

RV-M5-U

FireLine UHF Band 2-Watt Data Radio Modem

The FireLine UHF Data Radio modem is a rugged 2-watt UHF data radio modem, designed to easily integrate into OEM products. Perfect to remote control SCADA, and telemetry applications, it contains a high-performance transceiver with a powerful integrated high-speed modem.



Product Overview

High Speed and Efficiency

The *FireLine* operates with over-the air data rates of 1200, 2400, 4800, or 9600 bps on 12.5kHz radio channels and up to 19200bps on 25kHz channels. Faster rates for higher efficiency, or lower-speed for increased communication range.

Fully Programmable

Using industry-standard AT commands, the *FireLine* may be configured for simple "Transparent" operation, or for more sophisticated systems, may be configured with network IDs, digital-repeating (store-and-forward), and hardware flow control.

Serial Interface

A versatile RS-232 serial interface is utilized for both the user's data and to configure the data radio modem. Ethernet, RS485 and RS422 options are available.

Packets or Streaming

The *FireLine* modem may be configured to send data in either a Packet Mode or Streaming Data Mode. Use Packets for reliability and error-free communications, and use streaming for high-speed low-latency transmissions.

Real-time diagnostics and statistics

Channel performance, RSSI, RF power, packet counters, errors, and radio configuration are easily accessed. An *Auto-Status* feature enables the *FireLine* to periodically report its status and DC voltage.

Fully Integrated Design

The advanced UHF transceiver is integrated with a powerful 32-bit microprocessor-based modem in one easy-to implement package. The microprocessor simplifies the user interface, make the data radio modem truly transparent. Data In. Data Out. It also incorporates sophisticated DSP and FEC routines, allowing the modem to receive data that is buried in noise.

Flexible Addressing and Error Correction

The *FireLine* uses a 16 bit address with a 16 bit network mask, allowing for many devices to be co-located without receiving each other, as well as the creation of sophisticated network topologies. User-programmable automatic error correction is built in using an ARQ method.

SkyLine Compatible

The *FireLine* modem may be configured to communicate with older "SkyLine" radio modems. See the user manual for details concerning operation and limitations of this feature.

For More Information

For more information about this or any other Raveon product, call in the U.S.A. 1-760-931-8001.

General Specifications

Model:
RV-M5-Ux-y2 (x=band, y=B.W.)

Size:
3.0D X 3.76W X 1.40H

Input Voltage:
8.5 – 16 VDC

Current draw:
Receiving data: <110mA
Transmitting data: <1.7A (1.3A typ.)

Frequency Stability:
Better than ± 1.5 ppm

Frequency Bands:
A 403-419MHz (for export)
B 419-435MHz (for export)
C 450-480MHz

Serial Port Baud Rates (programmable)
1200, 2400, 4800, 9600, 19200, 57600

Over-the-air baud rates (programmable)
-N 1200, 2400, 4800, 5142, 9600
-W 1200, 2400, 4800, 8000, 9600, 19200

Operating Mode
Simplex or Half-duplex

Full Spec Operating Temperature range
-30°C to +60°C

TX-RX and RX-TX turn-around time
<10mS

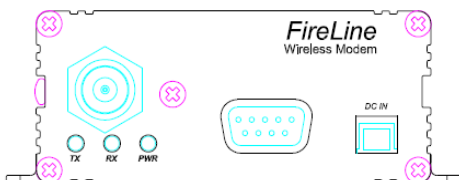
Wake-up time from off
<500mS

Front Panel LEDs
Power/Busy
Carrier Detect
Transmit

RF I/O Connector
BNC (Female)

Power Connector
Molex

Addressing
Individual address: 65,536



Transmitter Specifications

RF Power Output	2 watts
Maximum Duty Cycle	10% max. @ 2W
Frequency Deviation	± 2.25 kHz
Occupied bandwidth	11 kHz
TX Spurious outputs	< -70dBc
Occupied Bandwidth	Per FCC
FCC Emissions Designator	11K0F1D,

Receiver Specifications

RX sensitivity (.001% BER)	
9600bps	< -107dBm
2400bps	< -114dBm
1200bps	< -119dBm
RX selectivity	-50dB
RX intermodulation rejection	-65dB at 2400bps

Interface Specifications

Serial Interface Port

Connector Type	DB-9
Voltage Levels	RS-232 or CMOS std. RS485 or RS422 optional
RX and TX data	Transparent Async
Word length	7 or 8 bits
Format	N, O, or E
Modem handshake signals	RTS, CTS, CD

AT Commands

AT commands are available for the following functions:

- Channel Number and frequency
- Carrier Detect Operation
- Modem Statistics
- Unit Address
- Destination address
- Network Address Mask
- Number of Retries
- Baud Rate, parity, stop bits
- Preamble-length
- Power-savings modes
- ARQ error correction on/off
- Select Packet or Streaming mode
- Store-and-forward Repeating on/off
- Store-and-forward address range
- Busy-channel lock-out
- Hardware flow control operation
- LEDs operation or disabled
- Read Serial Number
- Set maximum packet size
- Auto Status report on/off and interval.

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Version D1. Printed in the USA