

## PIM501 Police Interface Module

2013-2015 Ford Police Interceptors (Sedan and SUV)



### Introduction

The Police Interface Module is intended to provide Ford Interceptors with multiple desired functions within a single module. The PIM base features include Intelligent Switch Mode and Dark Car. Optional Features include Fast idle, Surveillance Mode, Chime Mute, and Audio Mute.

Part Suffix	Optional Features
BA	ISM Aux Version
BV	ISM Vol/Seek Version
O	ISM w/ Key Off Capability (AUX only)
H	Fast Idle Option
S	Surveillance Mode Option
C	Chime Mute Option
R	AM/FM Radio Mute Option

### Installation Instructions

**Disconnect vehicle battery before proceeding with the installation.**



**WARNING**

Disconnect the battery to prevent setting a check engine light.

It is the installer's responsibility to route and secure all wiring harnesses where they cannot be damaged by sharp objects, mechanical moving parts and high heat sources. Failure to do so could result in damage to the system or vehicle and create possible safety concerns for the operator and passengers.

It is important to avoid placing the module where it could encounter strong magnetic fields from high current cabling connected to motors, solenoids, etc. Also avoid radio frequency energy from antenna's or inverters next to the module. Finally, avoid high voltage spikes in vehicle wiring by always using diode clamped relays when installing upfitter circuits.

## PIM Module

Remove the left side cover of the instrument panel (accessible with the door open) and find a suitable location to mount the PIM module. Locate the module in an area away from any external heat sources (engine heat, heater ducts, etc.). Do not mount the module until all post installation testing is complete and wire harnesses are routed and secure.

## Data Link Harness (6-pin connector)

1. Locate the vehicle OBDII Data Link Connector. It will be mounted below the lower left dash panel.
2. Remove the mounting screws for the OBDII connector. Plug the red connector from the Data Link Harness into the vehicle's OBDII connector. Ensure the connection is fully seated and secured with the supplied wire tie.
3. Mount the black connector from the Data Link Harness in the former location of the vehicle's OBDII connector.



## Proceed to Option's enabled for installation instructions

## Diagnostics

Diagnostic mode is entered by shorting the two "Test" pads together. The module provides diagnostic LEDs which illuminate according to the following table. **To display which PIM module features are enabled, momentarily short the two "Test" pads together ONE time. Status LED should NOT be on.**

LED #	Diagnostic Mode LED Descriptions
1	AFIS Option Activated
2	Chime Option Activated
3	Surveillance Mode Option Activated
5	AM/FM Radio Mute Option Activated
6	ISM Option Activated



## ISM (Interceptor Switch Module)

### Introduction

The Ford Police Interceptors (Sedan and SUV) both offer the option of four upfitter switches marked Aux1-Aux4 on the right-side of the steering wheel or 'Seek' and 'Volume' on the right-side of the steering wheel. The Intermotive PIM module gives the Police market the ability to program each switch/output. The PIM still controls the Instrument cluster indicators and the four output wires, but in addition, the PIM allows each switch and associated output to be programmed in the following operating modes:

- Latching (toggle on—toggle off)
- Momentary
- Timed (1 - 1,800 seconds)
- Radio Button (only one button active at a time)



**Aux 1 = Seek Up   Aux 2 = Seek Down   Aux 3 = Volume Up  
Aux 4 = Volume Down**

**Example:** Aux1-Aux3 programmed as Code 1-3 "Radio Buttons". Their outputs are wired to appropriate lights/sirens, etc. Pushing any of these three switches activates the desired Code and shuts the others off such that only one is active at a time. Aux 4 could be programmed as Latching, Momentary, or Timed, independent of Aux1-3.

### ISM Options:

- All Aux buttons can be configured to be used without Key. (AUX version Only)
- One button can be configured to be a trigger for High Idle. (AFIS option must be enabled)
- Power or ground

### Rocker Switch Mode Configuration

The Interceptor's 4 steering wheel switches come configured in the PIM as momentary switches, and the outputs will be active low only while the switch is held on. Each switch can be programmed to be either a ground or a power output and Latching, Momentary, Timed, or Radio Button. This can be done one of two ways: 1) ordered from the factory or 2) using a laptop computer, interface cable, and PIM Programming Utility (see pages 24-25 for installation and operating instructions for the PIM Programming Utility).



## Output Harness Installation Instructions

### AUX Version Only

The OEM GFM module will be replaced by the PIM module. The GFM is located above the right hand side passenger kick panel and behind the glove box. It is usually easiest to remove the glove box to access this area.

1. This can be done on the Interceptor sedan by opening the glove box and squeezing the sides towards each other and pulling down. The glove box can then be lifted off of its hinges and removed.
2. Remove the four bolts holding the horizontal trim panel under the glove box and slide the two white hinge rods towards each other. The glove box can now be lifted off its hinges.
3. Locate the GFM module. There is a black panel with a white sticker where the GFM is mounted. The GFM will be on the opposite side of this panel (see picture). The arrow is pointing at the connector for the GFM. The connector is facing upwards, and has a locking tab. Press the tab and pull down to disconnect the GFM harness.
4. Plug the PIM harness into the GFM harness. The GFM will no longer be used.



GFM and connector

The PIM now controls the four outputs which drive the four OEM blunt cut wires (see wire colors below) which are usually run under the center console and connected to upfitter equipment.

Output 1 = Gray/Brown

Output 2 = White/Violet

Output 3 = Green/Brown

Output 4 = Yellow/Gray

### Vol/Seek version only

1. Route the 4 Aux. Output Wires (Red, Brown, Yellow, and White) under the center console and connect them to the desired equipment.
2. Plug the connector into the mating 12-pin connector on the PIM module. The Vol/Seek buttons now controls the four outputs.

Output 1 = Red

Output 2 = White

Output 3 = Yellow

Output 4 = Brown

### Post Installation Test (AUX version)

1. Key on, verify that AUX1– AUX4 are controlling outputs correctly.
2. Turn off all switches.
3. Apply left turn signal, verify that AUX1– AUX4 are controlling outputs correctly.
4. Turn off all AUX switches again.
5. Apply right turn signal, verify that AUX1– AUX4 are controlling outputs correctly.

## Post Installation Test w/Key Off capabilities

1. Key on.
2. Activate an AUX button and verify that the output is active.
3. Key off, remove key, and verify the output is still active.
4. Deactivate the AUX button and wait 3-5 minutes.
5. With key off, activate an AUX button and verify the output is active.

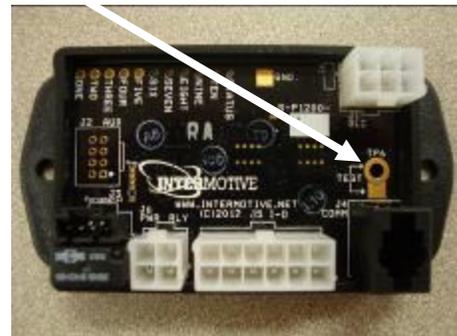
## Post Installation Test (Vol/Seek version)

1. Key on , Verify that Vol/Seek are controlling outputs correctly.
2. Seek Up = Output 1, Seek Down = Output 2, Vol Up = Output 3, Vol Down = Output 4
3. Turn off all switches.
4. Apply left turn signal, verify that Vol/Seek are controlling outputs correctly.
5. Turn off all switches again.

## Diagnostics

Diagnostic mode is entered by shorting the two "Test" pads together. The module provides diagnostic LEDs which illuminate according to the following table. To exit this mode, cycle the key. **For diagnostics of the ISM portion of the PIM module, momentarily ground the test pad TWO times.**

LED #	Diagnostic Mode LED Descriptions
1	Output 1 active
2	Output 2 active
3	Output 3 active
4	Output 4 active



## Steering Wheel Switch Indicator Panel (Optional)

1. Locate a suitable position on the dashboard within view of the driver for mounting the Steering Wheel Switch Indicator Panel. The length of the display harness is 40". This is the maximum distance the display can be mounted from the PIM501 module. Drill a 5/8" hole in the dashboard where the center of the display will be located, being careful not to damage anything behind the dashboRoad
2. Attach the 4 Pin LED display harness to the PIM501 Module 4-pin connector.
3. Run the free end of the display harness under the dash and out through the 5/8" hole.
4. Attach the end of the display harness to the Steering Wheel Switch Indicator Panel.
5. Ensure panel is level, and secure using the supplied screws.



## Dark Car Feature

The Dark Car feature will eliminate all interior lighting and exterior park lamps during entry or exit of the vehicle. The interior lighting will still operate on demand by turning the dome light On. This option can be toggled On/Off by performing the following procedure:

1. With the key On, short the Test Pads **TWO** times on the module and verify the Status LED illuminates.
2. Ensure the Status LED is flashing On/Off.
3. Apply the Park Brake and put the vehicle in PARK
4. Open Driver Door
5. Press and release the Service Brake 3 times within 5 seconds.
6. Verify the interior lights and exterior Park lamps don't illuminate.

**Note:** The following procedure only needs to be performed once. If the option isn't desired in the future, repeat the procedure to toggle the option Off.

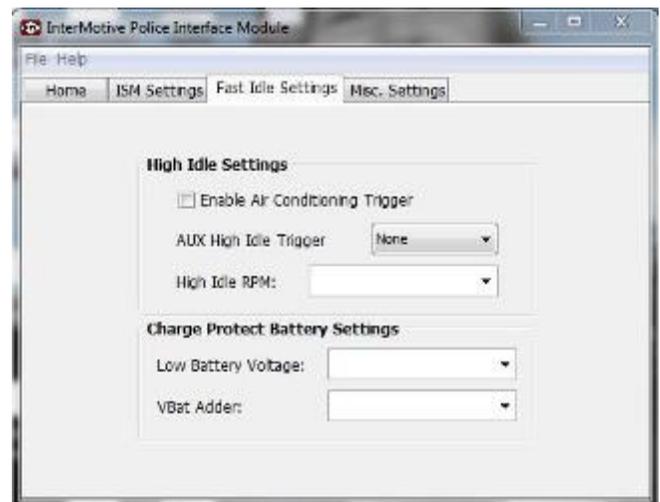
## AFIS Option

The AFIS option is a Fast Idle system that elevates engine idle RPM when the AC is On or due to low VBAT (below 12.5V). The vehicle must be in Park for Fast Idle to engage.

**Note: Fast Idle performance on an EcoBoost engine is optimal when engine is at operating temp (210 °F).**

## VBAT Low Fast Idle Trigger

The system is configured from the factory for Fast Idle to be triggered when the battery voltage (VBAT) drops below 12.5V. This is configurable using the InterMotive PIM Programming Utility. See pages 24-25 for installation and operating instructions for the PIM Programming Utility.



## Post Installation System Operation Test

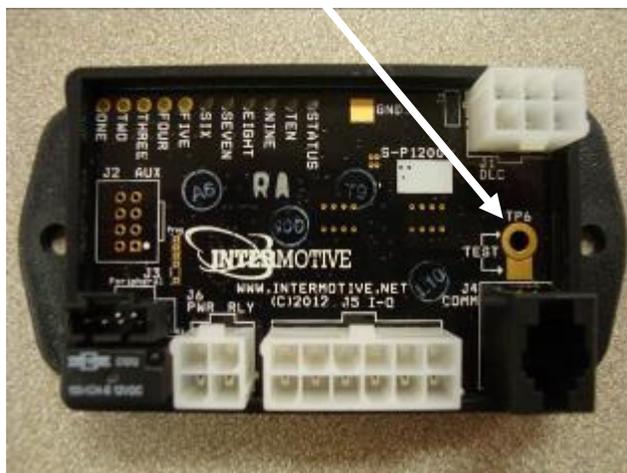
Perform the following tests before mounting the module, to allow viewing of the diagnostic LED's, if needed.

1. Place transmission in Park and start the engine. **Note:** Vehicle may enter Fast Idle if Battery Voltage (VBAT) is low. Either wait to see if the battery charges and Fast Idle stops, or place a charger on the vehicle to disable the VBAT low trigger to continue testing.
2. Turn the AC On and ensure the vehicle enters Fast Idle.
3. Depress the Service Brake for 1 second. Fast idle will temporarily disengage anytime the Service Brake is depressed, but will automatically reengage after approximately 2 seconds once the Brake pedal is released.
4. Place transmission shift lever in the "Neutral" position. The system must not activate Fast Idle.

The AFIS option is properly installed only if it passes all of the above steps.

## Diagnostics

Diagnostic mode is entered by shorting the two "Test" pads on the module together. The module provides diagnostic LEDs which illuminate according to the following table. To exit this mode, cycle the key or momentarily ground the "Test" pad again. **For diagnostics for the AFIS portion of the PIM module, momentarily short the two "Test" pads on the module TWO times.**



LED #	Diagnostic Mode LED Descriptions
STATUS	Continuously flashes two digit status codes. See Status Code table
LED7	AC Trigger Active

## Fast Idle Status Codes

Status Codes provide the current status of the Fast Idle system. The on-board "Status" LED will flash a 2-digit code as shown in the table. The first digit will flash, wait half a second, flash the second digit, then wait one second before the next code. The Status Codes continue to flash until the module is reset (cycle key), or the test input is momentarily grounded again.

AFIS Status Codes	
Status Code	Description
1-1	Ready for fast idle
2-4	Triggered: VBAT Low
2-5	Triggered: A/C
3-1	RPM > 2800
3-2	RPM < 200
3-3	TR not = to PARK
3-4	VSS not = to 0 MPH
3-5	Service Brake applied
3-7	Unsafe; Need to cycle TR
3-8	ECT > 230°F

# Operating Instructions

## AFIS Option

### System Operation

The Advanced Fast Idle System (AFIS) elevates engine idle speed in response to a number of triggers in order to assist electrical or mechanical systems on the vehicle.

Fast Idle may be initiated by either a manual trigger (Aux Button Set), a low battery voltage (low VBAT) condition, or if enabled, by enabling the AC.

Fast Idle will only occur when the required preconditions are met, as listed below. Fast Idle operation will be terminated by a loss of any of the preconditions, or removal of the trigger(s).

Fast Idle Triggers		
Trigger Name	Trigger Conditions	Disable Conditions
VBAT Low	VBAT < 12.5V	Precondition Violation
A/C On (if enabled)	A/C turned On	Precondition Violation
Aux Button (if enabled)	Button Engaged	Button Disengaged

### Fast Idle Preconditions

All of the following preconditions must be met prior to initiating Fast Idle operation.

- Turn ignition to "Run"
- Vehicle speed zero
- Transmission in Park
- Accelerator pedal not applied
- Engine Coolant temperature must be less than 230°F
- Engine RPM must be greater than 200 and less than 2800.
- Service Brake not applied

### Toggle AC Trigger

The AC Trigger is defaulted OFF, the following procedure must be performed to toggle A/C Trigger On:

- Short the Test Pads **TWO** times on the module and verify the Status LED illuminates.
- Close the Driver Door.
- Apply and hold High Beams.
- Cycle the Park Brake 3 times within 5 seconds. All LED's will flash once for confirmation.
- Cycle the key for the changes to take affect.
- Repeating this procedure will toggle between A/C Trigger On and off.

# Surveillance Mode Option

2013-2015 Ford Interceptor

## Introduction

Surveillance Mode uses the Rear Backup sensors and/or Blind Spot Information System (BLIS) and the Backup Camera. If any of the sensors detect a presence while in Surveillance Mode, the vehicle will chime indicating which sensor tripped, and then the PIM will lock the doors and roll the driver's window up when Ground is momentarily applied to Pin 3 on the 4 pin connector (J6). Surveillance Mode will still be active after a sensor is tripped to allow the backup camera to stay on.

## Surveillance Mode :

To enter Surveillance Mode, ALL five preconditions must be met.

- Transmission must be in park.
- Vehicle speed must be zero.
- Driver door must be closed.
- Service brake must not be applied .
- Momentarily ground the Green/White wire Pin 3 on the 4 pin connector.

To exit Surveillance Mode any condition may be applied:

- Pin 3 on the 4 pin connector (J6) Green/White wire momentarily grounded.
- Driver door is opened.
- Service brake is pressed.

(Note: exiting surveillance mode results in the am/fm radio clicking off momentarily as well as causing the headlights to briefly flash).

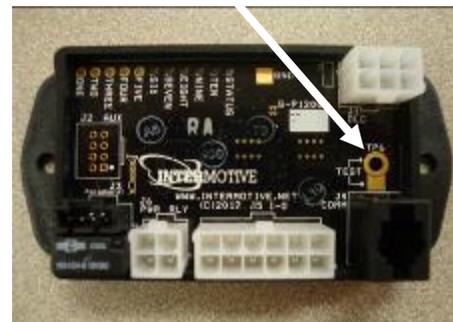
If Flashing Reverse Lights are enabled the Reverse lights will flash at about 10 hertz when a presence is detected. This will turn off when either of these conditions are met:

- The transmission is cycled out of Park.
- Disable Surveillance Mode momentarily (grounding input on Green/White wire).
- Cycling the key position.

## Diagnostics

Diagnostic mode is entered by shorting the two "Test" pads together on the module. The module provides diagnostic LEDs which illuminate according to the following table. To exit this mode, cycle the key. **For diagnostics for the SMM portion of the PIM module, momentarily short the two "Test" pads THREE times. The Status Light will Flash 5-5.**

LED #	Diagnostic Mode LED Descriptions
1	SMM Input Ground Active
2	TR = Park
3	VSS < 0
4	Driver Door Closed
5	Service Brake Applied
6	Surveillance Mode Active
8	LED ON - BLIS Trigger Activated
9	LED ON - Flashing Reverse Lights Activated



## Installation

To install Surveillance Mode it will be necessary to tap into the driver's side window switch. The procedure differs between the Sedan and the Utility Interceptor. Remove the drivers door trim panel following Ford recommended procedures.

### Routing Wire into Door Panel (Sedan and Utility)



It's recommended to drill a hole in the driver's side kick panel (see photo). The hole must be large enough to accommodate a single loomed wire and a grommet. Route the Gray wire from pin 2 of the 12 pin connector through the hole.



Remove the boot between the vehicle and the door and route the Gray wire through the boot and into the door panel. Removing the speaker from the door panel may make performing this step easier.



Install a grommet in the hole previously drilled in the kick panel.

**After routing the Gray wire into the door panel, continue to the "Tapping into the Window Switch" section of the instructions. Follow the instructions for the appropriate vehicle as the procedure differs between the Sedan and the Utility Interceptor.**

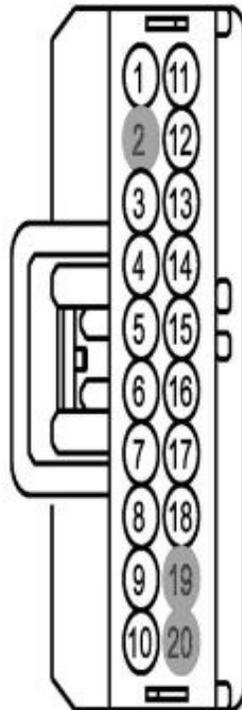
# Tapping into the Window Switch

## Sedan Only

Locate the master Window Adjust Switch (20 pin connector) and connect the Gray wire from Pin 2 on the 12 pin connector at the PIM module to the Blue/Gray wire Pin 17 using solder and tape.



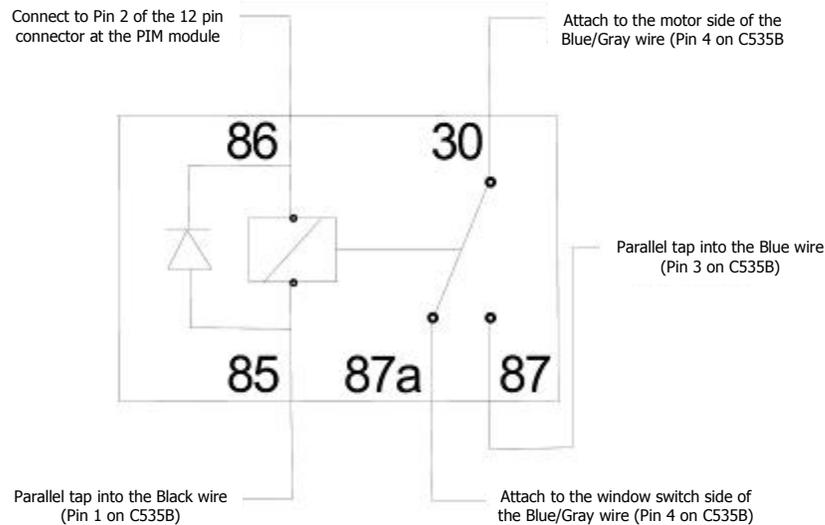
Connector:	Description	Color	Harness	Base Part #	Service Pigtail
<b>C504</b>	MASTER WINDOW ADJUST SWITCH	BK	14631	14529A	Not Available



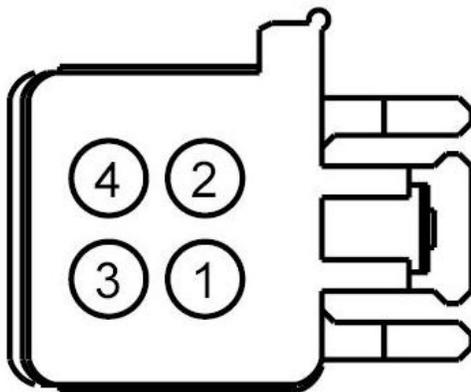
Pin	Circuit	Gauge	Circuit Function	Qualifier
1	GD233 (BK)	22	GROUND - COWL SIDE/PILLAR A LEFT (BC3T)	
2	*	*	Not Used	
3	CPW14 (VT-WH)	22	SWITCH - POWER WINDOW DRIVER # PASSENGER LOCK OUT (ENABLE)	
4	CPM23 (GY)	22	SWITCH - POWER MIRROR # COMMON ALL MOTORS (LEFT AND RIGHT)	
5	CPM16 (BN-BU)	22	SWITCH - POWER MIRROR # LEFT MIRROR RIGHTWARD (IF PLUS)	
6	CPM17 (BU-GN)	22	SWITCH - POWER MIRROR # LEFT MIRROR UPWARD (IF PLUS)	
7	CPM20 (BN-WH)	22	SWITCH - POWER MIRROR # RIGHT MIRROR RIGHTWARD (IF PLUS)	
8	CPM21 (YE-VT)	22	SWITCH - POWER MIRROR # RIGHT MIRROR UPWARD (IF PLUS)	
9	CPW74 (YE-GN)	22	SWITCH - POWER WINDOW DRIVER # FRONT PASSENGER LOCK OUT BYPASS	
10	CBP32 (GN-VT)	22	FUSE - 32 OR CIRCUIT BREAKER	
11	CPW12 (GN-OG)	22	SWITCH - POWER WINDOW DRIVER # FRONT PASSENGER DOWN	
12	CPW13 (BN-YE)	22	SWITCH - POWER WINDOW DRIVER # FRONT PASSENGER UP	
13	CPW17 (BN-GN)	22	SWITCH - POWER WINDOW DRIVER # REAR RIGHT DOWN	
14	CPW18 (GY-VT)	22	SWITCH - POWER WINDOW DRIVER # REAR RIGHT UP	
15	CPW16 (BU-OG)	22	SWITCH - POWER WINDOW DRIVER # REAR LEFT UP	
16	CPW15 (YE)	22	SWITCH - POWER WINDOW DRIVER # REAR LEFT DOWN	
17	CPW11 (BU-GY)	22	SWITCH - POWER WINDOW DRIVER # DRIVER UP	
18	CPW10 (YE-VT)	22	SWITCH - POWER WINDOW DRIVER # DRIVER DOWN	
19	*	*	Not Used	
20	*	*	Not Used	

## Utility Only

1. Locate the 4 pin Connector on the window switch (C535B).
2. Cut the Blue/Gray wire (Pin 4 on C535B) and attach the motor side of this wire to Pin 30 of the relay.
3. Attach the window switch side of the Blue/Gray wire to Pin 87A of relay.
4. Using solder and tape, parallel tap into the Blue wire (Pin 3 on C535B) and attach to Pin 87 of the relay.
5. Using solder and tape, parallel tap into the Black wire (Pin 1 on C535B) and attach to Pin 85 of the relay.
6. Locate the Gray wire, Pin 2 (12 pin connector) on the PIM module and attach to Pin 86 of the relay.



Connector:	Description	Color	Harness	Base Part #	Service Pigtail
<b>C535B</b>	MASTER WINDOW CONTROL SWITCH		14631	part# N/A	See Below



Pin	Circuit	Gauge	Circuit Function	Qualifier
1	GD233 (BK)	12	GROUND - COWL SIDE/PILLAR A LEFT	
2	CPW10 (YE-VT)	12	SWITCH - POWER WINDOW DRIVER # DRIVER DOWN	
3	CBP01 (BU)	12	FUSE - 48 OR CIRCUIT BREAKER	
4	CPW11 (BU-GY)	12	SWITCH - POWER WINDOW DRIVER # DRIVER UP	

[Check for Terminal Part Numbers](#)

## Toggle BLIS Trigger

The BLIS Trigger is defaulted ON. One of the following procedures must be performed to toggle the BLIS Trigger off:

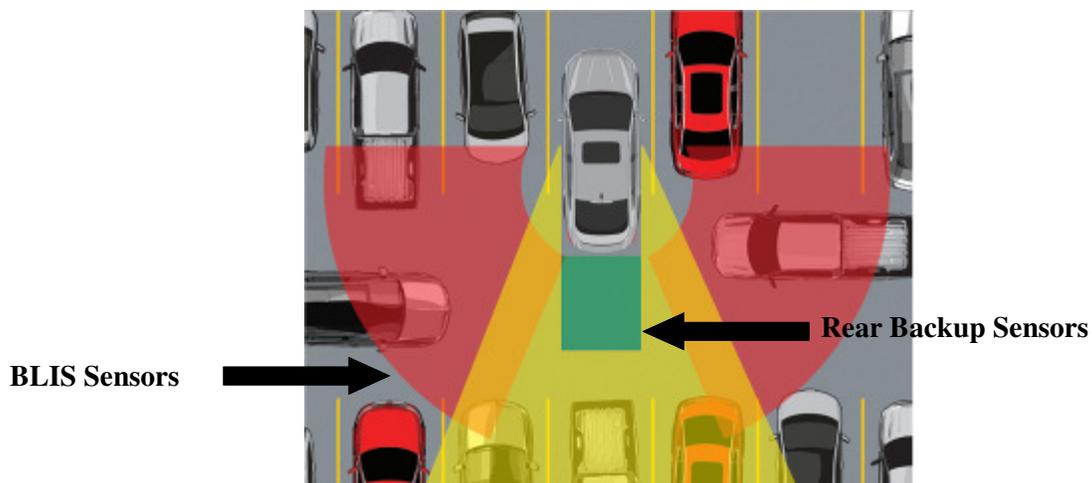
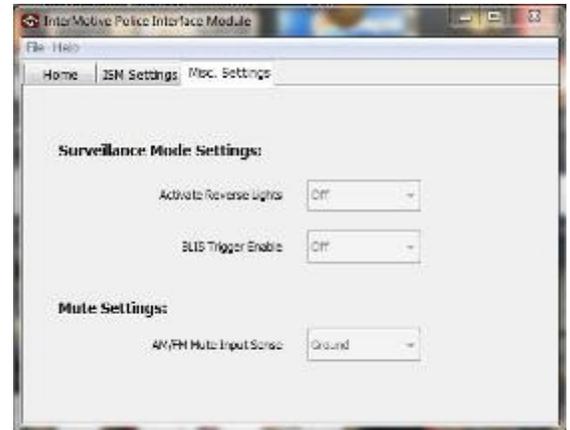
### Procedure #1

1. Short the test pads TWICE on the module and verify the Status LED illuminates.
2. Apply the Park Brake.
3. Apply and hold the Service Brake.
4. Apply the Surveillance mode input **THREE** times within 5 seconds.
5. All LED's will flash once for confirmation.
6. Cycle the key for the changes to take affect.

Repeating this procedure will toggle the Trigger ON/OFF.

### Procedure #2

The BLIS trigger is also configurable using the Intermotive PIM Programming Utility. See pages 24-25 for installation and operating Instructions for the PIM Programming Utility.



## Surveillance Mode Post Installation Instructions

1. Preferably test with two people so one person can activate the rear sensors.
2. Place Car in Park, close the driver door, and do not apply the Service Brake.
3. Roll the driver door window all the way down and unlock doors.
4. Apply Surveillance Mode input and verify rear camera turns on.
5. Have one person trip the sensors by walking behind the vehicle.
6. Verify that the window goes up, all doors lock, and the rear camera stays on.
7. Open driver door to exit surveillance mode and verify rear camera turns off.

## Chime Mute Option

This option will silence the following chimes from the interior of the vehicle:

- Safety Belt Warning Chime - Key in the Run position, seatbelts unbuckled.
- Key in Ignition Warning Chime - Key in the Off position and door open.
- Headlamps On Warning Chime - Key in the Off position with the headlights On.
- Door Ajar Warning Chime - Key in the Run position, Transmission in Park, Door open.

## Installation Instructions

**These connections must be made by using solder and the supplied heat shrink tubing. Cut the tubing into 1" lengths for this purpose.**

- Locate wire bundle that goes between the BCM and the drivers door behind the driver's side kick panel (see photo)
- Locate the Green/Violet wire in the wire bundle (see photo). Confirm signal is grounded when door is closed. Cut this wire and attach the door side of the wire to the Tan wire, pin #2 on the 4 pin connector. Attach the BCM side of the Green/Violet wire to the Purple wire, pin #4 on the 4 pin connector.



## Chimes Post Installation Test

With vehicle in Park, Park Brake applied, and Key off:

1. Turn Key to Run (do not start engine) and plug the 6 pin Data Link connector into the module. This allows the module to read the vehicle's VIN.
2. Verify that the LED's on the module are not scrolling (meaning it has successfully acquired and recognizes the VIN).
3. Verify the following chimes no longer sound:

**Key-in-Ignition Warning Chime** - Key in ignition (Off or ACC), door opened.

**Headlamps On Warning Chime** - Key removed, Headlights on, door opened.

**Door Ajar Warning Chime** - Key in Run (engine on or off), Trans in Park, Door ajar (Note: it will still chime if Transmission is out of Park).

**Safety Belt Warning Chime** - Key switched to Run, driver seatbelt unbuckled. Note: this last chime may sound occasionally due to the electrical architecture of the vehicle. This is normal behavior and cannot be avoided.

## AM/FM Radio Mute Option

This option will mute the radio anytime Pin 10 on the 12 pin connector (Pink wire) is given the appropriate signal.

### Radio Input Sense Active High or Active Low

The default input sense for the Pink wire, Pin 10 on the module is active low. If an active high input sense is desired, the following procedure must be performed:

1. Momentarily short the two "Test" pads on the module **TWO** times and verify the Status LED illuminates.
2. Put Transmission in Park.
3. Apply and hold the Service Brake.
4. Cycle the Low Beams 3 times within 5 seconds. All LED's will flash once for confirmation.
5. Cycle the key for the changes to take effect.
6. Repeating this procedure will toggle between an active high or low input sense.

## AM/FM Radio Mute Option (continued)

### Selecting Radio Mute Button

The Radio Mute button can either be on the left or the right side of the Information Display. The default for the PIM501 module is left. To switch to the right side, the following procedure must be performed:

1. Set the Parking Brake.
2. Momentarily short the two "Test" pads TWICE on the module and verify Status LED flashes On/Off.
3. Put the transmission in Neutral.
4. Apply and hold the Service Brake.
5. Press the Mute button 3 times within 5 seconds. All LED's will flash once for confirmation.
6. Put the transmission in Park.
7. The ignition must be cycled Off and back On for the changes to take effect.



### Diagnostics

Diagnostic mode is entered by shorting the two "Test" pads on the module. The module provides diagnostic LEDs which illuminate according to the following table. To exit this mode, cycle the key. **For diagnostics for the AM/FM Radio Mute portion of the PIM module, momentarily short the two "Test" pads TWO times.**

LED #	Diagnostic Mode LED Descriptions
5	Left Mute Button Is Used
8	Mute Sense
9	Mute On/Off
10	Mute Input



### Radio Mute Post Installation Test

Perform the following tests before mounting the module, to allow viewing of the diagnostic LED's, if needed.

1. Turn Key to Run (do not start engine) and plug the 6 pin Data Link connector into the module. This allows the module to read the vehicle's VIN.
2. Turn on AM/FM Radio.
3. Apply signal to radio mute input (Pin 10).
4. Verify the radio is muted.
5. Remove signal from input.
6. Verify radio is unmuted.

## PIM Programming Utility Instructions

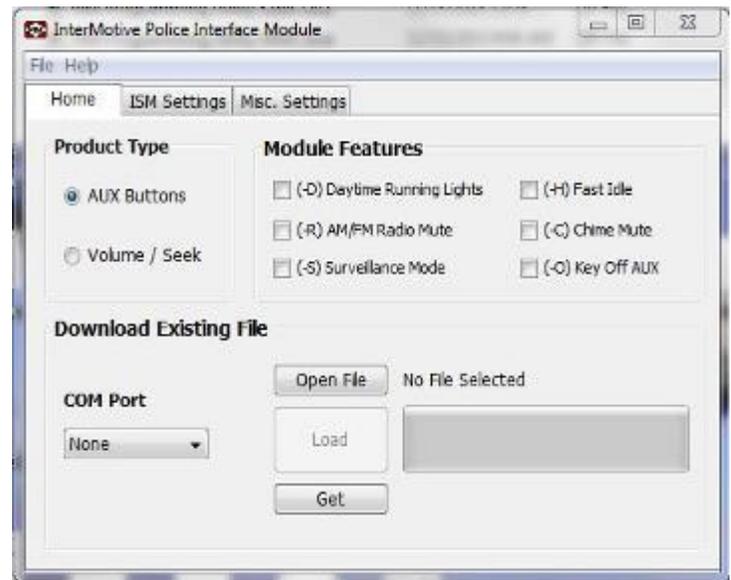
### Requirements:

- Java Runtime Environment (v1.6.0\_18 or later) must be installed on your computer prior to running this utility. Most PC's already have Java installed. The most recent version can be obtained for free at <http://java.com/en/download/manual.jsp>.
- The PIM Programming Utility. This is a free Intermotive software program that needs to be loaded onto your PC. The files are available from the download page at [www.intermotive.net](http://www.intermotive.net). It is recommended that an "InterMotive" folder be created to store the files
- USB to Serial cable (part number a-IPU-B) which is a one-time purchase. This kit is required for all programming and is recommended to be kept in a central location.

Once PIM Programming Utility has been run and the specific configuration has been created, it can be downloaded onto the PIM module(s) with the Programming Utility.

### Computer Installation

1. Ensure that the proper driver is installed for the USB to Serial download cable. This driver can be found at: <http://www.ftdichip.com/Drivers/VCP.htm>
2. To install the programming utility, unzip the PIM Programming Utility folder to your local hard drive.
3. Create a shortcut on the desktop if necessary, but do not separate the PIM Programming Utility.exe file from the rtxSerial.dll file.
4. Plug in the USB cable (Part# s-h37a1) prior to starting the application.
5. Double click the PIM Programming Utility.exe file to launch.
6. Screen 1 will come up.



**Screen 1**

If the program does not launch, close all applications and reinstall the Java Runtime Environment and the PIM Programming Utility.

### Setting the PIM Configurations

1. Configure each setting as desired.
2. Select "Save Configuration" under the "File" tab.
3. Enter a configuration name (ABC### or AB###) and click "OK".
4. Enter a filename and choose a location that will be easy to locate.

## InterMotive Module Desktop Power/Ground Supply

The InterMotive Module Desktop Power/Ground Supply allows programming the PIM module on your desk. The Module Desktop Power/Ground Supply consists of a 120 VAC to 12VDC adapter with a Male 6-Pin Molex connector (also included is a 6-Pin to 4-Pin adapter harness - which is not needed for the PIM).



**Note: Do not have the PIM Programming Utility opened until instructed to do so.**

1. Plug the Module Desktop Power/Ground Supply inverter into a 120V AC power source.
2. Locate the 6-Pin Female connector on the module but do not plug in the power adapter until indicated in the following steps.
3. Plug the phone jack into the J4 COMM port of the PIM module and the USB plug into the computer.

### Loading a PIM Configuration File

Open the PIM Programming Utility. Choose the COM Port the USB cable is connected to. This can be determined on Windows XP by right-clicking on 'My Computer' and selecting 'Properties.' From this window select the 'Hardware' tab and click on 'Device Manager.' In the Device Manager window, expand the 'Ports' menu and the download cable will display as 'USB Serial Port.'

1. Click the 'Open File' button under the 'Home' tab.
2. Open the PIM\*.ims or configuration file to load on the PIM module. (This file must already be loaded on the computer).
3. Click the load button on the computer screen. "Waiting" will come up next to the progress bar. This means the program is waiting for power to be applied.
4. Plug in the 6 pin connector of the power adapter into the PIM module. The progress bar on the computer screen will display status as the configuration loads and takes approximately 2 seconds or less. Configuration is loaded once the screen says "DONE" and programming is complete.
5. To verify that the correct data was loaded to the module, disconnect the 6 pin connector from the module and press the 'Get' button on the screen. Plug in the 6 pin connector and the information will be displayed.



J4 COMM Port



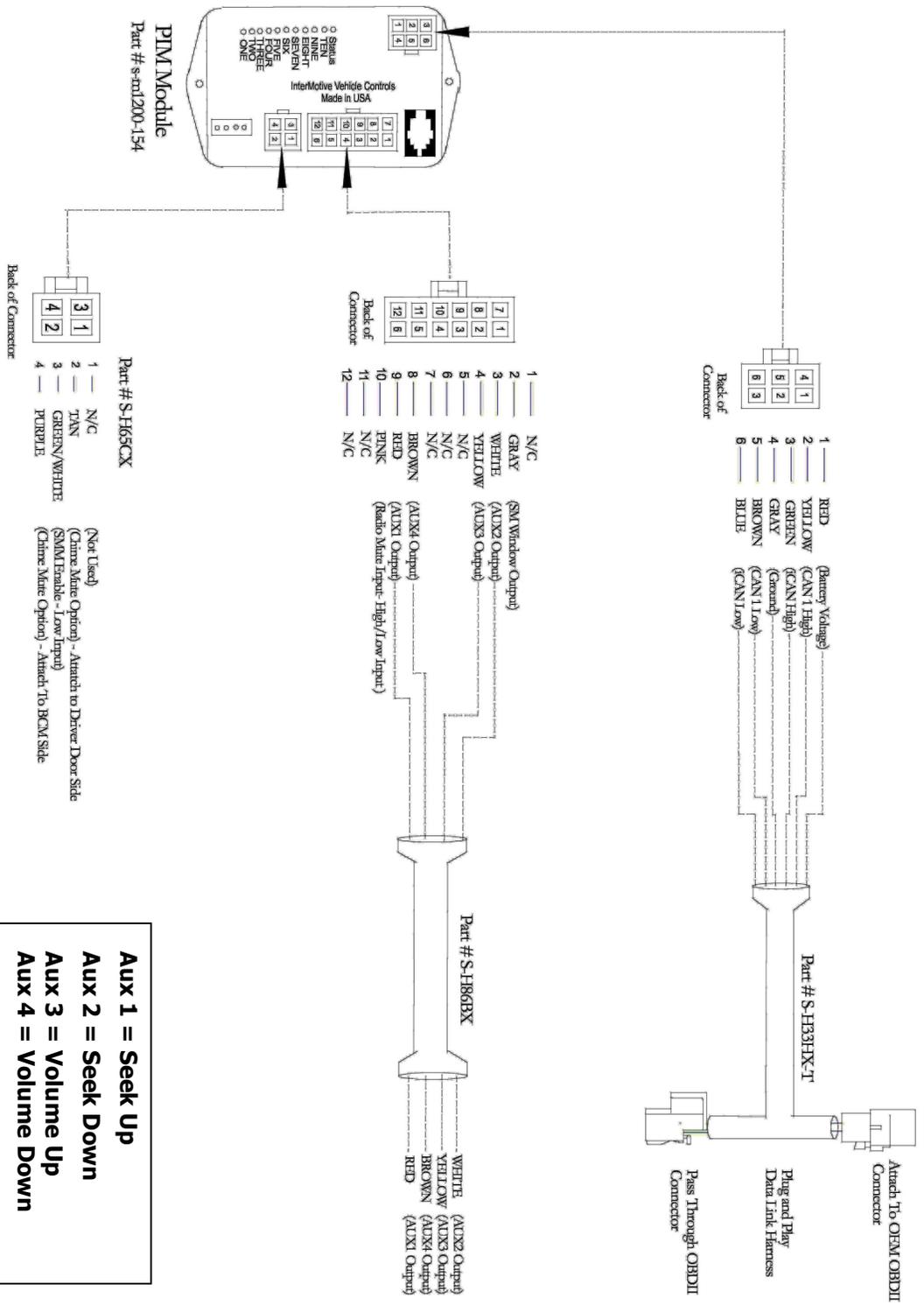
To program another module with the same configuration file, start with step 2.

### PIM501 Module Mounting

Ensure all harnesses are properly connected and routed, and are not hanging below the dash area. Mount the PIM501 module using screws or double sided tape. Reinstall the lower dash panel.

U.S. Patent #9,469,261





**Aux 1 = Seek Up**  
**Aux 2 = Seek Down**  
**Aux 3 = Volume Up**  
**Aux 4 = Volume Down**

**Submit product registration at [www.intermotive.net](http://www.intermotive.net)**

If the PIM fails any step in the System Operation Test, review the installation instructions and check all connections.  
 If necessary, call InterMotive Technical Support at (530) 823-1048