A90 Intelligent GNSS Receiver

- Compact design, more productive

- Professional GNSS satellites tracked simultaneously(GPS,Glonass,Galileo,Beidou)

- Automatic data collection during centering

- When the pole is tilted in 30 degrees, A90 still could get the right point data by automatic correct system

- Applies WIFI connection to realize WebUI control designed to modify settings and monitor the receiver status

- Bundled Android field software brings a big change in user experience and accessibility

A90 GNSS Receiver Specifications

A90 GNSS Receiver 2018.02

GNSS Engine

- 336 channels
  Position Antenna based on 336 Channel
  Maxwell 7 chip:
  - GPS: L1 C/A, L2E, L2C, L5
  - GLONASS: L1 C/A, L2 C/A, L3 CDMA
  - BeiDou: B1, B2, B3
  - Galileo:E1, E5A, E5B, E5AltBOC, E6
  - IRNSS: L5
  - SBAS : L1 C/A, L5
  - QZSS : L1 C/A, L1 SAIF, L1C, L2C, L5, LEX
  - MSS L-Band: OmniSTAR, Trimble RTX

Performance Specifications

- Time to First Fix(TTFF):
  Cold Start: <45 seconds
  Warm Start: <30 seconds
  Signal Re-acquisition: <2 seconds
- RTK Initialization time:
  typically <8 seconds
  RTK initialization reliability >99.9%
  Position latency: <20 ms

Real-Time Accuracy (rms)*1

- Autonomous
  Horizontal: 100cm (3.28ft),Vertical:150cm(4.92ft)
- SBAS
  Horizontal: 50cm(1.64ft),Vertical:85cm(2.79ft)
- DGNSS
  Horizontal: 25cm (0.82ft),Vertical:50cm(1.64ft)
- Real-Time Kinematic (fine
  mode)
  Horizontal: 0.8cm(0.03ft)
  Vertical: 1.5cm(0.05ft)

Post Processing Accuracy (rms)*2
  Static, Rapid Static
- Horizontal: 2.5mm(0.008ft)+0.1ppm
- Vertical: 3.5mm(0.011ft)+0.5ppm

Solutions

Field Software Suite
  FOIFPad(WM/Android) ,FOIF FieldGenius
  or Carlson SurvCE
- Main functions include:
  A90 GNSS Support: configuration,
- monitoring and control
- Volume computation
- Background raster image
- Network connectivity
  Coordinate System Support: predefined
  grid systems, predefined datums,
- projections, Geoids, local grid
- Map view with colored lines
  Geodetic Geometry: intersection,
  azimuth/distance, offsetting, poly-line,
- curve, area
- Road Construction(3D)
  Survey Utilities: calculator, RW5 file
- viewing
  Data import/Export: DXF, SHP, RW5

Data logging
- Recording Interval
  0.1- 999 seconds
  Physical
- Flat design
- Size: 156mm*76mm(Φ x H)
- Bottom cover: Aluminium magnesium alloy
  Memory
- Internal memory: 8GB standard; Supports
  extending to 32GB
  I/O Interface
- TNC port: connecting built-in radio antenna
- 5-pin lemo port: connecting external power
  supply and external radio
- 7-pin lemo port(USB+serial port): connecting
  PC and handheld
  Operating system
- Based on Linux; Supports Web UI
  Voice
- Multi-language supported
  Tilt survey sensor
- Automatic correct system by 30degree
  Data Format
- RTCM2.1,2.2,2.3,3.0,3.1,3.2
- CMR,CMR+,sCMRx

Operation
RTK rover/base,post-processing
- RTK Network rover: VRS, FKP, MAC
- Point-to-Point GPRS through Real-time Data
- Server Software (internal GPRS or external
  cell phone)

- LandXML(FOIF FieldGenius support)
  Total Station support (FOIF FieldGenius)
- Import and stake directly from a DXF File
  (FOIF FieldGenius)

Office Software Suite:
  FOIF Geomatics office
  Main functions include:
- Network post-processing
- Integrated transformation and grid
  system computations
- Pre-defined datums along with use
  -defined capabilities
- Survey mission planning
- Automatic vector processing
- Least-squares network adjustment
- Data analysis and quality control tools
- Coordinate transformations
- Reporting
- Exporting
- Geoid
  Environmental
- Operating temperature:
  -30℃ to +65℃(-22°F to +149°F)
- Storage temperature：
  -40℃ to +80℃ (-40°F to +176°F)

- Humidity: 100% condensing
- Waterproof: IP67(IEC60529)
- Shock: 2 m (6.56 ft) pole drop
         1.2m(3.94ft) free drop
  Power
- 7.2V, 6800mAh,removable battery
- Over 13 hours when simultaneous
  use of 2 batteries
  Optional System Components
  Communication Module
- Internal radio
  -UHF-Link(410-470MHz) Rx&Tx both
  -1W
- External radio
  -FOIF external radio Rx & Tx(FDL-5,
  5/35W selectable)
- 4G LTE module:
  Fits various networks
- BlueTooth
  2.1+EDR Class 2
- WiFi
  IEEE 802.11 b/g/n
- Antenna
  Built-in antenna,integrating GNSS,
  BT/WLAN and network antenna
- Controller
  - F58

*1 Performance values assume minimum of five
satellites, following the procedures recommended
in the product manual. High-multipath areas, high
PDOP values and periods of severe atmospheric
conditions may degrade performance.
*2 Long baselines, long occupations, precise
ephemeris used.

FOIF Geomatics CAD
  Main functions include:
- DWG file format, compatible with AutoCAD
  Integrated transformation and grid
  system computations
- Full 3D least squares adjustment, blunder
  detection, graphical ellipse display
- DTM contouring/Modeling volumes/3D rendering
- Site Design: Ponds, ditches, stockpiles and slopes
- Road Design: horizontal and vertical alignments,
  cross sectional templates
- Completely customizable user interface
  -Toolbars - can be arranged with "drag and drop"
   functionality
  -Menus - can be re-organized with our graphical
   menu editor
  -Screen - items can be turned off for more
   graphics area
  -Layout - of command window - top or bottom
- Reporting, exporting and printing

Related Products

A30 Receiver

A60 Receiver
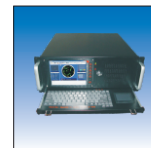

A3 Static Receiver

A50 Receiver

F58 GNSS Handhelder

A100 Reference Receiver

A200 CORS Receiver

Illustrations, descriptions and technical specifications are not binding and may change

FOIF
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Since 1958

Suzhou FOIF Co.,Ltd.

TEL:+86 512 65224904
FAX:+86 512 65230619
Http://www.foif.com
E-mail:internationalsales@foif.com.cn
ADD: 18 Tong Yuan Road, Suzhou 215006, P.R. China

Local Dealer: