



**Precise thinking**

## **Model List for NovAtel Receivers**

### **NovAtel Inc.**

Phone: 1-800-NOVATEL  
403-295-4500

Fax: 403-295-4901

Web: [www.novatel.com](http://www.novatel.com)

Email: [sales@novatel.com](mailto:sales@novatel.com)

Mail: NovAtel Inc.  
1120 - 68th Avenue NE  
Calgary, Alberta  
Canada T2E 8S5

*All prices, product descriptions, specifications, and models are subject to changes without notice. A complete summary of NovAtel's Standard Terms and Conditions is available upon request.*

*BeeLine, GPStation, GrafNav/GrafNet, Inertial Explorer, MEDLL, Narrow Correlator, NovAtel, NovAtel OnBoard, OEMV, ProPak, RT-2, and Waypoint are registered trademarks of NovAtel Inc. AdVance, ALIGN, EuroPak, FlexPak, GL1DE, Pinwheel, RT-20, SafeTrak, SPAN, and Vision Correlator are trademarks of NovAtel Inc. All other brand names are trademarks of their respective owners.*



## RoHS Information

NovAtel's OEMV® products listed in this price list are compliant with the European Economic Union's **Restriction of Hazardous Substances (RoHS)** directive. The aim of this directive is to reduce the hazardous materials content in electronic products. Specifically, it bans electronic equipment from being sold in Europe after July 1, 2006 if it contains more than trace levels of lead, hexavalent chromium, cadmium, mercury or certain brominated flame-retardants. China has issued a similar directive.

NovAtel is in the process of converting other selected products to meet the RoHS directive; however, not all existing products will be converted. RoHS status of individual products as shown on the following pages refers to the European Economic Union (EU) regulations. Products that are compliant with the EU directive are also compliant with the Chinese regulations. Please contact NovAtel for the status of other products with respect to the Chinese directive.



## OEMV® Receivers

The OEMV Family receivers are available in single, dual, or triple-frequency hardware variants and feature our patented PAC technology. All OEMV receivers use the AdVance™ RTK GNSS engine for state of the art positioning performance. In addition, NovAtel's GL1DE™ positioning offers users of autonomous L1, or any code positioning modes, superior positioning stability previously only available in carrier phase solutions. Included with each receiver are NovAtel's Windows®-based software utilities, CDU and Convert, and product manuals. Upgrades to more feature-intensive models are available via telephone, fax, or e-mail.

All of the OEMV receivers are RoHS-compliant.

A subscription is required for OmniSTAR HP/XP/VBS service, which may not be available in all areas.

CDGPS corrections may not be available in all areas.

SBAS corrections, including WAAS, MSAS, and EGNOS, may not be available in all areas.

### OEMV-1 Receivers

The OEMV-1 is a 36-channel, single-frequency GPS L1 plus L-band receiver with low power consumption. All OEMV-1 receivers offer position, velocity, and time (PVT) output up to 50 Hz, real-time DGPS positioning, support for RTCA and RTCM messages, three serial ports, and a USB port.

The DGPS positioning available in the OEMV-1 receivers, including SBAS, OmniSTAR VBS, and the Canadian Differential GPS service (CDGPS), provides the extra precision required in L1 applications. L-band enabled models also offer RTCM type 1 and 9 corrections generated from the GPS\*C/CDGPS correction stream. NovAtel's RT-20™ model is available for L1 carrier-phase positioning up to 50 Hz.

The OEMV-1 card is available standalone in a 46 x 71 mm form factor, in a FlexPak™ enclosure, or in a SMART ANTENNA, and is configurable as a rover or base station.

### Card

#### OEMV-1 Card

The Application Programming Interface (API) option is available on all models except those ending in "-F". Add \$750 to the list price and "-A" to the part number for each receiver requiring API capabilities.

#### Single-Frequency

|               |  |
|---------------|--|
| OEMV-1-RT20-F | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 50 Hz |
| OEMV-1-RT20   | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 20 Hz |
| OEMV-1-L1-VBS | GPS RT-20 corrections and raw data, code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 20 Hz                                      |
| OEMV-1-VBS    | GPS code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 20 Hz  |
| OEMV-1-L1-F   | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 50 Hz   |
| OEMV-1-L1     | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz   |
| OEMV-1-PVT    | GPS code positions, SBAS, 20 Hz  |
| OEMV-1-1HZ    | GPS code positions and raw data, SBAS, 1Hz   |

### Enclosure

## ***FlexPak-V1 Enclosure***

End of Life for the FlexPak enclosures has been announced. Orders will be accepted until 31 August 2009 and shipments may be scheduled for no later than 28 February 2010.

The FlexPak-V1G enclosure and cable set are RoHS-compliant and meet FCC and CE regulatory standards for emissions and safety. The enclosure comes with a USB cable, a power cable, and two serial communication cables (RS-232 straight and RS-232 null modem). USB is available on either port, and RS-422 is available on the COM2 port. A FlexPak-V1 Quick Start Guide and OEMV family Quick Start Guide are included.

The Application Programming Interface (API) option is available on all models except those ending in "-F". Add \$750 to the list price and "-A" to the part number for each receiver requiring API capabilities.

### ***Single-Frequency***

|                   |  |
|-------------------|--|
| FLEXPAK-V1-RT20-F | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 50 Hz |
| FLEXPAK-V1-RT20   | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 20 Hz |
| FLEXPAK-V1-L1-VBS | GPS RT-20 corrections and raw data, code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 20 Hz                                      |
| FLEXPAK-V1-VBS    | GPS code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 20 Hz  |
| FLEXPAK-V1-L1-F   | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 50 Hz   |
| FLEXPAK-V1-L1     | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz   |
| FLEXPAK-V1-PVT    | GPS code positions, SBAS, 20 Hz  |
| FLEXPAK-V1-1HZ    | GPS code positions and raw data, SBAS, 1Hz   |

## **SMART Antenna**

### ***SMART-V1-2US Antenna***

The SMART-V1 is a rugged self-contained GPS receiver and antenna designed for operation in harsh environments. The SMART-V1 is based on the OEMV-1 card, which offers position, velocity and time output up to 20 Hz, as well as a wide variety of positioning options including SBAS, OmniSTAR (subscription required), CDGPS (no subscription required), DGPS, and NovAtel's RT-20 for precision L1 applications.

The SMART-V1 is RoHS compliant and meets FCC and CE regulatory standards for emissions and safety. A selection of cables are available as an orderable option.

"SMART-V1-2US" part numbers indicate 2xRS-232, 1xUSB, side-mount connector.

The Application Programming Interface (API) option is available on all USB models. Add \$750 to the list price and "-A" to the part number for each receiver requiring API capabilities.

### **RS-232 Version**

#### ***Single-Frequency***

|                     |  |
|---------------------|--|
| SMART-V1-2US-RT20   | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 20 Hz |
| SMART-V1-2US-L1-VBS | GPS RT-20 corrections and raw data, code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 20 Hz                                      |
| SMART-V1-2US-VBS    | GPS code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 20 Hz  |
| SMART-V1-2US-L1     | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz   |
| SMART-V1-2US-PVT    | GPS code positions, SBAS, 20 Hz  |
| SMART-V1-2US-1HZ    | GPS code positions and raw data, SBAS, 1Hz   |

### ***SMART-V1-2CS Antenna***

"SMART-V1-2CS" part numbers indicate 2xRS-232, 1xCAN, side-mount connector.

The API option is included with all CAN models.

### **RS-232 Version**

#### ***Single-Frequency***

|                   |   |
|-------------------|---|
| SMART-V1-2CS-RT20 | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 20 Hz, API support |
|-------------------|---|

|                     |  |
|---------------------|--|
| SMART-V1-2CS-L1-VBS | GPS RT-20 corrections and raw data, code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 20 Hz, API support |
| SMART-V1-2CS-VBS    | GPS code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 20 Hz, API support                                 |
| SMART-V1-2CS-L1     | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz, API support                      |
| SMART-V1-2CS-PVT    | GPS code positions, SBAS, 20 Hz, API support   |
| SMART-V1-2CS-1HZ    | GPS code positions and raw data, SBAS, 1Hz, API support  |

### **SMART-V1-4XS Antenna**

"SMART-V1-4XS" part numbers indicate 2xRS-422, 1xRS-232, side-mount connector. The API option is not available on RS-422 models.

#### **RS-422 Version**

##### **Single-Frequency**

|                     |  |
|---------------------|--|
| SMART-V1-4XS-RT20   | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 20 Hz |
| SMART-V1-4XS-L1-VBS | GPS RT-20 corrections and raw data, code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 20 Hz                                      |
| SMART-V1-4XS-VBS    | GPS code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 20 Hz  |
| SMART-V1-4XS-L1     | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz   |
| SMART-V1-4XS-PVT    | GPS code positions, SBAS, 20 Hz  |
| SMART-V1-4XS-1HZ    | GPS code positions and raw data, SBAS, 1Hz   |

### **OEMV-1G Receivers**

The OEMV-1G is a 36-channel, single frequency GPS plus GLONASS L1 receiver with low power consumption. All OEMV-1G receivers offer position, velocity, and time (PVT) output up to 50 Hz, real-time DGPS positioning, support for RTCA and RTCM messages, three serial ports, and a USB port.

The OEMV-1G offers GPS plus GLONASS real-time positions and measurements, depending on which model is purchased. The addition of GLONASS satellites provides more available data for positioning in challenging environments.

The OEMV-1G card is available standalone in a 46 x71 mm form-factor, in a FlexPak enclosure, or in a SMART Antenna, and is configurable as a rover or base station.

OEMV-1G receivers are not capable of operation with OmniSTAR. Please refer to the OEMV-1 receivers for OmniSTAR-capable models.

#### **Card**

##### **OEMV-1G Card**

The Application Programming Interface (API) option is available on all models except those ending in "-F". Add \$750 to the list price and "-A" to the part number for each receiver requiring API capabilities.

NovAtel's ALIGN for heading and separation between two receivers is available on certain models. Refer to the GNSS Heading section of NovAtel's Retail Price List for a list of available models.

##### **Single-Frequency**

|                 |  |
|-----------------|--|
| OEMV-1G-RT2L1-G | GPS plus GLONASS 2 cm real-time kinematic positions, RTK corrections and raw data, code positions and DGPS, SBAS, 20 Hz    |
| OEMV-1G-RT20-G  | GPS plus GLONASS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz |
| OEMV-1G-RT20-F  | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, SBAS, 50 Hz              |
| OEMV-1G-RT20    | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz              |
| OEMV-1G-L1-G    | GPS plus GLONASS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz                                      |
| OEMV-1G-L1-F    | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 50 Hz   |
| OEMV-1G-L1      | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz   |
| OEMV-1G-PVT-G   | GPS plus GLONASS code positions, SBAS, 20 Hz   |
| OEMV-1G-PVT     | GPS code positions, SBAS, 20 Hz  |

|               |   |
|---------------|---|
| OEMV-1G-1HZ-G | GPS plus GLONASS code positions and raw data, SBAS, 1Hz |
| OEMV-1G-1HZ   | GPS code positions and raw data, SBAS, 1Hz              |

### ***OEMV-1G-RA Card***

The OEMV-1G-RA card offers a right-angle connector on our popular OEMV-1G receiver.

The Application Programming Interface (API) option is available on all models except those ending in "-F". Add \$750 to the list price and "-A" to the part number for each receiver requiring API capabilities.

NovAtel's ALIGN for heading and separation between two receivers is available on certain models. Refer to the GNSS Heading section of NovAtel's Retail Price List for a list of available models.

#### ***Single-Frequency***

|                    |  |
|--------------------|--|
| OEMV-1G-RA-RT2L1-G | GPS plus GLONASS 2 cm real-time kinematic positions, RTK corrections and raw data, code positions and DGPS, SBAS, 20 Hz    |
| OEMV-1G-RA-RT20-G  | GPS plus GLONASS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz |
| OEMV-1G-RA-RT20-F  | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, SBAS, 50 Hz              |
| OEMV-1G-RA-RT20    | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz              |
| OEMV-1G-RA-L1-G    | GPS plus GLONASS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz                                      |
| OEMV-1G-RA-L1-F    | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 50 Hz   |
| OEMV-1G-RA-L1      | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz   |
| OEMV-1G-RA-PVT-G   | GPS plus GLONASS code positions, SBAS, 20 Hz   |
| OEMV-1G-RA-PVT     | GPS code positions, SBAS, 20 Hz  |
| OEMV-1G-RA-1HZ-G   | GPS plus GLONASS code positions and raw data, SBAS, 1Hz  |
| OEMV-1G-RA-1HZ     | GPS code positions and raw data, SBAS, 1Hz   |

## **Enclosure**

### ***FlexPak-V1G Enclosure***

End of Life for the FlexPak enclosures has been announced. Orders will be accepted until 31 August 2009 and shipments may be scheduled for no later than 28 February 2010.

The FlexPak-V1G enclosure and cable set are RoHS-compliant and meet FCC and CE regulatory standards for emissions and safety. The enclosure comes with a USB cable, a power cable, and two serial communication cables (RS-232 straight and RS-232 null modem). USB is available on either port, and RS-422 is available on the COM2 port. A FlexPak-V1G Quick Start Guide and OEMV family Quick Start Guide are included.

The Application Programming Interface (API) option is available on all models except those ending in "-F". Add \$750 to the list price and "-A" to the part number for each receiver requiring API capabilities.

NovAtel's ALIGN for heading and separation between two receivers is available on certain models. Refer to the GNSS Heading section of NovAtel's Retail Price List for a list of available models.

#### ***Single-Frequency***

|                     |  |
|---------------------|--|
| FLEXPAK-V1G-RT2L1-G | GPS plus GLONASS 2 cm real-time kinematic positions, RTK corrections and raw data, code positions and DGPS, SBAS, 20 Hz    |
| FLEXPAK-V1G-RT20-G  | GPS plus GLONASS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz |
| FLEXPAK-V1G-RT20-F  | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, SBAS, 50 Hz              |
| FLEXPAK-V1G-RT20    | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz              |
| FLEXPAK-V1G-L1-G    | GPS plus GLONASS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz                                      |
| FLEXPAK-V1G-L1-F    | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 50 Hz   |
| FLEXPAK-V1G-L1      | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz   |

|                   |   |
|-------------------|---|
| FLEXPAK-V1G-PVT-G | GPS plus GLONASS code positions, SBAS, 20 Hz            |
| FLEXPAK-V1G-PVT   | GPS code positions, SBAS, 20 Hz                         |
| FLEXPAK-V1G-1HZ-G | GPS plus GLONASS code positions and raw data, SBAS, 1Hz |
| FLEXPAK-V1G-1HZ   | GPS code positions and raw data, SBAS, 1Hz              |

## SMART Antenna

### *SMART-V1G Antenna*

The SMART-V1G is a rugged self-contained GPS plus GLONASS receiver and antenna designed for operation in harsh environments. The SMART-V1G is based on the OEMV-1G card, which offers position, velocity and time output up to 20 Hz, as well as a wide variety of positioning options including SBAS (GPS only), DGPS and NovAtel's RT-20 for precision L1 applications.

The SMART-V1G is RoHS compliant and meets FCC and CE regulatory standards for emissions and safety. A selection of cables are available as an orderable option.

"SMART-V1G-2US" part numbers indicate RS-232, USB, side-mount connectors.

The Application Programming Interface (API) option is available on USB models. Add \$750 to the list price and "-A" to the part number for each receiver requiring API capabilities.

NovAtel's ALIGN for heading and separation between two receivers is available on certain models. Refer to the GNSS Heading section of NovAtel's Retail Price List for a list of available models.

### **RS-232 Version**

#### *Single-Frequency*

|                      |  |
|----------------------|--|
| SMART-V1G-2US-RT20-G | GPS plus GLONASS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz |
| SMART-V1G-2US-RT20   | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz              |
| SMART-V1G-2US-L1-G   | GPS plus GLONASS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz                                      |
| SMART-V1G-2US-L1     | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz   |
| SMART-V1G-2US-PVT-G  | GPS plus GLONASS code positions, SBAS, 20 Hz   |
| SMART-V1G-2US-PVT    | GPS code positions, SBAS, 20 Hz  |
| SMART-V1G-2US-1HZ-G  | GPS plus GLONASS code positions and raw data, SBAS, 1Hz  |
| SMART-V1G-2US-1HZ    | GPS code positions and raw data, SBAS, 1Hz   |

## **OEMV-2 Receivers**

The OEMV-2 is a parallel 72-channel dual-frequency or 36-channel single-frequency receiver with low power consumption. OEMV-2 receivers feature GPS plus GLONASS position, velocity, and time (PVT) and raw data output, real-time DGPS and SBAS positioning, support for RTCA and RTCM messages, three serial ports, one CAN bus port, and a USB port.

The OEMV-2 receivers are capable of tracking the new L2C civilian signal. The L2C signal promises stronger signal tracking and better cross-correlation protection. The OEMV-2 also offers GPS plus GLONASS real-time positions and measurements, depending on which model is purchased. The addition of GLONASS satellites provides more available data for positioning in challenging environments.

The OEMV-2 card is available standalone in a 60 x 100 mm form factor or in a FlexPak enclosure, and is configurable as a rover or base station.

All single-frequency models are fully upgradeable to dual-frequency.

## **Card**

### *OEMV-2 Card*

The Application Programming Interface (API) option is available on all models except those ending in "-F". Add \$750 to the list price and "-A" to the part number for each receiver requiring API capabilities.

NovAtel's ALIGN for heading and separation between two receivers is available on certain models. Refer to the GNSS Heading section of NovAtel's Retail Price List for a list of available models.

### *Dual-Frequency*

|               |   |
|---------------|---|
| OEMV-2-RT2-G  | GPS plus GLONASS 1 cm real-time kinematic positions, RT-2® corrections and raw data, code positions and DGPS, SBAS, 20 Hz |
| OEMV-2-RT2-F  | GPS 1 cm real-time kinematic positions, RT-2 corrections and raw data, code positions and DGPS, SBAS, 50 Hz               |
| OEMV-2-RT2    | GPS 1 cm real-time kinematic positions, RT-2 corrections and raw data, code positions and DGPS, SBAS, 20 Hz               |
| OEMV-2-L1L2-G | GPS plus GLONASS RT-2 corrections and raw data, code positions and DGPS, SBAS, 20 Hz                                      |
| OEMV-2-L1L2-F | GPS RT-2 corrections and raw data, code positions and DGPS, SBAS, 50 Hz   |
| OEMV-2-L1L2   | GPS RT-2 corrections and raw data, code positions and DGPS, SBAS, 20 Hz   |
| OEMV-2-SBAS   | L1L2 SBAS positions, 20 Hz  |

### ***Single-Frequency***

|               |  |
|---------------|--|
| OEMV-2-RT20-G | GPS plus GLONASS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz |
| OEMV-2-RT20-F | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, SBAS, 50 Hz              |
| OEMV-2-RT20   | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz              |
| OEMV-2-L1-G   | GPS plus GLONASS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz                                      |
| OEMV-2-L1-F   | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 50 Hz   |
| OEMV-2-L1     | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz   |

## **Enclosure**

### ***FlexPak-V2 Enclosure***

End of Life for the FlexPak enclosures has been announced. Orders will be accepted until 31 August 2009 and shipments may be scheduled for no later than 28 February 2010.

The FlexPak-V2 enclosure and cable set are RoHS-compliant and meet FCC and CE regulatory standards for emissions and safety. The enclosure comes with a USB cable, a power cable, and two serial communication cables (RS-232 straight and RS-232 null modem). USB is available on either port, and RS-422 is available on the COM2 port. A FlexPak-V2 Quick Start Guide and OEMV family Quick Start Guide are included.

The Application Programming Interface (API) option is available on all models except those ending in "-F". Add \$750 to the list price and "-A" to the part number for each receiver requiring API capabilities.

NovAtel's ALIGN for heading and separation between two receivers is available on certain models. Refer to the GNSS Heading section of NovAtel's Retail Price List for a list of available models.

### ***Dual-Frequency***

|                   |  |
|-------------------|--|
| FLEXPAK-V2-RT2-G  | GPS plus GLONASS 1 cm real-time kinematic positions, RT-2 corrections and raw data, code positions and DGPS, SBAS, 20 Hz |
| FLEXPAK-V2-RT2-F  | GPS 1 cm real-time kinematic positions, RT-2 corrections and raw data, code positions and DGPS, SBAS, 50 Hz              |
| FLEXPAK-V2-RT2    | GPS 1 cm real-time kinematic positions, RT-2 corrections and raw data, code positions and DGPS, SBAS, 20 Hz              |
| FLEXPAK-V2-L1L2-G | GPS plus GLONASS RT-2 corrections and raw data, code positions and DGPS, SBAS, 20 Hz                                     |
| FLEXPAK-V2-L1L2-F | GPS RT-2 corrections and raw data, code positions and DGPS, SBAS, 50 Hz  |
| FLEXPAK-V2-L1L2   | GPS RT-2 corrections and raw data, code positions and DGPS, SBAS, 20 Hz  |
| FLEXPAK-V2-SBAS   | L1L2 SBAS positions, 20 Hz   |

### ***Single-Frequency***

|                   |  |
|-------------------|--|
| FLEXPAK-V2-RT20-G | GPS plus GLONASS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz |
| FLEXPAK-V2-RT20-F | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, SBAS, 50 Hz              |
| FLEXPAK-V2-RT20   | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz              |

|                 |   |
|-----------------|---|
| FLEXPAK-V2-L1-G | GPS plus GLONASS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz |
| FLEXPAK-V2-L1-F | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 50 Hz              |
| FLEXPAK-V2-L1   | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz              |

## ***OEMV-3 Receivers***

The OEMV-3 is a parallel 72-channel dual-frequency or 36-channel single-frequency receiver with low power consumption. All OEMV-3 cards feature GPS plus GLONASS position, velocity, and time (PVT) and raw data output, integrated real-time DGPS positioning (including SBAS, OmniSTAR, and CDGPS), support for RTCA and RTCM messages, three serial ports, 2 CAN bus ports, and a USB port. L-band enabled models also offer RTCM type 1 and 9 corrections generated from the GPS<sup>C</sup>/CDGPS correction stream.

The OEMV-3 offers GPS plus GLONASS real-time positions and measurements, depending on which model is purchased. The addition of GLONASS satellites provides more available data for positioning in challenging environments.

The OEMV-3 card is available standalone in an 85 x 125 mm form factor, in a ProPak® enclosure, or in a DL-V3 enclosure, and is configurable as a rover or base station.

All single-frequency models are fully upgradeable to dual-frequency.

## **Card**

### ***OEMV-3 Card***

The Application Programming Interface (API) option is available on all models except those ending in "-F". Add \$750 to the list price and "-A" to the part number for each receiver requiring API capabilities.

NovAtel's ALIGN for heading and separation between two receivers is available on certain models. Refer to the GNSS Heading section of NovAtel's Retail Price List for a list of available models.

### ***Dual-Frequency***

|               |   |
|---------------|---|
| OEMV-3-RT2-G  | GPS plus GLONASS 1 cm real-time kinematic positions, RT-2 corrections and raw data, code positions and DGPS, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 20 Hz |
| OEMV-3-RT2-F  | GPS 1 cm real-time kinematic positions, RT-2 corrections and raw data, code positions and DGPS, SBAS, 50 Hz   |
| OEMV-3-RT2    | GPS 1 cm real-time kinematic positions, RT-2 corrections and raw data, code positions and DGPS, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 20 Hz              |
| OEMV-3-L1L2-G | GPS plus GLONASS RT-2 corrections and raw data, code positions and DGPS, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 20 Hz                                     |
| OEMV-3-L1L2-F | GPS RT-2 corrections and raw data, code positions and DGPS, SBAS, 50 Hz   |
| OEMV-3-L1L2   | GPS RT-2 corrections and raw data, code positions and DGPS, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 20 Hz  |
| OEMV-3-HP     | GPS code positions and DGPS, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 20 Hz   |
| OEMV-3-SBAS   | L1L2 SBAS positions, 20 Hz  |

### ***Single-Frequency***

|               |   |
|---------------|---|
| OEMV-3-RT20-G | GPS plus GLONASS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 20 Hz |
| OEMV-3-RT20-F | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 50 Hz              |
| OEMV-3-RT20   | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 20 Hz              |
| OEMV-3-VBS    | GPS code positions, and DGPS, OmniSTAR VBS, CDGPS, and SBAS positions, 20 Hz  |
| OEMV-3-L1-G   | GPS plus GLONASS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz   |
| OEMV-3-L1-F   | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 50 Hz  |
| OEMV-3-L1     | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz  |

## **Enclosure**

## ***ProPak-V3 Enclosure***

The ProPak-V3 is a durable, high-performance receiver with advanced capabilities. It is available in RS-232 or RS-422 configurations with three serial ports, and auxiliary I/O port, and USB 1.1 support. The ProPak-V3 also features optional support for an external IMU. It includes and automotive power adapter, a null-model cable, a straight serial cable, a USB cable, auxiliary I/O port cable, and mounting kit.

The Application Programming Interface (API) option is available on all models except those ending in "-F". Add \$750 to the list price and "-A" to the part number for each receiver requiring API capabilities.

NovAtel's ALIGN for heading and separation between two receivers is available on certain models. Refer to the GNSS Heading section of NovAtel's Retail Price List for a list of available models.

The RS-422 version provides COM1 and COM3 at RS-422 levels. COM2 remains at RS-232 levels.

### **RS-232 Version**

#### ***Dual-Frequency***

|                  |   |
|------------------|---|
| PROPAK-V3-RT2-G  | GPS plus GLONASS 1 cm real-time kinematic positions, RT-2 corrections and raw data, code positions and DGPS, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 20 Hz |
| PROPAK-V3-RT2-F  | GPS 1 cm real-time kinematic positions, RT-2 corrections and raw data, code positions and DGPS, SBAS, 50 Hz   |
| PROPAK-V3-RT2    | GPS 1 cm real-time kinematic positions, RT-2 corrections and raw data, code positions and DGPS, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 20 Hz              |
| PROPAK-V3-L1L2-G | GPS plus GLONASS RT-2 corrections and raw data, code positions and DGPS, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 20 Hz                                     |
| PROPAK-V3-L1L2-F | GPS RT-2 corrections and raw data, code positions and DGPS, SBAS, 50 Hz   |
| PROPAK-V3-L1L2   | GPS RT-2 corrections and raw data, code positions and DGPS, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 20 Hz  |
| PROPAK-V3-HP     | GPS code positions and DGPS, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 20 Hz   |
| PROPAK-V3-SBAS   | L1L2 SBAS positions, 20 Hz  |

#### ***Single-Frequency***

|                  |   |
|------------------|---|
| PROPAK-V3-RT20-G | GPS plus GLONASS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 20 Hz |
| PROPAK-V3-RT20-F | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 50 Hz              |
| PROPAK-V3-RT20   | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 20 Hz              |
| PROPAK-V3-VBS    | GPS code positions, and DGPS, OmniSTAR VBS, CDGPS, and SBAS positions, 20 Hz  |
| PROPAK-V3-L1-G   | GPS plus GLONASS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz   |
| PROPAK-V3-L1-F   | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 50 Hz  |
| PROPAK-V3-L1     | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz  |

### **RS-422 Version**

#### ***Dual-Frequency***

|                      |   |
|----------------------|---|
| PROPAK-V3-424-RT2-G  | GPS plus GLONASS 1 cm real-time kinematic positions, RT-2 corrections and raw data, code positions and DGPS, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 20 Hz |
| PROPAK-V3-424-RT2    | GPS 1 cm real-time kinematic positions, RT-2 corrections and raw data, code positions and DGPS, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 20 Hz              |
| PROPAK-V3-424-L1L2-G | GPS plus GLONASS RT-2 corrections and raw data, code positions and DGPS, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 20 Hz                                     |
| PROPAK-V3-424-L1L2   | GPS RT-2 corrections and raw data, code positions and DGPS, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 20 Hz  |
| PROPAK-V3-424-HP     | GPS code positions and DGPS, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 20 Hz   |

#### ***Single-Frequency***

|                      |   |
|----------------------|---|
| PROPAK-V3-424-RT20-G | GPS plus GLONASS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 20 Hz |
|----------------------|---|

|                    |  |
|--------------------|--|
| PROPAK-V3-424-RT20 | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 20 Hz |
| PROPAK-V3-424-VBS  | GPS code positions, and DGPS, OmniSTAR VBS, CDGPS, and SBAS positions, 20 Hz   |
| PROPAK-V3-424-L1-G | GPS plus GLONASS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz  |
| PROPAK-V3-424-L1   | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz   |

### ***DL-V3 Enclosure***

The DL-V3 is a general purpose high-performance receiver designed for base station and rover applications. The DL-V3 incorporates NovAtel's OEMV-3 card housed in a rugged aluminum enclosure, and includes removable memory in a Compact Flash format. The DL-V3 offers flexible connectivity through 3 serial ports, USB (1.1), Ethernet, and Bluetooth interfaces, and an auxiliary I/O port. The DL-V3 includes an automotive power cable, a null-modem cable, a serial cable, a mounting kit, and a Compact Flash card.

The DL-V3 is not available with the API option.

NovAtel's ALIGN for heading and separation between two receivers is available on certain models. Refer to the GNSS Heading section of NovAtel's Retail Price List for a list of available models.

### **RS-232 Version**

#### ***Dual-Frequency***

|              |   |
|--------------|---|
| DL-V3-RT2-G  | GPS plus GLONASS 1 cm real-time kinematic positions, RT-2 corrections and raw data, code positions and DGPS, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 20 Hz |
| DL-V3-RT2-F  | GPS 1 cm real-time kinematic positions, RT-2 corrections and raw data, code positions and DGPS, SBAS, 50 Hz   |
| DL-V3-RT2    | GPS 1 cm real-time kinematic positions, RT-2 corrections and raw data, code positions and DGPS, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 20 Hz              |
| DL-V3-L1L2-G | GPS plus GLONASS RT-2 corrections and raw data, code positions and DGPS, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 20 Hz                                     |
| DL-V3-L1L2-F | GPS RT-2 corrections and raw data, code positions and DGPS, SBAS, 50 Hz   |
| DL-V3-L1L2   | GPS RT-2 corrections and raw data, code positions and DGPS, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 20 Hz  |
| DL-V3-HP     | GPS code positions and DGPS, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 20 Hz   |
| DL-V3-SBAS   | L1L2 SBAS positions, 20 Hz  |

#### ***Single-Frequency***

|              |   |
|--------------|---|
| DL-V3-RT20-G | GPS plus GLONASS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 20 Hz |
| DL-V3-RT20-F | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 50 Hz              |
| DL-V3-RT20   | GPS 20 cm real-time kinematic positions, RT-20 corrections and raw data, code positions and DGPS, OmniSTAR VBS, CDGPS, SBAS, 20 Hz, API support |
| DL-V3-L1-G   | GPS plus GLONASS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz   |
| DL-V3-L1-F   | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 50 Hz  |
| DL-V3-L1     | GPS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz  |
| DL-V3-VBS    | GPS code positions, and DGPS, OmniSTAR VBS, CDGPS, and SBAS positions, 20 Hz  |

### ***OEMV Software***

#### **Software**

#### ***Application Development Kit***

The Application Programming Interface (API) development kit includes the API library, which provides the functions needed to develop a C/C++ application to run on the OEMV family of receivers. Also included in the purchase price is ten hours of technical support and upgrades to an API-enabled model for five receivers. Use of an API application requires an API-enabled receiver.

|             |                             |
|-------------|-----------------------------|
| API-Dev-Kit | API support development kit |
|-------------|-----------------------------|

---

***OEMV Software Updates***

MAINT-ANNUAL

Annual subscription to software updates for OEMV receivers provides access for one receiver to any firmware updates released during a 12-month period.

---



## GNSS Heading Receivers

NovAtel's ALIGN™ technology for Heading is available on OEMV receivers when paired with another OEMV receiver to produce Heading results. Within the pairing, the ALIGN receiver is known as the Remote and the other receiver is called the Master. ALIGN will operate in dual-frequency mode if both master and remote are dual-frequency. If one or both of the receivers is single-frequency, ALIGN will operate in single-frequency mode. GLONASS will be used if it is available on the master and not used if the master is GPS-only. GLONASS is required for all single-frequency applications.

All of the OEMV receivers are RoHS-compliant.

SBAS corrections, including WAAS, MSAS, and EGNOS, may not be available in all areas.

### ***OEMV-1G Heading Receivers***

The OEMV-1G is a 36-channel, single frequency GPS plus GLONASS L1 receiver with low power consumption. All OEMV-1G receivers offer position, velocity, and time (PVT) output up to 50 Hz, real-time DPGS positioning, support for RTCA and RTCM messages, three serial ports, and a USB port.

The OEMV-1G offers GPS plus GLONASS real-time positions and measurements, depending on which model is purchased. The addition of GLONASS satellites provides more available data for positioning in challenging environments.

The OEMV-1G card is available standalone in a 46 x71 mm form-factor, in a FlexPak enclosure, or in a SMART Antenna, and is configurable as a rover or base station.

OEMV-1G receivers are not capable of operation with OmniSTAR. Please refer to the OEMV-1 receivers for OmniSTAR-capable models.

The following OEMV-1G, OEMV-2, or OEMV-3 based models may be used as the Heading Master for single-frequency: L1-G, RT20-G, RT2L1-G, L1L2-G, or RT2-G

## Card

### ***OEMV-1G Heading Card***

The API option is not available on ALIGN models.

#### ***Single-Frequency***

|                 |   |
|-----------------|---|
| OEMV-1G-L1-G-Z  | GPS plus GLONASS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz, heading vector (heading and separation between master and remote at 10 Hz) when paired with another receiver |
| OEMV-1G-PVT-G-Z | GPS plus GLONASS code positions, SBAS, 20 Hz, heading vector (heading and separation between master and remote at 10 Hz) when paired with another receiver  |
| OEMV-1G-G-Z     | GPS plus GLONASS heading vector, including heading and separation between master and remote; 10Hz; must be paired with another receiver   |

### ***OEMV-1G-RA Heading Card***

The OEMV-1G-RA card offers a right-angle connector on our popular OEMV-1G receiver.

The API option is not available on ALIGN models.

#### ***Single-Frequency***

|                    |   |
|--------------------|---|
| OEMV-1G-RA-L1-G-Z  | GPS plus GLONASS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz, heading vector (heading and separation between master and remote at 10 Hz) when paired with another receiver |
| OEMV-1G-RA-PVT-G-Z | GPS plus GLONASS code positions, SBAS, 20 Hz, heading vector (heading and separation between master and remote at 10 Hz) when paired with another receiver  |
| OEMV-1G-RA-G-Z     | GPS plus GLONASS heading vector, including heading and separation between master and remote; 10Hz; must be paired with another receiver   |

## Enclosure

## ***FlexPak-V1G Heading Enclosure***

End of Life for the FlexPak enclosures has been announced. Orders will be accepted until 31 August 2009 and shipments may be scheduled for no later than 28 February 2010.

The FlexPak-V1G enclosure and cable set are RoHS-compliant and meet FCC and CE regulatory standards for emissions and safety. The enclosure comes with a USB cable, a power cable, and two serial communication cables (RS-232 straight and RS-232 null modem). USB is available on either port, and RS-422 is available on the COM2 port. A FlexPak-V1G Quick Start Guide and OEMV family Quick Start Guide are included.

The API option is not available on ALIGN models.

### ***Single-Frequency***

|                     |   |
|---------------------|---|
| FLEXPAK-V1G-L1-G-Z  | GPS plus GLONASS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz, heading vector (heading and separation between master and remote at 10 Hz) when paired with another receiver |
| FLEXPAK-V1G-PVT-G-Z | GPS plus GLONASS code positions, SBAS, 20 Hz, heading vector (heading and separation between master and remote at 10 Hz) when paired with another receiver  |
| FLEXPAK-V1G-G-Z     | GPS plus GLONASS heading vector, including heading and separation between master and remote; 10Hz; must be paired with another receiver   |

## **SMART Antenna**

### ***SMART-V1G Antenna for Heading***

The SMART-V1G is a rugged self-contained GPS plus GLONASS receiver and antenna designed for operation in harsh environments. The SMART-V1G is based on the OEMV-1G card, which offers position, velocity and time output up to 20 Hz, as well as a wide variety of positioning options including SBAS (GPS only), DGPS and NovAtel's RT-20 for precision L1 applications.

The SMART-V1G is RoHS compliant and meets FCC and CE regulatory standards for emissions and safety. A selection of cables are available as an orderable option.

"SMART-V1G-2US" part numbers indicate RS-232, USB, side-mount connectors.

The API option is not available on ALIGN models.

### **RS-232 Version**

#### ***Single-Frequency***

|                       |   |
|-----------------------|---|
| SMART-V1G-2US-L1-G-Z  | GPS plus GLONASS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz, heading vector (heading and separation between master and remote at 10 Hz) when paired with another receiver |
| SMART-V1G-2US-PVT-G-Z | GPS plus GLONASS code positions, SBAS, 20 Hz, heading vector (heading and separation between master and remote at 10 Hz) when paired with another receiver  |
| SMART-V1G-2US-G-Z     | GPS plus GLONASS heading vector, including heading and separation between master and remote; 10Hz; must be paired with another receiver   |

## ***OEMV-2 Heading Receivers***

The OEMV-2 is a parallel 72-channel dual-frequency or 36-channel single-frequency receiver with low power consumption. OEMV-2 receivers feature GPS plus GLONASS position, velocity, and time (PVT) and raw data output, real-time DGPS and SBAS positioning, support for RTCA and RTCM messages, three serial ports, one CAN bus port, and a USB port.

The OEMV-2 receivers are capable of tracking the new L2C civilian signal. The L2C signal promises stronger signal tracking and better cross-correlation protection. The OEMV-2 also offers GPS plus GLONASS real-time positions and measurements, depending on which model is purchased. The addition of GLONASS satellites provides more available data for positioning in challenging environments.

The OEMV-2 card is available standalone in a 60 x 100 mm form factor or in a FlexPak enclosure, and is configurable as a rover or base station.

All single-frequency models are fully upgradeable to dual-frequency.

The following OEMV-1G, OEMV-2, or OEMV-3 based models may be used as the Heading Master for single-frequency: L1-G, RT20-G, RT2L1-G, L1L2-G, or RT2-G

The following OEMV-2 or OEMV-3 based models may be used as the Heading Master for dual-frequency: L1L2, L1L2-G, RT2, or RT2-G

## **Card**

## OEMV-2 Heading Card

The API option is not available on ALIGN models.

### Dual-Frequency

|               |  |
|---------------|--|
| OEMV-2-SBAS-Z | L1L2 SBAS positions, 20 Hz, heading vector (heading and separation between master and remote at 10 Hz) when paired with another receiver |
| OEMV-2-G-Z    | GPS plus GLONASS heading vector, including heading and separation between master and remote; 10Hz; must be paired with another receiver  |

### Single-Frequency

|               |   |
|---------------|---|
| OEMV-2-L1-G-Z | GPS plus GLONASS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz, heading vector (heading and separation between master and remote at 10 Hz) when paired with another receiver |
|---------------|---|

## Enclosure

### FlexPak-V2 Heading Enclosure

End of Life for the FlexPak enclosures has been announced. Orders will be accepted until 31 August 2009 and shipments may be scheduled for no later than 28 February 2010.

The FlexPak-V2 enclosure and cable set are RoHS-compliant and meet FCC and CE regulatory standards for emissions and safety. The enclosure comes with a USB cable, a power cable, and two serial communication cables (RS-232 straight and RS-232 null modem). USB is available on either port, and RS-422 is available on the COM2 port. A FlexPak-V2 Quick Start Guide and OEMV family Quick Start Guide are included.

The API option is not available on ALIGN models.

### Dual-Frequency

|                   |  |
|-------------------|--|
| FLEXPak-V2-SBAS-Z | L1L2 SBAS positions, 20 Hz, heading vector (heading and separation between master and remote at 10 Hz) when paired with another receiver |
| FLEXPak-V2-G-Z    | GPS plus GLONASS heading vector, including heading and separation between master and remote; 10Hz; must be paired with another receiver  |

### Single-Frequency

|                   |   |
|-------------------|---|
| FLEXPak-V2-L1-G-Z | GPS plus GLONASS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz, heading vector (heading and separation between master and remote at 10 Hz) when paired with another receiver |
|-------------------|---|

## OEMV-3 Heading Receivers

The OEMV-3 is a parallel 72-channel dual-frequency or 36-channel single-frequency receiver with low power consumption. All OEMV-3 cards feature GPS plus GLONASS position, velocity, and time (PVT) and raw data output, integrated real-time DGPS positioning (including SBAS, OmniSTAR, and CDGPS), support for RTCA and RTCM messages, three serial ports, 2 CAN bus ports, and a USB port. L-band enabled models also offer RTCM type 1 and 9 corrections generated from the GPS<sup>®</sup>C/CDGPS correction stream.

The OEMV-3 offers GPS plus GLONASS real-time positions and measurements, depending on which model is purchased. The addition of GLONASS satellites provides more available data for positioning in challenging environments.

The OEMV-3 card is available standalone in an 85 x 125 mm form factor, in a ProPak<sup>®</sup> enclosure, or in a DL-V3 enclosure, and is configurable as a rover or base station.

All single-frequency models are fully upgradeable to dual-frequency.

A subscription is required for OmniSTAR HP/XP/VBS service, which may not be available in all areas.

CDGPS corrections may not be available in all areas.

The following OEMV-1G, OEMV-2, or OEMV-3 based models may be used as the Heading Master for single-frequency: L1-G, RT20-G, RT2L1-G, L1L2-G, or RT2-G

The following OEMV-2 or OEMV-3 based models may be used as the Heading Master for dual-frequency: L1L2, L1L2-G, RT2, or RT2-G

## Card

## ***OEMV-3 Heading Card***

The API option is not available on ALIGN models.

### ***Dual-Frequency***

|               |  |
|---------------|--|
| OEMV-3-SBAS-Z | L1L2 SBAS positions, 20 Hz, heading vector (heading and separation between master and remote at 10 Hz) when paired with another receiver |
| OEMV-3-G-Z    | GPS plus GLONASS heading vector, including heading and separation between master and remote; 10Hz; must be paired with another receiver  |

### ***Single-Frequency***

|               |   |
|---------------|---|
| OEMV-3-L1-G-Z | GPS plus GLONASS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz, heading vector (heading and separation between master and remote at 10 Hz) when paired with another receiver |
|---------------|---|

## **Enclosure**

### ***ProPak-V3 Heading Enclosure***

The ProPak-V3 is a durable, high-performance receiver with advanced capabilities. It is available in RS-232 or RS-422 configurations with three serial ports, and auxiliary I/O port, and USB 1.1 support. The ProPak-V3 also features optional support for an external IMU. It includes and automotive power adapter, a null-model cable, a straight serial cable, a USB cable, auxiliary I/O port cable, and mounting kit.

The API option is not available on ALIGN models.

The RS-422 version provides COM1 and COM3 at RS-422 levels. COM2 remains at RS-232 levels.

### **RS-232 Version**

#### ***Dual-Frequency***

|                  |  |
|------------------|--|
| PROPAK-V3-SBAS-Z | L1L2 SBAS positions, 20 Hz, heading vector (heading and separation between master and remote at 10 Hz) when paired with another receiver |
| PROPAK-V3-G-Z    | GPS plus GLONASS heading vector, including heading and separation between master and remote; 10Hz; must be paired with another receiver  |

#### ***Single-Frequency***

|                  |   |
|------------------|---|
| PROPAK-V3-L1-G-Z | GPS plus GLONASS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz, heading vector (heading and separation between master and remote at 10 Hz) when paired with another receiver |
|------------------|---|

### **RS-422 Version**

#### ***Dual-Frequency***

|                   |   |
|-------------------|---|
| PROPAK-V3-424-G-Z | GPS plus GLONASS heading vector, including heading and separation between master and remote; 10Hz; must be paired with another receiver |
|-------------------|---|

#### ***Single-Frequency***

|                      |   |
|----------------------|---|
| PROPAK-V3-424-L1-G-Z | GPS plus GLONASS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz, heading vector (heading and separation between master and remote at 10 Hz) when paired with another receiver |
|----------------------|---|

### ***DL-V3 Heading Enclosure***

The DL-V3 is a general purpose high-performance receiver designed for base station and rover applications. The DL-V3 incorporates NovAtel's OEMV-3 card housed in a rugged aluminum enclosure, and includes removable memory in a Compact Flash format. The DL-V3 offers flexible connectivity through 3 serial ports, USB (1.1), Ethernet, and Bluetooth interfaces, and an auxiliary I/O port. The DL-V3 includes an automotive power cable, a null-modem cable, a serial cable, a mounting kit, and a Compact Flash card.

The API option is not available on DL-V3 enclosures.

### **RS-232 Version**

#### ***Dual-Frequency***

|              |  |
|--------------|--|
| DL-V3-SBAS-Z | L1L2 SBAS positions, 20 Hz, heading vector (heading and separation between master and remote at 10 Hz) when paired with another receiver |
|--------------|--|

DL-V3-G-Z

GPS plus GLONASS heading vector, including heading and separation between master and remote; 10Hz; must be paired with another receiver

---

***Single-Frequency***

DL-V3-L1-G-Z

GPS plus GLONASS RT-20 corrections and raw data, code positions and DGPS, SBAS, 20 Hz, heading vector (heading and separation between master and remote at 10 Hz) when paired with another receiver

---



## SUPERSTAR II

The SUPERSTAR II is a 12-channel L1-only receiver. It features low power consumption, two serial ports up to 19,200 bps, standard output at 1 Hz (5 Hz optional) for carrier phase or PVT output, real-time DGPS positioning, support for NMEA and RTCM messages, and accepts SBAS corrections. Available in 5 V and 3.3 V models, the SUPERSTAR II card is designed for embedded applications.

SBAS-enabled models feature 10 GPS tracking channels and 2 SBAS tracking channels. Non-SBAS-enabled models have 12 GPS tracking channels.

SBAS corrections, including WAAS, MSAS, and EGNOS, may not be available in all areas.

The non-SBAS variants of the 1CPT and 1CPT-19 models, 1CPN and 1CPN-19, do not provide precise timing.

The SUPERSTAR II family is not RoHS-compliant.

### Software

#### *Software Upgrades for SUPERSTAR II Receivers*

To increase the functionality and features of SUPERSTAR II-based receivers, software model upgrades are available for purchase. Upgrades can be completed in the field using a software utility provided by NovAtel. Upgrades can be completed between non-equivalent models (e.g. upgrade from STD to 1CPT-19), or between equivalent models to disable or enable SBAS tracking (e.g. upgrade from 5HZN to 5HZ).

Only one model can be loaded on the SUPERSTAR II receiver at any given time, so model upgrades will replace the current model with the new model. As a result, features found only in the original model are not available after the upgrade.

#### *Single-Frequency*

|               |   |
|---------------|---|
| SW-UG-SBAS    | Replace current model with equivalent SBAS enabled model  |
| SW-UG-NSBAS   | Replace current model with equivalent non-SBAS enabled model  |
| SW-UG-BASE    | Change model to DGPS base station operation, 1 Hz carrier phase output, SBAS, 9,600 bps default baud rate |
| SW-UG-BASEN   | Change model to DGPS base station operation, 1 Hz carrier phase output, 9,600 bps default baud rate       |
| SW-UG-5CP-19  | Change model to 5 Hz carrier phase output, SBAS, 19,200 bps default baud rate                             |
| SW-UG-5CPN-19 | Change model to 5 Hz carrier phase output, 19,200 bps default baud rate                                   |
| SW-UG-5HZ     | Change model to 5 Hz PVT output, SBAS, 9,600 bps default baud rate  |
| SW-UG-5HZN    | Change model to 5 Hz PVT output, 9,600 bps default baud rate  |
| SW-UG-1CPT    | Change model to 1 Hz carrier phase output, precise timing, SBAS, 9,600 bps default baud rate              |
| SW-UG-1CPN    | Change model to 1 Hz carrier phase output, 9,600 bps default baud rate                                    |
| SW-UG-1CPT-19 | Change model to 1 Hz carrier phase output, precise timing, SBAS, 19,200 bps default baud rate             |
| SW-UG-1CPN-19 | Change model to 1 Hz carrier phase output, 19,200 bps default baud rate                                   |



## Agriculture Products

### ***SMART Ag Antenna***

The SMART-AG™ GNSS antenna features 14 channels for L1 GPS, 12 channels for L1 GLONASS, and 2 channels for SBAS. Measurement and position data is provided at up to 20 Hz. Smooth position outputs with excellent pass-to-pass accuracy are assured with NovAtel's GL1DE™ technology.

The SMART-AG provides an integrated L1 GPS plus GLONASS receiver and antenna in a single rugged housing with built-in magnets to simplify mounting. Fixed mounting is also supported. Two NMEA 0183 compatible RS-232 serial ports and an NMEA2000 compatible CAN port ensure the SMART-AG delivers maximum flexibility. A simulated radar ground speed output, a one pulse per second output (1PPS), and an event mark input are also provided. Three daylight readable status LEDs simplify diagnoses in the event of field problems.

### **SMART Antenna**

The SMART-AG antenna comes with a CD for PC software.

#### **RS-232 Version**

##### ***Single-Frequency***

|                |  |
|----------------|--|
| SMART-AG-PVT-G | GPS plus GLONASS code positions, SBAS, DGPS, 20 Hz |
| SMART-AG-PVT   | GPS code positions, SBAS, DGPS, 20 Hz              |

### **Other**

#### ***Development Kit for SMART Ag Antenna***

The development kit includes an interface cable, a mounting plate, and the SMART Ag Quick Start Guide.

|             |  |
|-------------|--|
| SMART-AG-KT | Development kit for the SMART-AG antenna |
|-------------|--|



## SPAN™ Technology

NovAtel's Synchronized Position Attitude Navigation (SPAN) Technology products feature tight integration of a NovAtel GPS receiver and an Inertial Measurement Unit (IMU). SPAN provides continuous operation through short GPS outages with accurate position and attitude measurements. Designed for dynamic applications, SPAN also provides precise velocity, acceleration, and attitude solutions.

By complementing GPS with inertial measurements, SPAN Technology provides robust positioning in challenging conditions where GPS alone is less reliable. During short periods of GPS outage, or when less than four satellites are received, SPAN Technology offers uninterrupted position and attitude output. The tight coupling of inertial technology with GPS also provides the benefits of faster satellite reacquisition and faster RTK initialization after outages.

A subscription is required for OmniSTAR HP/XP/VBS service, which may not be available in all areas.

CDGPS corrections may not be available in all areas.

SBAS corrections, including WAAS, MSAS, and EGNOS, may not be available in all areas.

### ***SPAN Inertial Measurement Units***

SPAN IMUs are not RoHS compliant.

## **IMU**

### ***IMU-LN200***

The IMU-LN200 houses the LN200 IMU and an interface card in an enclosure that is compatible with the OEMV-3 and SPAN-SE GPS receivers when loaded with the INS firmware models.

Delivery times for the IMU-LN200 IMU may be longer than NovAtel's standard delivery times due to the US Department of State export control regulations.

LN200 IMUs work with GPS receiver models ending in J.

|           |                          |
|-----------|--------------------------|
| IMU-LN200 | Enclosure with LN200 IMU |
| IMU-LN000 | Enclosure without IMU    |

### ***IMU-FSAS***

The IMU-FSAS is an enclosed IMU that is compatible with OEMV-3 and SPAN-SE GPS receivers when loaded with the INS firmware models.

The IMU-FSAS has no specific export restrictions when used in commercial applications.

IMU-FSAS works with RS-424 GPS receiver models ending in J.

### ***RS-422 Version***

|               |  |
|---------------|--|
| IMU-FSAS-EI-O | SPAN compatible IMU-FSAS with Wheel Sensor Interface. Compatible with Optical Encoder style wheel sensors. For magnetic wheel sensor, also order IMAR-IMWS-V2. |
|---------------|--|

### ***IMU-HG***

The IMU-HG1700 enclosures house the HG1700 IMU and an interface card, and includes an IMU interface cable to connect the IMU to the receiver enclosure.

Delivery times for the IMU-HG may be longer than NovAtel's standard delivery times due to the US Department of State export control regulations.

IMU-HG1700 works with GPS Receiver models ending in i.

|         |   |
|---------|---|
| IMU-H58 | HG1700 enclosure with HG1700 AG58 IMU (includes all cables) |
| IMU-H62 | HG1700 enclosure with HG1700 AG62 IMU (includes all cables) |
| IMU-H00 | HG1700 enclosure without an IMU (includes all cables)       |

## SPAN OEMV GPS Receivers

SPAN is available as a software option on NovAtel's OEMV receivers. A modular system is created by combining one of several IMUs with either the OEMV-3, OEMV-2 or Propak-V3. This allows the IMU to be mounted at the most suitable location, while the GPS receiver is mounted where it is most convenient. System modularity also allows GPS-only users to upgrade to GPS/INS. In conditions where GPS alone is desired, the SPAN receiver can be operated independently. As a result, SPAN Technology provides a robust GPS and inertial solution as well as a portable, high-performance GPS receiver in one system.

OEMV SPAN receivers use NovAtel's classic RT-2 engine, not AdVance RTK. OEMV GPS receivers for SPAN do not permit operation with AdVance RTK. SPAN OEMV receivers are RoHS compliant.

### Card

The OEMV-3-RT2j receiver requires a 422 interface to communicate with the iMAR FSAS IMU. For card-level FSAS integration, please contact NovAtel sales.

#### Dual-Frequency

|             |   |
|-------------|---|
| OEMV-3-RT2j | GPS 1 cm real-time kinematic positions, raw data, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 200 Hz, IMU-LN200 and IMU-FSAS support |
| OEMV-3-RT2i | GPS 1 cm real-time kinematic positions, raw data, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 100 Hz, IMU-HG support                 |
| OEMV-2-RT2i | GPS 1 cm real-time kinematic positions, raw data, SBAS, 100 Hz, IMU-HG support  |

### Enclosure

The OEMV-3-RT2j receiver requires a 422 interface to communicate with the iMAR FSAS IMU. For card-level FSAS integration, please contact NovAtel sales.

#### RS-232 Version

##### Dual-Frequency

|                |  |
|----------------|--|
| PROPAK-V3-RT2j | GPS 1 cm real-time kinematic positions, raw data, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 200 Hz, IMU-LN200 support |
| PROPAK-V3-RT2i | GPS 1 cm real-time kinematic positions, raw data, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 100 Hz, IMU-HG support    |

#### RS-422 Version

##### Dual-Frequency

|                    |   |
|--------------------|---|
| PROPAK-V3-424-RT2j | GPS 1 cm real-time kinematic positions, raw data, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 200 Hz, IMU-LN200 and IMU-FSAS support |
| PROPAK-V3-424-RT2i | GPS 1 cm real-time kinematic positions, raw data, OmniSTAR HP/XP/VBS, CDGPS, SBAS, 100 Hz, IMU-HG support                 |

## SPAN-SE GPS Receivers

For more demanding applications, where additional features like removable data storage, wider power input range, additional event inputs and output strobes and additional I/O functionality are required, NovAtel offers the SPAN-SE receiver. SPAN-SE offers NovAtel's AdVance RTK engine and optional GPS/GLONASS functionality. Additional I/O serial ports, USB 2.0, and Ethernet connectivity are also available. SPAN-SE is still a modular system, with the GNSS functionality located inside the receiver and the IMU located in a separate enclosure.

SPAN-SE Receivers are RoHS-compliant.

### Card

#### SPAN-SE Cards

##### Dual-Frequency

|                       |   |
|-----------------------|---|
| OEM-SPAN-SE-RT2-G-S-J | LN200 and FSAS compatible SPAN receiver with GPS plus GLONASS |
| OEM-SPAN-SE-RT2-S-J   | LN200 and FSAS compatible SPAN receiver                       |
| OEM-SPAN-SE-RT2-G-S-I | HG1700 compatible SPAN receiver with GPS plus GLONASS         |
| OEM-SPAN-SE-RT2-S-I   | HG1700 compatible SPAN receiver                               |

### Enclosure

**SPAN-SE Enclosures****Dual-Frequency**

|                   |   |
|-------------------|---|
| SPAN-SE-RT2-G-S-J | LN200 and FSAS compatible SPAN receiver with GPS plus GLONASS |
| SPAN-SE-RT2-S-J   | LN200 and FSAS compatible SPAN receiver                       |
| SPAN-SE-RT2-G-S-I | HG1700 compatible SPAN receiver with GPS plus GLONASS         |
| SPAN-SE-RT2-S-I   | HG1700 compatible SPAN receiver                               |

**Complete SPAN System****Enclosure****SPAN-CPT**

NovAtel's SPAN-CPT integrates the GPS and IMU components together into one enclosure for simple installation and configuration. SPAN-CPT contains the OEMV-3 receiver board and leading edge fibre optic gyro and MEMS accelerometer components from KVH Industries. The tightly-coupled architecture of SPAN is maintained with SPAN-CPT and popular features like 100Hz solutions, L-Band positioning and RTK are maintained. SPAN-CPT offers excellent price/performance and is comprised of entirely commercial components in order to ease export considerations.

SPAN-CPT is not RoHS compliant

**Dual-Frequency**

|          |   |
|----------|---|
| SPAN-CPT | Single-enclosure containing OEMV-3 GPS receiver, fiber optic gyros, and MEMS accelerometers |
|----------|---|



## Waypoint Products Group®

Purchases of Waypoint products, including new licenses, updates, and upgrades, include new software releases and Post-Contractual Support (PCS) for one year. Date of purchase is verified by your four-digit software key serial number. PCS includes technical support by phone, fax, and email. Support may be denied if payment is delinquent.

Please note that the part numbers by default indicate a USB security key. A parallel port security key must be specifically ordered if desired by replacing the "-U" suffix with "-P".

Waypoint Products are RoHS-compliant.

### Post-Processing

NovAtel offers a complete selection of Waypoint post-processing software, including Inertial Explorer® for use with NovAtel's SPAN Technology. New licenses include 12 months of software support and version updates.

#### Software

|                |   |
|----------------|---|
| SW-PP-GPSIMU-U | Inertial Explorer post-processing software for GPS/INS applications                             |
| SW-PP-GMOV-U   | GrafMov post-processing software (GrafNav/GrafNet™ with moving baseline option)                 |
| SW-PP-GNVT-U   | GrafNav/GrafNet post-processing software  |
| SW-PP-GNST-U   | GrafNav/GrafNet Static post-processing software (no kinematic processing)                       |
| SW-PP-LGNV-U   | GrafNav Lite post-processing software (1 Hz, L1 only)   |
| SW-PP-UTIL-U   | GrafNav Utilities software (data conversion, download, data logging, and coordinate conversion) |

### Version Updates

12 months of version updates and PCS are included with new purchases and upgrades. After that time, customers may extend access to updates and PCS by purchasing a version update.

Customers who purchase their update before the end of their current PCS period will be eligible for a 20% discount. Customers whose subscription has lapsed for more than one month will be required to pay for any missed months when renewing. The price for those months will be calculated as 1/12 of the one-year price, multiplied by the number of months.

The prices below are for a 12-month PCS subscription. 2- and 3-year subscriptions are also available.

Version updates do not require a new software key. If the customer requests a key exchange, the part number should be followed by either "-U" (USB) or "-P" (Parallel Port). The serial number of existing key must be provided on the purchase order.

Volume discounts are available for multi-license customers on the second and each additional license of any individual product.

|                 |  |
|-----------------|--|
| SW-UD-PP-GPSIMU | One year of software updates for Inertial Explorer             |
| SW-UD-PP-GMOV   | One year of software updates for GrafMov                       |
| SW-UD-PP-GNVT   | One year of software updates for GrafNav/GrafNet               |
| SW-UD-PP-GNST   | One year of software updates for GrafNav/GrafNet - Static Only |
| SW-UD-PP-LGNV   | One year of software updates for GrafNav Lite                  |
| SW-UD-PP-UTIL   | One year of software updates for GrafNav Utilities             |

### Product Upgrades

\*\* The product upgrade price is the difference between product list prices.

PCS must be current to purchase an upgrade. Customers not within a PCS period must update their PCS subscription prior to purchasing an upgrade.

Volume discounts are available for multi-license customers on the second and each additional license

|                 |                              |
|-----------------|------------------------------|
| SW-UG-PP-GPSIMU | Upgrade to Inertial Explorer |
| SW-UG-PP-GMOV   | Upgrade to GrafMov           |
| SW-UG-PP-GNVT   | Upgrade to GrafNav/GrafNet   |

## Other

### USB Key Exchanges

Key exchange cost is zero if an update or upgrade is purchased.

|                   |   |
|-------------------|---|
| SW-PP-EXCH-GPSIMU | Exchange Parallel key for USB for Inertial Explorer             |
| SW-PP-EXCH-GMOV   | Exchange Parallel key for USB for GrafMov                       |
| SW-PP-EXCH-GNVT   | Exchange Parallel key for USB for GrafNav/GrafNet               |
| SW-PP-EXCH-GNST   | Exchange Parallel key for USB for GrafNav/GrafNet (Static Only) |
| SW-PP-EXCH-LGNV   | Exchange Parallel key for USB for GrafNav Lite                  |
| SW-PP-EXCH-UTIL   | Exchange Parallel key for USB for GrafNav Utilities             |

### Manuals

|             |   |
|-------------|---|
| OM-20000105 | Printed copy of GrafNav/GrafNet Manual, which allows you to effectively navigate and post-process GNSS data. For use with GrafNav/GrafNet, GrafNav Lite, GrafNav/GrafNet Static, and GrafMov. |
| OM-20000106 | Printed copy of Inertial Explorer Manual, which allows you to effectively navigate and post-process GNSS, IMU (Inertial Measurement Unit), and wheel sensor data.                             |

## Real Time Kinematic

New licenses include 12 months of software support and version updates.

### Software

|             |  |
|-------------|--|
| SW-RT-R20-U | RTKNav 1-20 Remotes. Full RTK capabilities + Moving Baseline       |
| SW-RT-R6-U  | RTKNav 1-6 Remotes. Full RTK capabilities + Moving Baseline        |
| SW-RT-R3-U  | RTKNav 1-3 Remotes. Full RTK capabilities + Moving Baseline        |
| SW-RT-MV-U  | RTKNav 1 Remote. Full RTK capabilities + Moving Baseline + Heading |
| SW-RT-R1-U  | RTKNav 1 Remote. Full RTK capabilities                             |
| SW-RT-AZ-U  | Azimuth Determination Only   |

### Version Updates

12 months of version updates and PCS are included with new purchases and upgrades. After that time, customers may extend access to updates and PCS by purchasing a version update.

Customers who purchase their update before the end of their current PCS period will be eligible for a 20% discount. Customers whose subscription has lapsed for more than one month will be required to pay for any missed months when renewing. The price for those months will be calculated as 1/12 of the one-year price, multiplied by the number of months.

The prices below are for a 12-month PCS subscription. 2- and 3-year subscriptions are also available.

Version updates do not require a new software key. If the customer requests a key exchange, the part number should be followed by either "-U" (USB) or "-P" (Parallel Port). The serial number of existing key must be provided on the purchase order.

Volume discounts are available for multi-license customers on the second and each additional license of any individual product.

|              |   |
|--------------|---|
| SW-UD-RT-R20 | One year of software updates for RT-R20 |
| SW-UD-RT-R6  | One year of software updates for RT-R6  |
| SW-UD-RT-R3  | One year of software updates for RT-R3  |
| SW-UD-RT-MV  | One year of software updates for RT-MV  |
| SW-UD-RT-R1  | One year of software updates for RT-R1  |
| SW-UD-RT-AZ  | One year of software updates for RT-AZ  |

### ***Product Upgrades***

\*\* The product upgrade price is the difference between product list prices.

PCS must be current to purchase an upgrade. Customers not within a PCS period must update their PCS subscription prior to purchasing an upgrade.

Volume discounts are available for multi-license customers on the second and each additional license

|              |                   |
|--------------|-------------------|
| SW-UG-RT-R20 | Upgrade to RT-R20 |
| SW-UG-RT-R6  | Upgrade to RT-R6  |
| SW-UG-RT-R3  | Upgrade to RT-R3  |
| SW-UG-RT-MV  | Upgrade to RT-MV  |

### ***Development Tools***

|             |   |
|-------------|---|
| SW-RT-DEV-U | RtDLL/SIOGPS DLL Developer's Kit for processing and interface (one time cost and must be purchased with one of the above RTKNav licenses) |
|-------------|---|

### **Other**

#### ***USB Key Exchanges***

Key exchange cost is zero if an updated or upgrade is purchased.

|                |  |
|----------------|--|
| SW-RT-EXCH-R20 | Exchange Parallel key for USB for RT-R20 |
| SW-RT-EXCH-R6  | Exchange Parallel key for USB for RT-R6  |
| SW-RT-EXCH-R3  | Exchange Parallel key for USB for RT-R3  |
| SW-RT-EXCH-MV  | Exchange Parallel key for USB for RT-MV  |
| SW-RT-EXCH-R1  | Exchange Parallel key for USB for RT-R1  |
| SW-RT-EXCH-AZ  | Exchange Parallel key for USB RT-AZ      |

#### ***Manuals***

|             |   |
|-------------|---|
| OM-20000107 | Printed copy of RTKNav Manual, which allows you to effectively navigate and process GPS data. |
|-------------|---|



## Receiver Accessories

### OEMV Accessories

#### Cable

##### Accessories for FlexPak Enclosures

End of Life for the FlexPak enclosures and related accessories has been announced. Orders will be accepted until 31 August 2009 and shipments may be scheduled for no later than 28 February 2010.

|          |   |
|----------|---|
| 01017821 | Accessory Power Cable, Deutsch with automotive adapter (included with FlexPak enclosures, also for use with SPAN HG1700 and LN200 IMUs), RoHS compliant   |
| 01017278 | 8.5 cm RF cable with right-angle MCX male plug and straight TNC bulkhead jack connectors, RoHS compliant  |
| 01017823 | Straight serial cable with Deutsch and male DB-9 connectors (included with OEMV FlexPak enclosures), RoHS compliant   |
| 01017822 | Null-modem cable with Deutsch and female DB-9 connectors (included with FlexPak enclosures, also for use with SPAN HG1700 and LN200 IMUs), RoHS compliant   |
| 01017820 | USB cable (Host Side) to female 13-pin Deutsch circular connector (included with OEMV FlexPak enclosures), RoHS compliant   |
| 40023106 | 15 W AC adapter with auto receptacle and IEC-320-C14 input for ProPak, FlexPak, SSII SMART Antenna, and all EuroPaks except EuroPak-15ab (North American plug included, requires additional region-specific plug for use outside North America), RoHS compliant |

##### Accessories for SMART Antennas

###### RS-232 Version

|          |  |
|----------|--|
| 01017923 | 3 meter interface cable with 18-pin connector and tagged open wires (USB) for SMART-V1-2US, and SMART-V1G, RoHS compliant                      |
| 01017922 | 3 meter interface cable with 18-pin connector and tagged open wires (CAN) for SMART-V1-2CS, RoHS compliant                                     |
| 01017894 | 3 meter interface cable with 18-pin connector, 2 x DB-9 (serial), 1 x DB-9 (CAN), and tagged open wires for SMART-V1-2CS, RoHS compliant       |
| 01017893 | 3 meter interface cable with 18-pin connector, 2 x DB-9 (serial), 1 x USB and tagged open wires for SMART-V1-2US and SMART-V1G, RoHS compliant |

###### RS-422 Version

|          |   |
|----------|---|
| 01018024 | 5 meter interface cable with 18-pin connector and tagged open wires for SMART-V1-4XS, RoHS compliant                    |
| 01018017 | 3 meter interface cable with 18-pin connector, 3 x DB-9 (serial) and tagged open wires for SMART-V1-4XS, RoHS compliant |

##### Accessories for ProPak-V3 Enclosures

|          |   |
|----------|---|
| 01017663 | Accessory Power Cable, 4-pin LEMO with automotive adapter for DL-4plus, DL-V3, ProPak-G2plus, and ProPak-V3, RoHS compliant                                   |
| 01018221 | Cable assembly for IMU-FSAS and ProPak-V3, 1 m, not RoHS compliant  |
| 01017658 | Null-modem cable with 2 female DB-9 connectors for DL-V3 and ProPak-V3 enclosures, RoHS compliant   |
| 01017659 | Straight serial cable (extension) with male and female DB-9 connectors for DL-4plus, DL-V3, EuroPak™ enclosures, ProPak-G2plus, and ProPak-V3, RoHS compliant |
| 01017660 | I/O strobe port interface cable with DB-9 male connector and open wires for DL-4plus, DL-V3, EuroPak enclosures, ProPak-G2plus, and ProPak-V3, RoHS compliant |
| 01017664 | USB cable (Host Side) to DB-9 female connector for DL-4plus, DL-V3, ProPak-G2plus, and ProPak-V3, RoHS compliant  |

|          |   |
|----------|---|
| 01018222 | Cable assembly for IMU-FSAS and ProPak-V3, 2 m, not RoHS compliant  |
| 40023106 | 15 W AC adapter with auto receptacle and IEC-320-C14 input for ProPak, FlexPak, SSII SMART Antenna, and all EuroPaks except EuroPak-15ab (North American plug included, requires additional region-specific plug for use outside North America), RoHS compliant |

### ***Accessories for DL-V3 Enclosures***

|          |   |
|----------|---|
| 01017663 | Accessory Power Cable, 4-pin LEMO with automotive adapter for DL-4plus, DL-V3, ProPak-G2plus, and ProPak-V3, RoHS compliant                                   |
| 01017658 | Null-modem cable with 2 female DB-9 connectors for DL-V3 and ProPak-V3 enclosures, RoHS compliant   |
| 01017659 | Straight serial cable (extension) with male and female DB-9 connectors for DL-4plus, DL-V3, EuroPak™ enclosures, ProPak-G2plus, and ProPak-V3, RoHS compliant |
| 01017660 | I/O strobe port interface cable with DB-9 male connector and open wires for DL-4plus, DL-V3, EuroPak enclosures, ProPak-G2plus, and ProPak-V3, RoHS compliant |
| 01017664 | USB cable (Host Side) to DB-9 female connector for DL-4plus, DL-V3, ProPak-G2plus, and ProPak-V3, RoHS compliant  |

## ***SUPERSTAR II Accessories***

### **Cable**

#### ***Accessories for SUPERSTAR II FlexPak Enclosures***

End of Life for the FlexPak enclosures and related accessories has been announced. Orders will be accepted until 31 August 2009 and shipments may be scheduled for no later than 28 February 2010.

|          |   |
|----------|---|
| 01017821 | Accessory Power Cable, Deutsch with automotive adapter (included with FlexPak enclosures, also for use with SPAN HG1700 and LN200 IMUs), RoHS compliant   |
| 01017822 | Null-modem cable with Deutsch and female DB-9 connectors (included with FlexPak enclosures, also for use with SPAN HG1700 and LN200 IMUs), RoHS compliant   |
| 01017518 | Straight serial cable with Deutsch and male DB-9 connectors (included with FlexPak-G2L, also for use with FlexPak-SSII), not RoHS compliant   |
| 40023106 | 15 W AC adapter with auto receptacle and IEC-320-C14 input for ProPak, FlexPak, SSII SMART Antenna, and all EuroPaks except EuroPak-15ab (North American plug included, requires additional region-specific plug for use outside North America), RoHS compliant |

#### ***Accessories for SUPERSTAR II SMART Antenna***

|          |   |
|----------|---|
| 40023106 | 15 W AC adapter with auto receptacle and IEC-320-C14 input for ProPak, FlexPak, SSII SMART Antenna, and all EuroPaks except EuroPak-15ab (North American plug included, requires additional region-specific plug for use outside North America), RoHS compliant |
|----------|---|

### **RS-232 Version**

|                |   |
|----------------|---|
| 217-601798-003 | 5 meter interface cable with 6-pin metal connector and DB-9 and automotive adapter for SSII SMART Antenna, not RoHS compliant   |
| 217-601798-004 | 15 meter interface cable with 6-pin metal connector and DB-9 and automotive adapter for SSII SMART Antenna, not RoHS compliant  |
| 217-601742-003 | 5 meter interface cable with 7-pin plastic connector and DB-9 and automotive adapter for SSII SMART Antenna, not RoHS compliant |

### **RS-422 Version**

|                |  |
|----------------|--|
| 217-601764-002 | 30 meter interface cable with 12-pin connector and open wires for SSII SMART Antenna, not RoHS compliant |
| 217-601764-003 | 15 meter interface cable with 12-pin connector and open wires for SSII SMART Antenna, not RoHS compliant |

### **Other**

**Accessories for SUPERSTAR II SMART Antenna**

|          |   |
|----------|---|
| 40023100 | RS-422 to RS-232 converter with DB-9 connector for SSII SMART Antenna, not RoHS compliant |
|----------|---|

**SPAN Accessories****Cable****Accessories for LN200 IMUs**

|          |   |
|----------|---|
| 01017821 | Accessory Power Cable, Deutsch with automotive adapter (included with FlexPak enclosures, also for use with SPAN HG1700 and LN200 IMUs), RoHS compliant   |
| 01017374 | Accessory Power Cable, 4-pin LEMO with automotive adapter for ProPak-G2L and SPAN LN200 IMU, not RoHS compliant   |
| 01017822 | Null-modem cable with Deutsch and female DB-9 connectors (included with FlexPak enclosures, also for use with SPAN HG1700 and LN200 IMUs), RoHS compliant |

**Accessories for iMAR FSAS IMU**

|          |  |
|----------|--|
| 01018221 | Cable assembly for IMU-FSAS and ProPak-V3, 1 m, not RoHS compliant |
| 01018222 | Cable assembly for IMU-FSAS and ProPak-V3, 2 m, not RoHS compliant |

**Accessories for HG1700 IMUs**

|          |   |
|----------|---|
| 01017821 | Accessory Power Cable, Deutsch with automotive adapter (included with FlexPak enclosures, also for use with SPAN HG1700 and LN200 IMUs), RoHS compliant   |
| 01017822 | Null-modem cable with Deutsch and female DB-9 connectors (included with FlexPak enclosures, also for use with SPAN HG1700 and LN200 IMUs), RoHS compliant |
| 01017393 | Interface cable for IMU-G2 and ProPak-LBplus (included with IMU-LB-xxx), not RoHS compliant   |
| 01017384 | Interface cable for HG1700 IMUs (included with IMU-G2-xxx), not RoHS compliant  |

**Accessories for SPAN-CPT**

|          |   |
|----------|---|
| 60723108 | Terminated DB-9 & USB SPAN-CPT power/data |
| 60723107 | Non-terminated SPAN-CPT power/data cable  |

**Other****Accessories for iMAR FSAS IMU**

|              |   |
|--------------|---|
| IMAR-IMWS-V2 | iMAR Magnetic Wheel hardware, including magnetic strip, compatible with IMU-FSAS-EI-O, not RoHS-compliant |
| 01018223     | Transportation case for IMU-FSAS, water resistant, plastic  |
| 01018224     | iMWS magnetic strip, 2 m, for IMU-FSAS-EI-O and IMAR-IMWS-V2, not RoHS compliant                          |



## Specialty Products

Specialty Products are not RoHS-compliant, except where otherwise noted.

### **WAAS Receiver**

The WAAS Receiver includes MEDLL and Narrow Correlator® technologies. Units are available for lease.

#### **Enclosure**

|                     |                                       |
|---------------------|---------------------------------------|
| WAAS RECEIVER LEASE | per month with a minimum of one month |
|---------------------|---------------------------------------|

### **Euro-3M Receivers**

The Euro-3M GPS receiver features Signal Quality Monitoring (SQM) and the patent-pending SafeTrak™ cross-correlation verification algorithm. The standard version includes 14 channels for L1/L2 tracking and 4 channels for L1 GEO tracking. Alternately, the Euro-3M is offered with Multipath Estimating Delay Lock Loop (MEDLL®) multipath reduction technology combined with 8 L1/L2 channels and 1 L1 GEO channel. An enclosure for the Euro-3M card is also available with an optional high-stability internal Oven Controlled Crystal Oscillator (OCXO).

The commands and logs for these products are based on NovAtel's WAAS and GUS Reference Receivers, and may have significant differences when compared to standard NovAtel commercial receivers.

#### **Card**

##### **Euro-3M Cards**

|                 |   |
|-----------------|---|
| EURO-3M-MEDLL   | 8-channel L1/L2 tracking and 1-channel L1 GEO tracking with MEDLL |
| EURO-3M-L1L2GEO | 14-channel L1/L2 tracking and 4-channel L1 GEO tracking           |

#### **Enclosure**

##### **EuroPak-3M Enclosures**

|                      |  |
|----------------------|--|
| EUROPAK-3MT-MEDLLT   | Enclosed Euro-3M-MEDLL receiver with internal OCXO |
| EUROPAK-3M-MEDLL     | Enclosed Euro-3M-MEDLL receiver                    |
| EUROPAK-3MT-L1L2GEOT | Enclosed Euro-3M receiver with internal OCXO       |
| EUROPAK-3M-L1L2GEO   | Enclosed Euro-3M receiver                          |

### **EuroPak-15a and -15ab Receivers**

The EuroPak-15a offers superior 16-channel tracking and decoding of GPS L1/L5, Galileo L1/E5a, and SBAS signals in a EuroPak enclosure. Digital Pulse Blanking is included for radar and pulsed DME interference mitigation. The unit features L1 GPS RFI rejection enhancements as developed for US WAAS reference receivers. The -15ab version adds an additional 16 channels for Galileo E5a and E5b tracking.

The 'T' version has an internal 10 MHz OCXO for stand-alone operation, while an external clock input is recommended for the -15a, and an external clock input is required for the -15ab version. A number of factory programmed configurations are available which allow user-selection of combinations of GPS L1/L5 and Galileo L1/E5a. The -15ab version adds Galileo E5b to the available configurations.

The EuroPak-15a receiver has not undergone qualification testing and should be considered prototype equipment for experimental evaluation only.

#### **Enclosure**

|              |   |
|--------------|---|
| EUROPAK-15AB | GPS L1/L5 and Galileo L1/E5a/E5b receiver in EuroPak Enclosure                |
| EUROPAK-15AT | GPS L1/L5 and Galileo L1/E5a receiver in EuroPak Enclosure with internal OCXO |
| EUROPAK-15A  | GPS L1/L5 and Galileo L1/E5a receiver in EuroPak Enclosure                    |

## ***Multipath Tools***

### **Enclosure**

|                           |   |
|---------------------------|---|
| PORTABLE MEDLL RECEIVER   | including Multipath Meter Software                                    |
| MEDLL RECEIVER LEASE      | Portable MEDLL Receiver Lease (per month with a minimum of one month) |
| MULTIPATH-ASSESSMENT-TOOL | Multipath Assessment Tool (MAT)                                       |

### ***L1/L5 Rack-Mount Receiver***

The L1/L5 receiver features L5 tracking with 2-channel digital pulse blanking and 10-channel L1 GPS tracking. It includes three serial ports in a 19" rack-mount metal enclosure.

### **Enclosure**

|                |                           |
|----------------|---------------------------|
| L1/L5 RECEIVER | Rack-mount L1/L5 receiver |
|----------------|---------------------------|

## ***Wideband Passive Antenna***

### **Antenna**

This antenna requires an external LNA. Please refer to NovAtel Application Note APN-035 Rev 0B and User Guide for GPS-704-X Antenna.

|           |  |
|-----------|--|
| GPS-704-X | Suitable for receiving GPS L1/L2/L5, Galileo E1/E5a/E5b/E6, and GLONASS L1/L2. |
|-----------|--|

## ***Accessories for Specialty Products***

### **Cable**

#### ***Accessories for EuroPak Enclosures***

|          |   |
|----------|---|
| 01017023 | Power cable with automotive adapter for EuroPak enclosures, not RoHS compliant  |
| 01017659 | Straight serial cable (extension) with male and female DB-9 connectors for DL-4plus, DL-V3, EuroPak™ enclosures, ProPak-G2plus, and ProPak-V3, RoHS compliant   |
| 01017660 | I/O strobe port interface cable with DB-9 male connector and open wires for DL-4plus, DL-V3, EuroPak enclosures, ProPak-G2plus, and ProPak-V3, RoHS compliant   |
| 60323062 | Null-modem cable with 2 female DB-9 connectors (included with DL-4plus, ProPak-G2plus, and EuroPak enclosures), not RoHS compliant  |
| 40023113 | 30 W AC adapter with auto receptacle and IEC-320-C14 input for ProPak, FlexPak, SSII SMART Antenna, and EuroPak (North American plug included, requires additional region-specific plug for use outside North America), RoHS compliant                          |
| 40023106 | 15 W AC adapter with auto receptacle and IEC-320-C14 input for ProPak, FlexPak, SSII SMART Antenna, and all EuroPaks except EuroPak-15ab (North American plug included, requires additional region-specific plug for use outside North America), RoHS compliant |

#### ***Accessories for Multipath Tools***

|          |   |
|----------|---|
| 40023090 | Portable MEDLL AC adapter (+24 VDC @ 3 A), not RoHS-compliant |
|----------|---|



## Professional Services

### *Customer Training*

#### *On Site Training*

NovAtel's qualified instructor will travel to your site to provide on site training for a maximum class size of 5 students. Pricing is in addition to all travel expenses, and includes one day of travel time. Additional travel time is billed at the daily rate.

|            |                    |
|------------|--------------------|
| Daily rate | Full, 7.5-hour day |
|------------|--------------------|

#### *In House Training*

NovAtel offers training at our facility in Calgary for class sizes up to 5 students. All related travel expenses are the responsibility of the student.

|            |                    |
|------------|--------------------|
| Daily rate | Full, 7.5-hour day |
|------------|--------------------|

### *Consulting Services*

#### *On Site Consulting or Support*

A NovAtel engineer will travel to your site to provide on site consulting or support services. Pricing is in addition to all travel expenses, and includes one day of travel time. Additional travel time is billed at the daily rate.

|            |                    |
|------------|--------------------|
| Daily rate | Full, 7.5-hour day |
|------------|--------------------|

|             |  |
|-------------|--|
| Hourly rate | Each hour, only available in addition to one or more full days |
|-------------|--|



**Precise thinking**

## **Model List for NovAtel Antennas NovAtel Inc.**

Phone: 1-800-NOVATEL  
403-295-4500

Fax: 403-295-4901

Web: [www.novatel.com](http://www.novatel.com)

Email: [sales@novatel.com](mailto:sales@novatel.com)

Mail: NovAtel Inc.  
1120 - 68th Avenue NE  
Calgary, Alberta  
Canada T2E 8S5

*All prices, product descriptions, specifications, and models are subject to changes without notice. A complete summary of NovAtel's Standard Terms and Conditions is available upon request.*

*BeeLine, GPStation, GrafNav/GrafNet, Inertial Explorer, MEDLL, Narrow Correlator, NovAtel, NovAtel OnBoard, OEMV, ProPak, RT-2, and Waypoint are registered trademarks of NovAtel Inc. AdVance, ALIGN, EuroPak, FlexPak, GL1DE, Pinwheel, RT-20, SafeTrak, SPAN, and Vision Correlator are trademarks of NovAtel Inc. All other brand names are trademarks of their respective owners.*



## RoHS Information

NovAtel's OEMV® products listed in this price list are compliant with the European Economic Union's **Restriction of Hazardous Substances (RoHS)** directive. The aim of this directive is to reduce the hazardous materials content in electronic products. Specifically, it bans electronic equipment from being sold in Europe after July 1, 2006 if it contains more than trace levels of lead, hexavalent chromium, cadmium, mercury or certain brominated flame-retardants. China has issued a similar directive.

NovAtel is in the process of converting other selected products to meet the RoHS directive; however, not all existing products will be converted. RoHS status of individual products as shown on the following pages refers to the European Economic Union (EU) regulations. Products that are compliant with the EU directive are also compliant with the Chinese regulations. Please contact NovAtel for the status of other products with respect to the Chinese directive.



## NovAtel Antennas

### Antenna

#### **Wideband Reference Antenna**

The GNSS-750 Choke Ring Antenna is able to accurately track signals from all four active and proposed Global Navigation Satellite System (GNSS) networks. The ability to receive signals from existing and emerging satellite systems ensures that the GNSS-750 will deliver superior performance far into the future.

As Galileo and Compass (Beidou) join the existing GPS and GLONASS systems, GNSS networks and reference stations will have to be able to track the signals of each system. The GNSS-750 was designed for reference station applications, with superior tracking of the following GNSS signals:

- GPS L1, L2, L2C, and L5
- GLONASS L1, L2, and L3
- Galileo L1, E5a, E5b, and E6
- Compass B1, B2, and B3
- L-band

The innovative three-dimensional design of the GNSS 750 enables superior low level elevation tracking, with the ability to track satellites as soon as they are visible, down to the horizon and even below. The unique conic design and durable aluminum construction make it ideal for reference stations, monitoring, scientific studies, and other applications that demand a robust, high performance antenna.

#### **uadruple-Frequency**

|          |  |
|----------|--|
| GNSS-750 | Reference station antenna receives GPS L1/L2/L2C/L5, GLONASS L1/L2/L3, Galileo L1/E5a/E5b/E6, Compass B1/B2/B3, and L-band signals |
|----------|--|

### **Pinwheel Antennas**

NovAtel's Pinwheel antennas are recommended for use in ground surveying applications.

All available models of the GPS-700 pinwheel antennas are RoHS-compliant.

#### **Dual-Frequency**

|             |  |
|-------------|--|
| GPS-702-GGL | L1/L2/L-Band, GPS+GLONASS kinematic, zero-offset antenna |
| GPS-702-GG  | L1/L2, GPS + GLONASS, kinematic, zero-offset antenna     |
| GPS-702L    | L1/L2/L-Band, kinematic, zero-offset antenna             |

#### **Single-Frequency**

|             |   |
|-------------|---|
| GPS-701-GGL | L1/L-Band, GPS+GLONASS kinematic, zero-offset antenna |
| GPS-701-GG  | L1, GPS + GLONASS kinematic, zero-offset antenna      |

### **Antenna Accessories**

#### **Cable**

|          |  |
|----------|--|
| GPS-C032 | 30 meter, low-loss RF cable with straight TNC male plug connectors (for GPS-xxx antennas), RoHS compliant      |
| GPS-C016 | 15 meter RF cable with straight TNC male plug connectors (for GPS-xxx antennas), not RoHS compliant            |
| GPS-C006 | 5 meter RF cable with straight TNC male plug connectors (for GPS-xxx antennas), RoHS compliant                 |
| 01016772 | 22.5 cm RF cable with right-angle MMCX male plug and straight TNC bulkhead jack connectors, not RoHS compliant |
| 01017278 | 8.5 cm RF cable with right-angle MCX male plug and straight TNC bulkhead jack connectors, RoHS compliant       |

#### **Other**

---

|          |   |
|----------|---|
| 01018195 | Optional radome for GNSS-750 antenna                                      |
| 12023172 | Magnetic antenna mount (4" standoff) with 5/8"-11 threads, RoHS-compliant |
| 12023274 | Magnetic antenna mount (4" standoff) with 1"-14 threads, RoHS-compliant   |

---



## GPS Antennas

### 2.6" circular

#### Dual-Frequency

##### Active Antenna

| NovAtel Part Number | Antcom Part Number  | Description  |
|---------------------|---------------------|--|
| ANT-26C2GA-14M-BAO  | 2G1215AMP33-XM-14M  | Active L1/L2 GPS Antenna, 2.6" circular, 33 dB, 14" cable, magnet, biasing amplifier option  |
| ANT-26C2GA-180MTW   | 2G1215A-180MT-1     | Active L1/L2 GPS Antenna, 2.6" circular, 33 dB, 180" cable, magnet, TNC connector, white     |
| ANT-26C2GA-324M-BAO | 2G1215AMP33-XM-324M | Active L1/L2 GPS Antenna, 2.6" circular, 33 dB, 324" cable, magnet, biasing amplifier option |
| ANT-26C2GA-GSW      | 2G1215A-GMS-1       | Active L1/L2 GPS Antenna, 2.6" circular, 33 dB, Glass-Mount, SMA connector, white            |
| ANT-26C2GA-SGN      | 2G1215A-XNS-3       | Active L1/L2 GPS Antenna, 2.6" circular, 33 dB, SMA connector, green                         |
| ANT-26C2GA-SGY      | 2G1215A-XS-2        | Active L1/L2 GPS Antenna, 2.6" circular, 33 dB, SMA connector, grey                          |

##### Passive Antenna

| NovAtel Part Number | Antcom Part Number | Description  |
|---------------------|--------------------|--|
| ANT-26C2GP-NW       | 2G1215P-XN-1       | Passive L1/L2 GPS Antenna, 2.6" circular, N-connector, white   |
| ANT-26C2GP-SB       | 2G1215P-XS-4       | Passive L1/L2 GPS Antenna, 2.6" circular, SMA connector, black |
| ANT-26C2GP-SW       | 2G1215P-NS-1       | Passive L1/L2 GPS Antenna, 2.6" circular, SMA connector, white |
| ANT-26C2GP-TB       | 2G1215P-XT-4       | Passive L1/L2 GPS Antenna, 2.6" circular, TNC connector, black |

### Single-Frequency

##### Active Antenna

| NovAtel Part Number | Antcom Part Number | Description   |
|---------------------|--------------------|---|
| ANT-26C1GA-15MSGN   | 2G15A-15MS-3       | Active L1 GPS Antenna, 2.6" circular, 33 dB, 15" cable, magnet, SMA connector, green  |
| ANT-26C1GA-240MSGN  | 2G15A-240MS-3      | Active L1 GPS Antenna, 2.6" circular, 33 dB, 240" cable, magnet, SMA connector, green |
| ANT-26C1GA-MSGN     | 2G15A-MS-3         | Active L1 GPS Antenna, 2.6" circular, 33 dB, magnet, SMA connector, green             |
| ANT-26C1GA-SGN      | 2G15A-NS-3         | Active L1 GPS Antenna, 2.6" circular, 33 dB, SMA connector, green                     |
| ANT-26C1GA-ST       | 2G15A-NS-5         | Active L1 GPS Antenna, 2.6" circular, 33 dB, SMA connector, tan                       |
| ANT-26C1GA-SW       | 2G15A-XS-1         | Active L1 GPS Antenna, 2.6" circular, 33 dB, SMA connector, white                     |
| ANT-26C1GA-TBW-N    | 2G15A-XTB-1-N      | Active L1 GPS Antenna, 2.6" circular, 33 dB, TNC-Bulkhead connector, white, NovAtel   |

##### Passive Antenna

| NovAtel Part Number | Antcom Part Number | Description  |
|---------------------|--------------------|--|
| ANT-26C1GP-24SGN    | 2G15P-24S-3        | Passive L1 GPS Antenna, 2.6" circular, 24" cable, SMA connector, green |

### 3.5" circular

#### Dual-Frequency

**Active Antenna**

| NovAtel Part Number | Antcom Part Number | Description  |
|---------------------|--------------------|--|
| ANT-35C2GA-50RW     | 3G1215A-50CMTR-1   | Active L1/L2 GPS Antenna, 3.5" circular, 33 dB, 50" cable, MTR 1-1 Mounting Kit, white |
| ANT-35C2GA-NW       | 3G1215A-XN-1       | Active L1/L2 GPS Antenna, 3.5" circular, 33 dB, N-connector, white                     |
| ANT-35C2GA-RW       | 3G1215A-MTR-1      | Active L1/L2 GPS Antenna, 3.5" circular, 33 dB, MTR 1-1 Mounting Kit, white            |
| ANT-35C2GA-SB       | 3G1215A-XS-4       | Active L1/L2 GPS Antenna, 3.5" circular, 33 dB, SMA connector, black                   |
| ANT-35C2GA-SGY      | 3G1215A-NS-2       | Active L1/L2 GPS Antenna, 3.5" circular, 33 dB, SMA connector, grey                    |
| ANT-35C2GA-SW       | 3G1215A-XS-1       | Active L1/L2 GPS Antenna, 3.5" circular, 33 dB, SMA connector, white                   |
| ANT-35C2GA-TW       | 3G1215A-XT-1       | Active L1/L2 GPS Antenna, 3.5" circular, 33 dB, TNC connector, white                   |

**Single-Frequency****Active Antenna**

| NovAtel Part Number | Antcom Part Number | Description   |
|---------------------|--------------------|---|
| ANT-35C1GA2-TGN     | 3G15A2-XT-3        | Active L1 GPS Antenna, 3.5" circular, 20 dB, TNC connector, green             |
| ANT-35C1GA-RW       | 3G15A-MTR-1        | Active L1 GPS Antenna, 3.5" circular, 33 dB, MTR 1-1 Mounting Kit, white      |
| ANT-35C1GA-TGN      | 3G15A-XT-3         | Active L1 GPS Antenna, 3.5" circular, 33 dB, TNC connector, green             |
| ANT-35C1GA-TRB      | 3G15A-XTR-4        | Active L1 GPS Antenna, 3.5" circular, 33 dB, right-angle TNC connector, black |
| ANT-35C1GA-TW       | 3G15A-XT-1         | Active L1 GPS Antenna, 3.5" circular, 33 dB, TNC connector, white             |
| ANT-35C1GA-TW-N     | 3G15A-XT-1-N       | Active L1 GPS Antenna, 3.5" circular, 33 dB, TNC connector, white,NovAtel     |
| ANT-35C1GA-TW-SS-N  | 3G15A-XT-1-NC      | Active L1 GPS Antenna, 3.5" circular, 33 dB, offset TNC connector, white      |

**Passive Antenna**

| NovAtel Part Number | Antcom Part Number | Description   |
|---------------------|--------------------|---|
| ANT-35C1GP-SW       | 3G15P-XS-1         | Passive L1 GPS Antenna, 3.5" circular, SMA connector, white |

**3.5" circular with 5" ground-plane****Dual-Frequency****Active Antenna**

| NovAtel Part Number | Antcom Part Number | Description   |
|---------------------|--------------------|---|
| ANT-35C50P2GA-NW    | 53G1215A-XN-1      | Active L1/L2 GPS Antenna, 5" ground-plane, 3.5" circular, 33 dB, N-connector, white   |
| ANT-35C50P2GA-TW    | 53G1215A-XT-1      | Active L1/L2 GPS Antenna, 5" ground-plane, 3.5" circular, 33 dB, TNC connector, white |

**1.2" square****Dual-Frequency****Active Antenna**

| NovAtel Part Number | Antcom Part Number    | Description   |
|---------------------|-----------------------|---|
| ANT-12S2GA2-5LRB    | 1.2G1215A2-5.25L-RM-4 | Active L1/L2 GPS Antenna, 1.2" square, 20 dB, 5.25" cable, right-angle MCX connector, black |

**Passive Antenna**

| NovAtel Part Number | Antcom Part Number | Description  |
|---------------------|--------------------|--|
| ANT-12S2GP-SB       | 1.2G1215P-XS-4     | Passive L1/L2 GPS Antenna, 1.2" square, SMA connector, black |

**1.9" to 2" square****Dual-Frequency**

**Active Antenna**

| NovAtel Part Number | Antcom Part Number | Description  |
|---------------------|--------------------|--|
| ANT-19S2GA-SCGN     | 1.9G1215A-XRSC-3   | Active L1/L2 GPS Antenna, 1.9" square, 33 dB, center-SMA connector, green                                |
| ANT-19S2GA-SCGNC    | 1.9G1215A-XSC-3C   | Active L1/L2 GPS Antenna, 1.9" square, 33 dB, center-SMA connector, green with airworthiness certificate |
| ANT-19S2GA-SCGY     | 1.9G1215A2-XSC-2   | Active L1/L2 GPS Antenna, 1.9" square, 20 dB, center-SMA connector, grey                                 |
| ANT-20S2GA-36MFRSB  | 1G1215A-36MNRSMB-4 | Active L1/L2 GPS Antenna, 2" square, 33 dB, 36" cable, flush magnet, right angle SMB connector, black    |
| ANT-20S2GA-SB       | 1G1215A-XS-4       | Active L1/L2 GPS Antenna, 2" square, 33 dB, SMA connector, black   |
| ANT-20S2GA-SCGN     | 1G1215A-XSC-3      | Active L1/L2 GPS Antenna, 2" square, 33 dB, center-SMA connector, green                                  |
| ANT-20S2GA-SGN      | 1G1215A-XS-3       | Active L1/L2 GPS Antenna, 2" square, 33 dB, SMA connector, green   |

**Passive Antenna**

| NovAtel Part Number | Antcom Part Number | Description  |
|---------------------|--------------------|--|
| ANT-19S2GP-36SGY    | 1.9G1215P-36S-2    | Passive L1/L2 GPS Antenna, 1.9" square, 36" cable, SMA connector, grey   |
| ANT-19S2GP-SGY      | 1.9G1215P-XSC-2    | Passive L1/L2 GPS Antenna, 1.9" square, center-SMA connector, grey       |
| ANT-19S2GP-SRB      | 1.9G1215P-XRS-4    | Passive L1/L2 GPS Antenna, 1.9" square, right-angle SMA connector, black |
| ANT-20S2GP-SW       | 1G1215P-XS-1       | Passive L1/L2 GPS Antenna, 2" square, SMA connector, white               |

**Mini-Arinc Antennas****Dual-Frequency****Active Antenna**

| NovAtel Part Number | Antcom Part Number | Description   |
|---------------------|--------------------|---|
| ANT-A2GA27-TBCGN    | 4G1215A27-XTBC-3   | Active L1/L2 GPS Antenna, mini-Arinc, 27 dB, center-TNC-Bulk connector, green |
| ANT-A2GA4-TW        | 4G1215A4-XS-1      | Active L1/L2 GPS Antenna, mini-Arinc, 40 dB, SMA connector, white             |
| ANT-A2GA-SCGN       | 4G1215A-XSC-3      | Active L1/L2 GPS Antenna, mini-Arinc, 33 dB, center-SMA connector, green      |
| ANT-A2GA-SW         | 4G1215A-XS-1       | Active L1/L2 GPS Antenna, mini-Arinc, 33 dB, SMA connector, white             |
| ANT-A2GA-TGY        | 4G1215A-XT-2       | Active L1/L2 GPS Antenna, mini-Arinc, 33 dB, TNC connector, grey              |
| ANT-A2GA-TW         | 4G1215A-XT-1       | Active L1/L2 GPS Antenna, mini-Arinc, 33 dB, TNC connector, white             |

**Single-Frequency****Active Antenna**

| NovAtel Part Number | Antcom Part Number | Description  |
|---------------------|--------------------|--|
| ANT-A1GA-SW         | 4G15A-XS-1         | Active L1 GPS Antenna, mini-Arinc, 33 dB, SMA connector, white |
| ANT-A1GA-TB         | 4G15A-XT-4         | Active L1 GPS Antenna, mini-Arinc, 33 dB, TNC connector, black |
| ANT-A1GA-TW         | 4G15A-XT-1         | Active L1 GPS Antenna, mini-Arinc, 33 dB, TNC connector, white |

**Arinc 743****Dual-Frequency****Active Antenna**

| NovAtel Part Number | Antcom Part Number | Description   |
|---------------------|--------------------|---|
| ANT-A72GA-TW-N      | 42G1215A-XT-1-N    | Active L1/L2 GPS Antenna, Arinc 743, 33 dB, TNC connector, white, NovAtel |

**Choke Ring Antennas****Dual-Frequency****Active Antenna**

| NovAtel Part Number | Antcom Part Number | Description  |
|---------------------|--------------------|--|
| ANT-C2GA-NW-N       | 123GM1215A-XN-1-N  | Active L1/L2 GPS Antenna, Choke Ring, 33 dB, N-connector, white, NovAtel |

---

|               |                   |  |
|---------------|-------------------|--|
| ANT-C2GA-TFW  | 123GM1215A-XT-1-F | Active L1/L2 GPS Antenna, Choke Ring, 33 dB, TNC connector, white, flat    |
| ANT-C2GA-TW   | 123GM1215A-XT-1   | Active L1/L2 GPS Antenna, Choke Ring, 33 dB, TNC connector, white          |
| ANT-C2GA-TW-N | 123GM1215A-XT-1-N | Active L1/L2 GPS Antenna, Choke Ring, 33 dB, TNC connector, white, NovAtel |

---



## GPS and L-band Antennas

### 2.6" circular

#### Dual-Frequency

##### Active Antenna

| NovAtel Part Number | Antcom Part Number | Description   |
|---------------------|--------------------|---|
| ANT-26C2GLA4-MFSW   | 2GO1215A4-MNS-1    | Active L1/L2/L-Band GPS Antenna, 2.6" circular, 40 dB, flush magnet, SMA connector, white |

#### Single-Frequency

##### Active Antenna

| NovAtel Part Number | Antcom Part Number | Description  |
|---------------------|--------------------|--|
| ANT-26C1GLA-MTB     | 2GO15A-MT-4        | Active L1/L-Band GPS Antenna, 2.6" circular, 33 dB, magnet, TNC connector, black |
| ANT-26C1GLA-SGN     | 2GO15A-XS-3        | Active L1/ L-Band GPS Antenna, 2.6" circular, 33 dB, SMA connector, green        |

### 3.5" circular

#### Dual-Frequency

##### Active Antenna

| NovAtel Part Number | Antcom Part Number | Description   |
|---------------------|--------------------|---|
| ANT-35C2GLA4-TRW    | 3GO1215A4-XTR-1    | Active L1/L2/L-Band GPS Antenna, 3.5" circular, 40 dB, right-angle TNC connector, white |
| ANT-35C2GLA-TRW     | 3GO1215A-XTR-1     | Active L1/L2/L-Band GPS Antenna, 3.5" circular, 33 dB, right-angle TNC connector, white |

#### Single-Frequency

##### Active Antenna

| NovAtel Part Number | Antcom Part Number | Description  |
|---------------------|--------------------|--|
| ANT-35C1GLA-TRW     | 3GO15A-XTR-1       | Active L1/L-Band GPS Antenna, 3.5" circular, 33 dB, right-angle TNC connector, white |

### 3.5" circular with 5" ground-plane

#### Single-Frequency

##### Active Antenna

| NovAtel Part Number | Antcom Part Number | Description   |
|---------------------|--------------------|---|
| ANT-35C50P1GLA-TW   | 53GO15A-XT-1       | Active L1/L-Band GPS Antenna, 5" ground-plane, 3.5" circular, 33 dB, TNC connector, white |

### Arinc 743

#### Dual-Frequency

##### Active Antenna

| NovAtel Part Number | Antcom Part Number | Description |
|---------------------|--------------------|-------------|
|---------------------|--------------------|-------------|

---

|                  |                   |  |
|------------------|-------------------|--|
| ANT-A72GLA4-TW-N | 42GO1215A4-XT-1-N | Active L1/L2/L-Band GPS Antenna, Arinc 743, 40 dB, TNC connector, white,NovAtel  |
| ANT-A72GLA-TW-N  | 42GO1215A-XT-1-N  | Active L1/L2/L-Band GPS Antenna, Arinc 743, 33 dB, TNC connector, white, NovAtel |

---



## GPS and GLONASS antennas

### 3.5" circular

#### Dual-Frequency

##### Passive Antenna

| NovAtel Part Number | Antcom Part Number | Description  |
|---------------------|--------------------|--|
| ANT-35C1G1GOP-NB    | 3G1216P-XN-4       | Passive L1/L2 GPS and L1 GLONASS Antenna, 3.5" circular, N-type connector, black |
| ANT-35C1G1GOP-TB    | 3G1216P-XT-4       | Passive L1/L2 GPS and L1 GLONASS Antenna, 3.5" circular, TNC connector, black    |

### 3.5" circular with 5" ground-plane

#### Dual-Frequency

##### Active Antenna

| NovAtel Part Number | Antcom Part Number | Description  |
|---------------------|--------------------|--|
| ANT-35C50P2G2GOA-TW | 53G1216A-XT-1      | Active L1/L2 GPS and L1 GLONASS Antenna, 5" ground-plane, 3.5" circular, 33 dB, TNC connector, white |



## GPS, GLONASS, and L-band antennas

### 3.5" circular

#### Dual-Frequency

##### Active Antenna

| NovAtel Part Number | Antcom Part Number | Description   |
|---------------------|--------------------|---|
| ANT-35C2G2GOLA-MMB  | 3GO1216A-XMM-4     | Active L1/L2 GPS, L1 GLONASS, and L-Band Antenna, 3.5" circular, 33 dB, MMCX connector, black |

### 3.5" circular with 5" ground-plane

#### Dual-Frequency

##### Active Antenna

| NovAtel Part Number   | Antcom Part Number | Description   |
|-----------------------|--------------------|---|
| ANT-35C50G2G1GOLA4-TB | 53GO1216A4-XT-4    | Active L1/L2 GPS, L1 GLONASS, and L-band antenna, 5" ground-plane, 3.5" circular, 40 dB, TNC connector, black |

#### Single-Frequency

##### Active Antenna

| NovAtel Part Number | Antcom Part Number | Description  |
|---------------------|--------------------|--|
| ANT-35C50P1GLA-TW-N | 53GO16A-XT-1-N     | Active L1/L-Band GPS/GLONASS Antenna, 5" ground-plane, 3.5" circular, 33 dB, TNC connector, white, NovAtel |

### Arinc 743

#### Single-Frequency

##### Active Antenna

| NovAtel Part Number | Antcom Part Number | Description  |
|---------------------|--------------------|--|
| ANT-A71GLA4-TW      | 42GO16A4-XT-1      | Active L1/L-Band GPS/GLONASS Antenna, Arinc 743, 40 dB, TNC connector, white |
| ANT-A71GLA-TW       | 42GO16A-XT-1       | Active L1/L-Band GPS/GLONASS Antenna, Arinc 743, 33 dB, TNC connector, white |



## GPS and Iridium Antennas

### 5" rectangular

#### Single-Frequency

##### Active Antenna

| NovAtel Part Number | Antcom Part Number     | Description  |
|---------------------|------------------------|--|
| ANT-1GA2iP-MSTB     | S5GIR1516RR-A2P-XMST-4 | Active L1 GPS/Passive Iridium Antenna, 20 dB, magnet, SMA and TNC connectors, black    |
| ANT-1GA2iP-MSTGN    | S5GIR1516RR-A2P-XMST-3 | Active L1 GPS/Passive Iridium Antenna, 20 dB, magnet, SMA and TNC connectors, green    |
| ANT-1GA2iP-TTW      | S5GIR1516RR-A2P-XTT-1  | Active L1 GPS/Passive Iridium Antenna, 20 dB, 2-TNC connectors, white                  |
| ANT-1GAiP-60SSW     | S5GIR1516RR-AP-60SS-1  | Active L1 GPS/Passive Iridium Antenna, 33 dB, 60" cable, 2-SMA connectors, white       |
| ANT-1GAiP-60STW     | S5GIR1516RR-AP-60NST-1 | Active L1 GPS/Passive Iridium Antenna, 33 dB, 60" cable, SMA and TNC connectors, white |
| ANT-1GAiP-MSTW      | S5GIR1516RR-AP-MST-1   | Active L1 GPS/Passive Iridium Antenna, 33 dB, magnet, SMA and TNC connectors, white    |
| ANT-1GAiP-SSB       | S5GIR1516RL-AP-XSS-4   | Active L1 GPS/Passive Iridium Antenna, 33 dB, 2-SMA connectors, black                  |
| ANT-1GAiP-STGN      | S5GIR1516RR-AP-XST-3   | Active L1 GPS/Passive Iridium Antenna, 33 dB, SMA and TNC connectors, green            |
| ANT-1GAiP-STW       | S5GIR1516RR-AP-XST-1   | Active L1 GPS/Passive Iridium Antenna, 33 dB, SMA and TNC connectors, white            |
| ANT-1GAiP-TTW       | S5GIR1516RR-AP-XTT-1   | Active L1 GPS/Passive Iridium Antenna, 33 dB, 2-TNC connectors, white                  |



## GPS, GLONASS, and Iridium Antennas

### 4.5" helix with 3.5" diameter

#### Passive Antenna

| NovAtel Part Number | Antcom Part Number | Description  |
|---------------------|--------------------|--|
| ANT-GiGO-TBGN-H     | S53IR16RR-P-XTB-3  | Passive GPS/GLONASS/Inmarsat/Iridium Antenna, Helix, 3.5" dia., 4.5" high, TNC Bulkhead connector, green   |
| ANT-GiGO-TBW-H      | S53IR16RR-P-XTB-1  | Passive GPS/GLONASS/Inmarsat/Iridium Antenna, Helix, 3.5" dia., 4.5" high, TNC Bulkhead connector, white   |
| ANT-GiGO-W-12PH     | S53IR16RR-P-M2TB-1 | Passive GPS/GLONASS/Inmarsat/Iridium Antenna, Helix, 3.5" dia., 4.5" high, 1"-2 Pipe and Flat Mount, white |



## GPS and Iridium Antennas with Other Bands

**5" rectangular**

**Single-Frequency**

**Active Antenna**

| <b>NovAtel Part Number</b> | <b>Antcom Part Number</b> | <b>Description</b>   |
|----------------------------|---------------------------|--|
| ANT-50R1GARiPRXAL-TTTW     | 5G151623RRL-AA-XTTT-1     | Active L1 GPS [RHCP], 33 dB / Passive Iridium [RHCP] / Active XM [33 dB] [LHCP], 5" rectangular, 3-TNC connectors, white |



## Antenna Accessories

### Other

| NovAtel Part Number | Antcom Part Number | Description          |
|---------------------|--------------------|----------------------|
| ANT-PD-GN           | 2G1215S-XS2-3      | Power Divider, green |
| ANT-PD-GY           | 2G1215S-XS2-2      | Power Divider, grey  |