

## **Clarion C-Bus audio input installation**

Some of the Fiat Coupes originally had as standard a Clarion (ARX7370R) Head Unit & optional 6 Disc changer (CDC634). We believe it also had the ARX7170 head unit however this guide only applies to the 7370R model. You can connect it to ANY ipod or mp3 player which has a headphone socket.

There have been a few attempts to connect an ipod to the Clarion head unit, with varying amounts of success. The options up till now were:

- FM transmitter (poor quality)
- Hardwired FM signal (expensive and untested)
- Using the aux input (odd results, aux out can no longer be used, no clear option on head unit i.e. Radio > Tape > CD changer > Aux input > Radio...)

The Clarion head unit/CD changer uses CBUS input (usually CBUS is found on any pre 1998 model of Clarion's. This has now been replaced with CeNet).

Trawling the internet and as far as we're aware there are no converters to allow audio from a different socket type into the CBUS socket. What we are basically doing in this guide is splicing into the DIN cable from the CD changer, and using the signal from the ipod instead. The head unit is totally unaware, and continues to play the CD changer. You cannot remove the CD changer otherwise the head unit receives no signal and reverts back to the radio signal.

### **Tools needed:**

- Cable strippers
- A Stanley knife
- Soldering Iron plus solder
- Clarion Head unit removal tools
- Small drill (for mounting switch)
- Small flat head screwdriver
- Small adjustable spanner

### **Parts needed**

- 2 position DPDT switch (6 pins – 4 inputs and 2 outputs) – see Maplins FH39N
  - 2 metres of small gauge cable (or 1m of multi core cable with a minimum of 4 cables)
  - Heat shrink \*
  - Insulating tape/self amalgamating tape
  - Headphone jack cable (usually with something else on the end but this gets cut off).
- \* Optional

Skill level required – 2 on the spanners scale. Must be confident with soldering and electrics.

### **Step 1 – Remove head unit**

Flip down the HU fascia (button to the top right), the fascia will flip down and the can then be removed.

Slide the head unit removal tools down the side of the HU until you hear a little click or can feel some resistance. Pull gently towards you and the head unit should slide out. Be careful not to scratch the centre console. Disconnect all the cable/connectors from the head unit and put it somewhere safe.

### **Step 2 – Prepare the headphone jack**

The headphone jack cable is made up of 4 cables, 1 left channel, 1 right channel, 1 left ground and 1 right ground.

A standard headphone jack configuration is as follows. Tip is usually right channel, ring is left channel, sleeve is common ground. It is always advisable to check these anyway with a voltmeter.

Chop off the end of the headphone jack cable (opposite end to the headphone jack). Strip the rubber cable back and you should be left with four lots of wires, the left & right channels will have their own rubber sheath too, with the common ground wrapped around. Join both common ground together then strip the ends of the channel cables too. Put all this to one side.

### [Headphone jack](#)



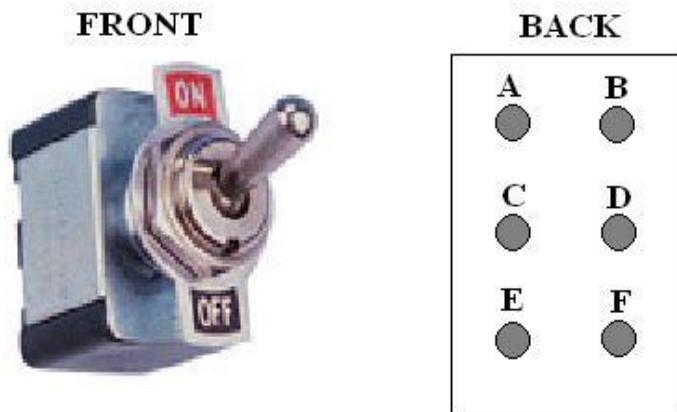
### **Step 3 – Prepare the switch**

The 2 point DPDT toggle switch has 6 pins on the back. When the toggle switch is up (or On) it connects pin A to C, and pin B to D. When the toggle is down (or Off) it connects Pin E to C and F to D. So here is how we will connect the switch up.

- Pin A – Left channel from CD changer
- Pin B – Right channel from CD changer
- Pin C – Left channel to HU
- Pin D – Right channel to HU
- Pin E – Left channel from headphone
- Pin F - Right channel from headphone

Cut your new cable to create four new cables about 40cm long (or splice the multicore cable so the four small cables are visible). If you want to mount you switch further away then extend these cables. Strip the ends of the cables and attach one to each pin. Attach the left channel of the headphone jack to Pin E and the right channel to Pin F. Solder all wires in place.

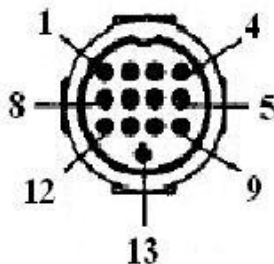
#### [DPDT switch](#)



### **Step 4 – Splicing into the DIN cable**

Upon removing your unit you will see a circular socket with 13 pins. This is called a 13 pin DIN connector and has the following pinouts (looking directly at the socket not the cable.) NB This pin diagram is for the back of the head unit, so when working on the DIN cable you need to flip it horizontally – i.e. now reads 1 in top right, 4 in top left.

#### [DIN socket](#)



We are only concerned with pins 6, 7 and 8. Pull out the DIN cable as far as you can. This cable goes to the boot so, if you really wanted to, you could trace the cable all the way through the cabin and remove it, but there is usually enough slack for it to be connected whilst it was still in place.

Peel away the rubber sheath around the DIN plug and you will see the Ground cable that is woven around all the cables. Cut through this cleanly and peel it back, tidy up the ends if as they will need to be joined together at the end of this process. There should also be a thin clear plastic covering around the wires. Again peel this back.

You can now see various cables. The left/right channel cables on our DIN cable were Green and creamy blue respectively, however you won't be able to see these cables at this point. Both these cables have an extra cover on them which needs to be peeled back. Once this is removed you should see there are Ground cables surrounding each channel, cut through these and join them together. Join both left & right ground together before and after the cut.

Cut through the green & cream wire and strip the cable at the ends.

### **Step 5 – Get soldering**

It is worth mentioning that soldering whilst inside the car is fairly scary. Use an old chopping board (or similar) to work on to save any solder drips burning holes in the carpet etc.

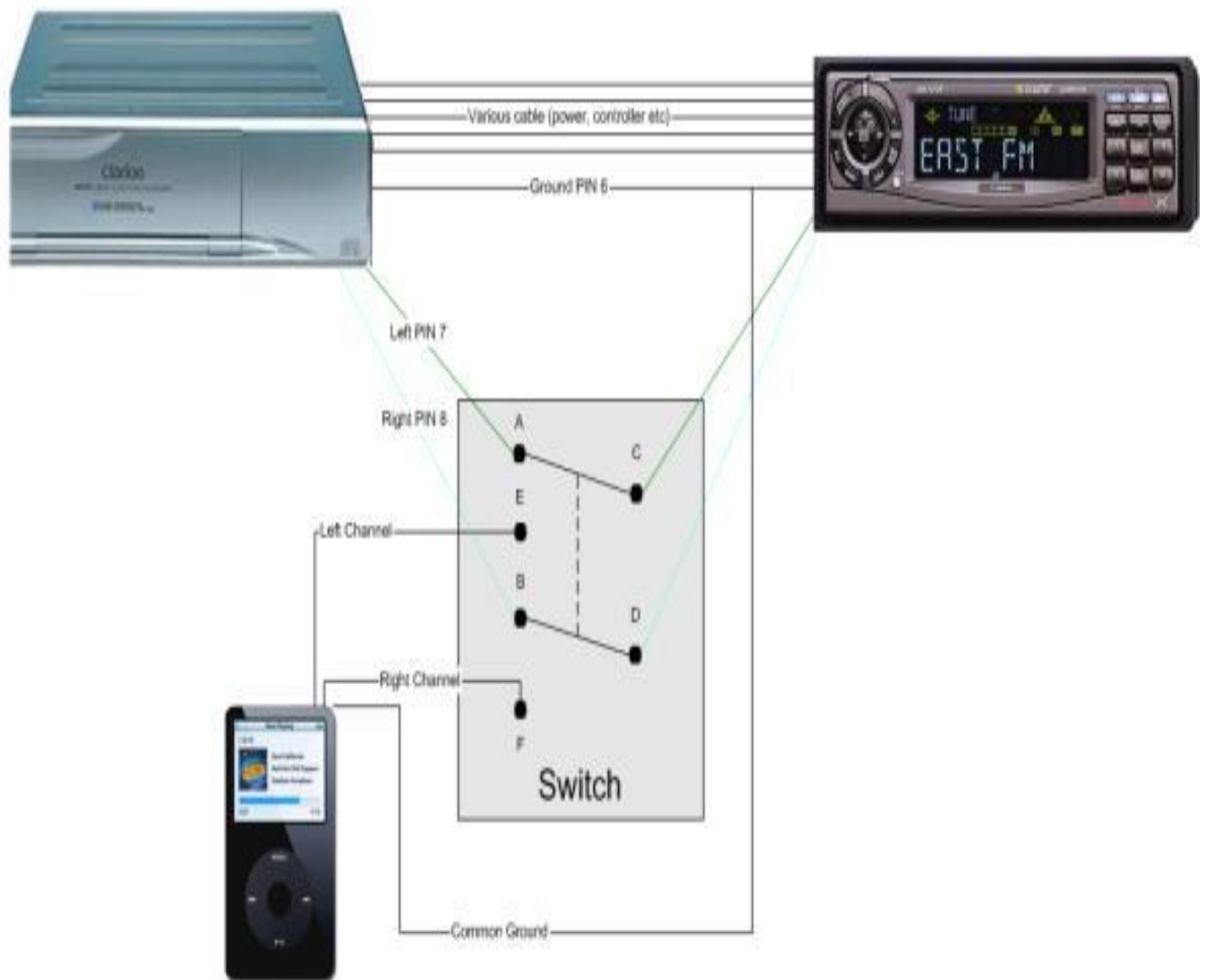
Schematic of soldering needed:

- Connect Common Ground from CD Changer to headphone jack ground AND to head unit Ground (PIN 6)
- Connect Green cable from CD changer to toggle switch cable A
- Connect Green cable from HU to toggle switch cable C (PIN 7)
- Connect Cream/Blue from CD changer to toggle switch cable B
- Connect Cream/Blue from HU to toggle switch cable D (PIN 8)

Solder all connections together. It is also worth checking that the switchover works whilst the connectors are all accessible. Once checked insulate them all with tape or heat shrink – the heat shrink needs to be put over cables prior to soldering though.

NB: There is also another set of cables that have an extra cover so it is easy to pick the wrong cables. If possible peel back the cover all the way to the DIN plug end, or use a Pin type multimeter to check the correct cable to PIN

## [The complete diagram](#)



### **Step 6 – Put it all away**

With the cables all tidy you can now start putting the head unit away. Push the extra cables back behind the head unit and down into the driver's/passenger footwell. Reconnect all the connectors, push the fascia front on and turn the HU on. Connect an ipod and check if the switchover systems works, you will need to select 'CD changer' on the HU. A CD will play normally with the switch set to ON, select off and the feed from the ipod will become active. The volume can be adjusted on the ipod AND the HU, it also needs to be turned up slightly higher than the CD changer is on, around 20 and middle on the ipod.

Turn the HU off and remove the fascia. Push the HU back into its metal frame. Clip on the plastic fascia and then slide on the front HU fascia.

### **Step 7 - Mounting the switch**

The toggle switch can be mounted anywhere you like we chose to mount it in the driver's footwell behind the head unit. Remove the small nut that holds the On/Off play on the toggle switch so you are left with the bare thread. Drill a ~1cm diameter hole, large enough so the end of the toggle can poke through and you can refit the plate and nut. Remember that the switch has to be pushed in from behind so pick somewhere with little or nothing behind it. Refit the plate and nut and tighten up with a spanner.

You can now position the headphone jack somewhere in the cabin. You might have a cradle to mount the ipod on the dash or if you don't you can tuck the cable neatly down the side of the centre console/handbrake section.