

# **Precise** thinking

# NovAtel Inc. Model List

Phone: 1-800-NOVATEL

403-295-4500

Fax: 403-295-4901

Web: www.novatel.com

Email: sales@novatel.com

Mail: NovAtel Inc.

1120 - 68th Avenue NE

Calgary, Alberta Canada T2E 8S5

All prices shown are in U.S. dollars and F.C.A NovAtel Calgary. Prices outside of North America may vary due to importation tariffs and costs.

All prices, product descriptions, specifications, and models are subject to changes without notice. A complete summary or NovAtel's Standard Terms and Condistions is avilable upon request.

NovAtel®, GPSolution®, RT-2®, RT-20®, ProPak®, FlexPak® and MEDLL® are registered trademarks of NovAtel Inc. OEMV™, Vision Correlator™, OEM4-G2™, OEM4-G2L™, PAC™, DL-4plus™, GPSCard™, SPAN™, SUPERSTAR II™, Convert™, and DL4Tool™ are trademarks of NovAtel Inc. All other brand names are trademarks of their respective owners.

D04492 Revision 26



# **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.

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 can be found at www.novatel.com.



#### **OEMV Receivers**

The OEMV family receivers are available in single, dual, or triple-frequency models and feature our patented PAC™ and Vision Correlator™ technologies. 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 OEMV products are currently available with PAC Technology only. Vision Correlator Technology will be available in a future firmware release. All of the OEMV receivers are RoHS-compliant.

#### **OEMV-1 GPS Receiver OEM Card**

The OEMV-1<sup>™</sup> is a 16-channel, single-frequency receiver in a 46 mm x 71 mm form-factor with low power consumption. All OEMV-1 cards offer position, velocity, and time (PVT) output up to 20Hz, real-time DGPS positioning (including SBAS, OmniSTAR, and CDGPS), support for RTCA and RTCM messages and three serial ports, one CAN bus port, and a USB port. The OEMV-1 is configurable as a rover or base station and is designed for embedded applications.

The OEMV-1 card is available in an RoHS-compliant FlexPak enclosure, and will soon be available in a SMART ANTENNA.

All models are available with the API (Application Program Interface) option. Add \$750 to the list price and "-A" to the part number for each receiver requiring API capabilities.

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.

#### Single-Frequency, 16-channel, L1 C/A code

OEMV-1-RT20	20 cm real-time kinematic positioning, outputs RT-20® corrections and raw data, real-time DGPS, OmniSTAR VBS, CDGPS, and SBAS, 20Hz
OEMV-1-L1-VBS	Outputs RT-20® corrections and raw data, real-time DGPS, OmniSTAR VBS, CDGPS, and SBAS, 20Hz
OEMV-1-VBS	Real-time DGPS, OmniSTAR VBS, CDGPS, and SBAS, 20Hz
OEMV-1-L1	Outputs RT-20® corrections and raw data, real-time DGPS, SBAS, 20Hz

#### **OEMV-2 GPS + GLONASS Receiver OEM Card**

The OEMV-2™ is a parallel 72-channel, dual-frequency, or 36-channel, single-frequency, receiver featuring a 60 mm x 100 mm form-factor and low power consumption. All OEMV-2 cards feature GPS-only position, velocity, and time (PVT) output, real-time DGPS and SBAS positioning, support for RTCA and RTCM messages, GPS and GLONASS raw data output, two serial ports, one CAN bus port, and a USB port. The OEMV-2 is configurable as a rover or base station and is designed for embedded applications.

The OEMV-2 card is also available in an RoHS-compliant FlexPak enclosure.

All models can be enabled to provide GLONASS raw measurement output. Add \$1000 to the list price and "-G" to the part number for each receiver requiring GLONASS capabilities. In the future, all OEMV-2 cards will be firmware upgradeable to full GPS+GLONASS code and RTK positioning.

All models are available with the API (Application Program Interface) option. Add \$750 to the list price and "-A" to the part number for each receiver requiring API capabilities.

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

#### Dual-Frequency, 72-Channel, GPS L1 C/A code, L2 P(Y) code, GPS L2C code

OEMV-2-RT2	2 cm real-time kinematic positioning, outputs RT-2® corrections and raw data, real-time DGPS, SBAS, 20Hz
OEMV-2-L1L2	Outputs RT-2® corrections and raw data, real-time DGPS, SBAS, 20Hz

## Single-Frequency, 36-Channel, GPS L1 C/A code

Fully Upgradeable to Dual-Frequency

Tully Opgradeable to bu	an requerity
OEMV-2-RT20	20 cm real-time kinematic positioning, outputs RT-20® corrections and raw data, real-time DGPS, SBAS, 20Hz
OEMV-2-L1	Outputs RT-20® corrections and raw data, real-time DGPS, SBAS, 20Hz

#### **OEMV-3 GPS + GLONASS Receiver OEM Card**

The OEMV-3™ is a parallel 72-channel, dual-frequency, or 36-channel, single-frequency, receiver featuring an 85 mm x 125 mm form-factor and low power consumption. All OEMV-3 cards feature GPS-only position, velocity, and time (PVT) output, real-time DGPS positioning (including SBAS, OmniSTAR and CDGPS), support for RTCA and RTCM messages, GPS and GLONASS raw data output, three serial ports, 2 CAN bus ports, and a USB port. The OEMV-3 is configurable as a rover or base station and is designed for embedded applications.

The OEMV-3 is also available in a ProPak enclosure.

All models except HP and VBS can be enabled to provide GLONASS raw measurement output. Add \$1000 to the list price and "-G" to the part number for each receiver requiring GLONASS capabilities. In the future, all OEMV-3 cards will be firmware upgradeable to full GPS+GLONASS code and RTK positioning.

All models are available with the API (Application Program Interface) option. Add \$750 to the list price and "-A" to the part number for each receiver requiring API capabilities.

OmniSTAR and CDGPS are not available once GLONASS is enabled.

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.

#### Dual-Frequency, 72-Channel, GPS L1 C/A code, L2 P(Y) code, GPS L2C code

OEMV-3-RT2	2 cm real-time kinematic positioning, outputs RT-2® corrections and raw data, real-time DGPS, OmniSTAR HP/XP/VBS, CDGPS, and SBAS, 20Hz
OEMV-3-L1L2	Outputs RT-2® corrections and raw data, DGPS, OmniSTAR HP/XP/VBS, CDGPS, and SBAS, 20Hz
OEMV-3-HP	Real-time DGPS, OmniSTAR HP/XP/VBS, CDGPS, and SBAS, 20Hz

# Single-Frequency, 36-Channel, GPS+GLONASS L1 C/A code

Fully	Upgradeable	to Dual-Fred	uencv
-------	-------------	--------------	-------

, , , ,	·
OEMV-3-RT20	20 cm real-time kinematic positioning, outputs RT-20® corrections and raw data, real-time DGPS,
	OmniSTAR VBS, CDGPS, and SBAS, 20Hz
OEMV-3-VBS	Real-time DGPS, OmniSTAR VBS, CDGPS, and SBAS, 20Hz
OEMV-3-L1	Outputs RT-20® corrections and raw data, real-time DGPS, and SBAS, 20Hz

#### ProPak-V3 GPS Receiver Enclosure

The ProPak®-V3 is a durable, high-performance receiver with advanced capabilities, including GLONASS measurements, integrated OmniSTAR and CDGPS and API support. Featuring NovAtel's latest high performance GNSS engine, the OEMV-3, it is available in an RS-232 configuration with three serial ports and USB 1.1 support. The ProPak-V3 also features optional support for an external IMU. It includes an automotive power adapter, a null-modem cable, a straight serial cable, a USB cable, an auxiliary I/O port cable, and a mounting kit. All ProPak-V3 receivers provide position output, real-time DGPS positioning, support for RTCA and RTCM messages and are configurable as a rover or base station.

All models except HP and VBS can be enabled to provide GLONASS raw measurement output. Add \$1000 to the list price and "-G" to the part number for each receiver requiring GLONASS capabilities. In the future, all OEMV-3 cards will be firmware upgradeable to full GPS+GLONASS code and RTK positioning.

All models are available with the API (Application Program Interface) option. Add \$750 to the list price and "-A" to the part number for each receiver requiring API capabilities.

OmniSTAR and CDGPS are not available once GLONASS is enabled.

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.

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

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

#### Dual-Frequency, 72-Channel, L1 C/A code, L2 P(Y) code, L2C

	, = : = : = : = : ( - / = : = : ) = = :
PROPAK-V3-RT2	2 cm real-time kinematic positioning, outputs RT-2® corrections and raw data, L2 carrier phase,
	real-time DGPS, OmniSTAR HP/XP/VBS, CDGPS, and SBAS, 20Hz
PROPAK-V3-L1L2	Outputs RT-2® corrections and raw data, DGPS,OmniSTAR HP/XP/VBS, CDGPS, and SBAS, 20Hz
PROPAK-V3-HP	Real-time DGPS, OmniSTAR HP/XP/VBS, CDGPS, and SBAS, 20Hz

#### Single-Frequency, 36-Channel, L1 C/A code

Fully Upgradeable to Dual-Frequency
-------------------------------------

Tally Opgradeable to Bud	Trequency
PROPAK-V3-RT20	20 cm real-time kinematic positioning, outputs RT-20® corrections and raw data, real-time DGPS,
	OmniSTAR VBS, CDGPS, and SBAS, 20Hz

© 2006 NOVATEL INC.	PROPRIETARY AND CONFIDENTIAL	PAGE 4
PROPAK-V3-VBS	Real-time DGPS, OmniSTAR VBS, CDGPS, and SBAS, 20Hz	
PROPAK-V3-L1	Outputs RT-20® corrections and raw data, real-time DGPS, and SBAS, 20Hz	

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

PROPAK-V3-424-RT2	2 cm real-time kinematic positioning, outputs RT-2® corrections and raw data, L2 carrier phase,
	real-time DGPS, OmniSTAR HP/XP/VBS, CDGPS, and SBAS, 20Hz
PROPAK-V3-424-L1L2	Outputs RT-2® corrections and raw data, DGPS,OmniSTAR HP/XP/VBS, CDGPS, and SBAS, 20Hz
PROPAK-V3-424-HP	Real-time DGPS, OmniSTAR HP/XP/VBS, CDGPS, and SBAS, 20Hz

Fully Upgradeable to Dual-Frequency

PROPAK-V3-424-RT20	20 cm real-time kinematic positioning, outputs RT-20® corrections and raw data, real-time DGPS, OmniSTAR VBS, CDGPS, and SBAS, 20Hz
PROPAK-V3-424-VBS	Real-time DGPS, OmniSTAR VBS, CDGPS, and SBAS, 20Hz
PROPAK-V3-424-L1	Outputs RT-20® corrections and raw data, real-time DGPS, and SBAS, 20Hz

#### FlexPak-V1 GPS Receiver Enclosure

All capabilities of the OEMV-1 card are available in the FlexPak-V1 except that the external oscillator port and CAN are not available to enclosure users. See the OEMV-1 card specifications for more details.

The FlexPak-V1 has SBAS, VBS, and CDGPS capability to provide the extra precision required in L1 applications. It supports OmniSTAR VBS corrections (subscription required) and the Canadian Differential GPS service (no subscription required). NovAtel's RT20 model is available for L1 carrier-phase positioning up to 20 Hz.

The FlexPak-V1 enclosure and cable set is RoHS-compliant and meets FCC and CE regulatory standards for emissions and safety. It 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 is included.

All models are available with the API (Application Program Interface) option. Add \$750 to the list price and "-A" to the part number for each receiver requiring API capabilities.

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.

#### Single-Frequency, 16-channel, L1 C/A code

FLEXPAK-V1-RT20	20 cm real-time kinematic positioning, outputs RT-20® corrections and raw data, real-time DGPS, OmniSTAR VBS, CDGPS, and SBAS, 20Hz
FLEXPAK-V1-L1-VBS	Outputs RT-20® corrections and raw data, real-time DGPS, OmniSTAR VBS, CDGPS, and SBAS, 20Hz
FLEXPAK-V1-VBS	Real-time DGPS, OmniSTAR VBS, CDGPS, and SBAS, 20Hz
FLEXPAK-V1-L1	Outputs RT-20® corrections and raw data, real-time DGPS, SBAS, 20Hz

#### FlexPak-V2 GPS + GLONASS Receiver Enclosure

All capabilities of the OEMV-2 card are available in the FlexPak-V2 except that the external oscillator port is not available to enclosure users. See the OEMV-2 card specifications for more details.

NovAtel's FlexPak-V2 is capable of tracking the new L2C civilian signal. The L2C signal promises stronger signal tracking and better cross-correlation protection. The FlexPak-V2 also offers GLONASS measurement data which can be used in combination with GPS data to provide more satellites for positioning in challenging environments. In the future, full position and real-time kinematic (RTK) capabilities will be available with a simple firmware upgrade.

The FlexPak-V2 enclosure and cable set is RoHS-compliant and meets FCC and CE regulatory standards for emissions and safety. It 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 is included.

All modules can be enabled to provide GLONASS raw measurement output. Add \$1000 to the list price and "-G" to the part number for each receiver requiring GLONASS capabilities. All FlexPak-V2 receivers will be firmware upgradeable to full GPS+GLONASS code and RTK positioning in the future.

All models are available with the API (Application Program Interface) option. Add \$750 to the list price and "-A" to the part number for each receiver requiring API capabilities.

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

© 2006 NOVATEL INC.	PROPRIETARY AND CONFIDENTIAL	PAGE 5
© 2000 NOVATEL INC.	FROFRIETART AND CONFIDENTIAL	FAGE 5

FLEXPAK-V2-RT2	2 cm real-time kinematic positioning, outputs RT-2® corrections and raw data, real-time DGPS, SBAS, 20Hz
FLEXPAK-V2-L1L2	Outputs RT-2® corrections and raw data, real-time DGPS, SBAS, 20Hz
Single-Frequency 3	6-Channel, GPS L1 C/A code
omgic i requency, o	
Fully Upgradeable to Dua	·
• •	·

# **Application Programming Interface (API) 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 or OEM4 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 a receiver enabled with API capabilities.

API-DEV-KIT API development kit



#### **OEM4 Receivers**

All OEM4 family receivers are available in dual-frequency or single-frequency models and feature our patented PAC™ technology. Included with each receiver are NovAtel's Windows®-based software utilities, GPSolution® and Convert™, and product manuals. Upgrades to more feature-intensive models are available via telephone, fax, or e-mail.

SBAS Corrections including WAAS, MSAS and EGNOS may not be available in all areas. The OEM4 receivers are not RoHS-compliant.

#### OEM4-G2 GPS Receiver OEM Card

The OEM4-G2™ is a parallel 24-channel, dual-frequency or 12-channel, single-frequency receiver featuring an 85 mm x 125 mm form-factor and low power consumption. All OEM4-G2 cards offer position output, real-time DGPS positioning, support for RTCA and RTCM messages, three serial ports, and a USB interface. The OEM4-G2 is configurable as a rover or base station and is designed for embedded applications or as a stand-alone unit in a ProPak-G2 enclosure.

All models are available with the API (Application Program Interface) option. Add \$750 to the list price and "-API" to the part number for each receiver requiring API capabilities.

Dual-Frequency, 24-Channel, L1 C/A code, L2 P(Y) code

- Juan Frequency, - Fe	Harriot, 21 O/A code, 22 I (1) code
OEM4-G2-RT2	2 cm real-time kinematic positioning, real-time DGPS positioning, raw data output Discontinued, no new orders after 28 Feb. 2007
OEM4-G2-RT2W	2 cm real-time kinematic positioning, accepts SBAS corrections, real-time DGPS, raw data output Discontinued, no new orders after 28 Feb. 2007
OEM4-G2-L1L2	Outputs RT-2® corrections, real-time DGPS positioning, raw data output Discontinued, no new orders after 28 Feb. 2007
OEM4-G2-L1L2W	Outputs RT-2® corrections, accepts SBAS corrections, real-time DGPS, raw data output Discontinued, no new orders after 28 Feb. 2007
OEM4-G2-EGNOS	Real-time DGPS positioning, accepts EGNOS corrections Discontinued, no new orders after 28 Feb. 2007
OEM4-G2-MSAS	Real-time DGPS positioning, accepts MSAS corrections Discontinued, no new orders after 28 Feb. 2007
OEM4-G2-WAAS	Real-time DGPS positioning, accepts WAAS corrections Discontinued, no new orders after 28 Feb. 2007

# Single-Frequency, 12-Channel, L1 C/A code

Fully Upgradeable to Dual-Frequency

OEM4-G2-RT20	20 cm real-time kinematic positioning, real-time DGPS positioning, raw data output Discontinued, no new orders after 28 Feb. 2007
OEM4-G2-RT20W	20 cm real-time kinematic positioning, accepts SBAS corrections, real-time DGPS, raw data out Discontinued, no new orders after 28 Feb. 2007
OEM4-G2-3151R	Outputs RT-20® corrections, real-time DGPS positioning, raw data output Discontinued, no new orders after 28 Feb. 2007
OEM4-G2-3151W	Outputs RT-20® corrections, accepts SBAS corrections, real-time DGPS, raw data output Discontinued, no new orders after 28 Feb. 2007
OEM4-G2-3111R	Real-time DGPS positioning Discontinued, no new orders after 28 Feb. 2007
OEM4-G2-3111W	Accepts SBAS corrections, real-time DGPS positioning Discontinued, no new orders after 28 Feb. 2007

# **OEM4-G2L GPS Receiver OEM Card**

The OEM4-G2L™ is a parallel 24-channel, dual-frequency or 12-channel, single-frequency receiver featuring a 60 mm x 100 mm form-factor and low power consumption. All OEM4-G2L cards feature position output, real-time DGPS positioning, support for RTCA and RTCM messages, two serial ports and a USB interface. The OEM4-G2L is configurable as a rover or base station and is designed for embedded applications.

All models are available with the API (Application Program Interface) option. Add \$750 to the list price and "-API" to the part number for each receiver requiring API capabilities.

OEM4-G2L-RT2	2 cm real-time kinematic positioning, real-time DGPS positioning, raw data output
	Discontinued, no new orders after 28 Feb. 2007
OEM4-G2L-RT2W	2 cm real-time kinematic positioning, accepts SBAS corrections, real-time DGPS, raw data output
	Discontinued, no new orders after 28 Feb. 2007
OEM4-G2L-L1L2	Outputs RT-2® corrections, real-time DGPS positioning, raw data output
	Discontinued, no new orders after 28 Feb. 2007
OEM4-G2L-L1L2W	Outputs RT-2® corrections, accepts SBAS corrections, real-time DGPS, raw data output
	Discontinued, no new orders after 28 Feb. 2007
OEM4-G2L-EGNOS	Real-time DGPS positioning, accepts EGNOS corrections
	Discontinued, no new orders after 28 Feb. 2007
OEM4-G2L-MSAS	Real-time DGPS positioning, accepts MSAS corrections
	Discontinued, no new orders after 28 Feb. 2007
OEM4-G2L-WAAS	Real-time DGPS positioning, accepts WAAS corrections
	Discontinued, no new orders after 28 Feb. 2007

# Single-Frequency, 12-Channel, L1 C/A code

Fully Upgradeable to Dual-Frequency	Fully	Upgradeable	to Dual-Fred	quency
-------------------------------------	-------	-------------	--------------	--------

, , ,	
OEM4-G2L-RT20	20 cm real-time kinematic positioning, real-time DGPS positioning, raw data output Discontinued, no new orders after 28 Feb. 2007
OEM4-G2L-RT20W	20 cm real-time kinematic positioning, accepts SBAS corrections, real-time DGPS, raw data out Discontinued, no new orders after 28 Feb. 2007
OEM4-G2L-3151R	Outputs RT-20® corrections, real-time DGPS positioning, raw data output Discontinued, no new orders after 28 Feb. 2007
OEM4-G2L-3151W	Outputs RT-20® corrections, accepts SBAS corrections, real-time DGPS, raw data output Discontinued, no new orders after 28 Feb. 2007
OEM4-G2L-3111R	Real-time DGPS positioning Discontinued, no new orders after 28 Feb. 2007
OEM4-G2L-3111W	Accepts SBAS corrections, real-time DGPS positioning Discontinued, no new orders after 28 Feb. 2007

# **ProPak-G2plus GPS Receiver Enclosure**

The ProPak®-G2plus is a rugged, lightweight enclosure containing the OEM4-G2 receiver. It is available in RS-232 or RS-422 configurations with three serial ports and USB support. The ProPak-G2plus also features optional support for an external IMU. It includes an automotive power adapter, a null-modem cable, a straight serial cable, a USB cable, an auxiliary I/O port cable, and a mounting kit. All ProPak-G2plus receivers provide position output, real-time DGPS positioning, and support for RTCA and RTCM messages and are configurable as a rover or base station.

All models are also available with the API (Application Program Interface) option. Add \$750 to the list price and "-A" to the part number for each enclosure requiring API capabilities.

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

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

# Dual-Frequency, 24-Channel, L1 C/A code, L2 P(Y) code

PROPAK-G2+DB9-RT2	2 cm real-time kinematic positioning, real-time DGPS positioning, raw data output Discontinued, no new orders after 28 Feb. 2007	
PROPAK-G2+DB9-RT2W	2 cm RTK positioning, accepts SBAS corrections, real-time DGPS, raw data output Discontinued, no new orders after 28 Feb. 2007	
PROPAK-G2+DB9-L1L2	Outputs RT-2® corrections, real-time DGPS positioning, raw data output Discontinued, no new orders after 28 Feb. 2007	
PROPAK-G2+DB9-L1L2W	Outputs RT-2® corrections, accepts SBAS corrections, real-time DGPS, raw data output Discontinued, no new orders after 28 Feb. 2007	
PROPAK-G2+DB9-EGNOS	Real-time DGPS positioning, accepts EGNOS corrections Discontinued, no new orders after 28 Feb. 2007	
PROPAK-G2+DB9-MSAS	Real-time DGPS positioning, accepts MSAS corrections Discontinued, no new orders after 28 Feb. 2007	
PROPAK-G2+DB9-WAAS	Real-time DGPS positioning, accepts WAAS corrections Discontinued, no new orders after 28 Feb. 2007	

# Single-Frequency, 12-Channel, L1 C/A code

Fully Upgradeable to Dual-Frequency

	· · ·
PROPAK-G2+DB9-RT20	20 cm real-time kinematic positioning, real-time DGPS positioning, raw data output
	Discontinued, no new orders after 28 Feb. 2007

© 2006 NOVATEL INC.	PROPRIETARY AND CONFIDENTIAL	PAGE 8
PROPAK-G2+DB9-RT20W	20 cm RTK positioning, accepts SBAS corrections, real-time DGPS, raw data output Discontinued, no new orders after 28 Feb. 2007	
PROPAK-G2+DB9-3151R	Outputs RT-20® corrections, real-time DGPS positioning, raw data output Discontinued, no new orders after 28 Feb. 2007	
PROPAK-G2+DB9-3151W	Outputs RT-20® corrections, accepts SBAS corrections, real-time DGPS, raw data output Discontinued, no new orders after 28 Feb. 2007	
PROPAK-G2+DB9-3111R	Real-time DGPS positioning Discontinued, no new orders after 28 Feb. 2007	
PROPAK-G2+DB9-3111W	Accepts SBAS corrections, real-time DGPS positioning Discontinued, no new orders after 28 Feb. 2007	

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

Dual-Frequency.	24-Channel	L1 C/A code.	L2 P(Y) code
Duai-i i cuuciicv.	24-Cilalilici. I	LI CIA CUUC.	LZ FIII COUC

PROPAK-G2+DB9-424-RT2	2 cm real-time kinematic positioning, real-time DGPS positioning, raw data output Discontinued, no new orders after 28 Feb. 2007
PROPAK-G2+DB9-424-RT2W	2 cm RTK positioning, accepts SBAS corrections, real-time DGPS, raw data output Discontinued, no new orders after 28 Feb. 2007
PROPAK-G2+DB9-424-L1L2	Outputs RT-2® corrections, real-time DGPS positioning, raw data output Discontinued, no new orders after 28 Feb. 2007
PROPAK-G2+DB9-424-L1L2W	Outputs RT-2® corrections, accepts SBAS corrections, real-time DGPS, raw data output Discontinued, no new orders after 28 Feb. 2007
PROPAK-G2+DB9-424-EGNOS	Real-time DGPS positioning, accepts EGNOS corrections Discontinued, no new orders after 28 Feb. 2007
PROPAK-G2+DB9-424-MSAS	Real-time DGPS positioning, accepts MSAS corrections Discontinued, no new orders after 28 Feb. 2007
PROPAK-G2+DB9-424-WAAS	Real-time DGPS positioning, accepts WAAS corrections Discontinued, no new orders after 28 Feb. 2007

# Single-Frequency, 12-Channel, L1 C/A code

Fully Upgradeable to Dual-Frequency

)	
PROPAK-G2+DB9-424-RT20	20 cm real-time kinematic positioning, real-time DGPS positioning, raw data output Discontinued, no new orders after 28 Feb. 2007
PROPAK-G2+DB9-424-RT20W	20 cm RTK positioning, accepts SBAS corrections, real-time DGPS, raw data output Discontinued, no new orders after 28 Feb. 2007
PROPAK-G2+DB9-424-3151R	Outputs RT-20® corrections, real-time DGPS positioning, raw data output Discontinued, no new orders after 28 Feb. 2007
PROPAK-G2+DB9-424-3151W	Outputs RT-20® corrections, accepts SBAS corrections, real-time DGPS, raw data output Discontinued, no new orders after 28 Feb. 2007
PROPAK-G2+DB9-424-3111R	Real-time DGPS positioning Discontinued, no new orders after 28 Feb. 2007
PROPAK-G2+DB9-424-3111W	Accepts SBAS corrections, real-time DGPS positioning Discontinued, no new orders after 28 Feb. 2007

# **DL-4plus GPS Receiver Enclosure with Data Logging Capabilities**

The DL-4plus is a rugged, lightweight enclosure containing the OEM4-G2 receiver and featuring integrated memory, an LCD, and a keypad for data logging. It offers three serial ports, USB support, a configurable PPS output and mark input, and a variable frequency output. Available in RS-232 or RS-422 configuration, the DL-4plus also features optional support for an external IMU. Included with the enclosure are an automotive power adapter, a null-modem cable, a straight serial cable, an auxiliary I/O port cable, a USB cable, DL4Tool™ software, and a mounting kit. All DL-4plus enclosures provide position output, real-time DGPS positioning, and support for RTCA and RTCM messages and are configurable as a rover or base station. All models are available with the API (Application Program Interface) option. Add \$750 to the list price and "-A" to the part number for each enclosure requiring API capabilities.

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

# **RS-232 Version**

# Dual-Frequency, 24-Channel, L1 C/A code, L2 P(Y) code

DL-4+RT2	2 cm real-time kinematic positioning, real-time DGPS positioning, raw data output
DL-4+RT2W	2 cm real-time kinematic positioning, accepts SBAS corrections, real-time DGPS, raw data out
DL-4+L1L2	Outputs RT-2® corrections, real-time DGPS positioning, raw data output
DL-4+L1L2W	Outputs RT-2® corrections, accepts SBAS corrections, real-time DGPS, raw data output
DL-4+EGNOS	Real-time DGPS positioning, accepts EGNOS corrections
DL-4+MSAS	Real-time DGPS positioning, accepts MSAS corrections

DL-4+WAAS

Real-time DGPS positioning, accepts WAAS corrections

#### Single-Frequency, 12-Channel, L1 C/A code

Fully Upgradeable to Dual-Frequency

DL-4+RT20	20 cm real-time kinematic positioning, real-time DGPS positioning, raw data output
DL-4+RT20W	20 cm real-time kinematic positioning, accepts SBAS corrections, real-time DGPS, raw data out
DL-4+3151R	Outputs RT-20® corrections, real-time DGPS positioning, raw data output
DL-4+3151W	Outputs RT-20® corrections, accepts SBAS corrections, real-time DGPS, raw data output
DL-4+3111R	Real-time DGPS positioning
DL-4+3111W	Accepts SBAS corrections, real-time DGPS positioning

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

Dual-Frequency, 24-Channel, L1 C/A code, L2 P(Y) code

DL-4+424-RT2	2 cm real-time kinematic positioning, real-time DGPS positioning, raw data output
DL-4+424-RT2W	2 cm real-time kinematic positioning, accepts SBAS corrections, real-time DGPS, raw data out
DL-4+424-L1L2	Outputs RT-2® corrections, real-time DGPS positioning, raw data output
DL-4+424-L1L2W	Outputs RT-2® corrections, accepts SBAS corrections, real-time DGPS, raw data output
DL-4+424-EGNOS	Real-time DGPS positioning, accepts EGNOS corrections
DL-4+424-MSAS	Real-time DGPS positioning, accepts MSAS corrections
DL-4+424-WAAS	Real-time DGPS positioning, accepts WAAS corrections

#### Single-Frequency, 12-Channel, L1 C/A code

Fully Upgradeable to Dual-Frequency

20 cm real-time kinematic positioning, real-time DGPS positioning, raw data output
20 cm real-time kinematic positioning, accepts SBAS corrections, real-time DGPS, raw data out
Outputs RT-20® corrections, real-time DGPS positioning, raw data output
Outputs RT-20® corrections, accepts SBAS corrections, real-time DGPS, raw data output
Real-time DGPS positioning
Accepts SBAS corrections, real-time DGPS positioning

## ProPak-LBplus OmniSTAR- and CDGPS-Enabled GPS Receiver Enclosure

The ProPak®-LBplus is a rugged, lightweight enclosure containing the OEM4-G2 receiver and support for OmniSTAR correction data. It also provides support for the free CDGPS (Canada-wide Differential GPS) correction service, which is available across most of North America. It offers three RS-232 serial ports and a configurable PPS output and mark input. The ProPak-LBplus also features optional support for an external IMU. Included with the enclosure are an automotive power adapter, three serial cables, and a mounting kit. All ProPak-LBplus enclosures offer position output, real-time DGPS positioning, and support for RTCA and RTCM messages and are configurable as a rover or base station. All models are available with the API (Application Program Interface) option. Add \$750 to the list price and "-A" to the part number for each receiver requiring API capabilities.

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.

# Dual-Frequency, 24-Channel, L1 C/A code, L2 P(Y) code, CDGPS, and OmniSTAR HP/XP

2 cm RTK, accepts OmniSTAR HP/XP, CDGPS, and SBAS corrections, raw data
Discontinued, no new orders after 28 Feb. 2007
Outputs RT-2® corrections, OmniSTAR HP/XP, CDGPS, and SBAS corrections, raw data output
Discontinued, no new orders after 28 Feb. 2007
Accepts OmniSTAR HP/XP, CDGPS, and SBAS corrections
Discontinued, no new orders after 28 Feb. 2007

# Single-Frequency, 12-Channel, L1 C/A code, CDGPS, and OmniSTAR VBS

Fully Upgradeable to Dual-Frequency

rully opgradeable to bual-ri	equency
PROPAK-LB+VBS-RT20	20 cm RTK positioning, accepts OmniSTAR VBS, CDGPS, and SBAS corrections, raw data Discontinued, no new orders after 28 Feb. 2007
PROPAK-LB+VBS-L1	Outputs RT-20® corrections, OmniSTAR VBS, CDGPS, and SBAS corrections, raw data output Discontinued, no new orders after 28 Feb. 2007
PROPAK-LB+VBS	Accepts OmniSTAR VBS, CDGPS, and SBAS corrections Discontinued, no new orders after 28 Feb. 2007

# FlexPak-G2L GPS Receiver Enclosure

The FlexPak™ -G2L is a rugged, waterproof enclosure containing the OEM4-G2L engine. All FlexPak-G2L receivers offer position output, real-time DGPS positioning, support for RTCA and RTCM messages, two serial ports, and a USB interface. Included with the enclosure are an automotive power adapter, two serial cables, a USB cable, Windows®-based software utilities, and manuals. All models are available with the API (Application Program Interface) option. Add \$750 to the list price and "-A" to the part number for each receiver requiring API capabilities.

Dual-Frequency, 24-Channel, L1 C/A code, L2 P(Y) code
---

FLEXPAK-G2L-RT2	2 cm real-time kinematic positioning, real-time DGPS positioning, raw data output Discontinued, no new orders after 28 Feb. 2007
FLEXPAK-G2L-RT2W	2 cm real-time kinematic positioning, accepts SBAS corrections, real-time DGPS, raw data output Discontinued, no new orders after 28 Feb. 2007
FLEXPAK-G2L-L1L2	Outputs RT-2® corrections, real-time DGPS positioning, raw data output Discontinued, no new orders after 28 Feb. 2007
FLEXPAK-G2L-L1L2W	Outputs RT-2® corrections, accepts SBAS corrections, real-time DGPS, raw data output Discontinued, no new orders after 28 Feb. 2007
FLEXPAK-G2L-EGNOS	Real-time DGPS positioning, accepts EGNOS corrections Discontinued, no new orders after 28 Feb. 2007
FLEXPAK-G2L-MSAS	Real-time DGPS positioning, accepts MSAS corrections Discontinued, no new orders after 28 Feb. 2007
FLEXPAK-G2L-WAAS	Real-time DGPS positioning, accepts WAAS corrections Discontinued, no new orders after 28 Feb. 2007

#### Single-Frequency, 12-Channel, L1 C/A code

Fully Upgradeable to Dual-Frequency

rully Opyradeable to Dual-Fi	геционоу
FLEXPAK-G2L-RT20	20 cm real-time kinematic positioning, real-time DGPS positioning, raw data output
	Discontinued, no new orders after 28 Feb. 2007
FLEXPAK-G2L-RT20W	20 cm real-time kinematic positioning, accepts SBAS corrections, real-time DGPS, raw data out
	Discontinued, no new orders after 28 Feb. 2007
FLEXPAK-G2L-3151R	Outputs RT-20® corrections, real-time DGPS positioning, raw data output
	Discontinued, no new orders after 28 Feb. 2007
FLEXPAK-G2L-3151W	Outputs RT-20® corrections, accepts SBAS corrections, real-time DGPS, raw data output
	Discontinued, no new orders after 28 Feb. 2007
FLEXPAK-G2L-3111R	Real-time DGPS positioning
	Discontinued, no new orders after 28 Feb. 2007
FLEXPAK-G2L-3111W	Accepts SBAS corrections, real-time DGPS positioning
	Discontinued, no new orders after 28 Feb. 2007



# **Accessories for OEM Receivers**

# **Antennas**

Dual-Frequency A	Intennas
------------------	----------

ANT-532-C	L1/L2, aircraft-certified antenna with FAA airworthiness certificate, RoHS compliant Discontinued, no new orders after 8 Mar. 2007
ANT-533	L1/L2, geodetic antenna with choke ring, protective radome, RoHS compliant
GPS-533	L1/L2, geodetic antenna with choke ring and protective radome, not RoHS compliant Discontinued, no new orders after 8 Mar. 2007; replaced by ANT-533
ANT-533-N	L1/L2, geodetic antenna with choke ring, protective radome and N-type connector, RoHS compliant
GPS-702L	L1/L2 and L-band, kinematic, zero-offset antenna, RoHS compliant
GPS-702-GG	L1/L2 and GPS + GLONASS, kinematic, zero-offset antenna, RoHS compliant
ANT-534-C	L1/L2/L-Band, aircraft-certified antenna with FAA airworthiness certificate, RoHS compliant
GPS-534	L1/L2/L-band, aircraft antenna, not RoHS compliant Discontinued, no new orders after 8 Mar. 2007; replaced by ANT-534-C
GPS-532-C	L1/L2, aircraft-certified antenna with FAA airworthiness certificate, not RoHS compliant Discontinued, no new orders after 8 Mar. 2007; replaced by ANT-532-C
GPS-532	L1/L2, aircraft antenna, not RoHS compliant Discontinued, no new orders after 8 Mar. 2007; replaced by ANT-532-C
Single-Frequency	/ Antennas
GPS-701-GG	L1, GPS + GLONASS kinematic, zero-offset antenna, RoHS compliant
GPS-511	L1 aircraft antenna not RoHS compliant

GPS-701-GG	L1, GPS + GLONASS kinematic, zero-offset antenna, RoHS compliant
GPS-511	L1, aircraft antenna, not RoHS compliant
	Discontinued, no new orders after 8 Mar. 2007; replaced by ANT-536-C
ANT-536-C	L1 general purpose aircraft-certified antenna with FAA airworthiness certificate, RoHS compliant
GPS-521	L1, automotive antenna, not RoHS compliant
	Discontinued, no new orders after 8 Mar. 2007; replaced by ANT-537
ANT-537	L1 general purpose automotive antenna, RoHS compliant

# **Antenna Cables**

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
01017278	75 cm RF cable with right-angle MMCX male plug and straight TNC bulkhead jack connectors, RoHS compliant
GPS-C006	5 meter RF cable with straight TNC male plug connectors (for GPS-xxx antennas), not RoHS compliant
01016772	22.5 cm RF cable with right-angle MMCX male plug and straight TNC bulkhead jack connectors, not RoHS compliant

# **Power & Communication Cables**

# ProPak-V3

Accessory Power Cable, 4-pin LEMO with automotive adapter, RoHS compliant	
Null-modem cable with 2 female DB-9 connectors, RoHS compliant	
Straight serial cable (extension) with male and female DB-9 connectors, RoHS compliant	
I/O strobe port interface cable with DB-9 male connector and open wires, RoHS compliant	
USB cable (Host Side) to DB-9 female connector, RoHS compliant	
Straight serial cable with Deutsch and male DB-9 connectors (included with FlexPak-V1 and	
riexpak-vz), Rono compilant	
	Null-modem cable with 2 female DB-9 connectors, RoHS compliant Straight serial cable (extension) with male and female DB-9 connectors, RoHS compliant I/O strobe port interface cable with DB-9 male connector and open wires, RoHS compliant USB cable (Host Side) to DB-9 female connector, RoHS compliant

© 2006 NOVATEL INC.	PROPRIETARY AND CONFIDENTIAL	PAGE 12
01017822	Null-modem cable with Deutsch and female DB-9 connectors (included with FlexPak-V1 and FlexPak-V2), RoHS compliant	
01017821	Accessory Power Cable, 4-pin LEMO with automotive adaptor (included with FlexPak-V1 and FlexPak-V2), RoHS compliant	
01017820	USB cable (Host Side) to female 13-pin Deutsch circular connector (included with FlexPak-V1 and FlexPak-V2), RoHS compliant	
ProPak-G2plus & DI	L-4plus	
01017474	Accessory Power Cable, 4-pin LEMO with automotive adapter (included with DL-4plus and ProPak-G2plus), not RoHS compliant	
60723062	Serial cable with female DB-9 and 7-pin, female Switchcraft connectors (included with ProPak-LBplus), not RoHS compliant	
01017408	USB cable (Host Side) to DB-9 female connector (included with DL-4plus and ProPak-G2plus), not RoHS compliant	
60323062	Null-modem cable with 2 female DB-9 connectors (included with DL-4plus and ProPak-G2plus), not RoHS compliant	
60723065	I/O strobe port interface cable with DB-9 male connector and open wires (included with DL-4plus and ProPak-G2plus), not RoHS compliant	
60723066	Straight serial cable with male and female DB-9 connectors (included with DL-4plus and ProPak-G2plus), not RoHS compliant	
FlexPak-G2L		
01017518	Straight serial cable with Deutsch and male DB-9 connectors (included with FlexPak-G2L), not RoHS compliant	}
01017375	Null-modem cable with Deutsch and female DB-9 connectors (included with FlexPak-G2L and FlexPak-SSII), not RoHS compliant	
01017374	Accessory Power Cable, 4-pin LEMO with automotive adapter (included with FlexPak-G2L and FlexPak-SSII), not RoHS compliant	
01017359	USB cable (Host Side) to female 13 pin Deutsch circular connector (included with FlexPak-G2L), not RoHS compliant	
ProPak-LBplus		
60723075	Accessory Power Cable, 4-pin LEMO with automotive adapter (included with ProPak-LBplus), not RoHS compliant	
60723062	Serial cable with female DB-9 and 7-pin, female Switchcraft connectors (included with ProPak-LBplus), not RoHS compliant	
60723061	Serial cable with female DB-9 and 6-pin, female Switchcraft connectors (included with ProPak-LBplus), not RoHS compliant	
60723063	Serial cable with female DB-9 and 8-pin, female Switchcraft connectors (included with ProPak-LBplus), not RoHS compliant	
Other		
12023172	Magenetic antenna mount (4" standoff) with 5/8"-11 threads	
31324235	High capacity DL-4plus commercial temperature grade Compact Flash memory card (minimum 1 GB not RoHS compliant	),
010-0-0026	DL-4plus industrial temperature grade Compact Flash memory card (minimum 16 MB), not RoHS compliant	
40023098	AC adapter with auto receptacle and IEC-320-C14 input inlet (removable IEC-320 to North American plug included, requires additional region-specific plug for use outside North America), not RoHS compliant	
40023106	RoHS compliant AC adapter with auto receptacle and IEC-320-C14 input inlet (removable IEC-320 to North American plug included, requires additional region-specific plug for use outside North America)	



# **SUPERSTAR II L1 Receivers**

Note that the non-SBAS variants of the 1CPT and 1CPT-19 models, 1CPN and 1CPN-19, do not provide precise timing. The SUPERSTAR-II receivers are not RoHS-compliant.

# **SUPERSTAR II GPS Receiver OEM Card**

The SUPERSTAR II™ is a 12-channel, L1-only receiver with a very small form factor of 46 mm x 71 mm. It features low power consumption, standard 1 Hz PVT output, real-time DGPS positioning, and accepts SBAS corrections. Available in 5 V and 3.3 V models, the SUPERSTAR II is designed for embedded applications but is also available as part of a SMART ANTENNA receiver/antenna combination or the FlexPak-SSII. The SUPERSTAR-II receiver is also available in a development kit, including the FlexPak-SSII enclosure, a magnetic mount antenna with integrated RF cable, an interface cable, and an AC adapter.

SBAS enabled models feature 10 GPS tracking channels and 2 GPS tracking channels. Non-SBAS enabled models are also available with 12 GPS tracking channels.

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

#### **SUPERSTAR II OEM Card**

D	CURERCTAR II OFM Coul
SSII-5-STDN	5 V, default baud rate of 9,600 bps
SSII-5-STD	5 V, SBAS, default baud rate of 9,600 bps
SSII-5-1CPT-19	5 V, 1 Hz carrier phase output, precise timing, SBAS, default baud rate of 19,200 bps
SSII-5-1CPT	5 V, 1 Hz carrier phase output, precise timing, SBAS, default baud rate of 9,600 bps
SSII-5-1CPN-19	5 V, 1 Hz carrier phase output, default baud rate of 19,200 bps
SSII-5-1CPN	5 V, 1 Hz carrier phase output, default baud rate of 9,600 bps
SSII-5-5HZN	5 V, 5 Hz PVT output, default baud rate of 9,600 bps
SSII-5-5HZ	5 V, 5 Hz PVT output, SBAS24, default baud rate of 9,600 bps
SSII-5-5CPN-19	5 V, 5 Hz carrier phase output, default baud rate of 19,200 bps
SSII-5-5CP-19	5 V, 5 Hz carrier phase output, SBAS, default baud rate of 19,200 bps
SSII-5-BASEN	5 V, DGPS base station operation, 1 Hz CP output, default baud rate of 9,600 bps
SSII-5-BASE	5 V, DGPS base station operation, 1 Hz CP output, SBAS, default baud rate of 9,600 bps
SSII-3-STDN	3.3 V, default baud rate of 9,600 bps
SSII-3-STD	3.3 V, SBAS, default baud rate of 9,600 bps
SSII-3-1CPT-19	3.3 V, 1 Hz carrier phase output, precise timing, SBAS, default baud rate of 19,200 bps
SSII-3-1CPT	3.3 V, 1 Hz carrier phase output, precise timing, SBAS, default baud rate of 9,600 bps
SSII-3-1CPN-19	3.3 V, 1 Hz carrier phase output, default baud rate of 19,200 bps
SSII-3-1CPN	3.3 V, 1 Hz carrier phase output, default baud rate of 9,600 bps
SSII-3-5HZN	3.3 V, 5 Hz PVT output, default baud rate of 9,600 bps
SSII-3-5HZ	3.3 V, 5 Hz PVT output, SBAS, default baud rate of 9,600 bps
SSII-3-5CPN-19	3.3 V, 5 Hz carrier phase output, default baud rate of 19,200 bps
SSII-3-5CP-19	3.3 V, 5 Hz carrier phase output, SBAS, default baud rate of 19,200 bps
SSII-3-BASEN	3.3 V, DGPS base station operation, 1 Hz CP output, default of 9,600 bps
SSII-3-BASE	3.3 V, DGPS base station operation, 1 Hz CP output, SBAS, default of 9,600 bps

#### **Development Kit for SUPERSTAR II OEM Card**

DK-FLEXPAK-SSII-BASE	Development kit incl. FlexPak-SSII with DGPS base, 1 Hz CP output, SBAS, 9,600 bps
DK-FLEXPAK-SSII-BASEN	Development kit incl. FlexPak-SSII with DGPS base, 1 Hz CP output, 9,600 bps
DK-FLEXPAK-SSII-5CP-19	Development kit including FlexPak-SSII with 5 Hz CP output, SBAS, 19,200 bps default
DK-FLEXPAK-SSII-5CPN-19	Development kit including FlexPak-SSII with 5 Hz CP output, 19,200 bps default
DK-FLEXPAK-SSII-5HZ	Development kit including FlexPak-SSII with 5 Hz PVT output, SBAS, 9,600 bps default
DK-FLEXPAK-SSII-5HZN	Development kit including FlexPak-SSII with 5 Hz PVT output, 9,600 bps default
DK-FLEXPAK-SSII-1CPN	Development kit incl. FlexPak-SSII with 1 Hz CP output, 9,600 bps
DK-FLEXPAK-SSII-1CPN-19	Development kit incl. FlexPak-SSII with 1 Hz CP output, 19,200 bps
DK-FLEXPAK-SSII-1CPT	Development kit incl. FlexPak-SSII with 1 Hz CP output, precise timing, SBAS, 9,600 bps
DK-FLEXPAK-SSII-1CPT-19	Development kit incl. FlexPak-SSII with 1 Hz CP output, precise timing, SBAS, 19,200 bps
DK-FLEXPAK-SSII-STD	Development kit including FlexPak-SSII with SBAS, default baud rate of 9,600 bps

**DK-FLEXPAK-SSII-STDN** 

Development kit including FlexPak-SSII with default baud rate of 9,600 bps

# FlexPak-SSII GPS Receiver Enclosure

The FlexPak™ -SSII is a 12-channel, L1-only waterproof receiver enclosure offering standard 1 Hz PVT output, real-time DGPS positioning, and support for NMEA and RTCM messages and SBAS corrections. It features two serial ports up to 19,200 bps and optional output at 1 Hz or 5 Hz for carrier phase output or PVT output. A serial cable and an automotive power adapter are included with the FlexPak-SSII. The development kit includes a magnetic mount antenna with integrated RF cable, an interface cable, and an AC adapter.

SBAS enabled models feature 10 GPS tracking channels and 2 GPS tracking channels. Non-SBAS enabled models are also available with 12 GPS tracking channels.

#### FlexPak-SSII GPS Enclosure

FLEXPAK-SSII-BASE	DGPS base station operation, 1 Hz CP output, SBAS, default baud rate of 9,600 bps	
FLEXPAK-SSII-BASEN	DGPS base station operation, 1 Hz CP output, default baud rate of 9,600 bps	
FLEXPAK-SSII-5CP-19	5 Hz carrier phase output, SBAS, default baud rate of 19,200 bps	
FLEXPAK-SSII-5CPN-19	5 Hz carrier phase output, default baud rate of 19,200 bps	
FLEXPAK-SSII-5HZ	5 Hz PVT output, SBAS, default baud rate of 9,600 bps	
FLEXPAK-SSII-5HZN	5 Hz PVT output, default baud rate of 9,600 bps	
FLEXPAK-SSII-1CPN	1 Hz carrier phase output, default baud rate of 9,600 bps	
FLEXPAK-SSII-1CPN-19	1 Hz carrier phase output, default baud rate of 19,200 bps	
FLEXPAK-SSII-1CPT	1 Hz carrier phase output, precise timing, SBAS, default baud rate of 9,600 bps	
FLEXPAK-SSII-1CPT-19	1 Hz carrier phase output, precise timing, SBAS, default baud rate of 19,200 bps	
FLEXPAK-SSII-STD	SBAS, default baud rate of 9,600 bps	
FLEXPAK-SSII-STDN	Default baud rate of 9,600 bps	

#### **Development Kit for FlexPak-SSII Enclosure**

DK-FLEXPAK-SSII-BASE	Development kit incl. FlexPak-SSII with DGPS base, 1 Hz CP output, SBAS, 9,600 bps
DK-FLEXPAK-SSII-BASEN	Development kit incl. FlexPak-SSII with DGPS base, 1 Hz CP output, 9,600 bps
DK-FLEXPAK-SSII-5CP-19	Development kit including FlexPak-SSII with 5 Hz CP output, SBAS, 19,200 bps default
DK-FLEXPAK-SSII-5CPN-19	Development kit including FlexPak-SSII with 5 Hz CP output, 19,200 bps default
DK-FLEXPAK-SSII-5HZ	Development kit including FlexPak-SSII with 5 Hz PVT output, SBAS, 9,600 bps default
DK-FLEXPAK-SSII-5HZN	Development kit including FlexPak-SSII with 5 Hz PVT output, 9,600 bps default
DK-FLEXPAK-SSII-1CPN	Development kit incl. FlexPak-SSII with 1 Hz CP output, 9,600 bps
DK-FLEXPAK-SSII-1CPN-19	Development kit incl. FlexPak-SSII with 1 Hz CP output, 19,200 bps
DK-FLEXPAK-SSII-1CPT	Development kit incl. FlexPak-SSII with 1 Hz CP output, precise timing, SBAS, 9,600 bps
DK-FLEXPAK-SSII-1CPT-19	Development kit incl. FlexPak-SSII with 1 Hz CP output, precise timing, SBAS, 19,200 bps
DK-FLEXPAK-SSII-STD	Development kit including FlexPak-SSII with SBAS, default baud rate of 9,600 bps
DK-FLEXPAK-SSII-STDN	Development kit including FlexPak-SSII with default baud rate of 9,600 bps

# **SMART ANTENNA / SUPERSTAR II Receiver**

The SMART ANTENNA™ is a 12-channel, L1-only integrated receiver and antenna with standard 1 Hz PVT output, SBAS support, and real-time DGPS positioning. It is available in a variety of configurations, including an RS-232 or RS-422 interface, and features a PPS output. The SMART ANTENNA Development Kits include a SMART ANTENNA, a magnetic mount, an interface cable, and the Windows®-based STARVIEW software. Development kits for RS-422 SMART ANTENNAs also contain an RS-422 to RS-232 converter.

SBAS enabled models feature 10 GPS tracking channels and 2 GPS tracking channels. Non-SBAS enabled models are also available with 12 GPS tracking channels.

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

#### **SMART ANTENNA with SUPERSTAR II**

Green, 6-pin metal standard connector, 5 Hz CP output, SBAS, 19,200 bps default
Green, 6-pin metal standard connector, 5 Hz CP output, 19,200 bps default
Green, 6-pin metal standard connector, 5 Hz PVT output, SBAS, 9,600 bps default
Green, 6-pin metal standard connector, 5 Hz PVT output, 9,600 bps default
Green, 6-pin metal standard connector, 1 Hz CP output, 9,600 bps default30
Green, 6-pin metal standard conn, 1 Hz CP output, 19,200 bps default30
Green, 6-pin metal standard connector, 1 Hz CP output, precise timing, SBAS, 9,600 bps default
Green, 6-pin metal standard conn, 1 Hz CP output, precise timing, SBAS, 19,200 bps default
Green, 6-pin metal standard connector, SBAS, default baud rate of 9,600 bps
Green, 6-pin metal standard connector, default baud rate of 9,600 bps
White, 7-pin plastic standard connector, 5 Hz CP output, SBAS, 19,200 bps default

© 2006 NOVATEL INC.	PROPRIETARY AND CONFIDENTIAL	PAGE 15
SA-232-07W-5CPN-19	White, 7-pin plastic standard connector, 5 Hz CP output, 19,200 bps default	
SA-232-07W-5HZ	White, 7-pin plastic standard connector, 5 Hz PVT output, SBAS, 9,600 bps default	
SA-232-07W-5HZN	White, 7-pin plastic standard connector, 5 Hz PVT output, 9,600 bps default	
SA-232-07W-1CPN	White, 7-pin plastic standard conn, 1 Hz CP output, 9,600 bps default30	
SA-232-07W-1CPN-19	White, 7-pin plastic standard conn, 1 Hz CP output, 19,200 bps default30	
SA-232-07W-1CPT	White, 7-pin plastic standard conn, 1 Hz CP output, precise timing, SBAS, 9,600 bps default	
SA-232-07W-1CPT-19	White, 7-pin plastic standard conn, 1 Hz CP output, precise timing, SBAS, 19,200 bps default	
SA-232-07W-STD	White, 7-pin plastic standard connector, SBAS, default baud rate of 9,600 bps	
SA-232-07W-STDN	White, 7-pin plastic standard connector, default baud rate of 9,600 bps	

# Development Kit for SMART ANTENNA with SUPERSTAR II

DK-SA-232-06G-5CP-19	Dev kit with green, 6-pin metal connector, 5 Hz CP output, SBAS, 19,200 bps default
DK-SA-232-06G-5CPN-19	Dev kit with green, 6-pin metal connector, 5 Hz CP output, 19,200 bps default
DK-SA-232-06G-5HZ	Dev kit with green, 6-pin metal connector, 5 Hz PVT output, SBAS, 9,600 bps default
DK-SA-232-06G-5HZN	Dev kit with green, 6-pin metal connector, 5 Hz PVT output, 9,600 bps default
DK-SA-232-06G-1CPN	Dev kit with green, 6-pin metal connector, 1 Hz CP output, 9,600 bps
DK-SA-232-06G-1CPN-19	Dev kit with green, 6-pin metal connector, 1 Hz CP output, 19,200 bps
DK-SA-232-06G-1CPT	Dev kit with green, 6-pin metal connector, 1 Hz CP output, precise timing, SBAS, 9,600 bps
DK-SA-232-06G-1CPT-19	Dev kit with green, 6-pin metal connector, 1 Hz CP output, precise timing, SBAS, 19,200 bps
DK-SA-232-06G-STD	Dev kit with green, 6-pin metal connector, SBAS, default baud rate of 9,600 bps
DK-SA-232-06G-STDN	Dev kit with green, 6-pin metal connector, default baud rate of 9,600 bps
DK-SA-232-07W-5CP-19	Dev kit with white, 7-pin plastic connector, 5 Hz CP output, SBAS, 19,200 bps default
DK-SA-232-07W-5CPN-19	Dev kit with white, 7-pin plastic connector, 5 Hz CP output, 19,200 bps default
DK-SA-232-07W-5HZ	Dev kit with white, 7-pin plastic connector, 5 Hz PVT output, SBAS, 9,600 bps default
DK-SA-232-07W-5HZN	Dev kit with white, 7-pin plastic connector, 5 Hz PVT output, 9,600 bps default
DK-SA-232-07W-1CPN	Dev kit with white, 7-pin plastic connector, 1 Hz CP output, 9,600 bps
DK-SA-232-07W-1CPN-19	Dev kit with white, 7-pin plastic connector, 1 Hz CP output, 19,200 bps
DK-SA-232-07W-1CPT	Dev kit with white, 7-pin plastic connector, 1 Hz CP output, precise timing, SBAS, 9,600 bps
DK-SA-232-07W-1CPT-19	Dev kit with white, 7-pin plastic connector, 1 Hz CP output, precise timing, SBAS, 19,200 bps
DK-SA-232-07W-STD	Dev kit with white, 7-pin plastic connector, SBAS, default baud rate of 9,600 bps
DK-SA-232-07W-STDN	Dev kit with white, 7-pin plastic connector, default baud rate of 9,600 bps

# **RS-422 Version**

# **SMART ANTENNA with SUPERSTAR II**

SWART ANTENNA WITH S	BUPERSTAR II
SA-422-12W-BASE	White, 12-pin plastic standard conn, DGPS base, 1 Hz CP output, SBAS, 9,600 bps default
SA-422-12W-BASEN	White, 12-pin plastic standard conn, DGPS base, 1 Hz CP output, 9,600 bps default
SA-422-12W-5CP-19	White, 12-pin plastic standard connector, 5 Hz CP output, SBAS, 19,200 bps default
SA-422-12W-5CPN-19	White, 12-pin plastic standard connector, 5 Hz CP output, 19,200 bps default
SA-422-12W-5HZ	White, 12-pin plastic standard connector, 5 Hz PVT output, SBAS, 9,600 bps default
SA-422-12W-5HZN	White, 12-pin plastic standard connector, 5 Hz PVT output, 9,600 bps default
SA-422-12W-1CPN	White, 12-pin plastic standard conn, 1 Hz CP output, 9,600 bps default30
SA-422-12W-1CPN-19	White, 12-pin plastic standard conn, 1 Hz CP output, 19,200 bps default
SA-422-12W-1CPT	White, 12-pin plastic standard conn, 1 Hz CP output, precise timing, SBAS, 9,600 bps default
SA-422-12W-1CPT-19	White, 12-pin plastic standard conn, 1 Hz CP output, precise timing, SBAS, 19,200 bps default
SA-422-12W-STD	White, 12-pin plastic standard connector, SBAS, default baud rate of 9,600 bps
SA-422-12W-STDN	White, 12-pin plastic standard connector, default baud rate of 9,600 bps
SA-422-CMW-BASE	White, 12-pin plastic cable mount conn, DGPS base, 1 Hz CP output, SBAS, 9,600 bps default
SA-422-CMW-BASEN	White, 12-pin plastic cable mount conn, DGPS base, 1 Hz CP output, 9,600 bps default
SA-422-CMW-5CP-19	White, 12-pin plastic cable mount connector, 5 Hz CP output, SBAS, 19,200 bps default
SA-422-CMW-5CPN-19	White, 12-pin plastic cable mount connector, 5 Hz CP output, 19,200 bps default
SA-422-CMW-5HZ	White, 12-pin plastic cable mount connector, 5 Hz PVT output, SBAS, 9,600 bps default
SA-422-CMW-5HZN	White, 12-pin plastic cable mount connector, 5 Hz PVT output, 9,600 bps default
SA-422-CMW-1CPN	White, 12-pin plastic cable mount conn, 1 Hz CP output, 9,600 bps default30
SA-422-CMW-1CPN-19	White, 12-pin plastic cable mount conn, 1 Hz CP output, 19,200 bps default
SA-422-CMW-1CPT	White, 12-pin plastic cable mount conn, 1 Hz CP output, precise timing, SBAS, 9,600 bps default
SA-422-CMW-1CPT-19	White, 12-pin plastic cable mount conn, 1 Hz CP output, precise timing, SBAS, 19,200 bps default30
SA-422-CMW-STD	White, 12-pin plastic cable mount connector, SBAS, default baud rate of 9,600 bps
SA-422-CMW-STDN	White, 12-pin plastic cable mount connector, default baud rate of 9,600 bps

DK-SA-422-12W-BASE	Dev kit with white, 12-pin standard connector, DGPS base, 1 Hz CP output, SBAS, 9,600 bps
DK-SA-422-12W-BASEN	Dev kit with white, 12-pin standard connector, DGPS base, 1 Hz CP output, 9,600 bps
DK-SA-422-12W-5CP-19	Dev kit with white, 12-pin standard connector, 5 Hz CP output, SBAS, 19,200 bps default
DK-SA-422-12W-5CPN-19	Dev kit with white, 12-pin standard connector, 5 Hz CP output, 19,200 bps default
DK-SA-422-12W-5HZ	Dev kit with white, 12-pin standard connector, 5 Hz PVT output, SBAS, 9,600 bps default
DK-SA-422-12W-5HZN	Dev kit with white, 12-pin standard connector, 5 Hz PVT output, 9,600 bps default
DK-SA-422-12W-1CPN	Dev kit with white, 12-pin std connector, 1 Hz CP output, 9,600 bps default
DK-SA-422-12W-1CPN-19	Dev kit with white, 12-pin std connector, 1 Hz CP output, 19,200 bps
DK-SA-422-12W-1CPT	Dev kit with white, 12-pin std connector, 1 Hz CP output, precise timing, SBAS, 9,600 bps default
DK-SA-422-12W-1CPT-19	Dev kit with white, 12-pin std connector, 1 Hz CP output, precise timing, SBAS, 19,200 bps
DK-SA-422-12W-STD	Dev kit with white, 12-pin standard connector, SBAS, default baud rate of 9,600 bps
DK-SA-422-12W-STDN	Dev kit with white, 12-pin standard connector, default baud rate of 9,600 bps

# **Software Upgrades for SUPERSTAR II-Based Products**

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. Note that only one model can be loaded on the SUPERSTAR II receiver at any given time and, thus, model upgrades will replace the current model with the desired new model. As a result, any features found only in the current model will no longer be available after the upgrade. 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 5HZ to 5HZN).

opgrades to enable	e of disable SDAS tracking between equivalent models		
SW-UG-SBAS	Upgrade to replace current model with equivalent SBAS enabled model		
SW-UG-NSBAS	Upgrade to replace current model with equivalent non-SBAS enabled model		
Upgrades between	non-equivalent models		
SW-UG-BASE	Upgrade to replace current model with DGPS base station, 1 Hz CP output, SBAS, 9,600 bps default		
SW-UG-BASEN	Upgrade to replace current model with DGPS base station, 1 Hz CP output, 9,600 bps default		
SW-UG-5CP-19	Upgrade to replace current model with 5 Hz carrier phase output, SBAS, default of 19,200 bps		
SW-UG-5CPN-19	Upgrade to replace current model with 5 Hz carrier phase output, default of 19,200 bps		
SW-UG-5HZ	Upgrade to replace current model with 5 Hz PVT output, SBAS, default of 19,200 bps		
SW-UG-5HZN	Upgrade to replace current model with 5 Hz PVT output, default of 19,200 bps		
SW-UG-1CPN	Upgrade to replace current model with 1 Hz carrier phase output, default of 9,600 bps		
SW-UG-1CPN-19	Upgrade to replace current model with 1 Hz carrier phase output, default of 19,200 bps		
SW-UG-1CPT	Upgrade to replace current model with 1 Hz carrier phase output, precise timing, SBAS, 9,600 bps		
SW-UG-1CPT-19	Upgrade to replace current model with 1 Hz carrier phase output, precise timing, SBAS, 19,200 bps		



# **Accessories for SUPERSTAR-II L1 receivers**

The SUPERSTAR-II Accessories are not RoHS-compliant.

# **Antennas**

Antenna			
201-990147-606	L1, geodetic antenna with +26 dB gain, TNC connector, built-in ground plane, 1"-14 thread mounting		
201-990148-152	L1, AVL antenna with +12 dB gain, 20 ft cable with TNC connector, removable magnet		
201-990146-716	L1, AVL antenna with +12 dB gain, 20 ft cable with MCX connector, removable magnet		
201-990147-432	L1, AVL antenna with +12 dB gain, TNC connector, 5/8"-11 thread mounting		
Antenna Accessories			
270-990146-890	Magnetic mount for 1"-14 thread mounting antenna		
530-990300-203	Bushing adapter, 5/8"-11 to 1"-14 thread		

# **Power & Communication Cables**

F	lex	Pak	-SSII
---	-----	-----	-------

01017518	Straight serial cable with Deutsch and male DB-9 connectors (included with FlexPak-G2L), not RoHS compliant
01017375	Null-modem cable with Deutsch and female DB-9 connectors (included with FlexPak-G2L and FlexPak-SSII), not RoHS compliant
01017374	Accessory Power Cable, 4-pin LEMO with automotive adapter (included with FlexPak-G2L and FlexPak-SSII), not RoHS compliant

# **RS-232 Version**

SMART	ΔΝΤΕΝΝΔ	with 7-n	in nlaetic	connector
SIVIANI	ANICININA	WILII 7-D	เห มเลรแน	connector

217-601742-003 5 meter interface cable with 7-pin plastic connector and DB-9 and automotive adapter		
SMART ANTENNA with 6-pin metal connector		
217-601798-004	15 meter interface cable with 6-pin metal connector and DB-9 and automotive adapter	
217-601798-003	5 meter interface cable with 6-pin metal connector and DB-9 and automotive adapter	

# **RS-422 Version**

# **SMART ANTENNA**

217-601764-002	30 meter interface cable with 12-pin connector and open wires
217-601764-003	15 meter interface cable with 12-pin connector and open wires

# Other

Othioi	
40023100	RS-422 to RS-232 converter with DB-9 connector
40023098	AC adapter with auto receptacle and IEC-320-C14 input inlet (removable IEC-320 to North American plug included, requires additional region-specific plug for use outside North America), not RoHS compliant
40023106	RoHS compliant AC adapter with auto receptacle and IEC-320-C14 input inlet (removable IEC-320 to North American plug included, requires additional region-specific plug for use outside North America)



# SPAN Technology

NovAtel's SPAN™ (Synchronized Position Attitude Navigation) Technology products feature a tight integration of a NovAtel GPS receiver and an Inertial Measurement Unit. 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 rotational measurements.

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.

NovAtel's OEM4 and OEMV receivers are the processing engines of the SPAN Technology system. Separate GPS and IMU enclosures provide a simple modular system. This allows the IMU mounting 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

SPAN Technology and Waypoint Products are not RoHS compliant

#### IMU-LN200

The IMU-LN200 houses the LN200 IMU and an interface card in a enclosure that is compatible with the OEMV-3 and the PROPAK-V3 when loaded with the INS firmware models.

IMU-LN200	Enclosure with LN200 IMU for use with PROPAK-V3	
IMU-LN000	Enclosure without IMU for use with PROPAK-V3	

#### **IMU-FSAS**

The IMU-FSAS is an enclosed IMU that is compatible with the PROPAK-V3-424 when loaded with the RT2J firmware model.

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

IMU-FSAS-EI	Enclosure with FSAS-EI-SN IMU with internal magnetic sensor interface for use with ProPak-V3-424
-------------	--

# IMU-G2

The IMU-G2-H58/H62 houses the HG1700 IMU and an interface card. The IMU-G2 is compatible with IMU capable models of the DL-4plus, ProPak-G2plus, or ProPak-LBplus and includes an IMU interface cable to connect the IMU to the receiver enclosure.

Part number IMU-xx-H58 is formerly IMU-xx-H11, while part IMU-xx-H62 is formerly IMU-xx-H17. The change in part numbers is to accommodate a change in part numbers from the manufacturer.

#### For ProPak-G2plus or DL-4plus

IMU-G2-H58	IMU-G2 enclosure with 1 degree per hour IMU for use with ProPak-G2plus or DL-4plus
IMU-G2-H62	IMU-G2 enclosure with 5 degree per hour IMU for use with ProPak-G2plus or DL-4plus
IMU-G2-000	IMU-G2 enclosure without IMU for use with ProPak-G2plus or DL-4plus
For ProPak-LBplus	
IMU-LB-H58	IMU-G2 enclosure with 1 degree per hour IMU for use with ProPak-LBplus
IMU-LB-H62	IMU-G2 enclosure with 5 degree per hour IMU for use with ProPak-LBplus
IMU-LB-000	IMU-G2 enclosure without IMU for use with ProPak-LBplus

# **SPAN GPS Receiver Card**

OEMV-3-RT2j IMU support, 2 cm RTK, accepts OmniSTAR HP/XP, CDGPS, and SBAS corrections, raw data

#### **SPAN GPS Receiver Enclosures**

A subscription is required for OmniSTAR HP/XP/VBS service, which may not be available in all areas. SBAS Corrections including WAAS, MSAS and EGNOS may not be available in all areas. CDGPS Corrections may not be available in all areas.

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

© 2006 NOVATEL INC.	PROPRIETARY AND CONFIDENTIAL	PAGE 19
PROPAK-V3-RT2j	IMU support, 2 cm RTK, accepts OmniSTAR HP/XP, CDGPS, and SBAS corrections, raw data	
DL-4+RT2Wi	IMU support, 2 cm RTK positioning, accepts SBAS corrections, real-time DGPS, raw data out	
PROPAK-LB+HP-RT2Wi	IMU support, 2 cm RTK, accepts OmniSTAR HP/XP, CDGPS, and SBAS corrections, raw data	
PROPAK-G2+DB9-RT2Wi	IMU support, 2 cm RTK positioning, accepts SBAS corrections,real-time DGPS, raw data	
RS-422 Version		
PROPAK-V3-424-RT2j	IMU support, 2 cm RTK, accepts OmniSTAR HP/XP, CDGPS, and SBAS corrections, raw data	
DL-4+424-RT2Wi	IMU support, 2 cm RTK positioning, accepts SBAS corrections, real-time DGPS, raw data out	
PROPAK-G2+DB9-424-RT2Wi	IMU support, 2 cm RTK positioning, accepts SBAS corrections, real-time DGPS, raw data	

# **Accessories for IMU**

For IMU-LN200	
01017818	Interface card assembly for IMU-LN200
01017375	Null-modem cable with Deutsch and female DB-9 connectors (included with FlexPak-G2L and FlexPak-SSII), not RoHS compliant
01017374	Accessory Power Cable, 4-pin LEMO with automotive adapter (included with FlexPak-G2L and FlexPak-SSII), not RoHS compliant
For IMU-FSAS	
80023521	iMWS magnetic strip, 3 m, for IMU-FSAS-EI-M
60723086	Cable assembly for IMU-FSAS and PROPAK-V3, 2 m
60723089	Cable assembly for IMU-FSAS and PROPAK-V3, 1 m
14323111	Transportation case for IMU-FSAS, water resistant, plastic
80023520	iMWS magnetic strip, 2 m, for IMU-FSAS-EI-M
80023519	iMWS wheel sensor for IMU-FSAS-EI-M
For IMU-G2	
01017393	Interface cable for IMU-G2 and ProPak-LBplus (included with IMU-LB-xxx)
01017384	Interface cable for IMU-G2 and ProPak-G2plus or DL-4plus (included with IMU-G2-xxx)

# **Post-Processing Software**

NovAtel offers a complete selection of Waypoint post-processing software, including Inertial Explorer for use with NovAtel's SPAN Technology system. Please note that the part numbers by default indicate a USB security key, with a –U suffix. A Parallel security key (-P) must be specifically ordered if desired. Please contact NovAtel for information on software updates.

# Post Processing (Win98/2000/XP)

Software updates are free for one year after purchase. Technical support by phone, fax and email is free for one year after date of purchase. After one year from date of purchase, updates are sold at the listed prices and will include one year of free updates and technical phone, fax or email support. Date of purchase is verified by your four-digit software key serial number. Support may be denied if payment is delinquent.

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)

#### **Post Processing Version Updates**

Version updates for multi-license users is 50% of first upgrade for the 2nd and each additional copy.

Version updates for software older than version 7.00 will be subject to a 50% surcharge.

Version updates purchased within one month after a free-upgrade period are eligible for a 25% discount.

Version updates do not require a new software key. Key exchange cost is zero if an update or upgrade is purchased.

•	
SW-UD-PP-GPSIMU	Update to latest version of Inertial Explorer
SW-UD-PP-GMOV	Update to latest version of GrafMov
SW-UD-PP-GNVT	Update to latest version of GrafNav/GrafNet
SW-UD-PP-GNST	Update to latest version of GrafNav/GrafNet - Static Only
SW-UD-PP-LGNV	Update to latest version of GrafNav Lite
SW-UD-PP-UTIL	Update to latest version of GrafNav Utilities

# **Post Processing Product Upgrades**

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

Version updates for multi-license users is 50% of first upgrade for the 2nd and each additional copy.

Version updates for software older than version 7.00 will be subject to a 50% surcharge.

Version updates purchased within one month after a free-upgrade period are eligible for a 25% discount.

Version updates do not require a new software key. Key exchange cost is zero if an update or upgrade is purchased.

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.

Product upgrades do not require a new software key.

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

SW-UG-PP-GPSIMU	Upgrade to Inertial Explorer
SW-UG-PP-GMOV	Upgrade to GrafMov
SW-UG-PP-GNVT	Upgrade to GrafNav/GrafNet
SW-UG-PP-GNST	Upgrade to GrafNav/GrafNet (Static Only)

#### Post Processing Key Exchanges

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

#### Real Time Kinematic (2000/XP)

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

#### Real Time Kinematic (2000/XP) Updates

SW-UD-RT-R20	Update to latest version of RT-R20
SW-UD-RT-R6	Update to latest version of RT-R6
SW-UD-RT-R3	Update to latest version of RT-R3
SW-UD-RT-MV	Update to latest version of RT-MV
SW-UD-RT-R1	Update to latest version of RT-R1
SW-UD-RT-AZ	Update to latest version of RT-AZ

# Real Time Kinematic (2000/XP) Upgrades

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

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

# **Real Time Kinematic Key Exchanges**

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

Development Options	
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)
SW-RT-STC-U	RtStatic Module (sold only in addition to RTKNav, R3, R6, R20)
Manuals	
OM-20000097	GrafNav/GrafNet Manual
OM-20000098	Inertial Explorer Manual

1-800-NOVATEL D04492 Revision 26 All prices shown in USD www.novatel.com OM-20000099

RTKNav Manual



# **Specialty Products**

AC adapter 40023098 is recommended for use with the EuroPak enclosures.

The Specialty Products are not RoHS-compliant.

#### **Euro-3M GPS Receiver OEM Card**

The Euro-3M<sup>™</sup> 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 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 oscillator.

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 the standard NovAtel commercial receiver products.

EUROPAK-3MT-MEDLLT	Enclosed Euro-3M-MEDLL receiver with internal oscillator
EUROPAK-3M-MEDLL	Enclosed Euro-3M-MEDLL receiver
EUROPAK-3MT-L1L2GEOT	Enclosed Euro-3M receiver with internal oscillator
EURO-3M-MEDLL	8-channel L1/L2 tracking and 1-channel L1 GEO tracking with MEDLL
EUROPAK-3M-L1L2GEO	Enclosed Euro-3M receiver
EURO-3M-L1L2GEO	14-channel L1/L2 tracking and 4-channel L1 GEO tracking

#### EuroPak-15a Receiver

The EuroPak-15a, NovAtel's L1L5E5a receiver, offers superior 16-channel tracking of GPS L1/L5, Galileo L1/E5a and SBAS signals, in a Euro form-factor card, packaged in the popular EuroPak enclosure. Tracks and decodes GPS L1 and L5, SBAS L1 and L5 and Galileo L1 and E5a. Digital Pulse Blanking is included on GPS L1 and L5 and Galileo L1 and E5a for radar and pulsed DME interference mitigation. The EuroPak-15a enclosure includes L1 GPS RFI improvements as developed for the US WAAS reference receivers. It also has an external OCXO input or enclosure option with internal OCXO.

The -15a receiver has not undergone qualification testing and should be considered prototype equipment for experimental evaluation only. Galileo functionality can only be supplied as an update when authorized by ESA/GJU/GSA.

EUROPAK-15A	GPS L1/L5 and Galileo L1/E5a receiver in EuroPak Enclosure
EUROPAK-15AT	GPS L1/L5 and Galileo L1/E5a receiver in EuroPak Enclosure with internal oscillator

#### **Multipath Tools**

NovAtel offers a wide range of products for managing multipath.

PORTABLE MEDLL RECEIVER	including Multipath Meter Software
MEDLL RECEIVER LEASE	Portable MEDLL Receiver Lease (per month with a minimum of one month)
MAT	Multipath Assessment Tool (MAT)
40023090	Portable MEDLL AC adapter (+24 VDC @ 3 A)

#### WAAS

The WAAS Receiver includes Multipath Estimating Delay Lock Loop (MEDLL®) and Narrow Correlator® technologies. Units are available for lease.

WAAS RECEIVER LEASE per month with a minimum of one month

#### 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.

L1/L5 RECEIVER Rack-mount L1/L5 receiver

#### **Antennas**

# Wideband, Passive Antenna

Requires External LNA. Please refer to the NovAtel User Guide for the GPS-704X Antenna.

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