Data Grid®

NAVIGATION

MARITIME

AGRICULTURE

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GNSS
SOLUTIONS

MACHINE CONTROL

SURVEYING

SPACE

Data Grid®

DataGrid is focusing
on OEM receivers, software and
custom development all the way
to finished solutions ready to market.
Our products are based on our
own patented technology, de-
veloped and built in Europe or
the USA. End products are
easy to operate, ergonomic
and programmable.

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SOLUTIONS

Caliterra adapts and integrates DataGrid technology
in tight collaboration with DataGrid.

SPARROW-GNSS

MACHINE CONTROL INTERGRATED ANTENNA

Delivers streamed position and navigation NMEA data in open format to excavators, compactor rollers, dumpers, land and marine applications. The Sparrow-GNSS accommodates up to three DGRx series receivers in a robust metal enclosure for flexibility, redundancy and general reliability. Users may select configurations to match desired performance and reliability even for remote areas and time critical projects requiring automated continuous operation with low service and maintenance.

Internal GSM and UHF radio (Satel) for connection to reference station and/or internet. The Sparrow-GNSS connects itself automatically to our server on power-up for updates and remote management. All Sparrow-GNSS can be configured remotely using a web interface.

The Sparrow design was originally developed for the World Bank for demanding environments and remote locations. DGRx receivers were also selected by the US Army to address the stringent requirements of military survey missions including geodetic surveys, construction, airfield and field artillery survey.

- *Up to 550 Channels with Panoramic Correlator*
- *Dynamic Adaptive Search Channels*
- *Superior Multipath Algorithms*
- *GNSS Backup Options*
- *14 hour Battery Backup*
- *Internal Cellular & UHF modems*
- *Web Interface for Remote Management*
- *Ethernet*
- *Rugged IP67 Housing*

COLIBRI-GNSS
INTEGRATED SURVEYING RECEIVER

The colibri, a hummingbird, is nature's pinnacle of agility and precision in a superlight embodiment. DataGrid's Colibri has similar traits. Featuring the performance and convenience of tomorrow's technology today with configurable channels, it weighs in below 750gram (1.6lb) and you can get it in wireless. That is from 2 to 3kg (4.5 to 6.5lb) total on the pole depending on configuration and controller.

The Colibri is offered in a Bluetooth/WIFI wireless version and in a USB powered version for those who want the very lightest without compromising performance. Both use the same powerful DGRx-GNSS receivers.

The USB powered colibri is simple to use, just connect it to a controller and go. Power is drawn from the controller and the user interface is through the controller's software were you can easily see it.

The convenience of bluetooth and WIFI necessitates on-board power. Extended lifetime (over five years typical) Lithium batteries provide 14 hours of operation per charge. The Colibri works with virtually all Windows Mobile or XP/W7/W8/W10. The DGGeosystems/DGRTK processing engine may run externally or internally on the Colibri.

Carlson software/controller bundle.
Get the Colibri with the SurvPC and a controller. Carlson SW and DataGrid team-up to bring a civilian version of Carlson's SurvPC and DataGrid's hardware used by the DoD with the DGRTK engine.

- **Up to 550 Channels with Panoramic Correlator**
- **Dynamic Adaptive Search Channels**
- **Superior Multipath Algorithms**
- **GNSS Backup Options**
- **14 hour Battery Backup**
- **Internal Cellular & UHF modems**
- **Web Interface for Remote Management**
- **Ethernet**
- **Rugged IP67 Housing**
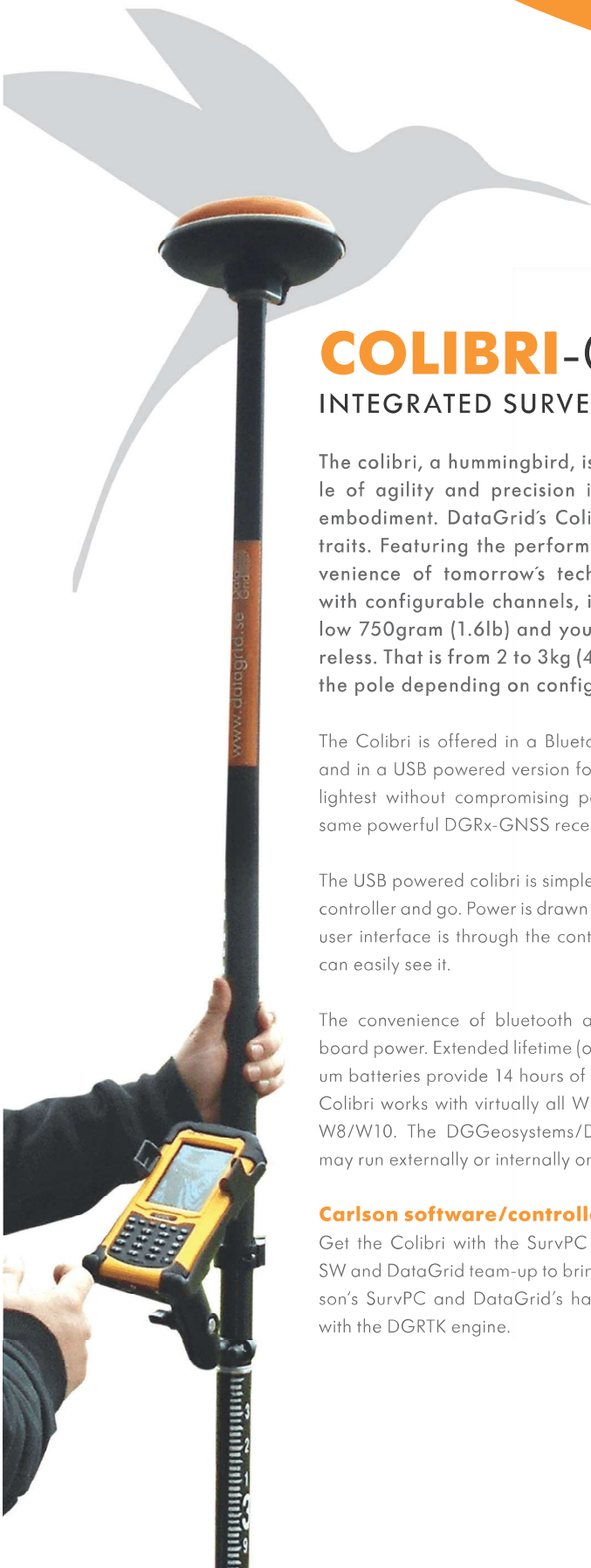
GATOR-GNSS
USB POWERED ADD ON TO ANY COMPUTER

The gator kit integrates a DGRx-GNSS receiver on a PC-Card (PCM-CIA single slot) found on many handheld computers or integrates to a USB connection. Gator uses the automatic connection procedure to base networks with simplified setup. Adaptable and advanced, capable of centimeter accuracy, the Gator is an ideal alternative for high precision applications including surveying, precision GIS and machine control.

Simple operation
With the mere touch of a finger Gator connects to a virtual reference station network. A Gator connected to a rugged PC/PDA is the ultimate lightweight field survey or stake out equipment ergonomic and easy to operate.

Designed to meet the future
To meet ever evolving requirements, the Gator is equipped with the DGRx receivers, DataGrid's programmable answer to obsolescence. With its hundreds of programmable correlation channels and thousands of search channels Gator tracks GPS, Glonass, Galileo, is ready for Beidou signals and is programmable for coming signals and L-band pseudolites. Build your own looks, functionality and feel into your integration using DataGrid's new Web interface, flexible and powerful. You can develop your own RTK, VRN application and you can turn the Gator into a VRN or single reference station. Develop your own custom applications or use ours.

GIS Data Collection
The Gator is designed for seamless collection of data from a broad range of sensors and instrumentation including environmental sensors, ground penetrating radar and marine depth sounding sensors.

- **Up to 550 Channels with Panoramic Correlator**
- **Dynamic Adaptive Search Channels**
- **Superior Multipath Algorithms**
- **GNSS Backup Options**
- **Connects to any computer**
- **Internal Cellular & UHF modems**
- **Web Interface for Remote Management**
- **Rugged IP67 Housing**
- **Space version tested for LEO flight**

TUNE IN TO THE FUTURE USING
DGRx™ POWER AND ADAPTABILITY

REX-GNSS
TOUGHMAN EDITION

The REX-GNSS Reference Receiver delivers ultra reliability for reference station and GNSS applications requiring stability and continuous operation in adverse conditions.

REX-GNSS
MACHINE CONTROL AND ROLL PITCH HEADING

The REX-GNSS Receiver delivers streamed position, heading, roll and pitch data to any system in an open format for excavators and marine applications.

For GNSS data security, the REX-GNSS accommodates up to three DRGx series GNSS receivers in a robust metal enclosure. Users may select configuration to match desired reliability and operation without user interaction for automated continuous GNSS operation.

The REX-GNSS has optimal power flexibility for external power input as well as internal battery backup. In a single receiver configuration, the REX-GNSS delivers up to fourteen hours operation from the internal battery.

Reference station GNSS data is complemented with an integrated temperature/humidity/pressure atmospheric sensor. Receiver access is protected through wire tamper seals for additional security. Rugged design, performance and robustness of DGRx receivers were tested for LEO flight suitability by NASA and ESA. The receivers were custom designed for the MLHUD of the Government of Uganda and for the World Bank systematic demarcation of land projects.

The DGRx series receivers were selected by the US Army to address the stringent requirements of military survey missions including geodetic, construction, airfield and field artillery survey.

- *Up to 1000 Channels with Panoramic Correlator*
- *Dynamic Adaptive Search Channels*
- *One to three antennas*
- *Superior Multipath Algorithms*
- *GNSS Backup Options*
- *14 hour Battery Backup*
- *Internal Cellular & UHF modems*
- *Web Interface for Remote Management*
- *Ethernet*
- *Rugged IP67 Metal Housing*

TUNE IN TO THE FUTURE USING
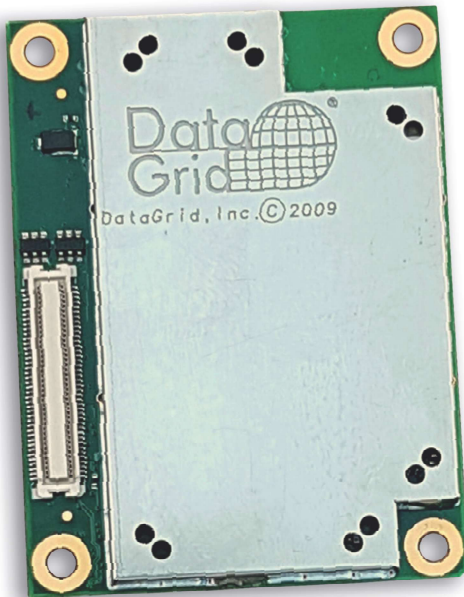## **DGRx**™ POWER AND ADAPTABILITY

OSR-GNSS
OEM APPLICATIONS

The OSR is based on the DGRx receivers selected by the US DoD to run alongside a SAASM or M-code receiver in their geodetic quality survey systems. The OSR can be programmed with custom features to enhance and differentiate your end user products. We customize hardware, firmware and software.

DataGrid develops OEM receivers and positioning software for Geodetic Surveying, Machine Control and custom applications all the way to finished solutions ready to market. Products are based on our own patented technology, developed and built in Europe and the USA.

DataGrid custom designed solutions for the World Bank systematic demarcation of land projects. The DGRx series receivers were selected by the US Army to address the stringent requirements of military survey missions including geodetic, construction, airfield and field artillery survey.

- *GPS, Glonass, Galileo*
- *Panoramic Correlator*
- *Dynamic Search Channels*
- *Choice of Multipath Algorithms*
- *C-GNSS Backup Options*
- *Ethernet*
- *Web Interface for Remote Management*

TUNE IN TO THE FUTURE USING
DGRx™ POWER AND ADAPTABILITY

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TECHNICAL SPECIFICATIONS

	SPARROW-GNSS MACHINE CONTROL INTERGRATED ANTENNA	**COLIBRI**-GNSS INTEGRATED SURVEYING RECEIVER	**GATOR**-GNSS USB POWERED ADD ON TO ANY COMPUTER
GNSS	Dual- or Triple-Frequency Geodetic Quality Full Cycle Code and Carrier Phase for GPS, GLONASS, GALILEO. BEIDOU ready.	Dual- or Triple-Frequency Geodetic Quality Full Cycle Code and Carrier Phase for GPS, GLONASS, GALILEO. BEIDOU ready.	Dual- or Triple-Frequency Geodetic Quality Full Cycle Code and Carrier Phase for GPS, GLONASS, GALILEO. BEIDOU ready.
CHANNELS	Up to 550 Channels depending on config. for simultaneous multi-channel tracking of all visible satellites (Up to 4000 search channels)	Up to 550 Channels depending on config. for simultaneous multi-channel tracking of all visible satellites (Up to 4000 search channels)	Up to 550 Channels depending on config. for simultaneous multi-channel tracking of all visible satellites (Up to 4000 search channels)
SIGNALS TRACKED	GPS (L1 C/A, L2C, L2P, L5) GLONASS (L1 C/A, L2 C/A, L3) Galileo (E1, E5a, E5b) SBAS (WAAS, EGNOSS, MSAS, GAGAN) Upgradeable to Beidou, COMPASS, future L-band constellations and pseudolites	GPS (L1 C/A, L2C, L2P, L5) GLONASS (L1 C/A, L2 C/A, L3) Galileo (E1, E5a, E5b) SBAS (WAAS, EGNOSS, MSAS, GAGAN) Upgradeable to Beidou, COMPASS, future L-band constellations and pseudolites	GPS (L1 C/A, L2C, L2P, L5) GLONASS (L1 C/A, L2 C/A, L3) Galileo (E1, E5a, E5b) SBAS (WAAS, EGNOSS, MSAS, GAGAN) Upgradeable to Beidou, COMPASS, future L-band constellations and pseudolites
UPDATE RATE	user selectable up to 50 Hz	user selectable up to 50Hz	user selectable up to 50 Hz
FORMATS	RTCM 3.x, CMR, CMR+, RINEX 3.x	RTCM 3.x, CMR, CMR+, RINEX 3.x	RTCM 3.x, CMR, CMR+, RINEX 3.x
PROCESSOR	ARM A9 Dual Core Processor 1 GHz, Windows or Linux OS 1GB RAM,8GB eMMC	ARM A9 Dual Core Processor 1 GHz, Windows or Linux OS 1GB RAM,8GB eMMC	ARM A9 Dual Core Processor 1 GHz, Windows or Linux OS 1GB RAM,8GB eMMC
PORTS	2 x Serial Ports 1 x USB 1 x Ethernet 3 x Antenna ports 1 x Power	1 x Bluetooth 1 x USB 1 x Power	1 x USB 1 x Antenna port
MODEM	Cellular Modem GSM/GPRS or CDMA UHF Radio with 330 - 420 MHz & 403 - 473 MHz bands	Cellular Modem GSM/GPRS or CDMA UHF Radio with 330 - 420 MHz & 403 - 473 MHz bands	External Cellular Modem GSM/GPRS or CDMA External UHF Radio with 330 - 420 MHz & 403 - 473 MHz bands
MEMORY	64 GB SSD Internal Memory	64 GB SSD Internal Memory	64 GB SSD Internal Memory
POWER	9 - 32 VDC	9 - 32 VDC	9 - 32 VDC
DIMENSIONS	17cm diam. x 6cm	17cm diam. x 6cm	10cm x 8,5cm x 3,5cm
ENVIRONMENTAL Operation temperature Storage temperature	IP67, RoHS -40°C to +85°C -40°C to +85°C	IP67, RoHS -40°C to +85°C -40°C to +85°C	IP67, RoHS -40°C to +85°C -40°C to +85°C
ACCURACY	**Static and fast static Measurements** Horizontal +/-3mm + 0,1ppm RMS Vertical +/- 3,5mm + 0,4ppm RMS **Kinematic measurement RTK** Horizontal +/- 8mm + 1ppm RMS Vertical +/-15mm + 1ppm RMS	**Static and fast static Measurements** Horizontal +/-3mm + 0,1ppm RMS Vertical +/- 3,5mm + 0,4ppm RMS **Kinematic measurement RTK** Horizontal +/- 8mm + 1ppm RMS Vertical +/-15mm + 1ppm RMS	**Static and fast static Measurements** Horizontal +/-3mm + 0,1ppm RMS Vertical +/- 3,5mm + 0,4ppm RMS **Kinematic measurement RTK** Horizontal +/- 8mm + 1ppm RMS Vertical +/-15mm + 1ppm RMS

REX-GNSS
TOUGHMAN EDITION

REX-GNSS
MACHINE CONTROL AND ROLL PITCH HEADING

OSR-GNSS
OEM APPLICATIONS

	REX-GNSS TOUGHMAN EDITION	REX-GNSS MACHINE CONTROL AND ROLL PITCH HEADING	OSR-GNSS OEM APPLICATIONS
GNSS	Dual- or Triple-Frequency Geodetic Quality Full Cycle Code and Carrier Phase for GPS, GLONASS, GALILEO. BEIDOU ready.	Dual- or Triple-Frequency Geodetic Quality Full Cycle Code and Carrier Phase for GPS, GLONASS, GALILEO. BEIDOU ready.	Dual- or Triple-Frequency Geodetic Quality Full Cycle Code and Carrier Phase for GPS, GLONASS, GALILEO. BEIDOU ready.
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SIGNALS TRACKED	GPS (L1 C/A, L2C, L2P, L5) GLONASS (L1 C/A, L2 C/A, L3) Galileo (E1, E5a, E5b) SBAS (WAAS, EGNOSS, MSAS, GAGAN) Upgradeable to Beidou, COMPASS, future L-band constellations and pseudolites	GPS (L1 C/A, L2C, L2P, L5) GLONASS (L1 C/A, L2 C/A, L3) Galileo (E1, E5a, E5b) SBAS (WAAS, EGNOSS, MSAS, GAGAN) Upgradeable to Beidou, COMPASS, future L-band constellations and pseudolites	GPS (L1 C/A, L2C, L2P, L5) GLONASS (L1 C/A, L2 C/A, L3) Galileo (E1, E5a, E5b) SBAS (WAAS, EGNOSS, MSAS, GAGAN) Upgradeable to Beidou, COMPASS, future L-band constellations and pseudolites
UPDATE RATE	user selectable up to 50Hz	user selectable up to 50 Hz	user selectable up to 50 Hz
FORMATS	RTCM 3.x, CMR, CMR+, RINEX 3.x	RTCM 3.x, CMR, CMR+, RINEX 3.x	RTCM 3.x, CMR, CMR+, RINEX 3.x
PROCESSOR	ARM A9 Dual Core Processor 1 GHz, Windows or Linux OS 1GB RAM,8GB eMMC	ARM A9 Dual Core Processor 1 GHz, Windows or Linux OS 1GB RAM,8GB eMMC	ARM A9 Dual Core Processor 1 GHz, Windows or Linux OS 1GB RAM,8GB eMMC
PORTS	2 x Serial Ports 1 x USB 1 x Ethernet 3 x Antenna ports 1 x Power	2 x Serial Ports 1 x USB 1 x Ethernet 3 x Antenna ports 1 x Power	3 x Serial Ports 1 x USB 1 x Ethernet 1 Gigabit 1 x Antenna ports 1 x Power 9 x GPIO 1 x SDIO
MODEM	Cellular Modem GSM/GPRS or CDMA UHF Radio with 330 - 420 MHz & 403 - 473 MHz bands	Cellular Modem GSM/GPRS or CDMA UHF Radio with 330 - 420 MHz & 403 - 473 MHz bands	
MEMORY	64GB SSD Internal Memory	64 GB SSD Internal Memory	64 GB SSD Internal Memory
POWER	9 - 32 VDC	9 - 32 VDC	4 - 16 VDC
DIMENSIONS	26 cm x 15 cm x 6 cm	26 cm x 15 cm x 6 cm	6 cm x 4,5 cm x 1 cm
ENVIRONMENTAL **Operation temperature** **Storage temperature**	IP67, RoHS -40℃ to +85℃ -40℃ to +85℃	IP67, RoHS -40℃ to +85℃ -40℃ to +85℃	RoHS -40℃ to +85℃ -40℃ to +85℃
ACCURACY	**Static and fast static Measurements** Horizontal +/-3 mm + 0,1 ppm RMS Vertical +/- 3,5 mm + 0,4 ppm RMS **Kinematic measurement RTK** Horizontal +/- 8 mm + 1 ppm RMS Vertical +/-15mm + 1 ppm RMS	**Static and fast static Measurements** Horizontal +/-3 mm + 0,1 ppm RMS Vertical +/- 3,5 mm + 0,4 ppm RMS **Kinematic measurement RTK** Horizontal +/- 8 mm + 1 ppm RMS Vertical +/-15mm + 1 ppm RMS	**Static and fast static Measurements** Horizontal +/-3 mm + 0,1 ppm RMS Vertical +/- 3,5 mm + 0,4 ppm RMS **Kinematic measurement RTK** Horizontal +/- 8 mm + 1 ppm RMS Vertical +/-15mm + 1 ppm RMS

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