



**YOUR NEXTGEN
AVIONICS LEADER**

RANGR-G

FreeFlight Systems RANGR-G ADS-B systems are designed for high value ground vehicles to provide position reporting that is accurate down to meters in real time.

The RANGR-G provides critical information that Air Traffic controllers require to increase safety in active movement areas. The 978 MHz datalink and integrated SBAS GPS differentiates the RANGR from the current low cost, intermittent reception, low integrity GPS tracking systems.

The RANGR-G's support and maintenance can be managed via the USB port and an easy to use PC application that can be hosted on a laptop. Utilizing an internally stored map of the airport control area, the system can be configured to transmit vehicle information when located in specified areas and to cease when in other specified areas.

FreeFlight's aviation-certified internal WAAS/GPS sensor provides the ability to collect position, velocity, and other vehicle state information. The FDL-978-GTX/E transmits the data from the airport ground vehicle to air traffic and ground control once per second, allowing positive identification of the vehicle. The system utilizes robust Universal Access Transceiver technology and is fully compatible with ASDE-X and multilateration systems, ensuring seamless integration with existing traffic control support systems.



Rangr-G FDL-978-gTX/E
(Front panel view)



Rangr-G FDL-978-gTX/E
(Side view with connectors)

**For additional product information and specifications, please visit our website
www.freeflightsystems.com**

RANGR-G

The FDL-978-GTX/E is designed to share ground vehicle position, velocity, and other data with other ground vehicles, aircraft, and ground station equipment. The FDL-978-GTX/E satisfies the TSO-C154c requirements, the RTCA/DO-282B MOPS for UAT ADS-B class B2 equipment, and the Federal Aviation Administration, Vehicle Automatic Dependent Surveillance – Broadcast (ADS-B) Specification, Version 2.2, dated Nov 22, 2010. The FDL-978-GTX/E collects position, velocity, and other information from an internal aviation-certified GPS and stored configuration /map data and transmits vehicle state data out once per second. The stored configuration and map data are programmed through the USB maintenance interface.

Dimensions:	1.87 x 5.125 x 5.87 (H x W x L in) 47.5 X 130.18 x 149.1 (H x W x L mm)
Weight:	1.15 lb (523 g)
Operating Temperature:	-40°C to +70°C
Storage Temperature:	-55°C to +85°C
Altitude:	50,000 ft
Designation:	FDL-978-GTX/E
Part Number:	86948-00
Equipment Type:	Universal Access Transceiver (UAT)
Transmit Frequency:	2978 MHz
Transmitter Class:	B2
Transmitter Power:	20 watts max at antenna after 3dB connector/cable loss
Transmit Antenna:	<ul style="list-style-type: none">• UAT/DME antenna (compliant with TSO-C66c, C74c, C112)• TNC Connector on Back Panel
On-Board Map Storage:	Multi-polygon, 6000 points max
Power:	9 - 40 VDC, Typical 0.14A @ 28 VDC
Meets Specs:	TSO-154c DO-178B Level C DO-160G SAE J1455
GPS:	<ul style="list-style-type: none">• TSO-C145c Beta 1• SMA antenna connector on back• Uses TSO-C190 or TSO-C144 GPS antenna or any standard antenna compliant with RTCA/DO-301
User Interface:	Front panel on/off switch System status LED GPS status LED Transmit status LED Front panel USB (micro-AB) maintenance port



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