

RETROFITTING OF ANDROID AUTO © AND APPLE CAR PLAY ©

ON LAND ROVER L462 DISCOVERY 5

Replacement of display and UIP on Jaguar/Land Rover for activation of Android Auto and Apple CarPlay

Connecting a smartphone to the JLR requires activation of the SmartPhone Pack "Smartphone Connectivity," which means using CarPlay, Android Auto (or InControlApps).

InControlApps is a tool to connect with a smartphone on the JLR when there is a problem with CarPlay or Android Auto. In other words, it helps users connect and use navigation (TMap) and music (Genie) with the car without using CarPlay or Android Auto.

MID_LINE or higher UIP (User Interface Panel) is required to activate the smartphone pack. This UIP is found on most JLR consoles. Looking at the contents, LOW_LINE cannot activate the smartphone pack because the HSD wiring is missing.

Smartphone Pack Compatibility

The diagram illustrates four different User Interface Panel (UIP) configurations for a car console, each with a 12V power outlet and various ports:

- UIP LOW_LINE:** Features a 12V power outlet and a USB port. It is marked with a red 'X', indicating it is incompatible with the Smartphone Pack.
- UIP MID_LINE_SIM:** Features a 12V power outlet, a USB port, and a SIM card slot. It is marked with a green checkmark, indicating it is compatible.
- UIP MID_LINE_NO_SIM:** Features a 12V power outlet, a USB port, and an MHL/HDMI port. It is marked with a green checkmark, indicating it is compatible.
- UIP HIGH_LINE_SIM:** Features a 12V power outlet, a USB port, a SIM card slot, and an MHL/HDMI port. It is marked with a green checkmark, indicating it is compatible.

HSD wiring required for Mid/High-Line missing in Low-Line vehicle, also High-Line functions disabled in Car Configuration File (CCF).

To enable Smartphone Pack in Low_Line requires new UIP, new wiring harness, new as-built Car Configuration File.

What happens if I force enable without HSD cable?

Forced activation of the smartphone pack is also possible without HSD cable (APIX2 - HDMI) and with UIP LOW_LINE. In the case of 8 inches, the InControlApps icon is visible and in the case of 10.2 inches, the Apple CarPlay, Android Auto and InControlApps icons are visible.

InControlApps does not connect with Apple devices). Fortunately, this too is said to have been very unstable until recently.

	8 inches	10.2 inches
InControlApps - iOS	X	X
InControlApps - Android	O	O
Apple CarPlay	X	O
Android Auto	X	O

Should I simply replace the UIP?

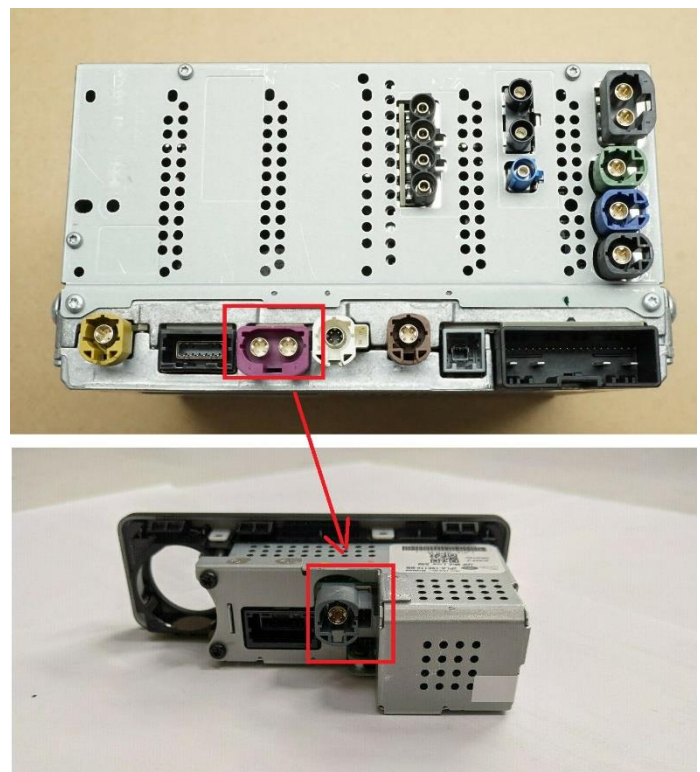
You can buy UIP at decent prices on eBay. HIGH_LINE products are displayed more often than MID_LINE. Since all JLR models are compatible, it doesn't matter which model you buy.

Unfortunately, LOW_LINE cars cannot directly use UIPs higher than MID_LINE unless by modifying/adding cables (APIX2 but not mandatory and powering the MID and HIGH Line UIP. This connector connects directly to the IMC (APIX2 cable for HDMI), see the photo on the right.

Fortunately, the method of connection is clear. All you have to do is buy connectors and cables (car wreckers), make minor modifications, and connect them.

Unfortunately, connectors are hard to find and you have to convert the 8 pins to 6 pins.

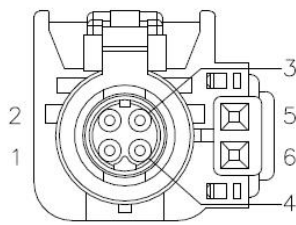
The photo on the next page shows the difference between UIP, LOW_LINE (left) and HIGH_LINE with SIM slot (right)





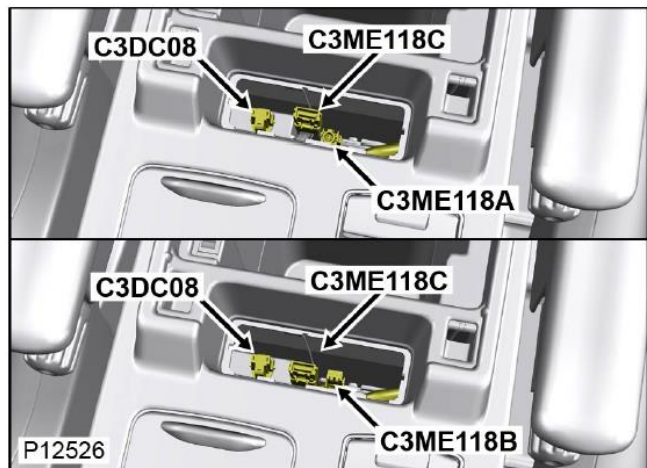
APIX2 Line Connector (HDMI)

Connettore: **C3ME118A** Descrizione: **Pannello-Audio Video Ingresso-Uscita**
NON RIPARABILE Ubicazione: **Dietro al componente**
 Qualifier:



GREY

Numero parte progettazione: **FHCT-14489-DJA**
 Numero parte ricambio:
 Colore: **GREY**
 Cavità: **6WY**
 Cablaggio: **REAR CENTRE CONSOLE HARNESS**



Informazioni per la riparazione e tabella cavi

Cav	CSA	Col	Cct	Destn	Cavo precablato	Estrattore	Crimpatrice	Pinza spelafili	Manicotto termorestringente	Manicotto di identificazione	Giunzione
1	0.14	BN	(IEPAD/IEXAD)+ICRAD	C3MA01C	-	-	-	-	-	-	-
2	0.14	GN	(IEPAD/IEXAD)+ICRAD	C3MA01C	-	-	-	-	-	-	-
3	0.14	OG	(IEPAD/IEXAD)+ICRAD	C3MA01C	-	-	-	-	-	-	-
4	0.14	BU	(IEPAD/IEXAD)+ICRAD	C3MA01C	-	-	-	-	-	-	-
5	0.75	GN	(IEPAD/IEXAD)+ICRAD	C32-M2	418-075	418-664	418-116A	418-672	418-104	418-112	418-107
6	0.35	BK	(IEPAD/IEXAD)+ICRAD	S3ME37A	418-497	-	418-116A	418-672	418-104	418-112	418-107
SCR	0.14	SCR	(IEPAD/IEXAD)+ICRAD	C3MA01C	-	-	-	-	-	-	-

The photo on the right shows the DIY HSD (APIX2 - HDMI) cable including the lines (12V Acc. and GND) for power supply to the UIP.

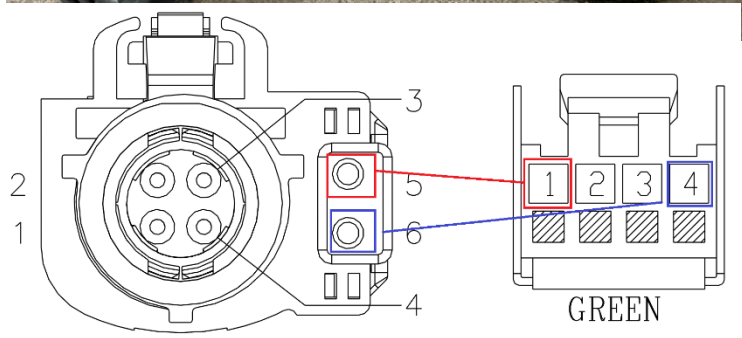


If you do not connect the HSD cable (APIX2 - HDMI), you will not be able to use that input in the car's multimedia system (connector C3ME118A), while Android Auto and Apple CarPlay features will work perfectly.

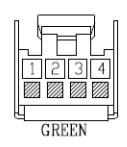
This does not exempt us from having to "self-build" a connector needed to connect the UIP's power supply, in effect building an adapter to take advantage of the cable in the machine's original wiring harness.



The green connector should be connected to the car-side C3ME118B connector (see picture below) found in cars born without the MID_LINE or HIGH_LINE UIP. For completeness, the PIN-OUT of the green C3ME118B connector is shown in the picture below.



Connettore: **C3ME118B**
 ALLOGGIAMENTO DEL CONNETTORE RIPARABILE



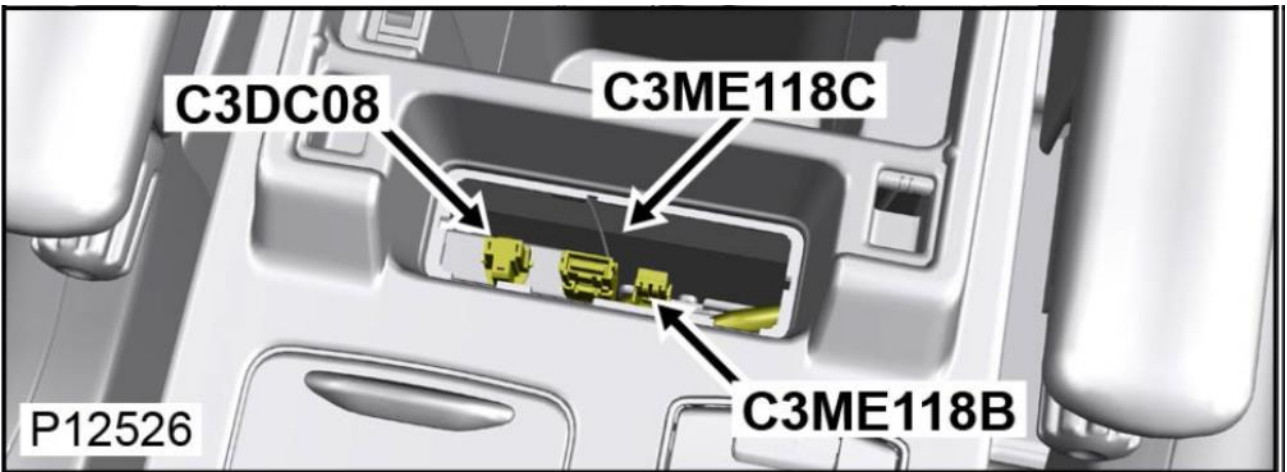
Numero parte progettazione: **AV6T-14489-EA**
 Numero parte ricambio: **YPC108210**
 Colore: **GREEN**
 Cavità: **4WY**
 Cablaggio: **REAR CENTRE CONSOLE HARNESS**

Informazioni per la riparazione e tabella cavi

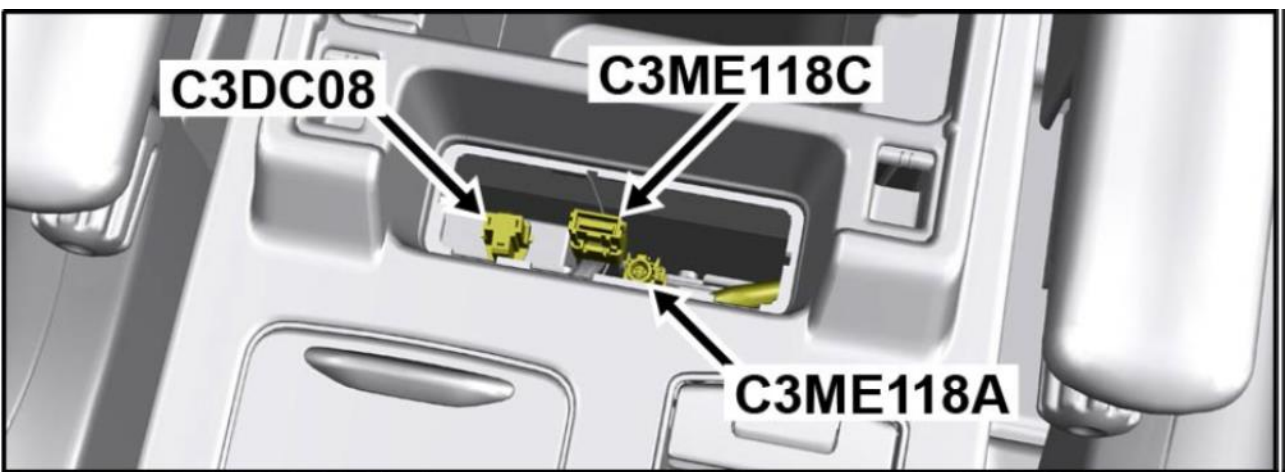
Cav	CSA	Col	Cet	Destn	Cavo precablato	Estrattore	Crimpatrice	Pinza spafili	Manicotto termorestringente	Manicotto di identificazione	Giunzione
1	0.75	GN	ICRAD+IEPAA	C32-M2	418-587-02	418-595	418-116A	418-672	418-104	418-112	418-107
4	0.35	BK	ICRAD+IEPAA	S3ME37A	418-587-02	418-595	418-116A	418-672	418-104	418-112	418-107

PIN-OUT connector C3ME118B

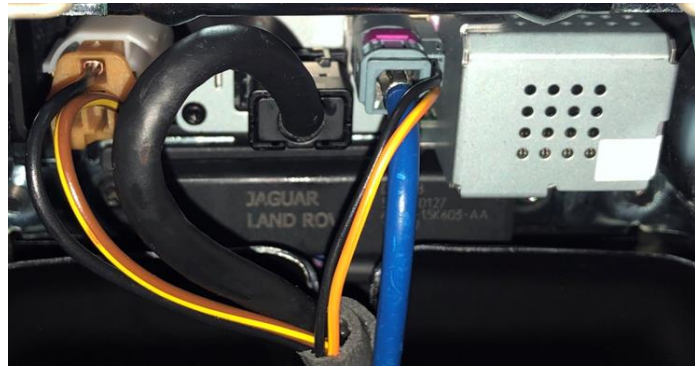
By way of background, connector C3ME118C is the USB-3.0 cable, while connector C3DC08 is for the "cigarette lighter" socket attachment.



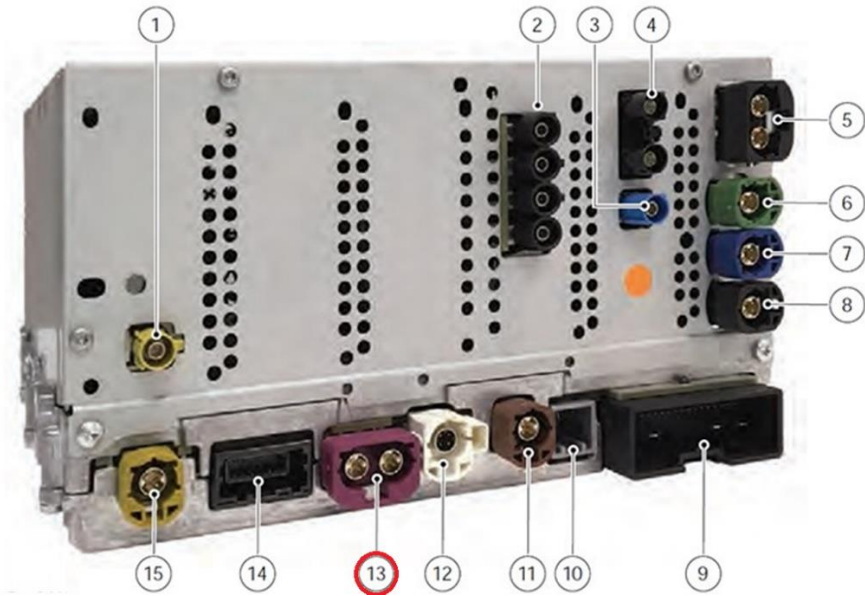
In "native" cars with UIP MID_LINE or HIGH_LINE, the connectors in the car will be as described in the figure below where the C3ME118B connector will not be present while the C3ME118A connector (APIX2 - HDMI + UIP power supply) will be present.



In case you opt to also make the connection of the HSD cable (APIX2 - HDMI), this will also have to be self-made and run from the center console to under the driver's seat (LHD car, left-hand driver's seat, European market).

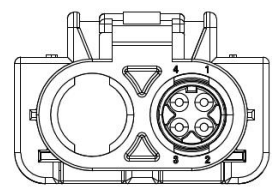


The new cable should be connected to the C3MA01C connector (13 in photo below) of the controller prin- Back of the fully wired HIGH_LINE UIP cipal for infotainment "InControl Touch Pro."



Comnettore: **C3MA01C**
NON RIPARABILE

Descrizione: **Controller-principale-Infotainment (IMC)**
Ubicazione: **Sotto il sedile anteriore sinistro**
Qualifier:



VIOLET
Numero parte progettazione: **FHCT-14489-DSA**
Numero parte ricambio:
Colore: **VIOLET**
Cavita: **4WY**
Cablaggio: **REAR CENTRE CONSOLE HARNESS**

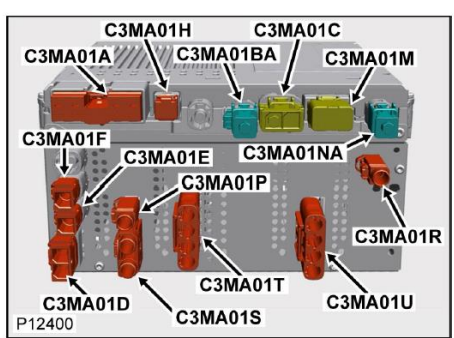


Tabella dei Cavi

Cav	CSA	Col	Cct	Destn
1-1	0.14	BU	(IEPAD/IEXAD)+ICRAD	C3ME118A
1-2	0.14	OG	(IEPAD/IEXAD)+ICRAD	C3ME118A
1-3	0.14	GN	(IEPAD/IEXAD)+ICRAD	C3ME118A
1-4	0.14	BN	(IEPAD/IEXAD)+ICRAD	C3ME118A
SCR	0.14	SCR	(IEPAD/IEXAD)+ICRAD	C3ME118A

Back of main controller "InControl Touch Pro" and PIN-OUT connector C3MA01C

SOFTWARE ACTIVATION OF ANDROID AUTO AND APPLE CARPLAY FUNCTIONS

In order to make Android Auto and Apple CarPlay active, changes will necessarily have to be made to the "CCF" (Car Configuration File) file.

I personally use the IIDTool Professional tool from the Canadian "GAP Diagnostic" (www.gap-diagnostic.com).

The "leases" to be changed are as follows:

#1 Activating the "Smartphone pack."

- Location: EUCD - 244
- Default setting: 0x01 (Not installed)
- New Selection: **0x0e** (CE App Projection Features - mySPIN, CarPlay and Android Auto Fitted)

#2 Edit the infotainment information.

- Location: EUCD - 449
- Default setting: 0x10 (low NGI line)
- New selection: **0x20** (NGI Hi line)

#3 Edit UIP Information

- Location: EUCD - 467
- Default setting: 0x02 (LOW_LINE)
- New selection: **0x04** (HIGH_LINE)

Note:

To use "Live Services," you will necessarily have to enter an active data SIM card and Without an active PIN.

After writing the modified CCF into the machine, it is necessary to force the machine to "re-learn CCF," that is, to read the CCF again to "learn" the changes. On the IIDTool, use the CCF Relearn function:

1. Menu "Service/Test"
2. ACM, CCF Relearn.

Close the machine and wait for it to enter "Sleep Mode".

CONCLUSION

In brief:

1. Apple CarPlay and Android Auto cannot be used in cars with 8-inch displays.
2. On cars with 8-inch displays, only InControlApps is available.
3. In case of **MID_LINE** or **HIGH_LINE** UIP, the smartphone package can be activated.
4. The **LOW_LINE** UIP can only use Android-based connections even if the smartphone package is enabled.
5. To switch from **LOW_LINE** to **MID_LINE** or **HIGH_LINE**, HSD (APIX2 - HDMI) wiring is required with the power connector (+12V and GND) for the UIP if HDMI functions are also desired.