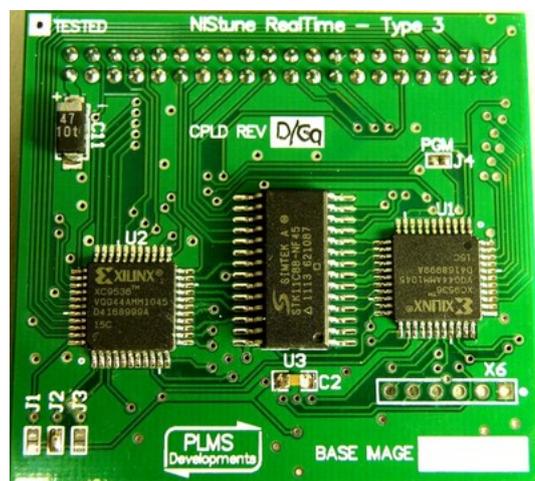


NISTUNE

REALTIME ECU TUNING

TYPE #3



Hardware Installation – Nistune Type 3 boards Version 1.9

(JECS 1990-1998 Engine Control Units)

<i>Model</i>	<i>Name</i>	<i>Engine</i>	<i>ECU Series</i>
S13	180SX	SR20DE, DET	52Fxx, 50Fxx
S13	240SX	KA24DE	53Fxx, 54Fxx, 59Fxx
W10	Avenir	SR20DET	95Nxx
U12/13	Bluebird	SR20DET/KA24DE	79Exx, 1E0xx, 4E6xx, 3E6xx, 1E4xx
S14	Silvia (early)	SR20DET	69Fxx, 74Fxx, 75Fxx
B13	Sentra/NX2000	SR20DE	64Yxx, 67Yxx, 70Yxx, 71Yxx, 78Cxx, 94Yxx
N14/15	Pulsar	SR18DE, SR20DE	58Yxx, 68Cxx, 1N960
RNN14	Pulsar GTiR	SR20DET	54Cxx, 69Cxx
Z32	300ZX (late)	VG30DE(TT)	45Pxx, 51Pxx, 52Pxx, 53Pxx
J30	Maxima	VE30DE	97Exx
P10	Primera	SR20DE	62Jxx, 70Jxx, 71Cxx, 77Jxx, OJ26x, OJ27x, 83Jxx
Q45	Infiniti	VH45DE	63Uxx, 67Uxx, 68Uxx** (Special order)

INTRODUCTION

Welcome to Nistune.

The Nistune hardware and software solution provides a means for the car enthusiast to retune their vehicle whilst retaining their factory ECU and its default programming.

This solution provides many advantages over aftermarket ECUs in that the

- Factory default tuning is maintained once the Nistune board is installed. Upon installation of the board, vehicle will be operational as usual.
- Additional tuning can then be made against the factory maps for modifications made to the vehicle. There is no need to tune the car to get it running from scratch, reducing time and costs of tuning required on dyno.
- There is no need for wiring loom modifications.

Nistune provides real time tuning and map tracing. It provides the ability to make changes on the fly to the factory ECU and then the desired results are achieved, save these permanently in non-volatile memory on the programmable board.

Nistune also provides data logging and playback facilities using the Nissan Consult Port. Consult interfaces are purchased separately. Nistune software also provides a user friendly responsive graphical interface to perform modifications.

Contained in this manual are the instructions for installing a Nistune board into the Mitsubishi 7700 series consult enabled series of ECUs.

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1. FITTING HEADER TO ECU

- Remove front and rear covers from the ECU



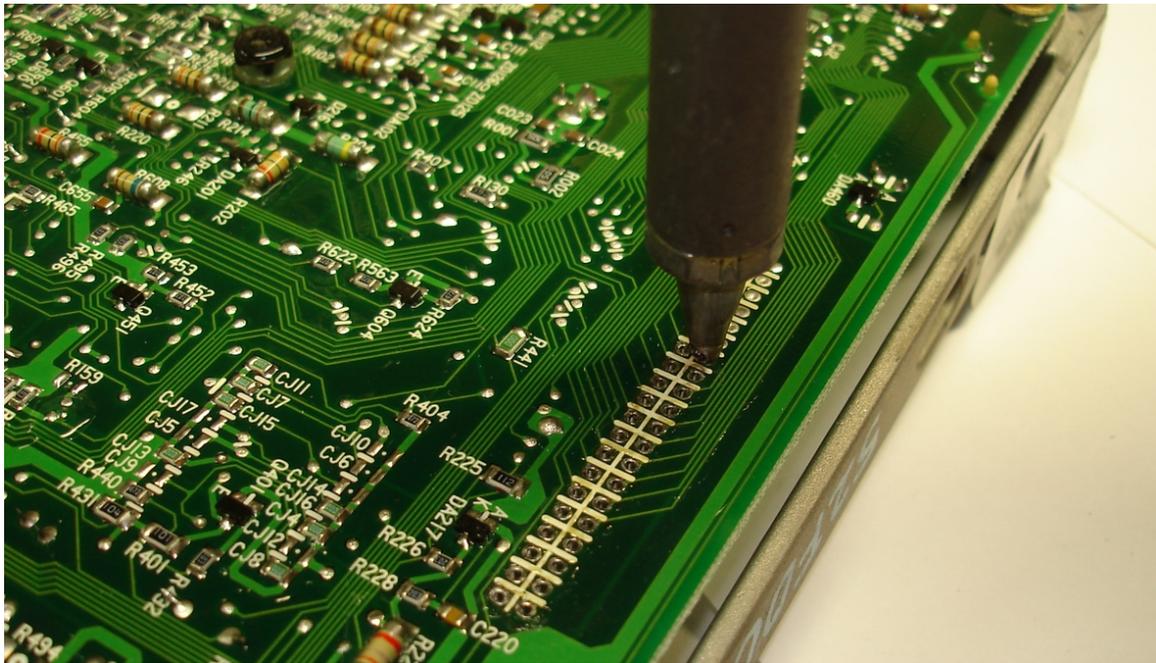
Tip : The screws that secure the covers will have thread locking compound applied from factory. This stuff really hangs on so make sure you use a driver with a tip which fits the screw head properly. We use a cordless drill. This may seem somewhat excessive but the combination of quality screwdriver tips available and being able to use an adjustable clutch makes for a very effective tool.

- Remove conformal coating from areas to be soldered



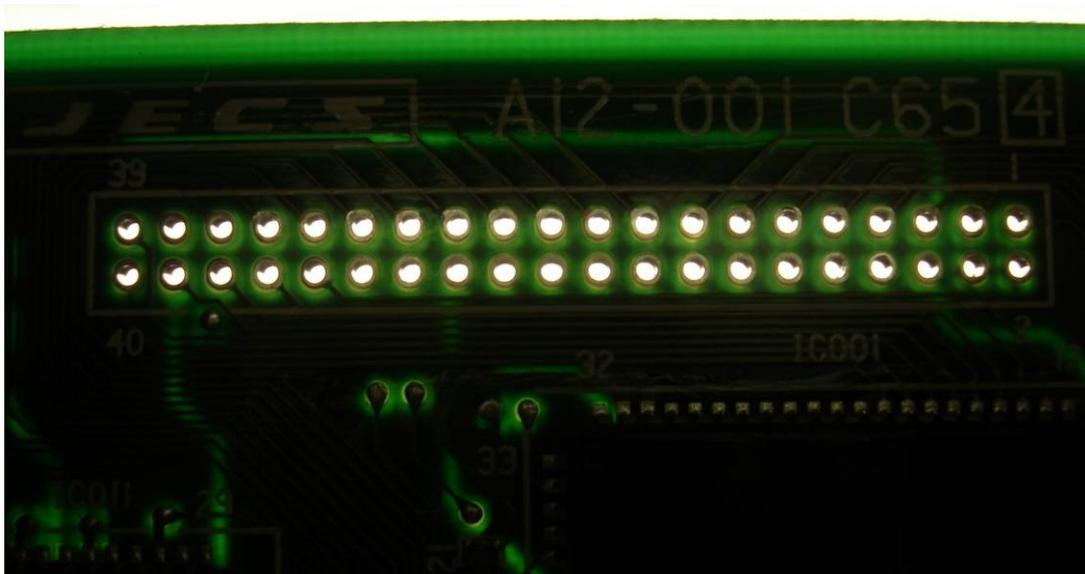
Using solvent or contact cleaner remove the coating around the 20+20 header area on both sides of the board and around the SMD jumpers (see later in document for photos).

- Remove solder from the pads



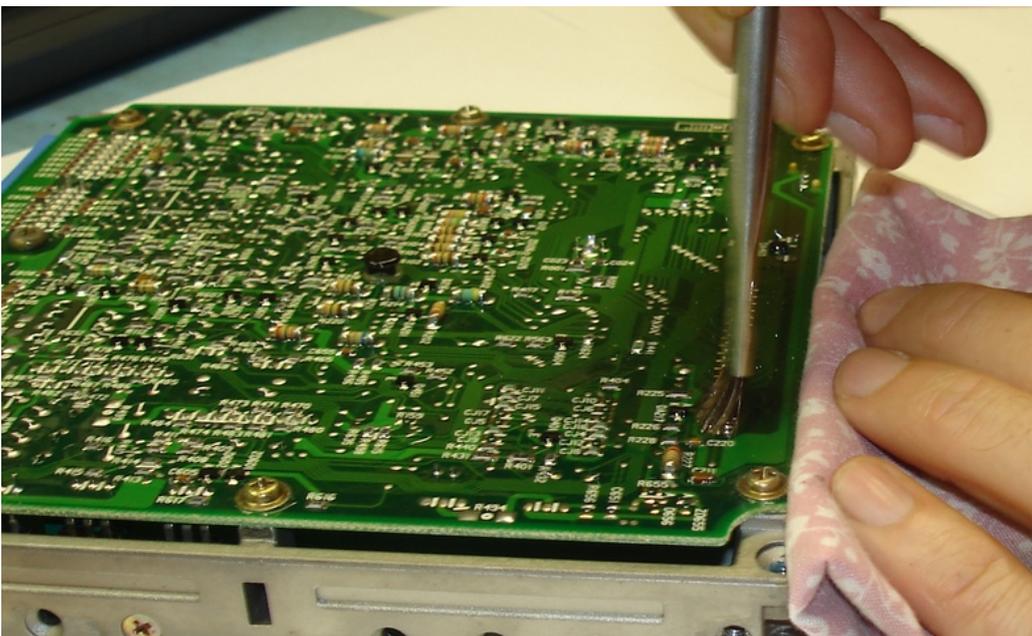
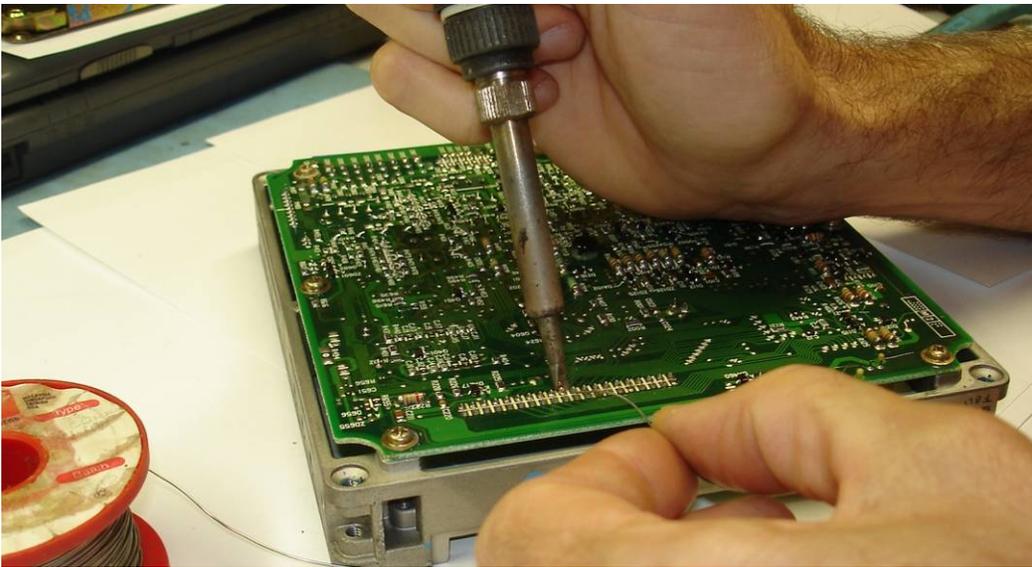
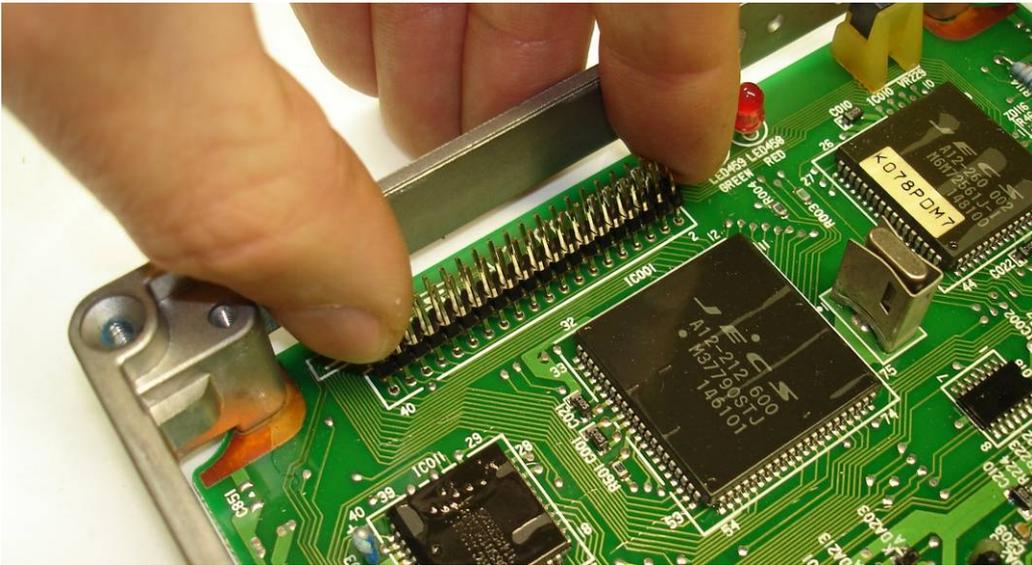
Tip : Be careful here. Don't attempt this unless you have the right equipment. It's quite easy to damage the board. Don't overheat the pads (about a second per pad is a safe maximum) or damage can easily result. If in doubt get somebody with the right equipment to do it for you. It's a 5 minute job so it shouldn't cost much.

- Check that holes are clear



Hold the ECU up to the light and check that all the holes are clear. If any holes still have solder in them do not try to clear them out using a drill bit! The boards are multi-layer and it is quite likely that an internal connection will be damaged.

- Fit the 20+20 header

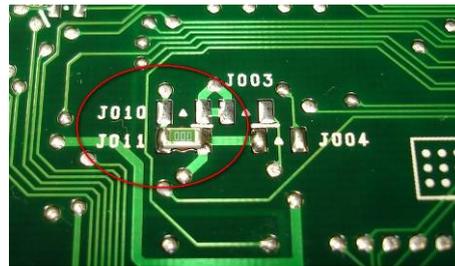
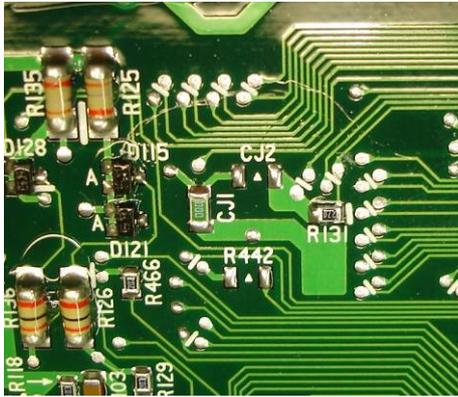


Clean off flux with acetone or similar solvent. Inspect solder joints.

2. CHANGE ECU JUMPER SETTINGS

Jumpers are used on the ECU to tell the microcontroller to read from either factory code (located in a memory chip on the ECU main board) or from the Nistune daughterboard. You will need to move the jumper on the ECU so that it will read from the Nistune board

The easiest way to move the jumper is to melt the solder on both ends at once by using the de-soldering iron one end and soldering iron the other. The jumper may be replaced with a small piece of wire if you want. Jumpers are on the rear of the ECU mainboard in most cases.



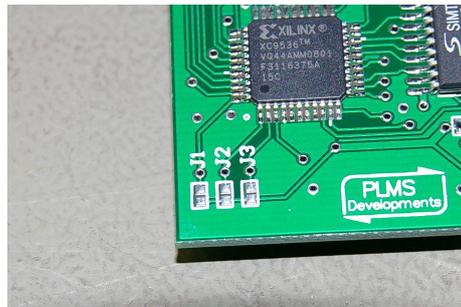
Model	Name	Engine	ECU Series	Jumper
S13	180SX	SR20DE, DET	52Fxx, 50Fxx	CJ1 > CJ2
S13	240SX	KA24DE	53Fxx, 54Fxx, 59Fxx	CJ1 > CJ2
W10	Avenir	SR20DET	95Nxx	CJ1 > CJ2
U12/13	Bluebird	SR20DET/KA24DE	79Exx, 1E0xx, 4E6xx, 3E6xx, 1E4xx	CJ1 > CJ2
S14	Silvia (early)	SR20DET	69Fxx, 74Fxx, 75Fxx	J011 > J010
B13	Sentra/NX2000	SR20DE	64Yxx, 67Yxx, 70Yxx, 71Yxx, 78Cxx	CJ1 > CJ2
			94Yxx	CJ1 > CJ2
N14/15	Pulsar	SR18DE, SR20DE	58Yxx, 68Cxx, 1N960	CJ1 > CJ2
RNN14	Pulsar GTiR	SR20DET	54Cxx, 69Cxx	CJ1 > CJ2
Z32	300ZX late	VG30DE(TT)	45Pxx, 51Pxx, 52Pxx	CJ1 > CJ2
			53Pxx	J001 > J002
J30	Maxima	VE30DE	97Exx	CJ1 > CJ2
P10	Primera	SR20DE	62Jxx, 70Jxx, 71Cxx, 77Jxx, OJ26x, OJ27x	CJ1 > CJ2
			83Jxx	CJ1 > CJ2
Q45	Infiniti	VH45DE	63Uxx, 67Uxx, 68Uxx**	J1 > J2

3. Nistune BOARD JUMPER SETTINGS

Solder jumpers on the Nistune board are used to select between different ECU types.

***** J4 “PGM” jumper is only used when programming the base image into the board and must always be removed before the board is fitted to the ECU or it will not run.**

Most users will not need to change these as the board will be set up at the factory. But tuners/dealers who buy bulk boards and then program the base images themselves will need to solder these jumpers after programming.



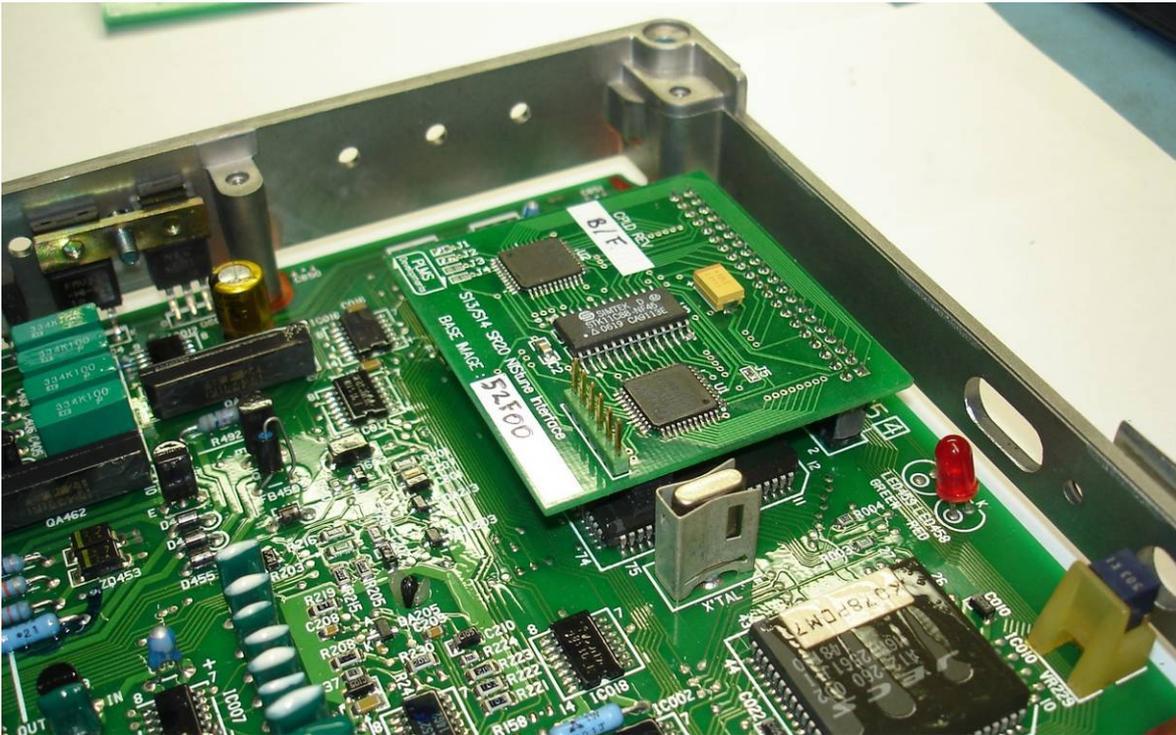
Model	Name	Engine	ECU Series	Jumper
S13	180SX	SR20DE, DET	52Fxx, 50Fxx	J1
S13	240SX	KA24DE	53Fxx, 54Fxx, 59Fxx	J1
W10	Avenir	SR20DET	95Nxx	J1
U12/13	Bluebird	SR20DET	79Exx, 1E0xx, 4E6xx	J1
U13	Bluebird	KA24DE	3E6xx, 1E4xx	J2+J3*
S14	Silvia (early)	SR20DET	69Fxx, 74Fxx, 75Fxx	J2
B13	Sentra/NX2000	SR20DE	64Yxx, 67Yxx, 70Yxx, 71Yxx, 78Cxx	J1
			94Yxx	J2 + J3*
N14/15	Pulsar	SR18DE, SR20DE	58Yxx, 68Cxx, 1N960	J1
RNN14	Pulsar GTiR	SR20DET	54Cxx, 69Cxx	J1
Z32	300ZX late	VG30DE(TT)	45Pxx, 51Pxx, 52Pxx, 53PXX	J2
J30	Maxima	VE30DE	97Exx	J1
P10	Primera	SR20DE	62Jxx, 70Jxx, 71Cxx, 77Jxx, OJ26x, OJ27x	J1
			83Jxx	J2 + J3*
Q45	Infiniti	VH45DE	63Uxx, 67Uxx, 68Uxx	J2**

* Important: Board must be marked 'CPLD Rev D/GA or later versions' to use this setting

** Important: Board must be marked 'CPLD Rev I/M' with NWP firmware

4. FIT BOARD TO ECU

Make sure that the socket on the board lines up correctly with the header pins.



5. FIT PACKING



Remove the self adhesive backing from the foam rubber strip and fit it to the lid so that the board will be held firmly in position once the lid is fitted. This is best done by sitting the rubber strip (sticky side up) on top of the Simtek chip which is in the middle of the board, and then carefully fitting the lid.

Congratulations – you now have a fully tuneable ECU!

Revision History

DATE	VERSION	DESCRIPTION	AUTHOR
Dec08	1.1	Initial	PL
Aug09	1.2	Added Jumper info for Z32	PL
Nov09	1.3	Added tables for jumpers + info for P10 83Jxx	PL
Apr10	1.4	Updated jumper info for 51Pxx series Z32 ECU	PL
Apr11	1.5	Updated jumper info for Z32 and P10 ECU's, added ECU part number info to jumper tables	PL
Aug11	1.6	Added info for U13 Bluebird KA24DE	PL
28Mar12	1.7	Merged in Z32 53PXX ECU information	MB
20Oct14	1.8	Added new part for U13 Altima KA24DE	MB
24Jan19	1.9	Added Q45 VH45DE 1993-1995 ECUs	MB

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