

Quick Reference Install Guide

Security and Remote Start for: Responder HD, LCD, LED, 1-way

Important: If the IVU (control center) has been replaced, all remote controls must be re-paired with the system. See Remote Pairing for details.

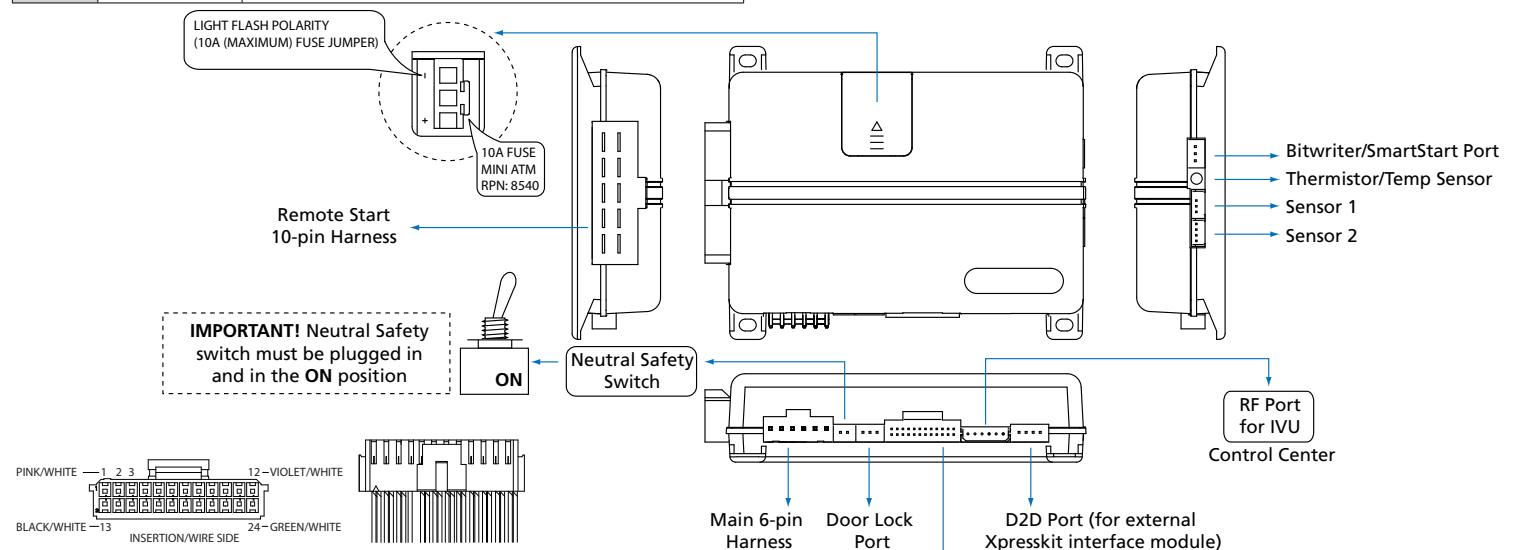
Wiring Connections

Main Harness, 6-pin connector

1	RED	(+)12VDC CONSTANT INPUT
2	BLACK	(-) CHASSIS GROUND
3	BROWN	(+) SIREN OUTPUT
4	WHITE/BROWN	PARKING LIGHT ISOLATION WIRE - PIN 87a of onboard relay
5	WHITE	PARKING LIGHT OUTPUT
6	ORANGE	(-) 500mA GROUND WHEN ARMED OUTPUT

Door Lock, 3-pin connector

1	BLUE	(-) 500mA UNLOCK OUTPUT
2	EMPTY	NOT USED
3	GREEN	(-) 500mA LOCK OUTPUT



Auxiliary/Shutdown/Trigger Harness, 24-pin connector

1	PNK/WHITE	(-) 200mA Ignition 2/Flex OUTPUT
2	BLUE/WHITE	(-) 200mA 2ND STATUS /REAR DEFOGGER OUTPUT
3	RED/WHITE	(-) 200mA TRUNK RELEASE OUTPUT
4	BLACK/YELLOW	(-) 200mA DOME LIGHT OUTPUT
5	DARK BLUE	(-) 200mA STATUS OUTPUT
6	WHITE/BLACK	(-) 200mA AUX 3 OUTPUT
7	WHITE/VIOLET	(-) 200mA AUX 1 OUTPUT
8	ORANGE/BLACK	(-) 200mA AUX 4 OUTPUT
9	GRAY	(-) HOOD PIN INPUT (NC OR NO)
10	BLUE	(-) TRUNK PIN/INSTANT TRIGGER INPUT (N/C OR N/O)
11	WHITE/BLUE	ACTIVATION INPUT
12	VIOLET/WHITE*	TACHOMETER INPUT
13	BLACK/WHITE**	(-) NEUTRAL SAFETY /PARKING BRAKE INPUT
14	GREEN/BLACK	(-) 200mA FACTORY ALARM DISARM OUTPUT

Guide Translations

For a Spanish or French version of the Installation Guide, please download it from www.directechs.com under "Resources".

Traducción de los manuales:

Para obtener una versión en Español o Francés del Manual de Instalación, descárguela de www.directechs.com bajo el título "Recursos" ("Resources").

Traduction du guide:

Pour une version française ou espagnole du guide d'installation, veuillez le télécharger à www.directechs.com sous «Resources».

Remote Start, 10-pin heavy gauge connector

1	NC	No Connection
2	RED/BLACK	(+) FUSED 12V ACCESSORY/STARTER INPUT
3	PINK/BLACK	(+) FLEX RELAY INPUT 87A key side (if required) of FLEX RELAY
4	PINK/WHITE	(+) IGNITION 2 / FLEX RELAY OUTPUT
5	RED	(+) FUSED 12V IGNITION 1 INPUT
6	GREEN	(+) STARTER INPUT (KEY SIDE OF THE STARTER KILL)
7	VIOLET	(+) STARTER OUTPUT (CAR SIDE OF THE STARTER KILL)
8	ORANGE	(+) ACCESSORY OUTPUT
9	RED/WHITE	(+) FUSED 12V IGNITION 2 / FLEX RELAY INPUT 87
10	PINK	(+) IGNITION 1 INPUT/OUTPUT

Aux/Shutdown/Trigger 24-pin Harness

15	GREEN*	(-) DOOR INPUT
16	BROWN/BLACK	(-) 200mA HORN HONK OUTPUT
17	PINK	(-) 200mA IGNITION 1 OUTPUT
18	VIOLET*	(+) DOOR INPUT
19	VIOLET/BLACK	(-) 200mA AUX 2 OUTPUT
20	BROWN	(+) BRAKE SHUTDOWN INPUT
21	VIOLET/YELLOW	(-) 200mA STARTER OUTPUT
22	GRAY/BLACK	(-) DIESEL WAIT TO START INPUT
23	ORANGE	(-) 200mA ACCESSORY OUTPUT
24	GREEN/WHITE	(-) 200mA FACTORY ALARM ARM OUTPUT

* Required connection for manual transmission vehicles.

** Ground this wire for automatic transmission vehicles or connect to the parking brake wire for manual transmission vehicles (see owners guide for manual transmission procedure).

Important: NEVER connect 200mA low current outputs directly to a motor or high current device WITHOUT a relay

Installation Points

Adjusting the Sensor

Adjusting the sensor:

Important! Make sure the vehicle is disarmed. The shock sensor sensitivity can be adjusted by using a trimmer tool to turn the potentiometer.

Turn the potentiometer clockwise to increase sensitivity and counterclockwise to decrease sensitivity.

Note: You can test the new setting by cautiously impacting the vehicle with increasing intensity while noting the LED status on the shock sensor. When testing the sensor: warn away trigger is indicated by a short LED flash and full trigger is indicated by a longer LED flash.

Learning the Tach (not needed with Virtual Tach)

To learn the tach signal:

1. Start the vehicle with the key.
2. Within 5 seconds, **press** and **hold** the Control button.
3. After 3 seconds the status LED on your Control Center lights constant when the tach signal is learned.
4. **Release** the Control button.

Important: This unit can learn the tachometer with the analog input or through d2d using an interface module. The unit confirms which source is used by flashing the parking lights. When programming tach learning with:

- Analog, the parking lights flash one time.
- D2D interface module, the parking lights flash twice.

If the tachometer input on the system is connected to the vehicle, the d2d tachometer input is ignored.

Initializing Virtual Tach (not needed with hard-wired tach inputs)

To program Virtual Tach:

1. After the install is complete, **remote start** the engine. The programming operation may require 3 cranks of the starter before the engine starts and runs. Do not turn off the remote start if this happens, it is a normal programming operation.
2. Once the engine begins running, let it run for at least 30 seconds.
3. Using the Remote, send the Remote start command to turn remote start off. Virtual Tach is programmed.

To reset Virtual Tach, go into the Remote Pairing section of this guide and **press/release** the Control button 4 times for step #4, then **press** and **hold** the Control button to reset Virtual Tach. Virtual Tach **cannot** be reset with the Bitwriter.

Note: Virtual Tach cannot be used in MTS Manual Transmission Mode. It is also not recommended for diesel vehicles.

Virtual Tach handles disengaging the starter motor during remote starting – it does not address over-rev. If the customer wants to have the over-rev protection capability, the tach wire must be connected.

Important: After successfully learning Virtual Tach, a small minority of vehicle starters may over crank or under crank during remote start. The Bitwriter can be used fine tune the starter output time in 50 ms increments to compensate for such an occurrence.

Remote Start Shutdown/Startup Diagnostics

To perform shutdown diagnostics:

1. With the ignition Off, **press** and **hold** the Control button (on Control Center).
2. **Turn** the ignition On and then back Off while **holding** the Control button.
3. **Release** the Control button.
4. **Press** and **release** the Control button. The status LED flashes to report the last shutdown for one minute or until the ignition is turned on, as shown in the following table:

Status LED Flashes

- 1 flash
- 2 flashes
- 3 flashes
- 4 flashes
- 5 flashes
- 6 flashes
- 7 flashes
- 8 flashes
- 9 flashes
- 10 flashes
- 11 flashes

Shutdown Mode

- Runtime expired
- Over-rev shutdown
- Low or no RPM
- Transmitter shutdown (or optional push button)
- (+) Brake shutdown
- Hood shutdown
- Timer mode/Turbo mode/Manual mode error *
- Neutral safety shutdown
- Low battery (voltage mode)
- Alarm triggered **
- Wait-to-start input timed out

- * Timer mode error: Ignition is on or shutdown input is active when activating timer mode.
- Turbo mode error: Turbo mode is programmed off, engine is not on or shutdown input is active.
- Manual mode error: MTS mode not enabled.
- ** Alarm was triggered during remote start sequence.

Startup Diagnostics: If the vehicle fails to activate the remote start, the remote start module will notify you via parking light flashes on the vehicle to identify the no-start situation.

Parking Light Flashes

- 5 flashes Brake wire is active
- 6 flashes Hood pin wire is active
- 7 flashes Manual transmission mode is enabled and not initialized.
- 8 flashes Neutral safety wire has no ground or the neutral safety switch is Off.

Table of Zones

A zone is represented by the number of status LED flashes used by the system to identify a particular type of input.


Zone	Description	Input Description
1	Trunk Pin	24 pin Blue wire
2	Instant trigger: a heavier impact detected by the shock sensor	Shock sensor.
3	Door switch trigger	24 pin Green or Violet wire
4	Instant trigger: For optional sensors	Optional MUX port
5	Ignition trigger	Heavy gauge 10 pin Pink wire
6	Hood Pin	24 pin Grey wire


Bitwriter - Only Options

If programming with the Bitwriter®, the learn routine can be locked or unlocked. If the learn routine has previously been locked, it must be unlocked with Bitwriter® - this cannot be done manually with the Control button.

The Bitwriter® gives you access to a wider range of system options. These features and the adjustments that may be programmed are described under the Bitwriter section in the full online guide.

Bitwriters with a date code of 6a or older require an IC upgrade (p/n 998M). Some bitwriters with a date code of 6B do not require the IC upgrade, refer to tech tip # 1112 for more information.





The Bitwriter® (p/n 998U) requires chip version 2.7 or newer to program this unit.

See full Installation Guide for more detailed information. Such information and more can be found online at: www.directechs.com

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Programming System Features

The System Features Learn Routine dictates how the unit operates. It is possible to access and change most of the feature settings using the Control button.

1. **Open** a door.
2. **Turn** the ignition on, then off.
3. **Select** a Menu. **Press and hold** the Control button. The number of siren chirps indicates the menu number. 1 chirp indicates menu 1, 2 chirps - menu 2 and 3 chirps for menu 3.
4. When the desired menu chirps are heard, **release** the Control button.
5. **Select** a Feature. **Press and release** the Control button the number of times corresponding to the feature you wish to change. Then **press and hold** one more time to select the features.
6. **Program** the Feature. While holding the Control button, you can program the feature using the remote control.

For features with only two options; = option 1 while = option 2.

For features with more than two options; selects the options in ascending order, while selects them in descending order.

Note: Pressing button resets the feature to the factory default.

Once a feature is programmed:

- Other features can be programmed within the same menu
- Another menu can be selected
- The learn routine can be exited if programming is complete

To access another feature in the same menu:

1. **Press and release** the Control button the number of times necessary to advance from the feature you just programmed to the next one you want to program.
2. Then **press** the Control button once more and **hold** it.

To select another menu:

1. **Press and hold** the Control button.
2. After 3 seconds, the unit advances to the next menu and the siren chirps, indicating which menu has been accessed.

The learn routine exits if any of the following occurs:

- The open door is closed
- The ignition is turned On
- There is no activity for 30 seconds
- The Control button is pressed too many times

Feature Menus

Default settings are in **bold** type.

Menu 1 - Security

Menu Item	Feature	Opt. 1	Opt. 2	Opt. 3	Opt.4	Opt. 5+
1	System Arming Mode	Active	Passive Arm w/o lock	Passive Arm w/ lock	Auto re-arm w/o lock	Auto re-arm w/ lock
2	Panic Mode	On	Ign Off only	Off		
3	Confirmation Chirps	On w/Warn chirps On	On w/ Warn chirps Off	Off w/ Warn chirps On	Off w/ warn chirps Off	
4	Siren Duration	30 sec.	60 sec.			
5	Ign-controlled Locks	No Ign-locking	Lock & Unlock	Lock Only	Unlock Only	
6	Door Lock Pulses	Single	Double Unlock Only	Double Lock Only	Double Lock & Unlock	
7	Door Lock Output Duration	0.8 sec.	3.5 sec.	0.4 sec.		
8	2nd Unlock	2nd unlock on Ign-control after first unlock	2nd unlock on Ign-control with first unlock			

9	Comfort Closure	No Comfort Closure	Comfort Closure 1	Comfort Closure 2		
10	Horn Function	Full Alarm Only	Siren Function 20 ms	Siren Function 30 ms	Siren Function 40 ms	Siren Function 50 ms
11	Hood Switch type	Normally Open	Normally closed			
12	Sensor Full trigger	Single	Double			
13	Door Switch Type	Normally open	Normally closed			
14	Trunk Switch Type	Normally open	Normally closed			
15	Remote Button unlock (Ign off)*	On	Off			

* Not available with the 1-way remote control.

Menu 2 - Convenience

Menu Item	Feature	Opt. 1	Opt. 2	Opt. 3	Opt.4	Opt. 5+
1	One-time Bypass	One time bypass Off	One time bypass On			
2	Nuisance Prevention	On	Off			
3	Override Pulse count	1	2	3	4	5
4	Door Trigger Error Chirp	On	Off			
5	Ign-controlled Dome light	On	Off			
6	OEM Alarm Disarm w/Aux-Trunk	On	Off			
7	OEM Alarm Disarm Output	With Unlock	Before Unlock	Remote Start Only		
8	OEM Alarm Disarm Pulses	1	2			
9	Aux 1 Output type	Validity	Latch	Latch/ reset/ign	30 sec. Timed	Off (5)/2nd unlock (6)
10	Aux 1 Linking	No Linking	Link to Arm	Link to Disarm	Link to Arm/ disarm	Link to Remote Start only
11	Aux 2 Output Type	Validity	Latch	Latch reset/ign	30 sec. Timed	Off (5)/2nd unlock (6)
12	Aux 2 Linking	No Linking	Link to Arm	Link to Disarm	Link to Arm/ Disarm	Link to Remote Start only
13	Aux 3 Output Type	Validity	Latch	Latch reset/ign	30 sec. Timed	Off (5)/2nd unlock (6)
14	Aux 3 Linking	No Linking	Link to Arm	Link to Disarm	Link to Arm/ Disarm	Smart Key Control (Link to Remote Start Off)
15	Aux 4 Output Type	Validity	Latch	Latch reset/ign	30 sec. Timed	Off (5)/2nd Unlock (6)
16	Aux 4 Linking	No linking	Link to Arm	Link to Disarm	Link to Arm/ Disarm	Link to Remote Start Only
17	Aux/Trunk Output type	Validity	Off	2nd unlock		

Menu 3 - Remote start

Menu Item	Feature	Opt. 1	Opt. 2	Opt. 3	Opt.4	Opt. 5+
1	Transmission Mode	Manual	Automatic			
2	Engine Checking Mode	Virtual Tach	Voltage	Off	Tachometer	
3	Cranking Time	0.6 sec.	0.8 sec.	1.0 sec.	1.2 sec.	1.4 (5)/ 1.6 (6)/ 1.8 (7) 2.0 (8)/ 4.0 (9)

4	Remote Start Runtime	12 min.	24 min.	60 min.		
5	Activation Pulse Count	1	2			
6	Turbo Mode	No Turbo Mode	On-1 min.	On-3 min.	On-5 min.	On- 10 min.
7	Timer Mode Runtime	12 min.	3 min.	6 min.	9 min.	
8	Flex Relay Function	Ignition 2	Accessory 2	Starter 2		
9	Diesel Start Delay	Wait-to Start input	Timed 15 sec.	Timed 30 sec.	Timed 45 sec.	
10	Accessory during Diesel Start Delay	On	Off			
11	Status 2 Output	Status	Latch Rear Defogger	Pulse Rear Defogger		
12	Parking Light Output	Constant	Pulsed	Off		
13	Anti-grind Output	On	Off			
14	Tach/Mode Starter Release	Normal	Increase	Decrease		
15	Vehicle Temp Auto Report*	Off	On			
16	Remote Start Safelock	Off	On			

* Not available with the 1-way remote control.

Reset and Delete

To reset the features/virtual tach or delete remote controls follow this procedure:

1. Open at least one vehicle door
2. Turn the key to the ON position
3. Within 5 seconds press and release the control button: 2 times to delete remotes, 3 times to reset the features to default or 4 times to reset virtual tach.
4. Once you have selected the function step, press the control button once more and hold it. The LED will flash and the siren will chirp to confirm the functional step chosen. Release the control button.
5. Press the button of a programmed remote control. The siren will chirp confirming the feature has been reset/deleted.

Note: Deleting a remote control does not reset the features or virtual tach, resetting the features does not delete remote controls or reset virtual tach. The Zap feature on the Bitwriter will not reset the virtual tach setting.

Reset/delete will exit if:

- The ignition is turned off
- The open door is closed
- 60 seconds lapses with no actions.

Remote Pairing

Prepare the vehicle system to be Paired with a new remote

1. **Open** at least one vehicle door.
2. **Turn** the key to the ON position.
3. Within 5 seconds **press and release** the Control button on the Control Center one time.
4. Within 5 seconds, **press and hold** the Control button on the Control Center. The status LED begins flashing in single flash sequence and the siren chirps once to confirm the system is ready for remote pairing. **Release** the button.
5. Locate your remote control model below and follow the instructions.

System Pairing will exit if:

- The ignition is turned off
- The open door is closed
- 60 seconds lapses with no actions

Note: Make sure the remote to be paired with the system is set for the desired Car 1 or Car 2 operation.

HD Remote Control:

1. With the HD remote screen blank, press in and hold the menu wheel (located on the side) for 3 seconds until the screen appears.

2. Toggle the menu wheel until the screen appears.
3. Press in on the menu wheel to enter.
4. In the menu highlight and press in the menu wheel to go to the screen. Follow the on-screen instructions:
 - i. Press and hold the button until tones are played.
 - ii. The siren chirps to indicate the system has learned the remote ID and is sending its ID to the remote
 - iii. Release the button.
5. Successful or failed pair: The HD remote control indicates a successful or failed pairing and returns to the menu. If pairing fails, the remote will go back to the screen, press the button again to attempt another pairing.

To exit pairing mode on the remote:

- Press and release the button.
- Wait 30 seconds without pressing a command button on the remote.

LCD Remote Control:

1. Press and hold the button for 8 seconds, the remote beeps once, is displayed. Release the button.
2. Press the or buttons until is displayed.
3. Press and hold the button until the remote beeps 3 times then release the button. The remote is now ready to pair with the system.
4. Press the button.
5. Wait several seconds for feedback as the remote generates a security encryption and sends it to the Control Center. If pairing is successful the siren chirps and the remote emits several tones. The screen displays if the Pairing is successful or failed with corresponding text. If pairing fails repeat step 4.

To exit pairing mode on the remote:

- Press and release the button.
- Wait 30 seconds without pressing a command button on the remote.

Responder LED or Companion Remote Control:

1. Press and hold the button for 8 seconds. The transmit LED will come on solid. Release the button.
2. Press and hold the until the transmit LED flashes 3 times then comes on solid.
3. Press the button.
4. Wait several seconds for feedback as the remote generates a security encryption and sends it to the Control Center. If pairing is successful the siren will chirp and the 2-way remote will emit several tones (the companion remote does not generate tones). If pairing is not successful press and release the button once and then repeat steps 2 and 3.

To exit pairing mode on the remote:

- Press and release the button once, then press and hold until the transmit LED shuts off.
- Wait 30 seconds without pressing a command button on the remote control.

Basic Remote Functions

Level Button	DIRECT ACCESS				
	ARM	SILENT ARM	SENSOR BYPASS	ARMED (SILENT SENSOR)	ARMED (SILENT TRIGGER)
	DISARM	SILENT DISARM	VALET MODE	CAR FINDER	
	REMOTE START	RUNTIME RESET	TIMER MODE	SMART START	REAR DEFOGGER
	TRUNK RELEASE	AUX 1	AUX 2	AUX 3	AUX 4
	FUNCTION SHIFT	CABIN TEMPERATURE REQUEST (2-WAY ONLY)	RUNTIME CHECK (2-WAY ONLY)	LAST TRIGGER REQUEST (2-WAY ONLY)	

Note: See Owner's guide for your specific model for more details. The above table is applicable to LCD, LED and Companion remote controls only, but not HD.