



## Jupiter 32

Miniature high sensitivity 20-channel receiver module

Navman's Jupiter 32 has been designed to address markets where performance, size, low power and flexibility matter. A miniaturized successor to the ultra sensitive Jupiter 30, Navman has designed the smallest, autonomous, fully featured GPS receiver yet.

Incorporating the highest specification components available, the Jupiter 32 can track down to -159 dBm and offers unparalleled accuracy and extremely fast fixes even under attenuated conditions such as in built-up urban areas, dense foliage, indoors or while subject to challenging temperature profiles.

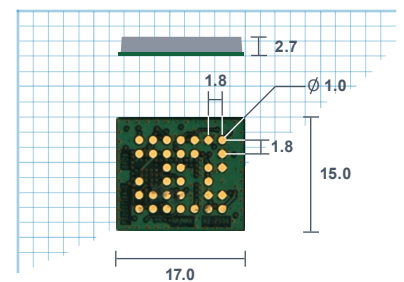
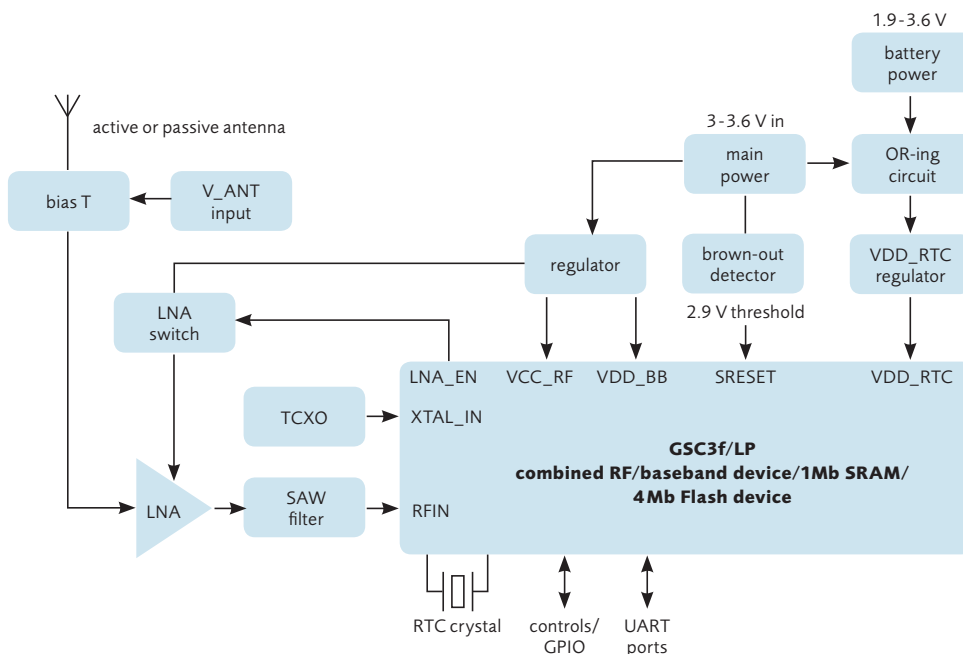
A maximum peak power draw of 57mA and dynamic power consumption allow the Jupiter 32 to deliver powerful performance enhancements in weak signal environments, significantly increasing acquisition and tracking when signal strength is poor.

Featuring active or passive antenna support, write to flash configuration, power saving modes, SiRFInstantFix support and full multi-mode aiding capability, the Jupiter 32 is highly suited for all battery powered applications or high-end track and trace applications.

### Key Features

- ultra-high sensitivity, with faster times to fix under all conditions
- low power SiRFStar III technology
- advanced miniature packaging
- 200,000 effective correlators allows for improved indoor fixes and tracking
- SiRFLoc and SiRFInstantFix multi-mode GPS support for improved fix availability
- Selectable User Profiles with ability to save configuration to Flash
- 0.5 PPM TCXO for optimal performance
- integral LNA with low power control
- user selectable SBAS (WAAS, EGNOS and MSAS) support
- environmentally friendly RoHS compliance

### Module architecture



Jupiter 32 module  
actual size (mm)

## Product specifications

### Receiver architecture

- 20-channel, 200 000 effective correlators, L1 1575.42 MHz
- C/A code (1.023 MHz chip rate)
- code-plus-carrier tracking (carrier-aided tracking)
- velocity, up to 500m/s
- acceleration, up to 4G

### Tracking capability

- 20 satellites simultaneously

### Accuracy

- horizontal accuracy: 2.2m (CEP), 5.5m 2dRMS
- PPS accuracy: typically better than 1  $\mu$ s

### Acquisition performance

Mode	@ -125 dBm	
	Typical	90%
hot start TTFF	500ms	<1 s
warm start TTFF	32s	38s
cold start TTFF	34s	42s

Mode	@ -140 dBm	
	Typical	90%
hot start TTFF	<1 s	<1 s
warm start TTFF	49s	59s
cold start TTFF	52s	66s

### Antenna input

- integral LNA for use with passive antenna
- active antenna powered through receiver (50mA max at 12VDC max)

### Datums

- supports selection of datums, default: WGS-84

### Environmental

- operating temperature: -40°C to +85°C
- humidity: up to 95% non-condensing
- altitude: -305 m to 18000m

### Compliance

- EMC: FCC – Part 15, class B
- EN: 55022, class B

### Physical

- dimensions: 17.0 x 15.0 x 2.7 mm
- weight: 2g max

### On-board filtering

- L1 -75 MHz, -30 dB
- L1 +50 MHz, -20 dB

### Data interfaces

- two serial ports available
- CMOS-level (3.3VDC)
- selectable baud rates
- selected NMEA-0183/SiRF binary messages: latitude, longitude, elevation, velocity, heading, time, satellite tracking status, command/control messages
- SiRF binary interface: raw data

### Electrical

- input power range: 3.0 to 3.6VDC
- battery backup current: 5 to 6  $\mu$ A (typ) for 1.9 to 3.3VDC (SRAM and RTC)

Mode	Power consumption	
	@ 3V	@ 3.3V
average sustained power (after 1st solution)	<117 mW	<136 mW
average sustained acquisition power (before 1st solution)	<132 mW	<149 mW
average initial acquisition power (1.5–2s)	<168 mW	<189 mW

### Connectors

- LGA (land gate array) - data/power/RF through surface mount pads

### Related documents

- LA000267 Jupiter 32 data sheet
- LA000605 Jupiter 32 integrator's manual
- LA000645 Jupiter series development kit guide

### Ordering information

- AA003252-G Jupiter 32 (standard)
- AA003251-G Jupiter 32 on adapter board
- AA003253-G Jupiter 32 development kit

Contact your local distributor or Navman OEM:

[www.navman.com](http://www.navman.com) (Commercial GPS Solutions)