X90-OPUS L1L2 GPS

24-Channel L1/L2 Precision Static Occupation GPS Receiver

- Designed for *NGS OPUS*, perfect for *OPUS Projects* and all Static GPS Campaigns
- Large ground-plane geodetic antenna offers low angle tracking with near choke-ring performance
- Simple 1-button (power-switch) operation
- Emulates USB External Drive for downloads
- 4-GB Internal Memory: stores 500+ days of 5-second observation data
- Rugged, Submersible, IP67

iGage

X90-OPUS L1L2 GPS
Specifications

PERFORMANCE SPECIFICATIONS

Measurements

- 24 Channels L1 C/A code, L2C, L1/L2 full cycle carrier
- High-precision correlators for L1 and L2 pseudo range measurements
- Unfiltered, unsmoothed pseudo range measurement data for low noise and very low multipath error
- Ultra low noise L1 and L2 carrier phase measurements with <1 mm precision in 1 Hz bandwidth
- Advanced multipath mitigation
- Large ground-plane antenna: precise low-angle tracking
- Warm startup in less than 30-seconds; cold startup in less than 90-seconds

Position Performance

Static[1]

Horizontal	±5 mm + 0.5 ppm
Vertical	±5 mm + 1 ppm
Maximum Data Rate	50 Hz

Physical Characteristics

Single Housing

7.85" diameter x 3.35" height (200 mm x 85 mm)

Weight

3.1 lbs (1.4 KG) with battery

Humidity

100% condensation

Temperature

Working	-20°F to +140°F (-30°C to +60°C)
Storage	-40°F to +160°F (-40°C to +70°C)

Waterproof and Dustproof

IP67, protected from temporary immersion to depth of 1 meter, receiver floats

Shock and Vibration

Survives 2-meter drop onto concrete

Electrical

Power

2.6 watts

External input 9-18 VDC; battery-clip cable included

Battery

Rechargeable, field exchangeable 2,200 mAh Lithium-Ion battery;

6-hour operation per battery; 1,000 charge cycles[2]

Communications:

10-pin Lemo:

USB: GPS device mounts as a USB external hard drive

Serial: RS232 Communications and Configuration port

Power: 9-18 VDC External Power

Data Storage

4-GB internal Flash. Over 110 days storage at 1 Hz; 4.5 years with 15-second epochs

Automatic Sessioning: none, 1-hour to 48 hours

Operation / Software

Operation

Single button: Turning receiver ON makes a unique occupation file; Turning receiver OFF ends occupation and closes file.

Data Transfer

X90-OPUS is a standalone GPS receiver, there is no operating system and no ancillary interface tools are required for data transfer. The X90-OPUS mounts as a USB external disk drive when attached to a computer. No serial drivers are needed.

Download

The included X90-OPUS download tool automates downloads, RINEX conversion, data preparation OPUS submittal and project archiving. (WinXP, Vista, Win7 and Win8.)

X90-OPUS Kits

Each X90-OPUS receiver includes a heavy duty foam lined hard case, 2 batteries, dual battery charger with universal wall adapter, interface cable, external power clips, printed manual and PC download tool.

Additional batteries, chargers and spare interface cables are available.

Warranty and Service

X90-OPUS receiver: 2-year warranty

Cables and chargers: 1-year warranty

Batteries: 90-days

Service is provided by iGage Mapping Corporation in Salt Lake City Utah.

Advanced replacement programs are available for mission critical applications.

Notes

[1]Precision and performance values assume a minimum of 5 satellites in multipath clear, EMI free, obstruction free environment with reasonable atmospheric conditions.

Stable mounts and generally accepted survey practices are required for the highest order survey results.

[2]Battery life varies with temperature. An external power source is recommended for occupations lasting longer than 4-hours. Elevated and extreme cold working or storage temperatures (> 85°F, <-20°F) hasten capacity loss.

Specifications and descriptions are subject to change without notice. Please visit www.X90gps.com or www.igage.com for the latest information.

iGage Mapping Corporation
1545 South 1100 East Suite 1
Salt Lake City UT 84105 USA
+1-801-412-0011 • www.igage.com