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 2021.05

GNSS Engine
- 555 channels
  Advanced interface detection and mitigation
  Maximum data rate: 100Hz
  - GPS: L1 C/A, L1C, L2C, L2P, L5
  - GLONASS: L1 C/A, L2 C/A, L2P, L3, L5
  - BeiDou: B1, B2, B3
  - Galileo:E1, E5 AltBOC, E5a, E5b, E6
  - NavIC (IRNSS) : L5
  - SBAS : L1, L5
  - QZSS : L1 C/A, L1C, L2C, L5, L6
  - L-Band: Up to 5 channels

Performance Specifications
- Time to First Fix(TTFF):
  Cold start:<40s(typical)
  Hot start:<19s(typical)
  Signal reacquisition:
  L1<0.5s(typical)
  L2<1.0s(typical)
- RTK Initialization time:
  <10 s
- RTK Initialization reliability:
  >99.9%

Real-Time Accuracy (rms)[*1]
- SBAS
  Horizontal: 60cm(1.97ft), Vertical:120cm(3.94ft)
- Real-Time DGPS position
  Horizontal: 40cm (1.31ft), Vertical:80cm(2.62ft)
- Real-Time Kinematic Position(fine mode)
  Horizontal: 8mm(0.03ft) + 0.5ppm
  Vertical: 15mm(0.05ft) + 0.5ppm

Post Processing Accuracy (rms)[*2]
  Static, Rapid Static
- Horizontal: 2.5mm(0.008 ft) + 0.5ppm
- Vertical: 5mm(0.016 ft) + 0.5ppm
- High-precision Static for long time
- Horizontal:3mm(0.010 ft)+0.1ppm
  Vertical:3.5mm(0.011 ft)+0.4ppm

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
- RTCM2.1,2.3,3.0,3.1
- CMR,CMR+
- RTCA
- NOVATELX
- NMEA 0183

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)
- MIL-STD-MIL-STD-810H
  Vibration- Vibration resistant

- Humidity: 100% condensing
- Waterproof: IP68
- 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
  -0.5/2W
- 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/F59

*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

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Since 1958

It's professional

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