HIGH PRECISION GNSS HEADING AND POSITIONING
The dual-antenna, multi-frequency OEM7720 offers future ready, precise heading and positioning for space constrained applications. Advanced interference mitigation features are available for performance in challenging environments. With a variety of interface options to facilitate system integration, the OEM7720 provides the most efficient way to bring powerful Global Navigation Satellite System (GNSS) capable products to market quickly. With centimetre level positioning utilizing TerraStar L-Band satellite-delivered correction services, the OEM7720 ensures globally available, high performance positioning without the need for expensive network infrastructure. Anywhere. Anytime.

SINGLE-BOARD HEADING
The OEM7720 uses a 555 channel architecture and can be configured in multiple ways for maximum flexibility. NovAtel’s OEM7™ firmware provides users with the ability to configure the OEM7720 for their unique application needs. Utilizing a single antenna, the OEM7720 delivers a traditional precise positioning solution. Connecting an optional second antenna allows ALIGN® to compute high precision heading solutions. Increasing the distance between antennas maximizes the heading precision. The OEM7720’s dual antennas will also quickly calibrate a SPAN® GNSS+INS system for continuous 3D position, velocity and attitude. NovAtel CORRECT™ with RTK delivers centimetre level real-time positioning, or go base-free with centimetre and decimetre PPP solutions using TerraStar corrections.

To learn more about how our firmware solutions can enhance your positioning, please visit novatel.com/products/firmware-options.

DESIGNED WITH THE FUTURE IN MIND
The OEM7720 is capable of tracking all current and upcoming GNSS constellations including GPS, GLONASS, Galileo, BeiDou, QZSS and IRNSS. It is software upgradable to track upcoming signals as they become available.
PERFORMANCE

Channel Count
555 Channels

Signal Tracking
Primary RF
GPS L1 C/A, L1C, L2C, L2P, L5
GLONASS L1 C/A, L1C, L2C, L2P, L3, L5
BeiDou L1, L5
Galileo E1, E5 AltBOC, E5a, E5b
IRNSS L1
SBAS L1, L5
QZSS L1 C/A, L1C, L2C, L5
L-Band up to 5 channels

Secondary RF
GPS L1 C/A, L1C, L2C, L2P
GLONASS L1, L2C, L2P
BeiDou L1, B1, B2
Galileo E1, E5b
QZSS L1 C/A, L1C, L2C

Horizontal Position Accuracy (RMS)
Single Point L1 1.5 m
Single Point L1/L2 1.2 m
NovAtel CORRECT
» SBAS 60 cm
» DGPS 40 cm
» PPP 10 cm
TerraStar-L 40 cm
TerraStar-C 4 cm
RTK 1 cm + 1 ppm

Time to First Fix
Cold start 10, 16 < 40 s (typical)
Hot start 10, 16 < 19 s (typical)

Signal Reacquisition
L1 < 0.5 s (typical)
L2 < 1.0 s (typical)

Time Accuracy 20 ns RMS
Velocity Accuracy < 0.03 m/s RMS
Velocity Limit 515 m/s

PHYSICAL AND ELECTRICAL

Dimensions 46 x 71 x 11 mm
Weight 35 g

Power
Input voltage +3.2 to 5.0 VDC (±5%)

Power Consumption
GPS L1 1.3 W (typical)
GPS/GLONASS L1/L2 2.0 W (typical)
All frequencies/all constellations with L-Band 2.5 W (typical)

Antenna Port Power Output
Output voltage 3.3 VDC ±5%
Maximum current 400 mA

Connectors
Main 60-pin dual row female socket
Antenna Inputs MMBX female

COMMUNICATION PORTS
5 LVCMOS up to 460,800 bps
2 CAN Bus 1 Mbps
1 USB 2.0 (device) HS
1 USB 2.0 (host) HS
1 Ethernet 10/100 Mbps

ENVIROMENTAL

Temperature
Operating -40°C to +85°C
Storage -55°C to +95°C

Humidity 95% non-condensing

Vibration
Random 10, 16 MIL-STD-810G
(Cat 24, 20 g RMS)
Sinusoidal IEC 60068-2-6
Bump ISO 9022-31-06 (25 g)

Shock
Operating MIL-STD-810G (40 g)
Non-operating MIL-STD-810G, Method 516.7 (75 g)

Acceleration
Operating MIL-STD-810G, Method 513.7 (16 g)

FEATURES

- Field upgradeable software
- Differential GNSS positioning
- Differential correction support for RTCM 2.1, 2.3, 3.0, 3.1, CMR, CMR+, RTCA and NovAtel
- Navigation output support for NMEA 0183 and detailed NovAtel ASCII and binary logs
- Receiver Autonomous Integrity Monitoring (RAIM)
- GLIDE and STEADYLINE smoothing algorithms
- Interference Toolkit
- Web GUI
- Outputs to drive external LEDs
- 4 Event inputs
- 4 Event outputs
- Pulse Per Second (PPS) output

FIRMWARE SOLUTIONS

- ALIGN
- SPAN
- RTK
- RTK ASSIST™
- TerraStar PPP
- API

OPTIONAL ACCESSORIES

- VEXXIS™ GNSS–500 and GNSS–800 series antennas
- ANT series antennas
- Mechanical mounting rails
- OEM7 Development Kit

For the most recent details of this product: novatel.com/oem7