



# MatrixRTK

## GNSS Receiver

### Overview

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The MatrixRTK is a GNSS RTK receiver. It includes a high-performance, multi-constellation and multi-frequency GNSS board, which can provide high accuracy and stable signal detection.

Working with the choke ring antenna, the MatrixRTK can improve anti-jamming performance and output high-quality RTK corrections, which is an ideal solution for Continuously Operating Reference Station (CORS). The built-in, high-capacity battery can support up to 24 hours of field work. The rugged housing protects the equipment from harsh environments. The system can be operated remotely.



### Key Features

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Supports multiple constellations & frequencies

- GPS: L1C/A, L1C, L2C, L2E, L5
- GLONASS: L1C/A, L1P, L2C/A, L2P
- BeiDou: B1/B2
- GALILEO: E1 BOC, E5A, E5B, E5AltBOC
- SBAS: L1C/A, L5

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Supports 64GB internal storage and up to 1TB via an external SD card

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Rapid RTK integer ambiguity resolution

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Supports stable, high-precision measurement output

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Supports 3G, WiFi, and external radio.

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Supports remote access and operation

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### In the Box

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- 1x MatrixRTK GNSS receiver
- 1x 3D GNSS antenna
- 1x GNSS antenna cable
- 1x Power adopter
- 1x AC power cable
- 1x Normal cable



# Technical Specifications

## Performance

Static GNSS Surveying:	
– High-Precision Static:	
Horizontal (RMS):	3mm+0.1ppm
Vertical (RMS):	3.5mm+0.4ppm
– Static and Fast Static:	
Horizontal (RMS):	3mm+0.5ppm
Vertical (RMS):	5mm+0.5ppm
RTK Positioning Accuracy:	
– Horizontal (RMS):	8mm+1ppm
– Vertical (RMS):	15mm+1ppm
PPK Surveying:	
– Horizontal (RMS):	8mm+1ppm
– Vertical (RMS):	15mm+1ppm
Network RTK:	
– Horizontal (RMS):	8mm+0.5ppm
– Vertical (RMS):	15mm+0.5ppm
Carrier Phase Measurements Precision:	<1 mm
SBAS Positioning Accuracy:	0.5m
Initialization (typical):	<10s
Initialization Reliability:	>99.9%
RTK Format:	CMR, CMR+, sCMRx, RTCM2.X/3.X
Operation System:	Linux
Data Storage:	64GB internal storage
– Up to 1TB external SD card	

## Communication

3G:	TD-LTE, FDD-LTE, TD-SCDMA, WCDMA, GPRS, GSM
WiFi:	802.11b/g
USB Ports:	USB 2.0 x1
Serial Ports:	RS232 x3, RS485/RS422 x1
Ethernet:	10/100M BASE-T x1
External Radio Station (optional):	
– Power:	5W/10W/20W/30W
– Frequency:	450MHz-470MHz
– Distance (typical):	15km

## Physical

Battery (Lithium):	12500mAh/7.4V x1
– Supports up to 24 hours working	
Input Voltage:	7V~36V DC
– With over-discharge protection	
Power Consumption (typical):	<5W
Size:	147.6x64.3x246mm
Weight:	2.5kg (with battery)
Material:	Magnesium alloy
Dust- & Waterproof:	IP67
Shock:	1m drop onto concrete
Operating Temperature:	-40°C ~ +75°C
Storage Temperature:	-40°C ~ +80°C
Relative Humidity:	100% not condensed

