Quick Reference Install Guide
Automate 4104A
1-Way Supercode
Wiring Connections

Main Harness, 6-pin connector

H/1	RED	(+)12VDC CONSTANT INPUT
H/2	BLACK	(-) CHASSIS GROUND
H/3	BROWN	(-) 200mA HORN HONK OUTPUT
H/4	WHITE/BROWN	LIGHT FLASH ISOLATION WIRE - PIN 87a of light flash relay
H/5	WHITE	PIN 30 of LIGHT FLASH RELAY
H/6	ORANGE	500 mA GROUND WHEN ARMED OUTPUT

Door Lock, 3-pin connector

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

LIGHT FLASH POLARITY (10A (MAXIMUM) FUSE JUMPER)

10A FUSE MINI ATM RPN: 8540

Remote Start 8-pin Harness

IMPORTANT! Neutral Safety switch must be plugged in and in the ON position

ON

Neutral Safety Switch

Main 6-pin Harness

Door Lock Port

D2D Port (for external Xpresskit interface module)

Aux/Shutdown/Trigger 24-pin Harness

RF Port for IVU

Control Center

Bitwriter/SmartStart Port
Thermistor/Temp Sensor

Horn Input Polarity Jumper

PINK/WHITE — 1 2 3
12 — VIOLET/WHITE
BLACK/WHITE — 13
24 — GREEN/WHITE
INSERTION/WIRE SIDE

Auxiliary/Shutdown 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**	FACTORY HORN INPUT (Use Jumper to set polarity)
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
15	GREEN****	(-) DOOR INPUT
16	EMPTY	-------------------------------------
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

* AUX channels with the 4- button remote can only be accessed with channel linking to lock, unlock or remote start.

** This option is not available with the 1-way system.

*** Connect this wire to ground through an optional momentary switch for turbo timer mode activation.

**** Required connection for manual transmission vehicles.

***** Ground this wire for automatic transmission vehicles or connect to the parking brake wire for manual transmission vehicles.

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

Remote Start, 8-pin connector

H/1	PINK	(+) IGNITION 1 INPUT/OUTPUT
H/2	RED/WHITE	(+) 12VDC CONSTANT INPUT for ignition 2 and flex relays
H/3	ORANGE	(+) ACCESSORY OUTPUT
H/4	VIOLET	(+) STARTER OUTPUT
H/5	RED	(+) 12VDC CONSTANT INPUT for ignition 1 relay
H/6	PINK/WHITE	(+) IGNITION 2 / FLEX RELAY OUTPUT
H/7	PINK/BLACK	(+) FLEX RELAY INPUT 87A key side (if required) of FLEX RELAY
H/8	RED/BLACK	(+) 12VDC CONSTANT INPUT for ACC and starter relays

Installation Points

Control Center Button
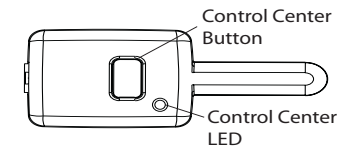
Control Center LED

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.

Learning Virtual Tach (not needed with hardwire 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 to the the reset and deletion section of this guide.

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 to fine tune the starter output time in 50mS increments to compensate for such an occurrence.

Remote Start Shutdown/Startup Diagnostics

Unit can report the cause of the last shutdown of the remote start system through flash sequences of the status LED.

To perform shutdown diagnostics:
1. With the ignition Off, **press** and **hold** the Control button.
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	Shutdown Mode
1 flash	Runtime expired
2 flashes	Over-rev shutdown
3 flashes	Low or no RPM
4 flashes	Transmitter shutdown (or optional push button)
5 flashes	(+) Brake shutdown
6 flashes	(-) Hood shutdown
7 flashes	Timer mode/Turbo mode/Manual mode error *
8 flashes	Neutral safety shutdown
9 flashes	Low battery (voltage mode)
11 flashes	Wait-to-start input timed out

* Timer mode error: Ignition is on and 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.

Startup Diagnostics: If the vehicle fails to activate the remote start, the remote start module will flash the parking lights on the vehicle to notify you of what caused 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.

Remote Pairing

Remote Control RF Learning
1. Turn the key to the ON position.
2. Press/release once and then press/hold the Control Button on the system's Control Center. The status LED begins flashing in a sequence of one flash, the horn sounds once to confirm the system is ready for pairing.
3. The button can be released.
4. Press/hold the remote 🔑 button until the transmit LED turns on solid.
5. The horn emits one sound to confirm learning.
6. Repeat for each remote control to be learned (up to four).
7. Turn the ignition off or wait 60 second to exit learning, the horn emits 2 sounds to confirm.

The learn routine Exits if any of the following occurs:
• The ignition is turned off.
• There is no activity for 60 seconds.
• The control button is pressed too many times.

Basic Remote Functions

Button	Press and Release	Shift (Press/release "AUX" first)	Press/Hold for 2 secs.
🔒 Lock	Lock	Silent Lock	Lock, Panic/Car Finder**
🔓 Unlock	Unlock	Silent Unlock	No Function
AUX Shift*	Shift*	No Function	Trunk Release
🔑 Remote Start	Remote Start	Runtime Reset	

*Advanced commands are performed by pressing and releasing the **AUX** button before pressing the command button to perform the action listed in the Shift column.

**Optional horn honk feature must be connected

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.

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. **Turn** the ignition on, then off.
2. **Select** a Menu. **Press** and **hold** the Control button. The number of horn honks and LED flashes indicates the menu number. 1 horn honk and LED flash indicates menu 1, 2 horn honks and LED flashes - menu 2 and 3 horn honks and LED flashes for menu 3.
3. When the desired menu horn honks are heard with LED flashes, **release** the Control button.
4. **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.
5. **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 horn honks and the LED flashes, indicating which menu has been accessed.

The learn routine exits if any of the following occurs:
• 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 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 in the table below. Default settings are in **bold**.

Menu Item	Feature	Opt 1	Opt 2	Opt 3	Opt 4	Opt 5+
1	Aux/Trunk Icon Type*	**Trunk**	Window	Sunroof	Audio	Lights/Left dr/Right dr/Rear Hatch
2	Aux 1 Timed Output	**30 sec.**	Options: 1 to 90 sec.			
3	Aux 1 Icon Type*	**Pulsed**	Trunk	Window	Sunroof	Audio/Lights/Left dr/Right dr/Rear Hatch/Timed/Latched
4	Aux 2 Timed Output	**30 sec.**	Options: 1 to 90 sec.			
5	Aux 2 Icon Type*	**Pulsed**	Trunk	Window	Sunroof	Audio/Lights/Left dr/Right dr/Rear Hatch/Timed/Latched
6	Aux 3 Timed Output	**30 sec.**	Options: 1 to 90 sec.			

Menu Item	Feature	Opt 1	Opt 2	Opt 3	Opt 4	Opt 5+
7	Aux 3 Icon Type *	**Pulsed**	Trunk	Window	Sunroof	Audio/Lights/Left dr/Right dr/Rear Hatch/Timed/Latched
8	Aux 4 Timed Output	**30 sec.**	Options: 1 to 90 sec.			
9	Diesel Start Delay type (seconds)	**15 sec.**	Options: 1 to 90 sec.			
10	Timer Mode Runtime (minutes) *	**12 min.**	Options: 1 to 16 min.			
11	Timer Mode Starts *	**6 starts**	Options: 1/2/3/4 to 24 (Starts) in increments of 2			
12	Timer mode intervals (hours) *	**3 hr.**	Options: 1/2/**3**/4 to 24 in 2 hour increments			
13	Smart start low temp *	**0° (F)**	Options: OFF, -20° to 70° in 10° increments			
14	Smart start high temp *	**100° (F)**	Options: OFF, 40° to 130° in 10° increments			
15	Smart start low battery (volts)*	**10.5V**	Options: OFF, 9V to 12.5V in 0.5V increments			
16	Starter Release Fine Tune	**6 (normal)**	Options: 0 to 20 in increments of 1			
17	Feature Programming	**Unlocked**	Locked			
18	Transmitter Programming	**Unlocked**	Locked			
19	Remote Start Runtime	**12 min.**	Options: 1 to 60 min.			
20	Virtual Tach Fine Tune	Not Initialized	Options: Not initialized, 0 to 1000 in 50 millisecond increments			

*Feature only available with the LCD 2-way system.

Feature Menus

Default settings are in **bold** type.
Menu 1 - Vehicle Integration

Menu Item	Feature	Opt. 1	Opt. 2	Opt. 3	Opt.4	Opt. 5+
1	System Locking Mode	**Active Locking**	Passive Locking	Auto Re-locking		
2	Panic Mode	**On**	Ign Off only	Off		
3	Horn Function	**Confirmation Chirp (20 ms) & Panic**	Confirmation Chirp (30 ms) & Panic	Confirmation Chirp (40 ms) & Panic	Confirmation Chirp (50 ms) & Panic	Confirmation Chirp Off - Panic Only (Pulsed)
4	Ign-controlled locks	**No Ign-locking**	Lock & Unlock	Lock Only	Unlock Only	
5	Door Lock Pulses	**Single**	Double Unlock Only	Double Lock Only	Double Lock & Unlock	
6	Door Lock output duration	**0.8 sec.**	3.5 sec.	0.4 sec.		
7	2nd Unlock	**2nd unlock on/ Ign-control after first unlock**	2nd unlock on/ Ign-control with first unlock			
8	Comfort Closure	**No Comfort Closure**	Comfort Closure 1	Comfort Closure 2		
9	Hood Trigger Type	**Normally Open**	Normally closed			
10	Door Switch Type	**Normally open**	Normally closed			
11	Ignition Off msg (remote button unlock)*	**On**	Off			

*Feature only available with the LCD 2-way system.

Menu 2 - Convenience

Menu Item	Feature	Opt. 1	Opt. 2	Opt. 3	Opt.4	Opt. 5+
1	One-time Bypass	**No Bypass**	Bypass			
2	Valet Switch Pulse Count	**1**	2	3	4	5
3	Door Ajar Error msg	**On**	Off			
4	Ign-controlled Dome light	**On**	Off			
5	OEM Alarm Disarm w/Aux/trunk	**On**	Off			
6	OEM Alarm Disarm Output	**With Unlock**	Before Unlock	Remote Start Only		
7	OEM Alarm Disarm Pulses	**1**	2			
8	Aux 1 Output type *	**Validity**	Latch	Latch/reset/ign	Timed	Off (5)/2nd Unlock (6)
9	Aux 1 Linking	**No Linking**	Link to Lock	Link to Unlock	Link to Lock/Unlock	Link to Remote Start only
10	Aux 2 Output type *	**Validity**	Latch	Latch reset/ign	Timed	Off (5)/2nd unlock (6)
11	Aux 2 Linking	**No Linking**	Link to Lock	Link to Unlock	Link to Lock/Unlock	Link to Remote Start only
12	Aux 3 Output type *	**Validity**	Latch	Latch reset/ign	Timed	Off (5)/2nd unlock (6)
13	Aux 3 Linking	**No Linking**	Link to Lock	Link to Unlock	Link to Lock/Unlock	Smart Key Control (Link to Remote Start Off)
14	Aux 4 Output Type*	**Validity**	Latch	Latch reset/ign	Timed	Off (5)/2nd Unlock (6)
15	Aux 4 Linking	**No linking**	Link to Lock	Link to Unlock	Link to Lock/Unlock	Link to Remote Start Only
16	Aux/Trunk Output type	**Validity**	Off	2nd unlock		

*Aux channels with the 4- button remote can only be accessed with channel linking to lock, unlock or remote start.

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			

*Feature only available with the LCD 2-way system.

Menu Item	Feature	Opt. 1	Opt. 2	Opt. 3	Opt.4	Opt. 5+
14	Tach Mode Starter Release	**Normal**	Increase	Decrease		
15	Vehicle temp auto report **	**Off**	On			
16	Remote Start Safelock	**Off**	On			

* With the 4 button remote; turbo timer mode can only be activated by adding an optional push button to the white/blue (-) activation input wire on the 24 pin harness.
**Not available with the 4-button remote.

Reset and Deletion

If a feature/virtual tach needs to be reset or the remote controls need to be deleted, use the following procedure.

1. **Turn** the ignition to the ON position (The heavy gauge pink wire must be connected).
2. Within 10 seconds, **press** and release the Control button: two times if you want to delete remote controls, three times to reset features or four times to reset virtual tach. These features are described next.

   Delete remote controls: This feature erases all remote controls from the memory of the system. This is useful in cases when a customer's remote is lost or stolen. Note: This does not reset the programmed features of the system or reset the Virtual Tach setting.
   Reset Features: This resets features to the factory default settings.
   Note: This does not delete the remote controls from the system or reset the Virtual Tach setting
   Virtual Tach Reset: Deletes all previously learned values for Virtual Tach, and on the next remote start sequence the unit begins virtual tach initialization. Note: The "Zap" feature on the Bitwriter does not reset the Virtual tach setting.

3. Once you have selected the function step, **press** the Control button once more and **hold** it. The LED flashes and the horn sounds to confirm the selected functional step. Release the Control button.
4. **Press** the button on the remote control. The vehicle sounds to confirm that the feature has been successfully reset.
5. Turn the ignition off or wait 60 seconds to exit the reset/delete procedure, the horn emits 2 sounds to confirm.

The routine Exits if any of the following occurs:
• The ignition is turned off
• There is no activity for 60 seconds
• The control button is pressed too many times

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

DIRECTED®