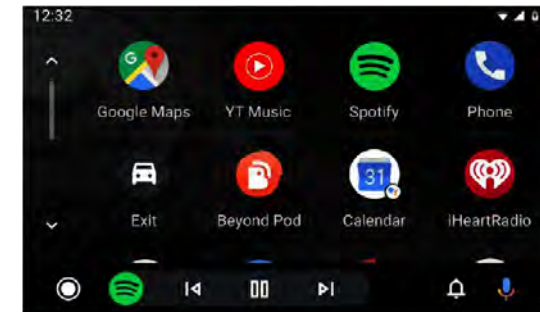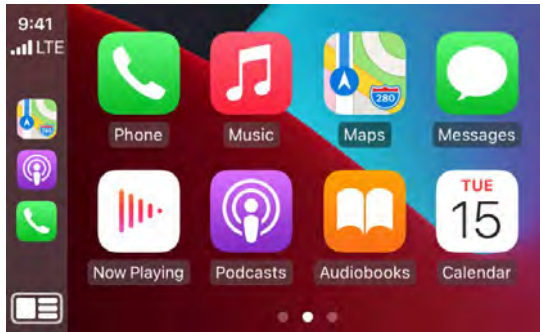# IT2-JGC

Apple Car Play

Android Auto

Wireless CarPlay / Android Auto + Camera input for Dodge/Jeep/Chrysler vehicles equipped with RA3 or RA4 8.4" touch screen systems
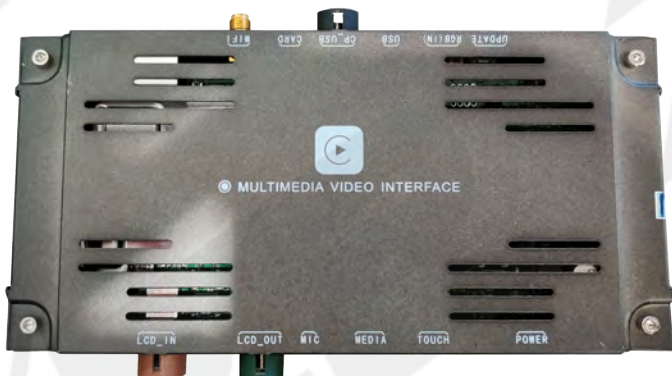
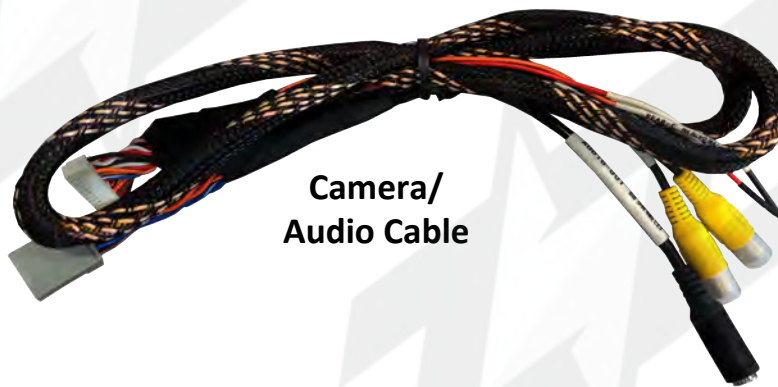ZZPLAY

929-220-1212 / 877-241-2526 - www.zz-2.com

10/22/2021

CarPlay / Android Auto + Camera inputs for Jeep Grand Cherokee vehicles equipped with the 8.4" RA3/RA4 System

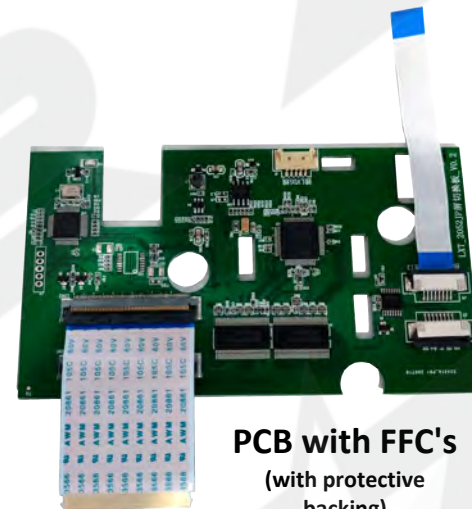## Kit Components

Camera/ Audio Cable

PCB with FFC's
(with protective backing)

ZZPlay Interface

USB Cable

Main T-Harness

Dummy AUX Plug

AUX Cable

WIFI/BT SMB Antenna

Push Button

MIC

LVDS Cable

RA3/RA4 Uconnect Screen Modification

Remove the vehicle from the screen, bring to a bench-top and lay the radio face down on a soft towel or mat to protect from scratches/damage. Tools required for this process: Mirco Torx set & various pick tools.

1. Begin by removing (12) Torx screws from the radio. *NOTE: some screws are not shown, but every screw that is accessible from this state must be removed (4 on the side of radio)*
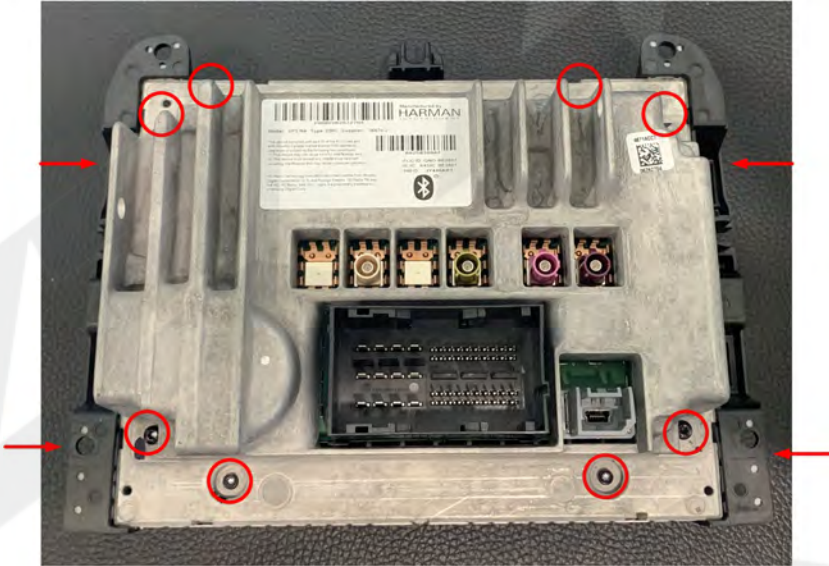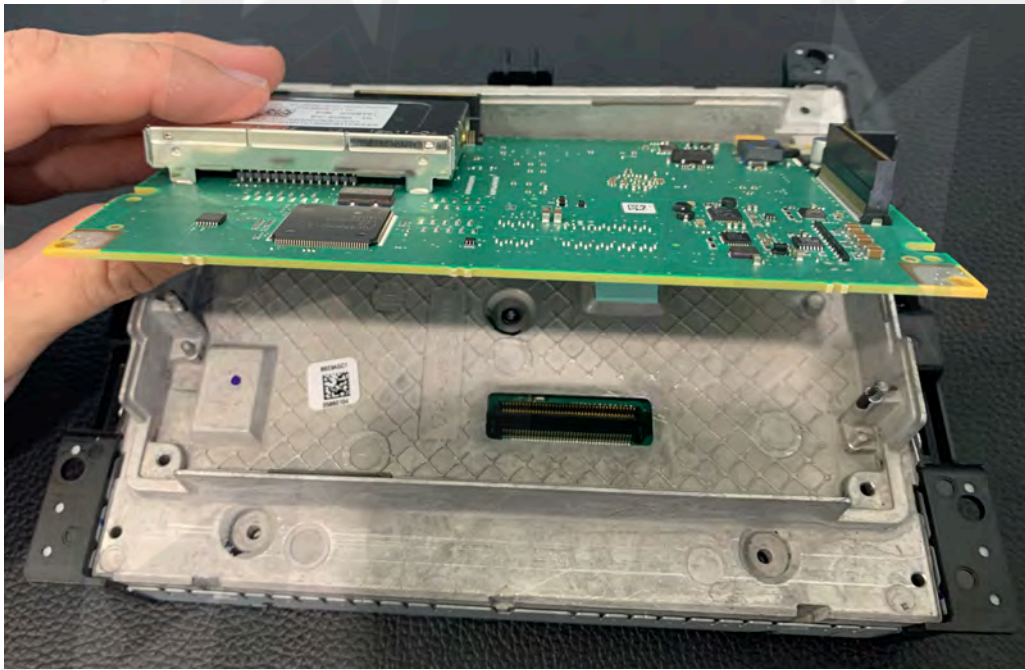

2. Pull up the back half of the radio slowly and carefully, note the small coax cable which must be disconnected in the next step.

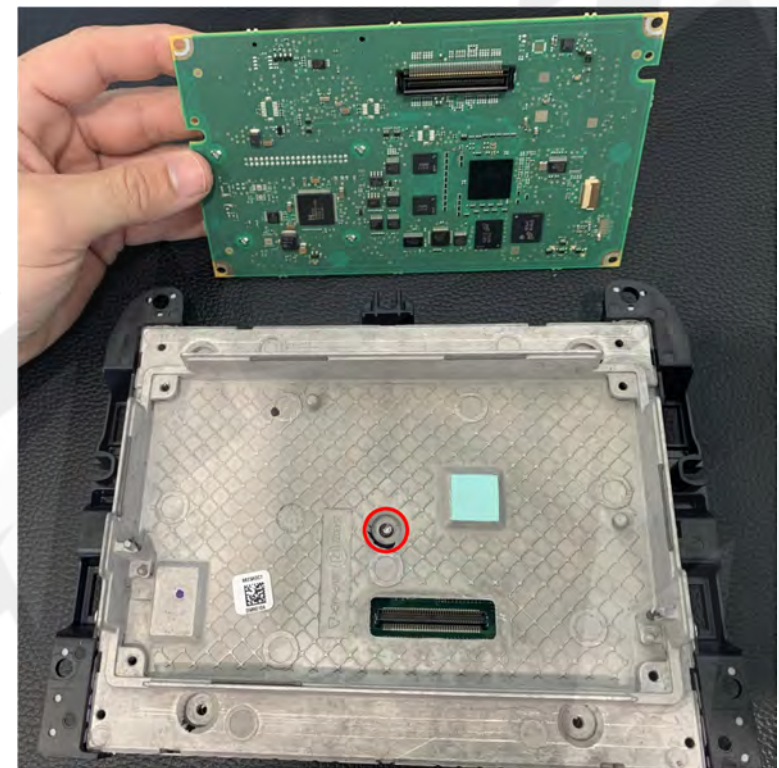3. Using a straight pick tool or small flathead, carefully pry out this SMB antenna cable.
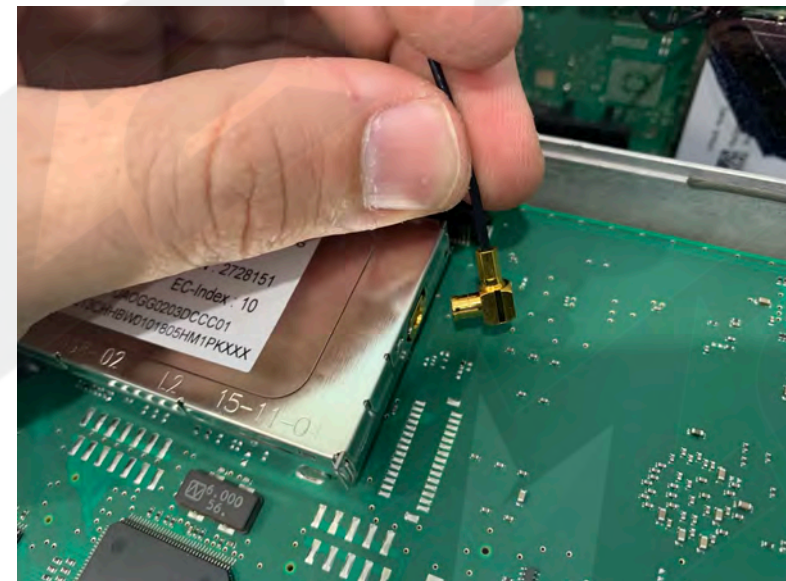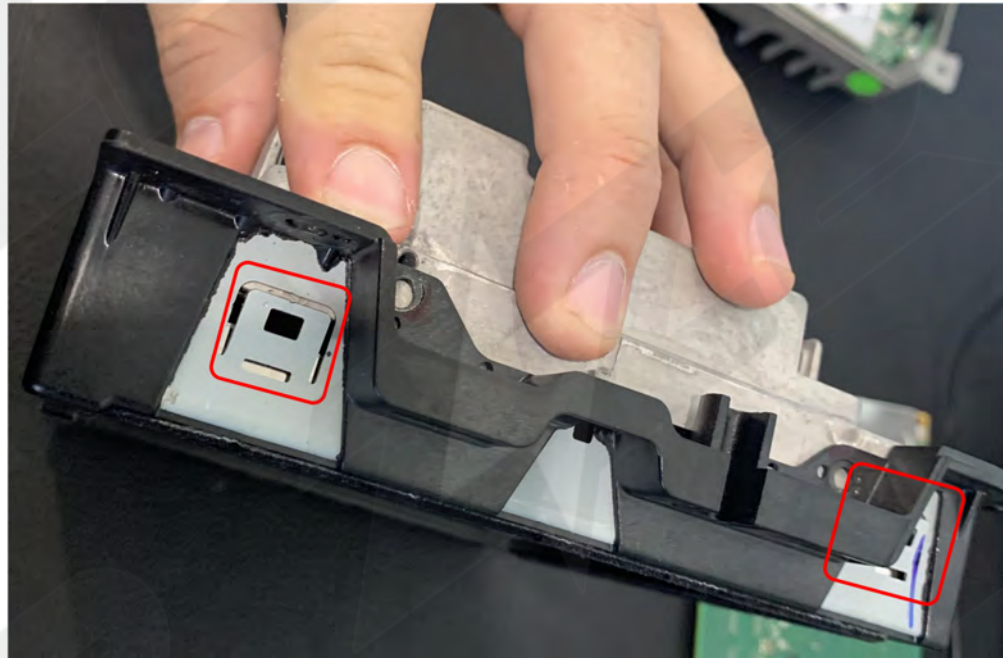
4. Carefully lift up this PCB and place nearby in a safe place.

5. Next, remove (1) Torx screw in the center of this metal housing.

6. Next, using a straight pick or small flathead, go around the perimeter of the radio and pry the locking tabs a small bit to free the front LCD frame from the remaining chassis of the radio.
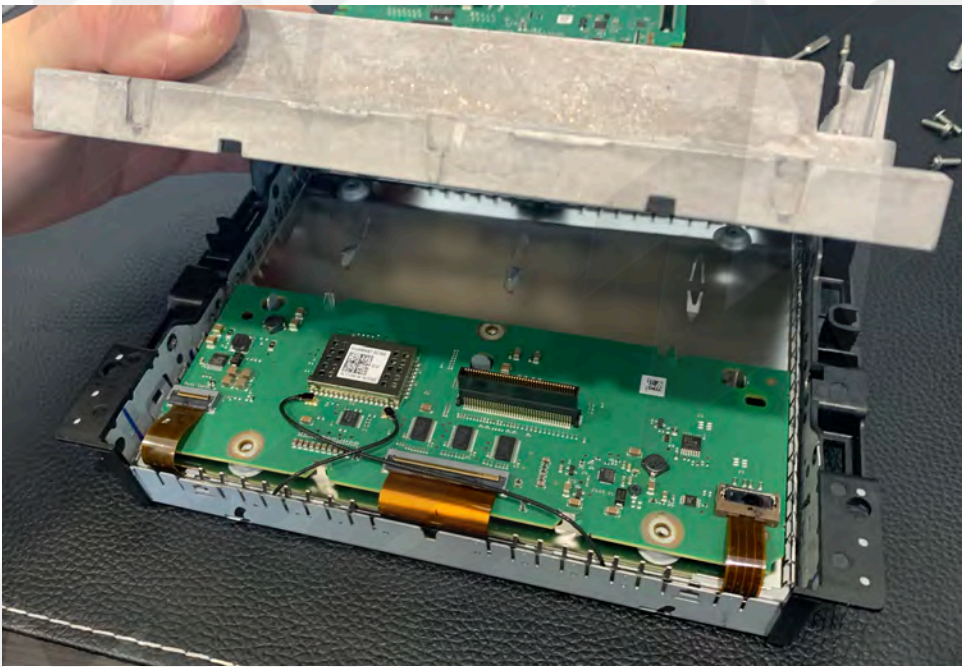
7. Next, carefully pry up the remaining metal chassis from the LCD panel to expose the PCB beneath.

8. Remove (3) FFC Ribbons (red) and (2) coax antenna cables (yellow). See next pictures below for tips.
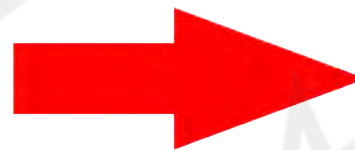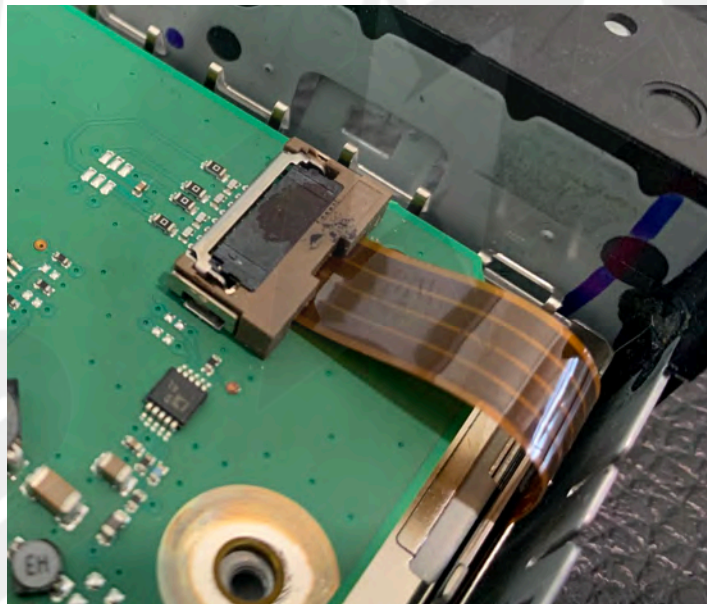
NOTE: All FFC connectors flip upwards from the ribbon-side except this one connector (with metal backing). For this connector, flip up the metal on the backside forwards (towards you) to release the ribbon.
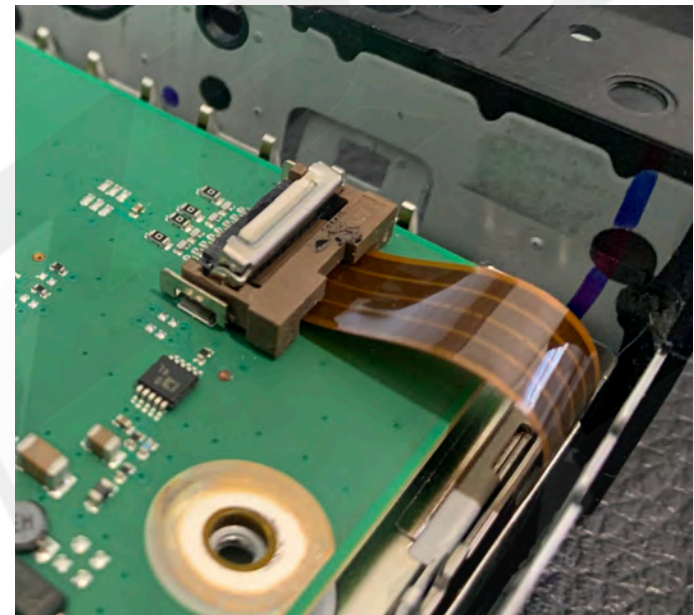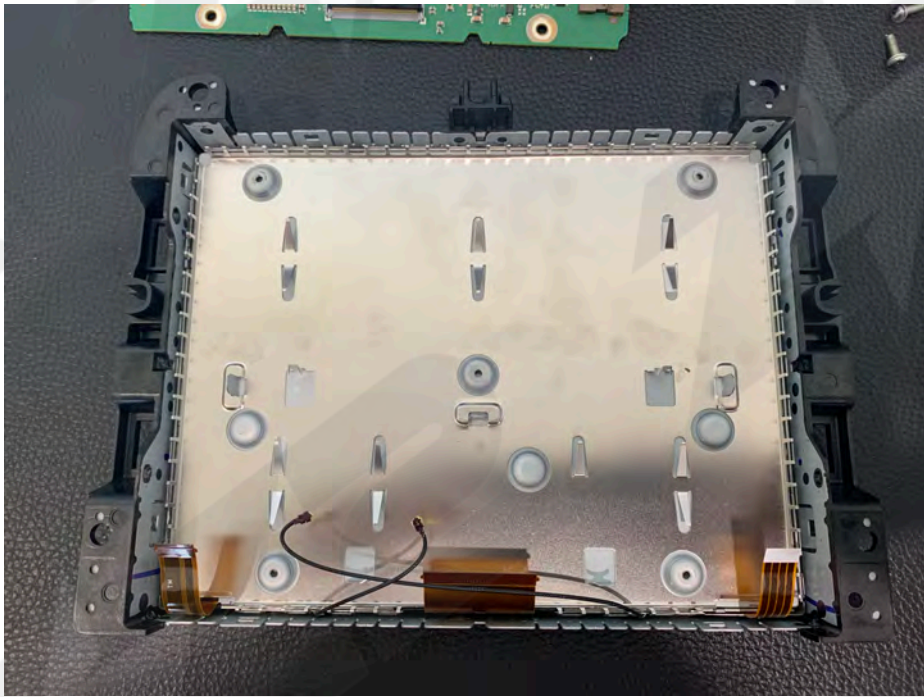
9. Next, remove the OE PCB temporarily.

10. Place the provided PCB down (with protective backing) into place - all pegs and screw mounts should pass through and align the board properly.
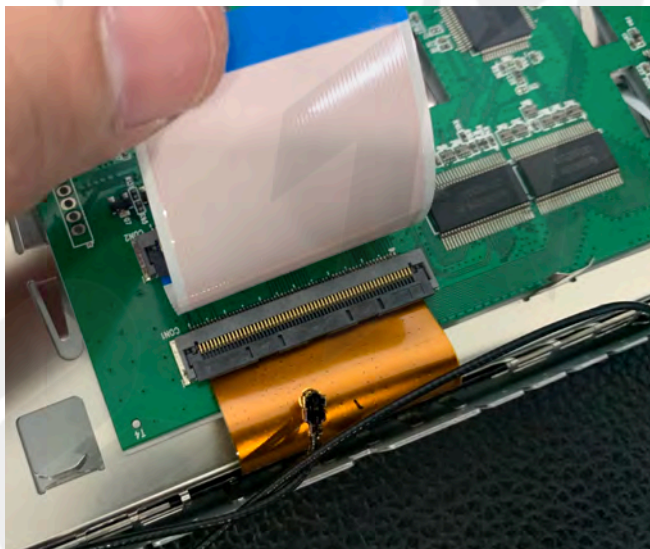
11. Connect (2) OE FFC ribbons to the connectors on the provided PCB as shown. Be certain to insert the ribbons *fully and squarely* before connecting the lock tabs to secure.
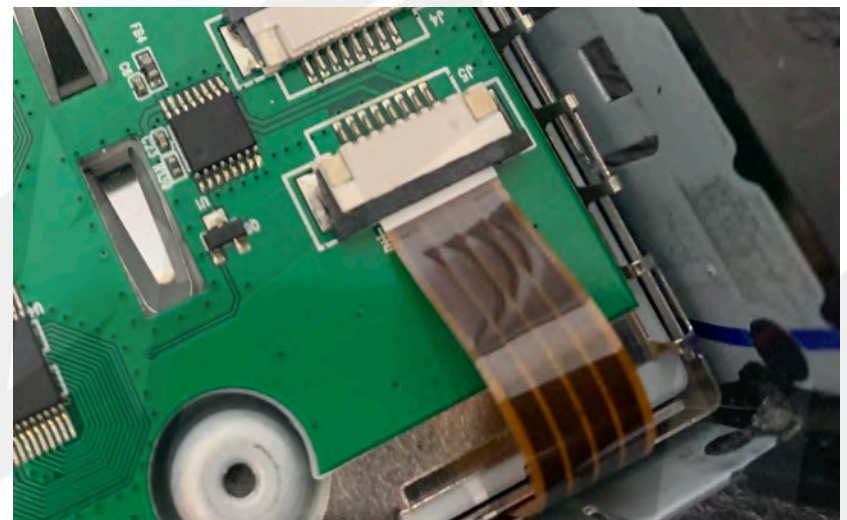
12. The PCB should look like this when connected properly.
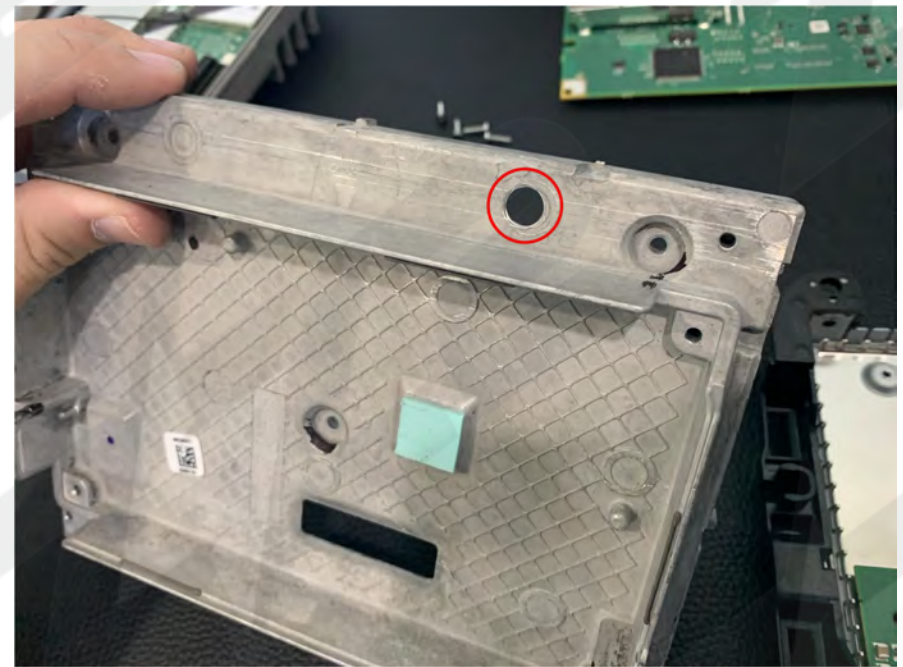
13. Drill a 1/4" hole at the top of the metal chassis (removed from step 7). This will allow the provided LCD-OUT cable to be connected from the interface to the sub-board (next step).

14. Run the provided 'LCD-OUT' cable through the hole in the chassis from step 13 and connect to the PCB *NOTE: pins face UPWARDS)*
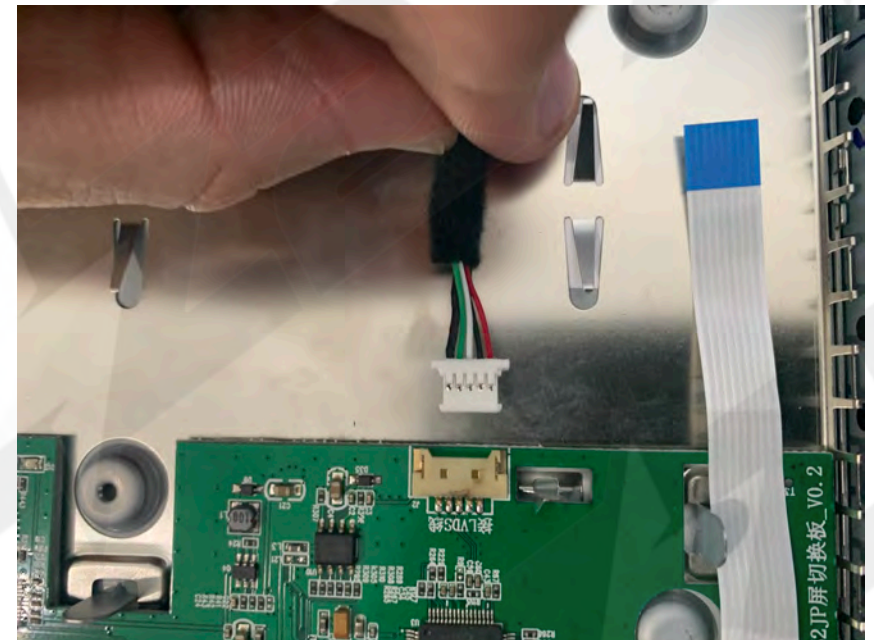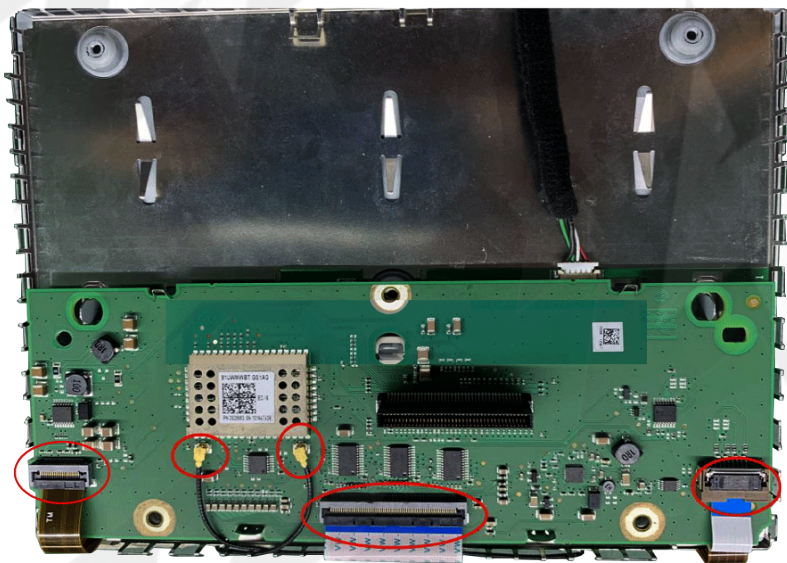
15. Connect the OE PCB back in place *on top of* the provided mod-PCB. note the white FFC ribbons are *provided ribbons* and connect to the OE PCB *in place of* the OE ribbons (the OE ribbons were connected in step 11). Also, connect the OE ribbon (left) and OE antennas. *NOTE: this wider (60-pin) ribbon tends to PUSH THE CLIP UPWARDS, causing a white screen issue. To resolve this, make a <u>slight crease</u> on the ribbon using your fingers to make it as flat/perpendicular as possible (with the PCB) so that the clip maintains a solid connection and all pins connect and stay connected.*
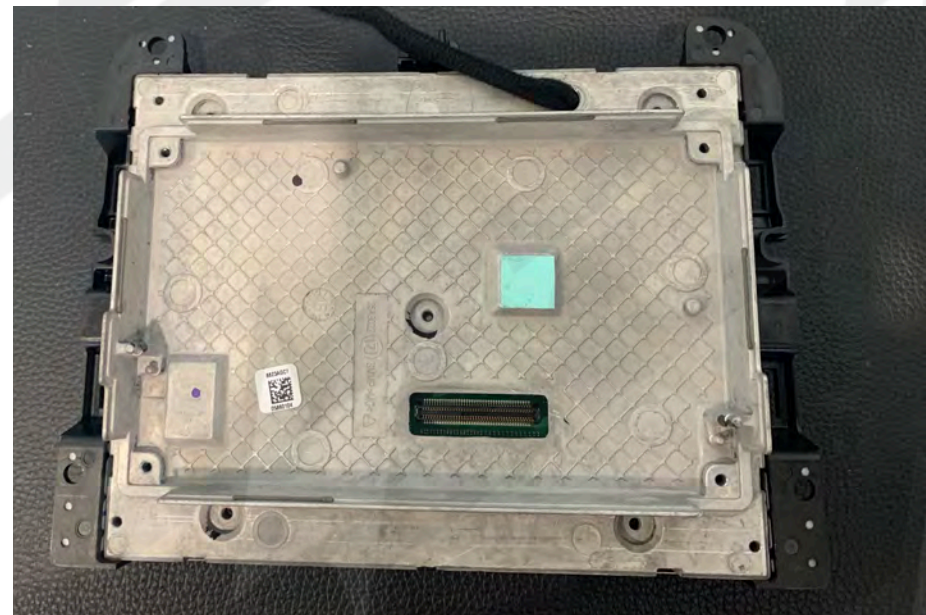
16. Connect the center metal chassis back to the front of the screen carefully. Replace the (1) center Torx screw. Replace (4) screws on the sides to secure it to the front.

17. Connect the last PCB board back, paying careful attention to the ZIF connector ensuring it connects properly (underneath). Reconnect the antenna (middle picture) carefully before connecting the last (top most) OE PCB (again, ensure all ZIF connectors line up properly). Once this is complete, replace all remaining Torx screws to complete the modification.

IT2-JGC
Install Diagram

BT/WIFI Antenna

IT2 ZZPlay Interface

OE Jeep/RAM Radio

NOT USED

HDMI NOT SUPPORTED

Video/Touch Cable (connects to modification PCB inside radio)

Attach MIC to headliner

USB Input

USB

Connect dummy plug to OE AUX input port

Audio OUT 3.5mm

MUST ADD RELAY when using this wire.
REV (+) IN

3.5mm Cable

Main T-Harness

Jeep/RAM Radio Main Power

NOT USED

Front CAM
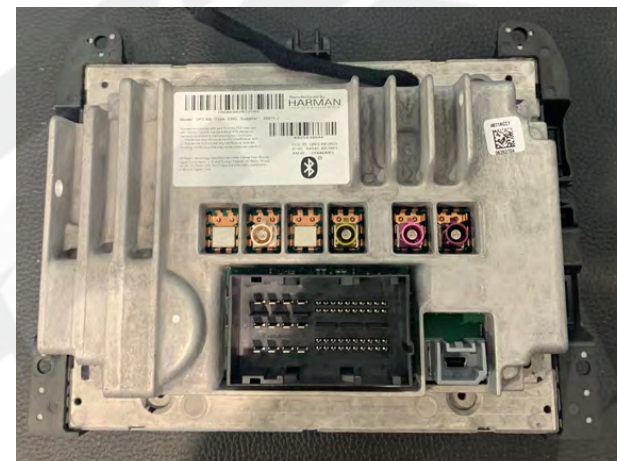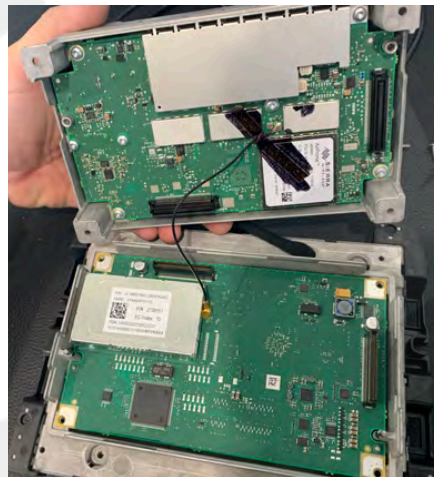
Rear CAM
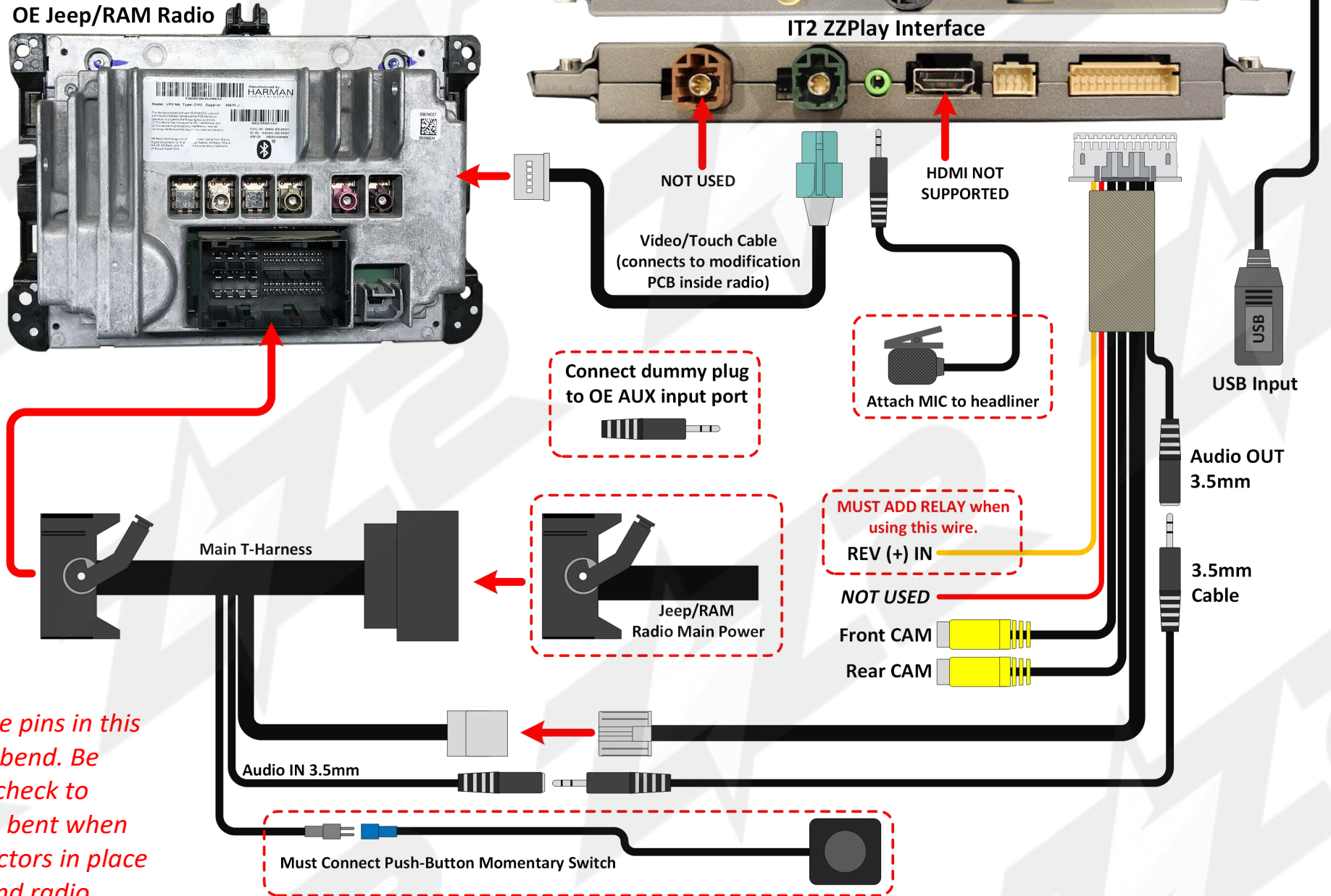
T-Harness NOTE: The pins in this harness are easy to bend. Be careful and double-check to ensure no pins were bent when locking these connectors in place to the OE harness and radio.

Audio IN 3.5mm

Must Connect Push-Button Momentary Switch

For this system, it's best to try connecting to the Phone **via the interface first**, and if its having trouble connecting, find the interface through the phone (via Bluetooth) during this operation.

1. Begin by turing Bluetooth and WIFI ON on the iPhone first
   (Settings > Bluetooth – set ON, then Settings > WIFI – set ON)

2. Next, with the interface menu screen on the radio screen (see furher down document for information on switching to the interface), choose **Setup**.

3. Once in settings, swipe down to **Bluetooth**.

4. Once in 'Bluetooth', choose **Discover**.

5. Shortly after entering the 'Discover' menu, 'iPhone' should appear.

   Select it, and it will ask to pair. Pair with the phone to begin the CarPlay registration process.

6. Follow the prompts on the phone to allow and use CarPlay. For a detailed step by step on this process, see the next page. Once the initial pairing is complete, CarPlay should load shortly. If not, go back to the main menu, and select 'CarPlay'.
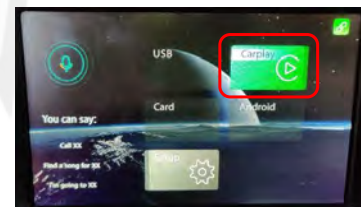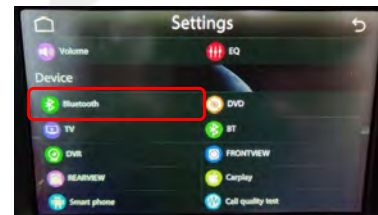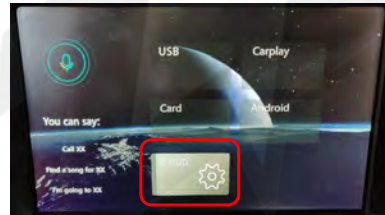
1. When using a USB cable to connect your iPhone, *only use a certified Apple cable*.
2. To use wireless connectivity, follow these steps:
   a. Go to Settings > Bluetooth and the phone should be able to find a Bluetooth device called 'IDCORE' or 'ZZ2' under 'Other Devices'.

3. A Bluetooth Pairing Request will be displayed on the screen with a
specific code which should match what is shown on CarPlay. Select 'Pair'. Note:
following the BT connection, there is no need to try and connect WIFI manually (although it does need to be ON), after the BT connection process is complete, the WIFI will connect automatically on its own.

4. Immediately following the Pairing notification, a new request to Sync your contact with the car will be displayed. Select 'Allow' in order to have caller ID and access to your contacts through CarPlay.

5. A notification asking for a permission to connect your iPhone to the car even when the phone is locked will pop up. Select 'Use CarPlay' and the CarPlay main screen should show up on the factory radio screen. If not, press & hold the switching button for 2 seconds to switch in and out of CarPlay (to OE radio mode). NOTE: the switching button will be different for each Car Model. Scroll down and find your vehicle manufacturer for more information on specific interface controls.

NOTE: If you're having pairing issues:
- Perform a 'hard reset' on the phone (will not delete data) in order to prevent any malfunction: With the phone unlocked, press & release VOL+, then press & release VOL-, then press and HOLD power for 10 seconds (wait for reboot – do not touch the screen).
- DELETE ALL other 'CarPlay' devices out of the phone (delete all in 'Settings – General – CarPlay')+
- Verify 'Low Data Mode' is not enabled in phone settings.
- Verify that the antenna is not mounted behind any metal dash panels.
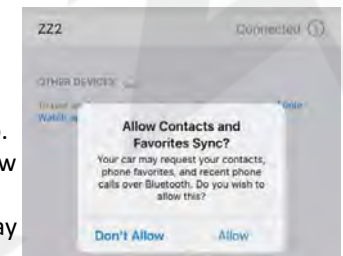
For this system, it's best to try connecting to the Phone *via the interface first*, and if its having trouble connecting, find the interface through the phone (via Bluetooth) during this operation.

1. Begin by turing Bluetooth ON on the iPhone first (Settings > Bluetooth – set ON, then Settings > WIFI – set ON)
2. Next, with the interface menu screen on the radio screen (see furher down document for information on switching to the interface), choose *Setup*.
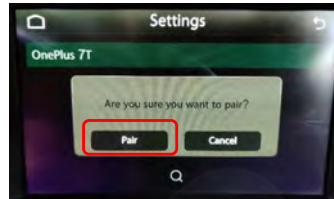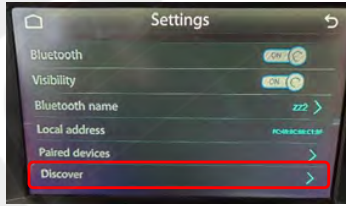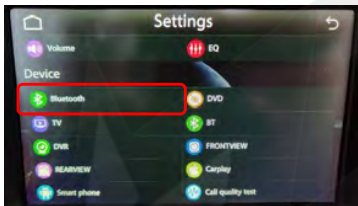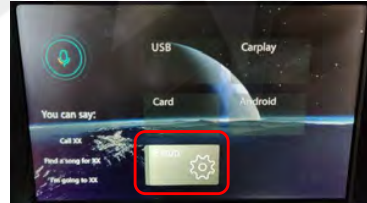

3. Once in settings, swipe down to Bluetooth.

4. Once in 'Bluetooth', choose Discover.

5. Shortly after entering the 'Discover' menu, the Android phone name should appear. Select it, and it will ask to pair. Pair with the phone to begin the Android registration process.
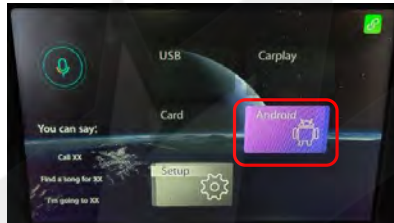
6. Follow the prompts on the phone to allow and use Android Auto. For a detailed step by step on this process, see the next page. Once the initial pairing is complete, Android Auto should load shortly. If not, go back to the main menu, and select 'Android'.
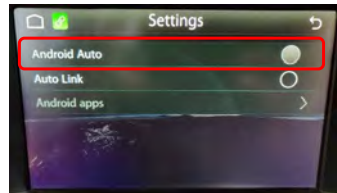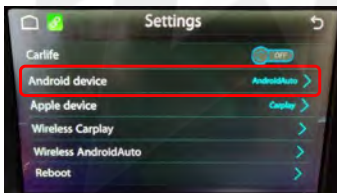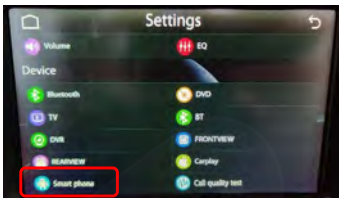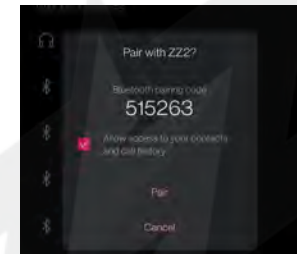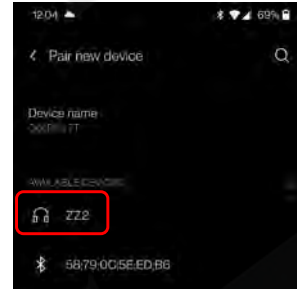

Inside *Setup,* swipe all the way down, press *Smart phone*

Choose *Android device*

Make sure *Android Auto* is selected. Go back to the main menu and you should be able to choose *Android Auto* now.

1. When using a USB cable to connect your Android, only use a certified Android OE cable.
2. To use wireless connectivity (Android 11+ only), follow these steps:
   a. Go to Settings > Bluetooth Device Connection, or LONG PRESS on the Bluetooth toggle to enter Bluetooth connections
   b. Select 'Pair new device'
   c. Choose 'IDCORE' or 'ZZ2'
   d. Bluetooth Pairing Request will be displayed on the screen with a specific code. Select 'Pair'. Note: following the BT connection, there is no need to try and connect WIFI manually (although it does need to be ON), after the BT connection process is complete, the WIFI will connect automatically on its own.
   e. Immediately following the Pairing notification, a system prompt may or may not appear for contacts sharing with the system. Allow all requests for the best user experience.
   f. Shortly after allowing/denying pairing requests, Android Auto will appear on the main screen automatically (for most phones). If not, press & hold the switching button for 2 seconds to switch in and out of Android Auto (to OE radio mode). NOTE: the switching button will be different for each Car Model. Scroll down and find your vehicle manufacturer for more information on specific interface controls.

NOTEs:

- Not every Android phone will work wirelessly. Pixel, Samsung & OnePlus devices equipped with Android 11 (or higher) have been tested to function well wirelessly. If your phone is having issues with wireless connectivity, verify with the installer that the antenna is not mounted behind any metal. If issues continue, use the original USB-C cable instead and connect to the interface's USB Input (do NOT use an aftermarket USB cable! – also, the vehicle's USB port is NOT used).
- Verify that 'Android Auto' is installed on your phone.
- Verify that in Android Auto settings (phone) that 'Wireless' is turned ON.
- Verify that WIFI is ON. The WIFI will connect automatically after Bluetooth has been properly paired.
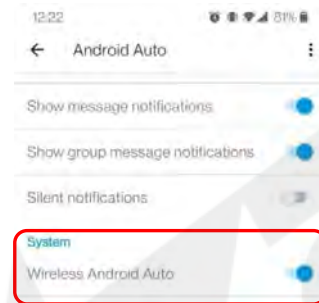
IT2 Interface Menu Overview

To gain access to the Interface menu, start in CarPlay/AA mode, and locate the exit tile, labeled as *'Jeep'*. *Selecting this tile will bring you in the interface setup menu, NOT the OE system.*
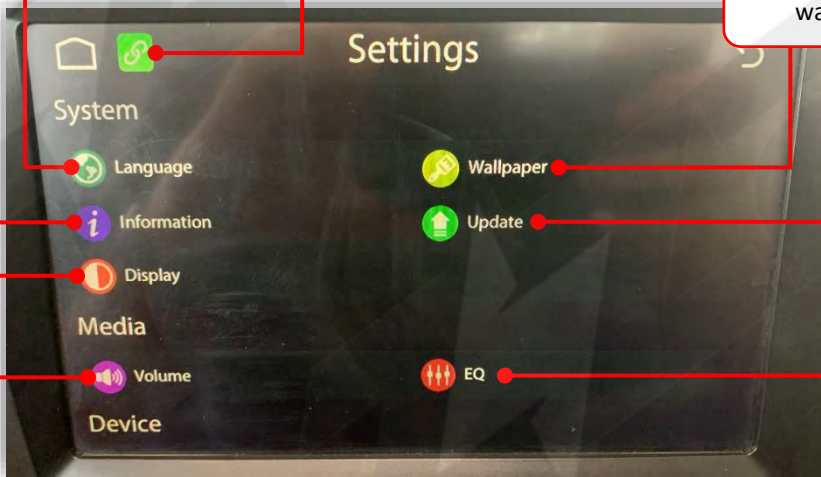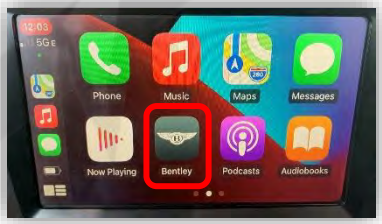
Change language here.

Indicates a Phone is currently linked.

Change (interface) wallpaper.

Interface Version info.

System updates require access to this menu.

Display settings adjustments.

EQ setup adjustments (for AUX mode only)

Volume settings adjustments (alerts, Navigation, etc)

Settings

System
- Language
- Information
- Display

Media
- Volume

Device

Wallpaper
Update
EQ

NOT USED in North America

Bluetooth Connection Settings for initially pairing.

NOT USED in North America

Toggle *Interface* Bluetooth OFF/ON here

Activate FRONT CAM toggle – if a front camera was added, turn this setting ON to view the camera at any time by pressing and holding the CarPlay activation button (NAV) *Note: 'FRONTVIEW' must be set OFF for this feature to work.*

Turns on Front Camera view for showing front camera *after leaving reverse gear for ~10 seconds. NOTE: DVR must be set to 'OFF' for this feature to work.*

Settings

Volume
EQ

Device
- Bluetooth
- TV
- DVR
- REARVIEW
- Smart phone

DVD
BT
FRONTVIEW
Carplay
Call quality test

CODE: 1123. Adjusts the vehicle MAKE ICON button – This button exits CarPlay/AA and enters you into the interface menu (this menu)

Adjust Rearview guideline settings or turn off rearview camera entirely

Smartphone settings (general) If using Android, *'Android Device'* must be set to *'Android Auto'* here.

Run this call quality test with all doors closed, engine running, no phone connected for improved MIC performance.

CALL AUDIO ROUTING: If using the OEM system to handle phone calls, answer incoming calls with the steering wheel. *Also if using iPhone*, set 'Call Audio Routing' to 'Bluetooth Headset' (default is 'Automatic').
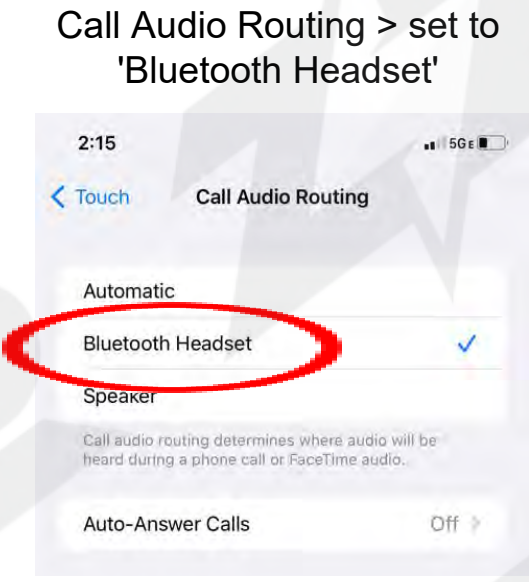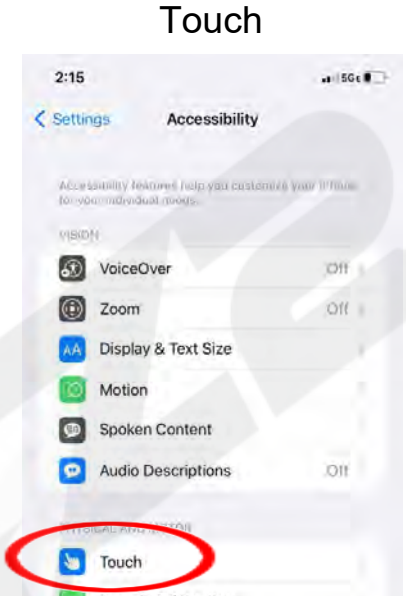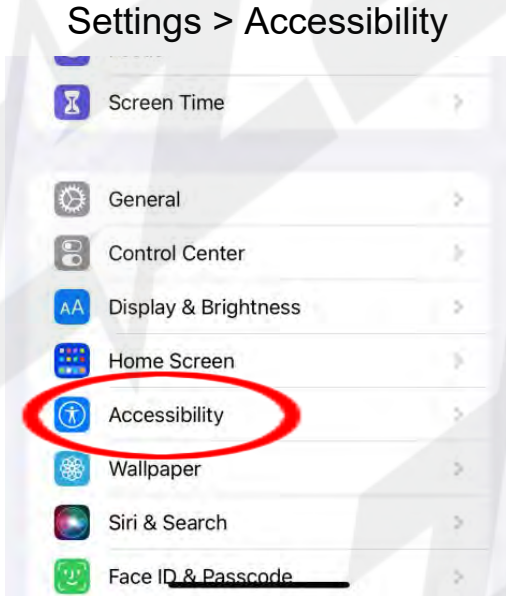
Settings > Accessibility

Touch

Call Audio Routing

Call Audio Routing > set to 'Bluetooth Headset'

**Dip Switch Configurations -
disconnect power before adjustment!**

1	OFF/ON	Keep OFF
2	OFF/ON	Keep OFF
3	OFF/ON	Keep OFF
4	OFF/ON	Keep OFF
5	OFF/ON	Keep OFF
6	OFF/ON	Keep OFF
7	OFF/ON	Keep OFF
8	OFF/ON	Aftermarket rear camera/Oem rear camera

Pressing the provided push-button switch for 2 seconds will switch to CarPlay mode. Press & release once to return to factory mode. This switch must be mounted somewhere on the dash within easy reach to the user.

NOTE: Upon ignition, if a phone has already been initially paired to the system, once the phone connects the system will switch to CarPlay mode automatically.

Push-Button Switch

'KEY IN' (T-Harness)

ON

OFF

NOTE: If this vehicle has an OEM camera and you want camera to show when in CarPlay mode, trigger wire (orange) with Reverse 12v(+) using a RELAY (otherwise, screen will flash in reverse mode). Ensure DIP 4 = OFF, DIP 8 = ON.
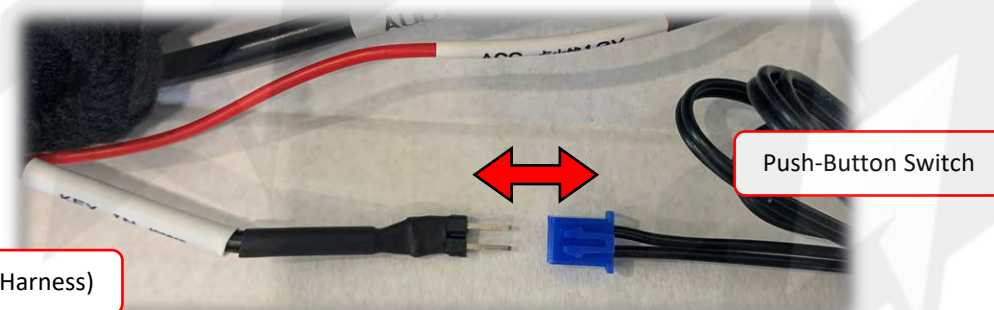
Press and HOLD the push button to enter CarPlay mode. Press and release once to return home.

Question: *I can't hear any audio from the CarPlay/Android Auto system.*

    Answer: Your OE system must be resting on AUX mode in order to hear any sound from the kit. This includes during phone calls. NOTE: Some systems AUX input are not labeled 'AUX', it may be labeled 'Media Interface' or there may be an audio conversion to the vehicle's USB input. Check with your installer for more information.

Question: *I'm hearing reports of a lot of echo or delayed echo on audio during a phone call. Why is this happening and how can I eliminate this?*

    Answer: This happens because we are using the OEM AUX input for audio, and the AUX path travels through the OEM amplifier, where there is active time-alignment & processing on this audio channel. There are a few ways to fix this problem, and there are Pros & Cons to each choice:

1. Use the OE Bluetooth system to handle all phone calls, and answer all incoming phone calls *from the steering wheel, always. To dial out using this method, you must use SIRI or voice command activation (typically hold control knob down for 4 seconds). Some vehicles, when using the CarPlay/ AA control in recent calls, the system will still use the OE Bluetooth to handle phone calls, but not all vehicles will operate this way.* NOTE: This method will sound the best for both parties on the phone call - to use this method, you MUST be paired to the OEM Bluetooth system simultaneously with the ZZPLAY unit. **PROs:** sounds the best, and regardless of what audio source you're currently on, using this method will switch to a 'phone call state' and return you back to the source you were on (FM, AUX, etc) once the call is ended. **CONs:** Your phone must connect to both the ZZPLAY unit and the OE Bluetooth for every drive, and the reliability of these connections happening properly upon every startup will be lower (only about 90% vs 100%).
2. Use the built-in 'AEC Auto Setup', or 'Call Quality Test', or 'Echo Cancellation' tests to adjust MIC settings for the microphone input of the ZZPLAY unit. These tests are found in the ZZPLAY setup menu typically under 'Audio' or somewhere similar. Some vehicles require a level of adjustment which will never be achieved, in these cases use the OE Bluetooth system (see choice 1). **PROs:** If this method works, it is the most reliable way of using the kit. **CONs:** You MUST be on AUX in order to hear the person you're speaking with. IE: if you use FM or SAT, while using the visual from CarPlay (maps, for example) and a phone call comes in, you must switch to AUX mode before you will hear the person when you answer the call. This is very cumbersome which is why we suggest to stay connected to the OE Bluetooth and allow the car to handle the phone calls.

Question: *Sometimes my phone won't connect lately / Sometimes when it connects the screen goes black / Sometimes CarPlay kicks me out back to the interface menu.*

    Answer: For iPhone users, you must perform a 'Hard Reset' on the phone in use on average twice a month to clear certain cache and reset the processors (this will not wipe any data). Google search 'Hard Reset iPhone 13' (or whatever version iPhone version you have) and perform that task. After this is done, you will see a difference in speed and reliability (of pairing/connecting).

Question: *Incoming text responses from SIRI are silent on CarPlay. It mutes the audio but I don't hear the read-out.*

    Answer: This often happens for 2 reasons: The iPhone needs a hard-reset (see previous question), or the phone is connected to the vehicle's OE Bluetooth for both **phone calls & audio (and the text read-outs are being sent to the vehicle BT source - you're on AUX source).** You want to be connected to the vehicle for *phone calls ONLY* - for iPhone the only way to make this distinction is to adjust the phone setup on the OE radio side. Find your phone (name) in the Bluetooth or Phone setup in the OEM radio settings and disconnect as an audio player. *NOTE: not all vehicles have this option, but it seems to happen mostly with cars that do have this option (Lexus, etc).*

Question: *Using Android, I cannot get the phone to reliably connect wirelessly (or at all).*

    Answer: Android phones are more finicky and iPhones with their wireless connectivity. Make sure the OS is fully up-to-date. Clear the cache on the Android Auto application. The Android OS must be at least version 11. Some phones (TCL, Motorola) seem to have protocols that don't play nice with every system. If you run into this, use a good USB-C cable for the Android Auto Connection instead.

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Extension 2: Tech Support