

F SERIES

*225 TO 400 MHZ FGBR
MILITARY RADIOS

FREEWAVE



KEY FEATURES

Frequency Hopping Spread
Spectrum minimizes detection and
unauthorized access

Noise immunity for superior
performance in noise congested
environments

Range exceeding 60 mile line of sight

Error free communications with 32-bit
CRC with automatic retransmission

Operating temperature range from
-40°C to +75°C

RF performance tested, 100% tested

Gateway, Endpoint, and Repeater
functions all in a single radio

Various ruggedized and
waterproof enclosures

Input voltage range from +9.5
to +30 VDC

TDMA available

OVERVIEW

The FreeWave Technologies' military products are designed to meet the rigorous demands of military and government users worldwide. The FGBR user-configurable 225-400 MHz product are available in a ruggedized enclosure offer a 9-pin D, 15-pin D, or 11-pin waterproof interface connection. It is can be used in many applications including unmanned airborne and ground systems.

The military products offered by FreeWave Technologies share many of the same features as the non-military products such as high reliable and transmission assurance. These products offer 32 bit CRC error detection, automatic retransmission, up to 153.6 kbps throughput, high speed frequency hopping, and much more.

* This device is regulated under the U.S. International Traffic in Arms Regulation (ITAR). These regulations control the Export and Import of the defense articles. The device may only be sold or transferred to a non-U.S. party (in the U.S. or abroad) after authorization is obtained from the U.S. Department of State. Customer (a) agrees to comply with ITAR regulations and (b) shall be responsible for obtaining all necessary U.S. Government authorizations required to ensure compliance with these and other applicable U.S. Laws. Please contact FreeWave for export control information for specific products.

TECHNICAL SPECIFICATIONS

SPECIFICATIONS

FGBR-115RA-x	Ruggedized enclosure with 15-pin D interface connection
FGBR-115RC-x	Ruggedized enclosure with 9-pin D interface connection
FGBR-115RG-x	Ruggedized enclosure with 9-pin D interface connection
FGBR-115WA-x	Waterproof enclosure with 11-pin circular interface connection
FGBR-115WC-x	Waterproof enclosure with 11-pin circular interface connection
FGBR-115WR-x	Waterproof enclosure with 11-pin circular interface connection

TRANSMITTER

Frequency Range	225 to 400 MHz
Output Power	4 Watt (average)
Data Link Range	60 miles line of sight
Waveform	Frequency Hopping Spread Spectrum
Modulation	2 level GFSK

RECEIVER

Sensitivity	-103 dBm @ BER 1×10^{-6} -98 dBm for BER 1×10^{-4} (4 level GFSK)
Selectivity	20 dB at fc +/- 230 kHz
System Gain	139

DATA TRANSMISSION

Error Detection	32 bit CRC, retransmit on error
Data Encryption	Optional 128 and 256-bit AES
Maximum Throughput	153.6 kbps
Data Interface	RS232/RS422/RS485
RF Connector	N type female
Connector Options	9-pin D, 15-pin D or Fischer 11-pin
Channel Spacing	230.4 kHz

POWER REQUIREMENTS

Operating Voltage	+9.5 VDC to +30 VDC
+6.5 VDC Typical Current	
Transmit: 3.2 A	Receive: 315 mA
+12 VDC Typical Current	
Transmit: 2.5 A	Receive: 250 mA
+30 VDC Typical Current	
Transmit: 750 mA	Receive: 100 mA

GENERAL INFORMATION

Operating Temperature	-40°C to +75°C
Humidity	0 to 95%, non-condensing
Dimensions	165 L x 78 W x 60 H (mm)
Weight	496 g

APPLICATIONS



OIL & GAS



AGRICULTURE



UTILITIES



DEFENSE



SCADA



MINING



FLEET
MANAGEMENT



MUNICIPAL



ENTERPRISE

CONTACT US

5395 Pearl Parkway, Boulder, CO 80301
 TF 866.923.6168 T 303.381.9200
 For more information, visit www.freewave.com