

5700 CORS System

State-of-the-art base station system

Key features and benefits

- Reliable, high-accuracy system
- Multi-functional reference station data
- Easy to install and operate
- Unlimited number of remote users

The 5700 Continuously Operating Reference Station (CORS) system is based around Trimble's most advanced technology. It provides improved accuracy, and increased productivity and efficiency by supporting single-person positioning activities.

The CORS system provides an accurate base station service that can be used in the field by multiple one-person crews, as well as providing data for postprocessing. Several base stations can be linked together to provide a base station network—increasing your area of coverage.

Once the system is set up, you can start surveying immediately—you will never need to set up a base station again! That's why Trimble equipment is used on key projects throughout the world.

System Components

At the heart of the system is Trimble's 5700 GPS receiver, a high-performance, rugged, reliable receiver that is built on Trimble's many years of experience in the GPS industry. The internal compact flash card with up to 128 MB of data storage, and the dual rate logging option give you plenty of flexibility for managing your data. The 5700 has exceptionally low power consumption and its internal batteries can be used as a backup power supply.

The advanced Zephyr™ dual-frequency geodetic antenna with a built-in ground plane provides advanced tracking capabilities and sub-millimeter phase center stability for the highest geodetic



Rugged, reliable wireless data broadcast and reception for high-precision GPS applications

precision, exceeding the performance of the L1/L2 Choke Ring antenna.

The system is controlled from the office by the Trimble Reference Station (TRS™) software, an extremely flexible, reliable software solution that provides base station data to an unlimited number of remote sites in a selection of formats. Comprehensive data logging options include simultaneous logging of an unlimited number of file types. Automatic events, such as FTP mirror and user-defined scripts, can be set up using TRS. Furthermore TRS can broadcast DGPS or RTK data for real-time surveys. With TRS it is easy to make your data available on the World Wide Web, no specialist programming skills are needed. As for communications in the field, the choice is yours—from UHF/VHF solutions for small networks and integrated cell phone technologies for larger networks.

Wide Range of Applications

The 5700 CORS System is ideal for a wide range of applications. It is an expandable infrastructure system that can be added to and upgraded as necessary. Some of the applications it can be used for include:

- Survey
- Construction
- Monitoring
- Marine survey
- Marine construction
- Asset Management
- Precision agriculture

Reliability is the most important factor with any reference station solution. Trimble's equipment provides this reliability and Trimble has put together the complete system, so there is no need to put together hardware and software yourself, Trimble does it all for you.

Trimble

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KEY FEATURES

5700 CORS Receiver

- Tough, lightweight magnesium alloy casing
- CompactFlash data storage expandable up to 128 MB
- Low power consumption—up to 10 hours backup receiver operation on 2 internal miniature camcorder batteries
- Dual rate logging up to rates of 10 Hz

Zephyr Geodetic Antenna

- 4-point antenna feed for sub-mm phase centre repeatability
- Better absolute phase center stability than a choke ring antenna
- Trimble Stealth™ ground plane for reduced multipath
- Superior low-elevation satellite tracking

L1/L2 Choke Ring Antenna

- L1/L2 choke ring antenna option available

TRS

- Client/Server architecture for easy control of multiple receivers
- Easy installation and configuration using the Setup Wizard
- Powerful data management tools to maintain and publish your data
- Easy to use graphical interface

SYSTEM COMPONENTS

5700 CORS Receiver

GPS Measurements	Advanced Maxwell 4 Custom Survey GPS Chip High precision multiple correlator L1 and L2 pseudorange measurements Unfiltered, unsmoothed pseudorange measurement data for low noise, low multipath error, low time domain correlation and high dynamic response Very low noise L1 and L2 carrier phase measurements with <1mm precision in a 1 Hz bandwidth L1 and L2 Signal-to-Noise ratios reported in dB-Hz Proven Trimble low elevation tracking technology 24 Channels L1 C/A code, L1/L2 Full Cycle Carrier WAAS/EGNOS tracking
Casing	Tough, lightweight fully sealed magnesium alloy
Waterproof	IPX7 for submersion to depth of 1 m
Shock	Will survive a 1 m drop onto concrete; shock and vibration tested to 40 G random
Weight	With internal batteries, and battery charger 1.3 kg (2.9 lbs)
Power	DC input 10.5–28 V with over voltage protection
Power consumption	2.5 Watts
Power output	10.5–20 V (Port 1), 10.0–27.5 V (Port 3)
Certification	Class B Part 15 FCC certification and CE Mark approved Environmental
Operating temp	–40°C to +65°C (–40° to +149°F)
Storage temp	–40°C to +80°C (–40° to +176°F)
Humidity	100%, condensing, passes testing per MIL-STD-810F, FIG. 514.5C–17
Communications and data storage	2 external power ports, 3 serial ports, 1 USB port CompactFlash—advanced, lightweight, compact, and removable data storage. Options of 64 and 128 MB cards from Trimble Dual position and data logging at rates of 1, 2, 5, and 10 Hz Continuous logging support Update firmware remotely over a modem line Support for modem initialization Logging and streaming of meteorological data

Zephyr Geodetic Antenna

Tracking characteristics

4-point antenna feed for sub-mm phase center repeatability
Integral low noise amplifier
Antenna gain: 50 dB L1/50 dB L2
Superior low elevation tracking performance
Trimble Stealth Ground Plane for reduced multipath
Phase center repeatability <0.5 mm horizontal
34.3 cm (13.5") diameter x 7.6 cm (3") max depth

Dimensions

Weight

Operating temp

Storage temp

Humidity

Shock

1.0 kg (2.2 lbs)
–40°C to +70°C (–40°F to +158°F)
–55°C to +85°C (–67°F to +185°F)
100% humidity proof, fully sealed
MIL–810–F Figure 514 5c–17 vibration levels on each axis
Shock tested to MIL–810–F Table 516.5–I to survive a 2 m (6.56 ft) drop
Shock tested for a drop of 2 m (6.56 ft) onto concrete

L1/L2 Choke Ring Antenna (optional)

Tracking characteristics

Dorne-Margolin antenna element
Antenna gain: 50 dB L1/48 dB L2
Milled aluminum choke ring for multipath suppression
Stable Phase centre with <1mm drift

Dimensions

Weight

Operating temp

Storage temp

Environmental

35.6 cm (14.0") diameter x 14.0 cm (5.5") depth
4.55 kgs (10 lbs)
–40°C to +70°C (–40°F to 158°F)
–55°C to +85°C (–67°F to 185°F)
MIL-STD-810E wind driven rain and dust

Trimble Reference Station

Sensor compatibility

Interfaces to Trimble's 5700, 4700, MS750, 4600, 4400, 4000, GPS Pathfinder® Pro XRS, Pro XR, and Pro XL receivers

Logging formats

Logging capability

Logs DAT, RINEX, SSF file formats and Almanac files
Log multiple files of the same type at different rates to local or LAN drives
Scheduled logging to collect data only when needed

FTP capability

FTP mirror functionality
Powerful rollover scripting

Broadcast formats

Real-time output control of CMR and RTCM formats
(Note: real-time output can only be broadcast if the receiver supports the format)

MINIMUM SOFTWARE REQUIREMENTS

- Pentium computer 133 MHz or faster with 32 MB RAM and a 1 GB hard drive
- SVGA color monitor 800 x 600
- Dedicated RS232 port for GPS receiver (one port per receiver)
- Keyboard with mouse or trackball
- CD-ROM drive
- Microsoft Windows 95/98/2000/ME, or Microsoft Windows NT4.0

For further information please contact your nearest Trimble Authorized Distributor or Trimble Office.

You may also visit our web site at <http://www.trimble.com>



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