



Z-XTREME FOR NAVIGATION

GPS NAVIGATION SYSTEM

POWERED BY INSTANT-RTK™ TECHNOLOGY

A rugged, weather-proof dual-frequency GPS receiver designed to provide cost-effective, centimeter-accurate navigation in a variety of system configurations.

THE RECEIVER

The Z-Xtreme™ receiver combines the patented Ashtech® Z-Tracking™ with state-of-the-art electronics to deliver the highest level of dual-frequency GPS performance. Z-Xtreme's low power consumption is an important consideration for a variety of GPS navigation applications. Logging of data for post processing is easy and efficient, utilizing the removable flash memory (PCMCIA) card. With Ashtech Instant RTK™ technology that provides fast and accurate real-time positioning for precision applications, Z-Xtreme is a proven performer for RTK operations. Receiver configuration, receiver monitoring as well as data downloading are quick and easy using the Thales Navigation RCS' or Evaluate' PC software packages. Also, the four-button interface and LED display can be used to effortlessly perform setup and monitoring functions.

LAND, SEA AND AIR

The Z-Xtreme receiver provides a range of solutions for your positioning needs –static, continuous kinematic, true trajectory post processing, and real-time DGPS and RTK. Z-Xtreme increases your productivity for hydrographic, marine construction, dredging, photogrammetry, remote sensing, aircraft

trajectory truthing and terrestrial applications in which your platform is in continuous motion. In realtime, Z-Xtreme offers sub meter DGPS positioning or centimeter RTK positioning. For post-processing, choose from Ashtech PNAV™, GrafNav™ or GrafMov™ software packages for your data processing needs. The Z-Xtreme also offers programmable 1 PPS timing and event marker pulses for post-mission interpolation of photogrammetric or other external events for synchronizing peripheral navigation equipment.

A TRADITION OF PRECISION AND PERFORMANCE

The Z-Xtreme is the latest in a line of powerful, cost-effective, dual-frequency GPS products. Utilizing advances in GPS signal processing and RTK algorithms, Z-Xtreme follows in the footsteps of the Ashtech Z12 receiver, an acknowledged standard of precision, performance and productivity in the GPS positioning and trajectory industries. Government agencies, aerospace manufacturers, military research laboratories and test range facilities worldwide have come to rely on our product line when accuracy and reliability are essential.

Z-XTREME

TECHNICAL SPECIFICATIONS

Ashtech Technology

- 12 channel all-in-view operation
- Full-wavelength carrier on L1 and L2
- Z-Tracking
- Multipath mitigation
- Dual-frequency smoothing for improved code differential

Standard Features

- 16 MB PCMCIA removable memory card
- NMEA 0183 output
- Selectable update rate from 999 sec to 10 Hz
- Event marker
- Point positioning
- 1 PPS timing signal
- Session programming
- Wide array of coordinate transformations
- Removable internal battery
- 8-character alphanumeric LED display with 4-button interface
- 3 function LED display – Radio, Memory, Satellites/Power
- Multi-function audible alarm
- Quick reference card holder
- External mount capabilities
- External power input
- 4 RS-232 ports (115,200 baud max, 3 external, 1 internal)
- 1-year warranty
- Free factory technical support

Standard Accessories

- RS-232 data cable
- Power Cable
- Receiver operating manual

Optional Features

- Instant-RTK firmware
- Real-time kinematic (base and rover modes) for cm-accuracy
- RTCM 2.2 (Types 1, 2, 3, 9, 16, 18, 19, 20, 21, 22)
- Internal UHF or spread spectrum radio for RTK rover operations
- External UHF or spread spectrum radio for RTK base and rover operations
- Geodetic 4 antenna ground plane kit
- Kinematic antenna kit
- Aircraft antenna kit
- Choke ring antenna

Technical Specifications

Typical Survey Performance¹

Static, Rapid Static

- Horizontal: 5 mm + 1 ppm
- Vertical: 10 mm + 1 ppm

Post-Processed Kinematic

- Horizontal: 1 cm + 1 ppm
- Vertical: 2 cm + 1 ppm

Real-Time Code Differential Position

- <1 m

Real-Time Z Kinematic Position (Fine Mode)

- Horizontal: 1 cm + 2 ppm
- Vertical: 2 cm + 2 ppm
- Azimuth (arc sec): 0.4 + 2.0/baseline (km)

RTK Occupation Time

- 2 seconds (typical – sub-centimeter accuracy with longer occupation time)

Instant-RTK Initialization

- 99.9% reliability
- Typically <2 seconds with 6 or more satellites, PDOP <5, baseline length <7 km, open sky and low multipath conditions

RTK Operating Range

- Recommended: ≤10 km
- Maximum: 40 km¹

Environmental

Z-Xtreme Receiver (with Internal Battery)

- Meets MIL-STD 810E for wind driven rain and dust
- Operating temperature: -30° to +55°C
- Storage temperature: -40° to +85°C

Geodetic 4 Antenna

- Meets IPX7 specifications for submersion
- Operating temperature: -40° to +65°C
- Storage temperature: -55° to +75°C

Physical

Weight

- Receiver: 3.5 lb
- Antenna: 1.81 lb
- Battery: 0.96 lb

Dimensions

- 3" h x 7.75" w x 8.75" d

Power

- 10 – 28 VDC, 6.0 W

Internal Battery

- Capacity: 5400 mAh
- >9 hours (typical) @ 25°C
- Operating temperature: -30° to +55°C
- Storage temperature: -40° to +60°C

PC Card

- ATA Type II PCMCIA memory card (16 MB standard)
- Temperature range: -40° to +85°C
- Data capacity: 4500 epochs per 2 MB*

* Based on one session, 8 satellites' data and full measurements. This number can vary significantly depending on the conditions of the session.

Optional Software

- Ashtech PNAV™
- GrafNav™
- GrafMov™
- Evaluate™²

¹ Specifications assume operation follows all the procedures recommended in the product manual utilizing Instant-RTK, post processing with Ashtech Solutions or Ashtech Office Suite for Survey.

High-multipath areas, high PDOP values, low satellite visibility, and periods of adverse atmospheric conditions and/or other adverse circumstances will degrade system performance.

All accuracy specifications are RMS values.

² Evaluate software can be downloaded free of charge from www.ashtech.com.

www.ashtech.com

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Thales Navigation follows a policy of continuous product improvement; specifications and descriptions are thus subject to change without notice. Please contact Thales Navigation for the latest product information.

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