Free EMS "Cobra" Mainboard Concept

Because no current FreeEMS Mainboard design natively supports > 4 cylinder COP + full sequential injection (V8's get to play too!)

Mainboard

Mainboard to accept Adapt9S12XDP512M2 XGATE MCU Module

Main board to contain all low current I/O circuits

    Injector/Ignition I/O to be user populated up to 12 circuits each (logic level outputs only - use unused as user configurable I/O?)

Mainboard to terminate in right angle keyed/latched header to facilitate DIY custom main header boards

Through hole or larger SMD components only to allow home DIY builds

Replace serial DB9 with USB (Ethernet would be cool!, Wireless module support?)

Internal MAP for realtime Baro correction - Engine MAP sensor external only? Dual port sensor for both realtime and engine load?

Question - how to easily allow end users to change the dimensions for their PCB to fit different case requirements?

    Add trim zones?

Dual WB O2 sensor optional onboard - CAN bus or analog (via SLC OEM?)

Adapt9S12XDP512M2 XGATE MCU Module

Documentation

Order $115.00

Modular main header board.
Allows users to create thier own custom header PCB to suit their specific needs.
This would allow creation of vertical and horizontal plug-in options.

Focus of project.
New modular mainboard for MCU module.

Adapt9S12XDP512M2 XGATE MCU Module. Plugs into main board.

Communications header

User selected main header connector/s

Exernal module for high current devices and/or expanded I/O capability.
Low Z injectors, High current drivers, etc…
Includes CAN bus circuit. (jbPerf I/O?).
This is where the heatsinks live.

Right angle keyed/latched header to facilitate a modular header board. Pins will need to be able to handle up to 3 AMPS each for high Z injectors and medium current outputs.

Optional debug / stimulator board.
Plugs into mainboard header. Power inputs via raw or wall-wart.
(use jimstim with modified header?)