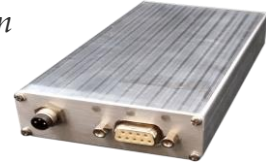


## RV-M22 Tech Series

**M22 License Free  
Radio Modem**

The RV-M22 Radio Modem is a rugged, modular data radio modem available in 902-928 MHz and 868 MHz license free bands. It also is available with a 3G cellular modem radio. With its field-configurable I/O interface, the M22 can be configured for RS-232, RS485, USB, or GPIO in the lab or in the field as needed. Ideal for SCADA, GPS tracking, RTK, and radio telemetry.



## Product Overview

### Reconfigurable I/O

The front interface of the **Tech Series** M22 is fully field-reconfigurable. The following front panel interfaces are available and interchangeable:

- RS-232 [ S ] 5T835
- USB [ U ] 5T837
- RS-485 [ T ] 5T836-1
- RS-422 [ F ] 5T836-2
- GPIO [ G ] 5T833
- Analog [ A ] 5T838

### Embedded Wireless Modem

The M22 includes with it the enclosure an M50 or Z50 wireless modem module. Connections and I/O are the same as Raveon's M21 series, except this M22 series is smaller in size because the radio modules (M50 or Z50) are smaller radio modem modules.

### Warranty

1 year parts and labor warranty.

### Long-Range Operation

The license free version of the M22 radio modem utilize LoRa technology, and communicate over 10 miles.

### High Speed and High Efficiency

The RV-M22 operates in license free bands with user-selectable over-the air data rates. Faster rates for higher efficiency or lower-speed for increased communication range.

### Secure Data

The data encryption feature may be enabled on any Tech Series data radio modem. When secure data is enabled, the M22 will encrypt transmissions using AES128 encryption. When properly managed, your wireless

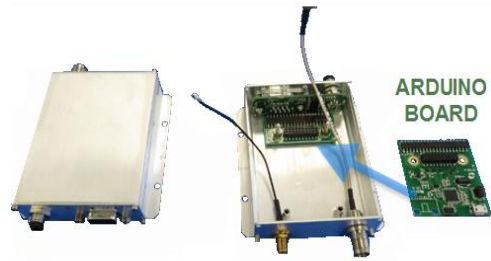
network using Tech Series radio modems will be secure and hacker-proof.

### GPS Option

The optional internal GPS allows the RV-M22 to be a powerful Automatic Vehicle Locating (AVL) system or Time Space Position Information (TSPI) reporting device.

### Arduino Option

The M22 Tech Series radios can be ordered with an optional internal Arduino processor for users to load their own custom firmware in.



### Swappable I/O Panel

The front panel on the M21 can be selected or field upgraded to many I/O options. It is held on by 4 screws, so to exchange it, power down the unit, unscrew the current panel, screw on the new one, and power it up.



Even the radio module inside the M22 enclosure can be replaced, upgraded, or changed to a different band while in the field.

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## General Specifications

Model Number:

**RV-M22ig-xx-e**

( I = I/O option) ( g = G for GPS option)

( x = frequency band code)

( e = A for Arduino option)

Size:

3.60" X 2.75" X .90"

Weight:

10 oz

Input Voltage:

10-28 VDC full-spec

7-28 VDC operational

Frequency Bands:

EC 902-928 MHz (North/South America)

ED 863-870 MHz (Europe/export)

Options:

Internal GPS, TDMA firmware -GX

RF I/O Connector TNC (Female)

\* Use of this product in the USA in Frequency Bands listed as "export" is prohibited unless used for military applications.

## Security

Encryption Method..... AES128

Electronic Serial Number..... Silicon ESN

## Electrical Specifications

See the appropriate M50 or Z50 Data sheet for specific details regarding the performance specifications.

## Interface Option Connections

### RS-232 Interface Port

Connector Type DB-9 female

IO Voltage Levels RS-232

### RS-485 Interface Port

Connector Type Phoenix 6-pin

IO Voltage Levels RS-485

### USB Interface Port

Connector Type Mini B

### Analog Interface Port

Connector Type DB-15 female

### GPIO Interface Port

Connector Type Phoenix 6-pin

## Input/Output Connection Functions

### RS-232 Interface Port

1	CD	Carrier detect
2	RxD	Receive data
3	TxD	Transmit data
4	DTR	Data terminal ready

5	GND	Ground connection
6	DSR	Data Set Ready
7	RTS	Request to send
8	CTS	Clear to send
9	Power	DC power (not Ring signal)

### Analog Interface Port

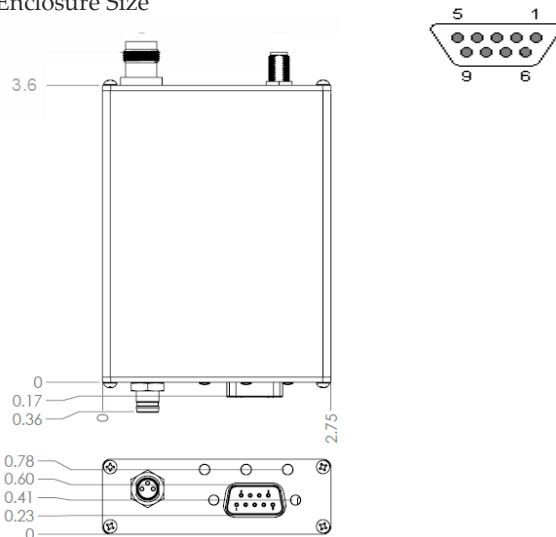
1	MIC	Analog Input
2	AUX	Analog Output
3	RSSI	Radio Signal Strength Out
4	IOC	General IO - C
5	DTR	Digital DTR out
6	VIN	DC Voltage Input
7	V3	3./3V Output
8	RXD	RX data Out, RS232
9	TXD	TX data In, RS232
10	CTS	CTS, 3V digital level
11	NC	No connect
12	PTT	Transmitter Enable Line
13	DCD	Data/Carrier Detect output
14	NC	No Connect
15	GND	Ground, chassis and power gnd.

### RS-485 Interface Port

1	RTS	RTS Input
2	RXDP	RX Data, +
3	RXDM	RX Data, -
4	TXDP	TX Data, +
5	TXDM	TX Data, -
6	GND	Ground, chassis and power gnd.

## Mechanical Specifications

Enclosure Size



## Accessories

### DC Power Cable

Raveon part number

4C850-1

Connector Type

Sealed 3-pin 7mm "M8"

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## Tech Series Part Numbers

Example: RV-M22SG-UCN RS232 I/O, 450-470MHz, narrow-band, with GPS transponder option.

	RV-M22	IO Code	GPS Code	-	BAND Code	Band Width	-	Other Options
	CODE							
RS232	S							
RS422	F							
RS485	T							
USB	U							
Analog	A							
GPIO	G							
No GPS								
GPS Option	G							
No Radio Board	X							
132-150MHz	VA							
150-174MHz	VB							
216-222MHz	VC							
400-434MHz	UA							
430-450MHz	UB							
450-480MHz	UC							
12.5kHz chan.	N							
25kHz chan.	W							
Arduino CPU	A							

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