

# NAV-TV

INTERFACING THE FUTURE

3950 NW 120<sup>th</sup> Ave, Coral Springs, FL 33065 TEL 561-955-9770 FAX 561-955-9760

## UCT-13/UCT-13+

Dodge/Jeep uConnect (RA4) Interface  
NTV-KIT424/425



## Overview

The uConnect Camera Interface (UCT-13) system allows for multiple video inputs to the factory 8.4" touch screen in compatible 2013 Dodge and Jeep vehicles. Coupled with our video switcher (included in NTV-KIT425), this system will support up to 3 video inputs simultaneously, each activated through the factory dash controls.



## Kit Contents



Plug & Play T-harness  
NTV-HAR246



UCT-13 Module  
NTV-ASY166



USB Cable (updates)  
NTV-CAB009



(3x) Male barrel RCA  
NTV-CON018



(2x) Audio RCA-3.5mm Adapter  
NTV-CAB054



AVSW  
NTV-KIT224



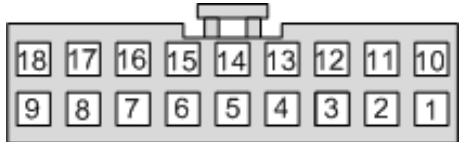
Power Trigger Harness  
NTV-HAR066

**Included with UCT-13+ kit only (NTV-KIT425)**

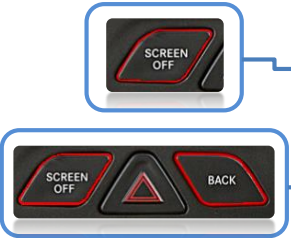
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UCT-13 pin out

PIN #	Description	Color
1	12v (+) Constant	Yellow
2	--NOT USED--	Red
3	--NOT USED--	Blue
4	--NOT USED--	Pink
6	RCA MALE	--
7	RCA Shield	--
8	CAN HI (Radio Side)	Brown/White
9	CAN HI (Car Side)	Blue/White
10	Ground (-)	Black
11	Provides 12v (+) ACC OUT	White/Red
12	(+) OUTPUT (2) when <b>AUX</b> is activated (AVSW V1 Trigger)	Blue/White
13	(+) OUTPUT (3) when <b>Front CAM</b> is activated (AVSW V2 Trigger)	Purple
15	RCA Female (Normally Open)	--
16	RCA Female (Normally Closed)	--
17	CAN LO (Radio Side)	Brown
18	CAN LO (Car Side)	Blue



Wire Side



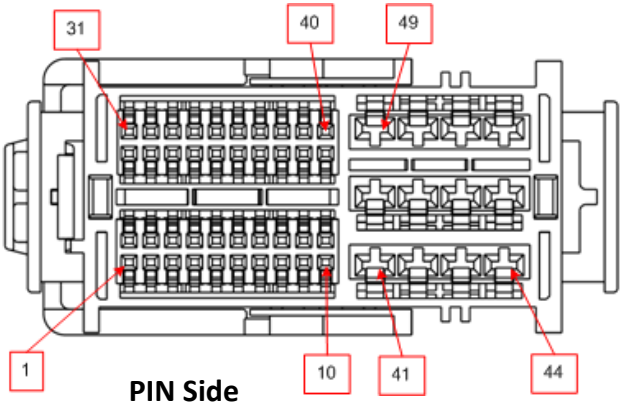
**Note: Vehicles equipped with a dot-matrix style cluster are only compatible with the UCT13-5 software file (supports rear-cam ONLY, no additional inputs)**

**Note 2: Vehicles equipped with a mono-chrome screen are not full color LCD screens and are not compatible with the UCT-13 at all.**



2013 Dodge/Jeep 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

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## Dash Disassembly (RAM)

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. Use plastic panel tools if necessary.



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





UCT-13 Module Installation

**Adding a reverse camera only:**

1. After removing the factory radio, gather the **Plug & Play T-harness** and connect the female side to the factory 44-pin plug. Make certain the lock connects together securely.
2. After installing a rear camera, connect the signal RCA to the *yellow RCA* on the *male side (side going into monitor)* of the Plug & Play T-harness. The other side of the *yellow RCA* can be left disconnected. **\*The harness is shipped with the AV RCA's disconnected, be sure to plug the audio RCAs together if the AVSW is not used. If left disconnected, the AUX audio jack will not pass thru.**
3. Connect the UCT-13 module to the 18-pin connector found in the Plug & Play T-harness.
4. Connect the monitor to the male side of the Plug & Play harness. Reconnect all other plugs to the monitor and skip to **Programming on Page 8.**



**Refer to installation diagrams for visual aid (pages 6-7)**

**Adding a reverse camera and additional AV inputs (UCT-13+):**

1. After removing the factory radio, gather the **Plug & Play T-harness** and connect the female side to the factory 44-pin plug. Make certain the lock connects together securely.
2. Gather the AVSW Trigger harness and connect the following 3 wires:



AVSW Trigger harness wire	Connect to
Black (pin 3)	Chassis ground
White/Red (pin 7)	Purple ( <b>'AVSW 2'</b> ) wire from UCT13
White/Blue (pin 8)	Blue/White ( <b>'AVSW 1'</b> ) wire from UCT13

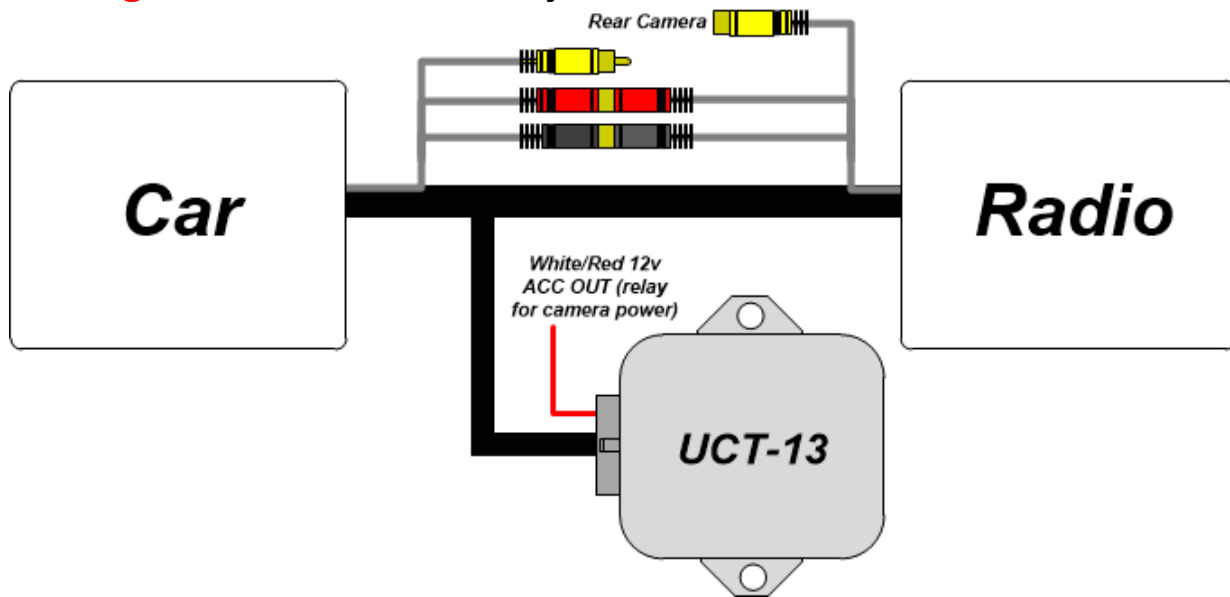
3. Connect the white connector from the trigger harness to the AVSW at the proper port.
4. Signal for the rear camera will connect to yellow input RCA on the AVSW at the port labeled **'FACTORY AV (TO VEHICLE)'**. If adding only video to the factory screen, leave the black and red audio RCAs connected (straight pass through) in the Plug & Play harness. Refer to **page 6, Fig 2** for a diagram of this.
5. When adding A/V AUX, the male RCAs (vehicle side), plug into the **'FACTORY AV'** of the AVSW. The female RCAs (radio side); requires male barrel connectors, plug into the **'AV out'** of the AVSW. (IN vs. OUT. See page 7, Fig 3 & 4).
6. AVSW input references:
 

Cluster	AVSW input
RVC (forced rear view cam)	Video pass-thru ( <b>FACTORY AV input</b> )
Front Cam	V2
AUX	V1; A1
7. Connect the UCT-13 module to the 18-pin connector found in the Plug & Play T-harness.
8. Connect the monitor to the male side of the Plug & Play harness. Reconnect all other plugs to the monitor and skip to **Programming on Page 8.**

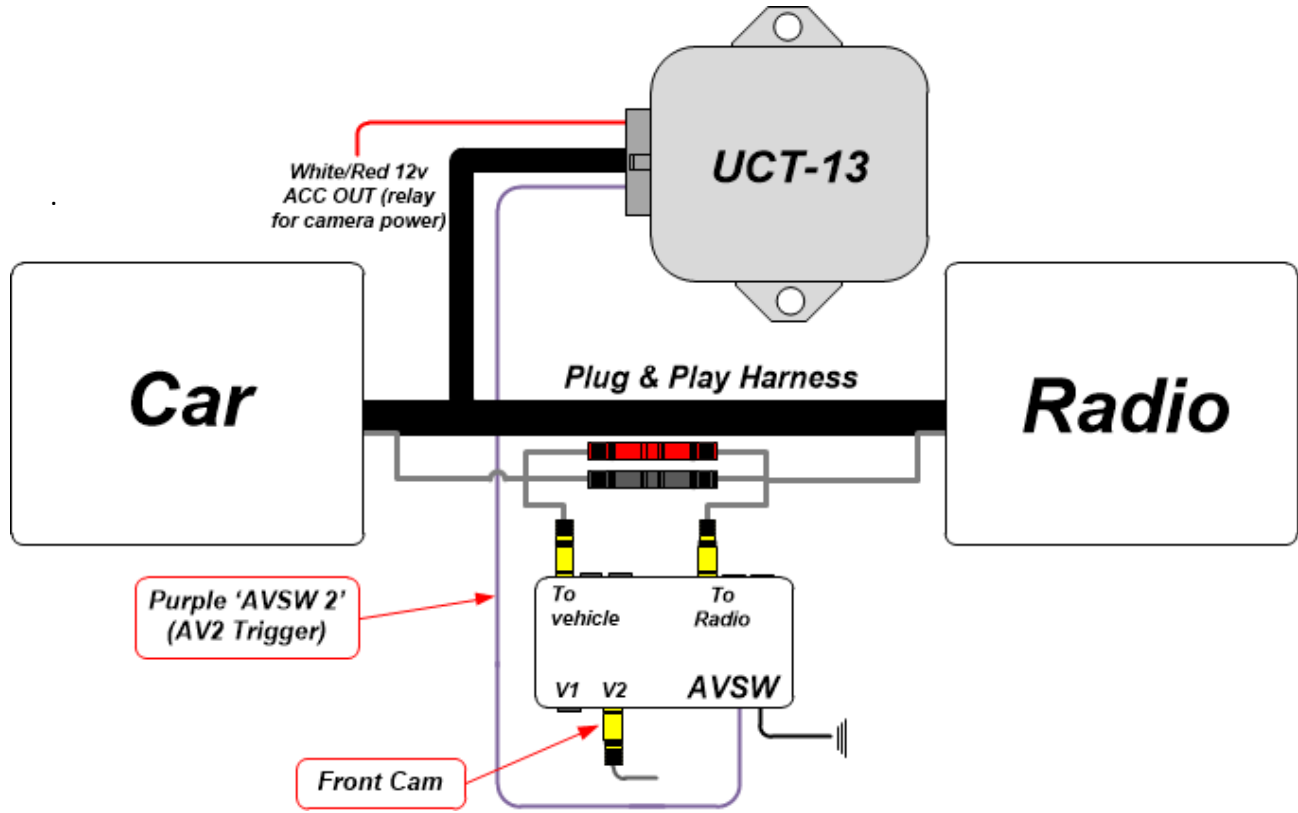
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Installation Diagrams

**Fig 1: Rear Camera Only**

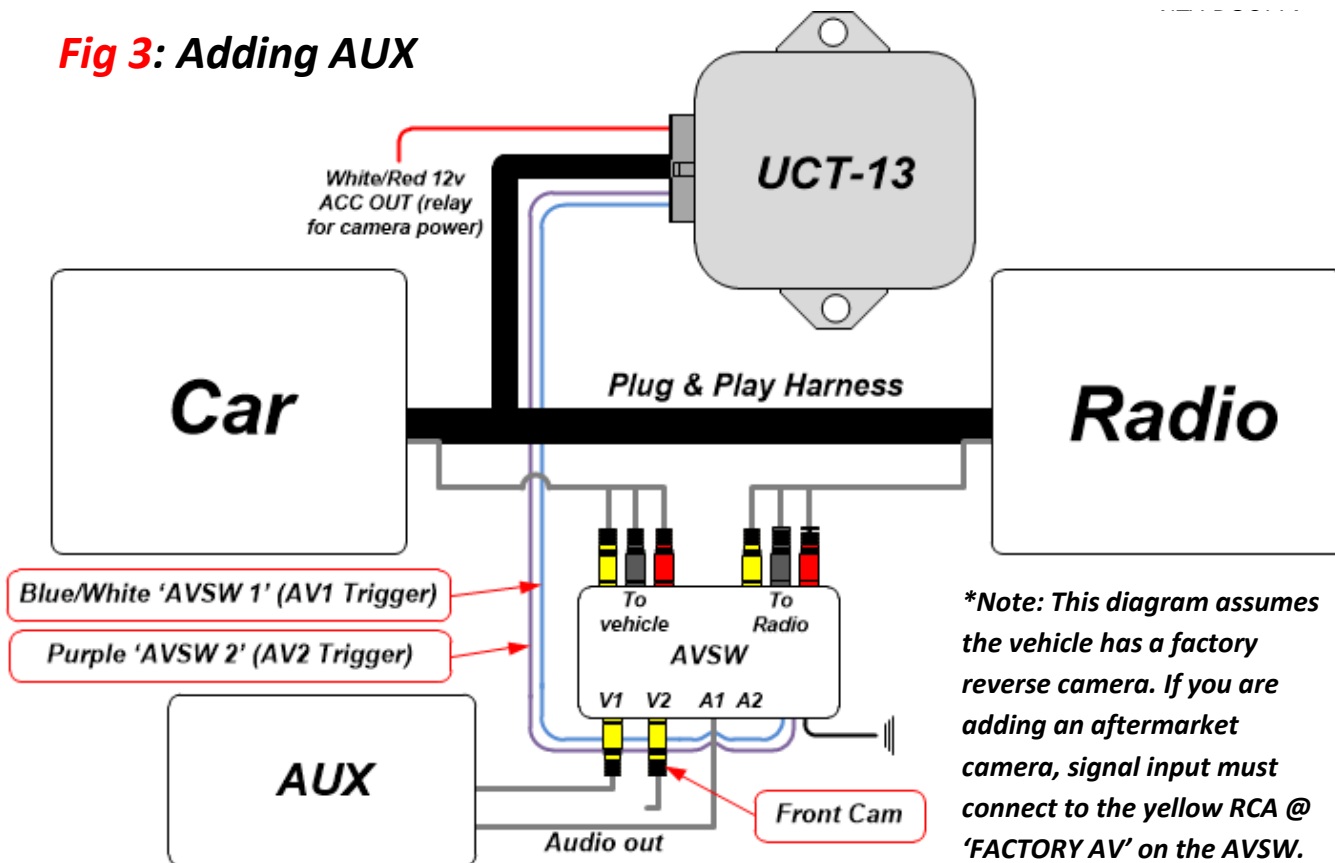


**Fig 2: Adding front camera with factory rear camera**

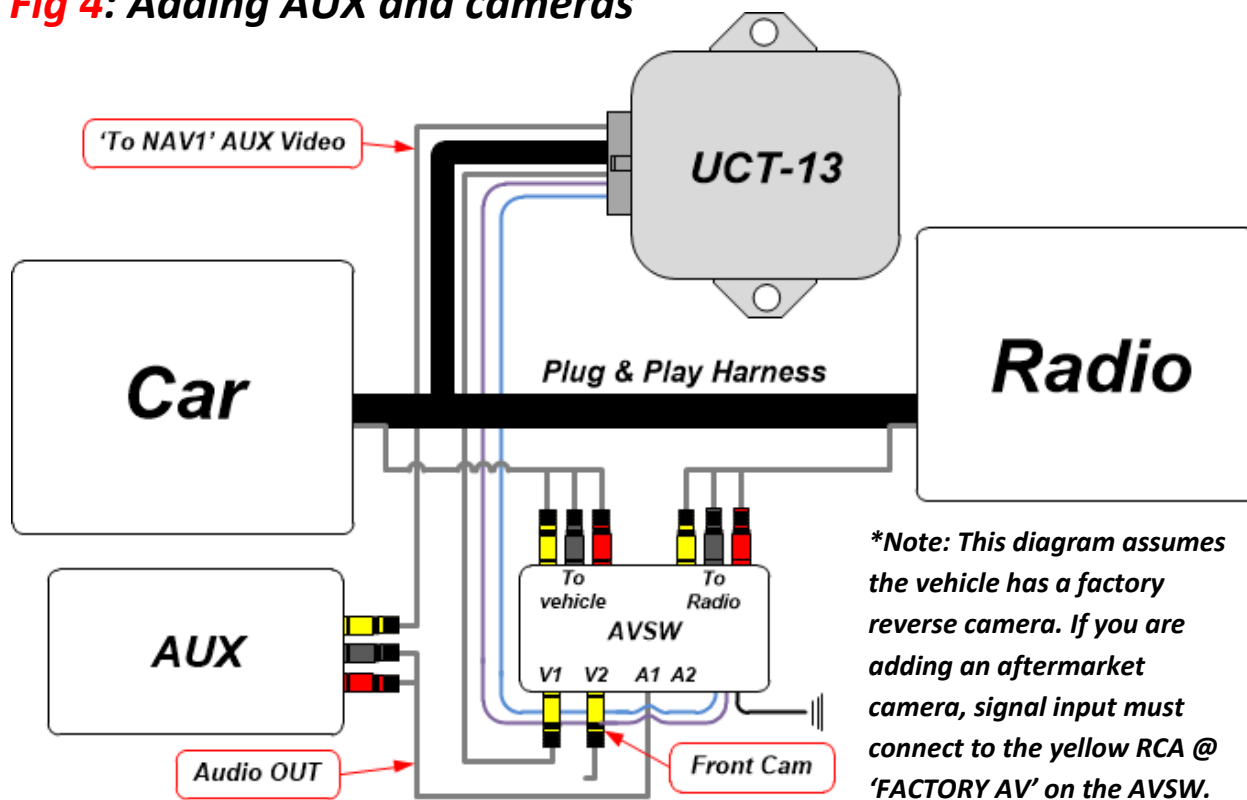


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**Fig 3: Adding AUX**



**Fig 4: Adding AUX and cameras**



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## UCT-13 Programming

**Programming the UCT-13 module is done through the factory dash MUTE button, TUNING KNOB, and CLUSTER LCD for feedback.**

Press and HOLD (15 seconds) to enter NAV-TV settings mode

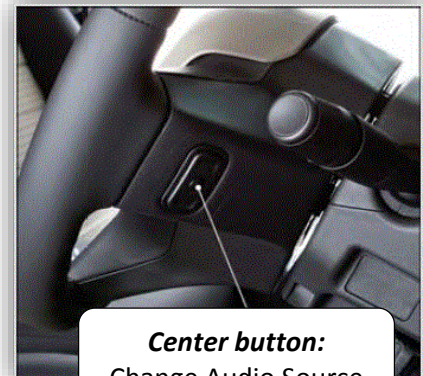


While in NAV-TV settings mode only: Rotate clockwise (one detent/time) to scroll through options. Press ENTER to change setting.

1. Before attempting to program, after making connections, let the vehicle go to sleep. Do this by closing all doors/trunk/hood, lock the vehicle and waiting 5 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 arrows on the steering wheel. Press the audio source button until 'FM' is displayed.



**Center button:**  
Change Audio Source

3. Close all doors (door status may override Nav-TV settings cluster feedback).
4. View the chart below for settings descriptions and the diagram above to begin programming.
5. Nav-TV programming mode will time out (back to factory) after 15 seconds, however letting the system timeout will **NOT SAVE** any changed settings. Scroll to the end of the settings menu and press **'EXIT'** to exit and save settings.

Programming sequence (cluster)	Selection option	Description
NAVTV Settings	TUNE-Next Item / Enter Change	Rotate TUNE knob to access different menus, press knob inwards to enter/change setting
RVC	OEM / Retrofit	RVC: Rear view camera. OEM: Factory Dodge installed camera only. Retrofit: Any aftermarket camera.
Force RVC	OFF / ON	Enables option of forcing <b>aftermarket</b> RVC.
F. CAM	OFF / ON	Enables option of installed front camera.
AUX VID	OFF / ON	Enables option of AUX VIDEO
EXIT		Exits programming mode and saves changes.

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### UCT-13 Operation

**AUX:** Press & hold (2 sec) to activate. This action will also send 12v out OUTPUT 2 (Blue/White).

**Force front camera:** Hold both 'SCREEN OFF' & 'BACK' (2 sec). This action will also send 12v out OUTPUT 3 (purple).

**Force rear camera:** Press & hold (2 sec)

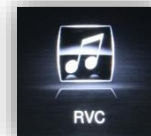
**CIM:** Hold (3 sec) to activate



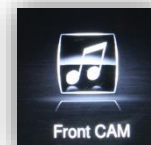
### Operation

Displayed on cluster LCD

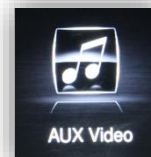
**Activate Rear Camera:** To force rear camera, press and hold radio 'BACK' button for 2 seconds. To exit forced rear camera, press and release radio 'BACK' button. **Note: forced rear camera is only supported on aftermarket cameras.**



**Activate Front Camera:** To force front camera, press and hold both radio 'SCREEN OFF' & 'BACK' buttons together for 2 seconds. To exit forced front camera, press and release radio "BACK" radio.



**Activate Aux Video mode:** To activate the AUX screen, press and hold radio 'SCREEN OFF' button for 2 seconds. To exit NAV mode, press and release the 'BACK' button.



**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 60 seconds). This function will reset upon every key cycle.



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## FAQs

### **Q1. I can't get into programming mode.**

A1. 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.

### **Q2. When I try to force (front, rear) camera, nothing happens.**

A2. Make certain you've enabled the options you want to use in the Nav-TV settings mode. Refer to page 8.

### **Q3. I hear no audio when my auxiliary source is playing on screen.**

A3. Verify that the audio RCAs are connected properly to the AVSW.

### **Q4. Everything works properly, but when an audio source is connected to the 3.5mm audio jack, there's no audio.**

A4. Make sure the audio RCAs are connected together on the Plug-n-Play harness.

### **Q5. When I place the vehicle into reverse, I get a black screen.**

A5. Make sure the camera is getting sufficient power and the RCA is connected to the YELLOW RCA behind the screen, NOT to the RCA on the UCT13.

### **Q6. The camera image is displayed properly when the vehicle is in reverse, but there's only a black screen when the camera is forced.**

A6. Make sure the camera power is not connected to the reverse lamps. Camera power needs to be connected to an accessory wire (cigarette lighter).