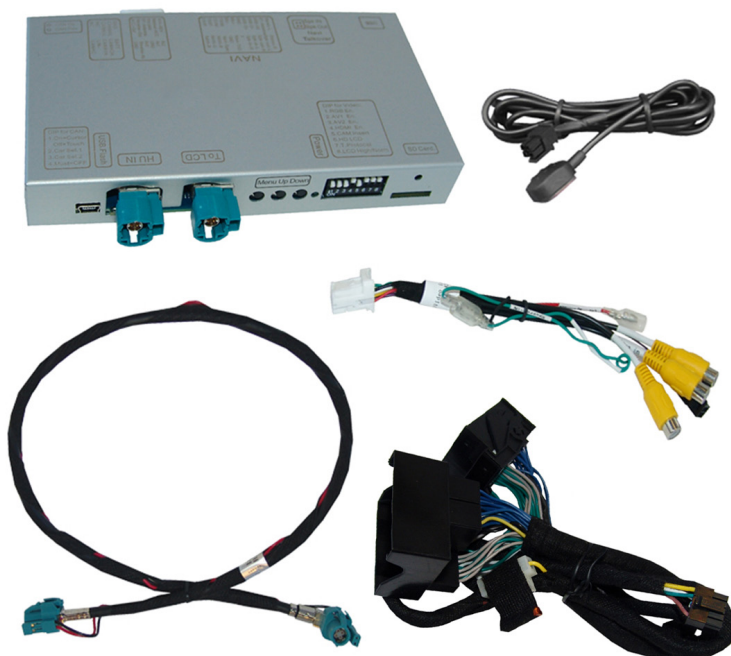




# Connects2Vision

## **CAM-LR7-AD**

**Camera Add-on Interface for select Jaguar/Land Rover vehicles with Incontrol Touch/Touch Pro systems**



[www.c2vision-eu.com](http://www.c2vision-eu.com)



## ABOUT THIS PRODUCT...

### CAM-LR7-AD

The CAM-LR7-AD is a camera add on interface that allows you to add an aftermarket camera whilst retaining the use of your factory head unit on various Jaguar and Land Rover vehicles with 8" (16:9 - Jaguar) & 10.2" (24:9 - Land Rover) monitors with Incontrol Touch/Touch Pro systems. Not compatible with 'dual-view' monitors (see Applications for specific vehicles). This system is specifically designed to add an aftermarket camera to the OEM system, but can also be used to retain the vehicles factory camera input. Following the simple installation process the camera image can be automatically viewed via reverse gear or manually through the vehicle's controls.

**Note: If the interface does not receive the required information via the CAN-Bus, neither the guidelines or PDC (picture-in-picture) functionality will be supported. Interface only codes video signals. Compatible with NTSC video sources only.**

### APPLICATION LIST

**Jaguar F-Pace 2016> Jaguar F-Type 2016>**

**Jaguar XE 2016> Jaguar XF 2016> Jaguar XJ 2016>**

**Land Rover Discovery (4) 2014> Land Rover Discovery Sport 2015>**

**Land Rover Range Rover 2014-2016 Land Rover Range Rover Sport 2014-2016**

**Land Rover Range Rover Evoque 2014> Land Rover Freelander (2) 2014>**

### PRIOR TO INSTALLATION

Read the manual prior to installation. Technical knowledge is necessary for installation. The place of installation must be free of moisture and away from heat sources. Please ensure you use the correct tools to avoid damage to the vehicle or product.

**Connects2 can not be held responsible for the installation of this product.**

### TECHNICAL SUPPORT

Connects2 want to provide a fast and suitable resolution should you encounter any technical issues. With this in mind, when contacting Connects2, try to provide as much Information as possible. This will speed up the process and help us to help you.

**Please use our dedicated online technical support centre: [support.connects2.com](http://support.connects2.com)**



Subscribe to our YouTube Channel for installation guides and tips... [www.youtube.com/connects2](http://www.youtube.com/connects2)

### DISCLAIMER

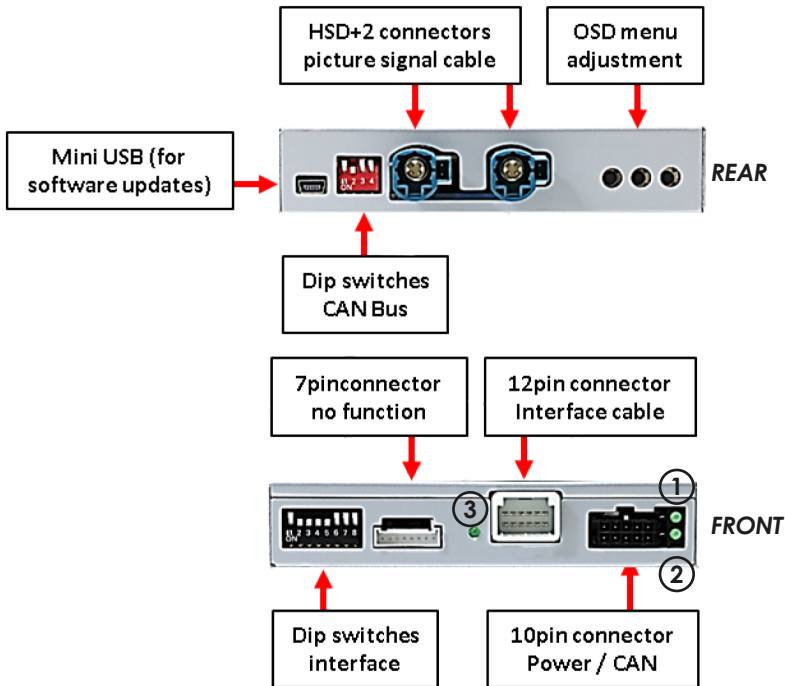
*The information provided in this document is subject to change without notice due to manufacturer changes and/or improvements to the product/s. This instruction manual is based on documented data and research. The manufacturer of this product cannot be held responsible for any changes made to the vehicle by the manufacturer or damages that may occur through the installation of this product in accordance with the steps outlined herein.*



## INTERFACE LED STATUS & DIPSWITCHES

Located on the front of the interface box you will notice 3x LED's. These LED's will showcase the status of the interface:

### 1) CAN-Bus (Reverse Gear) 2) CAN-Bus (Switching) 3) Power to Interface



### Dipswitches on Interface Front

Located on the front left of the interface are a row of 8 dipswitches. Below is a list of the various functions that they perform:

DIP	Function	ON (Down)	OFF (Up)
1	No Function	-	Set to OFF
2	CVBS Video 1 Input	Enabled	Disabled
3	CVBS Video 2 Input	Enabled	Disabled
4	No Function	-	Set to OFF
5	Rear-View Cam Type	Aftermarket	Factory (or none)
6	Guidelines	Enabled	Disabled
7	PDC	Enabled	Disabled
8	Monitor Size	8-inch	10.2-inch

## INTERFACE LED STATUS & DIPSWITCHES

### Dipswitches on Interface Rear

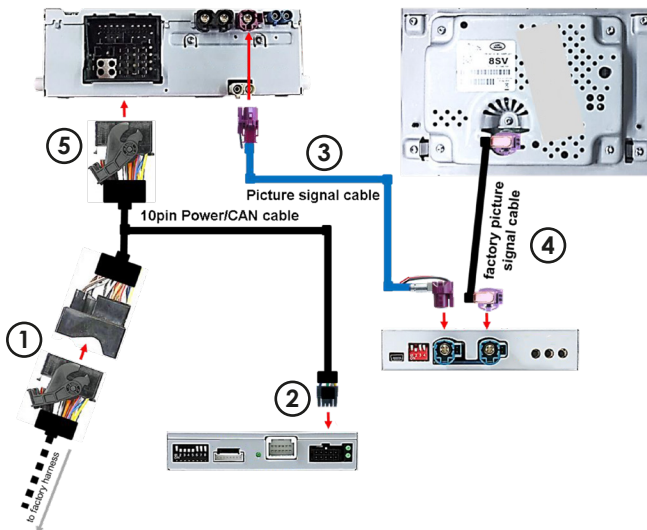
Located on the rear left of the interface are 4 dipswitches that deal with the CAN data. Below is a list of the various functions that they perform:

Vehicle/Navigation	Dip 1	Dip 2	Dip 3	Dip 4
Jaguar XF, Discovery Sport	OFF	ON	OFF	OFF
Jaguar XE	OFF	OFF	OFF	OFF
Jaguar XJ	ON	OFF	OFF	OFF
All other Land Rover vehicles	ON	OFF	OFF	OFF

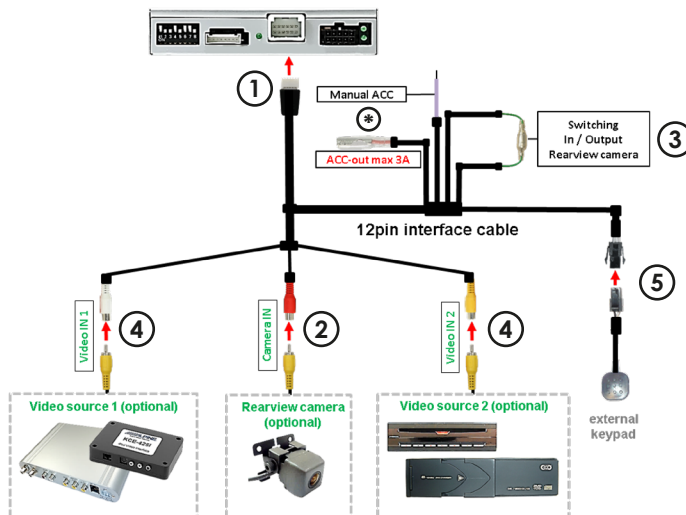
**NOTE:** you will need to reset power to the interface after any change to any of the dipswitches.

## INSTALLATION

### Connecting Interface & Harnesses



1. Connect the CAM-LR7-AD's male Quadlock connector to the vehicle's original female Quadlock connector.
2. Connect the 10-pin molex on the harness to the CAM-LR7-AD interface.
3. Disconnect the original monitor's LVDS connector from the head unit and reconnect this to the port on the interface marked "TO LCD".
4. Connect the new LVDS harness within the kit between the head unit's pre-existing connection and the port on the interface marked "HU IN".
5. Once all connections are established (including the interface wiring) connect the male quadlock connector to the head unit.



1. Connect the CAM-LR7-AD's analogue power supply to the interface box.

**\*If no LED on the interface lights up with ignition on, then the single red wire (ACC-Out) and the purple wire (Manual ACC) will need to be connected together.**

2. When connecting of a rear view camera to the CAM-LR7-AD, connect the cameras RCA connection to the "Camera IN" RCA on the harness.

3. If the video interface receives a signal of reverse gear, then leave the green "In" & "Out" wires connected so that the interface is able to automatically switch to the rear-view when reverse gear is engaged. If the interface does not deliver a source of 12V via the CAN-Bus, then the "Reverse In" wire will need to be connected to a source of reverse (ideally the reverse light).

4. The 2x "Video IN" RCA connections can then be used to connect alternate video sources (DVD, DVBT etc.)

**Note: this interface is only able to insert video signals, not audio. If an audio source is connected, the audio will need to be routed via means of the factory AUX input or an FM-modulator (sold separately).**

5. Connect the external keypad via the 4-pin molex connector to the harness. By pressing the button you are able to switch through any enabled sources like so:

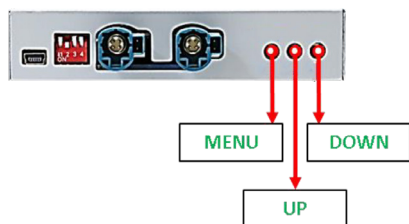
Factory video → Video IN 1 → Video IN 2 → Factory Video

**Note: dependent on vehicle, you are able to switch the video view through the original radios 'home' button (or by holding the top left of the touch screen). If you are able to use factory radio buttons, the keypad still needs to be connected for support purposes.**

## PICTURE SETTINGS VIA OSD (ON SCREEN DISPLAY)

To ensure optimum appearance and functionality of the CAM-LR7-AD with connected video sources, you are able to use the following 3 in-set buttons on the rear of the interface. With the particular video source connected and selected/engaged, press the 'Menu' button to view a list of settings that are able to alter the brightness, contrast and look of the video source. Below are a list of the following settings that are available:

**Note: if there is no communication between the interface and the vehicle's CAN-Bus, the reverse guidelines cannot be shown during operation.**



- Contrast - 0 to 100 Contrast level
- Brightness - 0 to 100 Brightness level
- Saturation - 0 to 100 Saturation level
- Position H - alter Horizontal positioning
- Position V - alter Vertical positioning
- IR-AV1/2 - No function
- Guide L/R - No function
- UI-CNTRL - Guidelines ON/OFF
- Size H/V - Picture size Horizontal/Vertical

## FAQ - TROUBLE SHOOTING

For any common problems, please refer to the troubleshooting table below or contact our technical team via: [support.connects2.com/tickets/technical/](https://support.connects2.com/tickets/technical/)

Symptom	Reason	Possible Solution
No picture/black picture (factory picture).	Not all connectors have been reconnected to the factory head unit or monitor after installation	Connect missing connectors according to diagram on page 3.
	No power on CAN-Bus box (all LED's are off)	Check power supply of CAN-Bus.
	CAN-Bus box connected to wrong place.	Refer to the page 3 on where to connect the CAN-bus connector.
	No power on the video interface (LED's are off).	Check whether CAN-bus box delivers +12V ACC on red wire output of 8pin to 6pin cable. If not cut wire and supply ACC +12V directly to video-interface.
Inserted picture totally wrong size or position.	Wrong monitor settings of video-interface.	Try different combinations of dips 7 and 8 of video-interface. Unplug 6pin power after each change.
Inserted picture double or 4 times on monitor.		
Graphics of a car in camera input picture.	Function PDC is ON in the interface OSD.	In compatible vehicles, the graphics will display the factory PDC distance. If not working or not wanted, set interface OSD menu item UI-CNTRL to ALLOFF.



<b>Symptom</b>	<b>Reason</b>	<b>Possible Solution</b>
Inserted picture is distorted, flickering or running vertically.	Video sources output set to AUTO or MULTI which causes a conflict with the interfaces auto detection.	Set video source output fixed to PAL or NTSC. It is best to set all video sources to the same standard.
	If error occurs only after source switching: connected sources are not set to the same TV standard.	Set all of the video sources to the same standard.
Inserted picture quality bad.	Picture settings have not been adjusted	Use 3 buttons on the rear of the interface to access the OSD and adjust any/all picture settings for the corresponding video input.
Inserted picture size wrong.		
Inserted picture position wrong.		
Camera input picture flickers.	Camera is being tested under fluorescent light which shines directly into the camera.	Test camera under natural light outside the garage.
Camera input picture is bluish.	Protection sticker not removed from camera lens.	Remove protection sticker from lens.
Camera input picture is black.	Camera power taken directly from reverse gear lamp.	Use relay or electronics to "clean" reverse gear lamp power. Alternatively, if CAN-bus is compatible with the vehicle, camera power can be taken from green wire of 6pin to 8pin cable.
Camera input picture is distorted.		
Camera input picture settings cannot be adjusted.	Camera input picture settings can only be adjusted in AV2 mode.	Set dip 3 of video interface to ON (if not input AV2 is not activate) and connect the camera to AV2. Switch to AV2 and adjust settings. Reconnect camera to camera input and deactivate AV2.
Not possible to switch video sources by OEM button.	Vehicle CAN-Bus does not support this function.	Use external keypad or cut white wire of 6pin to 8pin cable and apply +12V impulses for AV-switching.
	Pressed too short.	For video source switching a longer press of about 2.5 seconds is required.
Not possible to switch video sources by external keypad.	SW-version of interface does not support external keypad.	Use OEM-button or cut white wire of 6pin to 8pin cable and apply +12V impulses for AV-switching.