



NAVAIS NS-500

Professional High-Precision GNSS Receiver



Professional-grade signal integrity. Multi-frequency, multi-constellation centimetre-level positioning with advanced integrity, anti-jamming and anti-spoofing technology.

Key Features

- Centimetre-level RTK with Septentrio GNSS technology
- Advanced anti-jamming, anti-spoofing, RAIM+ and IONO+
- Integrated 4G industrial router and web interface
- 448 hardware channels and multi-constellation tracking
- Up to 20 Hz positioning update rate
- Ethernet, USB, serial, PPS and event connectivity

NS-500 Integrated Positioning System



FULL BAND GNSS ANTENNA
GPS | GLONASS | GALILEO | BDS
QZSS | SBAS | NavIC | L-Band

WEBUI ACCESS
Monitor and configure your receiver through an intuitive Web Interface

4G LTE
Remote access anywhere

WIFI
Local access and configuration

LMR-400 GNSS CABLE
Low loss, high performance cable

NAVAIS GNSS RECEIVER
Multi-constellation | Multi-frequency
High Precision | Reliable

Quality Indicators

Overall	Main RF power	Main signals	CPU	RTK post-processing
5/10	10/10	5/10	10/10	0/10

GNSS

SBAS	GPS (Position: 4, Track: 5)	GLONASS (Position: 2, Track: 2)	Galileo (Position: 2, Track: 2)	SBAS (Position: 0, Track: 4)	BeiDou (Position: 2, Track: 2)	QZSS (Position: 0, Track: 0)	NavIC (Position: 0, Track: 0)

ANTI-JAMMING
Advanced interference detection and suppression for uninterrupted performance

ANTI-SPOOFING
Advanced spoofing detection and integrity protection for trusted positioning

INTEGRITY & SECURITY
Supports OSNMA and advanced signal authentication

FULL BAND, FULL CONSTELLATION
GPS | GLONASS | GALILEO | BDS
QZSS | SBAS | NavIC | L-Band

HIGH PRECISION
RTK | PPK | PPP
Centimeter level accuracy

RUGGED & RELIABLE
Industrial grade design
Built for harsh environments

VERSATILE CONNECTIVITY
Ethernet | USB | Serial | CAN
Flexible integration

WIDE OPERATING RANGE
-40 °C to +85 °C
Built for the field

The NS-500 combines full-band GNSS reception, remote web-based management, 4G and Wi-Fi access, low-loss antenna integration, interference protection and flexible professional connectivity.

GNSS Constellations and Signals

Constellation	Signals
GPS	L1, L2, L5
GLONASS	G1/L1, G2/L2, G3/L3
Galileo	E1, E5a, E5b, E6
BeiDou	B1I/B1C, B2a, B2b, B3
QZSS	L1, L2, L5, L6
NavIC / IRNSS	L5, S-Band
SBAS	L1, L5
L-Band	1525-1560 MHz correction services

Technical Specifications

Specification	Description
Model	NS-500
GNSS engine	Septentrio multi-frequency / multi-constellation
Hardware channels	448
Update rate	Up to 20 Hz
RTK horizontal accuracy	0.6 cm + 0.5 ppm
RTK vertical accuracy	1 cm + 1 ppm
SBAS accuracy	1 m
DGPS accuracy	0.4 m
Velocity accuracy	0.05 m/s
Cold / warm start	< 45 s / < 20 s
Signal reacquisition	< 1 s
USB	USB 2.0 device and host
Serial interfaces	5 x RS232; 1 x RS485
Network interfaces	3 x Ethernet; 1 x WAN; 4G router
Timing interfaces	PPS output; event input
Dimensions	200 x 200 x 12 mm
Weight	< 500 g
Input power	12 V DC, 5 A
Connectors	TNC antenna; BNC PPS; SMA 4G / Wi-Fi
Operating temperature	-40 C to +85 C
Storage temperature	-55 C to +85 C
Humidity	95% non-condensing

Positioning and Integration Benefits

Maximum positioning availability: Multi-frequency tracking and advanced algorithms support reliable fixes in challenging environments.

Signal integrity: Anti-jamming, anti-spoofing, RAIM+ and IONO+ protect critical professional positioning workflows.

Remote management: The graphical web interface and integrated 4G router simplify monitoring, configuration and support.

Flexible corrections: RTCM 2.x/3.x, CMR, CMR+ and NTRIP client support enable professional RTK integration.

Rich system connectivity: USB, serial, Ethernet, WAN, PPS and event interfaces support land, marine and infrastructure systems.

Typical Applications

Surveying | Mapping | Marine navigation | Machine control | Reference stations | Infrastructure monitoring