

# PFC Master

FDM-064XB Models A&B

**A complete ECU upgrade for the Apexi PFC**

## Overview & Price List



**All software & hardware designed exclusively for use with  
Apexi Power FC models S/N: PFC FD3S4 and above**

- Upgrades the PFC engine protection level to those on modern ECUs, including full knock protection.
- Can enable limp mode protection when the oil injection pump or any vital factory sensor/equipment fails.
- Performs logging, uploads and downloads map files
- Auto-tunes your fuel map without requiring a laptop
- Software knock filter eliminates all false knock events for reliable engine protection.
- 10 times faster than most other newer ECUs on the market
- Integrated powerful 2.9GHz processor, Bluetooth & Wi-Fi
- High quality HD IPS touch screen with dynamic brightness control, in an ultra slim unit
- Made using the highest industrial and automotive grade components
- Plug and play solution with 2 extra USB side ports and one micro SD slot
- Very easy to fit & set up. Basic upgrade takes less than 15 minutes to install!
- Includes virtual dash mode with voice assistant and MP3 media player
- Performs the fast editing functions of the original FC-Commander
- Strong & lightweight aluminium alloy casing. Fits into existing FC-Commander holders.
- Lifetime free firmware updates via either USB port or Wi-Fi
- Map switching function accessible from touch screen
- Boost switching function also accessible from dash touch screen
- Launch control auto-arming function
- True gauge boost reading corrects Apexi's negative boost error due to altitude
- May edit, load and save different skin color configurations
- Can select between SI and standard US displayed units for speed, boost and pressure
- Able to read from user defined extra sensors on I/O extender\* and protect the engine in real time
- Extra user programmable output switch port on I/O extender\*
- I/O extender\* is compatible with digital flex fuel sensors used to read ethanol fuel content

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## Introduction

The PFC Master model FDM-064XB is a complete ECU manager designed for RX7 APEXI Power FC models from serial numbers FD3S4 to FD3S9. All software and interface hardware have been developed by a fully qualified automotive electronics engineer with over 30 years of experience in this field, and is the first of its kind. It's the fastest and most compact ECU manager on the market.

Unlike all other ECU upgrades for the RX7, you do not need to throw away your Power FC or dismantle the factory wiring harness; in fact you do not even have to unplug your old ECU! The Apexi PFC has proved itself to be a very reliable ECU, and has still a lot of potential which can now be fully unlocked with this upgrade. The whole system is plug & play, with a single plug-in connection. The Apexi PFC is a very unique ECU, in that it enables another external more powerful processor to take over its functions and run in what is technically referred to as a 'slave mode', in which it basically obeys whatever the other processor, referred to as the 'master', commands it to do. Hence the name: PFC Master.

Unlike other ECU upgrades, the main PFC Master processor is integrated inside a compact full color HD touch screen unit as slim as the original FC-Commander. This eliminates a lot of extra wiring, resulting in a very clean installation.

**A single data cable and power cable are all that need to be connected. Both cables are included.**

\*An optional I/O Extender unit further enhances the PFC's engine protection capabilities utilizing extra sensors.

**PFC Master ECU upgrade for Mazda RX-7**  
Features real time engine protection, virtual dash, touch screen, data logger, launch control, map switching, voice assist, auto-tuning, and more...



**Model: A**  
(requires DL-340XB)

**Model: B**  
(Stand alone)

USB Connection to DL-340XB

Direct Connection to PFC

**The fastest, most compact and cost effective ECU upgrade for Mazda RX-7**  
For more information contact: [ingxborg@gmail.com](mailto:ingxborg@gmail.com)

PFC Master Model A or B



EXT-08XB I/O Extender (optional)

The PFC Master is available in two versions:

Version A: Terminated in USB cable to connect to an existing DL-340XB

Version B: Terminated in mini-din, direct connection to PFC

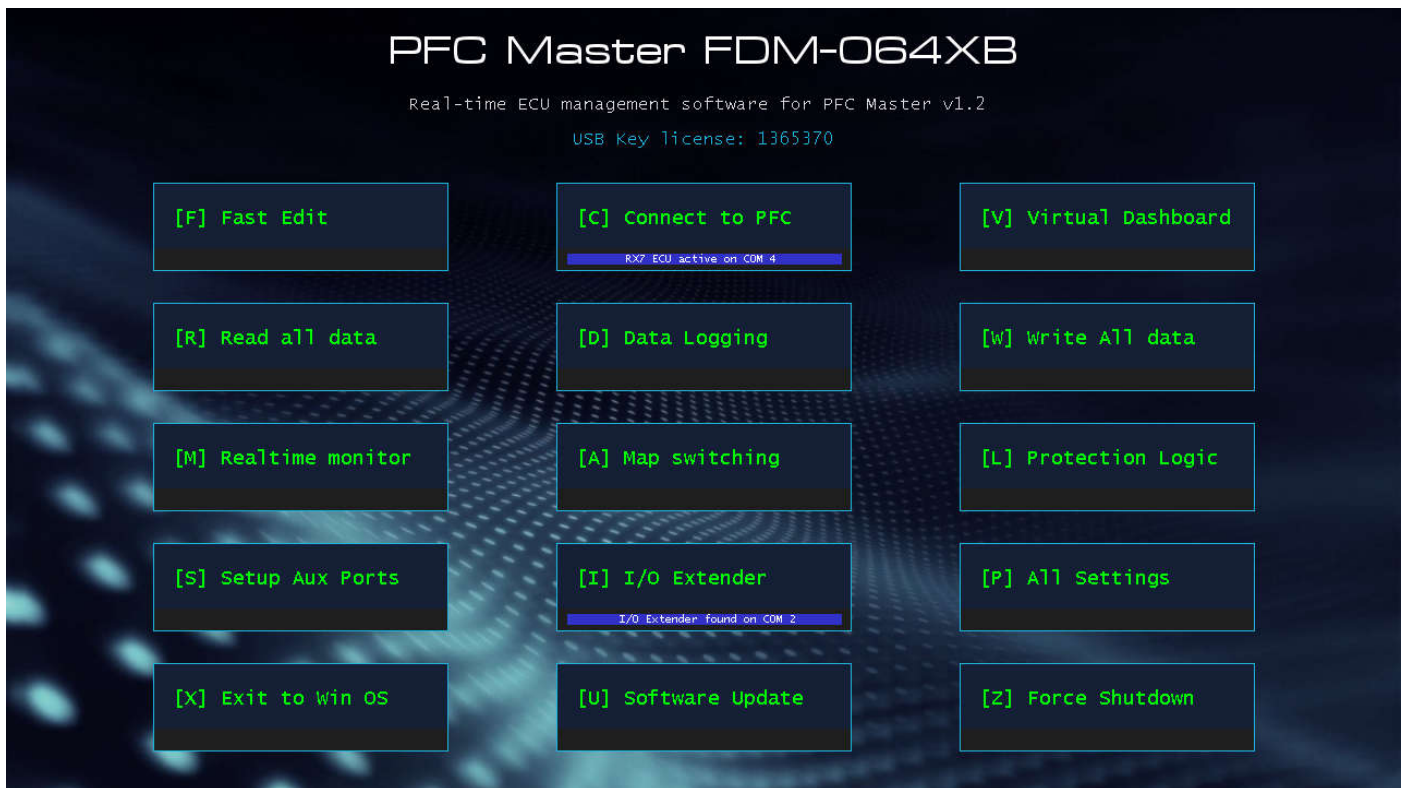
## Comparison between the PFC Master and other ECU upgrades:

Feature	PFC Master	Other newer ECU upgrades
Plug & Play solution	Factory wiring harness and existing PFC remain untouched.	Most other solutions require a totally new wiring harness, and throwing away a very reliable ECU.
High resolution LCD screen	Functions of the older FC-Commander are included on the PFC Master. It also gives real time measurements and warnings.	Most new ECUs require an external laptop in order to edit, view settings or tune them. Having no terminal, is a great setback, especially if you're used to have the FC-Commander.
Touch screen Commands	All commands and menus are comfortably accessed via its touch screen, giving the system a very modern look.	Most new ECUs use additional switch modules which require one to find enough space to mount them, and look pretty much out dated.
Fastest microprocessor, RAM and SSD CPU: 2.9GHz 4C, 4T, Intel 64 RAM: 8GB LPDDR4 1600MHz SSD: 128Gb Read speed 400Mb/s	The PFC Master uses a 2.9GHz 4C, 4T, 64 bit processor, designed for extremely low power dissipation, so it can run cool even without noisy fans. This speed allows the PFC Master to process a lot of graphic and multimedia applications in the background without any extra hardware.	Most new ECUs use much slower processor speeds in the range of a few 100MHz, which is enough for engine management but won't cope with any graphical interface. So, you would need to purchase additional costly hardware should you for example wish an LCD dash view, which is effectively included on the PFC Master.
No more laptops required for tuning	Logging sessions, tuning, uploading, downloading and map switching are all done via touch screen commands. A tuning laptop is no longer required.	All other ECUs require a laptop to run their tuning software on.
Map and boost switching while driving	Can switch between different tuned maps or switch between boost settings at a simple touch screen command.	Not all ECUs offer this function, with some using bulky 'cooker knobs' to change single parameters in a desperate effort to simulate map changes.
Voice assistant as your co-pilot	A voice assistant continuously monitors all engine sensor readings and warns you whenever anything is wrong.	This feature is not found on most other ECU upgrades.
Media player	The processor is fast enough to perform lots of other jobs in the background while managing your engine. It can play MP3 files from the micro SD or its internal SSD. It also takes care to fade out the MP3 music whenever the PFC Master needs to communicate a voice message.	Most other ECUs are too slow to perform any other job other than engine management. The PFC Master operates over 10 times faster than most aftermarket ECUs on the market.
Perfect fitment into existing FC-Commander holders	Designed to fit the same holder, so no need to worry about finding a proper mounting location.	Most hardware on other ECUs is generic, not particularly meant for the compact FD RX7 interior, so mounting new hardware in these cars is always a problem.
Easily add ANY type of sensor from built in sensors list.	You are free to choose your own sensors brand & supplier, the I/O extender module is compatible with all 0-5v analog controllers, resistive sensors, and digital flex fuel sensors.	Some ECUs may require costly sensors from a particular brand.
Safe to connect/disconnect the PFC Master with PFC powered on	Nothing wrong happens if the PFC Master is disconnected during operation. The Power FC will revert to its normal non-upgraded mode should this ever happen.	Not applicable.
Optional Input/Output port extender EXT-08XB sampling speed	1000 samples/sec make all sensors channels suitable for engine management.	Most brands do not even specify the sampling speed of their extenders, simply because they are too slow to be of any use for engine management. We found that most of them operate at about 100s/sec, which is 10 times slower than the PFC Master's extender unit.
Auto-correct timing and fuel as required to protect your engine.	The PFC Master can take real time corrective actions which can save your engine. No complicated settings.	Some new ECUs require manual intervention and only give a visual warning when something goes wrong. While others are too complicated to setup for the average user.

## Main menu

From the main menu you have direct access to any of the main functions.

You can either select commands directly using the touch screen, or connect a USB or wireless keyboard and use either keys or mouse pad to navigate.



## Virtual Dashboard

The PFC Master can be set to automatically boot up on this virtual dash screen as soon as you turn the key on. When on this screen, the PFC Master will be scanning all sensors and protecting the engine in real time.



The Virtual Dashboard is the main page from which the PFC Master performs all the following tasks:

- Scans in real time all PFC sensors & the optional I/O extender channels
- Displays readings in both digital and bar graph formats
- User selectable SI or standard US units for speed, boost and temperature
- Holds peak values for each reading
- Highlights any abnormal bar graph readings in red
- Displays a fast response, smooth moving rev meter for engine speed
- Communicates any warnings via its voice assistant, through your audio unit
- Indicates the triggered engine protections (ignition trim, fuel trim, limp mode)
- Indicates any I/O Extender channels warnings
- Indicates status of user defined output switch port
- Shows the status of all switches & solenoids connected to the PFC
- Controls the built in MP3 Media player and shows track number and track name
- Switch between pre defined maps from touch screen
- Boost switching function also accessible from dash touch screen
- Launch control can be enabled in auto-arming mode
- Activates and displays all engine protection actions
- Displays ethanol content in fuel if equipped with a flex fuel sensor
- Can set your own user preferences to customize your unit
- Link directly to the I/O extender channels page, map switch page or to the engine protection page

When the engine is turned off, the PFC Master will automatically shut down from Dashboard mode and power off.

## Real time data monitoring



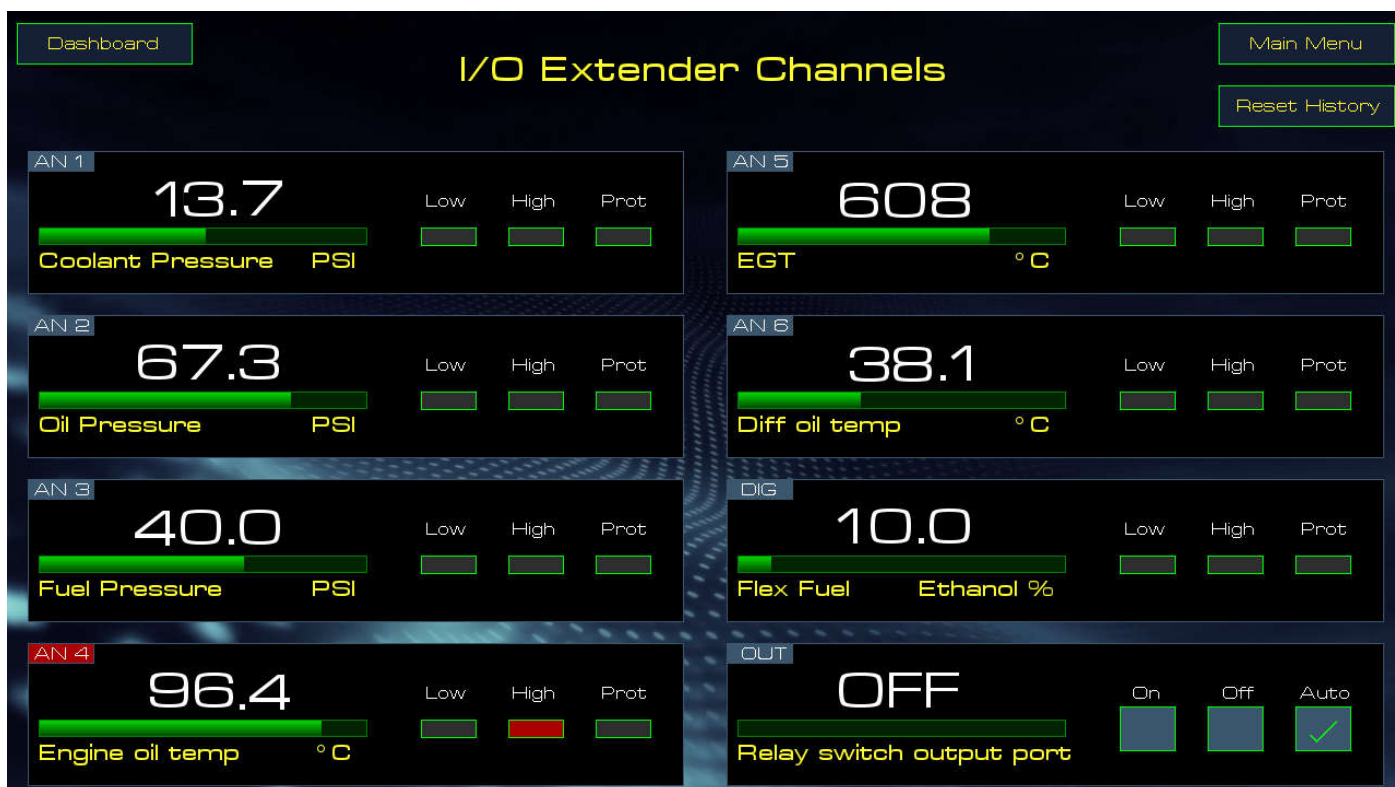
This mode shows all data scanned by Power FC's internal logger. All data is shown in real time, in both numeric and bargraph modes. A map tracer also shows the map cell currently in use by the ECU.

## PFC O2 input and I/O extender ports setup

If you have the I/O extender module connected, you will also be able to configure all sensors from the same menu.



All I/O Extender readings will be shown in their respective units on the I/O Extender monitoring page.



Any alarm generated from these sensors will be communicated to you on the main dash screen.

## Protection Logic Settings

On this page one can enable and configure the alarm threshold values for the stock knock sensor and all extra sensors connected to the I/O Extender module. Note that all of the Power FC built-in engine protections remain active, so these are the additional protections. Threshold limits, ignition and fuel trims for each sensor can be edited from this screen.

Port	Sensor	Limit	Value	Enable	IG	FI	Lp
AN1	Coolant Pressure	Low	10 PSI	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
AN1	Coolant Pressure	High	17 PSI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AN2	Oil Pressure	Low	5 PSI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AN2	Oil Pressure	High	120 PSI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AN3	Fuel Pressure	Low	35 PSI	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AN3	Fuel Pressure	High	45 PSI	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AN4	Engine oil temp	Low	75 °C	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AN4	Engine oil temp	High	100 °C	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AN5	EGT	Low	0 °C	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AN5	EGT	High	910 °C	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AN6	Diff oil temp	Low	0 °C	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AN6	Diff oil temp	High	120 °C	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
DIG	Flex Fuel	Low	4 E%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DIG	Flex Fuel	High	20 E%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PFC knock sensor threshold (dB)				59	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Short term knock trim decay (ms)				500	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Short term knock hysteresis (ms)				500	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Triggered Protections  
IGN Correction: [0] Fuel Corr: [1.000] Limp mode: [ ]

You may enable either low or high limit monitoring or both and select the kind of engine protection actions which the PFC Master will apply when limits are exceeded.

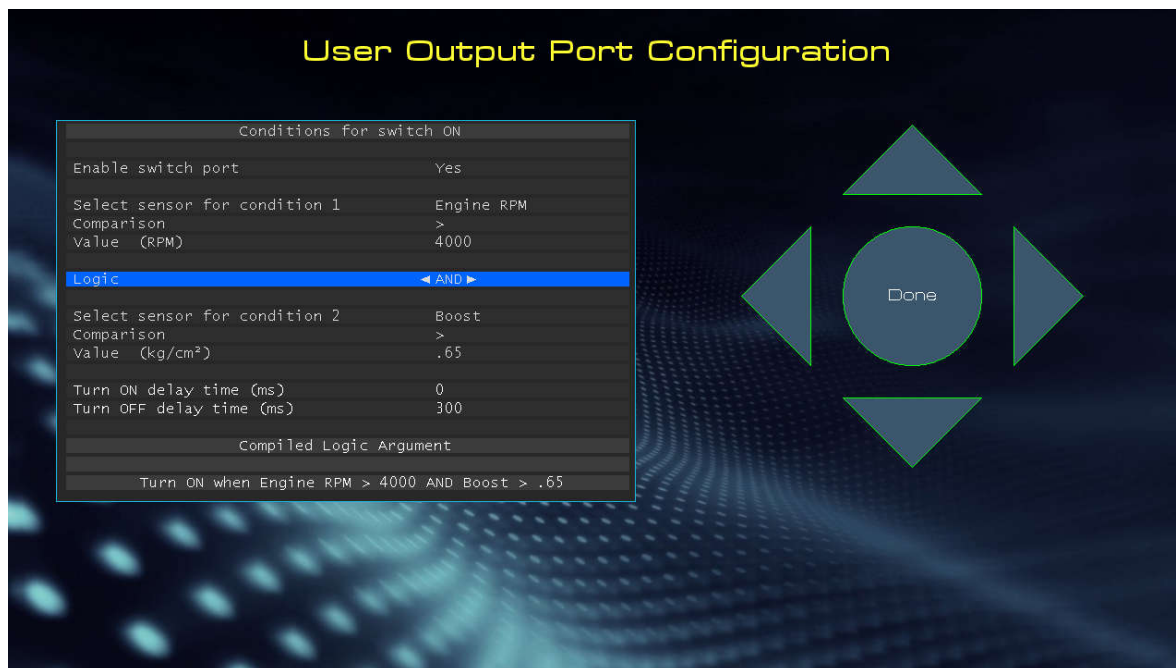
## OE Equipment faults protection logic Settings

OE hardware	Reading	Monitor	Limp prot	Fault
Boost MAP sensor	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
TPS full range	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TPS narrow range	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oil metering pump	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Coolant temp sensor	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intake temp sensor	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fuel temp sensor	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Crankshaft sensor	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Knock sensor	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

On this page one can enable and configure the monitoring and limp mode protection whenever any of the vital factory sensors or other factory hardware equipment fails. The I/O Extender is not required for this feature since all factory sensors are already connected to the PFC.

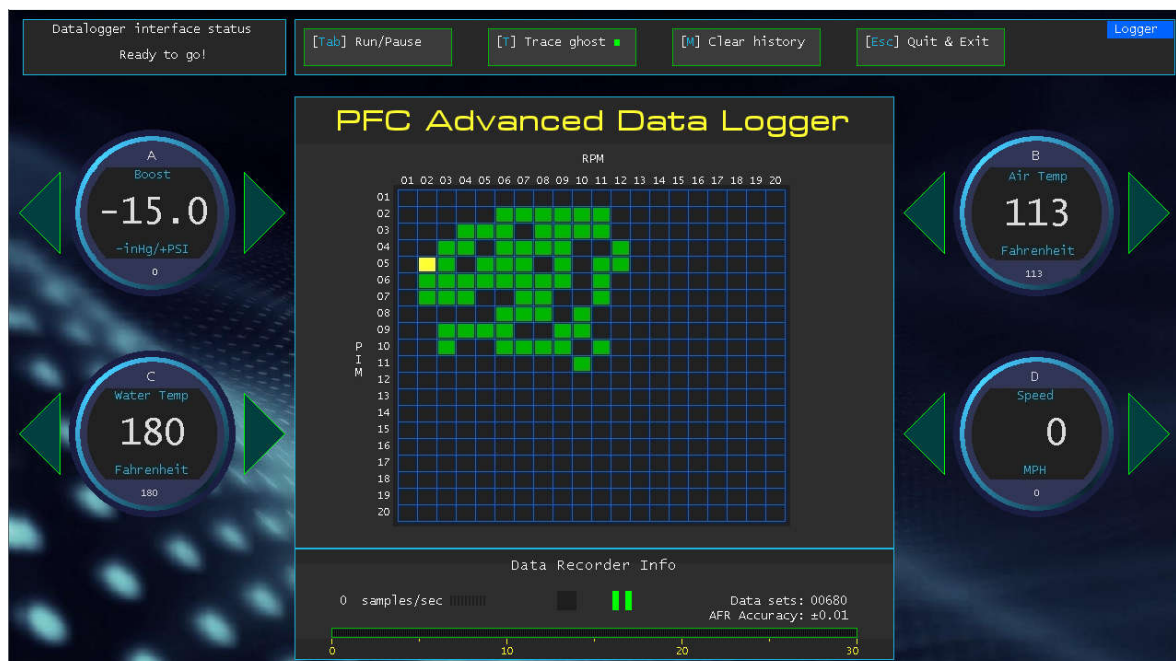
## User Output Port Configuration

On this page you can set the logic controlling the generic relay switch available on the I/O Extender unit. One can define either one or two conditions.



## Real time data logging

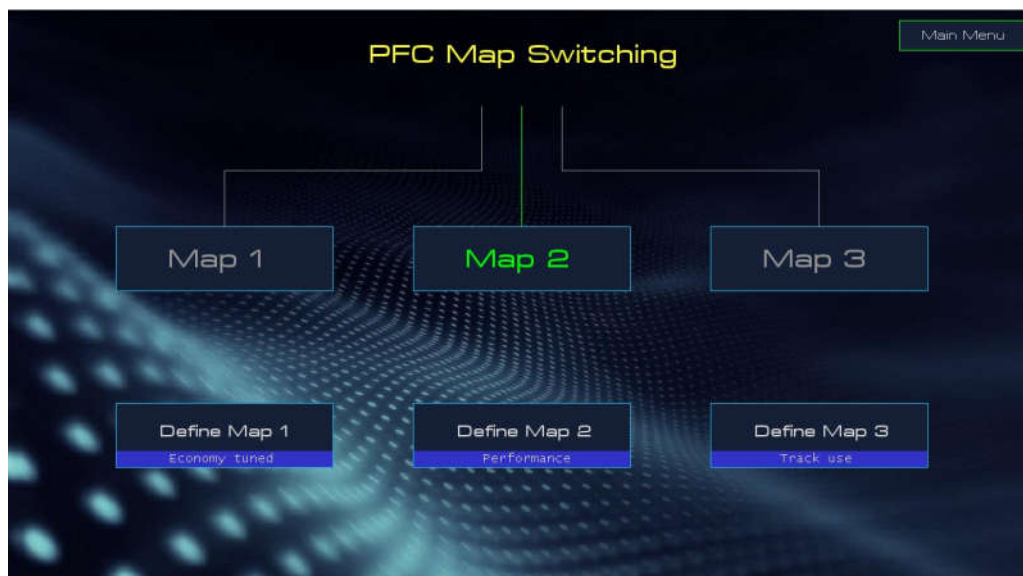
This mode is a fast and reliable data recorder which generates a log file of the driving session, to be used by a tuning software such as FC-Tweak. This built-in function eliminates the requirement of having a laptop in your car to perform logging.



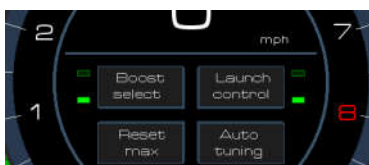
Any warnings are communicated to the driver through the voice assistant, which will inform you if anything goes wrong with the logging session.

## Map Switching

From this screen you can define & switch between 3 pre defined stored maps residing in the Datfiles (maps) folder.

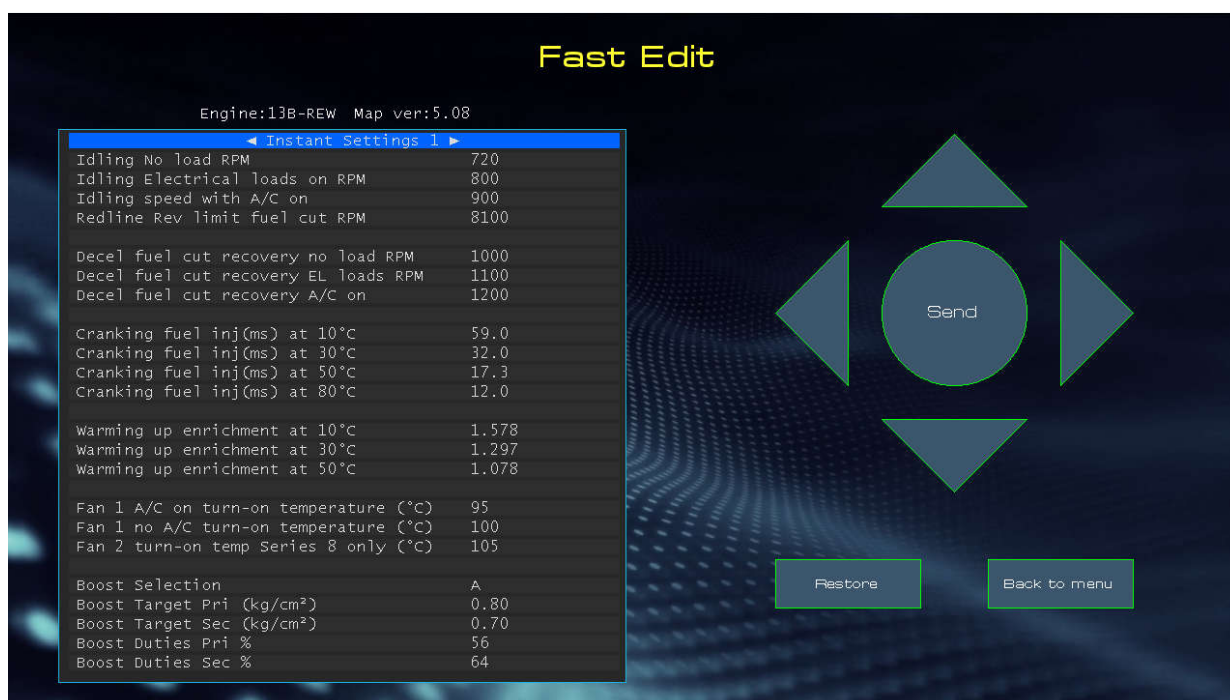


## Boost Switching



Boost switching may be done at any time from the main dash screen.

## Fast Edit mode

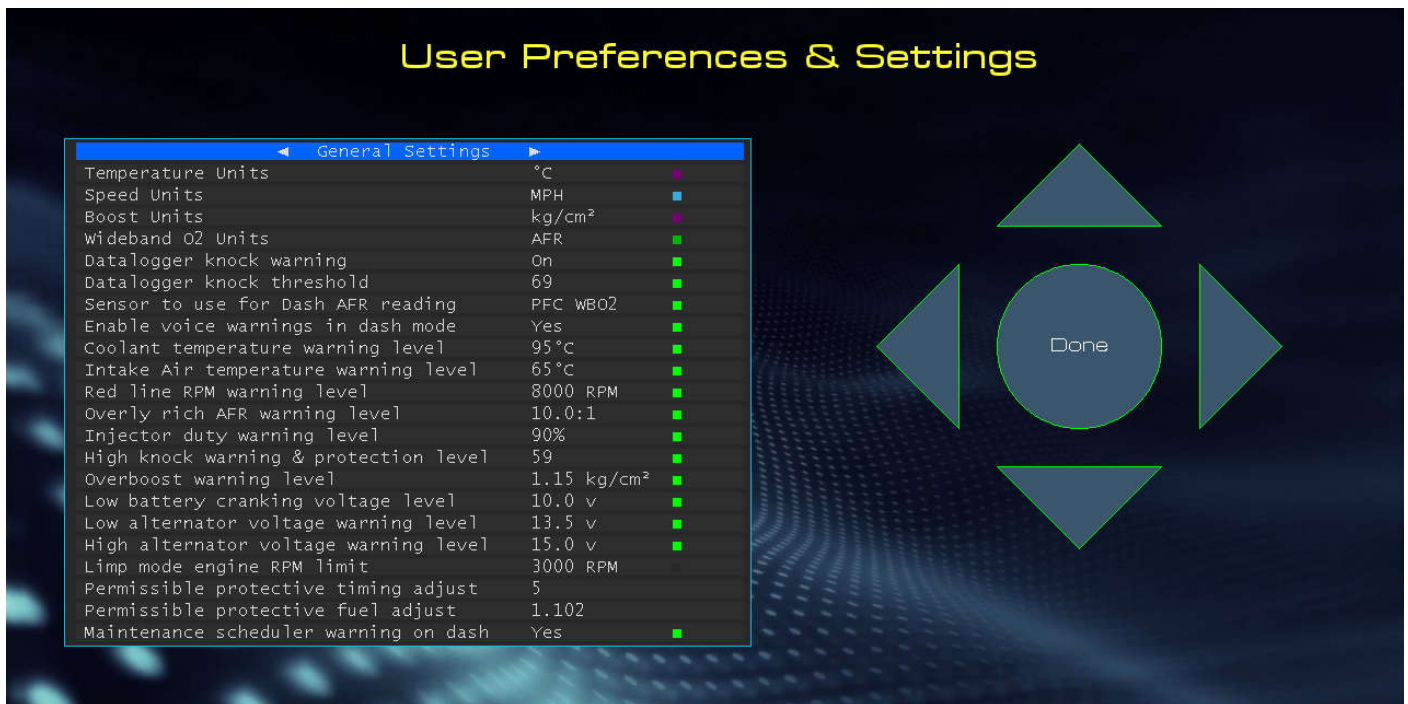


Fast Edit mode allows one to instantly change settings in the Power FC without editing the file. Changes will be directly written to the ECU just like the FC-Commander.

## User Preferences & Settings

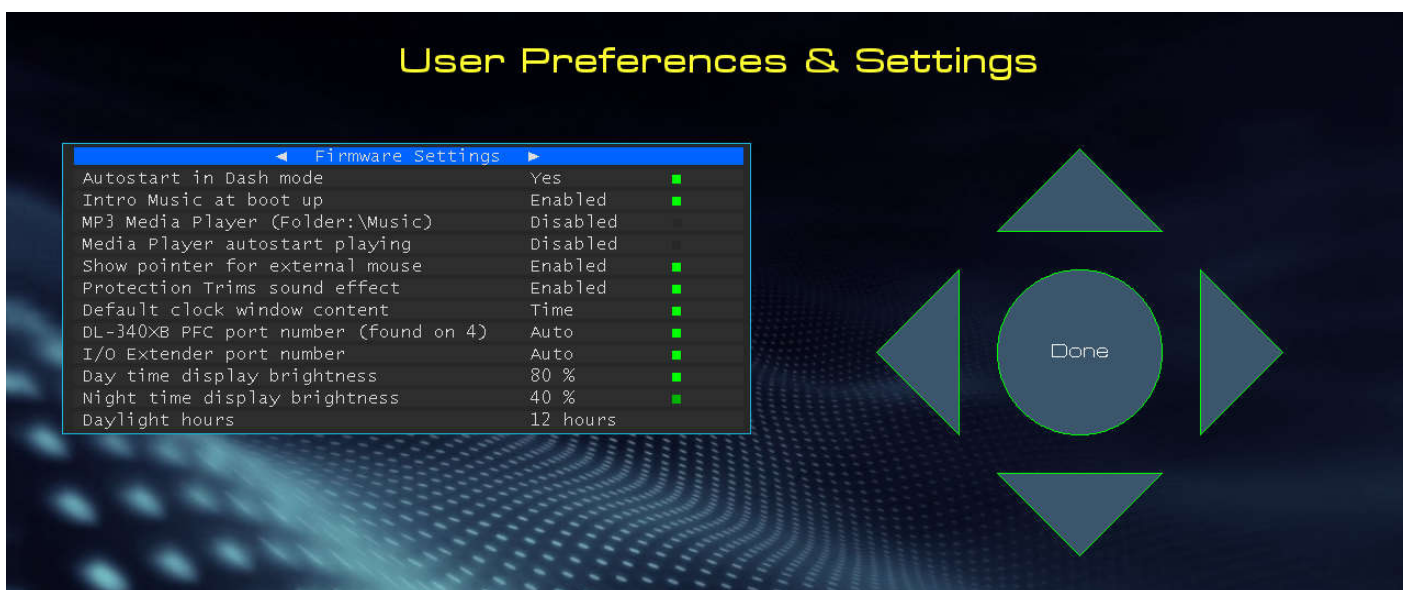
### General Settings:

On this page you can set various program preferences and voice alarm limits for the PFC's input sensors.



Temperature, Speed and Boost units can either be displayed in SI units or in standard US units.

### Firmware Settings:



Firmware settings can also be customized according to your preferences.

## Full knock control capability

It is a well known fact that the Apexi PFC in its original form does absolutely nothing to protect the engine from high knocks and it would simply momentarily blink a dash warning lamp when it happens, without taking any further action at all. Also, the PFC lacks any sort of signal filtering and can be very sensitive to other background noise, so its knock reading is also very unreliable. The PFC Master adds the long awaited knock control to the Apexi PFC.

The PFC Master adds accurate, full knock control to the Power FC just like top of the range aftermarket ECUs, and gives you the options to fine tune this ability to your particular setup.

There are two types of knock control strategies working simultaneously on the PFC Master:

- (a) Short term knock control : which acts in closed loop on instantaneous levels of knock
- (b) Long term knock control : which act on previously learnt knock behaviour of each map cell

The PFC Master corrects the ECU maps by trimming both timing and fuel in real time.

## Short term (closed loop) knock control function

The short term trims are your first line of defence against knock greatly reducing the chances of permanent engine damage when knock occurs.

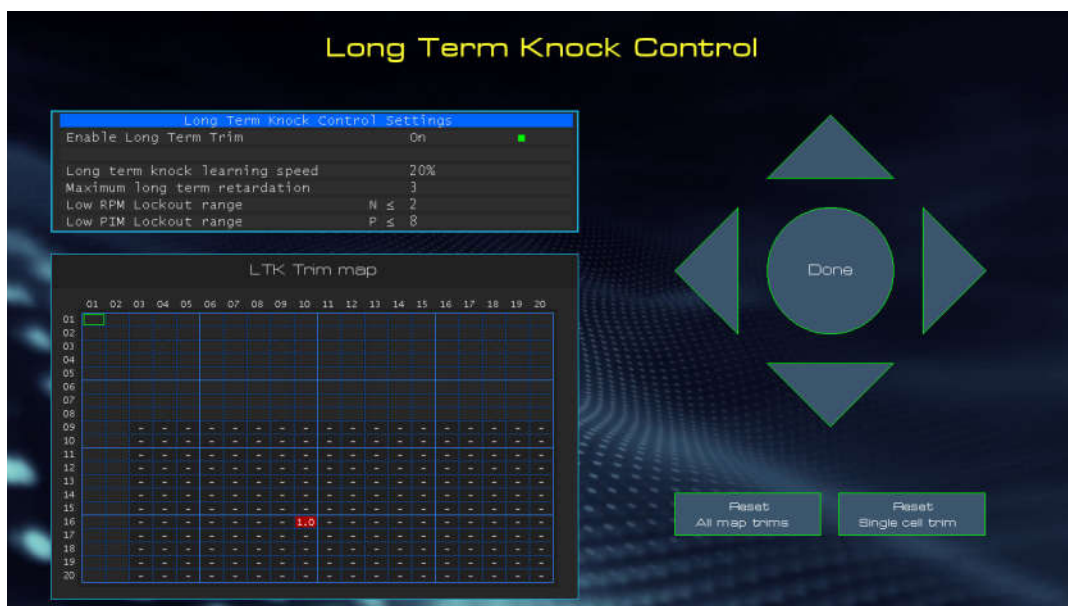
### Enable Knock Protection

PFC Knock sensor threshold	(dB)	◀ 60 ▶	■	■	■
Short term knock trim decay	(ms)	500			
Short term knock hysteresis	(ms)	100			

## Long term, self learning knock control function

Long-term trim ensures that in the case that the tune was incorrect, even if a single cell has too much advanced timing or is too lean, the PFC Master will keep note of that cell on its internal Long Term Knock (LTK) table and prevent knock from ever happening again on that cell. The PFC Master has the ability to prevent knock from happening by retarding timing on the defective cells.

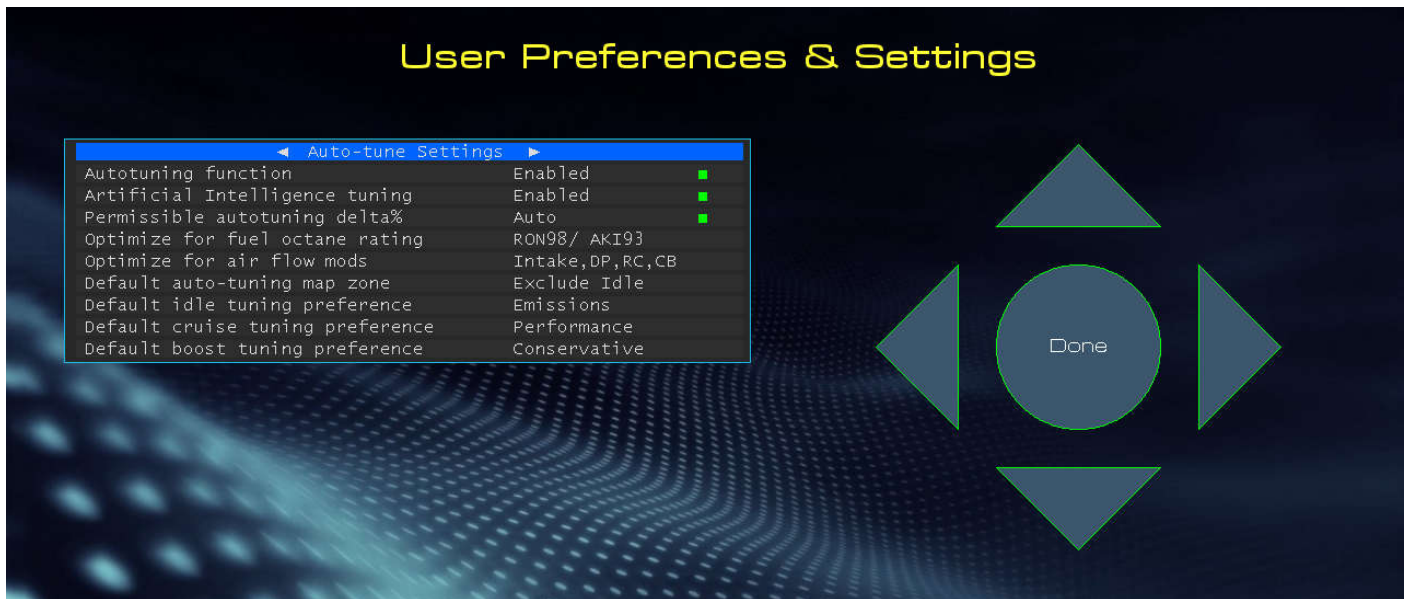
The screen shown below is the main Long Term Knock Control page.



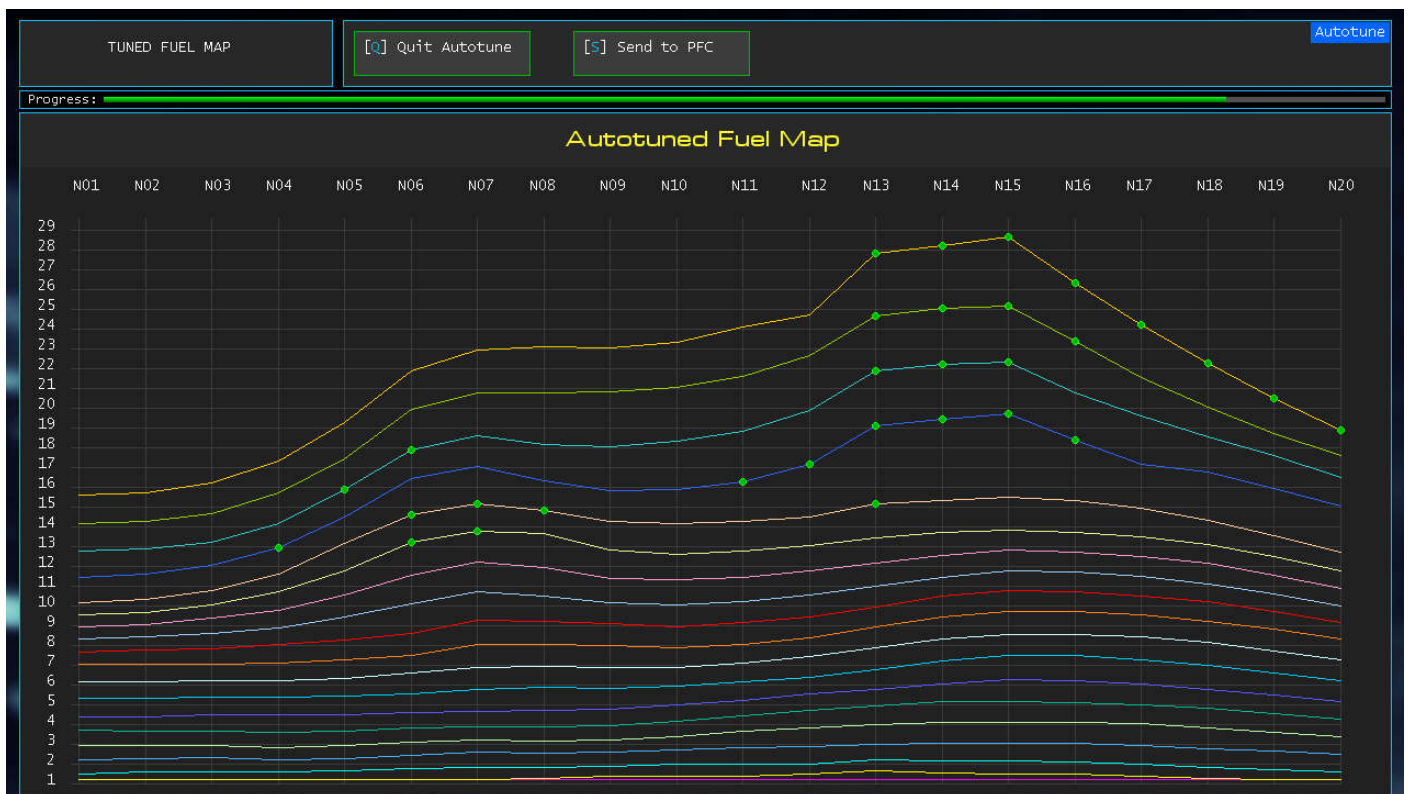
On the displayed LTK Trim map, you can see the learnt trimming map, showing the amount of degrees the ECU will retard whenever it's on a cell with a high knock history. Any cells which have such history are highlighted in red.

## Auto-tuning function

The PFC Master is able to auto tune your fuel map based on real time AFR data captured by your wideband O2 kit. This will completely eliminate the requirement of a laptop for logging and/or tuning. Everything is now done on the spot through the PFC Master. The user is also free to adjust the fuel tuning preferences for idling, cruise and boost zones. It is also possible to auto-tune one particular zone without modifying the rest of the map.



Once the PFC Master has gathered enough data during the driving session, it will auto tune the existing fuel map, and lets you preview the new auto-tuned map.



The modified cells will be highlighted so that you may easily observe the changes which took place. Tapping on 'Send to PFC' will permanently write the new auto tuned map to the ECU and instantly start to enjoy your safe tune!

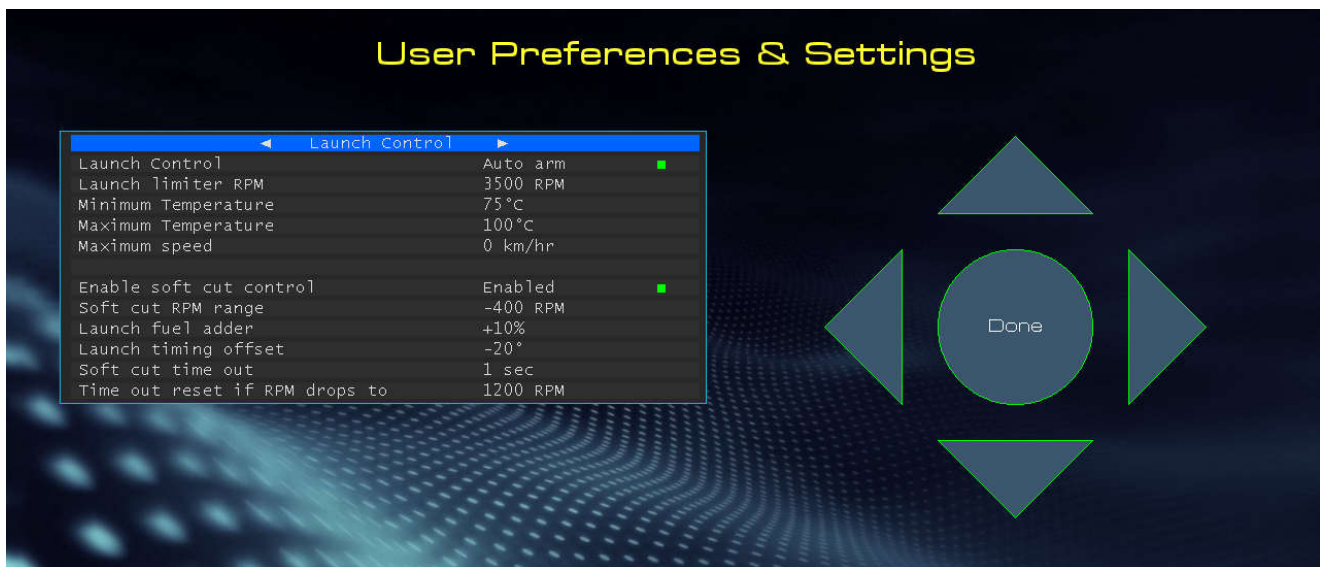
## Two step Launch Control

Launch control is used to produce the maximum amount of power and traction for a vehicle to accelerate from standstill as quickly as possible. It's used to assist drivers of both street and racing cars. As the name suggests, a two-step rev limiter locks the engine speed at two points: one being the conventional redline and the other set at a particular engine speed where your combined car setup makes its best launch, effectively delivering the optimal power to the road from standstill.

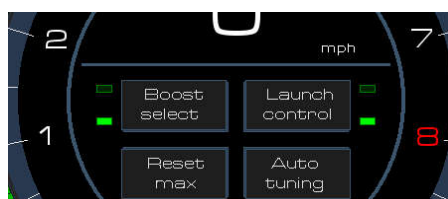


Such function is commonly achieved using aftermarket hardware add-ons, but the PFC Master activates this function with no need for any additional hardware or wiring. It uses the factory clutch switch, vehicle wheel speed sensor and other engine parameters which are already connected to the PFC, in order to provide predictable and repeatable control of engine speed (RPM) and engine power during launch. This is done by adding a second programmable RPM limiter and giving the user the ability to adjust engine timing and fuel during launches.

### Setting the Launch Control parameters



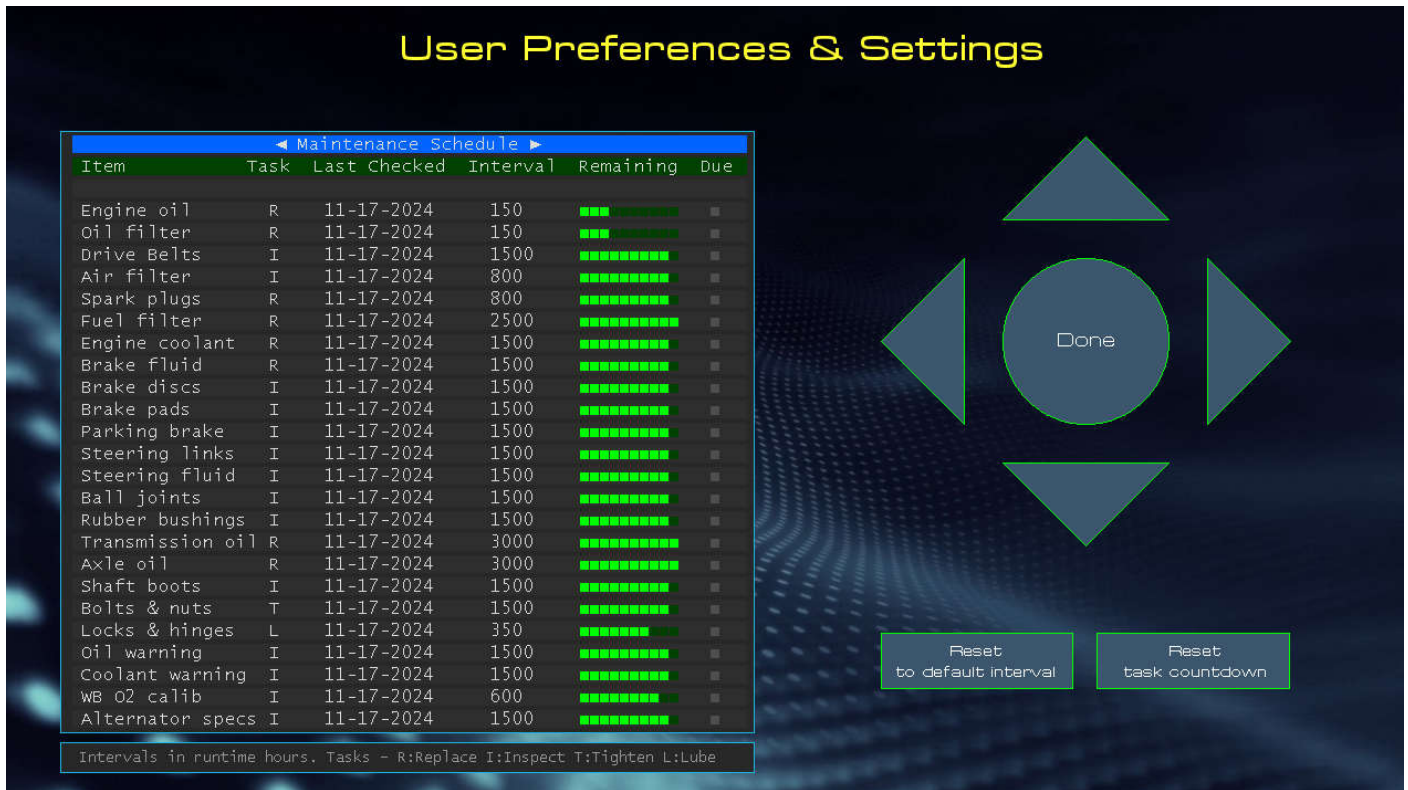
By setting these parameters correctly and with a little practice, you will be able to master consistent and powerful launches. Soft cut control (sometimes also referred to as antilag launch control) helps to build up boost during launch. This will further increase the available torque once the clutch pedal is released.



All settings are permanently stored on the PFC Master, and launch control can be enabled directly from the dash mode screen.

## Maintenance schedule organizer

From the Maintenance schedule menu, you can program maintenance interval times in engine running hours for each task, and get a notification on your dash when any of the tasks is due.



When the maintenance is performed, simply tap on the 'Reset task countdown' button, and the counter will be reset to the value defined on the interval column.

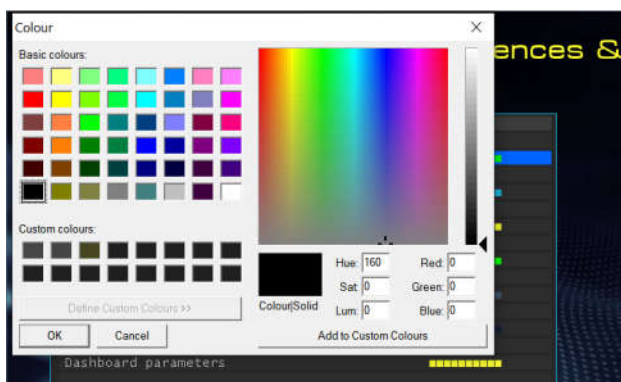
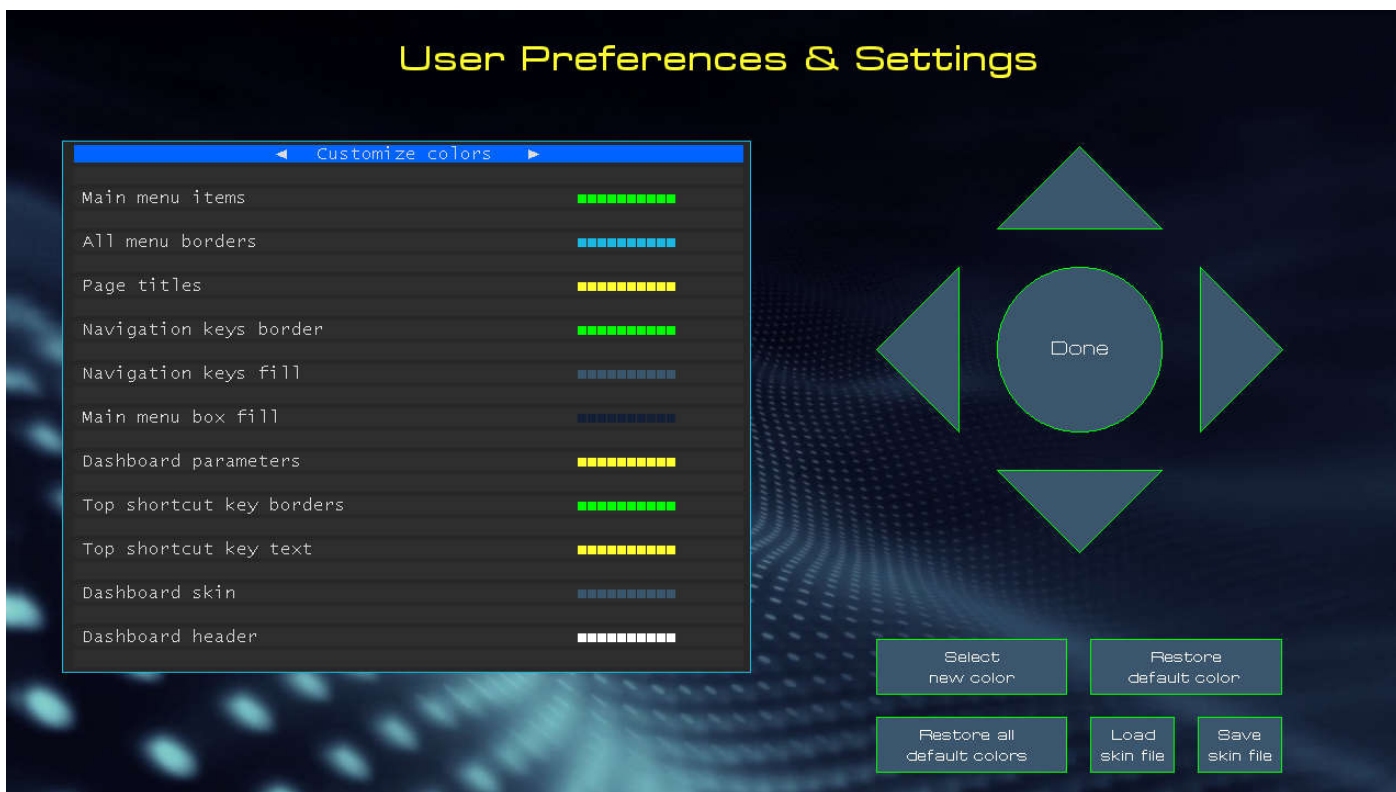
The 'Reset to default interval' button will replace the interval value by a default recommended value.



When any of the tasks is due, the 'Due' indicator will light up for that particular task and a warning sign will pop up on the dash screen. Clicking on the warning sign will get you directly to this page.

## Customize user interface color combination

From the Customize colors menu, you can customize each item on the user interface to your favourite colors.



You may also save different color combinations and load them at any other time.

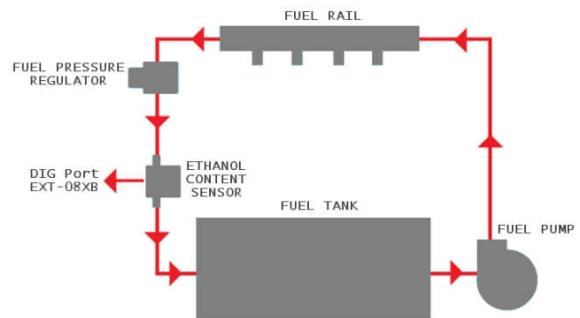


## Flex Fuel capability (requires I/O Extender)

The PFC Master can transform your RX7 to a flex fuel vehicle able to run any blend of gasoline and ethanol. It adjusts fuel & timing in real time according to the ethanol content flowing through the fuel system. E0 denotes a fuel with zero ethanol content while E100 denotes 100% ethanol. Unlike fossil fuels, ethanol is derived from plants, has a high octane rating, it's cheaper, renewable and clean-burning. Burning an ethanol blend as a fuel often allows one to run higher compression ratios, add more boost and increase ignition timing, thus achieving more horsepower safely.



Flex Fuel composition is monitored by the PFC Master by connecting any standard GM Flex fuel digital sensor directly to the DIG port of the optional I/O Extender module. This system gives full flex fuel capabilities to the Power FC.



## Flex fuel control configuration page

### User Preferences & Settings

◀ Flex Fuel Config ▶	
Enable Flex Fuel DIG input	Yes <span style="color: green;">■</span>
Enable Flex Fuel management	Yes <span style="color: green;">■</span>
Flex fuel sensor sampling interval	1/10 sec
Stop reading sensor above RPM	3000
Fuel compensation at 100% Ethanol [Def=+63]	+63%
Timing addition at 100% Ethanol [Def=+5]	+5°
Fuel Map Baseline Ethanol content	8%
Fuel compensation fallback (faulty sensor)	+50%
Timing addition fallback (faulty sensor)	+0°
Sensor Monitoring & Map Trims	
I/O Extender status:	OK <span style="color: green;">■</span>
Ethanol sensor status:	OK <span style="color: green;">■</span>
Ethanol fuel content:	79%
Fuel Multiplier:	x1.426
Timing adder:	4°

## Software update

The PFC-Master can search and download the most recent firmware from either an internet Wi-Fi connection or a USB drive.



## The EXT-08XB I/O extender module (optional)



This unit enables the PFC Master to monitor extra sensors to further improve the engine protection capability of the Power FC. Using this little module, you can connect up to 6 analog (or resistive) sensors, a digital flex fuel sensor and also have a user configurable output switch port. The EXT-08XB unit has an **exceptionally fast sampling rate of 1000 samples/sec** so it's used by the PFC Master for real time engine management.

Some common sensors which may be connected to the optional I/O extender unit are:


- Flex fuel digital sensor, gives the ability to automatically adjust the PFC map for different ethanol content
- Coolant pressure sensor: faster acting than coolant temp sensors when a coolant system failure occurs
- Fuel pressure sensor: immediately protect the engine in case of clogged fuel filter or pump malfunction
- Engine oil pressure: can avoid engine damage if an oil delivery failure occurs
- Engine/ Diff/ Gearbox oil temp sensors: avoids damage resulting from ineffective oil lubrication
- Exhaust gas temp sensor or EGT amps: avoids engine and turbo damage when exhaust temp is beyond limits
- Exhaust back pressure: avoids power loss and excessive fuel consumption

Pre terminated sensor cable lengths are available, manufactured at various lengths. These have to be ordered separately.



Its power connector fits directly into the power harness supplied with the PFC Master, so it's a plug and play unit. Just route the sensor cables to their respective sensors and power up.

# Price list (prices include worldwide shipping)

We ship worldwide by 

**PFC Master FDM-064XB** **Model A: USD 1450** **Model B: USD 1600**

PFC Master ECU upgrade for Mazda RX-7  
 Features real time engine protection, virtual dash, touch screen, data logger, launch control, map switching, voice assist, auto-tuning, and more...



Model A (requires DL-340XB) Model B (Stand alone)

USB Connection to DL-340XB Direct Connection to PFC

The fastest, most compact and cost effective ECU upgrade for Mazda RX-7  
 For more information contact: [ingxborg@gmail.com](mailto:ingxborg@gmail.com)

This is the PFC Master main processing & display unit.

Pre-terminated data cable & power cable included.

Includes special adapter to connect directly to the RX7 internal fuse box.

It comes with all software pre-installed.

Note:

Model A requires a DL-340XB USB interface to connect to the PFC & WBO2.

Model B connects directly to the Apexi PFC port & includes a WBO2 noise filter

Both models are functionally exactly the same, and are both able to use wideband O2 data from any AFR sensor kit to auto-tune your engine.

**Optional I/O Extender EXT-08XB (includes power cable, USB cable & 8 port cables)** **USD 420**



This optional unit enables the PFC Master to monitor extra sensors to further improve the engine protection capability of the Power FC. Using this little module, you can connect up to 6 additional analog (or resistive) sensors, a digital flex fuel sensor and also have a user configurable output switch port to control external devices. A 1.5 metre USB cable to connect it to the PFC Master is included. Eight 50cm long sensor cables are also included. Other lengths are also available.

**Extra pre-terminated shielded sensor cables for the I/O extender option** **Various lengths available**

High quality shielded cables, pre terminated in gold plated connectors with a terminal block for easy connection to any sensor.



Pre-terminated lengths are available:

**50cm: USD 7.50**      **1m: USD 8.00**      **2.0m: USD 9.00**      **3.0m: USD 10.00**

To order contact [ingxborg@gmail.com](mailto:ingxborg@gmail.com)

Payments are done through  'Goods and Services' secure payments option