This VHF Data Radio modem is a 2 watt VHF data radio modem, designed to easily integrate into OEM products. Perfect for remote control and telemetry applications, it contains a high-performance transceiver with an 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, and hardware flow control.

**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.

**Serial Interface**
A versatile RS-232 serial interface is utilized for both the user’s data and to configure the data radio modem. Industry standard AT commands are used to configure it, and user data passes transparently from one modem to another.

**Real-time diagnostics and statistics**
Channel performance, RSSI, RF power, packet counters, 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 VHF transceiver is integrated with a powerful 16-bit microprocessor-based modem in one easy-to-implement package. The microprocessor simplifies the user interface, making the data radio modem truly transparent. Data In. Data Out. It also incorporates sophisticated DSP and FEC routines, allowing the modem to receive data buried in noise and interference that other modems cannot tolerate.

**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. If enabled, FireLine modems will automatically re-transmit data that is received with errors.

**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-Vx-y2 (x=band, y=B.W.)
- **Size:** 3” X 3” X 1”
- **Input Voltage:** 10 – 16 VDC
- **Current draw:**
  - Receiving data: <90mA (typical)
  - Transmitting data: <1.6A
- **Frequency Stability:** Better than ±2.5ppm
- **Frequency Bands:**
  - A 132-150MHz
  - B 150-174MHz
- **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 Standby:** <250mS
- **Front Panel LEDs:**
  - Power
  - Carrier Detect
  - Transmit
- **RF I/O Connector:** BNC (F)
- **Power Connector:** Molex

### Transmitter Specifications

- **RF Power Output:** 2 watts
- **Maximum Duty Cycle:** 10% max. @ 2W
- **Maximum Frequency Deviation:**
  - ± 2.25kHz (-N)
  - ± 4.5kHz (-W)
- **Occupied bandwidth:**
  - 9KHz (-N)
  - 11 kHz (-W)
- **TX Spurious outputs:** < -20dBm
- **Occupied Bandwidth:** Per FCC
- **FCC Emissions Designator:**
  - 9K30F1D, 11K0F1D
- **No-tune bandwidth:** Full band

### Receiver Specifications

- **RX sensitivity (.001% BER):**
  - 9600bps <.7uV (-109dBm) (-W)
  - 9600bps <1uV (-107dBm) (-N)
  - 4800bps <.7uV (-109dBm)
  - 2400bps <.5uV (-114dBm)
  - 800bps <.25uV (-119dBm)
- **RX selectivity:** -60dB
- **RX intermodulation rejection:** -70dB at 2400bps
- **No-tune bandwidth:** 6MHz (factory set)

### Interface Specifications

- **Serial Interface Port:**
  - **Connector Type:** DB-15
  - **Voltage Levels:** RS-232 or CMOS
  - **RX and TX data:** Transparent
  - **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**
- **Power Output**
- **TX Packet Size**
- **Carrier Detect Operation**
- **Modem Statistics**
- **Unit Address**
- **Destination address**
- **Network Address Mask**
- **Number of Retries**
- **Baud Rate, parity, stop bits**
- **Preamble-length**
- **ARQ error correction on/off**
- **Select Packet or Streaming mode**