# **Quick Reference Install Guide** Security and Remote Start

### Responder LE

# Wiring Connections

#### Main Harness (H1), 12-pin connector H1/1 RED/WHITE (-) 200mA TRUNK RELEASE OUTPUT H1/2 RED (+)12VDC CONSTANT INPUT H1/3 BROWN (+) SIREN OUTPUT PARKING LIGHT ISOLATION WIRE - PIN 87a of onboard relay H1/4 WHITE/BROWN H1/5 BLACK (-) CHASSIS GROUND H1/6 VIOLET (+) DOOR TRIGGER INPUT H1/7 BLUE (-) TRUNK PIN/ INSTANT TRIGGER INPUT (N/C OR N/O) H1/8 GREEN (-) DOOR TRIGGER INPUT (N/C OR N/O) H1/9 **BLACK/WHITE** (-) 200mA DOME LIGHT SUPERVISION OUTPUT H1/10 WHITE/BLUE (-) REMOTE START/ TURBO TIMER ACTIVATION INPUT PARKING LIGHT OUTPUT H1/11 WHITE H1/12 ORANGE (-) 500mA GROUND WHEN ARMED OUTPUT

### New Features

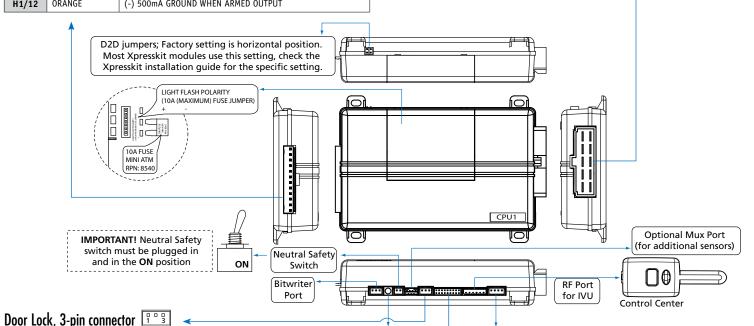
Enhanced Tach Filtering

Remote Start

- Addition of Aux 4 for a total of 5 Channel Outputs
- New 18 pin Harness
- Improved current capable Aux & OEM Alarm Outputs
- Enhanced Temperature Reading

				L	
	10	9	8	7	6
(H3) 10-pin connector	_5	4	3	2	1

H3/1	PINK	(+) IGNITION 1 INPUT/OUTPUT						
H3/2	RED/WHITE	(+) FUSED (30A) IGNITION 2 / FLEX RELAY INPUT 87						
H3/3	ORANGE	(+) ACCESSORY OUTPUT						
H3/4	VIOLET	(+) STARTER OUTPUT (CAR SIDE OF THE STARTER KILL)						
H3/5	GREEN	(+) STARTER INPUT (KEY SIDE OF THE STARTER KILL)						
H3/6	RED	(+) FUSED (30A) IGNITION 1 INPUT						
H3/7	PINK/WHITE	(+) IGNITION 2 / FLEX RELAY OUTPUT						
H3/8	PINK/BLACK	(+) FLEX RELAY INPUT 87A key side (if required) of FLEX RELAY						
H3/9	RED/BLACK	(+) FUSED (30A) ACCESSORY/STARTER INPUT						
H3/10	NC	No Connection						



Temperature

Sensor

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

# H2 Harness, 18-pin connector

H2/1	LIGHT GREEN/BLACK	(-) 200mA OEM ALARM DISARM OUTPUT
H2/2	ORANGE/BLACK	(-) 200mA AUX 4 OUTPUT
H2/3	GREEN/WHITE	(-) 200mA OEM ALARM ARM OUTPUT
H2/4	VIOLET/BLACK	(-) 200mA AUX 2 OUTPUT
H2/5	WHITE/BLACK	(-) 200mA AUX 3 OUTPUT
H2/6	WHITE/VIOLET	(-) 200mA AUX 1 OUTPUT
H2/7	GREY/BLACK	(-) DIESEL WAIT TO START INPUT
H2/8	BROWN/BLACK	(-) 200mA HORN HONK OUTPUT
H2/9	VIOLET/WHITE	TACHOMETER INPUT

H2/10	DARK BLUE	(-) 200mA STATUS OUTPUT			
H2/11	/11 PINK/WHITE (-) 200mA FLEX RELAY CONTROL OUTPUT				
H2/12	ORANGE	(-) 200mA ACCESSORY OUTPUT			
H2/13	PURPLE	(-) 200mA STARTER OUTPUT			
H2/14	PINK	(-) 200mA IGNITION 1 OUTPUT			
H2/15	GREY	(-) HOOD PIN INPUT (N/C OR N/O)			
H2/16	BLUE/WHITE	(-) 200mA 2ND STATUS /REAR DEFOGGER OUTPUT			
H2/17	BROWN	(+) BRAKE SHUTDOWN INPUT			
H2/18	BLACK/WHITE	(-) NEUTRAL SAFETY INPUT			

D2D Port (for external

Xpresskit interface module)

# Installation Points

### Control button Control Center Status LED

### Adjusting the Stinger Double-Guard Shock Sensor

**Important!** Make sure the keypad is unlocked and the vehicle is disarmed with no open zones. The on board shock sensor can be adjusted using the LE remote.

#### Adjusting the sensor:

- I. **Disarm** the system, **turn** the ignition Off and **close** all the doors.
- 2. Press and hold the f button of the remote control for 8 seconds or until the amber LED turns on and you hear one long beep.
- Press and hold the button 1.5 seconds or until the amber led comes on solid.- The control module emits one long chirp, confirming that it has entered adjustment mode.
- 4. Press the A, S, or Duttons to adjust the sensor level. Note: You can test the new setting by cautiously impacting the vehicle with increasing intensity until the siren chirps, indicating the impact level required to fully trigger the alarm.
- Dutton: Pressing this button increases the sensitivity one level. The siren chirps twice confirming the sensitivity adjustment.
- S button: Pressing this button decreases the sensitivity one level. The siren chirps once confirming the sensitivity adjustment.
- button: Pressing this button resets to default level 7. The siren chirps three times.

### To exit the shock sensor adjustment mode from the remote control:

Press and release the f button any time during programming to go back to the main menu. Press and hold for 1.5 seconds in the main menu to exit programming.

#### To exit the shock sensor adjustment mode from the control module:

Open an entry point or turn on the ignition, the control module emits one long chirp exiting adjustment mode.

### 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.

### Initializing Virtual Tach (not needed with hardwire tach inputs) To program Virtual Tach:

- 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.
- 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 trucks.

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 50mS increments to compensate for such an occurrence.

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## 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.
- 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	Shutdown Mode Runtime expired Overrev 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 bottery (voltrage mode)
9 flashes	Low battery (voltage mode)
10 flashes	Alarm triggered **
11 flashes	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 your Responder LE remote control and will flash the parking lights on the vehicle to notify you of what caused the no-start situation.

#### Parking Light Flashes

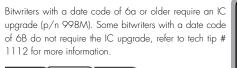
i anning Eight i lashos	
5 flashes	Brake wire is active
6 flashes	Hood pin wire is active
7 flashes	Manual transmission mode is enabled and not initialized.
8 flashes	Neutral safety wire has no ground or the neutral safety
	switch is Off.

### Long Term Event History

The system stores the last two full triggers in memory. These are not erasable. Each time the unit sees a full trigger, the older of the two triggers in memory is replaced by the new trigger. To access long term event history:

- 1. With the ignition Off, **press** and **hold** the Control button (on Control Center).
- 2. **Turn** the ignition On.
- 3. Release the Control button.
- 4. Within 5 seconds, press and release the Control button. The status LED flashes in groups indicating the last two zones that triggered the unit for 1 minute or until the ignition is turned off. Refer to table of zones (overleaf on page 2).

Note: The Warn Away triggers are not stored to memory and is not reported.







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

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



### **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.

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

For features with only two options;  $\mathbf{A}$  = option 1 while  $\mathbf{a}$  = option 2. For features with more than two options; 🖨 selects the options in ascending order, while S 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:

- 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:

- **Press** and **hold** the Control button.
- After 3 seconds, the unit advances to the next menu and the siren chirps, indi-2. cating 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

### **Bitwriter - Only Options**



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

The Bitwriter® 🛒 gives you access to a wider range of system options. These features and the adjustments that may be programmed are described in the table below. Default settings are in **bold** type.

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Menu Item	Feature	Default	Opt. 2	Opt. 3	Opt.4	Opt. 5+	
1	Zone 4 Sensor Type	None	Shock/ Omni	Field Distur- bance	Tilt Sen- sor	Glass Break (5)/ Ultrasonic (6)	
2	Siren Duration	30 sec.	Options: 1 to 180 sec.				
3	Aux/Trunk Icon Type	Trunk	Window	Sunroof	Audio	Lights/Left dr/Right dr/Rear Hatch	
4	Aux 1 Timed Output	30 sec.	Options: 1	to 90 sec.			
5	Aux 1 Icon Type	Pulsed	Trunk	Window	Sunroof	Audio/Lights/Left dr/ Right dr/Rear Hatch/ Timed/Latched	
6	Aux 2 Timed Output	30 sec.	Options: 1 to 90 sec.				
7	Aux 2 Icon Type	Pulsed	Trunk	Window	Sunroof	Audio/Lights/Left dr/ Right dr/Rear Hatch/ Timed/Latched	

Aux 3 Timed Output 30 sec. Options: 1 to 90 sec. 0 Aux 3 Icon Type Window Pulsed Trunk Sunroof Audio/Lights/Left dr/ Right dr/Rear Hatch/ imed/Latched 10 Aux 4 Timed Output 30 sec. Options: 1 to 90 sec. 11 Diesel Start Delay 15 sec. Options: 1 to 90 sec. Time 12 Timer Mode Runtime 12 min Options: 1 to 16 min. 13 Timer Mode Starts Options: 1/2/3/4 to 24 (Starts) in increments of 2 6 starts 14 Timer mode intervals 3 hr Options: 1/2/3/4 to 24 in 2 hour increments Options: OFF, -20° to 70° in 10° increments 15 Smart start low temp 0° (F) Options: OFF, 40° to 130° in 10° increments 16 Smart start high temp 100° (F) 17 Smart start low bat-10.5V Options: OFF, 9V to 12.5V in 0.5V increments terv (volts) 18 Sensor 1 Level Options: 0 to 15 in increments of 1 19 Options: 0 to 20 in increments of 1 Starter Release (normal) Fine Tune Unlocked 20 Feature Proarammina locked 21 Unlocked ocked Transmitter Programming 22 Remote Start Runtime Options: 1 to 60 min. 12 min. 23 Virtual Tach Fine tune Not Ini-Options: Not initialized, 0 to 1000 in 50 millisecond tialized

### Feature Menus

Default settings are in **bold** type. New features are **bold** with grey background.

### Menu 1 - Security

Menu	Menu I - 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	lgn 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 Func- tion 20 ms	Siren Func- tion 30 ms	Siren Function 40 ms	Siren Func- tion 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						

### 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	Tachom- eter	
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	Acces- sory 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		

### **Remote Pairina**

Prepare the vehicle system to be Paired with a new remote

- Open a door.
- Turn the key to the ON position. 2.
- Within 5 seconds press and release the Control button on the Control Center 3 one time.
- Λ Within 5 seconds, **press** and **hold** the Control button on the Control Center. The status LED will flash one time and the siren then chirps to confirm the vehicle is ready for remote pairing.
- 5. Release the Control button and proceed below.
- Note: If no remote pairing results, the system will exit after 60 seconds.

#### Prepare the new remote to be Paired with the system

Remote Pair matches your LE remote to the system. Make sure the LE remote is set for the desired Car 1 (Default) or Car 2 operation for the system it will be paired with. 1. **Press** and **hold** the f button for 8 seconds.

- Note: The LOCK LED indicator will turn on at 3 seconds. Please disregard and continue to **hold**.
- 2. Wait for the Transmit LED to light solid and the remote to beep. Release the fbutton
- 3. Press the 🕄 for 1 second. The transmit LED will blink 3 times and beep 3 times
- 4. Within 5 seconds, **press** the **A** button.
- 5. The vehicle siren will chirp and the LED indicators on the remote will light in sequence with sound. You have now successfully learned the remote to the vehicle remote start and security system.
- 6. Press the f button two times to exit learn routine on the remote. The transmit LED will turn off and exit tone will sound.

Note: Please see installation guide for pairing with the 1-way companion remote

Level Button	DIRECT ACCESS	<b>f</b> X 1	<b>f</b> X 2	<b>f</b> Х З	<b>f</b> X 4
	ARM	SILENT ARM	SENSOR BYPASS	ARMED (SILENT SENSOR)	ARMED (SILENT TRIGGER)
<b>\$</b>	DISARM	SILENT DISARM	VALET MODE	CAR FINDER	
Q	REMOTE START	RUNTIME RESET	TIMER MODE	SMART START	REAR DEFOGGER
	TRUNK RELEASE	AUX 1	AUX 2	AUX 3	AUX 4
<b>f</b>	FUNCTION SHIFT	CABIN TEMPERA- TURE REQUEST (2-WAY ONLY)	ARM STATUS (2-WAY ONLY)	RUNTIME CHECK (2-WAY ONLY)	LAST TRIGGER REQUEST (2-WAY ONLY)

### Rasic Romoto Functions

Note: See Owner's guide for more details

### 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	H1/7 Blue wire
2	Instant trigger: a heavier impact detected by the onboard shock sensor	On board shock sensor.
3	Door switch trigger	H1/8 Green or H1/6 Violet wire
4	Instant trigger: For optional sensors	Optional MUX port
5	Ignition trigger	H3/1 Pink wire
6	Hood Pin	H2/15 Grey wire