

## Advanced GNSS Receiver



- 216 Universal Tracking Channels
- G3 Tracking Technology (GPS/GLONASS/Galileo)
- Advanced Fence Antenna™ Technology
- High accuracy RTK with updates up to 100Hz
- Integrated dual radio and cellular combinations
- 32GB SDHC storage support
- Dual hot-swappable batteries

# GR-5 Advanced GNSS Receiver

**The GR-5 is the most advanced RTK GPS system from Topcon. This exciting system incorporates G3 tracking technology to track all three satellite positioning systems as well as new design features not found in any other system.**

Topcon's G3 technology was the first to combine all three of the original positioning systems – GPS, GLONASS, and Galileo. Although commercial use of Galileo continues to be years away, Topcon continues its commitment to develop technology to utilize ALL signals from ALL satellites. Not only is Topcon committed to the GPS, GLONASS and Galileo satellite systems, but also to all precision signals from the developing Chinese COMPASS system, Japan's Quasi-Zenith Satellite System (QZSS), and India's IRNSS system. If there is any operational advantage of combining new systems and signals, you can count on Topcon to continue to lead the industry.

Building from the tremendous success of the world's first G3 RTK receiver, the Topcon GR-3, the new GR-5 provides the latest technological advancements with the same powerful performance our customers have grown to demand.

One look at the new GR-5, and you notice the new, advanced antenna design. This patented! Fence Antenna™ technology provides industry-leading tracking sensitivity and multipath rejection in a compact and lightweight package. By combining this antenna with the latest innovations in tracking algorithms, Topcon has given the GR-5 our most highly advanced tracking performance ever! The GR-5's tracking capabilities are not only state-of-the-art, but also deliver unmatched value to our customers by providing accuracy levels superior to other RTK systems in difficult environments. While other systems sacrifice accuracy for tracking performance, the GR-5 gives you the best of both!

The new GR-5 design didn't stop simply with new antenna and tracking technologies, the GR-5 also boasts numerous advancements such as: an increased number of channels, extended battery life, expanded internal memory options, new internal modem design, internet-compatible firmware, and much, much more.

## Combine the GR-5 with a Topcon Field Controller

- Topcon's FC Series field controllers
- Full color touch screen
- Graphical Windows® interface
- Operates the full suite of Topcon field controller software packages
- Wireless operation via Bluetooth® connection



## 216 Universal Tracking Channels

Topcon's unique channel tracking technology manages satellite signals on universal channels. Each of the 216 channels available can track any of the existing signals. Other receivers dedicate channels to single signals, thus needing more channels. With Topcon, channels can be assigned as needed.



## Rugged Design

The GR-5 is guaranteed rugged by design. The frame of the GR-5 and the robust internal components are guaranteed to resist a 2m pole drop. Sure, you may scratch the housing, but the receiver keeps on working strong.



## Dual Cellular and Radio

Each receiver has both cellular and radio communication available. So when in the convenience of network and cellular coverage, the GR-5 can be a network rover. When long range base to rover radios are needed, choose either UHF or digital UHF.



## Long Range UHF Radio

The antenna design of the GR-5 places the radio antenna on top of the receiver, right in the middle of the GPS antenna. This unique advantage for Topcon receivers produces longer range results because the radio antenna is aiming up and is the tallest point of the receiver.



## PRIMARY FEATURES



## MAGNET™ Field

Experience the advantage of MAGNET Field with the GR-5 RTK system. Whether connecting to a network or setting up a Base/Rover system, MAGNET Field makes you more productive. Collect field data with smart coding, stakeout in live roading, or simply measure the volume of a stock pile. All this and the ability to share data to cloud storage is all built into MAGNET Field.



## KIT COMPONENTS

### Dual Receiver Package

- Two GR-5 Receivers
- Batteries (4) and Charger
- PC Data Cables
- Radio Antennas
- Manuals and Utility Software
- Carry Case
- Fixed Height Tripod



**SPECIFICATIONS**

**GNSS**

G3 GNSS Receiver	GPS + GLONASS + Galileo*
Number of Channels	216 Universal Channels
WAAS/EGNOS	Yes
Antenna Type	Integrated Micro-Center Fence Antenna™ with Ground Plane

**Accuracy**

RTK	H: 10mm + 1.0ppm
	V: 15mm + 1.0ppm
Static	H: 3mm + 0.5ppm
	V: 5mm + 0.5ppm

**Communication**

Optional Radio Type	Integrated UHF TX/RX, or 915MHz Spread Spectrum
Base Radio Output	0.01 - 1.0W, user selectable
Cellular Communications	Integrated GSM/GPRS or CDMA
Wireless Communications	Bluetooth®

**Data and Memory**

Memory	Internal, Removable SD/SDHC Memory Card
Data Update/Output Rate	1Hz - 100Hz Selectable
Real Time Data Output	TPS, RTCM SC104, CMR, CMR+
ASCII Output	NMEA 0183 version 2.x and 3.0

**Environmental**

Enclosure	Magnesium I-Beam Housing
Operating Temperature	-40 to +70°C**
Dust/Water Protection	IP66
Shock Rating	2m pole drop to concrete IEC 60068-2-29, IEC 60068-2-27
Vibration Rating	SAE J1211, Section 4.7 MIL-STD 202G, Method 214A

<sup>1</sup> Patent pending. Multiple patents are associated with Fence Antenna™ technology.

\* GIOVE A/B test satellites are available for signal evaluation and test purposes.

\*\* -30 to +60°C with integrated batteries

For more specification information:  
[topconpositioning.com/gr5](http://topconpositioning.com/gr5)

**TOPCON TECHNOLOGY**

**Topcon's Patented Fence Antenna™ Technology**

The Topcon GR-5 represents the next generation in GNSS receiver technology.

**Technology Leadership**

Once again, Topcon has set a new industry standard with our state-of-the-art Fence Antenna™ Technology. This revolutionary new antenna design provides signal tracking capabilities not found in any other RTK receiver.

**Enhanced Sensitivity**

The most significant advancement comes with the Fence Antenna's™ performance tracking low elevation satellites. This patented Fence Antenna™ technology provides unsurpassed sensitivity while simultaneously improving accuracy.

**Advanced Multipath Suppression**

Not only does the new Topcon Fence Antenna™ outperform other RTK receivers with enhanced sensitivity, but also provides multipath rejection characteristics that gives the GR-5 a level of tracking performance in difficult environments beyond any other RTK GNSS receiver.

**Side-by-Side Tests**

In side-by-side tests with other RTK GNSS receivers the Topcon GR-5 outperformed the competition in tracking behavior and overall RTK performance, and continues to lead the industry in RTK radio range.



7400 National Drive • Livermore • CA 94550  
(925) 245-8300

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