RS900/RS901 *SERIES IV*
RS999 FM FLASHBACK™

REMOTE ENGINE STARTING SYSTEM

INSTALLATION INSTRUCTIONS

COOL START

PRE-INSTALLATION CONSIDERATIONS

To ease installation, we suggest that you READ THIS MANUAL and consider the following points before beginning your installation:

BEFORE BEGINNING, check all vehicle manufacturer cautions and warnings regarding electrical service (AIR BAGS, ABS BRAKES, ENGINE / BODY COMPUTER AND BATTERY).

PLAN OUT YOUR INSTALLATION and determine most suitable locations for all components to be placed. These components include: the module itself, valet/program button, possible relays, and antenna/receiver (RS900/999FM only, RS901 model does not include antenna or remotes.) Allow enough wire to create a service loop with strain relief, should servicing be required. This will also allow easier access and mounting.

DAMAGE resulting from incorrect installation or failure to follow guidelines stated in this book will not be covered under warranty and subject to repair or replacement charges.

USE A VOLT/OHM METER to test and locate all connections. Test Lights can damage a vehicle's computer systems.

ADDITIONAL PARTS, which are not included with this unit, may be needed for your particular vehicle. . These items may include extra relays (Part#CS-402A), General Motors Anti-Theft System Bypass modules for Vats / Passkey® / Passlock® Systems, (Part# CS-GMATA II) or Transponder Anti-Theft Adapter modules (Part # CS-TATA).

TECHNICAL SUPPORT: (800) 998-6880
Monday - Friday 8:00am - 4:30pm Pacific Std. Time
Web Site: www.crimestopper.com
E-mail: tech-support@crimestopper.com

CRIMESTOPPER SECURITY PRODUCTS, INC.
1770 S. TAPO STREET, SIMI VALLEY, CA. 93063

REV A - 8.2001

This device complies with FCC Rules part 15. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference that may be received, including interference that may cause undesired operation. The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modification could void the user's authority to use the equipment.

TABLE OF CONTENTS

INSTALLATION CAUTIONS & WARNINGS

FOR SAFETY REASONS, DO NOT INSTALL RS900/901/999FM in vehicles with MANUAL TRANSMISSIONS. If accidentally left in gear, a remote started vehicle could become a self-propelled threat to life and property.

DO NOT extend the RS900/901/999FM Remote start ignition harness length. Mount the module so that main harness reaches all ignition switch wiring. Extending these wires could result in poor performance.

DO NOT route any wiring that may become entangled with brake, and gas pedals, steering column, or any other moving parts in the vehicle.

DO NOT exceed the rated output current of any circuit on the Remote start module. Failure to observe this warning will result in damage to the unit not covered under warranty.

DO NOT remote start the vehicle in a closed garage. Make sure that the garage door is open or there is adequate ventilation. Failure to observe this rule could result in injury or death from poisonous Carbon Monoxide fumes.

WIRING INSTRUCTIONS

PROGRAM/OVERRIDE SWITCH: 2 PIN PLUG

This switch is used for programming features, transmitters, valet mode, and to override the optional starter disable (if installed) in the event of a non-operating remote control.

LED: 2 PIN PLUG

The LED is used as a VALET/PROGRAMMING indicator and it will also FLASH for use as security deterrent when the optional ANTI-GRIND/STARTER DISABLE output is programmed.

12 PIN PLUG:

PIN 1: WHITE: +12V or (-) NEGATIVE PARKING LIGHT OUTPUT:

Connect to vehicle parking light circuit at the back of light switch or if this is not possible, connect directly to one of the parking lights at the front of the vehicle. If your vehicle has a multiplex lighting system that requires a (-) Negative parking light output, then open the access door on the top of the module and move the jumper. SEE JUMPER PLUG DIAGRAM PAGE 8. Some European vehicles require separate left and right circuits. Use a dual relay or diodes to isolate the output. ***NOTES: (1) Default parking light output is +12 volts. (2) Use an external relay for vehicles that draw excess current from extra running lights, light bars, or trailers. Parking light output is limited to +15/-.5 AMPS only.***

PIN 2: YELLOW/WHITE: (-) HORN CHIRP/HONK OUTPUT

Connect to the Negative Horn Trigger wire usually located near the steering column. If the vehicle horn circuit requires +12V, then a relay is required. RELAY WIRING: Connect the Yellow/White wire to terminal 85, connect relay terminals 86 and 87 to +12V constant power. Connect terminal 30 of the relay to the +12V positive Horn activation wire.

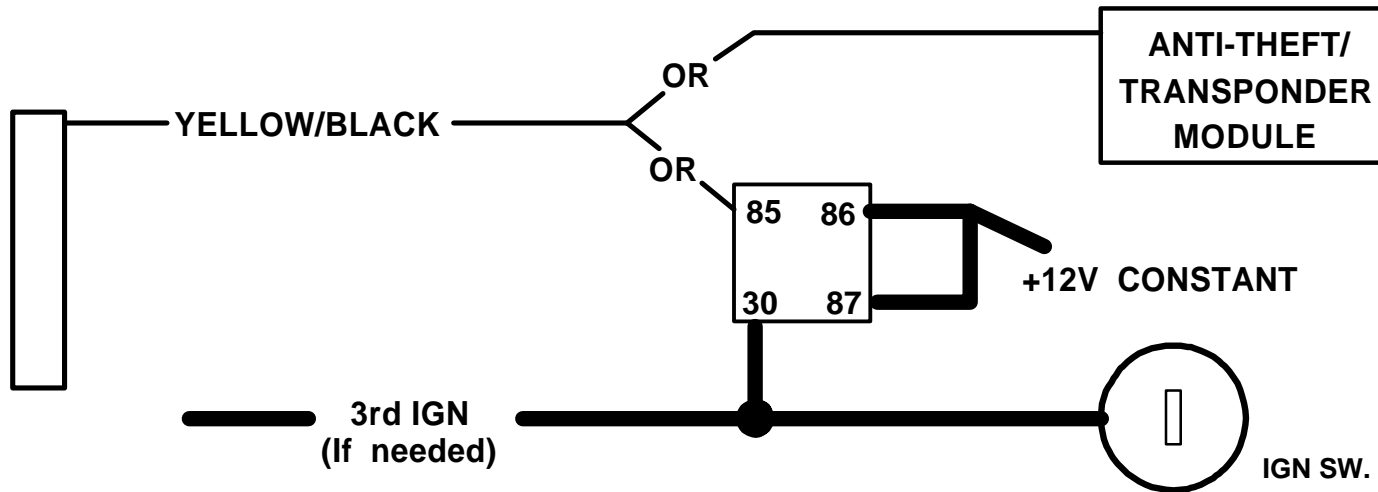### PIN 3: BLACK: MAIN SYSTEM GROUND

Connect to chassis metal of the vehicle. An existing bolt or screw may provide an adequate ground, or drill a small hole, scrape away paint and attach using a sheet metal screw & star washer. This wire must be connected to a proper ground or undesirable and inconsistent operation will occur. Do not use Factory ground locations.

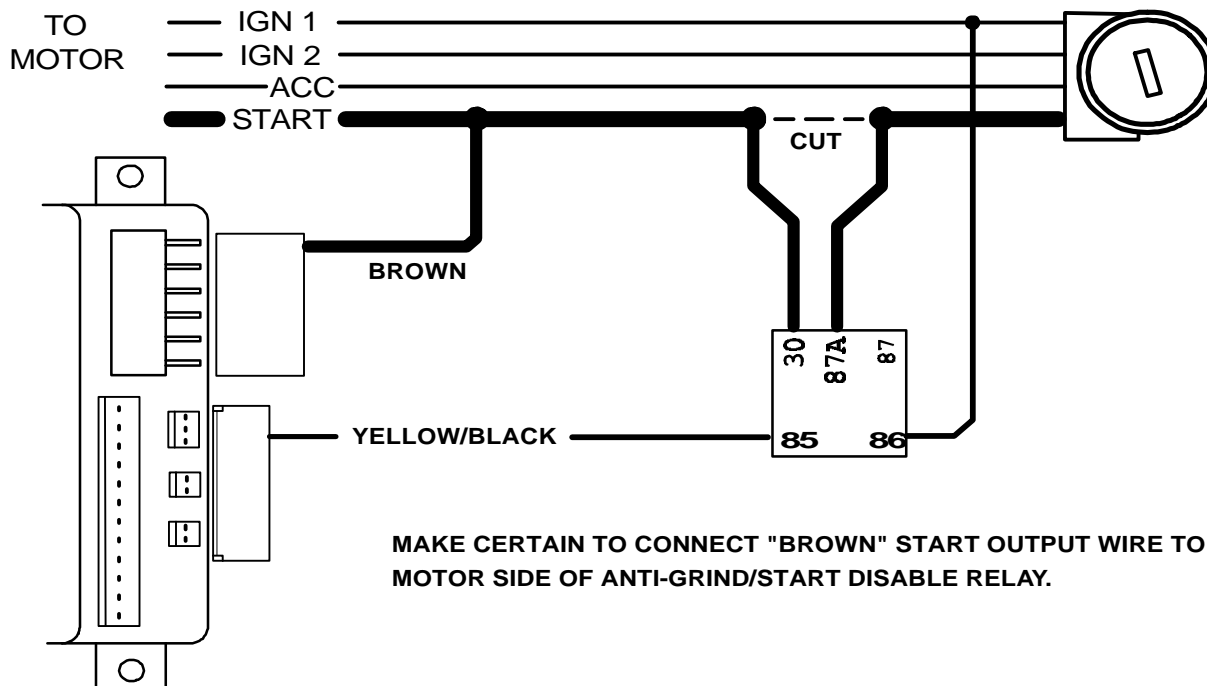### PIN 4: YELLOW/BLACK: (-) IGNITION OUTPUT -or- ANTI-GRIND/STARTER DISABLE OUTPUT

This negative output wire is programmable and can function two different ways. It can be used as a Negative Ignition output for GM Anti-theft and Transponder Bypass modules, or it can be programmed to function as an Anti grind/Starter Disable output. As a Negative Ignition wire, this wire activated when the remote start button is pressed and stays on through the duration of the remote start. As an Anti grind/Starter disable this wire activates when the Lock button on the remote is pressed and during remote start. When using this wire for an Anti grind/Starter disable, an optional Relay is needed to interrupt the Starter circuit. The starter disable circuit adds an anti-theft feature to this remote start system and to prevent accidental grinding of the starter if key is turned to far after a remote start. See diagrams on NEXT PAGE.

WIRING INSTRUCTIONS

PIN 4: YELLOW/BLACK FOR NEGATIVE IGNITION OUTPUT:

YELLOW/BLACK

OR

OR

ANTI-THEFT/ TRANSPONDER MODULE

85	86
30	87

+12V CONSTANT

3rd IGN (If needed)

IGN SW.

PIN 4: YELLOW/BLACK: FOR ANTI-GRIND/STARTER DISABLE OUTPUT: (Relay not included)

TO MOTOR

IGN 1

IGN 2

ACC

START

CUT

BROWN

30 87A 87

YELLOW/BLACK

85   86

MAKE CERTAIN TO CONNECT "BROWN" START OUTPUT WIRE TO MOTOR SIDE OF ANTI-GRIND/START DISABLE RELAY.

WIRING INSTRUCTIONS

PIN 5: TAN: (-) AUX OUTPUT (TRUNK POP)

This output will provide a ground pulse when button #3 (Trunk) on the remote transmitter is pushed to activate a factory electric trunk release or other optional accessory. Note: this is a momentary output that will stay on as long as the remote button is pressed and held. System will also DISARM/UNLOCK when trunk pop is activated to prevent unnecessary triggering of Factory Alarm systems.

PIN 6: GREEN: (-) START ACTIVATION TRIGGER (RS901 Add-on model)

This wire allows a host alarm Auxiliary Channel Output or Factory Keyless Entry System (RS901) to activate a Remote Start. A one second Ground pulse or 3 successive short pulses (when programmed) will trigger a remote start.

PIN 7: GRAY: (-) HOOD PIN SWITCH

Connect the Gray wire to a switch that is at ground when the hood is open. If an existing switch is not available, then one must be installed. When this wire is grounded, the remote start is inhibited. If hood is opened on a remote started engine, the unit will immediately shut the motor off. If hood is open before a remote start unit will not attempt to start engine.

PIN 8: PINK: (-) NEGATIVE DIESEL GLOW PLUG INPUT (DIESEL VEHICLES ONLY)

Connect Pink wire to indicator circuit that shows a (-) Negative signal while the "WAIT TO START LAMP" is on. On diesel vehicles, the RS900/901/999FM systems will wait until light turns off before attempting a remote start. Note: A relay may be required for vehicles that have a Positive wait to start lamp circuit. (Relay not included)

PIN 9: PURPLE: (+12V) BRAKE RESET

Connect the Purple wire to the side of brake pedal switch that shows +12 volts ONLY when pedal is depressed. This is the wire that turns off the remote start once the driver's key is in the Ignition and turned to the ON position.

PIN 10: ORANGE/BLACK: (-) OEM DISARM OUTPUT

This wire provides a Ground pulse to disarm the vehicles' Factory anti-theft system prior to a Remote Start. Connect this wire to the vehicles' anti-theft disarm wire. This wire is sometimes found coming off the Driver's door key switch or at the Factory Anti-theft control module. This wire may not be needed if Factory Security only requires a door unlock pulse.

PIN 11: ORANGE: (-) OEM REARM OUTPUT

This wire provides a ground pulse to rearm the vehicles' FACTORY anti-theft system after a timed-out or aborted remote start. Connect this wire to the vehicles' anti-theft rearm wire or to the door pin circuit depending on your requirements. This wire may be needed to pulse the door pin circuit on vehicles with retained accessory power.

PIN 12: RED/WHITE: TACHOMETER INPUT

When installing the RS900/901/999FM in Tach Ref. mode, this wire must be connected to a valid source of AC voltage. This wire allows the RS900 to sense the engine and control the starter motor. See TACH REFERENCE MODE for more.

IGNITION SWITCH WIRING

6 PIN HIGH-CURRENT CONNECTOR:

PIN 1: BROWN 14 GA.:   **STARTER OUTPUT (30A)**
PIN 2: GRAY 14 GA.:   **ACCESSORY / IGNITION 2 (30A)**
PIN 3: RED 12 GA.:   **BATTERY CONSTANT FUSED (30A)**
PIN 4: RED 12 GA.:   **BATTERY CONSTANT FUSED (30A)**
PIN 5: PINK 14 GA.:   **IGNITION (30A)**
PIN 6: PINK/WHITE 14 GA.: IGN 2 or ACC 2 (30A) (See Page 8)

NOTE: Heavy duty/High Current Ignition circuits greater than 30 AMPS. Industrial vehicles, dual AC, etc. require high-current relays. DO NOT use the outputs of the RS900 for High-Current systems or you will risk damaging the unit and creating a hazardous condition! Use Part #CS-403 relays for circuits up to 70 amps.

Diagram not to scale, for illustration purposes only. Your vehicle may differ.
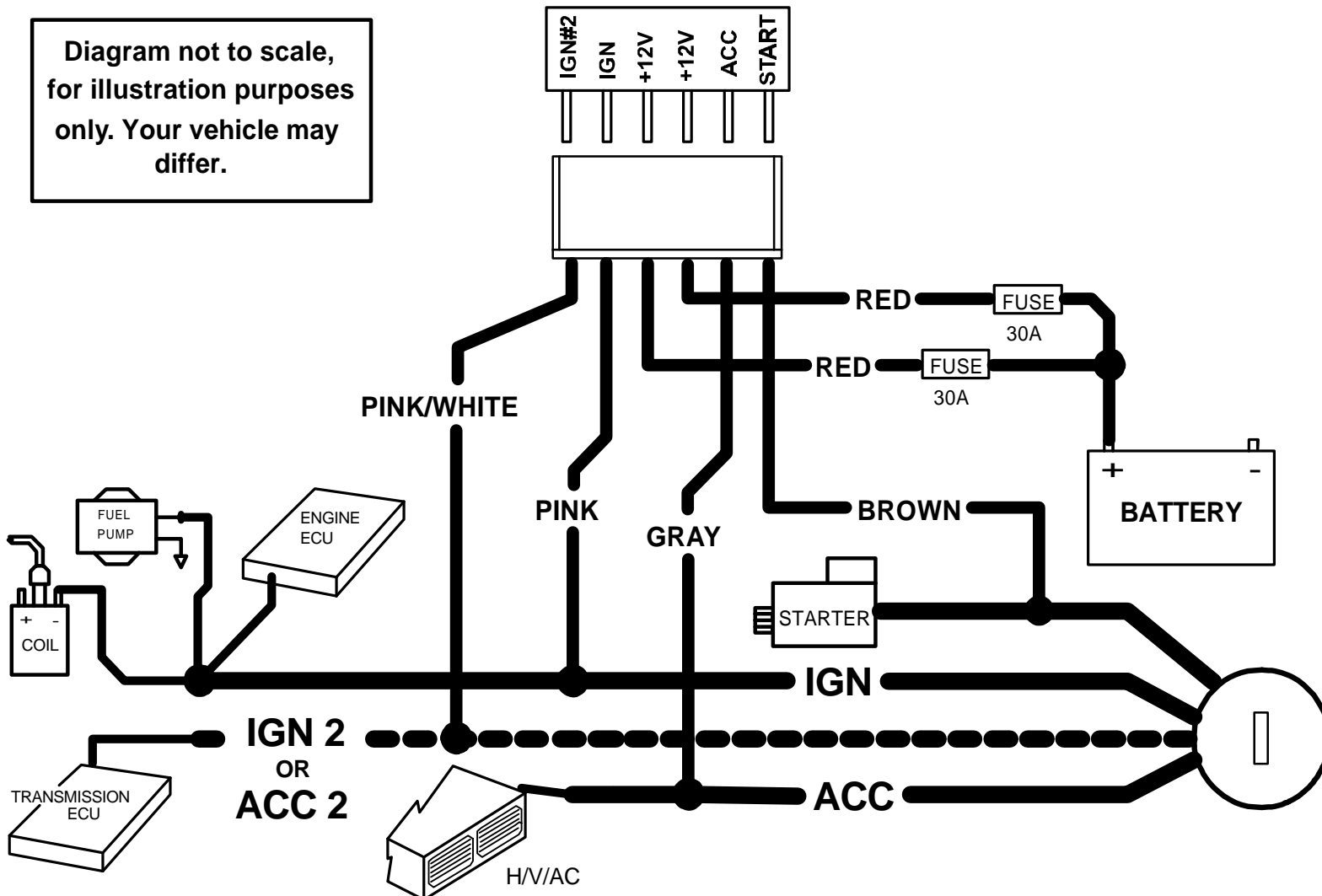
POWER DOOR LOCK WIRING

3 PIN DOOR LOCK PLUG:
PIN 1: GREEN: (-) Negative pulse for LOCK
PIN 2: RED: +12V Coil Power for external relays TERM 86.
PIN 3: BLUE: (-) Negative pulse for UNLOCK

DETERMINING DOOR LOCK TYPE: We recommend determining the type of locking system the vehicle has before connecting any wires. Incorrect connection will result in damage to the remote start and/or vehicle locking system.

COMMON DOOR LOCK TYPES:

Negative Trigger (-): Many Imports, Late Model Ford & General Motors
Positive Trigger (+): Many GM, Chrysler/Dodge/Plymouth models:
Reverse Polarity: Many Ford/Lincoln/Mercury, Dodge/Chrysler/Plymouth, and some GM Full-size Trucks
Single Wire Systems: Late /Chrysler/Dodge/Plymouth models:
95-UP Stratus, Cirrus, Breeze, 96-UP Caravan
Voyager, Town & Country; 90-97 Ford Probe; Mazda
Semi Automatic: Older Saab and Volvo, Isuzu, Hyundai
Electric Vacuum: Many mid 1980's through mid 1990's European makes

Crimestopper Doorlock Accessories:
CS-6600DLM: Dual-relay plug-in module for Reverse Polarity, Positive, or Aftermarket Motors.
CS-6500DLI: Plug-in pulse inverter that converts the Negative outputs of the system to Positive type for Positive Door Lock systems.
CS-610S1: Aftermarket door lock actuator (motor).

NEGATIVE TRIGGER DOORLOCK WIRING

POSITIVE TRIGGER DOORLOCK WIRING

POWER DOOR LOCK WIRING
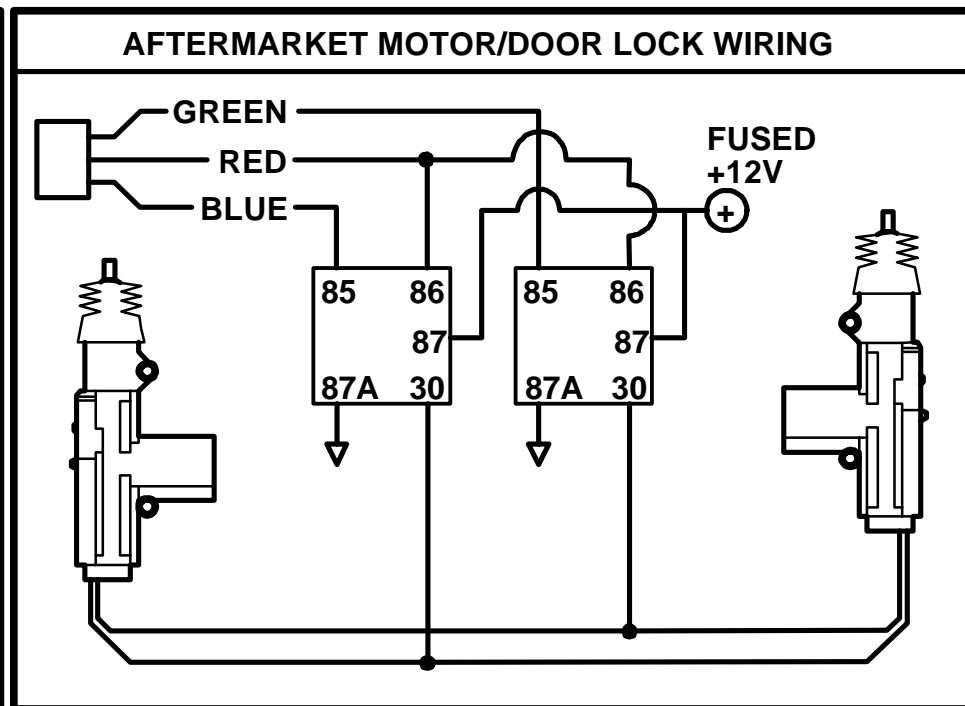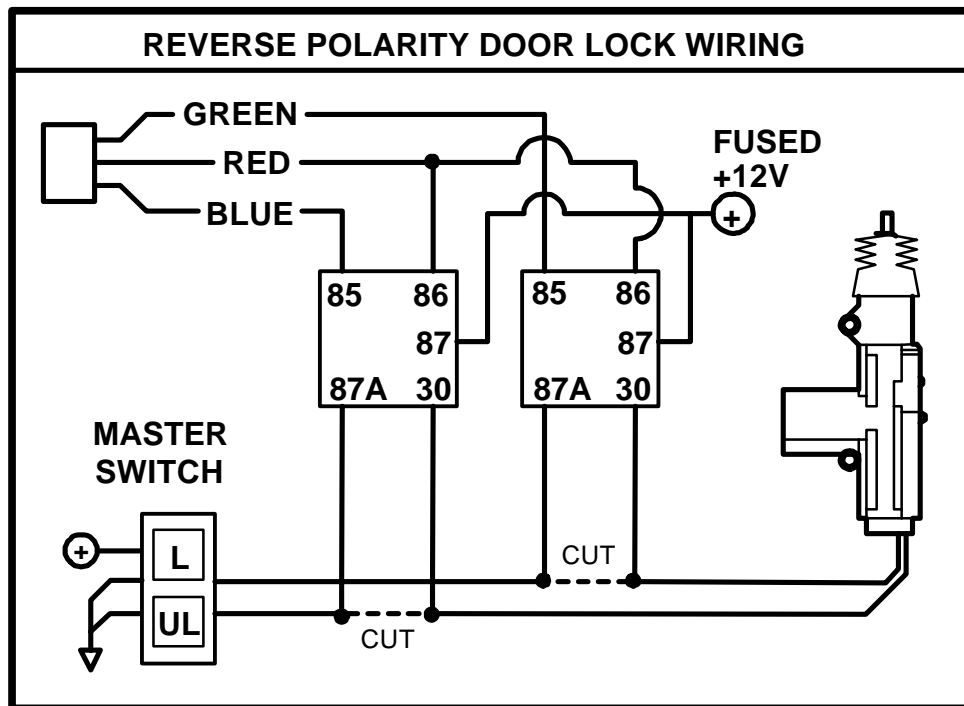
REVERSE POLARITY DOOR LOCK WIRING

GREEN
RED
BLUE

FUSED +12V

85   86
87
87A   30

85   86
87
87A   30

MASTER SWITCH

L
UL

CUT

CUT

AFTERMARKET MOTOR/DOOR LOCK WIRING

GREEN
RED
BLUE

FUSED +12V

85   86
87
87A   30

85   86
87
87A   30
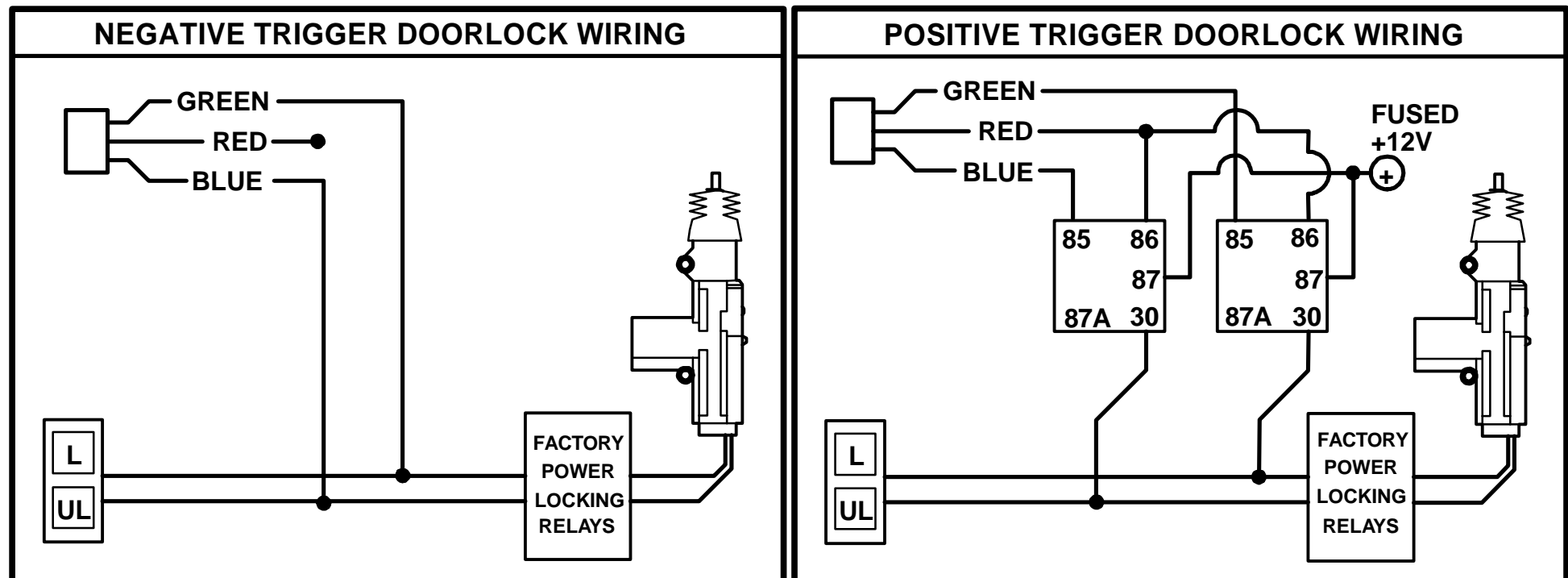
JUMPER PIN DIAGRAM

Jumper pins are used to change/configure the settings of the on board IGN2/ACC2 (PINK/WHITE) and the Parking Light (WHITE) output relays. Snap open the door on the top of the control module to access these jumper pins.

CONTROL MODULE

IGN 2 OUTPUT (DEFAULT)

ACC 2 OUTPUT

(-) NEGATIVE PARKING LIGHT (500 mA)

+12V (10A) PARKING LIGHT (DEFAULT)

SIDE VIEW

JUMPER PLUG

JUMPER PINS

JP1 JUMPERS: ON BOARD IGN2/ ACC2 RELAY

JP2 JUMPERS: PARKING LIGHT OUTPUT
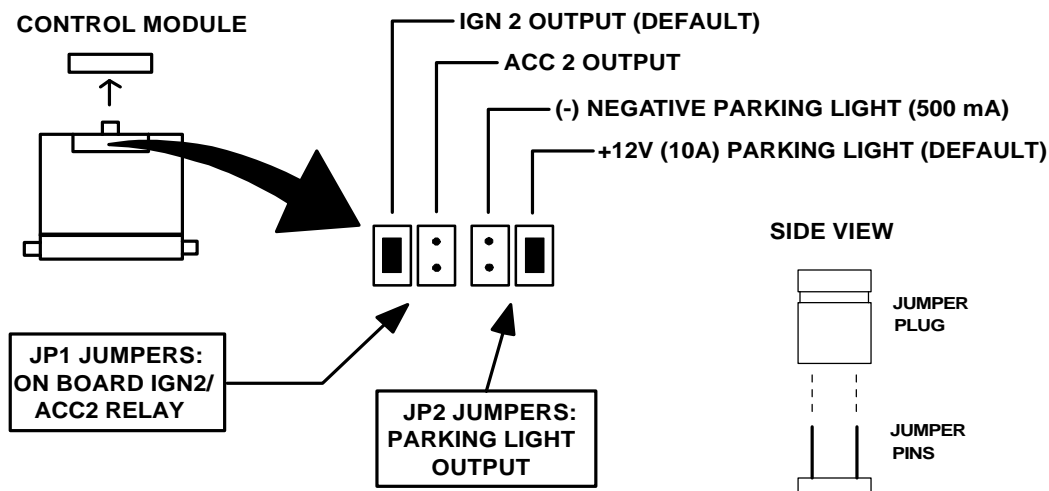
IMPROVED "SMART TACHLESS" MODE

This RS900/901/999FM systems includes a unique voltage monitor system called "Smart Tachless" mode. This mode allows this unit to efficiently start an engine without the use of a tach signal wire. These modules actively monitor the voltage reference on the vehicle every time remote start is requested.

IMPORTANT NOTES: (1) NO SETUP is required for the RS900/901/999FM improved "Smart Tachless" Mode (PLUG and PLAY). (2) On the rare occasion that "Smart Tachless" mode does not operate satisfactorily, change the voltage reference level as described below, or use a verified tach source with the red/white tach wire.

REDUCING "SMART TACHLESS" CRANKING TIME:

In the event "Smart Tachless" mode slightly over-cranks the starter motor, the settings can be changed. The purpose of adjusting the "Smart Tachless" Mode, is to lower the voltage reference threshold [required by the unit] which reduces the cranking time. There are two settings available: #10 (Lower) and #9 (Lowest). To set the voltage reference level ONE step lower, follow these steps:

1. Open hood (or ground Gray wire if no hood pin is installed)
2. Turn the key to the ON position
3. Press program button 5 times, after a few seconds the unit will flash the lights 5 times.
4. Carefully press the program button 10 times (you must get a light flash after each press.)
5. Press the Lock Button on the remote. Lights will flash once. (For RS901 Models with no remote transmitters, tap the brake once in place of pressing the lock button on the remote)
6. Turn Ignition OFF, Close hood (or un-ground the Gray wire) and check to see if cranking time is reduced.

TO LOWER THE UNIT TO THE LOWEST REFERENCE LEVEL: Repeat steps above, however press the program button 9 TIMES in STEP #4.

TACH (RPM) REFERENCE MODE

Tach Reference Mode provides reliable remote starting performance though engine speed sensing. When using Tach Reference Mode, the Red/White wire is used for Tach signal [Engine RPM] input. Most modern engines include various points where the Engine Speed [Tach] or A/C signal may be obtained. Tach Signal examples: Negative (-) side of ignition coil, at the Distributor or Ignition Control Module, Coil Pack, Engine Computer, or Crankshaft Sensor. Sometimes Fuel injection solenoids, and Alternator stator pins can be used. *These Tach Signal locations mentioned are provided as a guide, your vehicle may differ. Some locations will NOT be a good location for Tach source due to RF noise or Computer Data. TACH FINDER mode will assist you in locating a valid tach source. (See Next Page.)*

TACH FINDER & TACH PROGRAMMING

TACH FINDER MODE:

This system now includes a Tach Finder mode to assist in locating a valid or viable tach source for your installation. Follow the Tach Finder steps to locate and /or verify a tach signal. When following the steps, the unit will begin to flash the parking lights if you have the Red/White wire connected to a valid tach source. If lights do not flash, then try another wire until you locate a tach signal that will cause the Parking lights to flash. NOTE: On some vehicles equipped with daytime running lights, it may be difficult to see any flashing parking lights. In this case your only notification will be the slight "ticking" sound coming out of the module from the on-board flashing light relay.

TACH FINDER:

1. Open hood (or ground Gray hood pin wire if no hood pin is installed)
2. Start Engine with the key.
3. Press the Program button for 2 seconds
4. Lights will begin flashing if the Red/White wire is connected to a valid tach source. If not try a different wire until one is located.
5. Once Tach is located then turn off engine and close hood to abort (un-ground Gray wire).
6. See Tach Reference programming.

TACH PROGRAMMING:

1. Open hood (or ground Gray hood pin wire if no hood pin is installed.)
2. Red/White wire should be connected to a valid Tach source.
3. Start engine with key.
4. Press program button 5 times, then wait for 5 light flashes.
5. Push program button again once. (You must get one light flash after button is pressed.) This unit is now at option #1-Tach Learning.
6. Press the #2 Unlock Button on remote transmitter. The unit will read the Tach source and flash the lights twice for program confirmation. (On RS901 IV models without remote transmitters, press the brake pedal in this step.)
7. If lights do not flash twice for confirmation, then try another tach source or try the tach finder.

NOTE (1): The Tach Signal locations on page 9 are provided as a guide, your vehicle may differ. Some locations will NOT be a good location for Tach source due to RF noise or Computer Data. The RS-900 may not detect a clean signal. Of you are unable to locate a Tach Source, call Crimestopper for Tech Support: (800) 998-6880.
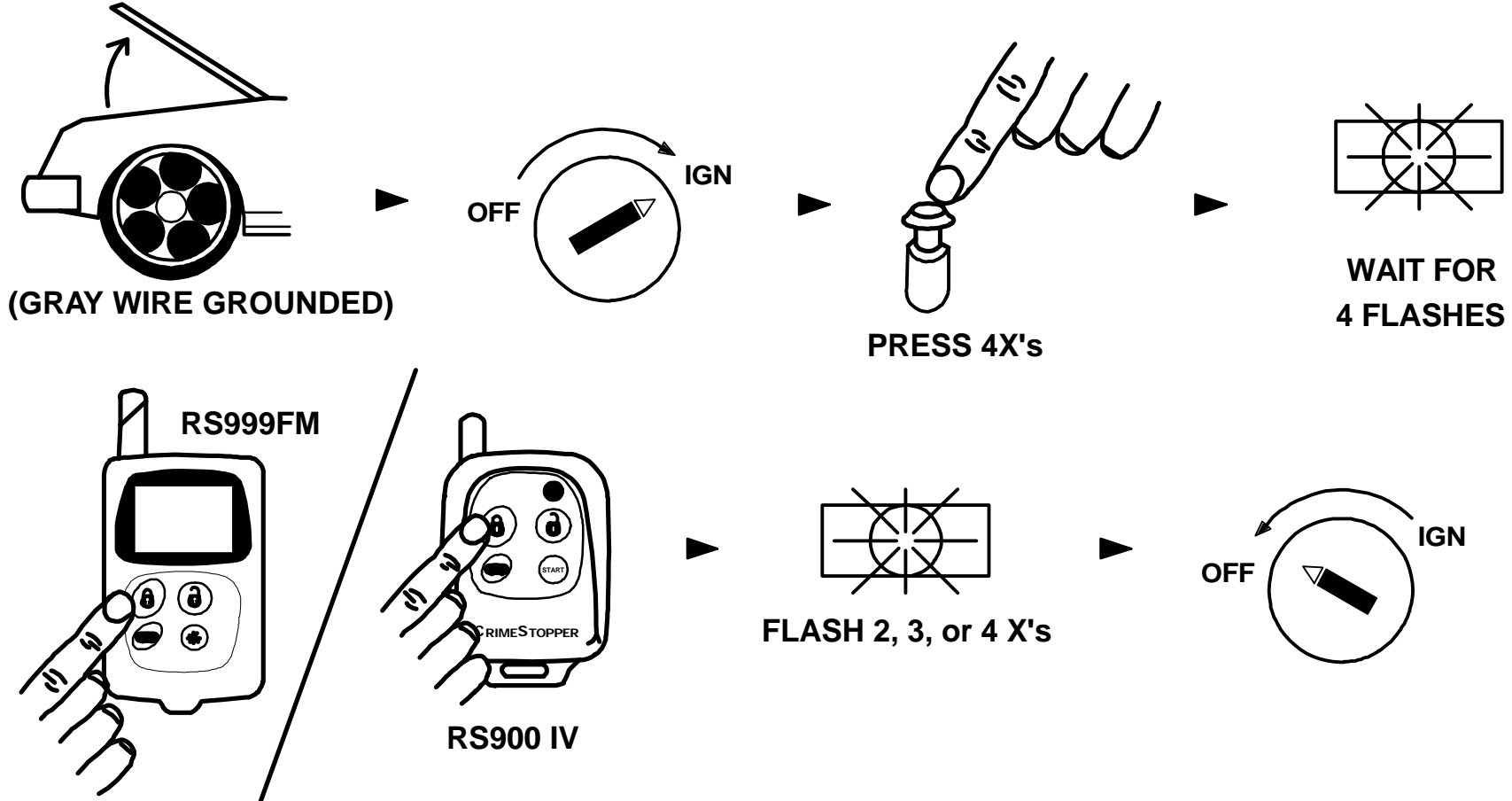
NOTE (2) The RS900 will operate in "Smart Tachless" Mode [by default] unless a Tach Reference has been programmed. This unit automatically switch out of "Smart Tachless" Mode when Tach is programmed.

900 IV TRANSMITTER / 999FM TRANSCEIVER CODE LEARNING

Transmitter/Transceiver Code Learning: (Excludes RS901)
Note: All transmitter codes must be learned at time of programming!! The RS900 IV system allows storage of up to 4 different transmitter codes.

1. Open hood (ground the Gray hood pin wire if no hood pin is installed.)
2. Turn key to the ON position. (Doors will lock if Autolock is programmed)
3. Press Programming button 4 times, then after a few seconds the unit will flash the parking lights 4 times.
4. Press button #1 of the transmitter to be learned. You should get 2 light flashes indication the unit is waiting for a 2nd code, then press button #1 of a second transmitter, the unit will flash 3 times indicating its waiting for the 3rd code and lights will flash 4 times for 4th code. If all 4 codes are learned, the unit will automatically exit code learning mode, otherwise turn key off and close hood. (See Diagram Below)

(GRAY WIRE GROUNDED)

OFF IGN

PRESS 4X's

**WAIT FOR
4 FLASHES**

RS999FM

RS900 IV

CRIMESTOPPER

FLASH 2, 3, or 4 X's

OFF IGN

2-VEHICLE OPERATION

An RS900 Series IV remote control can be used to Remote Start a second vehicle with an identical RS900 Series IV system installed. Follow these steps on Vehicle #2: 1) Open hood (ground the Gray hood pin wire if no hood pin is installed.) 2) Turn Key to the ON position. 3) Press the program button 4 times, then the unit will flash the parking lights 4 times. 4) Press Lock Button on each of Vehicle 2 remotes (they must be relearned), lights will flash after each remote learned. Then immediately press buttons 3 and 4 (Trunk and Start) together on Vehicle #1's remote. 5) Turn key off and close hood.

Vehicle #1 remote will now remote start Vehicle #2 by pressing the Trunk AND Start buttons together. Vehicle #1 Remote cannot perform any functions other than remote start on Vehicle #2 (No Lock, Unlock, or Trunk pop). See Diagram Below.

2 VEHICLE OPERATION
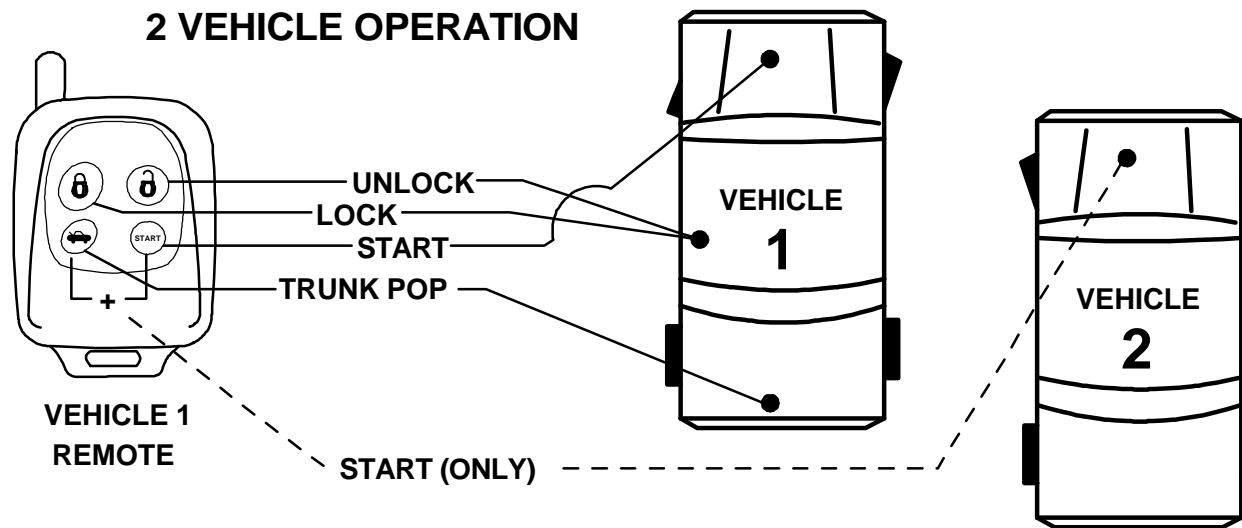
OPTION PROGRAMMING

This system has several installer programmable features as listed in the chart on next page.

Option Programming:
1. Open hood (ground the Gray wire if no hood pin is installed)
2. Turn Key to the ON position
3. Press program / valet button 5 times, after a few seconds the unit will flash the lights 5 times.
4. Push the valet/program button [again] the number of times that corresponds to the option number desired. You must get a light flash after each button press. See chart on next page for option list.
5. A) *For RS900/999FM:* When you reach the desired programming level, Press button #1(Lock) or #2 (Unlock) to change the option.
5. B) *For RS901* (No remotes) Tap the brake pedal once to change the option (Same as pressing Button 1 on the remote) or tap the brake pedal 2 times (Same as pressing Button #2 on the remote)
6. Turn Ignition OFF, Close hood and check for changed features. Change each option individually repeating #1-5.

OPTION PROGRAMMING

OPTIONS CHART *= DEFAULT*

Option #	Option Description	Option Values	Button #1 LOCK	Button #2 UNLOCK
1.	Tach Learning	Tach Reference (Page 10)		Learn Tach
2.	Autolock with Ignition	ON or OFF.	ON	OFF*
3.	Door Lock Pulse Time	0.75 Sec. (Standard) OR 3.0 Sec. (European Vacuum)	3 Sec.	0.75 Sec.*
4.	Double Unlock Pulse	ON or OFF	ON	OFF*
5.	OEM Interface	Remote Start w/Single Pulse or 3 Pulses on Green input wire	3 pulse	1 Pulse*
6.	Passive Starter Disable	ON or OFF	ON	OFF*
7.	Horn Chirps on remote start	ON or OFF	ON	OFF*
8.	Lock During and After Remote Start Abort	ON or OFF	OFF	ON*
9.	Smart Tachless Reference Voltage Setting #9	ON or OFF	OFF	ON*
10.	Smart Tachless Reference Voltage Setting #10	ON or OFF	OFF	ON*
11.	NOT USED	NOT USED		
12.	Yellow/Black Wire (-)	(-) IGN output or (-) Anti-Grind	Anti-Grind	IGN output*
13.	Remote Start Engine Run Time	Button #1 = 12 Min. Button #2 = 24 Min. Button #3 = 36 Min. Button #4 = 48 Min.	12 Min.	24 Min.*
14.	Option reset	Button #2		Reset ALL to Default

PROGRAMMABLE OPTIONS:

1. Tach Learning:

The unit will program the Tach signal from the Red/White wire when button 2 is pressed at this option level. See pages 9-10 Tach Ref/Tach programming.

PROGRAMMABLE OPTIONS

2. Auto Lock/Unlock with Ignition:
Controls whether the doors will automatically lock when the ignition is turned on and will unlock when turned off.

3. Door Lock Pulse Time:
Controls the amount of time (0.75 sec. or 3 sec.) for the lock/unlock pulse. The standard setting is .75 which covers for most vehicles. The 3 sec. setting may be required for 1980's/90's European Vehicles that require a 3 second long pulse to operate Vacuum or Pneumatic door lock systems.

4.Double Unlock Pulse:
The unit will send 2 unlock pulses when the #2 Unlock button is pressed. This feature may be required for interfacing this alarm with an existing Factory Keyless Entry or Alarm system in a vehicle.   These systems are found on some Nissan, VW, Toyota, and Lexus vehicles.

5. OEM Interface (RS901 Add-on Model):
This option controls this input selection for the Green Negative Start Trigger Wire. When using an Aftermarket Host Alarm or Keyless Entry System: Leave the setting as "1 pulse" and connect the Green wire to the (-) Auxiliary output wire of the Alarm or Keyless Entry System. For Factory Keyless entry systems (without a <-> negative auxiliary output), change the option to "3 Pulse" and tap the green wire into a Negative signal wire on the vehicle such as a Negative door lock wire. Pressing the Factory remote lock button 3 times will produce 3 short negative signals to trigger a remote start.

6. Passive Starter Disable:
Note: Yellow/Black Negative Output must be programmed as an "Anti-Grind" for this feature. See option 12.
This option controls the unit's Negative Anti-Grind output allowing it to come on automatically 1 min after the ignition has been turned off. Note if you set this system up for a Passive Starter Disable/Anti-Grind, you must use the remote control UNLOCK button when returning to the vehicle to deactivate it over vehicle will not start with key. This option allows the unit to act as a passive immobilizer.

7. Horn Chirps on Remote Start:
This option adds usability to the unit's Negative horn honk/chirp output allowing for an additional 3 short chirps when requesting a remote start via the remote.

8. Lock During/After Remote Start:
This option controls whether the unit will automatically lock during and after a remote Start abort or time-out.

9. & 10. Smart Tachless References:
These options change the Voltage reference when using "Smart Tachless" mode to reduce crank time. See "Smart Tachless" mode section on Page 9.

11. No Option, Not used

PROGRAMMABLE OPTIONS

12. Yellow/Black (-) Negative IGN or ANTI-GRIND Output:
This option controls the units Negative multi-function output. Default: It is a Negative IGN output that turns ON and stays on for the duration of the remote start. Use this wire to turn on Anti-theft bypass adapters for GM or Transponder systems. When changed to an Anti-Grind, this output activates and deactivates with Lock/Unlock buttons on the remote. Anti-Grind is designed for use with an optional Starter kill relay (Not included).

13. Run Time: This option controls the engine run time for remote start. Choices are 12, 24, 36, or 48 minutes.

14. Option reset: Provides a "reset" to restore all options to the default position as seen in the chart on Page 13.

TROUBLESHOOTING: "BEFORE YOU CALL" SECTION

UNIT FLASHES LIGHTS ONCE AND WILL NOT ATTEMPT A START:
The unit is in Valet mode. Turn IGN ON, press and hold valet/programming button for about 5 seconds then turn key off. Unit is now out of valet mode and should perform a remote start. If optional LED is installed, then it will be on solid when in Valet.

UNIT FLASHES LIGHTS TWICE AND WILL NOT ATTEMPT A START:
The unit senses a fault at the Brake (Purple wire is active) or the Hood is OPEN (Gray wire grounded). This is a safety feature of the unit. Check installation for faults and make sure hood is closed and latched and brake wire is not active.

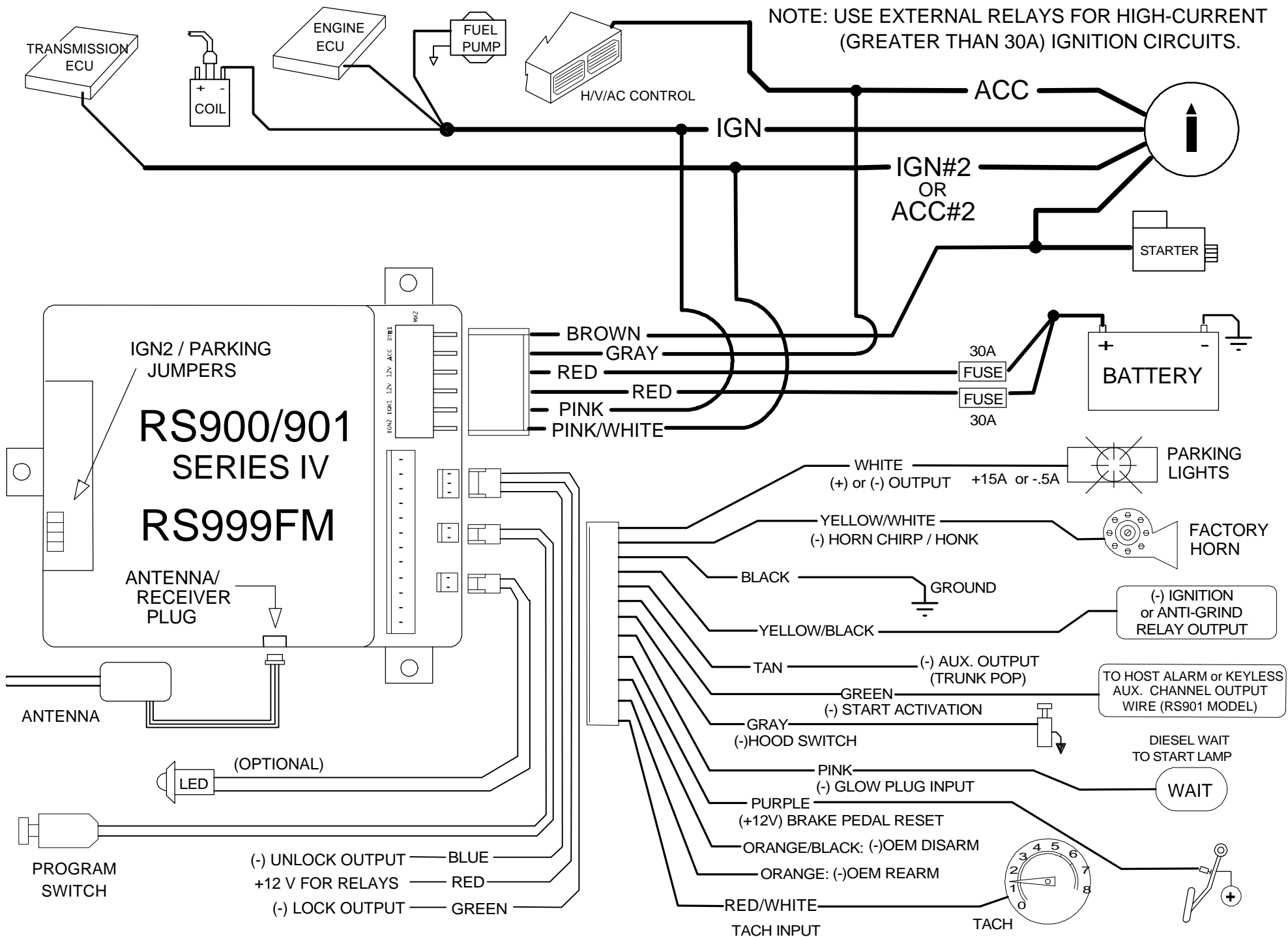***UNIT CRANKS VEHICLE BUT ENGINE NEVER STARTS: (2 parts)***
1. In some vehicles, there may be a Factory anti-theft system that will not allow the engine to run without the key in the ignition. These systems may include Factory Security Modules, GM Passkey®/Passlock®, and RF Transponder systems (Ford P.A.T.S.®). Many late 1990's and later vehicles include some type of Anti-Theft system which may require a bypass module.
2. The vehicle may have more than one Ignition/or Accessory circuit that requires power for the vehicle to start. This is common on some GM/Toyota vehicles.

VEHICLE STARTS BUT CHECK ENGINE LIGHT COMES ON OR ENGINE RUNS BADLY: (2 parts)
1. Many 1990-UP General Motors cars/trucks require a secondary ignition circuit for the Transmission computer and other on board systems. If the vehicle is started without this wire energized, there may be a "Check Engine" or "Service Engine" light on the dash. This may cause damage if the vehicle is driven in this condition. Be sure to check for and additional WHITE (or sometimes GREEN) Ignition wire on GM cars and trucks. Connect the Pink/White IGN#2 wire to this circuit in the vehicle.
2. Some Vehicles (Commonly Nissan) require 2 Start (Cranking) circuits for the vehicle to run properly. If this is the case, then an additional relay must be installed (triggered off of the BROWN start output wire). Connected to the Extra start relay output to the extra start wire in the vehicle. Secondary starter wire may be a smaller wire than the primary starter wire.

NO RESPONSE FROM EITHER TRANSMITTER: (2 Parts)
1. Check for proper power/ground wiring connections at module.
2. Check Antenna Module connection. The antenna module included with this system must be plugged in.

NOTE: USE EXTERNAL RELAYS FOR HIGH-CURRENT (GREATER THAN 30A) IGNITION CIRCUITS.

TRANSMISSION ECU

ENGINE ECU

COIL

FUEL PUMP

H/V/AC CONTROL

ACC

IGN

IGN#2 OR ACC#2

STARTER

IGN2 / PARKING JUMPERS

RS900/901 SERIES IV

RS999FM

ANTENNA/ RECEIVER PLUG

ANTENNA

PROGRAM SWITCH

LED (OPTIONAL)

BROWN
GRAY
RED
RED
PINK
PINK/WHITE

30A FUSE
30A FUSE

BATTERY

WHITE
(+) or (-) OUTPUT   +15A or -.5A
PARKING LIGHTS

YELLOW/WHITE
(-) HORN CHIRP / HONK
FACTORY HORN

BLACK
GROUND

YELLOW/BLACK
(-) IGNITION or ANTI-GRIND RELAY OUTPUT

TAN
(-) AUX. OUTPUT (TRUNK POP)

GREEN
(-) START ACTIVATION
TO HOST ALARM or KEYLESS AUX. CHANNEL OUTPUT WIRE (RS901 MODEL)

GRAY
(-)HOOD SWITCH

PINK
(-) GLOW PLUG INPUT
DIESEL WAIT TO START LAMP
WAIT

PURPLE
(+12V) BRAKE PEDAL RESET

ORANGE/BLACK: (-)OEM DISARM

ORANGE: (-)OEM REARM

(-) UNLOCK OUTPUT — BLUE
+12 V FOR RELAYS — RED
(-) LOCK OUTPUT — GREEN

RED/WHITE
TACH INPUT
TACH

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