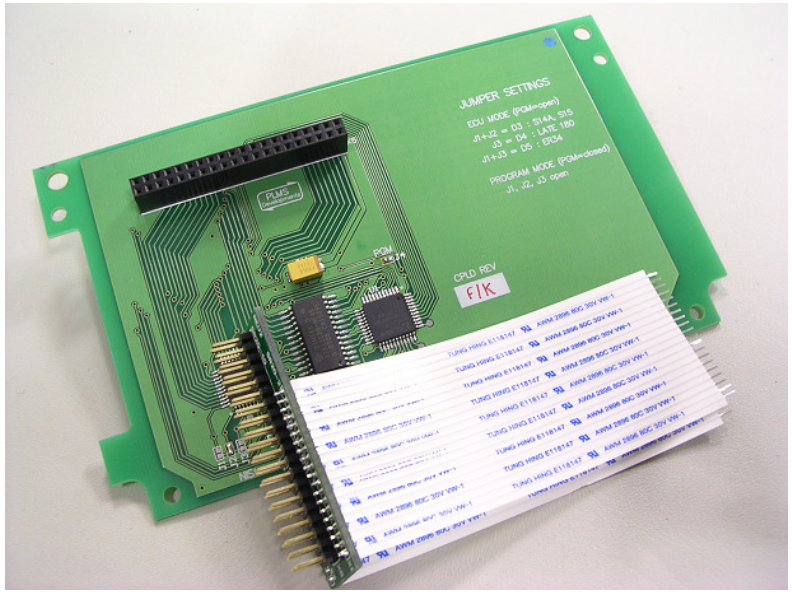
NISTUNE

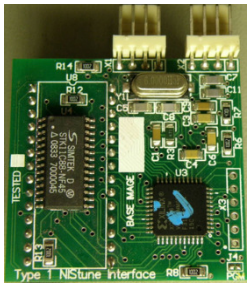
REALTIME ECU TUNING

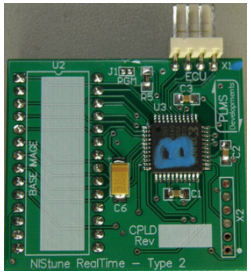
Workshop Information

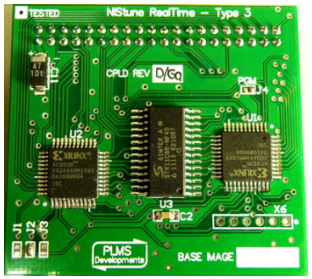


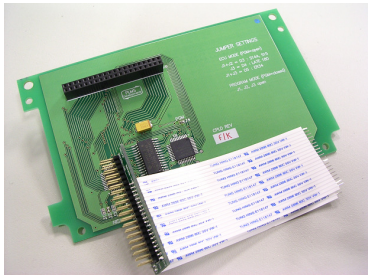
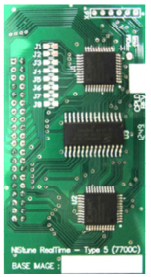
Matt Brown - Aug 2013

Current Supported Vehicles (Aus)







Type 1: R31 Skyline (RB30E), VL Commodore (RB30E/RB30ET), Z31 300ZX (VG30E/VG30ET), A31 Cefiro (RB20DET), J30 Maxima (VG30E), S13 Silvia (CA18DET)

Type 2: R32 Skyline (RB20DET), BNR32 GTR Skyline (RB26DETT), Y60 Patrol (TB42E), Z32 300ZX (VG30DE/VG30DETT). Also R33 Skyline using R32/Z32 ECU

Type 3: S13 Silvia (SR20DE/SR20DET), S14 200SX (SR20DET), RNN14 Pulsar (SR20DET), N14 Pulsar (SR20DE)

Type 4: R34 Skyline/Series 2 WC34 Stagea (RB25DET NEO), S14A/S15 200SX (SR20DET), S13 (Type R/X SR20DE/SR20DET), Late K11 Micra (CG10/CG13)

Type 5: S14 200SX (SR20DE), Early K11 Micra (CG10/CG13)

Other Unsupported Vehicles (Aus)

R33 Skyline GTS-T (RB25DET) – Uses 84 pin processor which requires removal and replacement. Stu Cornall tuning services is developing a Type 6 board for this model. Initial testing is underway. Very complex daugtherboard to design and produce. Expected price $470AUD including GST for the board. Limited installers for this vehicle. Using Z32 300ZX ECU with knock sensor removal is our other alternative. RRP $550 for ECU installed

R33/R34 Skyline GTR/260RS Stagea (RB26DETT)- Similar to R33 Skyline GTS-T but with double memory capacity. Supporting these models would require further investigation and design. Currently using R32 GTR ECU for R33 GTR/260RS has proven a viable alternative.

Patrol TB45 – Similar to R33 ECU may also use a similar board

WC34 Stagea Series 1 – Uses grey plug with auto transmission capability with similar pinout to later WC34/R34 NEO RB25DET engines but with older non-tiptronic transmission. ECU itself similar processor to R33 Skyline and similar board.

Other Unsupported Vehicles (Aus)

Y34 Cedric / M35 Stagea – Both user later model grey connector and reflashable ECU via CAN bus. There may be a reflash solution developed in the future if map definitions can be located and defined.

Z33 350Z / R35 GTR – Reflashable via CAN bus. Recommend using Uprev software for 350Z and Uprev/COBB tuning for R35 GTR. No immediate plans to support these ECUs due to these companies already providing support for these models. Regardless 350Z ECU is under investigation time permitting.

Board installation

- Remember: Always check you can connect to the vehicle ECU when possible via consult before installing the board!

- Correct board installation equipment usage and techniques are very important. Our website details in our soldering guide what is required and the techniques involved
- Incorrect soldering can result in ECU limp mode (no consult communication and vehicle fails to operate correctly) or intermittent operation. Worse case scenario is resulting damage to the Nistune board
- We normally offer next day return on installation of ECUs and use express post. Otherwise use a reputable electronics repair shop to install the boards
- Having spare ECUs on hand with board installed can reduce delays when having vehicles arrive at the workshop for tuning

Installation and Operation

- Earlier model Nissan ECUs run from EPROM chips which are removed using a desoldering gun. The Nissan ECU is then socketed and the Nistune board plugs into the socket

- Later model Nissan ECUs run from internal ROM (memory) and a jumper is moved so the ECU runs from the Nistune board. An adaptor connector or ribbon is installed into the ECU and the board plugs into this

- Tuning is performed via the Nissan grey connector plug CONSULT port. If the wiring loom has been changed or transplanted the CONSULT port may need direct wiring into the new ECU loom used. Wiring pinouts are on our website

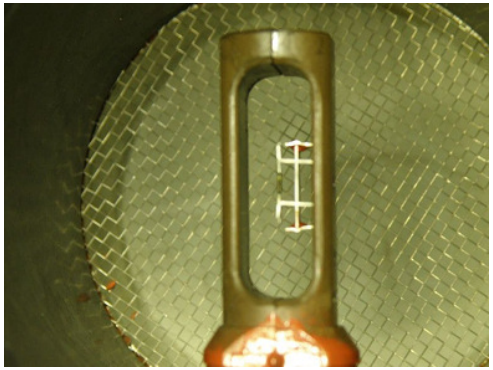
MAF / MAP sensors

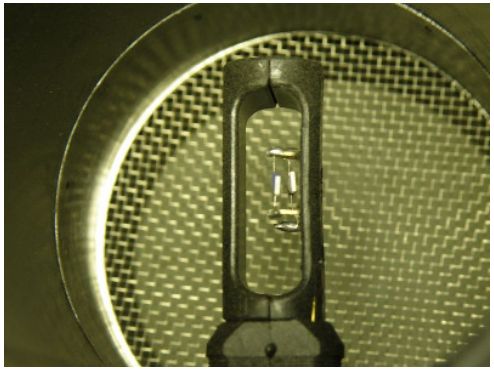
- Nissan ECUs are designed by default to only function with MAF sensors. Plugging in MAP sensing without modification to the ECU code is not possible.
- Other manufactures such as Tomei Rytec have integrated MAP sensing in the factory ECU by rewriting the Nissan ECU code however it is a large task and not in the current schedule for Nistune.

- There are various upgrade paths available with Nistune:

Z32 MAF sensors

- The most common is the Z32 MAF sensor which is capable of measuring up to 350-370rwkw before maximum airflow is reached. These MAFs are sensitive to reversion (reverse airflow) and unmeasured airflow. They must be fitted with some distance from the turbo (preferably after a bend) and vented BOV airflow plumbing such it is directed towards the turbo and away from the MAF.





- Source Z32 MAFs from reputable dealers. Counterfeits are plenty on the internet can have original looking stickers, part numbers but the inside sensor should be small wax coated bead as per the image on the left. A bad MAF results in incorrect airflow measurements and tuning problems!

Slot MAF sensors

- Slot style MAF sensors are used in all later model Nissans (and other models such as Ford also). They are more reliable than the older hotwire and more resistant to flow issues such as reversion.
- Nistune now supports R35 GTR MAF sensors in 3” tubing (74mm internal diameter). These sensors are readily available but the connector plugs are more difficult to source. They can be cut from looms from later model Nissans. R35 supports upto a measured 300rwkw in this tubing size.
- MAF Air Direct sensors (branded HPX and HPX2) are also supported which a much higher (estimated over 500rwkw) airflow. Nistune will be supplying these sensors in the future. Adaptors must be suitable to the application supporting the sensor in the centre of the piping used