



## Features

- ⚙️ **GPS L1/L2, GLONASS L1/L2 dual satellite system**
- ⚙️ **Configurable GPS/GLONASS single system positioning and GPS + GLONASS multi-system positioning**
- ⚙️ **Easy to customize for multi-purposes demands**
- ⚙️ **Built in 100 M internal memory**

ComNav's K501G model is the GPS+GLONASS small sized GNSS OEM board and the partner to the K501 which features the BeiDou constellation. The K501G has advanced dynamic acquisition ability and high accuracy carrier phase algorithms. By using the dual GNSS constellations, our high dynamic processing engine delivers the results even in very challenging environments for GNSS use. With the K501G, you can achieve centimetre positioning accuracy.

### Strong Compatibility

As the newcomer GNSS OEM Board, the K501G is very convenient and easy to integrate to high precision applications. The hardware size, interface, data command are compatible with major brands' OEM host boards.

### Small Size Design

At just 71.1 mm × 45.7 mm × 10.6 mm, the K501G is even smaller than a business card. This enables smaller, lighter enclosure, reducing the weight of handheld RTK devices used in the field. The lower power consumption extends the field working time significantly. With both power requirements and the size reduced, it is perfect also for UAV applications.

### The Adaptable Light OEM GNSS Board

The K501G is the ideal GNSS engine for high accuracy land surveying (RTK or handheld RTK), deformation monitoring systems, machine control, integrated system, exploration, high precision agriculture, marine, ports, meteorological, university and institute, high accuracy differential positioning and timing services.

## Signal Tracking

- 120 Channels
  - GPS: L1 C/A code, L1/L2 P code
  - GLONASS: L1, L2
  - SBAS: WAAS, EGNOS, MSAS, GAGAN

## Performance Specifications

- Cold start: <50 s
- Warm start: <45 s
- Hot start: <15 s
- Signal re-acquisition: <2 s
- Velocity accuracy: 0.03 m/s
- Acceleration: 4 g
- Overload: 15 g

## Time Precision

- GPS + GLONASS 20 ns

## Positioning Specifications

Mode	Accuracy
Post Processing	2.5 mm + 1 ppm Horizontal 5 mm + 1 ppm Vertical
Single Baseline RTK	10 mm + 1 ppm Horizontal 20 mm + 1 ppm Vertical
DGPS	0.5 m 3D RMS
SBAS	1 m 3D RMS
Standalone	1.5 m 3D RMS

## Communications

- 3 LV-TTL RS232 Ports
  - Baud rates up to 921,600 bps
- Position data outputs: 1, 2, 5, 10 Hz (depends on installed option)
- 1 Pulse Per Second output
- Event marker input

- 3 LEDs (indicating Power, Satellite Tracking and Differential Data)

## Data Format

- Correction data I/O:
  - RTCM 2.x, 3.x, CMR (GPS only), CMR+ (GPS only)
- Position data output:
  - ASCII: NMEA-0183 GSV, RMC, HDT, VHD, GGA, GSA, ZDA, VTG, GST, PJK, PTNL
  - Extended NMEA-0183 BDGGA, GNTRA, GPCDT, GPHPR
  - ComNav Binary (compatible with major brands)

## Physical

- Size(L×W×H): 71.1 mm × 45.7 mm × 10.6 mm
- I/O interface: 20-pin dual row male header
- Weight: 24 g
- Antenna: 1 × MCX receptacle (10 MHz)

## Environmental

- Working temperature: -40 °C to + 85 °C
- Storage temperature: -55 °C to + 95 °C
- Humidity: 95% no condensation

## Electrical

- Input Voltage: 3.3-6 VDC
- Power consumption: 1.35 W
- Memory: 100 MB

## Software

- ComNav Compass Receiver Utility software

Specifications subject to change without notice.

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