switch.

The LED will now report the last system shutdown by flashing one of the following patterns for a period of one minute.

LED Flashes	Shutdown Cause
One	System Timed Out
Two	Over-Rev Shutdown
Three	Low or no RPM
Four	Remote Shutdown or optional button
Six	+/- Shutdown
Seven	(-) Neutral safety shutdown
Eight	Wait-to-start timed out.

Remote Start Troubleshooting

The ignition comes on, but the starter will not crank

1. Does it start with the key in the ignition? If so, does the vehicle have a VATS Pass-Key system?
2. Will it start with the brake pedal depressed? (Make sure to disconnect the brake shutdown when performing this test.) If so, it may have a brake/starter interlock.
3. Is the correct starter wire being energized? Check by energizing it yourself with a fused test lead.

The starter cranks for six seconds but does not start.

1. Either the wrong ignition wire is being energized, the unit's ignition and accessory wires have been connected backwards, or the vehicle has two ignition circuits. Try activating the unit with the ignition key in the "run" position. If the vehicle then runs normally, retest your ignition system.

The starter continues to crank even though the engine has started.

1. Has the tach wire been learned? See Tach Learning section of the installation guide.
2. Is the tach wire receiving the correct information? Either the wrong tach wire has been used, or a bad connection exists.

The climate control system does not work while the unit is operating the vehicle.

Either the wrong accessory wire is being energized or more than one ignition or accessory wire must be energized in order to operate the climate control system.

The remote start will not activate.

1. Check harnesses and connections. Make sure the harnesses are fully plugged into the remote start module. Make sure there are good connections to the vehicle wiring.
2. Check voltage and fuses. Use a meter and check for voltage between the red wire in the 5 pin ribbon harness and the black ground wire. If you have less than battery voltage, check both 30A fuses on the relay satellite. Also make sure that the ground wire is going to a chassis ground and not to something under the dash.
3. Check diagnostics. The diagnostics will tell you which shutdown is active or not connected.

The remote start will activate but the starter never engages.

1. Check for voltage on the purple starter wire two seconds after the remote start becomes active. If there is voltage present, skip to Step 4. If there is not voltage present, advance to Step 2.
2. Check the 30A fuses.
3. Check diagnostics. If the gray/black wire is detecting ground upon activation, the starter will not crank.
4. Make sure the purple starter wire is connected to the correct starter wire.
5. Does the vehicle have an immobilizer? Some immobilizer systems will not allow the vehicle to crank if active.
6. Check connections. The two red heavy gauge input wires on the relay satellite should have solid connections. "T-taps", or "scotch locks" are not

recommended for any high current heavy gauge wiring. Also, if the vehicle has more than one 12-volt input wire, then connect one red wire to each.

The vehicle starts, but immediately dies

1. Does the vehicle have an immobilizer? The vehicles immobilizer will cut the fuel and/or spark during unauthorized starting attempts.
2. Is the remote start programmed for voltage sense? If so, the start time may not be set high enough, or you may have to adjust the voltage threshold in programming. Voltage sense will not work on some vehicles.
3. Check diagnostics. Sometimes a shutdown will become active during cranking or just after cranking.

The vehicle starts, but the starter keeps running

1. Is the system programmed for engine checking off or voltage sense? When programmed for either of these features, the engine cranks for the preprogrammed crank time regardless of how long it takes to start the vehicle to actually start. Adjust to a lower cranking time.

2. Was the Tach Learn successful? The LED must light solidly and brightly to indicate a successful learn.

3. Make sure that there is a tach signal right at the purple/white tach input wire of the remote start. If not, recheck the connection to the vehicle's tach wire and make sure the wire is not broken or shorted to ground leading to the remote start.

The vehicle will start and run only for about 10 seconds

1. Is the remote start programmed for voltage sense? Try programming the unit for low voltage reference. If this does not work, a tach wire should be used.
2. Check diagnostics.

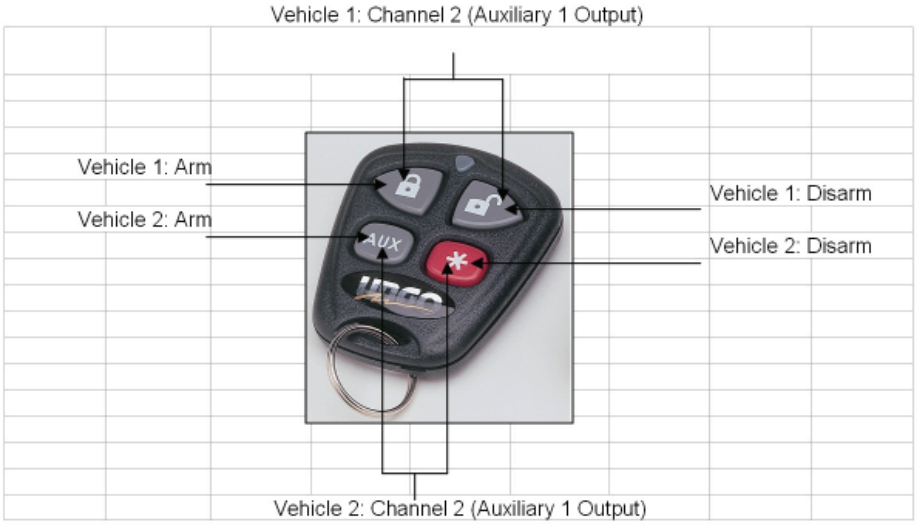
UNGO – Multiple Vehicle Operation

Technical Information: Multiple Vehicle Operation

Ungo ProSecurity remote transmitters are capable of operating multiple vehicles equipped with ProSecurity systems. This is beneficial for individuals with multiple vehicles and/or reducing the clutter on a key-chain.

1. Follow the remote programming procedure for the particular ProSecurity system and delete all the remote transmitters for both vehicles.
2. Follow the remote programming procedure for the particular ProSecurity system and program the desired function to the assigned button. Continue this process until all the button assignments have been complete on both vehicles.

EXAMPLE: S100 Multiple Vehicle Operation



Programming Vehicle 1.

1. Open the door of the Vehicle 1.
2. Turn the ignition ON
3. Press the Valet/Override button 9 times and then press it one more time and hold it in. The LED will flash 9 times indicating that selection.
4. Release the Valet/Override button and turn the ignition OFF and then back ON.
5. Press the Valet/Override button 4 times and then press it one more time and hold it in.
6. Press the LOCK button on each remote transmitter. The LED will flash 4 times indicating that selection.
7. Release the Valet/Override button and press it 1 time and then hold it in. The LED will flash 5 times indicating that selection.
8. Press the UNLOCK button on each remote transmitter. The LED will flash 5 times indicating that selection.
9. Release the Valet/Override button and turn the ignition OFF and then back ON.
10. Turn the ignition ON.
11. Press the Valet/Override button 2 times and then press it one more time and hold it in.
12. Press both the LOCK and UNLOCK buttons together on each remote transmitter. The LED will flash 2 times indicating that selection.
13. Release the Valet/Override button and turn the ignition OFF.

UNGO – Multiple Vehicle Operation

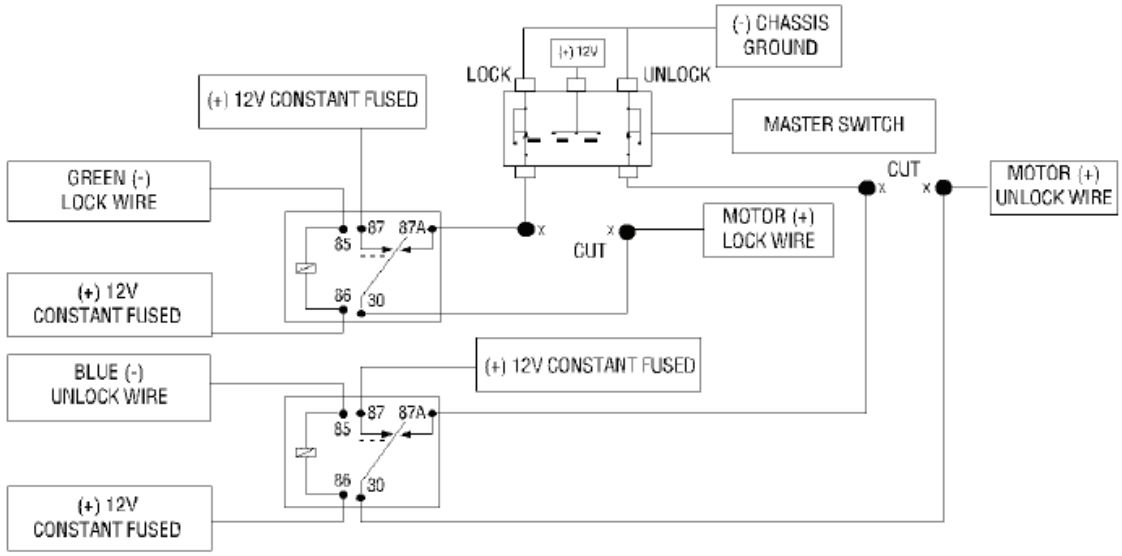
Vehicle 1:
LOCK: Arm (Lock)
UNLOCK: Disarm (Unlock)
LOCK & UNLOCK: Channel 2 (Auxiliary 1)

Programming Vehicle 2

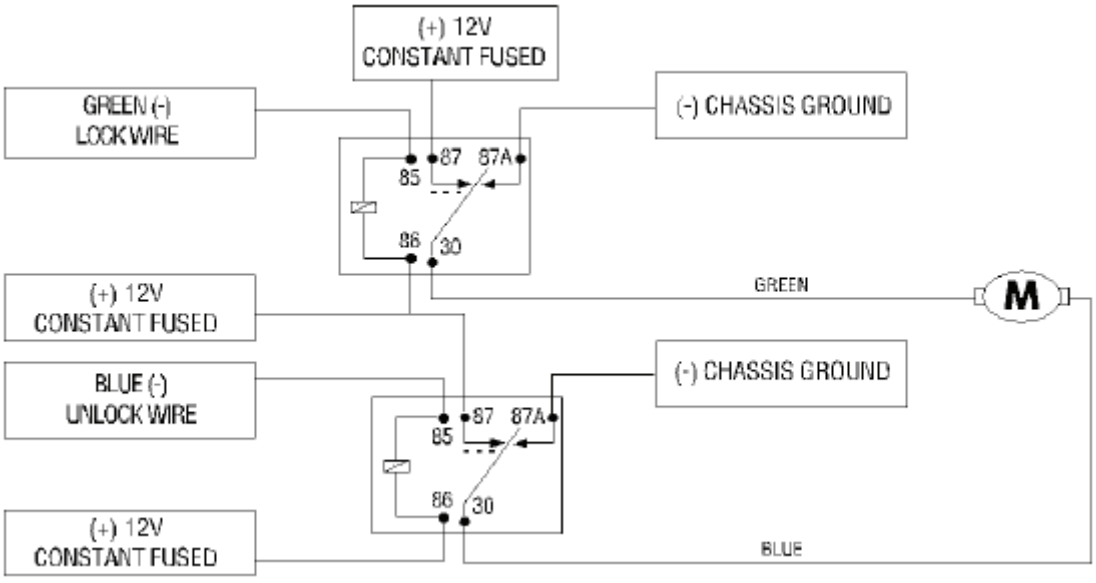
1. Open the door of the Vehicle 2.
2. Turn the ignition ON
3. Press the Valet/Override button 9 times and then press it one more time and hold it in. The LED will flash 9 times indicating that selection.
4. Release the Valet/Override button and turn the ignition OFF and then back ON.
5. Press the Valet/Override button 4 times and then press it one more time and hold it in.
6. Press the AUX button on each remote transmitter. The LED will flash 4 times indicating that selection.
7. Release the Valet/Override button and press it 1 time and then hold it in. The LED will flash 5 times indicating that selection.
8. Press the "*" button on each remote transmitter. The LED will flash 5 times indicating that selection.
9. Release the Valet/Override button and turn the ignition OFF and then back ON.
10. Turn the ignition ON.
11. Press the Valet/Override button 2 times and then press it one more time and hold it in.
12. Press both the AUX and "*" buttons together on each remote transmitter. The LED will flash 2 times indicating that selection.
13. Release the Valet/Override button and turn the ignition OFF.

Vehicle 2:
AUX: Arm (Lock)
"*": Disarm (Unlock)
AUX and "*": Channel 2 (Auxiliary 1)

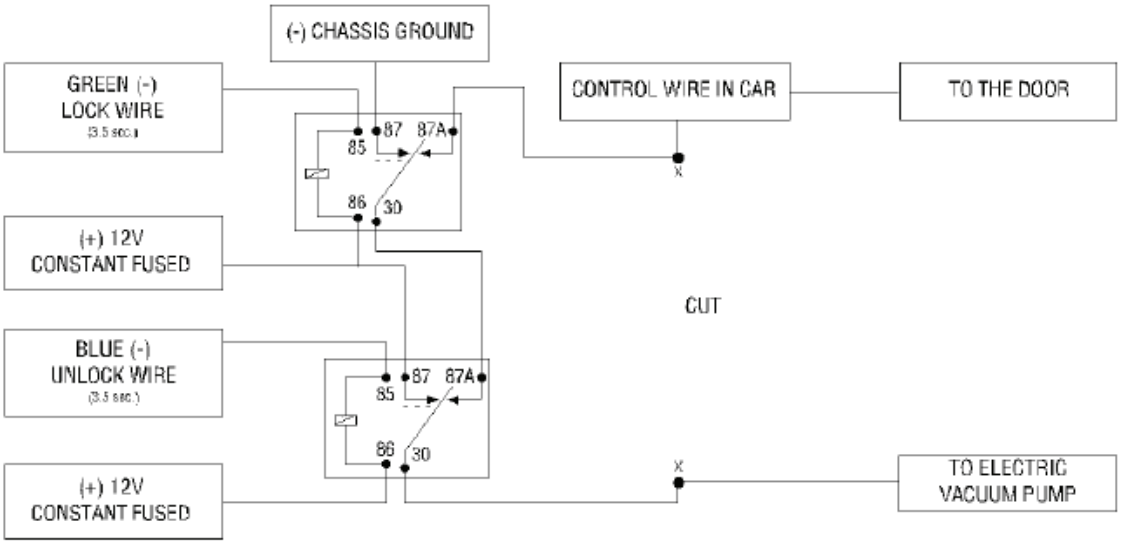
Reverse Polarity Door Lock Systems



Aftermarket Door Lock Actuators



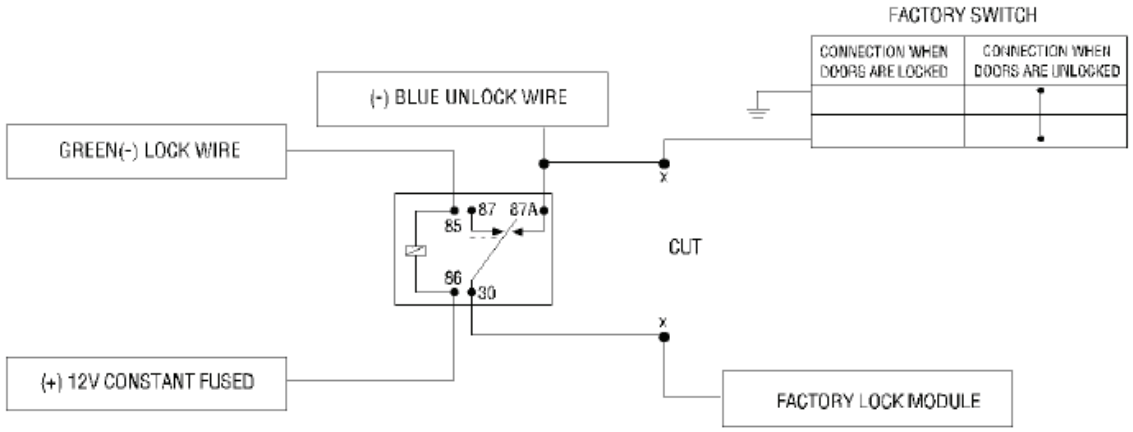
Vacuum Door Lock Systems



The lock pulse duration my be programmed to 3.5 seconds

One-Wire Door Lock System

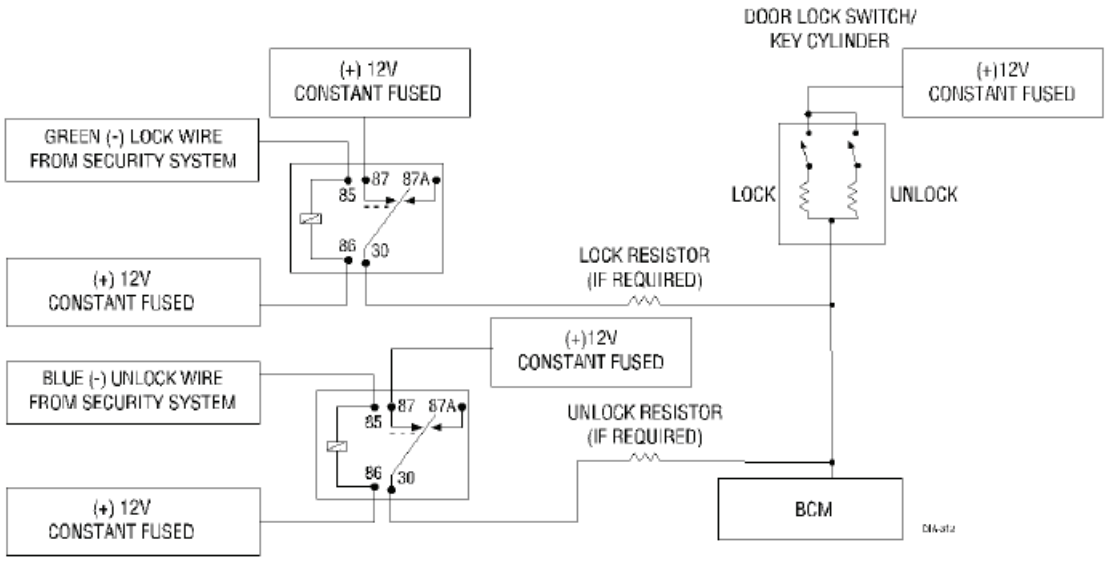
This door lock system requires a negative pulse to unlock the foors , and cutting the wire to lock the doors.



Multiplexed Door Lock Systems

Multiplexed door lock systems have more than one function on the same wire and require the use of different resistor values. It is necessary to use external relays any time a resistor is used.

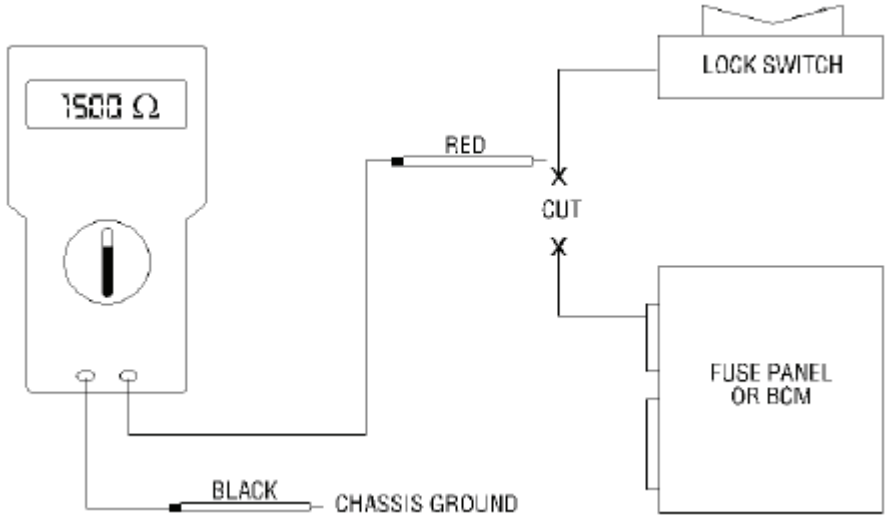
Positive Trigger Multiplexed Door Lock System



Test Procedure for Multiplexed Door Lock Systems:

1. Locate the Lock/Unlock wire in the vehicle.
2. Cut the wire in half and determine the polarity of the wire.
3. Using a digital multimeter, measure the resistance for Lock and Unlock. (See Diagram)

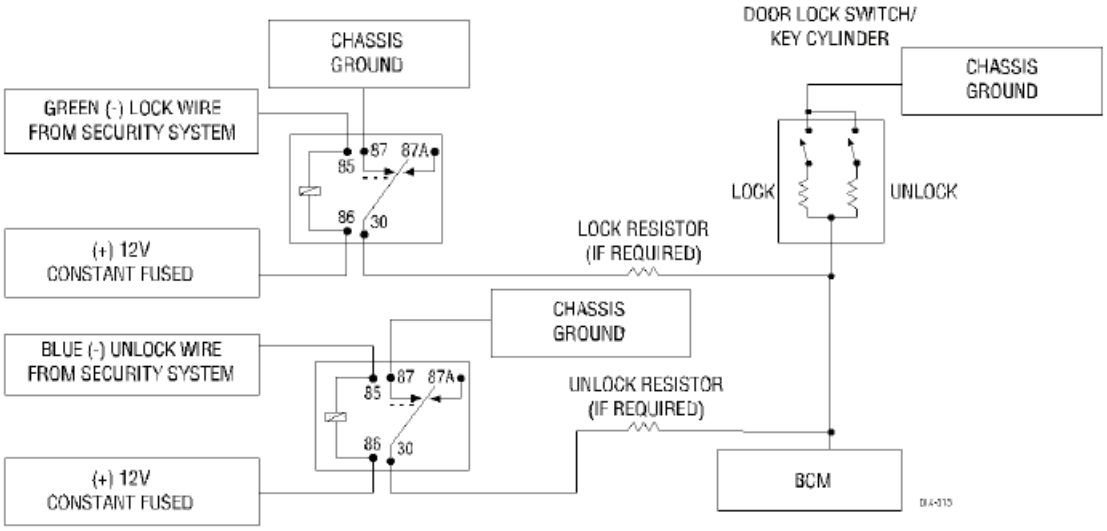
Test Configuration for Positive Door Lock Systems



Multiplexed Door Lock Systems

Multiplexed door lock systems have more than one function on the same wire and require the use of different resistor values. It is necessary to use external relays any time a resistor is used.

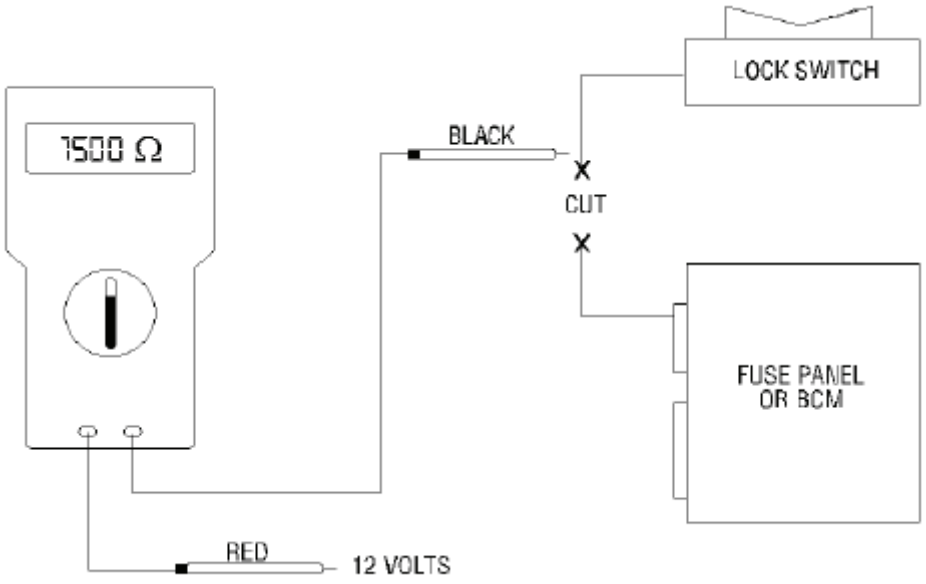
Negative Trigger Multiplexed Door Lock System



Test Procedure for Multiplexed Door Lock Systems:

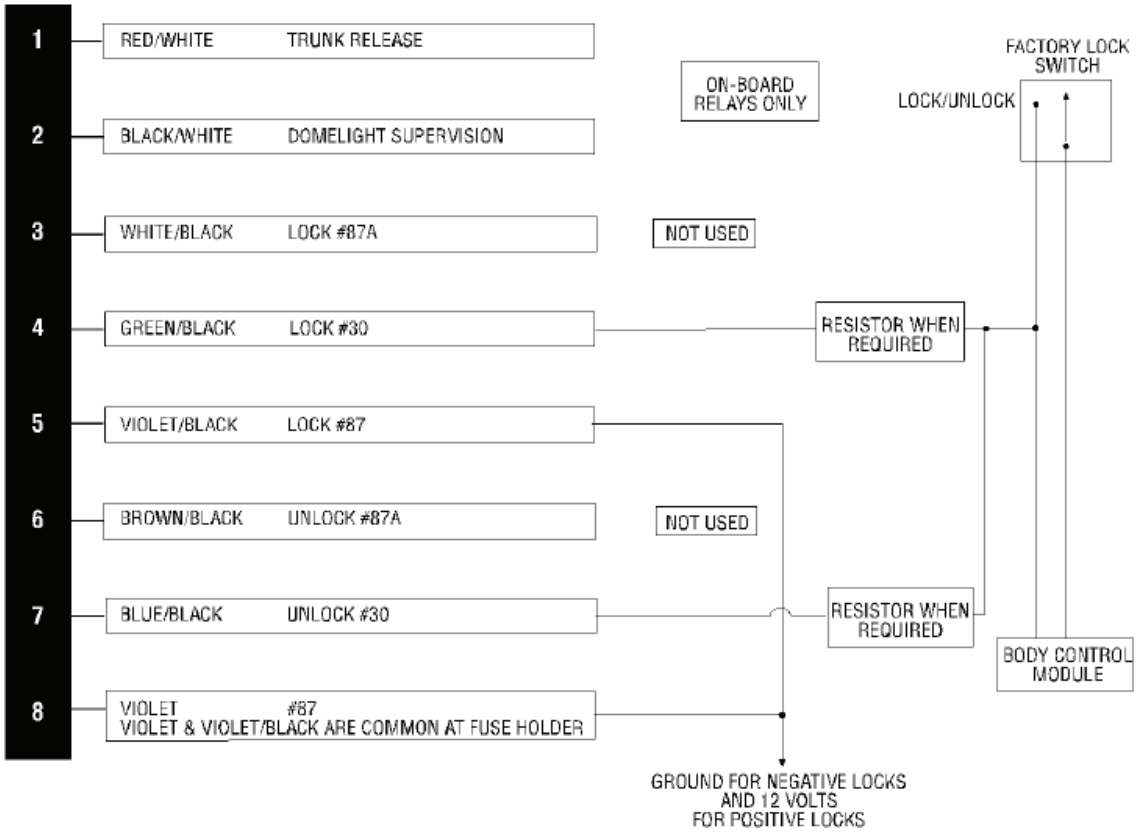
1. Locate the Lock/Unlock wire in the vehicle.
2. Cut the wire in half and determine the polarity of the wire.
3. Using a digital multimeter, measure the resistance for Lock and Unlock. (See Diagram)

Test Configuration for Positive Door Lock Systems

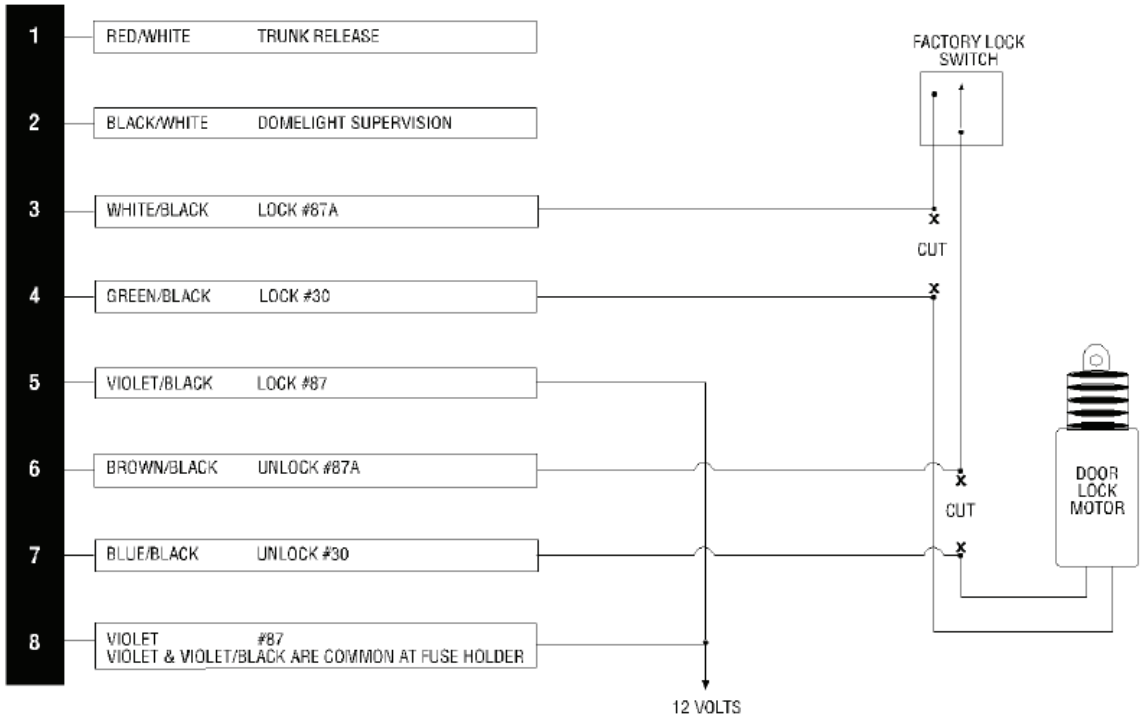


UNGO – Door Lock Application Guide

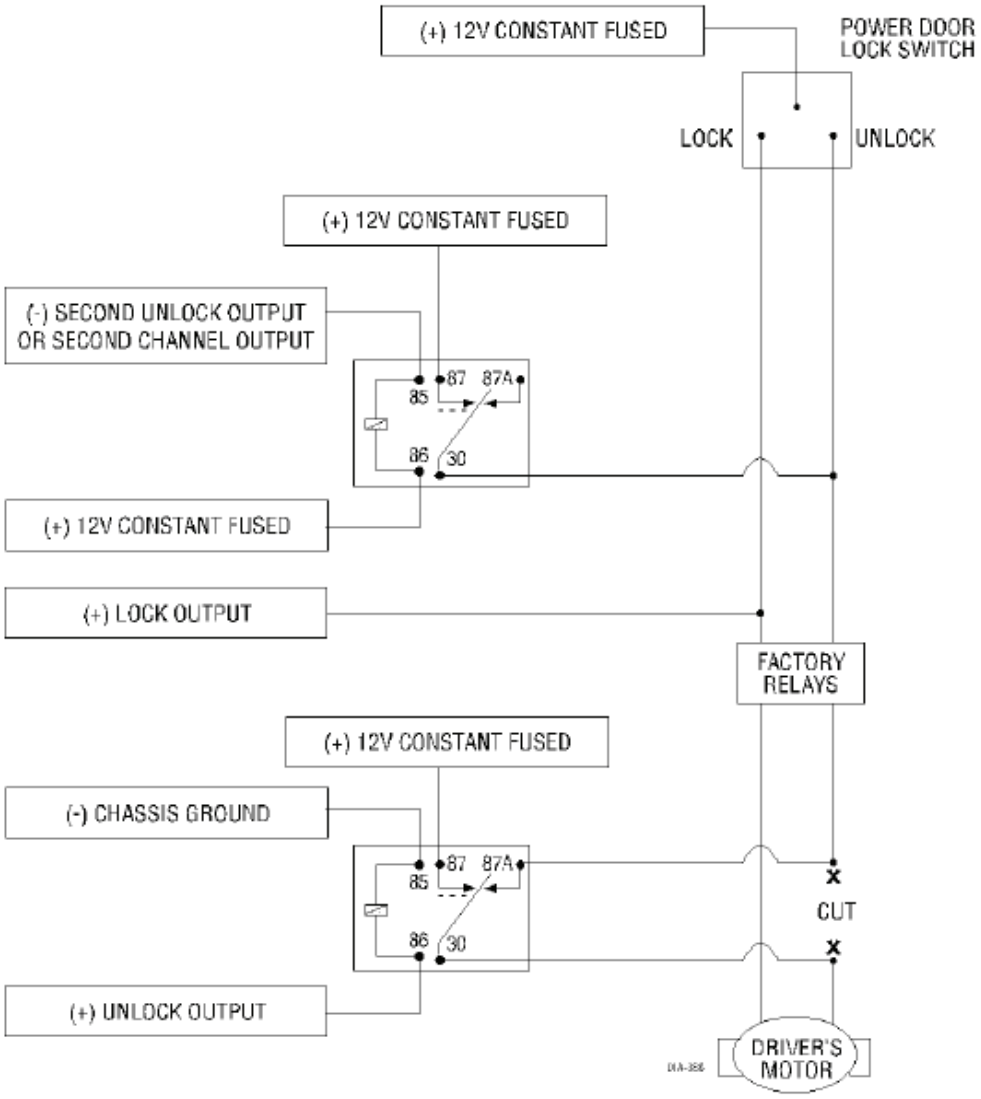
Multiplexed Door Lock Systems with On-Board Relays



Reverse Polarity Door Lock Systems with On-Board Relays:

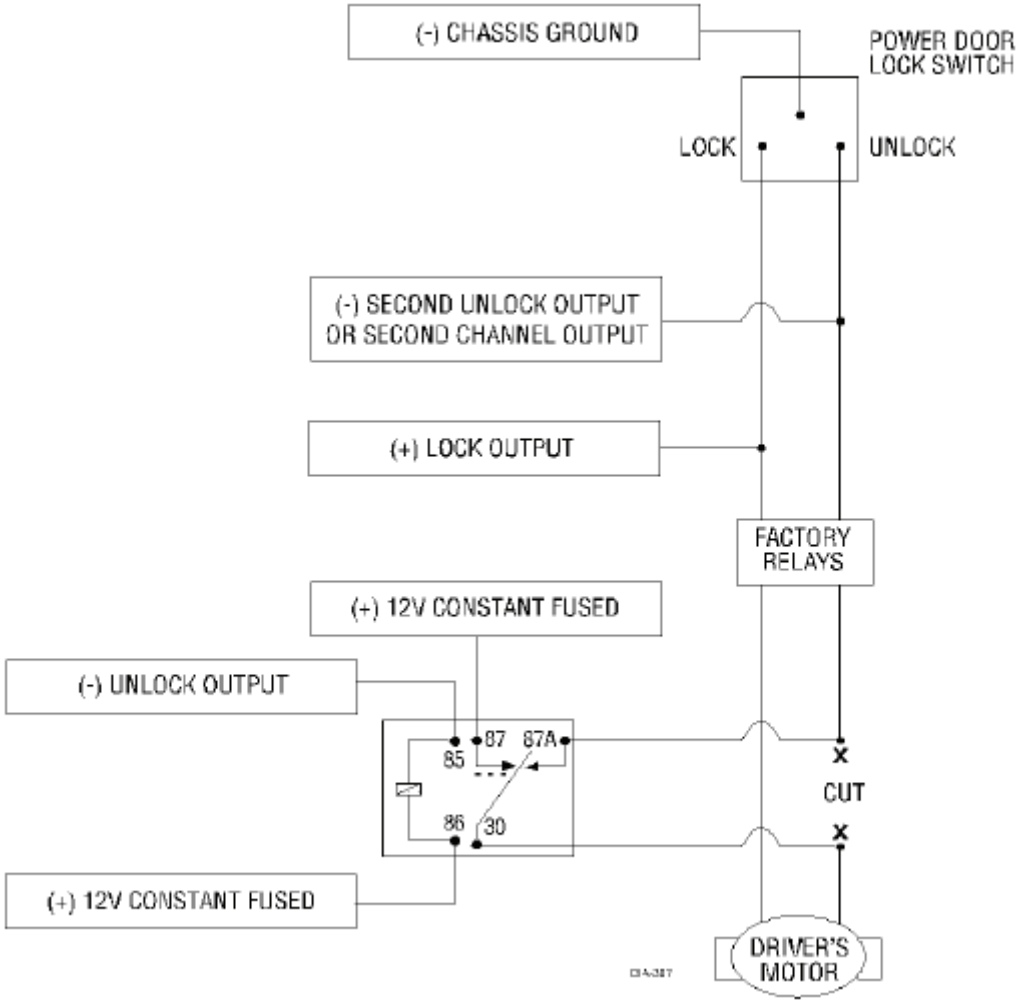


Progressive Door Lock Using Positive Door Lock Trigger



NOTE: *The second unlock output is a* ***(-)*** *output from the security/keyless entry system.*

Progressive Door Lock Using Negative Door Lock Trigger

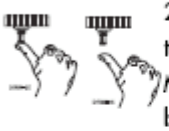


NOTE: *The second unlock output is a* ***(-)*** *output from the security/keyless entry system.*

Technical Information Module Programming: Models: K10, K20, S670, RS10
System features can also be changed by using the ProSecurity Programmer

To enter the learn routine:

1. **Key.** Turn the ignition on and then back off.



2. **Choose.** Within 10 seconds, press and release the Override switch the number of times corresponding to the feature number you want to program. (See Feature Menus.) Once the Override switch has been pressed and released the desired number of times, press it once more and hold it. After a second, the LED will flash and the horn will honk to indicate which feature you have accessed.

3. **Transmit.** The transmitter is used to select the desired setting. As shipped, the unit is configured to the LED ON settings. These are the default settings. Pressing the lock button will set it to the LED ON setting. The LED will light solid (stop flashing) to indicate the setting. The horn will honk once (if connected). Pressing the unlock button will change the setting to the LED OFF setting. The LED will go out indicating the change and the horn will honk twice (if connected).

4. **Release.** The Override switch can now be released.

For example, to program the arming mode from active to passive, within 10 seconds of turning the ignition off, and press and release the Override switch once. Then press it again and hold it. The LED will flash in groups of one and the horn will honk once (if connected). While holding the Override switch, press the unlock button. The LED will stop flashing and go out. The horn will honk twice if connected. Passive arming is now programmed. If that was not the desired setting, without releasing the Override switch, press the lock button. The LED will light solid and the horn will honk once if connected. Active arming is now programmed. Release the Override switch after the selection has been made.

You can advance from feature to feature by pressing and releasing the Override switch the number of times necessary to get from the feature you just programmed to the feature you wish to access. For example, if you just programmed Feature 2 and you next want to program Feature 3 to off, release the Override switch. Press and release it once to advance from Feature 2 to Feature 3. Then press it once more and hold it. The LED will flash in groups of three and the horn will honk three times (if connected) to confirm that you have accessed Feature 3.