POWER-FC

APEX FULL COMPUTER UNIT

Instruction Manual

Thank you for purchasing this unit.
Please read this manual to ensure proper use of this product.
Also, be sure to keep this manual in a safe place for future reference.
Be sure to include this instruction manual when transferring ownership of this product.

Please note:

THIS PRODUCT SHOULD HAVE BEEN PURCHASED FROM AN OFFICIAL APEX POWER EXCEL SHOP. ALTHOUGH A BASE PROGRAM HAS BEEN PROVIDED TO START A FACTORY ENGINE, PROGRAMMING FROM AN OFFICIAL APEX POWER EXCEL SHOP IS REQUIRED FOR THIS PRODUCT TO WORK PROPERLY ON YOUR APPLICATION. THIS IS NOT A PLUG AND PLAY UNIT AND DOES REQUIRE PROFESSIONAL TUNING TO PROPERLY OPERATE YOUR ENGINE.

Product Name	POWER-FC
Product Code	Below（Table 1）
Vehicle	Below（Table 1）

This product is meant for the following vehicles

● Application Chart

Product Code	Vehicle	Type	Engine Type	Notes
414-H001	Civic EX, Integra GS-R	EJ8, DC2	D16Y8, B18C1	1996-98 M/T

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Safety Precautions

Please be sure to read the Safety Precautions
Please keep this manual in a readily accessible location for future reference

● Signal Words and their Meanings

We have included warnings throughout this manual to protect both the user and others from harm and injury.
These key words are called "Signal Words"
Please carefully read the cautions before reading the rest of this manual.

● Explanation of Signal Words

DANGER	Failure to obey this warning will likely result in DEATH or severe injury to the user and third parties.
WARNING	Failure to obey this warning may cause DEATH or severe injury to the user and third parties.
CAUTION	Failure to obey this warning will likely result in injury to the user, product damage, or damage to the surrounding area.

■ Safety Precautions

CAUTION

● **Never install this product on a vehicle that is not listed in this manual**

We do not guarantee product operation on non-listed vehicle applications. Failure to follow instructions may cause unexpected accidents.

● **Discontinue use of this product immediately if there is smoke or a burning odor.**
Failure to do so may result in engine or vehicle fire. Please take the unit back to the store of purchase for further assistance.

● **Only use this product for the intended purposes listed within this manual.**

A'PEX is not responsible for any harm or accidents caused by the improper use of this product.

● **Use only high octane gasoline with this product.**

This product has been designed for use with high octane fuels. Lower octane fuels may cause serious detonation and damage to the engine.

● **This product is designed for use with stock vehicles.** Apex is not responsible for any malfunction, damage, or accidents caused by the use of this product on a modified vehicle.

No warranty claim will be honored if the unit has been installed on a modified vehicle.

● **Never handle this unit while driving.**

Failure to do so may result in injury or accident

● **Securely mount this unit away from any area that may affectdriving.**

Failure to do so may result in injury or accident.

● **Be sure to disconnect the negative terminal of the battery before proceeding with installation.**

Faiulure to do so may result in vehicle fire, electrical shortage, electrical system damage, and product damage.

● **Be sure to securely hold the connector when disconnecting.**

Failure to do so may result in electrical shortage and damage to the unit or harnesses.

■ Safety Precautions (cont'd)

CAUTION

● **Always connect the wiring EXACTLY as shown in the instruction manaul.**

Failure to do so may result in product failure and engine damage.

● **Do not adjust the unit while driving. Obey all of the rules and regulations of the highway while driving**

Failure to do so may result in accidents.

WARNING

● **Installation should only be performed by an experienced installer.**

Installation requires experience and skill. To the installer: Please install the product in a professional and functionally correct manner.

● **Never disassmble, modify, or tamper with this unit.**

Failure to do so may lead to electrical fire, vehicle fire, and engine damage.

● **Do not drop or expose this unit to excessive shock.**

This may damage the unit and cause damage to the engine.

● **Keep this unit away from direct sunlight, high temperatures, and water.**

Failure to do so may cause product failure eventually leading to electrical fire, vehicle fire, and engine damage.

■ To Begin

Thank you for purchasing the Power FC fuel management computer.
Please read these instructions to ensure proper product usage.

The Power FC is an engine management control system developed by Apex Co. LTD.
By purchasing the FC Commander or Boost Control Kit, the user can change the factory settings as desired.

～ Features ～

① Allows full potential of engine to be released using the Apex fuel management system
② Passes stringent quality control tests
③ FC Commander (sold separately) allows user to change various parameters when desired
④ FC Commander (sold separately) allows user to monitor various parameters of the engine

● Table 1　Application Code（POWER　FC）

Product Code	Vehicle	Type	Engine Type	Notes
414-H001	Civic EX, Integra GS-R	EJ8, DC2	D16Y8, B18C1	1996-98 M/T

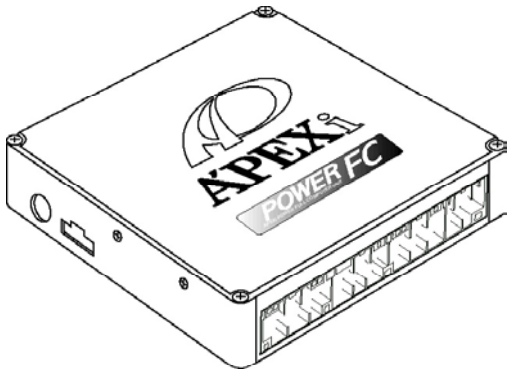
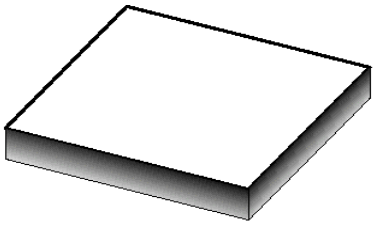
▪ Caution

● Be sure that the POWER FC is meant for the vehicle listed above.
● Do not use this product with any other vehicle than the one listed above.
No claims for any accidents, damage, or malfunction will be honored if the POWER FC is

Product Name	POWER-FC
Product Code	Above（Table 1）
Vehicle	Above（Table 1）

■ Part Names and

● Parts List

1． POWER-FC	2． Warranty Card
	保　証　書 株式会社アペックス FCCNT9805－0292
1	1
3． Instruction Manual	**4． Double Sided Tape**
	
1	2

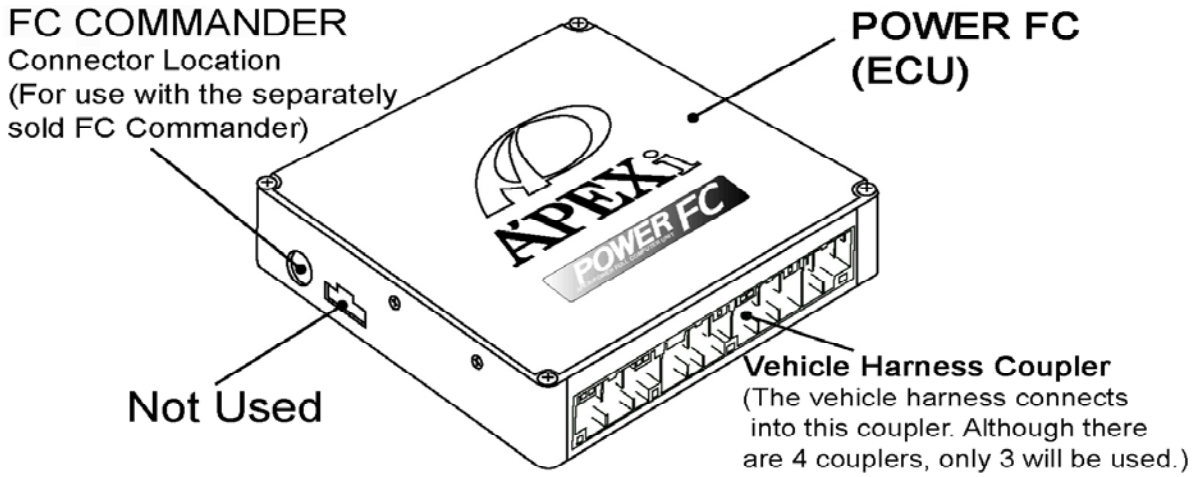
▪ CAUTION

● Be sure to check the contents of the box BEFORE attempting installation. Please contact our office if there is any missing or broken parts. (Please contact your dealer of purchase for more information)

● Please contact your dealer of purchase for more instruction manuals or misc. parts.

■ Part Names and Function

● Product



～ *Product Features* ～

① Ideal Setting Data

The data preprogrammed into the POWER FC is a result of hard engine dyno testing and is meant to maintain the power and torque levels of the factory engine. However units should be tuned by a professional tuner and require initial setting modification BEFORE use on engines with ANY modifications.

② High resolution MAP

The POWER FC utilizes a high resolution 20 x 20 maps for maximum flexibility

③ Warning Function

The engine check lamp will illuminate a warning when: the injectors are at maximum capacity, detonation occurs, or when the pressure sensor is at maximum capacity.

・To check for burnt out bulbs, the engine check lamp will illuminate for 2 seconds when the ignition key is turned ON.

・The lamp will illuminate when the pressure sensor is at maximum capacity

・During detonantion, the lamp will flash 3 times in 0.1 second intervals

・The lamp will flash for 0.5 seconds when the injectors are at maximum capacity

④ Data Modification

The separately sold FC Commander allows the fuel and ignition maps to be changed easily

⑤ Memory Function

The POWER FC does not need an external power source to retain data. The data will remain in the memory even without the vehicle battery. The FC COMMANDER (separately sold) will allow the user to initialize all of the data to factory settings if desired.

■ Installation

● Installation

① *Remove the negative terminal (-) of the battery*

advice!

Disconnecting the negative terminal of the battery may erase memory settings of car audio, and navigation components. Please be sure to write down the settings before disconnecting the battery.

② *Find the appropriate ECU (Electronic Control Unit) wiring location*

advice!

Please refer to the vehicle specific ECU location diagram for more information.

③ *Disconnect the vehicle harness going into the ECU*

advice!

Be sure to pull on the coupler and never pull on the wires.

④ *Reconnect the vehicle harness to the coupler on the POWER FC*

⑤ *Mount the POWER FC in a location that does not interfere with driving using the double sided tape.*

■Installation (cont'd)

⑥ *Be sure that the harness is securely connected to the POWER FC*

⑦ *Connect the negative terminal (-) of the battery*

▪ Warning

● **Do not perform installation while the battery is connected**

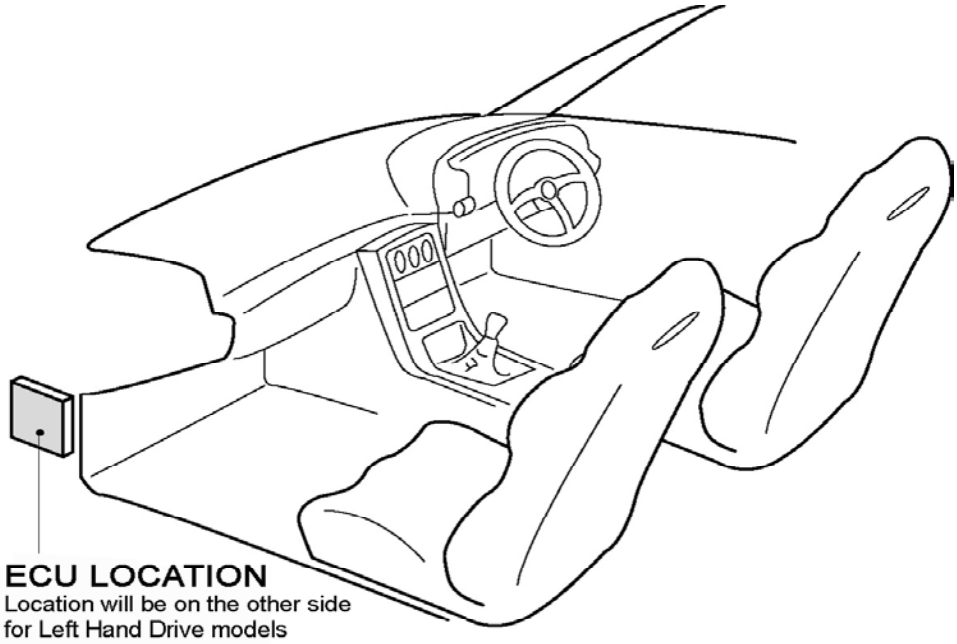
▪ Caution

● **Apex is not responsible for any data lost due to disconnecting the battery**
It is the responsibility of the installer to note all data before disconnecting the power

● **Be sure to mount the POWER FC in a location that does not interfere with driving**
Failure to do so may lead to severe accidents

● **Do not route the vehicle harness near any moving parts**
Failure to do so may result in cut wires, electrical shorts, and severe damage to the engine

● ECU Location



■ Before starting the engine

● Before starting the engine, please confirm the following points:

- Has the vehicle harness been properly installed?
- Is there any excessive strain on the vehicle harness?
- Has the POWER FC been securely mounted?
- Has the negative terminal of the battery been properly reconnected?
- Does the vehicle have high octane fuel in the fuel tank?

● When the Igniton is ON...

Please check the following points when the Ignition is ON.

- Does the POWER FC emit any unusual sound or odor?

If there is any unusual odor or noise coming from the unit, please discontinue use immediately and kindly repack ALL the contents of this unit and return the unit to the dealer of purchase.

- Is the engine check lamp ON?

The POWER-FCuses a self diagnostic system to determine if the pressure sensor, intake temp sensor, throttle position sensor, and water temp sensor are functioning properly.The engine check lamp will illuminate if any of these sensors are malfunctioning.
The separately sold FC COMMANDER will also allow the user to view this status.
Please replace any malfunctioning parts before operation.

■Before Driving...

▪ Please perform the following procedures before driving.

The POWER-FC performs the same fundamental operations as the factory ECU but also incorporates an engine idle correction feature. This self learning function is designed to stabilize rough idling vehicles.

Driving the vehicle without allowing the POWER FC to perform the initial self learning idle adjustment may lead to engine stalls and rough idle and is extremely dangerous.Always allow the POWER FC to perform the self learning idle adjustment procedure below.

● Self Learning Idle Adjustment

Please follow the steps below

① *Please start the engine*

advice!
Be sure to read the "Before starting the engine" section first.

② *Leave the vehicle at idle with the engine running for 10 minutes without the A/C (air conditioner)*

advice!
Engine idle will stabilize within a few minutes.

③ *During idle, turn the rear defroster ON and let the vehicle sit for 10 minutes.*

advice!
The idle may be rough when the rear defroster is turned ON, but will restabilize within a few minutes.

③ *During idle, turn the air conditioner ON and let the vehicle sit for 10 minutes.*

advice!
The idle may be rough when the air conditioner is turned ON, but will restabilize within a few minutes.

This concludes the Self Learning Idle Adjustment

■When Driving

Be sure that all of the operations above have been completed BEFORE driving the vehicle.

● If the engine check lamp illuminates at startup...

① When lit...

・If lit, there is a possibility that either the map sensor, throttle position sensor, intake air temp sensor, or water temp sensor is damaged.Turn the engine OFF immediately and have your local Power Excel shop inspect the vehicle.

② When flashing...

・If flashing in 0.1second intervals for 3 times,
the vehicle may be detonating
Detonation causes severe damage to the engine
Release the accelerator pedal immediately if detonation occurs.

・If flashing for 0.5 second intervals,
the injectors may be at maximum capacity.
If the injectors are at maximum capacity the injectors may not be able to deliver the required amount of fuel to the engine. Increase the fuel pressure or change to larger injectors.

Advice!!

Changing the fuel pressure or injector size will require use of the FC COMMANDER (separately sold) to make fuel enrichment adjustments.

● If a fuel cut occurs while driving...

・Fuel cut caused by the Rev Limiter

This fuel cut will occur when the engine RPM's exceed the Rev Limit setting

・Fuel cut caused by the Boost Limiter

This fuel cut will occur when the boost exceeds the boost setting by 0.25kg/cm^2. The boost setting is adjustable with the FC Commander.

■When Driving...(cont'd)

- CAUTION

● **Be sure to perform the Self Learning Idle Adjustment**
Failure to do so may produce rough idle or cause the engine to stall.

● **The POWER FCis meant for use with high octane fuel only**
Failure to do so may result in detonaion and engine damage.

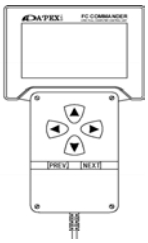
● **If the vehicle detonates while driving, be sure to re-tune the settings in the POWER FC to match the vehicle**
The POWER FC does not perform automatic ignition retard under detonantion. Continued driving under detonation WILL damage the engine.

● **Be sure to obey all of the rules and regulations of the highway**

■Optional Parts

The POWER FC is compatible with the following optional parts

■ FC-COMMANDER （Part # : 415-H001）



By connecting the FC COMMANDER to the POWER FC, a professional tuner can monitor a variety of engine parameters as well as modify the fuel and ignition maps at will.

Part Number	Part Name	Function	Retail
415-H001	FC COMMANDER	Data Modification, Engine Monitoring	$350.00
415-A003	Boost Control Kit	Boost control + 2.0 kg/cm^2 MAP sensor	TBA

- CAUTION

● Optional parts and prices are subject to change without prior notification

In Case of Malfunction

▪ WARNING

● **If there is any unusual odor or noise coming from the unit, please discontinue use immediately and kindly repack ALL the contents of this unit and return the unit to the dealer of purchase.**

Failure to do so may result in engine fire and electrical shorts.

▪ CAUTION

● **In case of malfunction, do not attempt to repair the unit yourself.**

This may lead to electrical shorts and cause severe engine damage.

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● Optional parts and prices are subject to change without prior notification
● This manual is subject to change without prior notification
●

This product has been originally designed for Japan use only.
All warranties are invalid outside of Japan unless otherwise specified

Product Specifications

● Operating voltage DC6 ～ 16V
● Operating temp -30 ℃～+80 ℃

About the Warranty

There is no warranty either expressed nor implied outside of Japan unless otherwise specified by an APEX sales office.

Manual Information

No.	Print Date	Manual #	ver	Notes
1		7507-0150-00	init	
2		7507-0150-01	2	

Contact Information

APEX Integration Inc.
330 W Taft Ave
Orange, CA. 92865
tel:714-685-5700
fax:714-685-5701