



1880 S. Flatiron Court, Suite F  
Boulder, CO 80301

tf 866.923.6168  
p 303.381.9200  
f 303.786.9948

[www.freewave.com](http://www.freewave.com)  
sales@freewave.com

# F - SERIES \*\*

## F50EX008 Military 225 - 400 MHz Radio

### Overview:

The FreeWave Technologies military products are designed to meet the rigorous demands of military and government users world-wide. This user-configurable 225-400 MHz product is available as OEM board level radio. It is used in applications ranging from UAVs to UGVs and more. FreeWave military products share the same features as our other radios that assure accurate data transmission such as 32 bit CRC error detection with automatic retransmission, 115.2 Kbps throughput, high speed hopping and more.

### Features:

- Frequency Hopping Spread Spectrum.
- Long Range: 60 mile line of site range, ability to extend through repeaters.
- Error Free Communications: 32 bit CRC with automatic retransmission.
- Industrial Grade Specifications: 100% tested for RF performance from -40°C to +75°C.
- Repeater and simultaneous Slave and Repeater function all in a single radio.
- RS232 / 485 / 422 Interface.
- 9.5 to 30 VDC.
- Noise Immunity: Superior performance in noise congested environments.
- Secure: Proprietary spread spectrum technology prevents detection and unauthorized access.
- TDMA Available.



# F - SERIES <sup>\*\*</sup>

## F50EX008 Military 225 - 400 MHz Radio

### Transmitter

Frequency range	225-400 MHz
Output Power	4 W (average)
Range, Line of Sight	60 miles
Modulation	2 level GFSK
Occupied Bandwidth	230 kHz
RF Connector	SMA

### Receiver

Sensitivity	-103 dBm @ BER 10 <sup>-6</sup>
Selectivity	20 dB at fc ± 230 kHz
System Gain	139 dB

### Data Transmission

Error Detection	32 bit CRC, Retransmit on Error
Data Encryption	Dynamic Key Substitution
Maximum Throughput	115.2 Kbps
Data Interface	RS232 / 485 / 422

### Power Requirement

Operating Voltage	9.5-30 VDC			
Current Drain	<b>Mode</b>	<b>9.5 VDC</b>	<b>12 VDC</b>	<b>30 VDC</b>
	<b>Transmit</b>	3.2 A	2.5 A	750 mA
	<b>Receive</b>	315 mA	250 mA	100 mA

### General Information

Temperature Range	-40° C to +75° C or -40° C to +90° C available
Weight	200 g
Humidity	0 to 95% non-condensing
Dimensions	128 mm L x 62 mm W x 20 mm H

**\*\*This device is regulated under the U.S. International Traffic in Arms Regulations (ITAR). These regulations control the Export and Import of defense articles. The device may only be sold or transferred to a non-U.S. (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.**

FreeWave Radios Require Professional Installation. Specifications may change at any time without notice. 2009 FreeWave Technologies



1880 S. Flatiron Court, Suite F  
Boulder, CO 80301

tf 866.923.6168  
p 303.381.9200  
f 303.786.9948

[www.freewave.com](http://www.freewave.com)  
sales@freewave.com