

Z-FX CORS System

12-Channel, Dual-Frequency Continuously
Operating Reference Station (CORS) for
Land Survey, GIS, Engineering and
Scientific Applications



Ashtech®'s Continuously Operating Reference Station (CORS) System provides the world's most powerful GPS Reference Station technology at an affordable price. At the heart of the CORS system is Ashtech's new Z-FX GPS receiver. The Z-FX is the latest and most advanced receiver in the Z family and incorporates Ashtech's patented Z-Tracking™. Designed for high accuracy land survey, GIS, engineering and scientific applications, the CORS system is ideal as a permanent GPS base station.

The CORS system includes all necessary components for continuous collection of high quality dual-frequency GPS data through a simple Windows® 95™ or Windows NT™ interface. Count on it for all your high-accuracy surveying needs.

Powerful Z-Tracking Technology

The CORS system is built upon Ashtech's field-tested and patented Z technology. This technology provides a 13 dB signal-to-noise ratio advantage over cross-correlation receivers. Z-Tracking technology provides full -- not half -- carrier wavelengths. What this means to the user is consistently great data and uninterrupted operation during Anti-Spoofing (AS) and large ionospheric activity. Standard features of the CORS receiver include all-in-view 12 channel operation,

multibit signal processing for RF jamming immunity, SAW filtering techniques, and industry standard real-time kinematic (RTK) broadcast capability. Well over 60% of the National Geodetic Survey's (NGS) CORS sites rely on Z technology for their mission critical work.

Choke Ring Antenna Designed for High Precision

The CORS System incorporates the high-precision Ashtech L1/L2 Choke Ring antenna. This antenna is the accepted design for the International GPS Service (IGS) tracking network, the Southern California Integrated GPS Network (SCIGN), and numerous other networks around the world.

The antenna consists of a ground plane with five concentric ring assemblies, a Dorne & Margolin™ C146-10 dipole antenna element, and an Ashtech proprietary low noise amplifier (LNA) for resistance to RF jamming. The result is an antenna that offers superior multipath rejection and maintains phase center stability to better than 1mm.

Versatile Geodetic Base Station Software

Each CORS System comes with a copy of Ashtech's easy-to-use Geodetic Base Station (GBS) soft-

ware. Designed in an efficient 32-bit multitasking environment, the base station software logs GPS data to a PC hard drive and runs on a Windows 95 or NT platform. Data is archived in the Ashtech format or the RINEX format. The software supports secure, multiple user access through FTP, a WWW page, or a BBS system.

Don't trust your important fieldwork to any other system. The Geodetic Base software provides you with complete control over all data recording parameters, including the data file length. Once configured, the base software requires minimal maintenance and will provide high quality data 365 days a year.

A Complete Reference Station Solution

Ashtech Reference Stations have set the industry standards for high-precision continuous operation. With the introduction of the CORS system, powerful easy-to-use reference station technology is now available at an affordable price. The CORS system is an easy-to-operate package that delivers high accuracy results and is guaranteed to meet your surveying needs.



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Z-FX CORS System Specifications

System Components

- Z-FX CORS receiver
- Ashtech Choke Ring antenna
- 110/220 VAC, 50/60 Hz, UL, CE power supply
- 2 Receiver-to-PC download cables
- 30 meter antenna cable
- Geodetic Base Station software
- CORS System reference manual

Standard Features

Z-FX CORS Receiver

- 12-channel *all-in-view* operation
- Patented Z-Tracking technology
- Full tracking of L1 C/A Code, L1/L2 P Code, and L1/L2 full-cycle carrier
- Real-time Kinematic (RTK) broadcast capability for centimeter-level accuracy
- 8-character LED display with 2-button control interface
- 4 independent and separately programmable serial ports
- Remote monitoring capability
- 1 PPS timing signal (5V TTL)
- Real-time data outputs
- 22 NMEA message outputs
- Session programming
- Rugged construction
- 1 year warranty
- 1 year free technical support

Geodetic Base Station Software

- 32-bit multitasking Windows 95/NT environment
- Archives Ashtech file format or RINEX file format
- Automatic directory creation
- Multi-user data access via BBS, FTP, or WWW page
- Full user control over file length
- Easy-to-use Windows graphical environment

Choke Ring Antenna

- 100% IGS compatible choke ring design
- Dorne & Margolin C146-10 dipole antenna element
- Ashtech proprietary low noise amplifier (LNA)
- Low power consumption LNA

Communications

- 4 bi-directional RS-232 serial ports (115,200 baud rate)

Environmental and Physical Specifications

Dimensions

inches	3 H x 7.3 W x 8.25 D
cm	7.6 H x 18.5 W x 21 D

Weight

Receiver	3.75 lbs. (1.7 kg)
Antenna	9.41 lbs. (4.3 kg.)

Power 10-28 VDC, 7.5W

Temperature Ranges

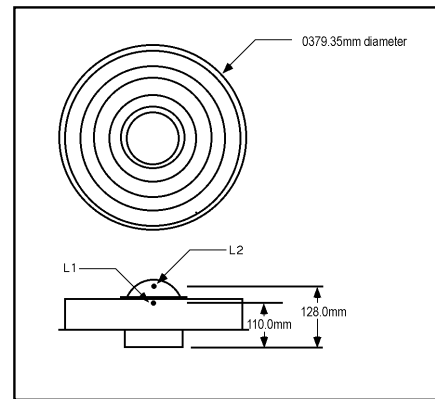
Receiver

Operating	-20°C to +55°C
Storage	-30°C to +75°C

Antenna

Operating	-40°C to +65°C
Storage	-55°C to +75°C

Meets MIL STD 810E for wind-driven rain and dust.



Choke Ring Antenna: Front and Side Display (phase centers are published NGS values)

Optional Accessories and Features

- Hemispherical radome (Ashtech or SCIGN version)
- 4, 8, 10, 20 and 85 Mb memory upgrades
- 1 to 20 MHz external frequency input (in 10 kHz steps)
- Fast data output (10 Hz)
- Ashtech Office Suite for Survey (AOSS)
- Internal or external spread spectrum radio kit
- 150 meter antenna cable
- Antenna line amplifier

Ordering Information

Product	Part Number
CORS System	990286-02