

# Enclosures GT7800



## CUSTOM DESIGNED ENCLOSURE USING OEM7 TECHNOLOGY FOR PRECISE TIMING APPLICATIONS



### FUTURE PROOFED SCALABILITY

Capable of tracking all present and upcoming Global Navigation Satellite System (GNSS) constellations and satellite signals, the GT7800 is easy to use and customize for your application.

### EASY SYSTEM INSTALLATION AND PRECISE TIMING

The GT7800 uses NovAtel's OEM729™ receiver to provide highly precise timing when used on its own or connected with an external oscillator. Standard interfaces are provided through conventional connectors, eliminating the need for hard to find and expensive custom cables. The GT7800 also features advanced Ethernet support for remote configuration and access of receiver data.

### FULLY FUNCTIONAL OEM729 RECEIVER

The GT7800 is scalable to offer sub-metre to centimetre level positioning and is upgradable to all OEM7 family software options. These options include ALIGN® for precise heading and relative positioning, GLIDE® for decimetre level pass-to-pass accuracy and SPAN® GNSS+INS for continuous 3D position, velocity and attitude. NovAtel CORRECT™ with RTK delivers centimetre level real-time positioning or for centimetre and decimetre PPP solutions use TerraStar corrections.

### PRECISE THINKING MAKES IT POSSIBLE

Developed for efficient and rapid integration, our GNSS products have set the standard in quality and performance for over 20 years. State-of-the-art, lean manufacturing facilities in our North American headquarters produce the industry's most extensive line of OEM receivers, antennas and subsystems. All of our products are backed by a team of highly skilled design and customer support engineers, ready to answer your integration questions.

### FEATURES & BENEFITS

- + Easy access to all ports available on OEM729 receiver card
- + Support for external oscillator for precise timing applications
- + 555 channel, all-constellation, multi-frequency positioning solution
- + Serial, USB, CAN and Ethernet connectivity

If you require more information about our receivers, visit [novatel.com/oem7](http://novatel.com/oem7)

# GT7800



## PERFORMANCE<sup>1</sup>

### Channel Count

555 Channels

### Signal Tracking

GPS L1 C/A, L1C, L2C, L2P, L5

GLONASS<sup>2</sup> L1 C/A, L2C/A, L2P, L3, L5

BeiDou<sup>3</sup> B1, B2, B3

Galileo<sup>4</sup> E1, E5 AltBOC, E5a, E5b, E6

IRNSS<sup>5</sup> L5

SBAS L1, L5

QZSS L1 C/A, L1C, L2C, L5, L6

L-Band up to 5 channels

### Horizontal Position Accuracy (RMS)

Single Point L1 1.5 m

Single Point L1/L2 1.2 m

### NovAtel CORRECT

SBAS<sup>6</sup> 60 cm

DGPS 40 cm

» PPP<sup>7</sup>

TerraStar-L 40 cm

TerraStar-C 4 cm

» RTK 1 cm + 1 ppm

Initialization time < 10 s

Initialization reliability > 99.9%

### Maximum Data Rate

Measurements up to 100 Hz

Position up to 100 Hz

### Time to First Fix

Cold start<sup>8, 13</sup> < 40 s (typical)

Hot start<sup>9, 13</sup> < 19 s (typical)

### Signal reacquisition

L1 < 0.5 s (typical)

L2 < 1.0 s (typical)

Time Accuracy<sup>10</sup> 20 ns RMS

### Velocity Accuracy

0.03 m/s RMS

### Velocity Limit<sup>11</sup>

515 m/s

## PHYSICAL AND ELECTRICAL

**Dimensions** 160W x 62.5 H x 190 L mm

**Weight** 500 g

### Power

Input voltage +9 to +36 VDC

Power consumption<sup>12</sup> 2.0 W

### Antenna LNA Power Output

Output voltage 5 VDC ±5%

Maximum current 200 mA

### Connectors

Antenna TNC

Serial DB9 male

CAN DB9 female

USB 2.0 (device only) Micro A/B

Ethernet RJ45

Event In/out BNC

Ext Osc BNC

Power DC coax jack

### Status LEDs

Power

Position Valid

Error

## ENVIRONMENTAL

### Temperature

Operating 0°C to +55°C

Storage -40°C to +75°C

### Compliance

FCC, Innovation, Science and Economic Development (ISED) Canada

ESD: IEC 61000-4-2

## FIRMWARE SOLUTIONS

- ALIGN
- GLIDE
- SPAN
- RTK
- RTK ASSIST
- TerraStar PPP

## INCLUDED ACCESSORIES

- DC power cable assembly
- USB micro cable

## OPTIONAL ACCESSORIES

- VEXXIS® GNSS-500 and GNSS-800 series antennas
- GNSS-750 Wideband Choke Ring Antenna
- NovAtel Connect™

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**Version 1** Specifications subject to change without notice

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1. Typical values. Performance specifications subject to GPS system characteristics, US DOD operational degradation, ionospheric and tropospheric conditions, satellite geometry, baseline length, multipath effects and the presence of intentional or unintentional interference sources.

2. Hardware ready for L3 and L5.

3. Designed for BeiDou Phase 2 and 3, B1, B2 and B3 compatibility.

4. E1bc and E6bc support only.

5. Hardware ready for L5.

6. GPS only.

7. Requires a subscription to TerraStar data service. Subscriptions available from NovAtel.

8. Typical value. No almanac or ephemerides and no approximate position or time.

9. Typical value. Almanac and recent ephemerides saved and approximate position and time entered.

10. Time accuracy does not include biases due to RF or antenna delay.

11. Export licensing restricts operation to a maximum of 515 metres per second, message output impacted above 500 m/s.

12. Typical values using serial port communication without interference mitigation and external oscillator disabled. Consult the OEM7 User Documentation for power supply considerations.