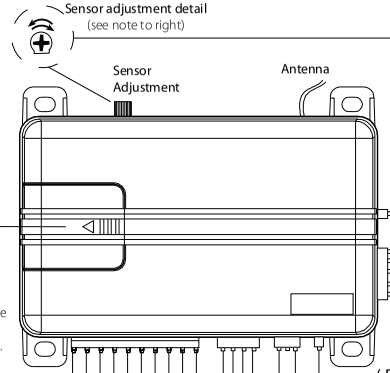
Quick Reference Install Guide
Automate AM1.5
OEM Upgrade Security System

Connection Legend
- [1] Required connection
- [2] Optional connection
- [3] OEM security upgrade connection
- [4] RF Security connection

Wiring Diagram



Note
Adjusting the shock sensor pot:
1. Securely mount the CPU (in a safe location) before adjusting
2. Turn the sensor adjustment clockwise to increase sensitivity, turn counterclockwise to decrease sensitivity

[1] **Chassis Ground:** Connect to a scraped (bare) metal surface in the driver kick panel. NEVER connect to dash brackets or at the same point as other components.

[1] **12v Constant Power:** Remove the in-line fuse before connecting to a wire that has (+)12v at all times.

[2] **White/black:** Connect to the switch side of the parking light wire in vehicles that require switch isolation during light flash This wire connects to pin 87a of the light flash relay.

[1] **White:** Connect to the vehicle parking light wire. This wire connects to pin 30 of the light flash relay.

[1] **Ignition Input:** Connect to a wire that has (+)12v while the key is in the run and crank positions.

[2] **Trunk Pop Output:** Connect to the vehicles negative (-) trunk release relay or other low current device. NEVER connect directly to a motor or high current device without a relay.

[1] **Horn/Siren Output:** Connect to the vehicles negative (-) horn honk relay wire. It can also be used to drive the (-) wire of a siren. See Feature menu item # 7 for options.

[1] **Ground when Armed Output:** Connect to a starter interrupt relay or other accessory that requires a ground to activate when the system is armed.

[1] **Door Trigger Inputs:**
Green: Connect to a wire that rests at (+)12v when all doors are closed and (-) ground when any door is open.
OR
Violet: Connect to a wire that rests at ground when all doors are closed and (+)12v when any door is open..

BLACK	(-) Chassis Ground
RED	(+) 12V Constant Power
WHITE/BLACK	Light Flash Relay Isolation wire (87a)
WHITE	(+/-) Light Flash Relay Output (30)
YELLOW	(+) Ignition Input
RED/WHITE	(-) 200 mA Trunk Pop Output
BROWN	(-) 200 mA Horn/Siren Output
ORANGE	(-) 500mA Ground When Armed Output
VIOLET	(+) Door Trigger Input
GREEN	(-) Door Trigger Input

[2] **Programming Port:** The 998T Bitwriter can be connected to this port for programming feature options (chip version 2.8). SmartStart can be connected to this port to operate the system by Smartphone.

GRAY/BLACK	(+) OEM Trunk Shunt Input
RED/BLACK	(+/-) Disarm Defeat
RED	(+) Disarm Input
GREEN/BLACK	(+/-) Arm Defeat
DARK GREEN	(+) Arm Input

[1] **Valet/LED Port:** Insert the 4pin harness connector to the combination LED/Valet pod here.

GREEN	(-) 200 mA Lock Output
BLUE	(-) 200 mA Unlock Output
BLACK/WHITE	(-) 200mA Flex 2 Output (Dome Light Supervision)
BLUE/BLACK	(-) 200mA Flex 1 Output (2nd Unlock)
GRAY	(NO/NC) Hood Trigger Input
BLUE	(-) Trunk/MUX Trigger Input

[3] **OEM Trunk Shunt Input:** Connect to a wire that pulses (+)12v when the OEM trunk release is activated. If armed when the trunk is opened, the shock sensor and trunk trigger will be bypassed until the trunk is closed.

[2] [3] **Disarm and Disarm Defeat Inputs:**
Disarm Defeat Input: Connect to a wire that pulses (+)12v OR ground when ALL doors unlock (usually the passenger door motor or driver door unlock switch). Disarming will be defeated if this wire receives a pulse simultaneously with the Disarm input.
This is a polarity selectable input, See Feature menu item #11 for options

Disarm Input: Connect to a wire (usually the driver door motor) that pulses (+)12v when the driver door unlocks using the OEM remote to disarm the system.

[2] [3] **Arm and Arm Defeat Inputs:**
Arm Defeat Input: Connect to a wire that pulses (+)12v OR ground when the doors lock (usually the driver door lock switch). Arming will be defeated if this wire receives a pulse simultaneously with the Arm input. This is a polarity selectable input, See Feature menu item #10 for options

Arm Input: Connect to a wire (usually the driver door motor) that pulses (+)12v when the doors lock.

[2] **Lock Output:** Connect to a wire that pulses ground to activate the vehicle door lock relay. (usually at the door lock switch or BCM).

[2] **Unlock Output:** Connect to a wire that pulses ground to activate the vehicle door unlock relay. (usually at the door unlock switch or BCM).

[3] [4] **Hood Trigger Input:** Connect to a wire that changes state when the hood is opened. Test the resting state of the wire when the hood is OPEN and then set the polarity accordingly. Ground = NO/12v or open = NC. See Feature menu item #6 for options

[3] [4] **Trunk Trigger Input:** Connect to a wire that goes to ground (-) when the trunk is opened or to the pre-trigger and full trigger outputs of an optional Directed Electronics dual zone sensor.

[2] [3] [4] **Flex 2 output, Dome light supervision:** Connect to a wire that will turn on the dome light to illuminate the vehicles interior when disarming and turning the ignition off.

Additional functions: Both Flex outputs are also programmable as described next. See Feature menu items 13 & 14 for setting options

[4] **Flex 1 output, Factory Alarm Disarm:** Connect to a wire that will disarm the factory alarm when pulsed to ground. This output will pulse when disarming and activating the Trunk Release feature for RF Security

[2] [4] **2nd Unlock:** Connect to a wire (or relay assembly) that will unlock all locked doors when installing two stage door unlocking

[2] **Factory Alarm Trigger:** Connect to a wire that will trigger the factory alarm system when grounded (Usually a door or trunk switch).It will pulse when the sensor full trigger zone is activated.

[4] **Remote Start Report:** Connect to the negative activation input of an add-on remote starter or other low current device. NEVER connect directly to a motor or high current device without a relay.

Feature Programming

Bitwriter
- This system can be programmed while it is in Dealer mode and Consumer mode using the 998T Bitwriter programmer with P/N 998U - v2.8 chip.

Dealer Master & Consumer Remote
1. Configure a dealer master or consumer remote control to command the system.
2. Open a door, turn the ignition on and then off.
3. Press/release the Valet button to select an item (See Feature menu table) and then press/hold.
4. The horn/siren sounds and the LED flashes to confirm the selection.
   - The button can be released (Exit in 30 seconds if no action is performed).
5. Select the option by pressing the Arm/Disarm buttons of a dealer master or Consumer Remote.
   - Pulsing +12V on the Arm input wire selects options when RF has not been programmed.
6. The horn/siren sounds and the LED flashes to indicate the selected option.
7. To save the option and select the next menu item to program - return to Step 3 above.
8. To exit turn the ignition on, the horn/siren emits 2 sounds to confirm.

OEM Security Upgrade
- When installed as an OEM Security Upgrade pressing the Lock/Unlock buttons of the OEM Remote selects options as in Step 5 above.

Feature Menu

Menu Item	Feature	Option 1	Option 2	Option 3	Option 4	Option 5
1	Security Features	On*	**(Off)**			
2	Arming Type	Active*	Passive-no lock	**(Passive-lock)**		
3	Arm/Disarm chirps	**On**	(Off)*			
4	Ignition control locks	No ignition locks*	**Lock and unlock**	Lock only	Unlock only	
5	Panic	On*	**(Off)**			
6	Hood Trigger type	**Normally Open**	Normally Closed			
7	Horn function	Siren	**(Horn 10 ms)**	Horn 20 ms	Horn 40 ms	Horn 50 ms
8	Door trigger error chirp	**(On)**	Off			
9	Door lock output	**(0.8sec)**	3.5 sec	0.4 sec.	double unlock (0.4 sec)	
10	Arm defeat polarity	**(Positive)**	Negative			
11	Disarm defeat polarity	**(Positive)**	Negative			
12	Sensor Add Arming Type	Active	**(Passive)**			
13	Flex Output 1	Domelight Supervision	**(Factory Alarm Disarm)**	2nd unlock	Factory Alarm Trigger	Remote Start Report
14	Flex Output 2	**(Domelight Supervision)**	Factory Alarm Disarm	2nd unlock	Factory Alarm Trigger	Remote Start Report
15	OEM Alarm Arming	**Instant**	Delay			

Table Notes:
1. Items 1-5
   - (*) indicates default Consumer mode options when changed to a Consumer mode of operation. Any changes must be made after the system is set to Consumer mode.
   - **BOLD** type indicates Dealer Security mode default settings.
2. Items 6-14
   - These options are specific to the vehicle interface and remain as programmed when the system is changed to Dealer mode or Consumer mode.
3. Quick access: To turn on the honk/chirp feature without entering programming; simply turn on the ignition and press and hold the Valet button, the unit will respond with a single honk/chirp when turning the feature ON.
   To turn off the honk/chirp feature follow the above steps, the unit will respond with a double honk/chirp when turning the feature off. .
4. See Installation shop manual for a complete description of features and options.

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

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Programming and Deleting Remote Controls

1. Open a door and turn the ignition on .
2. Press/release once and then press/hold the Valet button (one horn/siren sound confirms selection) or press/release twice and then press/hold to delete remotes (two horn/siren sounds confirms selection)..
3. The button can be released (Learning exits in 30 seconds).
4. Press/hold the remote control button until the transmit LED turns on solid (10 seconds) or if deleting all consumer remote controls press the button of a programmed remote.
   Note: If deleting the Dealer Master Remote controls press and hold the button on the remote until the transmit LED turns on solid (10 seconds)
5. The horn/siren emits one sound to confirm.
6. Repeat step 4 for each Consumer remote to be learned (up to four). For additional Dealer Master Remote controls, enter the same ID Number of the original Dealer Master Remote that has already been programmed to the system (see Dealer Master Remote guide for details on assigning an ID number).
7. Turn the ignition off or wait 30 second to exit learning, the horn/siren emits 2 sounds to confirm.

Menu Table:

Item	Function
1 sound/flash	Auto learn new remote
2 sounds/flashes	Delete all remote controls

System Testing and Sensor Adjusting

Install the system type according to the wiring diagram on page 1 and then perform the following steps to test for correct operation.

RF Security

Arming

1. Press the button.
2. Doors lock, Lights flash and the horn/siren sounds once.
   - For silent arming; press the **AUX** button prior to pressing the button.
3. Dome light turns off, starter kill becomes active, and the status LED begins flashing.
4. While arming, the system tests the trigger inputs for status. If any trigger inputs are active when arming the horn/siren sounds a second time as a notification, both the onboard impact sensor and the active input are bypassed. The open zone is bypassed until corrected and the impact sensor is bypassed for a maximum of 4 minutes. While bypassed, the active input is indicated by the status LED flashes (see table of zones for LED flashes).
   Sensor testing:
   a. Gently impact the vehicle with increasing intensity to test the pre-trigger level (10 horn/siren sounds).
   b. Impact that location more heavily to test the full-trigger level (horn/siren/lights for 30 sec).
   c. Adjust the sensor pot until the desired levels are obtained
   Note: The Nuisance Prevention feature bypasses the sensor after 3 full-triggers; to reset if active, disarm the system and turn the ignition on/off.
5. Protected entry tests:
   - Open each door, the horn/siren sounds quickly and then begin the full-trigger output.
   - Open the hood or trunk, or turn on the ignition to immediately begin the full-trigger output.
   Note: The Nuisance Prevention feature bypasses an input that stays active for 3 full-triggers; close the input to reset.

Sensor Bypass

Press and release the **AUX** button within 5 seconds after button, the lights flash two times and the pre-trigger output is bypassed

6. Press and release the **AUX** button again within 5 seconds, the lights flash 3 times and the pre-trigger and full-trigger outputs are bypassed
7. Press the button anytime to reset the sensor

Disarming

1. Press the button.
2. Doors unlock, Lights flash and the horn/siren sounds 2 times. If the system has been triggered, the horn/siren sounds 4 times or 5 times if the sensor is bypassed.
   - For silent disarming; press the **AUX** button prior to pressing the disarm button.
3. Dome light turns on, starter kill becomes inactive, and the status LED turns off.
   - If triggered, the status LED continues to flash to indicate triggered inputs (see table of zones). Turn on the ignition to reset the LED.
4. Press the button again to unlock the passenger doors if 2nd unlock is connected.

Trunk Release

1. Press and hold the **AUX** button.
2. Factory alarm is disarmed if connected.
3. Trunk opens.

Note: If the system is armed, the trunk input and sensor is bypassed until the trunk is closed. The Blue trunk trigger input must be connected to the vehicle to bypass when armed.

Panic

1. Press and hold the button.
2. The lights flash and the horn/siren sounds for 30 seconds.
3. Press the , , or buttons to reset.

Car Finder

1. Press and release the **AUX** button , then press and release the button.
2. The horn/siren emits one honk and the lights flash 10 times.
3. Press the or buttons to stop the feature.

OEM Security

Arming

1. Press the Lock button on the OEM remote
2. Doors lock, lights flash and the horn/siren sounds once, starter kill becomes active, and the status LED begins flashing.
3. While arming, the system tests the trigger inputs for status. If any trigger inputs are active when arming the horn/siren sounds a second time as a notification, both the onboard impact sensor and the active input are bypassed. The open zone is bypassed until corrected and the impact sensor is bypassed for a maximum of 4 minutes. While bypassed, the active input is indicated by the status LED flashes (see table of zones for LED flashes).
4. The shock sensor is enabled after a one minute delay.
   Note: for installations where an Arm Defeat connection is not available the system is disarmed if the ignition is turned on during this one minute delay.
5. Sensor tests, adjustments, and protected entry tests are the same as for an RF Security System.

Arming defeat

1. Press the driver door lock switch.
2. The system does not arm if the Arm Defeat input wire is connected to the lock switch.

Disarming

1. Press the Unlock button on the OEM remote.
2. Doors unlock, Lights flash and horn/siren sounds 2 times. If the system has been triggered, the horn/siren sounds 4 times or 5 times if the sensor is bypassed.
3. Dome light turns on, starter kill becomes inactive, and the status LED turns off.
   - If triggered, the status LED continues to flash to indicate triggered inputs (see table of zones). Turn on the ignition to reset the LED.

Disarming defeat

1. Press the driver door unlock switch.
2. The system does not disarm if the Disarm Defeat input wire is connected to either a passenger door unlock motor wire or the driver door unlock switch.

Trunk release bypass when Armed

1. Press the Trunk release button on the OEM remote.
2. Trunk opens.
3. If the system is armed, the trunk shunt input causes the trunk input and sensor to be bypassed until the trunk is closed.

Note: trunk release bypass requires the Gray/black trunk shunt input and Blue trunk trigger input to be connected to the vehicle to bypass when armed.

Table of Zones

A zone is represented by the number of LED flashes used by the system to identify a particular type of input.
When using the Diagnostic function, use the Table of Zones to see which input has triggered the system.

LED Flashes	Input Trigger
1	Trunk Input
2	Shock Sensor
3	Door Trigger
4	Not Used
5	Ignition Trigger
6	Hood Input

Note: The Pre-trigger does not report on the LED

Dealer Security

The following instructions assume the use of a dealer master remote control.

Arming

Passive

1. Turn the ignition off and close the doors, hood, and trunk.
2. The LED flashes quickly for 30 seconds.
   - An open door, trunk, or hood stops/resets the 30 second timer. If still open after 15 minutes the starter kill becomes active.
3. The system arms as described when using a Dealer Master Remote.

Dealer Master Remote Operation

1. Press the button.
2. Doors lock, Lights flash, starter kill becomes active, and the status LED begins flashing.
3. IF Security features are programmed on, the description under RF Security Arming is applicable.

Disarming

1. Press the button.
2. Doors unlock, Lights flash twice, dome light turns on, starter kill becomes inactive, and the status LED turns off.
3. Passive arming begins as described under Passive above.

Car Finder

1. Press and release the **AUX** button, then press and release the button.
2. The horn/siren emits one honk and the lights flash 10 times.
3. Press the or buttons to stop the feature.

Government Regulations

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for Class B Digital Device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Canada statements:
This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

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 **2.8** or newer to program this unit.

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