

ADVANCED GNSS RECEIVER



Next generation GNSS receiver technology

- 216 Universal Tracking Channels
- GPS + GLONASS + GALILEO
- Fence Antenna™ Technology
- 100 Hz RTK position updates
- Multiple Radio and Cellular Modem combinations
- High Capacity SDHC storage

It's time.

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

Topcon's G3 technology was the first to combine all three of the original positioning systems – GPS, GLONASS, and Galileo. Although the commercial use of Galileo is still in the future, Topcon continues its commitment to develop technology to utilise 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 an operational advantage of combining new systems and signals, you can count on Topcon to continue to lead the industry.

The new GR-5 receiver is the next step in the continuing development of the latest, most advanced receiver technology available. 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. It all sums up to... More Performance. More Accuracy. More Productivity.

A New Industry Standard

Once again, Topcon has set a new industry standard with our new, state-of-the-art antenna technology – Fence Antenna™ Technology. This revolutionary new antenna design, first presented in a technology paper at the ION GNSS International Conference in 2009, provides signal tracking capabilities not found in any other RTK receiver.



● Enhanced Sensitivity

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

● Advanced Multi-path Suppression

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

● Side-by-Side Tests

In side-by-side tests with other RTK GNSS receivers, the new Topcon GR-5 with Fence Antenna™ Technology outperformed the competition in tracking ability, acquisition speed, positional accuracy, repeatability, RTK radio range, and overall RTK performance. See for yourself! Contact your local Topcon distributor for a personal demo, and experience the power of the GR-5 with Fence Antenna™ Technology today!

Dual Receiver Package Includes:

- Two GR-5 Receivers
- Charging Cradles
- PC Data Cables
- Hard Carry Case
- Radio Antennas
- Manuals & Utility software
- Fixed Height Tripod



The GR-5 is the next generation RTK GPS system from Topcon.

This exciting system incorporates G3 tracking technology to track all available satellite positioning systems as well as new design features not found in any other system.



- | | | | |
|--|---|--|---|
| 1 Precision Tuned Micro-Centered Fence Antenna™ with Full Wave Tracking | 4 Environmentally sealed external ports | 8 Dual use Center Mount Radio/Communication Antenna for maximum performance | 11 Advanced super bright display with backlit LED lights |
| 2 Paradigm™ G3 Tracking Technology | 5 Rechargeable Li-ION Battery | 9 Advanced, Durable, Lightweight Design | 12 Rugged I-Beam Construction |
| 3 Easy Access SD /SDHC Memory Card & GSM SIM Card | 6 Optional Alkaline Battery Pack | 10 Bluetooth® Technology | 13 Dual Hot-Swappable Batteries |
| | 7 Optional Quick-SNAP Pole Mounting System | | 14 Standard 5/8" X 11 Threaded mount |

| Field Controllers | FC-25A | FC-236 | FC-250 | FC-2500 | GRS-1 |
|------------------------------|----------------|------------|----------------|----------------|----------------|
| Windows OS | Mobile 6.5 | Mobile 6.1 | Mobile 6.5 | CE.net | Mobile 6.1 |
| Integrated WiFi & Bluetooth® | Yes | Yes | Yes | Yes | Yes |
| Internal Processor | 520 MHz | 806 MHz | 806 MHz | 624 MHz | 806 MHz |
| Memory MB / Storage GB | 256 / 2 | 256 / 4 | 256 / 1 | 256 / 2 | 256 / 1 |
| Keyboard | 5 Keys keypad* | Numeric* | 7 Keys keypad* | Alpha-numeric* | 3 Keys keypad* |
| Optional RS-1 radio module | | | Yes | Yes | |
| Internal GNSS | Yes | Yes | | | RTK |
| Integrated Camera | 3 MP | 3 MP | | 5 MP | 2 MP |
| e Compass | Yes | Yes | | Yes | |

* All controllers have full on-screen alpha-numeric keyboards



It's time.

The Leader in Positioning Technology ...

Topcon offers positioning products that deliver unparalleled site-wide performance and integration. Topcon's history of technological advances and our reputation for superior reliability means there's no other company positioned to provide you with a better "Total Positioning Solution."

From survey to inspection Topcon, through our dealer network, provides the innovative technology that gives surveyors, civil engineers, contractors, equipment owners, and operators the competitive edge by addressing such critical issues as increasing profits, quality craftsmanship, improving productivity, lowering operating costs, and enhancing job site safety.



Full positioning integration field-to-finish: That's the goal of Topcon. When it's time for you to step up to the next level, it's time to turn to Topcon.

The Leader in Customer Satisfaction ...

To ensure that your Topcon instruments maintains peak performance, your local Topcon dealer offers factory trained and certified service technicians. If service isn't available in your area, our European Service Center offers a repair and return policy second to none.



The Bluetooth word mark and logos are owned by the Bluetooth SIG, Inc. and any use of such marks by Topcon is under license. Other trademarks and trade names are those of their respective owners.

Specifications subject to change without notice.
©2011 Topcon Corporation. All rights reserved 03/2011

SPECIFICATIONS

GR-5

| TRACKING | |
|-----------------------------|---|
| Number of Channels | 216 Universal Channels |
| Signals Tracked | GPS L1, L2, L2C, L5 GLONASS L1, L2, & L5 carrier Galileo GIOVE-A, GIOVE-B SBAS |
| WAAS/EGNOS | |
| Yes | |
| Antenna Type | Integrated Micro-Center Fence Antenna™ with Ground Plane |
| ACCURACY | |
| Real time RTK accuracy | H: 10mm + 1 ppm V: 15mm + 1 ppm |
| Post processed Static DGPS | H: +3.0mm + 0.5 ppm V: +5.0mm + 0.5 ppm |
| COMMUNICATIONS | |
| Optional Radio Type | Integrated Tx/Rx UHF Digital TPS/Satel protocol |
| Base Radio Output | 0.250 – 1.0Watts, selectable |
| Cellular Communications | Integrated via SIM Card, GSM/GPRS or CDMA |
| Wireless Communications | Integrated Bluetooth version 2.0 compliant |
| DATA & MEMORY | |
| Memory | Internal, Removable SD/SDHC Memory Card |
| Data Update/Output Rate | Selectable 1 to 100Hz |
| Real Time Data Output | TPS, RTCM SC104, CMR, CMR+ |
| ASCII Output | NMEA 0183 version 2.x and 3.0 |
| Control & Display Unit | Optional, External, Mobile Computer |
| ENVIRONMENTAL | |
| Enclosure | Magnesium I-Beam Housing |
| Operating Temperature | -40°C to 70°C * |
| Environmental Specification | IP66 waterproof/dustproof |
| Shock Rating | 2 m pole drop, SAE J1455, Section 4.7 (4G RMS), MIL-STD 202G, Method 214A |
| Humidity | 100% non condensing |

*Receiver will operate normally to -40°C, internal batteries are rated to -20°C

Your local authorised Topcon distributor is: