

## RMX232 RADIO MODEM

### LOW POWER, LICENCE EXEMPT RADIO LINK

The RMX232 is a low cost high speed radio modem providing a reliable wireless data link capable of data throughput rates up to 14400 bps. Its ease of use and numerous features make it ideal for adding wireless communications to any application requiring wire free serial operation.

#### *Features*

- International license exempt ISM bands
- Point-to-point, point-to-multipoint, broadcast multi-drop, multipoint
- DTE speed 600-115200 bps.
- On-air data speed (UHF) 600-14400 bps.
- Flow control - hardware/software/none.
- Serial format - 8n1, 8n2, 8o1, 8e1.
- UHF: Up to 300m outdoor & 50m indoor range.
- VHF: Up to 2Km outdoor using external antenna.
- Built-in command line configuration.
- Built-in RF link diagnostics.
- Remote over-air unit configuration.
- Repeater mode for extended range.
- Front panel modem status indicators.
- Low operating current. Auto standby mode.
- Low profile extruded aluminium enclosure

#### *Applications*

- Remote data acquisition systems
- EPOS equipment, barcode scanners
- Wireless computer peripheral networks
- Remote monitoring and control systems
- PDA and laptop peripheral connectivity
- Portable logging equipment

#### *Easy and Reliable*

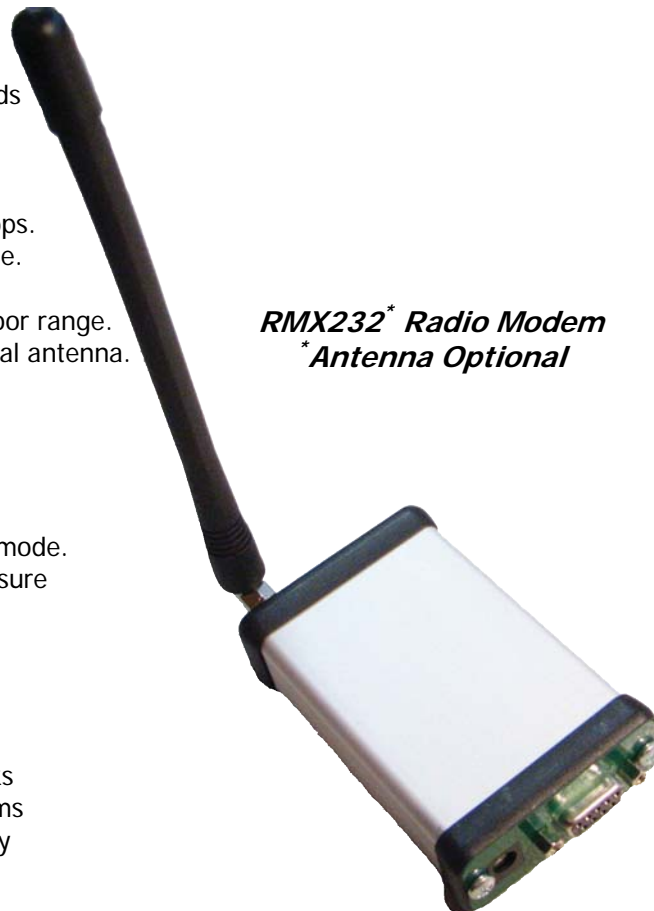
Addressable data packets with error checking, packet acknowledgements and retransmissions are used to achieve a reliable wireless point-to-point/point-to-multipoint data link. Built for ease of use and rapid installation, the RS232 interface ensures direct connection to serial equipment while the built-in diagnostics aid with site evaluation and network configuration.

#### *Extending Range*

Use an external antenna to improve range where the helical or ¼ wave whip antennas are not ideal. Additionally the modems can be configured as a repeater to further increase the operational range. Note the use of a high gain external antenna may result in radiated power levels above the licensed levels permitted in the country of use.

#### *Broadcast Multi-drop Networks*

When configured for broadcast multidrop mode the modem can be combined with any number of intelligent host computers/controllers to implement large scale multipoint radio networks.



*RMX232\* Radio Modem  
\*Antenna Optional*

# RMX232 Radio Modem

## TECHNICAL SPECIFICATIONS

www.embeddedcomms.com.au

### General

- Operating Voltage 7 to 15VDC via 2.5mm DC Jack
- Operating Current 40mA (10mW modem), 70mA (100mW modem)
- Standby Power-down 15mA/400uA
- Operating Temperature 0 to +60 degrees C
- Configuration Built-in command line configurator
- Manual Available by email request.
- Data throughput *UHF*: to 14400 bps (acknowledged packets)  
*VHF*: to 2400 bps (acknowledged packets)
- Radio Single channel

### Interface

- RS232 Interface DCE - 9 pin female
- RS232 protocol 8n1, 8n2, 8o1, 8e1
- RS232 Signals RXD, TXD, RTS, CTS, DTR, GND
- Power-down Control Via DTR (software controlled)
- Flow Control Selectable as hardware/software/none
- DTE Interface Speed 600/1200/2400/4800/9600/14400  
19200/38400/57600/115200
- Air Interface Speed *UHF*: 600/1200/2400/4800/9600/14400  
*VHF*: 600/1200/2400

### Receiver

- Sensitivity *VHF*: -106 dBm for 1ppm BER  
*UHF*: -100 dBm for 1ppm BER

### Transmitter

- Output Power 1mW ERP, 10mW ERP, 100mW ERP
- Spurious Emissions -70 dB

### Approvals

- Australian Standards AS 4268.2
- European Standards EN 300-220-1, ETS 300-683

### Physical

- Enclosure Extruded aluminium
- Dimensions 85mm (L) x 65mm (W) x 25mm (H) (Excludes antenna)
- Mounting Adhesive Velcro. Optional TS35 DIN mounting bracket
- Antenna SMA interface connector.

### RMX232-xxx Radio Options

- RMX232-151.275 Australia 151.300MHz @ 100mW with SMA
- RMX232-151.300 Australia 151.300MHz @ 100mW with SMA
- RMX232-151.600 Australia 151.300MHz @ 100mW with SMA
- RMX232-173.225 New Zealand 173.225MHz @ 100mW with SMA
- RMX232-173.250 New Zealand 173.225MHz @ 100mW with SMA
- RMX232-433.920 AUS & NZ 433.920MHz @ 10mW with SMA
- RMX232-433.920P Australia 433.920MHz @ 25mW with SMA
- RMX232-433.920P South Africa 433.920MHz @ 100mW with SMA
- RMX232-434.650NB Narrow Band 434.650MHz @ 10mW with SMA
- RMX232-918.525 Australia 918.525MHz @ 3mW with SMA

### Optional Accessories

- Plug pack – 9V 300mA. Australia only
- SMA mounted helical antenna
- UHF: SMA mounted 1/4 wave whip antenna
- UHF: External end-fed 0dB gain dipole antenna. Ground independent
- VHF: Industrial end-fed 3dB gain dipole antenna. Ground independent
- TS35 DIN rail mounting bracket

\*Specifications are subject to change without notification.

# RMX232 Radio Modem

## Ordering Information

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The RMX232 Radio Modem is available in a number of operating frequencies to suit specific countries. Other frequencies are available if required but may be dependant on local regulations for the country of use.

The RMX232 is available as either a kit, or as a stand alone radio modem. The stand alone radio modem does not include any accessories and does not include an antenna. A number of antenna options are available; please contact your supplier for further information.

### RMX232 Kit Contents

- 1 x RMX232 Stand Alone Radio Modem
- 1 x RMX232 Quick Start Guide
- 1 x Power Adapter. 9VDC 300mA.
- 1 x RS232 Cable – 1.8m
- 1 x Null modem adapter (male-to-male)
- 4 x Rubber feet and 1 strip adhesive backed velcro
- 1 x Helical Antenna with SMA mount.

### Available RMX232 Models

- |                    |              |                             |
|--------------------|--------------|-----------------------------|
| • RMX232-151.275   | Australia    | 151.300MHz @ 100mW with SMA |
| • RMX232-151.300   | Australia    | 151.300MHz @ 100mW with SMA |
| • RMX232-151.600   | Australia    | 151.300MHz @ 100mW with SMA |
| • RMX232-173.225   | New Zealand  | 173.225MHz @ 100mW with SMA |
| • RMX232-173.250   | New Zealand  | 173.225MHz @ 100mW with SMA |
| • RMX232-433.920   | AUS & NZ     | 433.920MHz @ 10mW with SMA  |
| • RMX232-433.920P  | Australia    | 433.920MHz @ 25mW with SMA  |
| • RMX232-433.920P  | South Africa | 433.920MHz @ 100mW with SMA |
| • RMX232-434.650NB | Narrow Band  | 434.650MHz @ 10mW with SMA  |
| • RMX232-918.525   | Australia    | 918.525MHz @ 3mW with SMA   |

### Options for the RMX232

#### Antennas

- VHF – Wire wound helical mounted on an SMA
- VHF – ½ wave dipole, end-fed ground independent with 2m low loss coax + SMA
- VHF – ½ wave dipole, end-fed ground independent with 4m low loss coax + SMA
- UHF – Helical wire wound stubby mounted on an SMA
- UHF – ¼ wave whip mounted on an SMA
- UHF – Dipole, end-fed ground independent with 2m low loss coax
- UHF – 6 Element Yagi - 6dBi.

\*Note, mounting hardware is not provided with the external antennas.

#### Cables, Adapters and Accessories

- RMX232 Printed User Manual
- 1.8m Serial Cable
- Power Adapter Plug Pack. 300mA 9VDC
- D9 Male to Female Gender Changer
- TS32 DIN Rail Mounting Bracket