

FreeEMS Hardware Standards

0.1

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TAPR OHL

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Purpose

The purpose of this document is to ensure that hardware designed for this system is always compatible in terms of the core functionality and behaviour. This will ensure a consistent user experience and improve the overall quality and uniformity of the system.

It is anticipated that some special purpose board implementations will partially ignore this document, but also that those boards will not behave in the standard way expected of a compliant FreeEMS system.

Serial monitor

The FreeScale AN2546 Serial Monitor as delivered by Technological arts is required to be installed on the chip used in the standard way. This requirement is automatically fulfilled for anyone designing mother boards for the TA XDP Prototype card to live on. For those designing systems with the CPU on the board directly, the Serial Monitor will need to be installed using a BDM prior to shipping out to friends or customers. The s19 for this is available from the following URL :

<http:// ??>

Special function pins

reset pin – tied high

monitor pin – exposed switch pull up and series resistance!! (to prevent resets letting sm take control)

moda/b pins

other pins

Comms systems

serial and can, which ports, what hardware?

Power systems

regulators and circuits

input pin, which

sleep state etc.

Analogue inputs

filtering required

feature > pin mapping

RPM inputs

accumulators for nissan
primary
secondary

Fuel injector outputs

primary
staged

Ignition drive outputs

which pins, what sort of buffers, which master pin

Fuel pump control

which pin, same as master pin? Serial monitor pin state.

EXTRA STUFF

Idle control

which pwm pin?

Boost control

which pwm pin ?

Knock sensing

which format, which pin?