NAV-TV
INTERFACING THE FUTURE

OPV-ir-X-CAM 09/19/2011 Derek Schmiedl

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OPV-iR-X-CAM

2010 and up Land Rover A/V input, video in motion and reverse camera interface. LR2 is not supported!

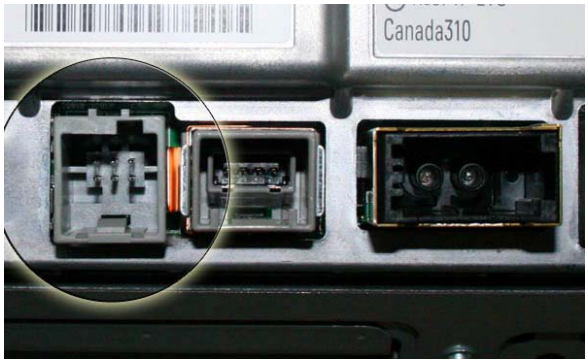
What's in the box	Package Contents
1. Optical Audio Interface 2. Video-In-Motion/Camera Interface 3. T -Harness for In-Motion and Optical Interface 4. 8 pin Molex to 18 pin mini Molex adapter. 5. (3) Female RCA with Molex pins 6. Optical Cable 7. (2) USB update cables	

Dash Pictures 2010 up

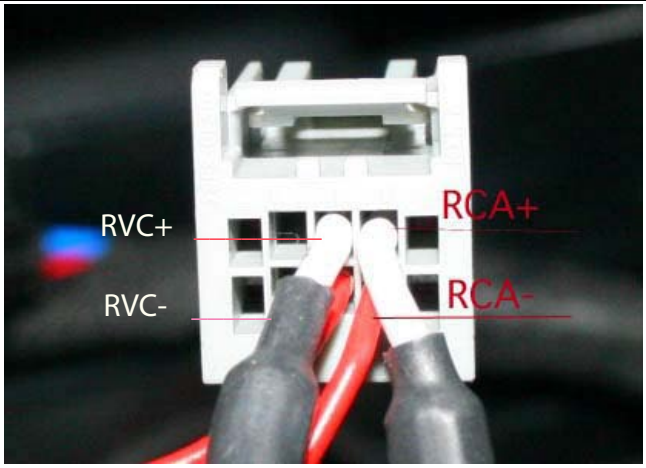
FULL SIZE

SPORT/LR4

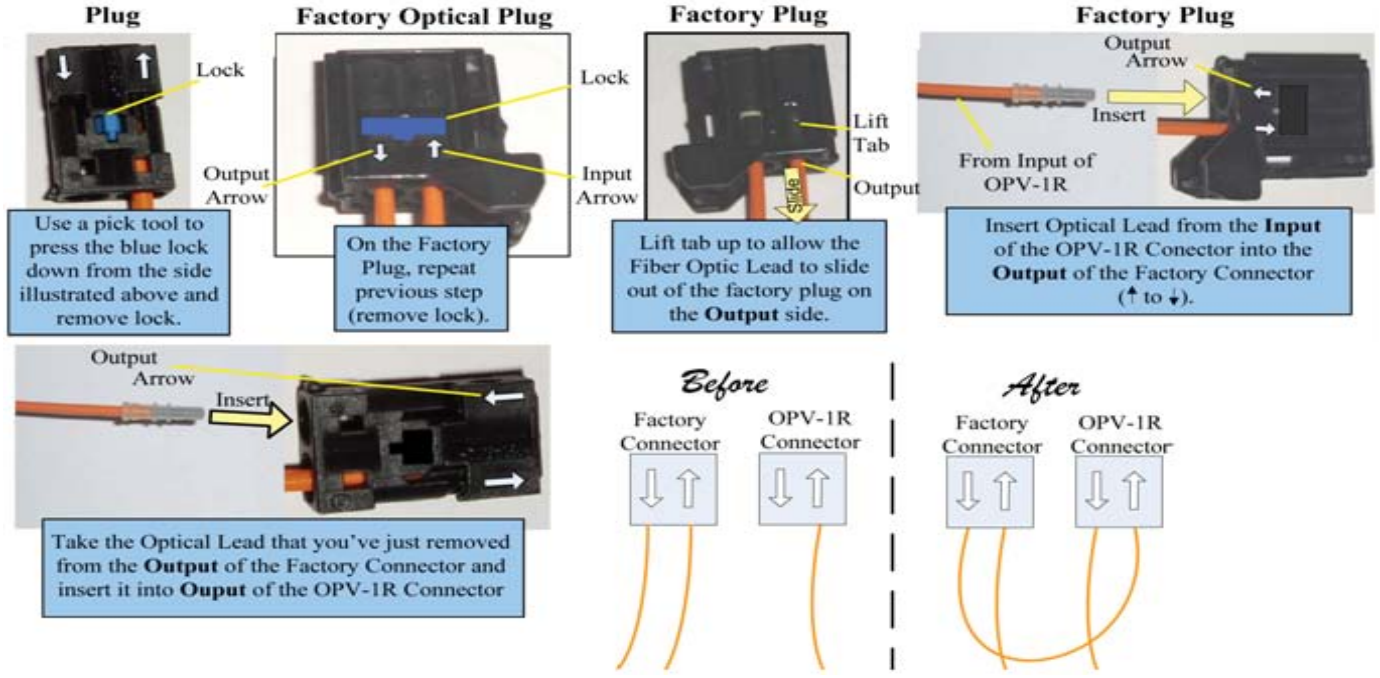
Both the video and rear view camera inputs are located on the grey 6 pin plug at the back of the LCD monitor. Some vehicles are prewired and some are not. The provided RCA cables will either need to be soldered onto existing wires or inserted into the empty slots



With the grey 6 pin connector locking tab facing upwards, the far right top and bottom slots are for the video input. The center top and bottom slots are the RVC video input. On both inputs the top is + and the bottom is negative.



Optical Cable Connections



Plug everything back in making sure that all optical leads are locked into place and that the locks themselves are in place.

Installation instructions

Full-Size Range Rover: The installation of both the optical audio module and the video in motion/ camera module is performed at the tuner. The tuner is located on the passenger side of the vehicle behind and underneath the glove box. In every case, the LCD monitor must be accessed as well to populate the 6 pin grey connector with the RVC and Video inputs. Follow the instructions below for vehicles with and without a factory DVD player.

1) Remove the passenger side running board and kick panel.
2) Remove the T-20 torx screws from the black plastic shield below the glovebox (if you were a passenger sitting in the passenger seat your toes would be directly below this panel) remove the panel and set aside.
3) Locate the tuner box located near the firewall held in by two 8 MM bolts. The box will be silver in color and measures approximately 7" x 11" x 1". Remove the two 8 MM bolts that secure the tuner box to allow access to the wiring harnesses.
4) Unplug the power harness from the tuner and place the factory male connector into the supplied female connector on the NAV-TV T-harness. Place the aftermarket male connector back into the tuner. Insert the supplied 8 pin female molex to 18 pin male mini molex adapter into the 8 pin male molex plug on the T-harness and then plug the 18 pin male connector into the video in motion/ camera module. **NOTE: No wires on the 8 to 18 pin adapter harness will be used including the RCA ends. No connections will be made to ANY of these wires or RCA ends.**
5) Remove the factory MOST fiber optic cable from the tuner by pressing on the retaining clip and pulling away from the tuner. Using the diagram in page 2, install the supplied fiber optic cable into the loop wired in series to create two ends. Plug one end into the tuner and the other into the supplied MOST fiber optic audio module.
6) Insert the 12 pin male connector from the T-harness into the MOST fiber optic audio module. Run the audio from your external A/V source to the unlabeled white and red audio input RCAs on the audio module (RCA cables not supplied).

VEHICLES WITHOUT A FACTORY DVD PLAYER: On full-sized Range Rovers the LCD monitor DOES NOT have to be removed. To access the back of the monitor use a soft pry tool to remove the vent above the LCD screen on the top of the dash. Once the vent is removed you can access the 6 pin grey plug at the back of the monitor. Follow the instructions on page two for the video input positions and either populate the empty plugs with the included RCAs or solder onto the existing wires if the positions are already populated. Run a video RCA cable (not provided) from your rear view camera and aftermarket A/V source directly to the RCA inputs at the back of the monitor.

VEHICLES WITH A FACTORY DVD PLAYER: Access the 6 pin grey plug as described above and insert the RVC RCA into the open slot or solder onto the existing wires (referrence page 2 if needed). Run an RCA (not provided) from your RVC directly to this RCA on the back of the monitor. On vehicles with a factory DVD player, the far right video input sections of the 6 pin grey plug will be populated. In this case it is the direct video feed from the factory DVD player in the rear of the vehicle. The MOST optical module has a built-in switching network to allow the existance of both a factory DVD player and an external aftermarket A/V source. About 3" back of the grey plug, cut the factory

video cable in half. Solder a female RCA (supplied) onto the video cable positive and negative going towards the 6 pin grey plug. Use the pin position diagram on page 2 for referrence. The supplied RCA cable will have two ends, a red or white and a black. The red or white is the positive lead and the black is the negative lead. If there are any questions you can use a multi-meter set on continuity and test for continuity between the center pin (+) of the RCA and one of the corresponding bare wires. This is also the case if the shield (-) must be identified. One one of the two wires will show continuity to the shield and one to the positive center pin. This RCA will be your video input to the monitor. Run an RCA cable (not supplied) from the soldered RCA video input to the fiber optic audio module RCA output labeled VIDEO OUT. Solder another RCA + and - (supplied) onto the vehicle side of the factory video wire you cut 3" from the grey 6 pin plug. Run an RCA (not supplied) from this RCA to the fiber optic audio module input labeled DVD. Run the video ouput RCA (not supplied) to the fiber optic audio module input labeled A/V in.

SPORT AND LR4: The main two differences between the installation in a full-sized and a sport/LR4 is that the tuner is located behind the factory radio and the LCD monitor must be accessed and removed during installation. **NOTE: The radio does NOT have to be removed during this installation, only the LCD screen.**
1) Remove the trim containing the PTS button that runs over the top of the radio by prying with a soft pry tool.
2) Remove the torx T-20 screws from the bottom section of the left and right vents (surrounding the LCD screen) and remove them.
3) Remove the torx screws that secure the LCD monitor, unplug the cables and set the LCD monitor aside.
4) Remove the power harness from behind the radio by reaching into the cavity on top of the radio, applying pressure to to harness retainment clip, and remove the harness.
5) Perform the optical connections at the LCD monitor location as described on pages 2 and 3 instead of at the tuner.
6) Install the rest of the system as described in pages 3 and 4 under the Full-Sized instructions.

FAQ

1) After installation the system does not boot up properly.
A) The fiber optic order is incorrect. Refer to the diagram on page 2
B) Either you have an opened fiber optic or CAN circuit. Check your T-Harness and make sure that all the modules are plugged in.

2) I get a black screen while in reverse.
A) A black screen means that our module is working. The issue is either in the RCA installation (backwards) or that there is a defective camera, RCA cable or the camera simply is not getting power.

3) I installed this on a vehicle with a factory DVD player and when I switch between the factory DVD player and aftermarket source I am getting the picture from one and the audio from another.
A) We have seen a few vehicle where the coding is slightly different. Reverse the order of the RCA cables DVD in and A/V in at the fiber optic audio module.

4) How do I activate the external video input?
A) On vehicle without a factory DVD player you will have a new icon on your source selector named TV. Simply press the TV icon to enable the external video source. On vehicle with a factory DVD player you will have a new icon labeled DVD/TV. By pressing the icon you will select between the factory DVD player with one press, and the external video source with the next press of the same icon.

5) How do I engage VIM?
A) VIM is automatic and does not require and action from the end user.