



Model PRO 9845B Installation Manual

Keyless Entry System With Two Auxiliary Outputs Installation Instructions

This Unit Is Intended For Installation In Vehicles With
12 Volt Negative Ground Electrical Systems Only.

Kit Contents:

- (1) Control Module
- (2) - Three Button Transmitters
- 4 Channel Code Learning Receiver
- On Board Antenna
- (1) - Multi Pin Input/Output Harness
- (1) - Three Pin Door Lock Harness
- (1) - Two Pin LED Indicator
- (1) - Two Pin Valet / Override Switch
- (1) - 15 Amp In-line Fuse Holder With Fuse
- (1) - 5 Amp In-line Fuse Holder With Fuse
- (1) - Installation Manual
- (1) - Operator's Manual
- (1) - Limited Warranty
- (2) - Window Decals

The PRO 9845B Keyless Entry System is designed to provide a convenient electronic means to gain access to the vehicle by providing RF remote control over the vehicle's power door lock system. The unit also includes outputs to control the vehicle's dome lights, as well as exterior parking lights. Although not an alarm system, the UNIT also includes a starter interrupt circuit output. It also includes two additional auxiliary outputs designed to allow for control over optional devices such as a power trunk release or engine starting device.

BEFORE BEGINNING THE INSTALLATION:

- 1) Control Module
Dash Mounted LED
Valet / Manual Override Switch
- 2) Determine the type of factory power door lock system in use. Knowing the type of system before beginning the installation can make the installation easier and faster since you can build whatever interface (if needed) beforehand.
- 3) Determine whether the vehicle includes a power trunk release system and if so what type it is.

INSTALLATION OF COMPONENTS:

CONTROL MODULE:

The Control Module is NOT waterproof, DO NOT mount it in the Engine Compartment. Select a mounting location under the dashboard. Choose a mounting location that will not interfere with proper operation of the vehicle's steering column mechanism and brake and gas pedals. Secure the Control Module in the chosen location. Wait until all components have been installed and all connections made before plugging in the main connectors.

DASH MOUNTED LED:

The small Red LED included in the kit serves as a visual indicator of the system's status and provides a visual deterrent to a potential thief. The LED also provides important feed back information during the transmitter and feature program modes. The LED should be installed in the dashboard in a highly visible area that may be seen from the driver's seat as well as from outside the vehicle. Try to choose a location close enough to the Control Module so that the LED's wires will reach. Carefully inspect the area behind your chosen location to insure that the drill will not penetrate any existing factory wiring or fluid lines. Drill a 1/4" hole and pass the connector end of the LED through the hole, and route the wires toward the location of the Control Module. Press the LED firmly into place until it is fully seated.

VALET / MANUAL OVERRIDE SWITCH :

Since much of the use of this switch by the vehicle operator requires concurrent operation of the ignition key switch, it is recommended that the Valet / Manual Override Switch be placed such that it can be reached by the driver's left hand, while they operate the ignition key switch with their right hand. The switch can be mounted to the lower dash panel in the drivers area. Inspect behind the chosen location to insure that adequate clearance is allowed for the body of the switch and also that the drill will not penetrate any existing factory wiring or fluid lines. Drill a 1/4" hole in the desired location and mount the switch by passing it through the panel from the opposite side. Secure the switch using the nut, star washer, and on/off face plate. It is suggested that the switch be oriented to allow the on position to be up toward the driver and the off position to be down or away from the driver. Route the switch's wires and connector toward the location of the Control Module.

RED Wire (Connects to RED/WHITE wire at harness plug): Main 12 Volt Input Wire

These are the main power input wires for the system. Both wires connect to a separate fuseholder contained in the harness. These fuseholders each hold a separate ATC fuse, one 5AMP and one 10AMP. This RED wire must be connected to a constant power wire at the vehicle's ignition switch harness or fusebox.

Locate a constant power wire at the vehicle's ignition switch harness. This wire will read +12VDC at all times, regardless of the position of the ignition key switch. Attach the RED wire of the harness to this point by splicing and taping the connection.

YELLOW Wire: Ignition Input Wire

This wire provides the system with an ignition power input from the vehicle. Connect this wire to the Ignition wire (primary ignition wire) from the ignition switch. This vehicle wire will show +12VDC when the ignition key is turned to the "ON" or "RUN" position *and* when turned to the "START" or CRANK" positions and will have 0VDC when the key is turned to the "OFF" and "ACCESSORY" positions.

Locate an ignition power wire at the vehicle's ignition switch harness. By splicing and taping the connection, attach the YELLOW wire of the system to this point.

WHITE Wire: Positive Parking Light Flash Wire

This wire is designed to output a +12VDC positive light flash output, driven by the unit's internal relay, to be connected directly to the vehicle's positive parking light circuit. Once the wire is located, confirm that all the vehicle's parking lights will illuminate when +12VDC is connected to it.

NOTE: Some vehicles, (mostly European) have isolated "left" and "right" side parking lights. To connect to the parking light systems in these vehicles, you must use a separate SPDT relays to connect to each side in order to keep them isolated. Attach the WHITE wire of the system to this point.

BROWN Wire: Negative (-) Door Trigger Input Wire

If the vehicle's interior lights are controlled by *grounding* door pinswitches (typical of most GM, Chrysler, and import vehicles), the Brown *negative* door trigger wire should connect to one of the vehicle's factory door pin switches. In many cases the factory door pinswitches are wired in parallel, making it necessary to connect to only one door switch in order to detect the opening of all doors. In a few cases this will not be true, making it necessary to connect to the vehicle domelight, which typically is the intersection point of all doors.

Locate the vehicle's negative door trigger wire in the vehicle's kickpanel or underdash. Connect the BROWN wire of the system to this point.

PURPLE Wire: Positive (+) Door Trigger Input Wire

If the vehicle's interior lights are controlled by +12VDC (Positive) door pinswitches (typical of most Ford vehicles), the Purple *positive* door trigger wire should connect to one of the vehicle's factory door pin switches. In many cases the factory door pinswitches are wired in parallel, making it necessary to connect to only one door switch in order to detect the opening of all doors. In a few cases this will not be true, making it necessary to connect to the vehicle domelight, which typically is the intersection point of all doors.

Locate the vehicle's positive door trigger wire in the vehicle's kickpanel or underdash. Using the appropriate connector, attach the PURPLE wire of the system to this point.

BLACK Wire: Main System Ground

This is one of the most important wires of the installation. It must be connected properly to a solid chassis ground. Special care must be taken to locate a clean metal part of the chassis as an attachment point for this wire. Some installers prefer to locate a sturdy metal bolt under the dashboard or at the kickpanel and use it as the attachment point.

If you find a suitable factory bolt that reads ground when tested, attach a ring terminal connector to the Black wire, remove the bolt, place the ring terminal over the bolt and reinstall it, tightening it securely. If you choose instead to drill your own mounting hole into the vehicle's chassis, be certain to remove any paint or grease and secure the ring terminal using the self tapping screw and star washer provided.

BLACK/WHITE Wire: Horn/Siren Output Wire

This wire provides a ground output (300 mA Max.) designed to drive a relay, which in turn can drive either the vehicle's horn or an optional electronic siren. Depending upon which sounding device you decide to drive, the Black/White output wire must first be programmed to control either the Horn or the Siren. The factory default setting is for the wire to control the horn. Please refer to the section titled; "Programming System Features" later on in this manual for the programming procedure.

To connect this output to drive a vehicle horn, locate the vehicle's horn wire, almost always a negative switched wire, (typically found among the wires of the steering column) and connect it.

BLACK/WHITE Wire: Horn/Siren Output Wire

To connect this output to drive an optional siren, the output wire must be programmed for siren output. Please refer to the section titled; "Programming System Features" later on in this manual for the programming procedure.

Find a suitable mounting location for the siren and mount it properly. Run the siren's positive wire into the passenger compartment to the location of the CONTROL MODULE, and connect it.

GREEN/WHITE: Dome Light Supervision Output Wire

This wire provides a 30 second ground output (300 mA Max.) whenever the remote is used to unlock the doors with the REMOTE. This allows for the illumination of the vehicle's interior before entry. It also provides a flashing output that duplicates the parking light output flash rate whenever the "Panic Mode" is engaged. This wire must be connected to an external relay, and wired to the vehicle's interior entry lighting whenever the optional Interior Illumination feature circuit is desired.

DARK BLUE Wire: Delayed 300mA Pulsed, Channel 2 Output

The Dark Blue wire supplies a 300mA ground pulsed output whenever channel three of the receiver is accessed. Pressing option Button for three seconds will access Channel 2. This is a low current output and must be connected to a relay to supply power to the trunk release or the circuit you wish to control. Connect the Dark Blue wire to terminal # 86 of a VF45F11 P&B relay or equivalent. Connect terminal # 85 of the relay to a fused +12VDC source. Connect the common, normally open and normally closed contacts of the relay to perform the selected function of Channel 2.

GREEN/BLACK Wire: Immediate, 300mA Duration of Transmit, Channel 3 Output

The Green/Black wire supplies a 300mA switched output whenever Channel 3 of the receiver is accessed. Pressing a combination of transmitter buttons simultaneously will access Channel 3 and will remain active for as long as the transmitter button(s) is held. This is a low current output and must be connected to a relay to supply power to the device you intend to control. Connect Green/Black Trace wire to terminal #86 of a VF45F11 P&B relay or equivalent. Connect terminal #85 of the relay to a fused + 12 volt source. Connect the common, normally open, and normally closed contacts of the relay to perform the selected function of the Channel 3 output.

ORANGE Wire: Ground When Armed Output

This wire provides a 300mA ground output when the keyless entry is locked to control the optional starter inhibit relay. Connect the Orange wire to terminal #86 of a standard SPDT relay. Connect terminal #85 of the relay to an ignition wire in the vehicle that is +12VDC when the ignition key is turned to the on and start positions and off when the key is in the off position. Locate and cut the low current starter solenoid wire found at the vehicle's ignition switch harness. This wire will have +12VDC when the ignition key is moved to the start (crank) position and will have 0 volts in all other key positions. Connect one side of the cut wire to terminal #87a of the relay. Connect the other side of the cut wire to terminal #30 of the relay.

DOOR LOCK/UNLOCK CONTROL HARNESS

3PIN White Plug w/3 Wires; RED, GREEN, & RED/BLACK

The Red and Green Door Lock/Unlock output wires provide either a momentary pulsed ground (-) or a momentary pulsed +12VDC (+) output for controlling a vehicle's power door lock/unlock circuit. To better understand this, refer to the table below:

	Function	Polarity
Red	Lock	Ground (-)
Red	Unlock	Positive (+)
Green	Lock	Positive (+)
Green	Unlock	Ground (-)
Red/Black	2nd Unlock Pulse	Ground (-)

The output of these wires has a maximum switching capability of 300mA. Many vehicles today have factory door lock relays which can be connected directly to these outputs, however always confirm that the factory relays in your particular vehicle do not exceed the rated 300mA output of the units door lock/unlock circuit. Plug the three pin connector of the door lock/unlock harness into the mating connector shell of the control module. Determine the door lock circuit of the vehicle you are working on and wire according.

WIRING FOR "GROUND PULSE" DOOR LOCK CIRCUITS:

This is a system commonly used on most import vehicle's factory door lock/unlock systems, and with a few domestic vehicles which employ factory "keyless entry" systems. In this application, the Red wire serves as the "Lock" output, providing a ground pulse during the locking sequence and the Green wire serves as the "Unlock" output, providing a ground pulse during the unlocking sequence. Connect the Red wire to the low current ground factory door "Lock" signal wire leading from the factory switch to the factory door lock relay. Connect the Green wire to the low current ground factory door "Unlock" signal wire leading from the factory switch to the factory door unlock relay.

WIRING FOR "POSITIVE PULSE" DOOR LOCK CIRCUITS:

This is a system commonly used on many domestic vehicle's factory door lock/unlock systems, particularly General Motors and Chrysler, although not on all models. (Please see the note regarding "5-Wire Reverse Polarity Door Lock Systems"). In this application, the Green wire serves as the "Lock" output, providing a positive pulse during the locking sequence and the Red wire serves as the "Unlock" output, providing a positive pulse during the unlocking sequence.

Connect the Green wire to the low current positive (+12VDC) factory door "Lock" signal wire leading from the factory switch to the factory door lock relay. Connect the Red wire to the low current positive (+12VDC) factory door "Unlock" signal wire leading from the factory switch to the factory door unlock relay.

Note: For connection to all other types of factory power door lock systems, including the "4 and 5 Wire Reverse Polarity" systems found on many Ford and Chrysler vehicles, either the optional Power Door Lock Interface (Model # AS-9159), or the equivalent 30A automotive relays must be used. Contact the Audiovox Technical Support Department for additional information on the proper wiring of these circuits.

PLUG-IN CONNECTIONS AND COMPLETING THE INSTALLATION:

Now that all the other components have been installed and most of the main connections completed, it is time to finish connecting the remaining plug-in components and completing the installation. Even though these are plug-in connections and the plugs have been shaped such that they cannot be plugged in wrong, please read and follow the instructions for each connection to make certain each component is properly installed.

DASH MOUNTED LED**2PIN White Plug w/2 Wires; Red and Blue**

The Red and Blue wires in the 2PIN mini white connector control the anode and cathode of the dash mounted LED. Route the twin lead Red and Blue wires from the LED to the control unit and plug the two pin connector into the mating white mini connector shell of the control module. Do not force the connector, it will only plug in one way.

VALET/PROGRAM/MANUAL OVERRIDE SWITCH**2PIN Blue Plug w/2 Wires; Black and Gray**

The Black and Gray wires in the 2PIN blue connector are the ground supply and Valet/Program input of the unit. When the Gray wire is grounded, under certain conditions, the unit will enter the valet mode. When the Gray wire is sequentially grounded under other conditions, the unit will enter the various program modes. Route the Black and Gray wires from the Valet/Program/Manual Override switch to the unit and plug the blue 2PIN connector into the mating blue connector shell of the control module. Do not force the connector, it will only plug in one way. Note: Please refer to the section; "Programming System Features" shown later in this installation guide to learn the operation of the valet/program/manual override switch.

POWER DOOR LOCK HARNESS**3PIN White Plug w/3 Wires; Red, Green, and Red/Black**

The connection of the power door lock/unlock wires has already been explained. Route the Red, Green, and Red/Black wires to the unit and plug the white 3PIN connector into the mating white three pin connector shell of the control module. Do not force the connector, it will only plug in one way.

PROGRAMMING FEATURES:

There are seven (7) Programmable Features on the system. Study the list below, keeping in mind the features and their defaults, (how it comes programmed from the factory) and decide how best to program the UNIT for your particular installation.

Programmable Features:

Features	1 Chirp	2 Chirp	3 Chirps	Default
First	Passive Arming	Active Arming		Active Arming
Second	Ignition D/L ON	Ignition D/L OFF		Ignition D/L OFF
Third	Ignition D/UL ON	Ignition D/UL OFF		Ignition D/UL OFF
Fourth	Chirps ON	Chirps OFF		Chirps ON
Fifth	Passive D/L	Active D/L		Active D/L
Sixth	Siren Output	Horn Output		Horn Output
Seventh	800ms D/L Pulse	3.5 Sec. D/L Pulse	800ms D/L Pulse	800ms Door Lock
			Double 800ms D/UL Pulses	

To Program These Features:

Entering the Programming Mode involves operating the Ignition Switch and the Valet/Program/Manual Override Switch in a particular sequence. This sequence is very time dependent, in other words it must be performed quickly in order for you to enter the mode. This sequence is also only one step different from the Transmitter Programming Mode, so make certain you perform the sequence properly.

Upon entering the Programming Mode, the system is immediately set to allow adjustment of the First Programmable Feature. That First feature, "Passive or Active Arming", can then be set ON or OFF by pressing button 1 of the transmitter. The system confirms that it is set to adjust the First feature by repeatedly flashing the LED once, with a pause in between each flash. The system will then report how the feature has been set by the number of chirps heard after pressing the transmitter button. Toggling the Valet/Program/Manual Override Switch once again will advance you to the Second Programmable Feature, confirmed by a repeating two LED flashes, with a pause in between each flash, etc., etc.

It is important to note that when you first enter the Programming Mode, you are automatically positioned to adjust the First Programmable Feature and that the Valet/Program/Manual Override Switch allows you to toggle from there through each of the six more programmable features. However, it will not allow you to return to any feature once you have toggled past it. Should you accidentally toggle past the feature you wanted to program, you must exit and re-enter the Programming Mode and then adjust the feature you missed.

It is also important to note that you may toggle past as many programmable features as you wish without having to adjust them. Each time you toggle forward to a new feature, the siren will chirp the appropriate number of times (1, 2, or 3 times) to indicate how that feature is currently set and the LED will flash the appropriate number of times to indicate the number of the feature (First through Seventh) that you are set to adjust. For example, you might enter the mode and toggle the Valet/Program/Manual Override Switch 3 times in order to adjust the Fourth programmable feature. The system would respond with 1 Chirp, and the LED would begin to flash 4 Flashes, pause and repeat. This has told you that the system is ready for you to adjust the Fourth programmable feature, and that it is currently programmed for Chirps ON. A single press of button 1 of the transmitter will cause the system to produce 2 Chirps. This signifies that you have changed the programming to Chirps OFF. Please follow the programming procedure on the next page and refer to the list of the Programmable Features above when programming this system.

To program these selectable features;

	Action	System Response	LED Response
	Turn ignition on	No response	
	Turn the valet switch on then off 3 times Within 3 seconds, turn ignition Off	1 Chirp - LED 1 flash Short chirp, then long chirp	
First	Then On Press transmitter Lock button to change or	2 chirps = active arming 1 chirp = passive arming	1 Flash pause
Second	Turn the valet switch on then off Press transmitter Lock button to change or	2 chirps = auto locks off 1 chirp = auto locks on	2 Flash pause
Third	Turn the valet switch on then off Press transmitter Lock button to change or	2 chirps = auto unlock off 1 chirp = auto unlock on	3 Flash pause
Fourth	Turn the valet switch on then off Press transmitter Lock button to change or	1 chirp = chirps on 2 chirps = chirps off	4 Flash pause
Fifth	Turn the valet switch on then off Press transmitter Lock button to change or	2 chirps = active locks 1 chirp = passive locks	5 Flash pause
Sixth	Turn the valet switch on then off Press transmitter Lock button to change or	2 chirp = horn output 1 chirp = siren output	6 Flash pause
Seventh	Turn the valet switch on then off Press transmitter Lock button to change Press transmitter lock button to change or	1 chirp = 800ms D/L output 2 chirps = 3.5 S door lock output 3 chirps = 800ms L dbl 800ms UL	7 Flash pause
	Press and release the valet switch or	Exit program mode	
	Turn ignition key off	Exit program mode	

NOTE: Once you've entered the program mode DO NOT allow more than 15 seconds to pass between steps, or the programming mode will be terminated.

COMPLETING THE INSTALLATION:

After you have confirmed the operation of the PRO 9845B, and tested any and all optional features of the system:

1. Mount the control module up and behind the dash securing it in place with cable ties or screws. Be certain that the chosen mounting location will not inhibit any of the controls of the vehicle.
2. Securely harness and tie all wiring up and away from all hot and moving parts that they may come in contact with under the dash board or in the engine compartment areas.

CAUTION: Particularly avoid the area around the steering shaft and column, as wires can wrap around these mechanisms and impair the safe operation of the vehicle.

3. Check the vehicle's wipers, lights, horn, etc... to insure proper operation.
4. Replace all panels that were removed during installation, and retest the system.
5. Explain the operation of the system and its various features to the end user if available and place the Owner's Manual on the dashboard for them to find and review.

