



Clio 2 Pictorial Installation Guide

Fastchip iMFD gauge module support for PLX Devices:

DM-5 Digital Gauges

System Driver - RSTuner VCI and software supplied by: <http://www.fastchip.nl>

Gauges supplied by: <http://www.plxdevices.com>

Gauge mounts supplied by: <http://www.mearcat.com.au>

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Basic Tools required:

- Good wire strippers
- Electrical Side cutters
- Soldering iron & extension lead
- Heat gun for setting heat shrink
- Drill with selection of small bits
- Multi-meter
- Pliers – pointed nose pliers
- Jewellers screw driver
- Torx bits for dash removal (top pod mounts only)
- Small work surface like a small table to keep your bits on
- Old blanket / cushion or similar to kneel on when working on the car

Knowledge required:

- Basic understanding of electrical circuits
- Ability to read, understand and follow a simple manual / instructions
- Reasonable hand skills
- Ability to solder correctly
- Ability to project ones mind to the desired outcome
- Ability to route cabling in a neat and logical manner
- An understanding of what you are aiming to achieve

Parts required:

- RSTuner Premium with Gauge Module Support
- 1 to 4 PLX Devices DM-5 digital gauges
- Pods to mount the gauges
- Solder
- Heat shrink
- Cable ties
- Electrical tape
- Small gauge hook up wire
- Double sided tape

Overview:

The process of installing the gauges is really quite simple. Both the gauges and the mounts are very cost effective at well under \$100 Australian Dollars ea. The gauges are supplied pre-cabled for signal (plug and play) and power. The gauge mounts are specifically designed to fit Renault Sport Clio's 172 / 182 Mk II. The gauges will work on any Renault the RSTuner VCI is compatible with. The gauges simply 'daisy chain' together and are 'addressed' via the RSTuner software.

The RSTuner with iMFD gauge support is supplied with a ready to patch 3.5 mm mini jack connector for gauge data. There is minimal requirement for soldering or complex thought. You can simply plug in a few leads and route a little power and you are away within a couple of minutes.

I desired a complete solution and thus assisted in the creation of the gauge mounts with Alan at <http://www.mearcat.com.au> and thus installed the devices as outlined in the guide.

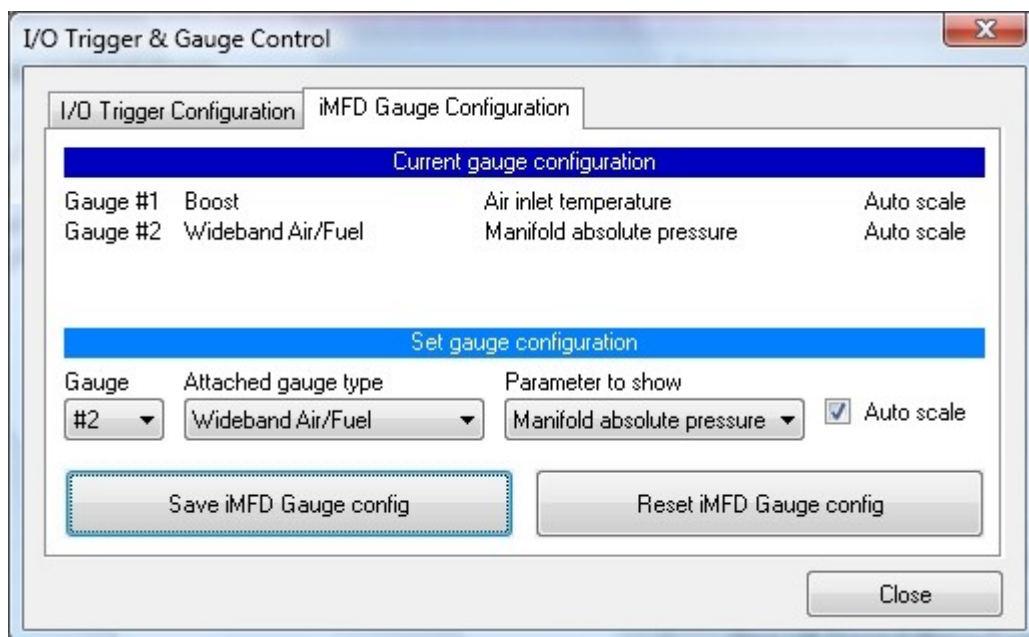
There will be some parts of this guide that will not be applicable to many however the intent remains the same.

The iMFD gauge support is suitable for both Renault Sport Megane series vehicles and makes for a sensible choice for gauge displays such as boost values, AFR's and AIT's.

Why Digital Gauges?:

The design of this system is incredibly flexible. It is modern and visually pleasing whilst requiring little cost and time to install as the gauges derive their data direct from the ECU (no extra sensors, installation and associated costs). Quickly it becomes evident that the installation of this system is massively more powerful and hugely more cost effective than traditional analogue options. Of course you may choose to run additional sensors as I do (Innovate WB-02 sensor) which can be displayed as well.

The system is fully configurable with virtually any available ECU parameter being able to be displayed on the DM-5 gauge set at the user's discretion via an extremely simple assignment process through the RSTuner software application (Premium only). You can continue to data log and save files both in the VCI internal memory or laptop memory whilst the gauges remain active.



Please refer to the RSTuner manual for greater detail regarding the programming of the gauges.

Installation process:

Unpack gauges & RSTuner Premium, read manuals, load software and check all for conformity and function. Re-read manuals assess tasks and make your plans before you start.



My complete set of 4 PLX DM-5 gauges (max number you can run at once on the RSTuner VCI)



Single PLX DM-5 gauge: Note they are very shallow thus suit surface mounting



Assemble your tools / work area and components: Gauges have been trial fitted to gauge mounts.



Remove the dash assembly for those mounting gauges in a top mount as I did. Please refer to you vehicle manual or friendly forum such as <http://www.ozrenaultsport.com/> for more detail. The Clio is a 6 min job.



Remove the little rubber liner from the dash top tray and drill a hole to pass the cabling through. Note this diameter must be greater than the diameter of the 3.5mm mini jack patch connectors for the gauge data signal



Trial fit and assess your cabling for the top mount. Don't rush, Take your time.



Route your cables through the access hole and down through the dash board assembly to the lower console near the air-conditioning fan assembly adjacent to the OBD II port.



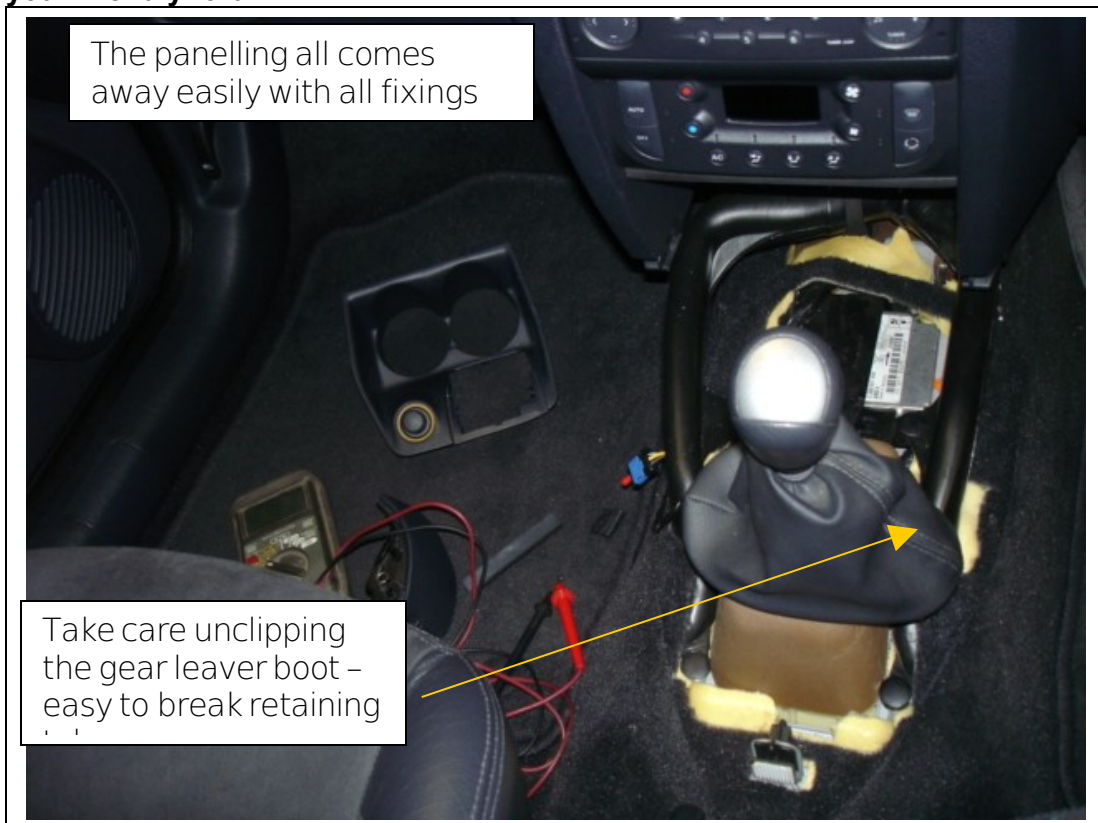
Tidy up the cabling and make quality soldered connections for power. Note that some PLX gauges will require a 0 volt connection to switch the units of display to the type you desire.



Top gauge mount in place. Secured via double sided tape meaning no visible holes need be drilled thus removal of gauges means car can be returned to OE state. Gauges are fixed in position to the mount via a tiny drop of glue for ease of removal should the need arise.



Concurrently remove the shrouds from around the gear lever. Again refer to your vehicle manual (Haynes Manual is every good for this type of thing) or your friendly forum.



Prepare the lower console mount and drill a couple of holes to enable cable tie retaining of the additional cable lengths supplied. Note – maintain all the additional length cabling as you may move the gauges one day OR sell them. The length will be handy later and can be made tidy with little effort.



Cabling tucked up inside lower consol mount



All ready for install. Note the male 3.5 mm mini jack which is the start point of the series patch for the gauges post RSTuner VCI. The 3.5 mm female mini jack socket is where you plug the continued data feed in to the top two gauges should you be installing multiple gauges as I did. There is no requirement for termination at the final point as the system is self terminating.



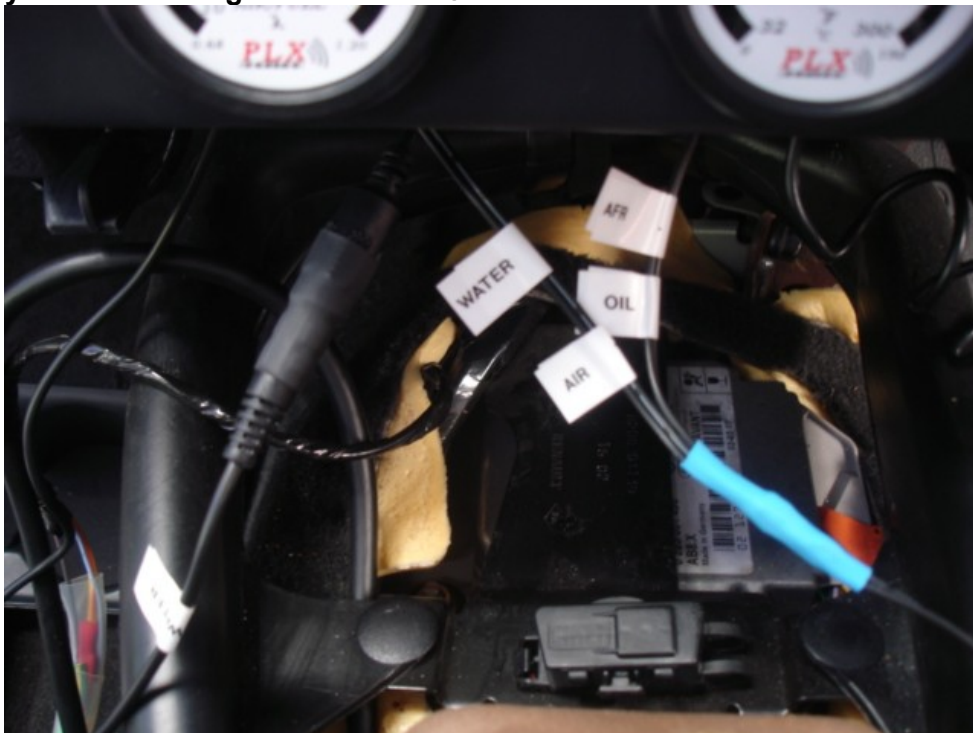
Affix two small strips of double sided tape to the ends of the gauge mount



Fit to lower console noting the gauge mount is a slight interference fit to provide compressive force on the mounting tape. The unit once fitted is very secure. To fit you must remove the small plastic panel that sits under the Climate Control panel. The gauge mount replaces this.



Now the fun bit. Clearly label the cables and solder / patch together all required connections per the RSTuner manual and the PLX Devices gauge manuals. Don't screw about here. Do it once and do it well. Plan for re assembly or else you will be doing it three times 😊



Some useful comments: *If you follow what I have done you will need to route all cabling that needs to connect to the RSTuner VCI out the rear of the lower console and into the passenger foot well. Then you may re-assemble the shrouds around the lower console and the gear change lever. When this is done you re-route the cabling back into the 'cup holder' area from the rear. This keeps the whole thing nice and neat. This is harder than it sounds and will likely take a fair amount of time and a few naughty words. Use a 'cable draw' device such as a flexible plastic rod to push through the console and attached cabling to be drawn back through. The cables brought through to the cup holder recess will be OBD II, gauge data, gauge power & earth (0V). Fuse the supply voltage from the VCI with a 250 mA low insertion resistance fuse.*

Example per below: *Red / Yellow (Gauge data), Brown single wire (WB O2 data), Blue / Brown taped together (Gauge power & earth). The OBD II cable is sitting in the cup holder area.*



Note the OBD II plug sits right in the middle of what is the ashtray recess



Carefully cut the bottom from the ashtray using a simple small wood saw or metal saw. There is a diagonal section (visualise a line) that removes sufficient material to render the hole large enough to receive the OBD II plug when re fitting the ashtray. The lid retains its functionality. You will find you will need to remove a little bit more plastic here and there to get a good fit.



Top view



Refit ashtray to car. There! Lovely – special thanks to Griffyn for this idea.



Program up the gauges via the RSTuner then tidy the cabling
Now connect the RSTuner Premium VCI to the car as you normally would and start the car. Gauges will spring to life and display live data. The RSTuner VCI is programmed to 'auto connect' direct to the ECU when the supply voltage reaches 13.8 volts. Connection takes but 1-2 seconds before the gauges are live. Very quick!



The top gauge set:



Both gauge sets running: These are programmed to display the following left to right / top then bottom: Of course select what ever you like. No matter what type of gauge you use, you can select every parameter that you wish to view. Example: If you want to see knock correction on the water temeprature gauge, you can (!)

1. *Coolant temp*
2. *Air Intake Temp*
3. *Air Fuel Ratio*
4. *Knock Correction Slow*



The DM-5 gauges come in black dial facia as well. I chose white for the 'Mk I retro look'.

Summary Comments:

Installation if done like above and done well will take you 4-5 hrs. One quarter of this is preparation and planning of the work. The last hour will be taken up with playing with the system and seeing what it can do.

Things to look out for when installing are:

1. *Rushing – take your time*
2. *Not reading manuals and making a big costly error – read the manual*
3. *Not labelling cabling then forgetting what goes where and possibly frying your gauges or Fastchip VCI unit.*
4. *Not suitably insulating cabling from shorts to earth – use quality insulating materials such as heat shrink / electrical tape*
5. *Not fusing the supply circuits can lead to damaged equipment under fault or short circuit conditions*
6. *Forcing anything to fit – be gentle and design things to fit*
7. *Cabling is everywhere when finished – good planning will result in a tidy professional OE finish.*

Enjoy!