Doc Version

2.0

GlobalSat Technology Corporation

ET-332

GPS RECEIVER ENGINE BOARD

GLOBALSAT TECHNOLOGY CORPORATION

GPS Engine Board Specifications

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ET-332 GPS BOARD OVERVIEW

The ET-332 GPS engine board is low cost but maintains high reliability and accuracy making it an ideal choice for integration with OEM/ODM systems.

FEATURES:

1. SiRF III high performance, low power consumption chipset
2. Very high sensitivity (Tracking Sensitivity: -159dBm)
3. Extremely fast TTFF (Time To First Fix) at low signal levels
4. Compact PCB allows for easier integration into space limited environments.
5. Supports the NMEA 0183 data protocol
6. Foliage Lock for weak signal tracking
7. All-in-view 20-channel parallel processing
8. Snap Lock 100mc re-acquisition time
9. Enhanced algorithm for navigation stability
10. Superior urban canyon performance
11. WAAS / EGNOS support

SPECIFICATIONS

General - Receiver
Chipset: SiRF Star III
Frequency: L1, 1575.42 MHz
C/A Code: 1.023 MHz chip rate
Channels: 12 channel all-in-view tracking
Sensitivity: -159dBm

Accuracy
Position: 10 meters, 2D RMS
5 meters, 2D RMS, WAAS enabled
Velocity: 0.1 ms
Time: 1μs synchronized to GPS time

Datum
Default: WGS-84

Acquisition Time
Reacquisition: 0.1 sec., average
Hot Start: 1 sec., average
Warm Start: 38 sec., average
Cold Start: 42 sec., average

Dynamic Conditions
Altitude: 18,000 meters (60,000 feet) max
Velocity: 515 meters/second (1000 knots) max
Acceleration: Less than 4g
Jerk: 20m/sec **3

Power
Main Power Input: 3.8V~6.5V DC Input
Power Consumption: 75mA (continuous)
30mA (trickle mode)
Backup voltage: +2.5V to +3.6V
Backup current: 10uA typical

Protocol
Electrical Level: TTL level,
Output Voltage Level: 0V~2.85V
Baud Rate: 4800 bps
Output Message: NMEA 0183 GGA, GSA, GSV, RMC (VTG, GLL optional)

Physical Characteristics
Dimensions: 1.1594" x 1.377" x 0.393"
(40.5mm * 35 mm * 10mm)
Operating Temperature: -40F to +176F
(-40C to +85C)
Humidity: Up to 95% non-condensing

PIN ASSIGNMENT

Pin	Name	Description	Type
1	GND	Ground	
2	VBAT	Backup Battery	Input
3	VDC	3.8V~6.5V DC Power Input	Input
4	PBRES	Push Button Reset Input (Active Low)	Input
5	GPIO1	(Reserved)	
6	TXA	Serial Data Output A (GPS Data)	Output
7	RXA	Serial Data Input A (Command)	Input
8	GND	Ground	
9	GND	Ground	
10	SELECT	(Reserved)	
11	TIMEMARK	1PPS Time Mark Output	Output
12	GND	Ground	

PIN DESCRIPTIONS

VCC: (DC power input): This is the main DC supply for a 3.8V ~ 6.5V power module board.

VBAT: This is the battery backup input that powers the SRAM and RTC when main power is removed. Typical current draw is 10uA. Without an external backup battery, the module/engine board will execute a cold star after every turn on. To achieve the faster start-up offered by a hot or warm start, a battery backup must be connected. To maximize battery lifetime, the battery voltage should be between 2.5v and 3.6v.

PBRES: (Push Button Reset): This pin provides an active-low reset input to the engine board. It causes the engine board to reset and start searching for satellites.

SELECT: Do not connect (do not use)

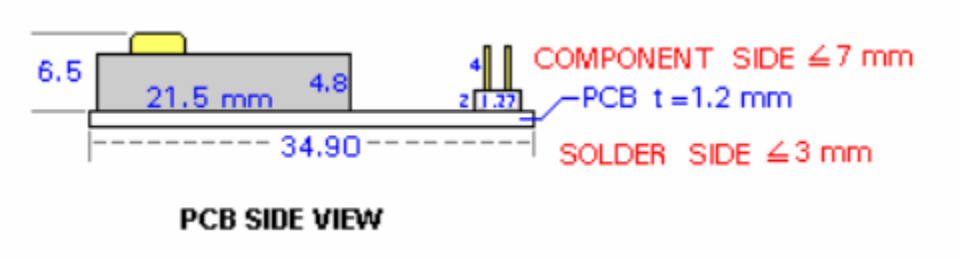
TX: This is the main transmit channel for outputting navigation and measurement data to user's navigation software or user-written software. Output TTL level , 0V ~ 2.85V

RX: This is the main receive channel for receiving software commands to the engine board from SiRfdemo software or from user-written software. Normally this pin must be kept High and if you don't use this pin please connect a resistor to 3.5V to pull it high.

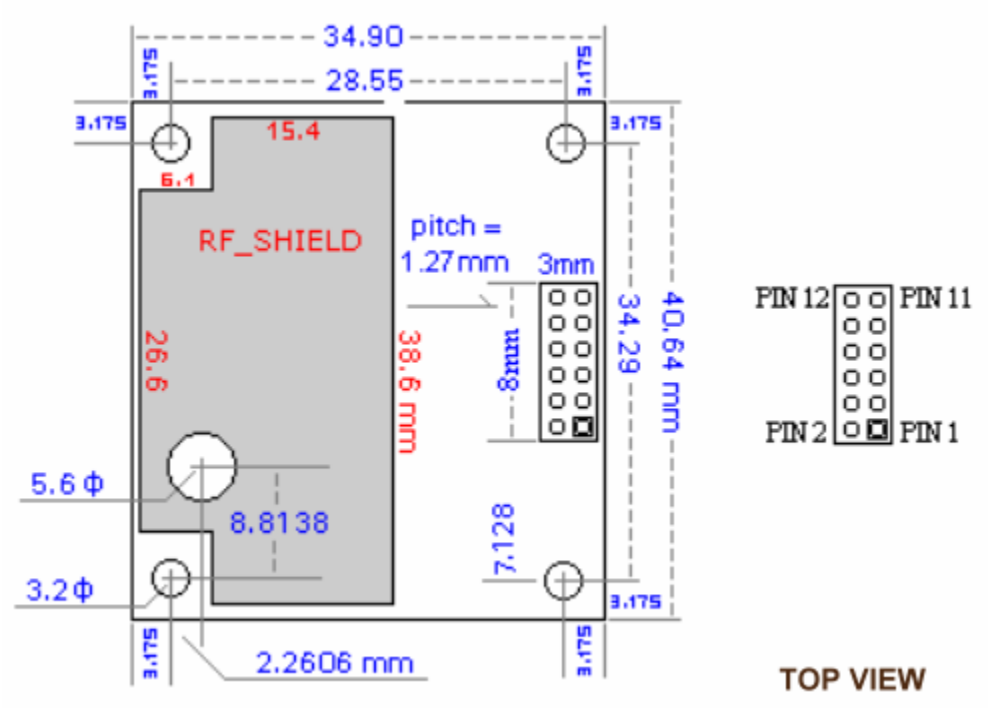
TIME MARK (1PPS): This pin provides one pulse-per-second output from the engine board that is synchronized to GPS time

GND: GND provides the ground for the engine boards. Be sure to connect all grounds

DIMENSIONS



PCB SIDE VIEW



TOP VIEW

MOUNTING

Recommended mounting methods:

a. Use industrial grade double-sided foam tape. Place it on the bottom side of the engine board.

b. A recessed cavity in your housing design with a foam pad to eliminate shifting or movement.

c. Use provided mounting holes on the GPS engine board PCB.

NMEA & SiRF COMMAND LINKS

Please download the latest output and control commands from our web-site:

NMEA Command Reference Manual
(http://www.usglobalsat.com/downloads/NMEA_commands.pdf)

SIRF Binary Protocol Reference Manual
(http://www.usglobalsat.com/downloads/SiRF_Binary_Protocol.pdf)

All product specifications contained in this document are subject to change without notice.

NOTES: