

## GPS Engine Board (GPS Module)

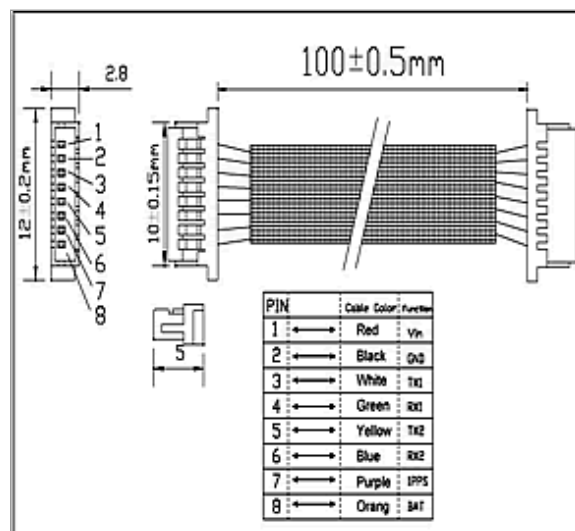
**Model: FV-M8**  
**(Previously ETEK EB-85A)**



### Overview

The main goal of **FV-M8** is used as a part of integrated system, which can be a simple PVT (Position-Velocity-Time) system, for instance, G-mouse, PND (Personal Navigation Device), or complex wireless systems, such as a system with GSM function, a system with Bluetooth function, and a system with GPRS function. The module FV-M8 can be the best candidate for users' systems as the users' systems need the careful consideration on the performance, sensitivity, power consumption, and/or size of the module. In the specification of FV-M8 below, it is noticeable that in addition to excellent start-up times and position accuracy, the updated the sensitivity of -158dbm.

The active antenna on board helps the system integrators to do the design-in easily. FV-M8 is featured with a high sensitive GPS receiver and GPS antenna. The perfect match is most suitable for any GPS mobile devices, PND, GPS PDA, personal tracker and any portable devices, which need GPS features.



## Features

1. 32 parallel channels
2. Sensitivity -158dbm
3. 5Hz Update Rate
4. Low power consumption

## Application

- Perfect match for any GPS mobile devices, such as PND, GPS PDA, personal tracker and which need GPS features

## Specification

<b>PHYSICAL CONSTRUCTION</b>		<b>PERFORMANCE</b>		
<b>Dimension</b>	<b>L30mm*W30mm*H8.6mm</b>	<b>Built-in Antenna</b>	<b>Highly-reliable ceramic patch</b>	
Weight	15 grams	Sensitivity	-158dbm	
Receiving frequency	1575.42MHZ; C/A code	SBAS	1 channel (Support WAAS, EGNOS, MSAS)	
Connector	8pin connector with 1.0mm pitch	DGPS	RTCM Protocol	
Mounting	Soldering	Receiver architecture	32 parallel channels	
<b>Construction</b>	<b>Full EMI Shielding</b>	Start-up time	<b>Hot start</b> <b>1 sec. typical</b>	
<b>ENVIRONMENTAL CONDITIONS</b>			Warm start	35 sec. typical
Temperature	Operating: -30 ~ +80°C Storage: -40 ~ +85°C		Cold start	41sec. typical
<b>COMMUNICATION</b>		Position accuracy	Without aid    3.3 m CEP <b>DGPS (RTCM)</b> <b>2.6 m</b>	
Protocol	NMEA V3.01	Velocity accuracy	<b>0.1 Knot RMS steady state</b>	
<b>Signal level</b>	<b>UART @ 2.8V * 2</b>	Update Rate	1 ~ 5Hz	
<b>INTERFACE CAPABILITY</b>		Power Supply	3.3~5V +- 5%	
Standard Output Sentences	Default	Current Consumption	<b>Acquisition</b> <b>63mA</b>	
	Optional		RMC, GGA, GSV*5, VTG, GLL, ZDA	Tracking <b>59mA</b> (first 5 minutes) 42mA (after 5 minutes) 33mA (after 20 minutes)
			Baud Rate	4800 bps (default) & 4800/9600/38400/57600/115200 bps are adjustable

*This specification is subject to change without prior notice.*