

NAVMAN

OEM

Jupiter 11

Twelve-channel GPS receiver module

Complete GPS solution for embedded applications

Delivering high performance, NAVMAN's Jupiter family of GPS receivers opens the market for a growing range of consumer applications.

Jupiter 5V

A low-cost GPS solution for applications such as in-vehicle navigation systems where battery power is continuously available. This enables Jupiter 5V to maintain last known position and satellite information, significantly reducing the time required to obtain a navigation solution.

Jupiter 3.3V

A low-power, configuration for applications such as handheld battery powered products where price and power consumption are critical. Under power management, Jupiter 3.3V uses only 25% of the power used by Jupiter 5V.

Jupiter DR

A gyro-aided (Dead Reckoning) GPS unit where precision navigation in the urban canyon can be extremely difficult. Tall buildings can block the GPS signal and many sources of RF jam even the most robust receiver. Jupiter with Dead Reckoning has the ability to utilize external vehicle sensors (rate sensor and wheel-tick, etc.) to maintain an accurate navigation - even when GPS is completely lost.



Jupiter 11

Features

- 12 parallel channels for an all-in-view solution of the highest possible accuracy
- 5.0VDC or 3.3VDC configurations
- On-chip LNA supports both active and passive antennas
- Horizontal position accuracy of better than 2.8m CEP without differential aiding
- Time accuracy of better than 100ns to GPS or UTC time (user selectable)
- Optimized for the best possible acquisition and reacquisition in the harsh urban canyon environment
- Proprietary algorithms maximize tracking accuracy in high multipath environments
- Low power consumption, 950mW to 231mW depending on configuration
- -40°C to +85°C thermal operating range

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Product specifications

Receiver Architecture

- 12-channel, L1 1575.42MHz
- C/A code (1.023MHz chip rate)
- Code-plus-carrier tracking (carrier-aided tracking)
- Velocity, up to 500m/s
- Acceleration, up to 5G

Tracking Capability

- 12 satellites simultaneously

Accuracy

- Horizontal accuracy – better than 2.8m (CEP), 4.9m (2 dRMS)
- 3D accuracy – better than 5m (SEP)
- DGPS accuracy – better than 1m (CEP)

Acquisition/Reacquisition Performance

- Hot start: 23 seconds (with almanac, time, position and ephemeris)
- Warm start: 45 seconds (with almanac, time and position)
- Cold start: 120 seconds (with no information)

Antenna

- On-chip LNA for use with passive antenna
- Active antenna powered through receiver (100mA max at +12VDC max)

On-board filtering

- – 7dB L1 –75MHz
- – 20dB L1 +50MHz

Datums

- 189 standard datums, 5 user defined, default: WGS-84

Environmental

- Operating temperature: –40°C to +85°C
- Humidity: up to 95% noncondensing
- Altitude: –305m to 12,190m

Physical

- Dimensions 40.6 x 71.1 x 12.7mm
- Weight: 25g

For more information, to order, or to discuss your GPS solution requirements, contact your local distributor or NAVMAN OEM.

Contact NAVMAN OEM - Web: www.navman.com/oem
Email: oem@navman.com

Serial Interfaces

- Two serial ports available
- CMOS-level
- Programmable Baud rates
- Latitude, longitude, elevation, velocity, heading, time, satellite tracking status, command/control messages, raw data – NAVMAN Binary Interface (compatible with Conexant Binary Interface)
- Selected NMEA-0183 messages

Electrical

JUPITER 5V

Primary power

- +5VDC +/-10%, 50mV p-p ripple max

Backup power (SRAM and RTC)

- 75mA, +2.5VDC to + 5VDC

Power consumption

- 950mW at +5VDC

JUPITER 3.3V (ALL CONFIGURATIONS)

Primary power

- +3.3VDC +/-5%, 150mV p-p ripple max

Backup power (SRAM and RTC)

- 40mA, +2.5VDC to + 3.3VDC

Power consumption

- 429mW at +3.3VDC
- 231mW at +3.3VDC with power management

Connectors

- Data/Power: 20 pin (2 x 10) on 2mm centers
- RF: right angle or vertical OSX, or right angle SMB

Ordering information

- TU30-D400 3.3V
- TU30-D410 5.0V
- TU30-D420 3.3V DR
- TU30-D440 5.0V DR

Your NAVMAN OEM distributor:

LA010038B