TOPCON
Mobile Control

ORIGINAL EQUIPMENT MANUFACTURERS BOARD

GPS, GLONASS and Galileo signal tracking

- **Dual frequency GPS and GLONASS tracking capability**
- **Galileo GIOVE satellite tracking**
- **In-band interference suppression capability**
- **20 satellite, all-in-view, tracking capability**
- **20Hz RTK and update rate**
- **Scalable solution via software option authorization (OAF)**

The G3160T Eurocard offers state of the art positioning based on GPS, GLONASS and now Galileo satellite signals. Designed for integrators who demand the ultimate in performance, the G3160T is able to withstand 30 g acceleration and output precise position computations at a high rate.

G3 160T Board Features & Specifications:

Tracking Features

- L1/L2 GPS, L1/L2 GLONASS, L1/L2 GPS + L1/L2 GLONASS, WAAS/MSAS/EGNOS,
- GPS L5, GALILEO E1/E5a (hardware compatible, in future after firmware upgrade)
- Cinderella Option
- Up to 30 dB of "IN-BAND" interference suppression (in future after firmware upgrade)
- Co-Op Tracking (high satellites help low satellites, in future after firmware upgrade)

- Low signal tracking (down to 30 dBHz)
- Fast acquisition and fast re-acquisition
- Cold start < 60 sec
- Warm start < 35 sec
- Hot start: < 10 sec
- Reacquisition < 1 sec
- Up to 30 g's of dynamic
- Advanced Multipath Mitigation

Data Features

- Up to 20 Hz update rate for real time position and raw data (code and carrier)
- 10 cm code phase and 0.1 mm carrier phase precision
- RTCM SC104 versions 2.1, 2.2 and 3.0 Input/Output

- NMEA 0183 versions 2.1, 2.2, 2.3 and 3.0 Output
- Geoid and Magnetic Variation models
- Different DATUMs support
- Output of grid coordinates
- CMR and CMR+ support

Position Accuracy*

Dual Frequency:
- Static, Fast Static
  Horz: 3mm + 1ppm x (baseline)
  Vert: 5mm + 1ppm x (baseline)

- Kinematic, RTK
  Horz: 10mm + 1.5ppm x (baseline)
  Vert: 15mm + 1.5ppm x (baseline)

Data Storage

- Up to 2 GB of on-board data storage (removable CompactFlash card).

Input/Output

- Four high speed RS232 serial ports (up to 460.8 Kbps).
- Full-duplex 10/100BASE-T E-net port.
- Full-speed USB device port (12 Mbps).
- Direct connection to our GPS-coupled spread spectrum radio.
- External Reference Frequency input/output
- Two 1PPS outputs (LVTTL) synchronized to GPS, UTC, or GLONASS

- Two Event Marker inputs
- MINTER interface:
  Four external LED drivers
  ON/OFF control input External command input
- Four General Purpose 3.3V CMOS inputs
- Eight General Purpose 3.3V CMOS outputs

Power

- Input supply voltage: 4.75V to 28V
- Power consumption: 4.0W typical; 5.0W max

- On-board back-up battery for time keeping and almanac data storage: 10 years of operation min

Environmental

- Operating Temperature -40°C to +75°C

Other

Antenna output voltage - 5 VDC

Back up battery - 10 years

Main Connector

DIN41612, 2 row x 32 pin, Right Angle, Male, AMP 536052-5 is used on the board.

Dimensions

160 x 100 x 14.2 mm

Antenna Connector

- Both RF connectors are MMCX RIGHT ANGLE PCB JACK, THROUGH HOLE/ AMPHENOL/908-24100.
- J101 is GNSS antenna input connector.

- J501 is External Reference Frequency connector.

CAN Connector

HEADER,1X6, MOLEX 53261-0690 is used on the board (J601)

* With proper 50 ohm antenna
** For Technical Drawings and additional Technical Specifications go to: www.topconsolutions.com.

G3 160T

Powered by our Paradigm® GPS+ chip, the G3 160T includes dual frequency GPS and GLONASS tracking capability with up to 20Hz RTK and update rates. Its rugged Eurocard interface and vast array of input/output options provides easy and reliable integration for the most demanding applications.

And with Topcon's exclusive software option authorization capability (OAF), you only pay for the capability you need today…easily upgrade as your requirements change in the future.

Other OEM Boards

TG-3
The economical TG-3 board provides 50 channel GPS+GLONASS single frequency technology with up to 100Hz data and position update capability.

Euro 112T
Small Eurocard format (112mm), provides GPS L1/L2, and GLONASS tracking, reduced power consumption, and many of Topcon's exclusive and advanced GPS+ features.

Euro 160T
Standard 160mm Eurocard format delivers GPS L1/L2, and GLONASS tracking and all of Topcon's exclusive and advanced GPS+ features.

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