

Chrysler/Dodge/Jeep Multi Video Input Interface for Factory Display Radios (Part # 9002-2790)

**Please read thoroughly before starting installation
and check that kit contents are complete.**

Items Included in the Kit:

9002-2790 interface module
Plug and Play T-harness
9002-6118/SVS-6 6-input switcher module
9002-6118/SVS-6 I/O harness
USB cable (for updates)

Tools & Supplies Required:

7mm socket
Torx t20 bit
Multi-meter or computer safe test light
Wire Ties or Electrical Tape
Plastic Trim Removal Tool
Vehicle service manual (If needed)



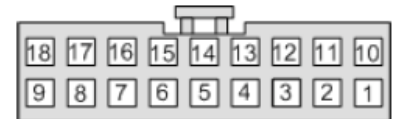
Safety Precautions:

- Work in a well-ventilated area that is clear of obstructions.
- Secure vehicle with tire chucks in both front and rear of tires.
- Turn vehicle accessories OFF and ensure ignition key is in OFF position.
- Wear safety goggles and snug fitting clothes.
- Use tools only for their intended purpose and which are in good repair.
- Only perform this task if confidence, skill, and physical ability permit.

**NOTE: We strive to provide accurate and up-to-date installation instructions.
For the latest full color instructions please visit www.brandmotion.com**

9002-2790 PIN OUT:

PIN #	Description	Color
1	12v (+) Constant	Yellow
2	INPUT 1: <i>VIM Activation</i>	Red
3	--NOT USED--	Blue
4	INPUT 3: <i>Front CAM/Cargo Cam (selectable)</i>	Pink
5	<i>RX (not present)</i>	--
6	RCA MALE	--
7	RCA Shield	--
8	CAN HI (Radio Side)	Brown/White
9	CAN HI (Car Side)	Blue/White
10	Ground (-)	Black
11	OUTPUT 1 Provides 12v (+) ACC OUT	White/Red
12	OUTPUT (2) when AUX is activated (AVSW V1 Trigger)	Blue/White
13	OUTPUT (3) when Front CAM is activated (AVSW V2 Trigger)	Purple
14	TX INPUT (UART control to SVS-6 RX)	White/Brown
15	RCA Female (Normally Open)	--
16	RCA Female (Normally Closed)	--
17	CAN LO (Radio Side)	Brown
18	CAN LO (Car Side)	Blue



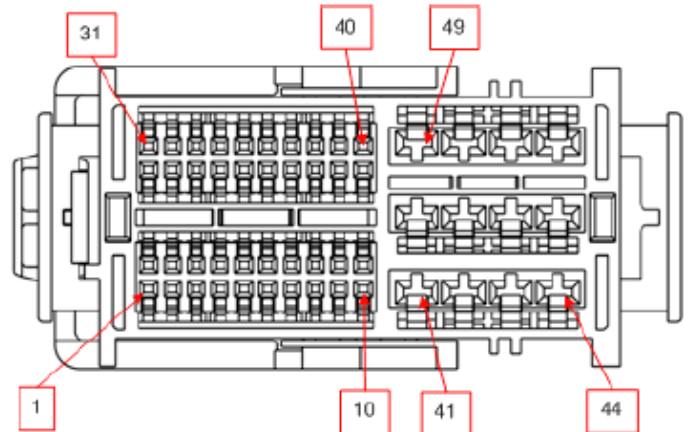
Wire Side

OUTPUTs 2 & 3 send 12v (+) with corresponding button press (force cam)



CHRYSLER RA3/RA4 RADIO LCD CONNECTOR PIN OUT:

Pin #	Description	Color
2	CAN HIGH	Dark Blue
12	CAN LOW	White
31	Diff Video (-)	Green/Brown
32	Diff Video (+)	Green/Orange
33	Shield	
43	Ground	Black
44	Constant 12v	Red



PIN Side

BASIC RAM DASH DISASSEMBLY:

1. Remove the Torx t20 screw at the right rear of the pocket on the right side of the dash.



2. Remove 2x Torx t20 at the top of the dash. They are hidden beneath a rubber mat.



3. The face should be free now. Pull straight outwards (towards you) with medium force, using plastic panel tools as necessary.

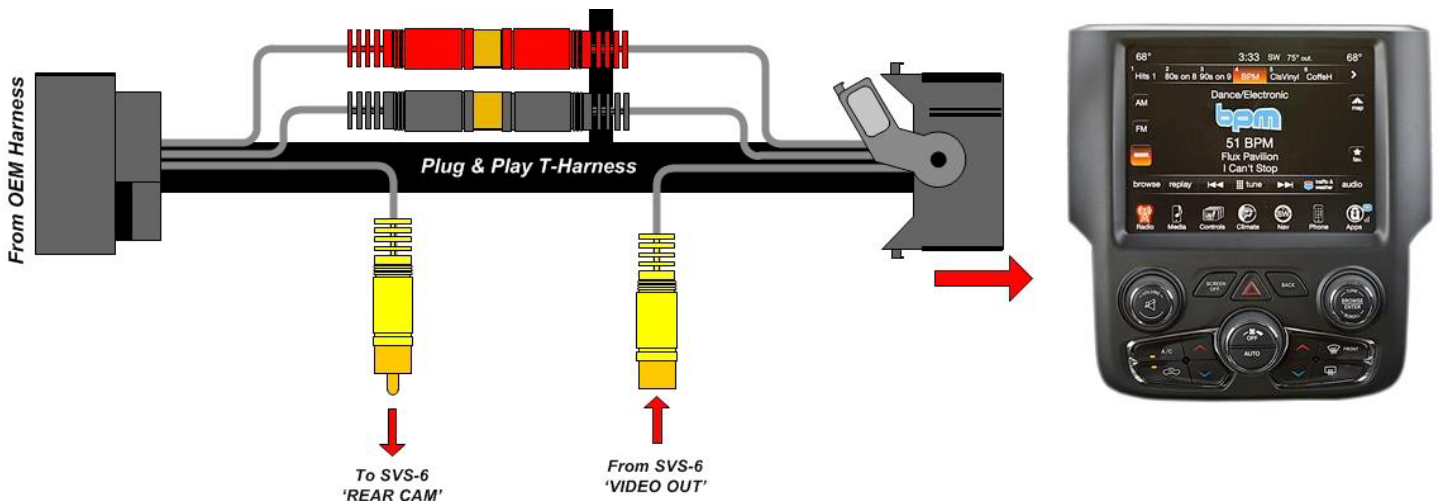


4. Remove 4x 7mm screws that secure the LCD touchscreen.

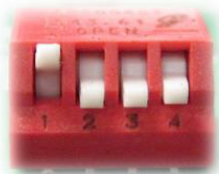


9002-2790 INTERFACE MODULE INSTALLATION:

1. After removing the factory radio, grab the provided Plug and Play T-harness and connect the female side to the factory 44-pin plug. Make certain the lock connects together securely.
2. Install all comes and run signal/power leads into the front dash opening. **NOTE:** 12V ACC is provided from **output 1** (pin 11, white/red). *If connecting multiple cameras, trigger a relay with this output instead to power your camera.*
3. Connect the male VIDEO OUT RCA to the REAR CAMERA RCA in the Plug and Play T-harness.
4. Connect the **TX wire** (PIN 14, white/brown) from the 9002-2790 to the **RX wire** (PIN 11, brown/black) on the 9002-6118/SVS-6 switcher module.
5. Ground the **black wire** and provide **ACC 12v (+)** to the 9002-6118/SVS-6 module using **output 1** from the 9002-2790 module.
6. Connect video source signals to the 9002-6118/SVS-6 module that you are using for this install. NOTE: if the vehicle has an OEM rear camera, connect the male, radio-side RCA among the 9002-2790 Plug & Play T-Harness to the 'Rear Cam' RCA on the 9002-6118/SVS-6 module to retain it normally (see below).

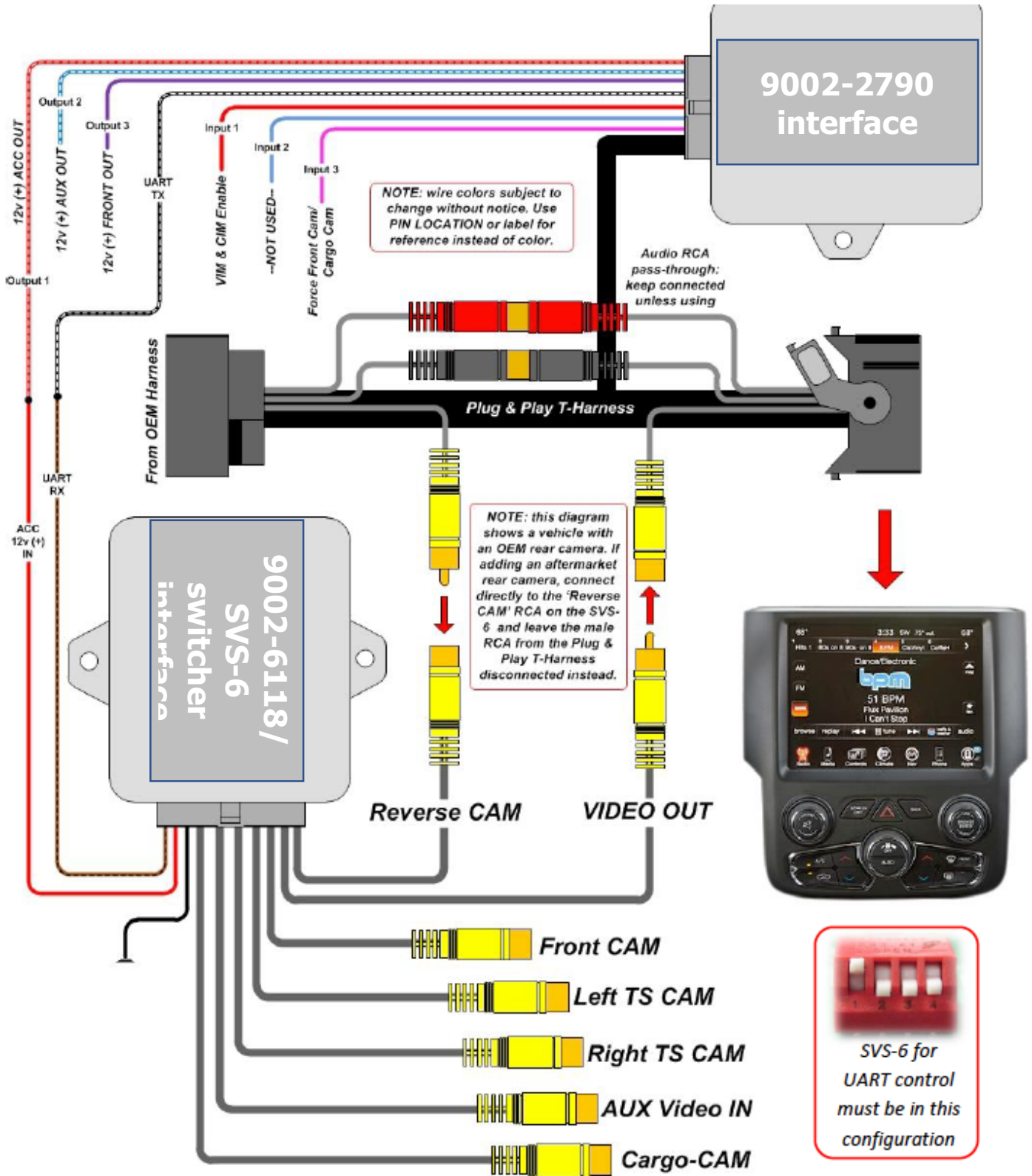


7. Do NOT connect any other wires on the 9002-6118/SVS-6 module - the serial data sent via the TX/RX wires handle triggering.
8. Set the DIP Switches properly for MULTI-CAM use on the SVS-6 (1 UP and the rest DOWN).



9. Optional: If this is a 2013-2016 RAM vehicle and the user wishes for both OEM cameras (Tailgate & Cargo) to be displayed on the main 8.4" media screen, see page 6 or page 7.
10. Connect the male side of the Plug & Play T-Harness to the main radio display. Proceed to page 8 for programming.

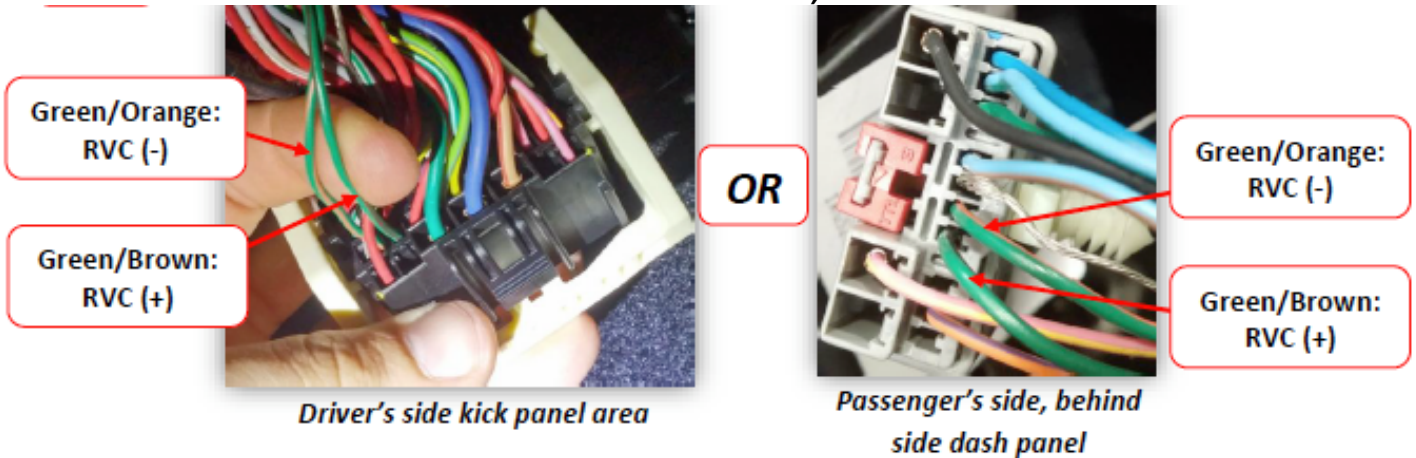
9002-2790 INSTALL DIAGRAM:



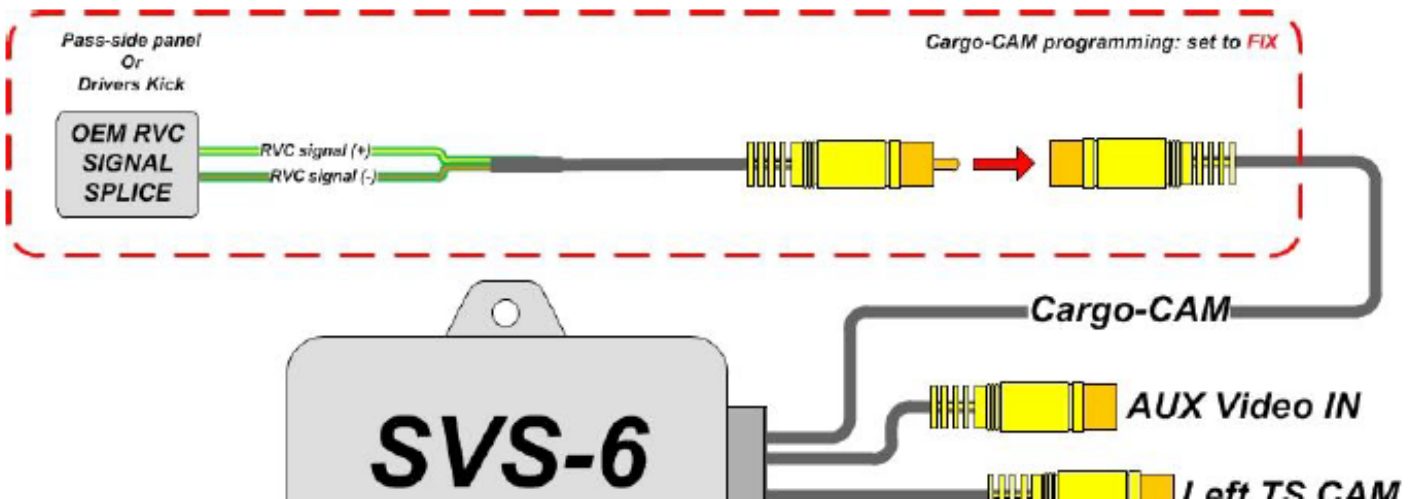
THIS PAGE IS **ONLY** USED FOR 2013-2015 RAM VEHICLES, WHEN THE USER WANTS BOTH OEM CAMERAS (CARGO AND TAILGATE) TO DISPLAY ON THE 8.4-INCH SCREEN (CARGO NORMALLY SHOWS ON MIRROR). FOR **2016 RAM**, CONTINUE TO NEXT PAGE.

If the vehicle possesses both **OEM** cameras (*reverse tailgate cam* on the rearview mirror and *cargo cam* on the main 8.4" screen), force both cameras to display on the main 8.4" screen by completing the following:

- Extend (splice, do not cut) the OEM tailgate signal with a **Single RCA cable (shield & signal)** to the main radio location. There are two easily accessible locations for tapping this RVC signal:
***Note: If the OEM tailgate RVC signal is cut in half, the rearview-mirror image will display an error while in reverse. SPLICE into these wires, DO NOT CUT!**



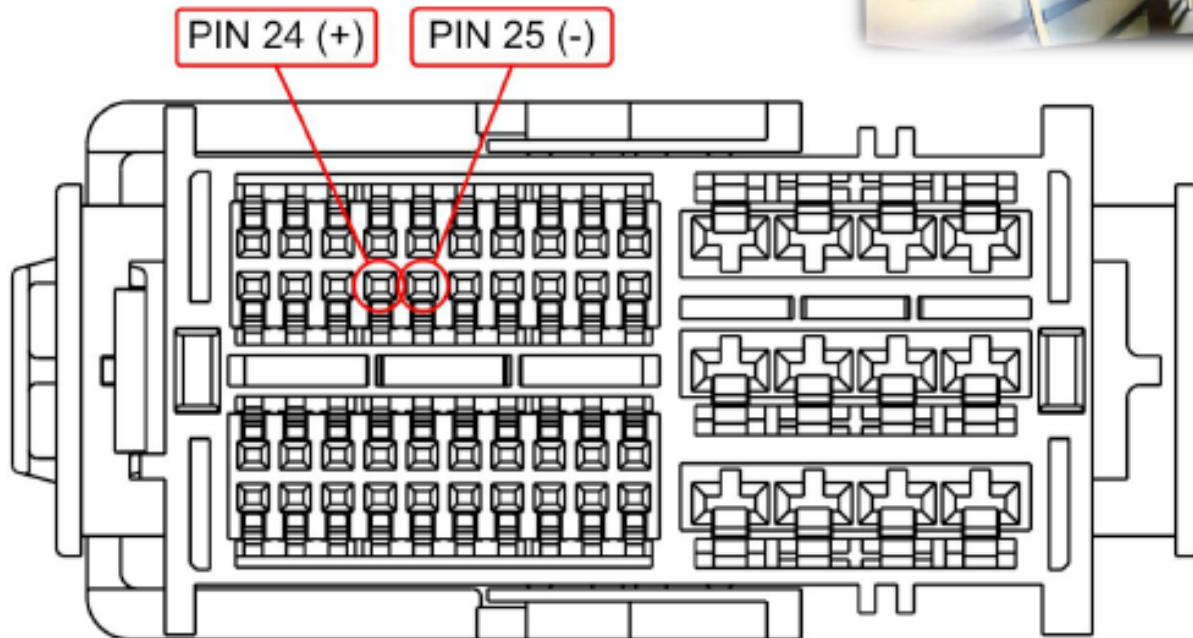
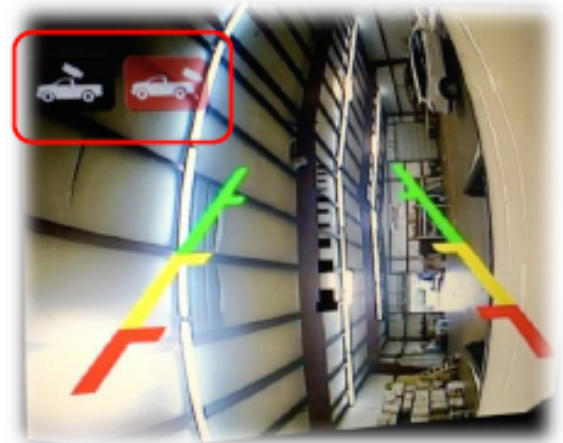
- Connect your extended tailgate signal (RCA) to the RCA labeled 'Cargo/Trailer CAM' on the 24-pin plug of the SVS-6 module.
- Make sure you set Cargo Cam to 'FIX' (after first setting to ON and verifying the menu has been emulated) in 9002-2790 Settings while programming the 9002-2790.



THIS PAGE IS ***ONLY*** USED FOR 2016 RAM VEHICLES, WHEN THE USER WANTS TO ADD AN AFTERMARKET CARGO CAMERA AND BE ABLE TO SELECT/VIEW IT EXACTLY LIKE FACTORY (SOFT BUTTONS WHILE IN REVERSE). FOR 2013-2015 RAM, SEE PREVIOUS PAGE 6.

- Connect the 9002-2790 interface module to the 18-pin connector found on the Plug and Play T-harness.
- Connect the male side of the Plug and Play to harness the monitor. Reconnect all other plugs to the monitor and proceed to PROGRAMMING on page 8.

2016 RAMs ONLY: If you have icons when in reverse camera mode, for flipping between Cargo Camera and Tailgate Camera: splice a female RCA end into Pins 24 (+) and 25 (-) in the main radio harness to add an aftermarket Cargo Camera (this location is different than typical). See Diagram below for visual aid.



PIN SIDE view, male end (connects to radio)

2016 RAM with icons on reverse screen only

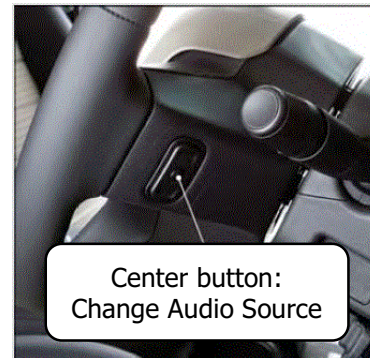
****Provided Plug & Play Harness PINs are labeled inside the female end***

9002-2790 PROGRAMMING:

Programming the 9002-2790 is done in the vehicle, through the factory dash MUTE button, TUNING KNOB, and CLUSTER LCD for feedback (true LCD cluster-equipped vehicles only).



1. Before attempting to program, after making connections, let the vehicle perform a CAN-reset: Close all doors/trunk/hood, lock the vehicle and waiting 10 minutes before proceeding to program.
2. Turn the vehicle's ignition on. Be certain you're resting in FM mode (see an FM station frequency on the cluster), otherwise the cluster information may not display. To show the FM source on the cluster, first clear any messages shown (door status, etc) with the UP or DOWN buttons on the steering wheel. Press the audio source button until "FM" is displayed.



3. Close all doors (door status may override programming mode cluster feedback).
4. View the chart on the next page for settings descriptions and the diagram above to begin programming.
5. Programming mode will time out (back to factory) after 15 seconds. Scroll to the end of the settings menu and select 'EXIT' to exit and save settings.

9002-2790 PROGRAMMING PARAMETERS (OEM CLUSTER):

Parameter (cluster)	Adjustment Options	Description
NAV-TV Settings	TUNE-Next Item / Enter Change	Rotate TUNE knob to access different menus, press knob inwards to enter/change setting
GEAR	AUTO / STICK	AUTO: Select this option if the vehicle has an automatic transmission STICK: Select this option if the vehicle has a manual transmission
SWITCH	RELAY / AVSW / SVS-6	RELAY: Uses RCA inputs on the UCTv2 module itself (UCTv2) AVSW: Select when using AVSW board (UCTv2+) SVS-6: Select when using SVS-6 switcher (CHRY MULTI-CAM)
RVC	OEM / AFTERMARKET / OFF	OEM: Vehicle has a manufacturer-installed reverse camera. AFTERMARKET: Any aftermarket reverse camera. OFF: Choose if not adding a reverse tailgate camera.
F. RVC	OFF / ON	ON: Enables option of forcing rear view camera.*
FRONT CAM	OFF / ON / <8	ON: Enables option of installed front camera. <8: Front camera will display between 1-8 MPH.
AUX VID	OFF / ON	ON: Enables option of AUX VIDEO
URNS	OFF / ON / >25 / >30 / >35	OFF: Use when not installing turn signal cameras. ON: Turn signal cameras will be active all the time, regardless of speed. >25: TSCs will only activate > 25 mph >30: TSCs will only activate > 30 mph >35: TSCs will only activate > 35 mph
Cargo CAM**	OEM / ON / FIX	OEM: No Change. ON: Emulates Cargo CAM menu. FIX: Displays both OEM cameras on main 8.4" display***
INPUT3	CARGO / FRONT	CARGO: Sending 12v (+) forces the connected Cargo Camera. FRONT: Sending 12v (+) forces the connected Front Camera.
EXIT	EXIT	Exits programming mode <i>and saves changes.</i>

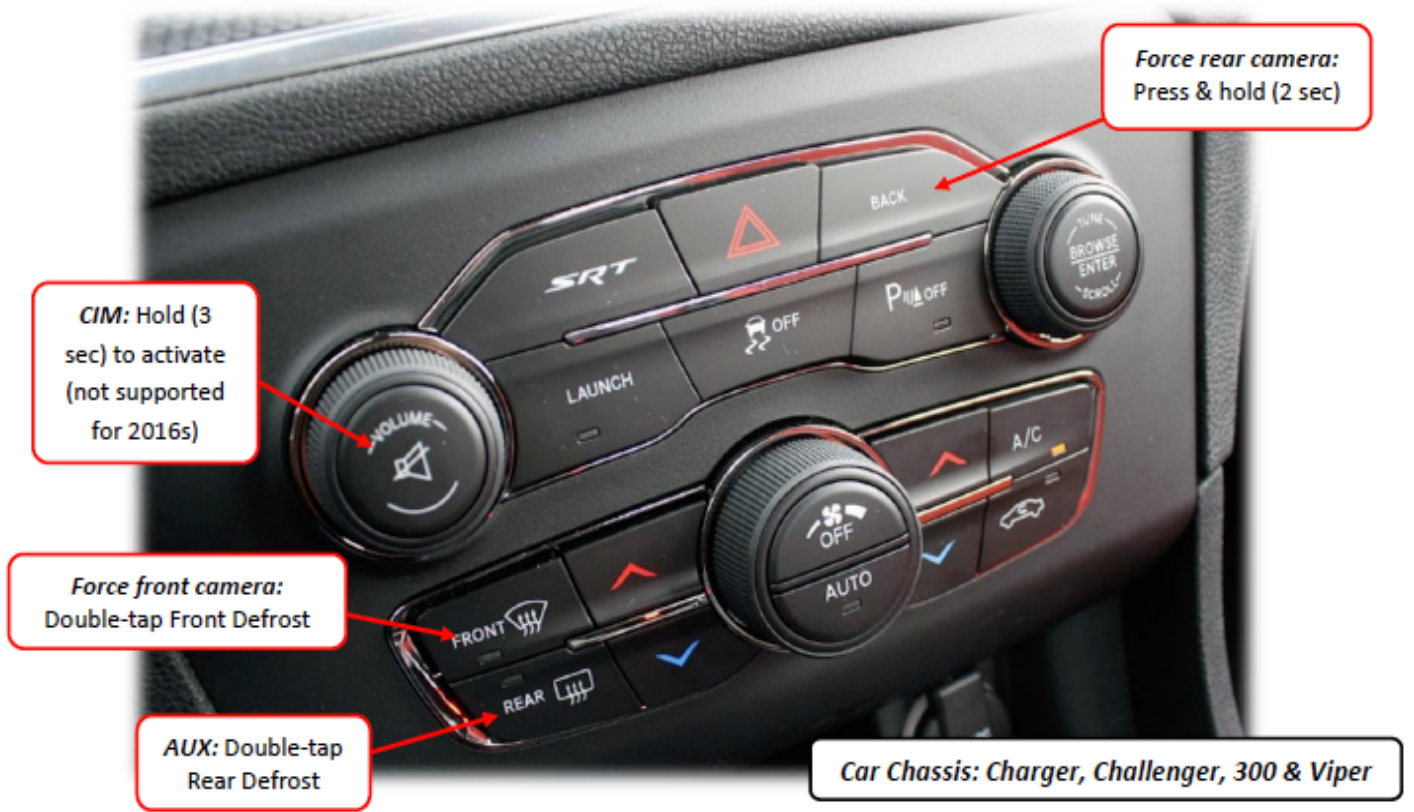
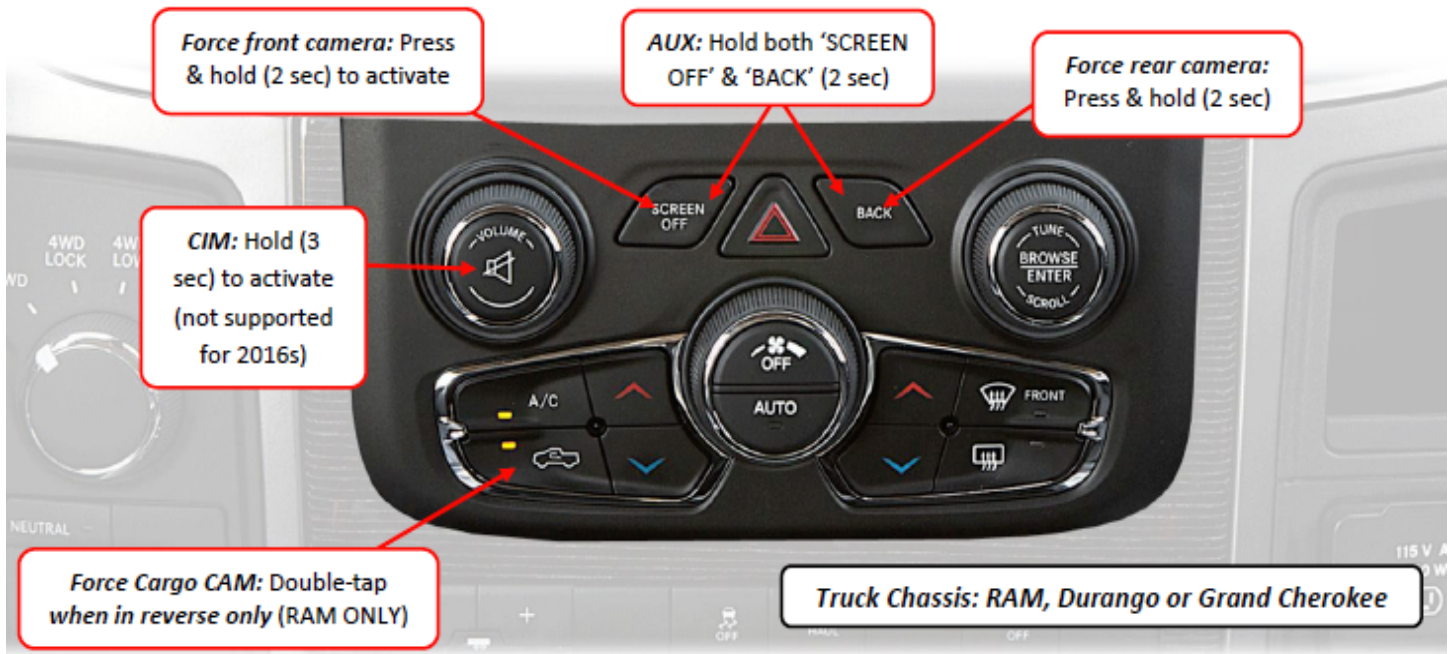


The **SWITCH** you choose determines which options will display on the cluster, to reduce confusion.

Option color	SWITCH chosen:
	ANY
	AVSW
	SVS-6
	SVS-6 on RAM only

*Factory Rear camera is controlled via LIN. Forced OEM RVC is not supported with the MULTI-CAM.
 ** When setting Cargo CAM to 'FIX': Set Cargo CAM to ON, then exit and verify the menu has been emulated. After cargo menu verification, go back to the NAV-TV settings menu and set to 'FIX' for proper operation.
 ***Requires extending the tailgate camera signal from passenger side dash or drivers kick to the main display.

9002-2790 FORCE BUTTONS:



9002-2790 OPERATION INFORMATION:

Rear Camera Operation: Placing the vehicle in to reverse will automatically display any connected camera. This image will take precedence over all other images.
Force Rear Camera: To force rear camera, press and hold radio 'BACK' button for 2 seconds. To exit forced rear camera, press and release radio 'BACK' button. *Note: forced rear camera is only supported on aftermarket cameras.*



Force Front Camera: To force front camera, press and hold radio 'SCREEN OFF' button for 2 seconds (truck chassis) or 'FRONT DEFROST' (car chassis). To exit AUX mode, press and release the 'BACK' button.

- If using AUX video mode for an A/V source, the red & black RCAs located on the Plug & Play T-Harness must be opened up with an AVSW (KIT763 includes AVSW, or it can be ordered separately as NTV-KIT224).



Activate Aux Video mode: To activate the AUX screen, press and hold both radio 'SCREEN OFF' & 'BACK' buttons together for 2 seconds (truck chassis) or 'REAR DEFROST' (car chassis). To exit forced front camera, press and release radio 'BACK' button.



Cargo CAM: When Cargo CAM is set to 'ON' in the NAVTV Settings menu, the OEM Cargo Cam menu will be emulated on the radio. This will allow the option for forcing an added Cargo/Trailer/Baby camera (or displaying both on the main screen). *NOTE: if using this feature (FIX), set Cargo Cam to ON, then verify the menu is emulated. Then go BACK into settings and change to 'FIX'.* Press the 'Cargo Camera' button located in the 'Controls' tab on the main radio screen to display the camera connected to the Cargo CAM RCA. *This option requires a full vehicle CAN reset, or radio disconnect/reconnect.*

- If the user has and desires both OEM cameras (Cargo CAM and Reverse CAM) to display on the 8.4" screen, additional installation is needed, see Pg. 7 & 8. The Cargo CAM option must be set to 'FIX' for this setup to work properly.
- After activated, while the vehicle is in motion, the OEM Cargo Camera will time out in about 5 seconds. For viewing the Cargo Camera for a longer duration (3 mins), activate the CIM function. See next page.
- *NOTE: Cargo Camera option is ONLY available in RAM vehicles.*



2015 RAM Cargo Menu shown. For 2016 RAMs, the cargo icon should appear in the 'APPS' screen, or while in reverse gear only.

9002-2790 OPERATION INFORMATION continued:

Turn Signal Cameras: To display TSCs, simply use the turn signals as you would normally and the connected image will display either all the time (while in drive), or only after 25, 30 or 35 mph respectively, depending on what was set in MULTI-CAM programming.

- Additionally, the user may use a “bump method” to view the TSC quickly. Toggling the turn signal level quickly (just enough to engage the bulb) will display the TSC image for about 3 seconds.



Activate CIM (Control in Motion): To activate CIM for factory navigation, press and hold the ‘Volume’ button for 3 seconds (CIM will disable automatically after 3 minutes). This function will also keep the Cargo Camera enabled for 3 minutes, and will reset upon every key cycle.

NOTE: Activating the CIM function will NOT bypass video in motion at this time, if equipped.



9002-2790 FAQ:

Q: I can't get into programming mode.

A: Turn off the vehicle and remove the key. Close all points of entry and use the remote to lock the vehicle. Wait approx. 5 minutes without opening or disturbing the vehicle. Unlock and cycle the ignition to the 'RUN' position. **Make certain that the cluster is in FM radio mode before you begin programming;** and no errors are displayed (door open, etc), otherwise the cluster information might not display. Hold down the "MUTE" button until you see the display options post on the cluster.

Q: When I try to force (front, rear) camera, nothing happens.

A: Make certain you've enabled the options you want to use in the NAVTV settings mode and that you scrolled to the end *and selected 'EXIT' (or it will not save).*

Q: When I place the vehicle into reverse, I get a black or blue screen.

A: Make sure the camera is getting sufficient power and the RCA is connected to the proper yellow RCA on the 24-pin harness.

Q: The camera image is displayed properly when the vehicle is in reverse, but there's only a black or blue screen when the camera is forced.

A: Make sure the camera power is not connected to the reverse lamps. Camera power needs to be connected to an accessory wire (cigarette lighter). If the camera is OEM, forcing it to display in any gear is *not* supported.

Other MULTI-CAM Notes:

- When multiple cameras are connected, the MULTI-CAM will clear back to the factory image **after 3 cameras have been forced in succession. This is normal.** I.E: If you had AUX mode displayed on screen, turned the left turn signal on (which will display), then rolled up to an obstacle which forced the front camera, placing the vehicle into park will then display the factory image (*will not return to AUX image automatically*).
- Cluster feedback only displays while programming (NAVTV Settings).
- Cargo Camera usage will only display for about 8 seconds when in motion, then will time out (this is a factory limitation). Activating the CIM feature will retain this image for 3 minutes if desired.
- When setting Cargo Cam to 'ON' or 'FIX', you must let the vehicle perform a full CAN reset, after programming, before the menu will display properly.

POWERED BY:

NAV-TV
INTERFACING THE FUTURE

