



Military & Defense

Assured Position, Navigation & Timing



Navigation superiority starts with us

Trusted, mission-ready, electronic defense products are critical to success. Hexagon | NovAtel® is a leader in this domain with over 25 years of experience producing innovative technology to protect your people right now. Our products ensure accurate, reliable, and precise position and time measurements for successful military operations for land, air, sea, space, and cyberspace

Cyber-electromagnetic activities

Thanks to a team of top engineers in geomatics, antennas, radio frequency (RF), hardware, software, and digital techniques, NovAtel's OEM Global Navigation Satellite Systems (GNSS) technology is inside many of the industry's most advanced high precision positioning applications.

Our technology addresses the needs of Cyber-Electromagnetic Activities (CEMA) including Navigation Warfare (NAVWAR). We provide Situation Awareness, CEMA Defense as well as Electronic Attack. NovAtel OEM components and commercial off-the-shelf items for the military are engineered to ensure continuous positioning, as well as detecting, locating and characterizing interference sources and training people how to work in GNSS contested environments.



PHOTO CREDIT Schiebel

NovAtel advantage

- Lean Manufacturing in our advanced factory in Calgary, Canada
- Robust supply chain ensures highest product quality
- Lifetime product return rate <1%
- Short lead times and delivery in quantity

Situation awareness

Detect, locate and characterize jammers for situational awareness, attribution or to cue countermeasures.

Interference monitoring

The Interference Toolkit™ on board our OEM7® receivers enables users to monitor the in-band GNSS spectrum for interference and to mitigate the interference sources using advanced digital filtering techniques. Advanced options provide time-tagged data that users can employ to characterize and geolocate jammers.

Anti-spoofing technology

Unlike jammers which overpower the GNSS receiver by blocking the signals, spoofers deceive the receiver. Spoofing is harder to achieve than jamming but is potentially more impactful and is becoming more prevalent. A spoofed receiver will give false data to the user, which reduces assured positioning performance.

We have proven capability to protect receivers from both the interference caused by jamming and the false information provided by spoofing.

Defense

Protection from interference and intentional jamming in Cyber Electromagnetic Activities (CEMA) so Position, Navigation and Timing (PNT) is continuously available.

OEM7® Receivers



NovAtel's multi-frequency, multi-constellation receivers provide unsurpassed signal availability in challenging environments. We set the industry standard in quality and customer support. Easy to

integrate and available in multiple hardware and software configurations, all OEM7 receivers can host your own firmware through an application programming interface (API), which can reduce the overall number of boards in a system.

ALIGN® GNSS Heading

ALIGN firmware is ideal for calculating precise position, heading and relative heading in high dynamic land, marine and aviation applications. ALIGN uses GPS, GLONASS and BeiDou to provide the best solution accuracy and availability for your application, even in harsh environments.

SPAN® GNSS+Inertial Navigation

SPAN tightly couples NovAtel's GNSS receivers with Inertial Measurement Units (IMU) for reliable, continuously available 3D position, velocity and attitude—even during periods of satellite signal unavailability.



GPS Anti-Jam Technology

GAJT® mitigates against jammers to ensure the continuous signals required for calculating position and time remain available. GAJT is off-the-shelf to ensure short order lead times and quick deployment. It integrates easily into new platforms or can be retrofitted on existing and legacy military fleets. As well as protection, data messages are provided to indicate the presence of jammers.

GAJT-710™



Optimized for key land platforms and warships, GAJT provides the same high level of protection as all GAJTs with added degrees of freedom. Silent Mode allows the platform's GPS receiver to continue to operate in silent watch, and the GAJT seamlessly powers on when the vehicle is re-started.

GAJT-410™

The GAJT-410 is the next evolution of NovAtel's battle-proven GPS Anti-Jam Technology. It maintains the high levels of interference rejection performance as in the larger GAJT-710 system, but in a lower size, weight and power (SWaP) design. Working alongside the GAJT-410, the Power Injector Data Converter (PIDC) provides access to the jammer status and direction-finding (DF) information. It also provides clean power and data over the same cable that delivers the protected GPS signal back to the receiver, which reduces the need for costly platform modifications. The PIDC can be supplied in either an enclosure or board and is available to license for installation into third-party equipment.



GAJT-AE-N™

For smaller platforms, such as UAVs and other unmanned sea and land vehicles, users can benefit from the advantages of GAJT in a small form-factor. GAJT-AE-N is used with an external, separated controlled reception pattern antenna (CRPA) so that the antenna control unit can be installed inside the platform. Rail mounted cards (no enclosure) are provided as GAJT-AE-R for size/weight constrained applications.



Visualization and Analysis

Waypoint® post-processing software (GrafNav, GrafNet and Inertial Explorer®) provides the ability to analyze position, velocity or attitude.

Post-processing maximizes accuracy by processing previously stored GNSS and IMU data forward and reverse in time and combining the results. The solution can be smoothed and output at the required data rate, and in the coordinate frame required.



About Hexagon | NovAtel®

Hexagon is a global leader in sensor, software and autonomous solutions. We are putting data to work to boost efficiency, productivity, and quality across industrial, manufacturing, infrastructure, safety, and mobility applications. Our technologies are shaping urban and production ecosystems to become increasingly connected and autonomous — ensuring a scalable, sustainable future.

NovAtel, part of Hexagon, is a global technology leader, pioneering end-to-end solutions for assured positioning for land, sea, and air. NovAtel designs, manufactures and sells high precision positioning technology developed for efficient and rapid integration. Its solutions are empowering intelligent positioning ecosystems in vital industries that depend on the ability to tackle the most complex challenges in the most demanding environments. Learn more at novatel.com.

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