*Ag*GPS 252 GPS Receiver

Multi-function receiver

For a true investment that will grow with any agricultural operation, the Trimble® *Ag*GPS® 252 GPS receiver grows as your needs grow. The *Ag*GPS 252 provides the ultimate in guidance accuracy.

Flexibility and expandability

The *Ag*GPS 252 receiver suits a variety of application needs, by allowing the user to choose an accuracy level to fit their needs—from the highly accurate, centimeter-level repeatability of the Real-Time Kinematic (RTK) mode to the submeter or decimeter-level accuracies for broadacre or less accurate positioning. Depending on your accuracy needs and geographic location, the receiver can provide positioning using a wide range of correction services—WAAS/EGNOS, OmniSTAR VBS, OmniSTAR HP, and RTK. As your operation's needs grow, the *Ag*GPS 252 will grow as well. Accuracy on the unit is easily upgraded without the need for extensive rework or replacement.

The *Ag*GPS 252 can also be used on a variety of vehicles and connects to a wide range of precision agriculture equipment, including the Trimble *Ag*GPS Autopilot™ system, the Trimble *Ag*GPS EZ-Guide® Plus lightbar guidance system, yield monitors, and portable field computers.

Productivity and profitability

The *Ag*GPS 252 saves time and money! The pass-to-pass accuracy and repeatability of the *Ag*GPS 252 eliminates the need for costly conventional row crop preparation techniques. It also allows operators to perform any critical applications—planting, harvesting, spraying, listing or bedding—day or night. You can be in the field when you need to be in the field—even in reduced visibility conditions.

Easy to install and integrate

The *Ag*GPS 252 is easy to install. The design enables easy transfer to multiple platforms, ensuring total flexibility in your farming operation.

Innovative design

The *Ag*GPS 252 is an innovative state-of-the-art, all-in-one, low profile GPS/DGPS/RTK receiver and antenna design. The design provides increased system robustness.

Flexible, accurate, and cost-effective, the *Ag*GPS 252 receiver is the next generation of innovative high performance GPS receivers.

Key Features

- High performance GPS, WAAS/EGNOS, OmniSTAR VBS, OmniSTAR HP, and RTK receiver
- All-in-one, low profile smart antenna design
- Capable of multiple accuracy levels to fit your operation's needs: submeter, decimeter, and centimeter level real-time positioning operation
- Accuracy upgrade without the need for hardware enhancement or replacement
- Enables repeatable year-to-year row crop operation
- Flexibility to utilize WAAS, EGNOS, or OmniSTAR VBS or HP solutions when out of range of an RTK base station
- Very portable unit–designed for easy transfer from one vehicle to another
- Updates via web ensure continued product enhancement

Trimble®

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Features

Standard features

- Receives 12 L1 channels and 12 L2 channels
- Combined GPS/DGPS receiver and antenna
- *Ag*Remote software with six-button keypad to configure and view system properties, download from the Trimble website at: www.trimble.com
- LED status indicator
- Two ports that support both CAN 2.0B and RS-232
- The receiver outputs a 1 PPS (pulse per second) strobe signal on both ports. This signal enables an external instrument to synchronize its internal time with a time derived from the very accurate GPS system time.
- WAAS/EGNOS Differential Correction compatibility
- EVEREST™ multipath reduction technology
- OmniSTAR VBS and HP positioning compatibility

CAN

- J1939 and NMEA 2000 messages
- The *Ag*GPS 252 is ISO 11783 compliant[1]

RS-232

- NMEA-0183 output:[2] GGA, GLL, GRS, GST, GSA, GSV, MSS, RMC, VTG, ZDA, XTE
- RTCM SC-104 output
- Trimble Standard Interface Protocol (TSIP) input and output

1 Supports a subset of ISO 11783 messages.
2 By default, the receiver is configured to output GGA, GSA, RMC, and VTG messages at a 1 Hz (1 position/second) update rate. PTNLDG, PTNLEV, PTNLGGK, PTNLID, and PTNLSM are Trimble proprietary NMEA output messages.
3 1 sigma, AgGPS RTK positional performance equals 68% of the time.
4 2 sigma, AgGPS RTK positional performance equals 95% of the time.
5 RTK accuracies are + 2ppm.

Specifications subject to change without notice.

Physical characteristics

Receiver

Size	300 mm W × 309 mm D × 70 mm H (11.7 in × 12.05 in × 2.73 in)
Weight	2.1 kg (4.63 lb)
Power	350 mA at 12 V DC
Operating temperature	–30 °C to +70 °C (–22 °F to +158 °F)
Storage temperature	–40 °C to +85 °C (–40 °F to +185 °F)
Humidity	MIL 810 E, Meth. 507.3 Proc. III, Aggravated, 95% condensing Unit sealed to ±5 PSID
Casing	Low profile UV-resistant plastic, dust-proof, waterproof, shock-resistant, with recessed protected connectors
Connectors	12-pin Deutsch connectors
Port	Two I/O RS232/CAN channels
Mounting	Three holes for 10 mm (0.39 in) bolts
Compliance	FCC Part 15 Class B, C-Tick, E-mark

Performance characteristics

GPS

General	12-channel, parallel tracking L1 1571.42 MHz and L2 1227.60 MHz. C/A code and carrier phase filtered measurement
Standard update rate	1, 5, and 10 Hz
Multipath mitigation	EVEREST technology

Differential correction

Satellite differential compatibility	OmniSTAR VBS/HP, WAAS, and EGNOS
Differential speed accuracy	0.16 kph (0.1 mph)
Differential position accuracy	Less than 1 m (3.28 ft) horizontal
OmniSTAR HP speed accuracy	0.16 kph (0.1 mph)
OmniSTAR HP position accuracy	10 cm (3.94 in) horizontal
Time to first fix	<30 seconds (<1 m), typical
Time to first high precision fix (OmniSTAR HP)	<30 minutes (<10 cm)
OmniSTAR acquisition and reacquisition time	<5 seconds, typical
OmniSTAR frequency band	1525–1559 MHz

RTK

RTK speed accuracy	0.16 kph (0.1 mph)
RTK horizontal accuracy	1.3 cm (0.5 in) = 1 sigma[3,5] 2.5 cm (0.98 in) = 2 sigma[4,5]
RTK vertical accuracy	1.9 cm (0.75 in) = 1 sigma[3,5] 3.7 cm (1.46 in) = 2 sigma[4,5]
	*Ag*GPS 214 upgraded to an MS750, or equivalent reference station

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