

# Look into NovAtel's SUPERSTAR II

*NovAtel's SUPERSTAR II is designed for applications requiring low-cost, highly reliable positioning performance with low power consumption. It is a drop in replacement for the SUPERSTAR I and offers the same robust signal tracking as the ALLSTAR high-end OEM receiver, including unsurpassed tracking capability under foliage.*



## ADVANTAGES

- Sub-meter DGPS accuracy
- On-board super capacitor for warm start



# SUPERSTAR II



## SUPERSTAR II

NovAtel's SUPERSTAR II is a compact GPS receiver for customers seeking the same quality standard as NovAtel's ALLSTAR, only in a smaller package.

The SUPERSTAR II provides high reliability, outstanding performance under severe conditions (foliage, urban canyons) and ease of integration as an embedded receiver.

The SUPERSTAR II is a low-cost GPS OEM receiver offering sub-meter DGPS capability, designed to operate with either an active or a passive GPS antenna, at the lowest system cost.

The SUPERSTAR II also provides spare memory up to 128K SRAM, and up to 768K FEROM and a minimum of 30% of the resources of a powerful ARM-7 CPU to allow the incorporation of user-specific functionality within the receiver.

An Application Programming Interface (API) will be available in Q4 of 2004 to enable system integrators to embed part, or all, of their functionality within the SUPERSTAR II and reduce overall system cost, size and power consumption.

## Features

- 12 channel parallel "all in view" tracking
- L1 C/A code and carrier phase
- RTCM-104 differential corrections input
- Optional on-board rechargeable battery
- -135 dBm minimum tracking sensitivity
- Development kit available
- Optional integrated carrier phase data
- 1 PPS output aligned to GPS time + 200 ns (typical)

- Three general purpose input/output (GPIO) lines.
- Super capacitor on board to maintain SRAM and time for warm start.

## Performance<sup>1</sup>

### Position Accuracy

Single point	< 5 m (CEP)
DGPS	< 1 m (CEP)

### Time to First Fix

Cold start	2 min. (typical) <sup>2</sup>
Warm start	45 s. (typical) <sup>3</sup>
Hot start	15 s. (typical) <sup>4</sup>

### Signal Reacquisition

5 s obscuration	< 1 s (typical)
60 min obscuration	<3 s (typical)

### Dynamics

Acceleration	4 Gs (39.2 m/s) <sup>2</sup>
Velocity	1852 km/h (514 m/s) <sup>5</sup>
Jerk	2 m/s <sup>3</sup>

**Altitude** 18 Km (60,000 ft)<sup>5</sup>

## Hardware Specifications

**Input Voltage** 5.0 VDC

**Power Consumption** 1.2 W (typical) at 5.0 VDC with passive antenna

### "Keep Alive" Mode

Input Voltage	2.5 to 4.5 VDC
Current Draw	<1mA (5V) <0.3 A (3V)

### Serial Communications

2 x RS-232 (TTL level)  
asynchronous data ports up to 19,200 bps

### Message Formats

#### Input

COM1	NMEA or proprietary binary
COM2	RTCM-104 type 1,2, 3, 9

#### Output

COM1	NMEA or proprietary binary (NMEA types GGA, GSA, GSV, RMC, ZDA, GLL plus proprietary messages)
COM2	Spare

## Physical and Environmental

<b>Dimensions</b>	46 x 71 x 13 mm
<b>Weight</b>	0.05lb(22g)
<b>Temperature</b>	
Operating	-30°C to +75°C
Storage	-55°C to +90°C
<b>Humidity</b>	5% to 95% relative humidity non-condensing to +60°C

1. Typical values. Performance specifications are subject to GPS system characteristics, U.S. DOD operational degradation, ionospheric and tropospheric conditions, satellite geometry, baseline length and multipath effects. Assumes SA Off. Specifications subject to change without notice.

2. No almanac no position and no time

3. Current almanac, position, and time.

4. Current almanac, ephemeris, position and time.

5. Limited by US and Canadian export laws

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