



Update Alert: Firmware updates are posted to the web on a regular basis. We recommend that you check for firmware and/or install guide updates prior to installing this product.

Installation Guide

This guide supports the installation of a DBALL (or DBALL2) in Range Extender Ready (RXT) mode with an RF Kit or SmartStart (both sold separately). Optional Plug & Play T-Harnesses (**OBDTHDGM1** or **OBDTHDGM2**) are also available.



Range Extender Ready (RXT) is used to dramatically increase the factory remote start activation range compared to the factory transmitter. Refer to the **Quick Reference Guide** for more information.



Important!

This product is **ONLY** compatible with vehicles equipped with a factory-installed remote starter.



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SmartStart Compatible

SmartStart is equipped with D2D, which means it can be connected to an interface module and used in Range Extender Ready (RXT) mode without the use of a remote starter. See the **Module Programming** section for more information.

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Vehicle Application Guide

The table below lists the vehicles and features which are compatible with this product. Refer to the following pages for more information on installation wiring, programming and troubleshooting for these vehicles.

 Optional T-Harnesses OBDTHDGM1 and OBDTHDGM2 are sold separately.

Vehicles	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	AV-Panic Mode Activation	CC-Heated Seats Activation	DL-Arm Factory Security	DL-Disarm Factory Security	DL-Door Lock Control	DL-Door Unlock	DL-Driver Priority Unlock	DL-Hatch Glass Release	DL-Trunk / Hatch Release	RS-OEM Remote Start Activation using XL-202 or RF kit	RS-SmartStart	SS-Factory Alarm Trigger Monitoring
Buick																						
Enclave																						
Lucerne ^[1]																						
Cadillac																						
CTS ^[1]																						
CTS (Smart Key) ^[1]																						
CTS Coupe ^[1]																						
CTS Coupe (Smart Key) ^[1]																						
CTS Wagon ^[1]																						
CTS Wagon (Smart Key) ^[1]																						
CTS-V (Smart Key) ^[1]																						
DTS																						
Escalade																						
SRX																						
Chevrolet																						
Avalanche																						
Caprice																						
Captiva Sport																						
Equinox																						
Express Van																						
Impala ^[1]																						
Monte Carlo																						
Silverado																						
Silverado 2500/3500																						
Suburban																						
Tahoe																						
Traverse																						
Traverse																						
GMC																						
Acadia																						
Savana																						
Sierra																						
Sierra 2500/3500																						
Yukon																						
Hummer																						
H2																						
Pontiac																						
G8																						
Torrent																						
Saturn																						
Outlook																						
VUE																						
Suzuki																						
XL7																						

[1] The CTS, Impala and Lucerne require the trunk feature to be set to Electric Rear Hatch option for the trunk to work. See Feature and Option List on page 8 for more info.

Legend:

AV: Horn & Lights Controls

DL: OE Door Lock & Alarm Controls

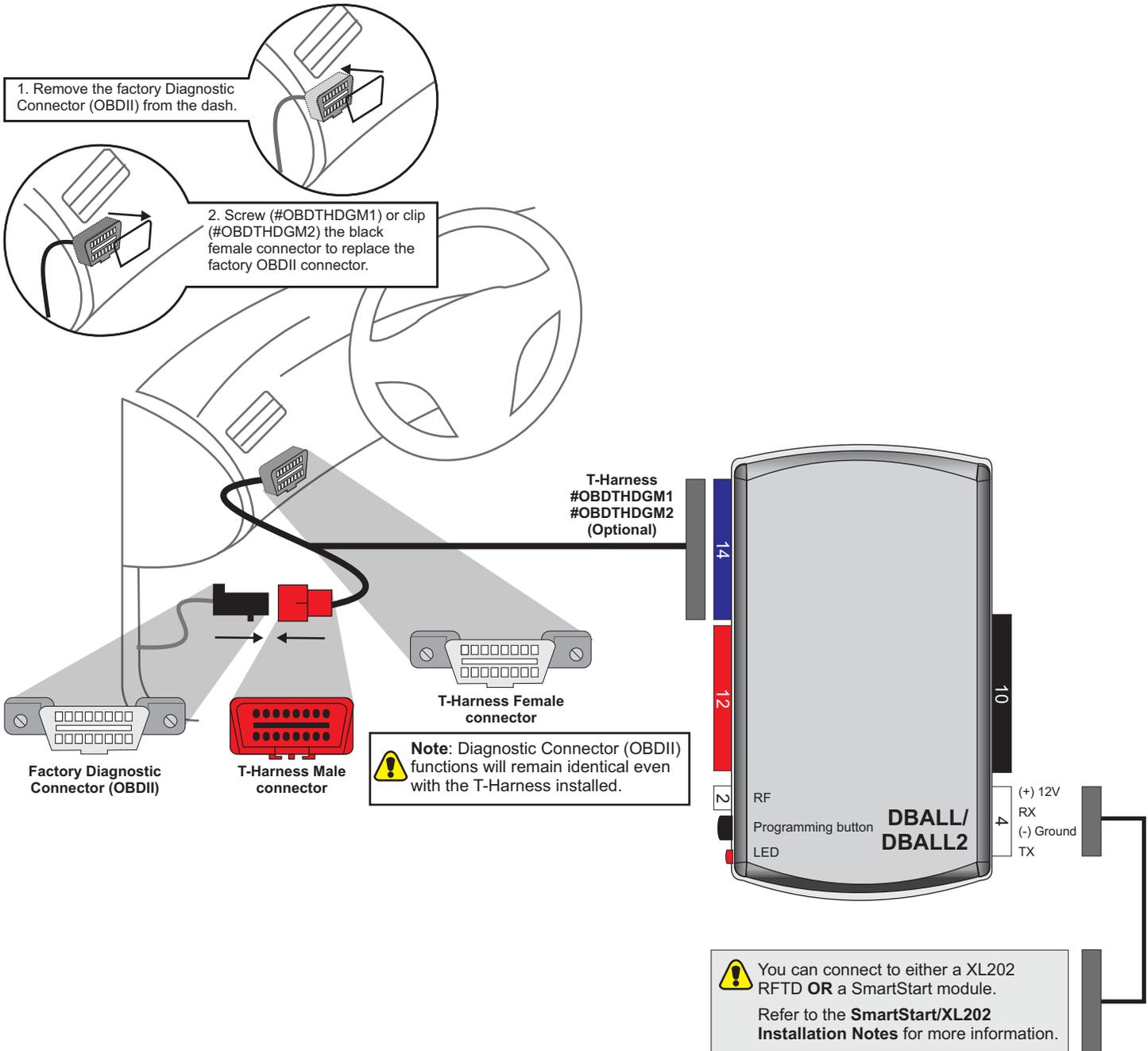
SS: Integrated Security & Monitoring

CC: Comfort & Convenience Controls

RS: Remote Start & Engine Controls

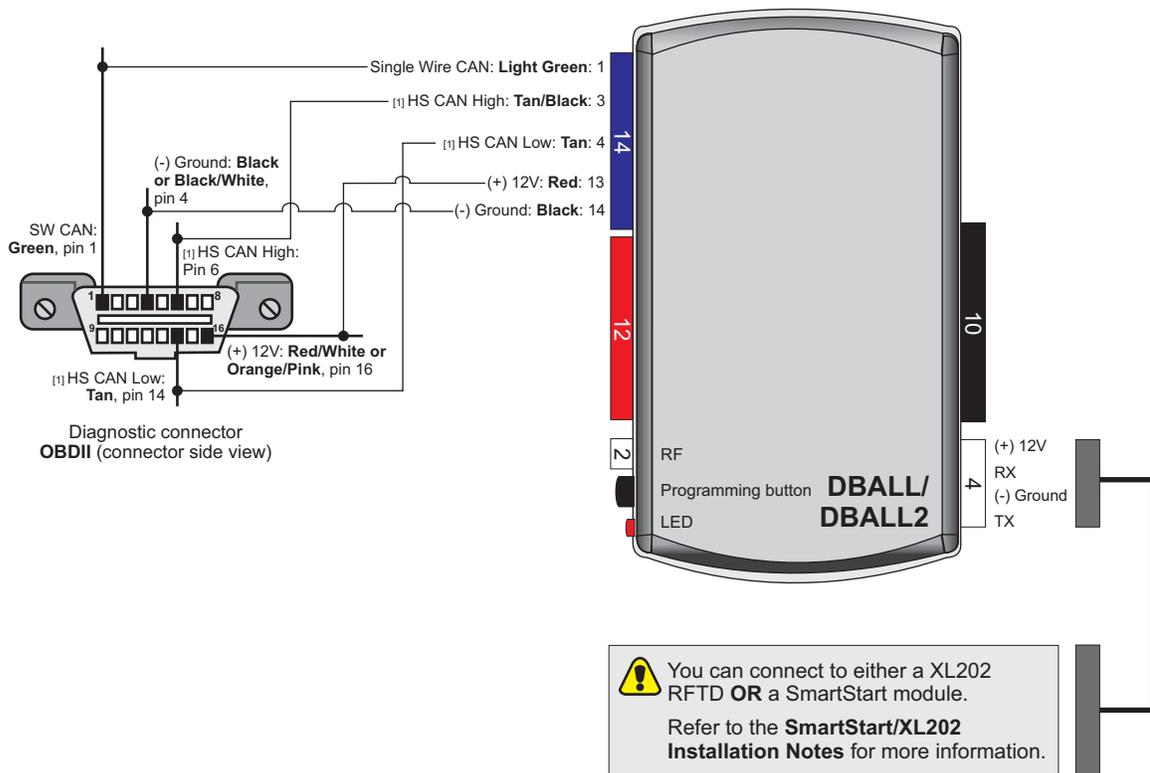
Installation Type 1 (with T-Harness OBDTHDGM1 or OBDTHDGM2)

 Refer to Quick Reference Guide for more information on Range Extender Ready (RXT).



Installation Type 2 (without T-Harness)

 Refer to Quick Reference Guide for more information on Range Extender Ready (RXT).



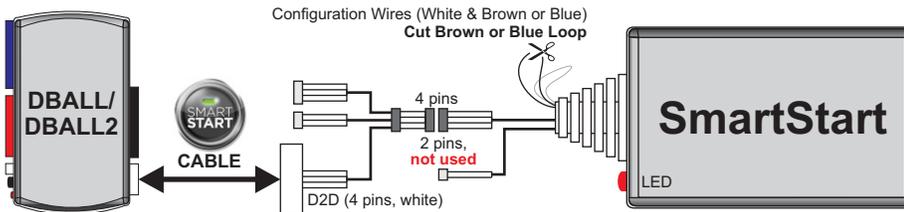
[1] These wires must be connected only if installed with SmartStart 3.0.

SmartStart/XL202 Installation Notes

The DBALL Range Extender Ready (RXT) solution offers two (2) configuration options to control your system: RF Kit or SmartStart (all sold separately). This section provides specific installation information for SmartStart and XL202.

SmartStart Revision A

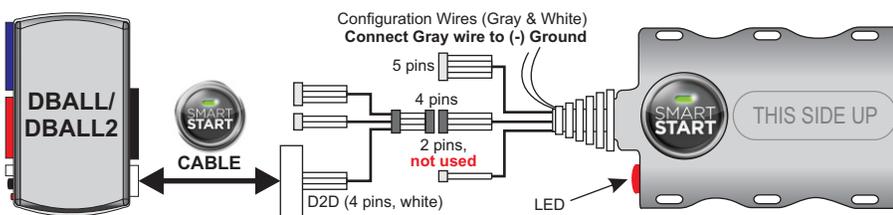
SmartStart is **optional** and not included. It **MUST** be purchased separately.



! The modules must be connected in a specific order. Refer to the **Module Programming** section for more information.

SmartStart Revision B

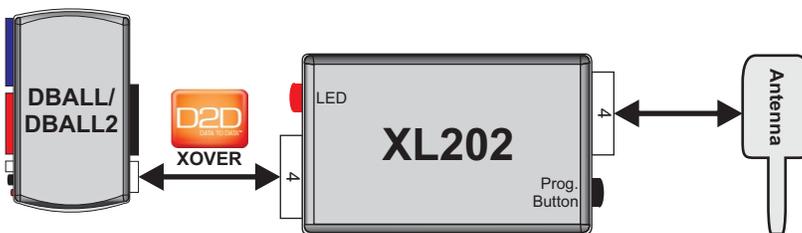
SmartStart is **optional** and not included. It **MUST** be purchased separately.



! The modules must be connected in a specific order. Refer to the **Module Programming** section for more information.

RF Kit

The **optional** XL202 and antenna are not included and **MUST** be purchased separately.



- !** 1. Use the D2D Crossover (XOVER) cable that is provided with XL202, and **NOT** the one in the DBALL package.
2. The modules must be connected in a specific order. Refer to the **Module Programming** section for more information.

RF Kit & PKE Combination

Refer to the Passive Keyless Entry (PKE) Installation Guide (N2102T) for detailed wiring information.

RF Kit, PKE & SmartStart BT Combination

Refer to the Passive Keyless Entry (PKE) Installation Guide (N2102T) for detailed wiring information.

Module Programming

 Refer to the LED Diagnostics section on page 10 for more information and for troubleshooting purposes.

Important

Make all the required connections to the vehicle, as described in the wiring diagram(s) found in this guide, and double check to ensure everything is correct prior to moving onto the next step.

Note: Before connecting either the XL202 or SmartStart module to DBALL, it is important to ensure that the proper feature and function programming is selected using XpressVIP (version 4.5 or higher). Visit www.directechs.com to download the latest version of the application.

 **Warning!** To take advantage of advanced features, you must use XpressVIP 4.5 or higher. Using version 2.9 or 3.1 will limit available functions and features.

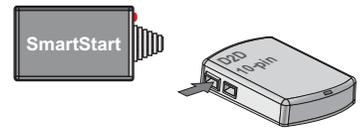
1. Connect the interface module to your computer using the **XKLoader**.
2. Open an Internet Explorer browser (version 6 or higher), and go to www.directechs.com. The detail of the platform and firmware that is currently saved on the interface module will be indicated in the top left corner of the page.
3. Select the **year**, **make** and **model** of the vehicle; the page will refresh to display the compatible firmware.
4. In the search result page, select **Config for RXT**, and follow the instructions provided on the screen.
5. Once you have configured your options, click on the **FLASH** button to upload the firmware onto the interface module.
6. The following message will be displayed when the upload is completed:
 "The flashing is successfully completed. You may now unplug the kit."
 You can now proceed with the programming instructions below.

SmartStart Installation

 The DBALL module **must** be disconnected from any power source before SmartStart can be connected to it. Failing to do so could damage DBALL.

- a. To ensure that the D2D communication between SmartStart and DBALL works properly, the Gray wire must be connected to a ground source (**Rev B SmartStart**), and the Brown or Blue loop must be cut (**Rev A SmartStart**).
- b. Do **NOT** connect the 2-pin harness (on SmartStart). Power and ground will be provided by the DBALL D2D connector.

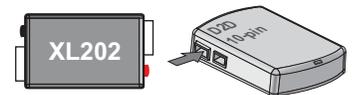
Connect SmartStart to DBALL using the D2D port.



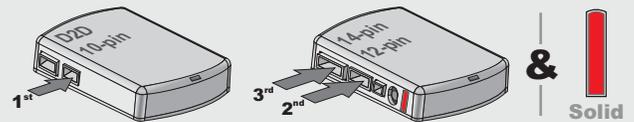
OR

XL202 Installation

Connect XL202 to DBALL using the D2D port.



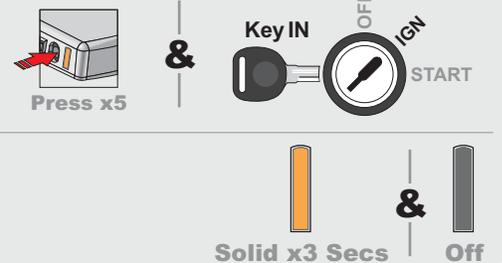
- 1** Connect the 10-pin, 12-pin and 14-pin harnesses to DBALL, then wait until the LED turns ON solid red.



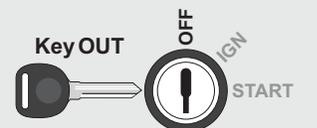
Press push-button 5 times, then turn the key to the ignition position.

- 2**

The LED turns ON orange for 3 seconds then shuts off.



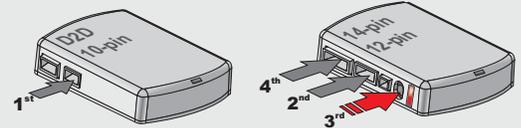
- 3** Remove the key from ignition.



Module Reset

A module reset will only erase programming performed in the previous steps. All settings (firmware) and settings flashed to the module using the web config tool will not be affected.

- 1 If required for your installation, connect the 10-pin & 12-pin harnesses to the module. Press and hold the programming button, then connect the 14-pin harness to the module.



- 2 Wait 3 seconds until the LED turns ON solid orange then release the programming button. The LED turns ON solid red.

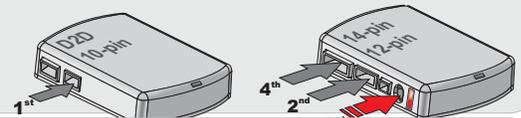


Hard Reset

Warning Against Executing a Hard Reset!

A hard reset will revert the flashed firmware back to its default settings. Depending on the installation, some settings (such as RFTD and D2D options) may have to be reconfigured. See the **Feature & Option List** section of this guide.

- 1 If required for your installation, connect the 10-pin & 12-pin harnesses to the module. Press and hold the programming button, then connect the 14-pin harness to the module.



- 2 Wait 3 seconds until the LED turns ON solid orange, and wait 10 more seconds until the LED starts to flash orange and red.



- 3 Release the programming button. The LED turns ON solid red.



Supported D2D commands table

Supported D2D commands sent from the aftermarket remote (sold separately with RF kits, see page 12 for more information) will activate the corresponding commands in DBALL. See the following table.

D2D commands from aftermarket remote	Corresponding functions activated in DBALL
Lock	Lock
Unlock	Unlock
Trunk	Trunk/Tail Glass Opening*
AUX1	Rear Hatch

***Default feature (Configurable):** This function can be enabled and/or configured in the Feature Programming before it can be used. See page 8 for more information.

Feature and Option List

It is recommended to configure all the features and options listed below using the configuration tool found on the module flashing page on www.directechs.com. The web offers more options such as RXT; however, a manual configuration of the features is possible using the information on this page.

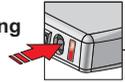
* Default Option

** The CTS, Impala and Lucerne requires the Electric Rear Hatch option for the trunk to work.

Features	Operation	Option	Descriptions
1	RF Output Type	1. No RF Output*	Module is connected to a remote starter using a standard installation.
		2. RFTD Output	Module is connected to an XL202 using an RSR or RXT installation (when available).
		3. Smart Start	Module is connected to SmartStart using an RSR or RXT installation (when available).
2	Unlock Driver Priority	1. Driver Priority*	Unlocks only the driver door on first press and unlocks all doors on a second press within 5 seconds.
		2. All	Unlocks all doors on first press.
3	Trunk Command **	1. No Option	1. No Option: doesn't operate any function in the vehicle.
		2. Trunk/Tail Glass*	
		3. Electric Rear Hatch	2. Trunk/Tail Glass: Will pop the trunk or if not available, will pop the tail glass.
4	Aux1 Command	1. No Option	3. Electric Rear Hatch: When available, will operate the rear hatch.
		2. Trunk/Tail Glass	
		3. Electric Rear Hatch*	
5	Heated Seats	1. Disabled*	Not available in RXT
		2. Enabled	
6	Heated Seats Temperature Control	1. 32°F (0°C)*	Not available in RXT
		2. 23°F (-5°C)	
		3. 41°F (+5°C)	
		4. Always On	
7	Heated Seats Temperature Level	1. High*	Not available in RXT
		2. Medium	
		3. Low	
8	Automatically Controlled Door Lock	1. Disabled*	No operation.
		2. With Ignition	Locks all doors when ignition is ON. Unlocks all doors when ignition turns OFF.
		3. With Brake	Locks all doors when brake pedal is pressed while the vehicle is running. Unlocks all doors when ignition turns OFF.
		4. With Speed	Locks all doors when the vehicle is moving. Unlocks all doors when ignition turns OFF.
9	Smart OEM Alarm Control	1. Disabled	The OEM alarm will not be controlled by DBALL upon remote start. No disarm or arm command will be executed at the beginning or end of the sequence; it must be controlled by the Remote Starter.
		2. Safelock	Smart OEM Alarm Control will behave like a standard Safelock feature on a remote starter. It will unlock at the beginning of the sequence, and relock after start and shutdown.
		3. Enabled*	Smart OEM Alarm Control will synchronize with the OEM alarm so that it will disarm and rearm the vehicle in the remote start sequence, only when required. The reason for this is, factory alarm control must often be done by lock or unlock operation. This could create unnecessary actions on door lock modules, such as the horn to honk. When possible, Smart OEM Alarm Control will monitor the alarm and door lock status to detect if the disarm or rearm is required. If the vehicle is unlocked or is not equipped with factory alarm, the disarm/rearm will not be executed. Smart OEM Alarm Control will also monitor the remote starter actions so that the factory alarm control is not done twice. A remote starter, for which the Safelock feature is active, will work perfectly with this option and will make it invisible to the user.

Feature Programming

Programming
Button



To enter feature programming routine

- Turn the ignition ON, then OFF.
- **Within 5 seconds**, press and HOLD the programming button until the LED turns ON orange (after 3 seconds). Release the Programming button.
- The LED will flash green once slowly to indicate the feature number is 1. After a short delay, the LED flashes red rapidly to indicate the current option of feature 1 (i.e. 1x green followed by 1x red indicates feature 1 is set to option 1). The flashing sequence will repeat until a new command is entered.

Changing feature options

- Press the lock/arm or unlock/disarm button on aftermarket transmitter to change the option of the selected feature.
- The LED flashes red rapidly the number of times equal to the current option number. After a short delay, the LED flashes green slowly the number of times to indicate the current feature. The flashing sequence will repeat until a new command is entered.

Accessing another feature

- Press and release the programming button a number of times to advance from the current feature to the next desired feature.
- The LED flashes green slowly the number of times equal to the feature number. After a short delay, the LED flashes red rapidly to indicate the current option of the current feature. The flashing sequence will repeat until a new command is entered.

When the maximum number of features or options is reached, the LED will start flashing again from the first feature or option.

Once a feature is programmed

- Other features can be programmed.
- The feature programming can be exited.

Exiting feature programming

- No activity for 30 seconds; after 30 seconds, the LED will turn ON orange for 2 seconds to confirm the end of the programming sequence.
OR
- Press and HOLD the programming button for 3 seconds. After 3 seconds, the LED will turn ON orange for 2 seconds to confirm the

LED Diagnostics and Troubleshooting

LED	Description	Troubleshooting
Module Programming - Firmware specific		
 Solid Red	Waiting for SWCAN detection.	Make sure SWCAN is properly connected and turn ignition ON.
 Solid Orange	Bypass was skipped (RXT mode)	Normal operation.
 Solid green x3 seconds	Module was successfully programed.	Normal operation.
 Solid orange x3 seconds	Module was successfully programed without bypass (RXT mode).	Normal operation.
 Solid green 1 second, 2 times	Module was successfully programed with second CAN (OBDII pin 6 & 14) SmartStart DTC	Normal operation.
 Solid orange 1 second, 2 times	Module was successfully programed without bypass (RXT mode) with second CAN (OBDII pin 6 & 14) SmartStart DTC	Normal operation.
External module synchronization		
 (Flashes red, red, then orange) x10	OBDII feature not supported.	Diagnostic data bus not detected. Some features are not supported by SmartStart. This can be caused by missing wire connections or module hardware limitation. Refer to the wiring installation section to check the connections.
Active ground while running		
 Flashes green	GROUND OUT ON (GWR) command received.	Otherwise, the Ground While Running (status) signal was lost or was never received by the module. Commands can come from RF, D2D.
 Flashes red and orange	IGNITION ON command received.	Otherwise, the ignition signal was not received by the module.
 Flashes green quickly	START ON command received.	
D2D and W2W commands		
 Flashes orange x1	LOCK command received.	If the bypass module fails to flash, it means the module did not receive the signal. Commands can come from RF, D2D.
 Flashes orange x2	UNLOCK command received.	
 Flashes orange x3	TRUNK command received.	
 Flashes orange x4	AUX1 command received.	
 Flashes orange x5	AUX2 command received.	

Limited One Year Consumer Warranty

For a period of ONE YEAR from the date of purchase of a Directed Electronics remote start or security product, Directed Electronics. ("DIRECTED") promises to the original purchaser, to repair or replace with a comparable reconditioned piece, the security or remote start accessory piece (hereinafter the "Part"), which proves to be defective in workmanship or material under normal use, provided the following conditions are met: the Part was purchased from an authorized DIRECTED dealer; and the Part is returned to DIRECTED, postage prepaid, along with a clear, legible copy of the receipt or bill of sale bearing the following information: consumer's name, address, telephone number, the authorized licensed dealer's name and complete product and Part description.

This warranty is nontransferable and is automatically void if the Part has been modified or used in a manner contrary to its intended purpose or the Part has been damaged by accident, unreasonable use, neglect, improper service, installation or other causes not arising out of defect in materials or construction.

TO THE MAXIMUM EXTENT ALLOWED BY LAW, EXCEPT AS STATED ABOVE, ALL WARRANTIES, INCLUDING BUT NOT LIMITED TO EXPRESS WARRANTY, IMPLIED WARRANTY, WARRANTY OF MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF NON-INFRINGEMENT OF INTELLECTUAL PROPERTY, ARE EXPRESSLY EXCLUDED; AND DIRECTED NEITHER ASSUMES NOR AUTHORIZES ANY PERSON OR ENTITY TO ASSUME FOR IT ANY DUTY, OBLIGATION OR LIABILITY IN CONNECTION WITH ITS PRODUCTS. DIRECTED HEREBY DISCLAIMS AND HAS ABSOLUTELY NO LIABILITY FOR ANY AND ALL ACTS OF THIRD PARTIES INCLUDING DEALERS OR INSTALLERS. DIRECTED IS NOT OFFERING A GUARANTEE OR INSURANCE AGAINST VANDALISM, DAMAGE, OR THEFT OF THE AUTOMOBILE, ITS PARTS OR CONTENTS, AND DIRECTED HEREBY DISCLAIMS ANY LIABILITY WHATSOEVER, INCLUDING WITHOUT LIMITATION, LIABILITY FOR THEFT, DAMAGE, OR VANDALISM. IN THE EVENT OF A CLAIM OR A DISPUTE INVOLVING DIRECTED OR ITS SUBSIDIARY, THE PROPER VENUE SHALL BE SAN DIEGO COUNTY IN THE STATE OF CALIFORNIA. CALIFORNIA STATE LAWS AND APPLICABLE FEDERAL LAWS SHALL APPLY AND GOVERN THE DISPUTE. THE MAXIMUM RECOVERY UNDER ANY CLAIM AGAINST DIRECTED SHALL BE STRICTLY LIMITED TO THE AUTHORIZED DIRECTED DEALER'S PURCHASE PRICE OF THE PART. DIRECTED SHALL NOT BE RESPONSIBLE FOR ANY DAMAGES WHATSOEVER, INCLUDING BUT NOT LIMITED TO, ANY CONSEQUENTIAL DAMAGES, INCIDENTAL DAMAGES, DAMAGES FOR THE LOSS OF TIME, LOSS OF EARNINGS, COMMERCIAL LOSS, LOSS OF ECONOMIC OPPORTUNITY AND THE LIKE. NOTWITHSTANDING THE ABOVE, THE MANUFACTURER DOES OFFER A LIMITED WARRANTY TO REPLACE OR REPAIR AT DIRECTED'S OPTION THE PART AS DESCRIBED ABOVE.

This warranty only covers Parts sold within the United States of America and Canada. Parts sold outside of the United States of America or Canada are sold "AS-IS" and shall have NO WARRANTY, express or implied. Some states do not allow limitations on how long an implied warranty will last or the exclusion or limitation of incidental or consequential damages. This warranty gives you specific legal rights and you may also have other rights that vary from State to State. DIRECTED does not and has not authorized any person or entity to create for it any other obligation, promise, duty or obligation in connection with this Part. For further details relating to warranty information of Directed products, please visit the support section of DIRECTED's website at: www.directed.com

920-10012-01 2013-07

This Interface kit / Data Bus Interface part has been tested on the listed vehicles. Other vehicles will be added to the select vehicle list upon completion of compatibility testing. Visit website for latest vehicle application guide. DISCLAIMER: Under no circumstances shall the manufacturer or the distributors of the bypass kit / data bus interface part(s) be held liable for any consequential damages sustained in connection with the part(s) installation. The manufacturer and its distributors will not, nor will they authorize any representative or any other individual to assume obligation or liability in relation to the interface kit / data bus interface part(s) other than its replacement. N.B.: Under no circumstances shall the manufacturer and distributors of this product be liable for consequential damages sustained in connection with this product and neither assumes nor authorizes any representative or other person to assume for it any obligation or liability other than the replacement of this product only.

Protected by U.S. Patents: 5,719,551; 6,011,460 B1 *; 6,243,004 B1; 6,249,216 B1; 6,275,147 B1; 6,297,731 B1; 6,346,876 B1; 6,392,534 B1; 6,529,124 B2; 6,696,927 B2; 6,756,885 B1; 6,756,886 B2; 6,771,167 B1; 6,812,829 B1; 6,924,750 B1; 7,010,402 B1; 7,015,830 B1; 7,031,826 B1; 7,046,126 B1; 7,061,137 B1; 7,068,153 B1; 7,205,679 B1; Cdn. Patent: 2,320,248; 2,414,991; 2,415,011; 2,415,023; 2,415,027; 2,415,038; 2,415,041; 2,420,947; 2,426,670; 2,454,089; European Patent: 1,053,128; Pat. Pending: 2,291,306. Made in Canada.

Quick Reference Guide DBALL/DBALL2-GM6 Range Extender Ready (RXT) Installation

Range Extender Ready (RXT)



Range Extender Ready (RXT) is used to amplify the distance covered by factory remote starters, which are built into the BCM of the vehicle. The interface connects to the vehicle and uses the same codes as the factory remote to remote start the vehicle. The runtime and features are identical to the ones for the OEM remote starter. Some of the advantages of RXT are greater distance coverage and 2-way compatibility.

RXT Operations

The following table describes the behavior of the vehicle in relation to the RXT feature. The following commands are performed on the aftermarket remote.

Command	Engine	Result
Start	NOT running.	The engine will be started (runtime 10 minutes).
Start	Running.	The engine will be stopped.

Runtime

The runtime is equivalent to the amount set for the OEM remote starter, which is 10 minutes. A maximum of 2 remote starts can be performed between ignition cycles.

Runtime Reset

The Runtime Reset feature allows the user to increase the runtime duration for a maximum of 10 minutes. This can only be performed ONCE per remote start.

⚠ Note: Due to OEM limitations, the remote starter will not activate if “Check Engine” indicator or DTC (Diagnostic Trouble Code) is present, or if the hood is open or if 2 remote starts were done without inserting the key to ignition ON.

List of Available Commands

Note that the information below is for Viper, Clifford and Python models. Icons and commands may differ depending on the remote brand and model purchased. Refer to your authorized installation center for more information.

Button(s)	Actions
	Press & hold for 1 second to lock.
	Press & hold for 1 second to unlock.
	Press & hold for 1 second to remote start.
	Press & hold for 5 seconds to activate the trunk release (optional).
$f \times 1 + \text{AUX}$	Press f once, then to activate the rear hatch/tail glass release (optional).*
$f \times 3 + \text{AUX}$	Press f 3 times, then to activate the panic mode.
$f \times 1 + \text{Remote start icon}$	Press f once, then to reset the remote starter runtime.

* This output is configurable. see your authorized installation center for more information.

Quick Reference Guide

DBALL/DBALL2-GM6 Range Extender Ready (RXT) Installation

SmartStart Compatible



This system is compatible with Directed SmartStart 3.0. For a complete list of supported features, please visit www.mysmartstart.com.



What is SmartStart?

Now you can remote start, lock and unlock your car just by pushing a button on your smartphone; using the SmartStart App from Directed, the leader in vehicle security and remote start. The simple graphical interface gives you control over the following features of your installed remote start or security with remote start system:

- Lock/Arm
- Unlock/Disarm
- Remote Car Starter
- Trunk Release
- Panic
- Aux Channels

You can also control multiple vehicles – great for families – and assign more than one user to control a vehicle. It's easy with SmartStart!

But, this is only the beginning! SmartStart is loaded with additional features including GPS tracking, SmartSchedule, vehicle status, roadside assistance, home control, parked car finder and more.

3.0 enables a "Cloud-Connected Car" like never before, providing an entirely new level of 2-way interaction with your vehicle. Connectivity is managed through the Directed Cloud Services (DCS) network linking car, app, end user, and the Internet.

For more information, visit www.mysmartstart.com.

Notes
