

**Order Code - 10212 GPS Trainer** Global Positioning System technology is rapidly changing how people find their way around the earth. Whether it is for fun, saving lives, getting there faster, or whatever uses you can dream up, GPS navigation is becoming more common everyday. GPS Trainer will provide a basic understanding of the GPS Fundamentals, Satellites & Design Aspects of GPS Receiver by actually connecting to the Satellite by GPS Antenna.

The Equipment is Useful for Students at B.Tech/B.S. & M.S level in engineering / technical institutes (EC & Telecom) Technical training centers in communication organizations, R&D personal and practicing engineering in research labs and industry.

## OBJECT

### Experiments that can be performed

01. Understanding concept of GPS
02. Establishing Link between GPS Satellite & GPS Trainer
03. Measurement of Latitude & Longitude
04. To Study Effect of DOP
05. Study of HDOP & VDOP
06. Analysis of Elevation Azimuth SNR
07. Study of PRN code
08. Study of Common NMEA Sentence Protocol like, GPGGA, GPGLL, GPGSA, GPGSV, GPRMC, GPVTG
09. Study of other GPS NMEA Sentences like, GPALM, GPGRS, GPGST, GPMSS, GPZDA
10. Study of useful Conversion formulas
11. Analysis of NMEA 0183 protocols
12. Study of UTC data and time



## SPECIFICATION & FEATURES

Channel	:	12
Frequency	:	L1 C/A
Position Accuracy	:	25 meters CEP without SA
Velocity Accuracy	:	0.1 meters/second, without SA Off
Time Accuracy	:	Synchronized to GPS time
Update rate	:	1/sec. (1 PPS) signal
Receiver Sensitivity	:	-175 dBW
Input Voltage	:	+5VDC
Current (Avg.)	:	180 mA
Push Button for Reset		
Serial Communication	:	4800 Baud (default)
Protocol Messenger	:	NMEA0183 V2.2, SIRF binary & RTCM SC-104 V 2.0 type 1,2,9
Maximum Altitude	:	18000 meters (60,000 Feet) max.
Maximum speed	:	515 meters/sec. (1000 knots) max.
Acceleration	:	4g. maximum
Jerk	:	20 meters/sec-3 max.
Time to First Fix	:	45 / 38 / 8sec Cold/Warm/Hot Start
PC Interface - RS 232 Port		
Operating Temperature	:	-40° C to +85° C

## GPS ACCESSORIES

1. Serial Cable M/F
2. Mains lead
3. GPS Antenna
4. Software CD

## OTHER APPARATUS REQUIRED

- \* PC with Window XP

Note: Specifications are subject to change.

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