

AMG RM9600 Series

Radio Data Modem



DESIGNED IN BRITAIN.
MADE IN BRITAIN.

AMG's RM9600 series of radio modems are useful for transmission of RS232 or RS485 over radio up to 20km. Configurations can be point to point, point to multi-point and multi-point to multi-point with or without repeaters. They are a range of UHF multi-channel transceivers, incorporating a GMSK baseband modem and serial data interface.

As with all AMG modem products, the RM9600 provides fully transparent operation regardless of the serial data protocol. Over-air speeds of up to 16Kbps (RM9600, 8Kbps RM9634) are achievable and serial data can be input at baud rates up to 19200bps.

Access to all user configurable parameters is possible using the on-board switches and operational status is easily monitored using the standard LED indicators.

The RM9600 modem card is in a format suitable for mounting in customer's own enclosure, or can be supplied housed in an IP67 rated enclosure, suitable for external deployment.



RM9600C in IP67 Polycarbonate Enclosure

Features

- UHF FM synthesised radio transceiver
- Transparent up to 9600bps serial data transmission
- RS232 and RS485 serial data interfaces
- 6 modes of operation including asynchronous, modem and repeater
- User selectable RF channel, address and TX power level
- LED indicators for radio functions, signal strength and serial line status
- Forward Error Correction (FEC)
- Automatic Repeat Request (ARQ)
- MODBUS compatibility (ASCII and RTU)

Applications

- Alarm Systems
- Data Acquisition
- Remote Metering
- Remote Control Systems
- Warehousing and Dispatch
- SCADA
- Security Systems
- Video Surveillance Systems
- Telemetry
- Traffic Information
- Control Systems



Phone: +44 (0) 1767 600 777



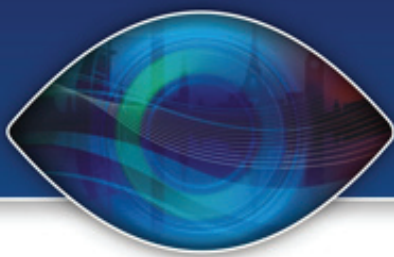
Fax: +44 (0) 1767 600 077



Email: sales@amgsystems.com



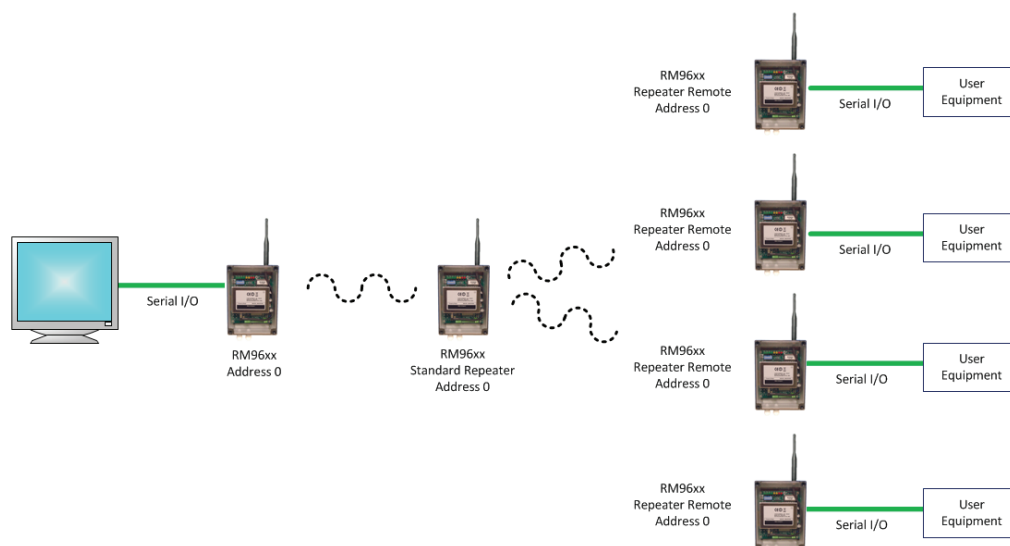
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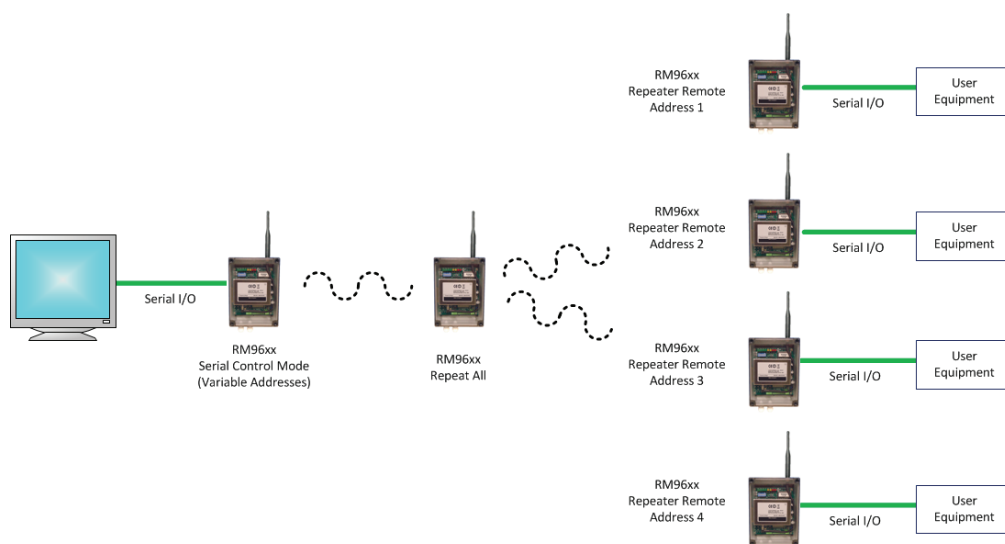
Application Notes

Repeater Modes

Standard Repeater

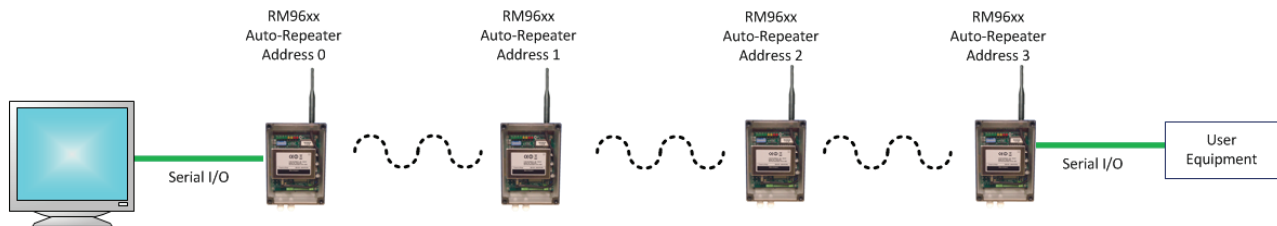


Repeat All Mode

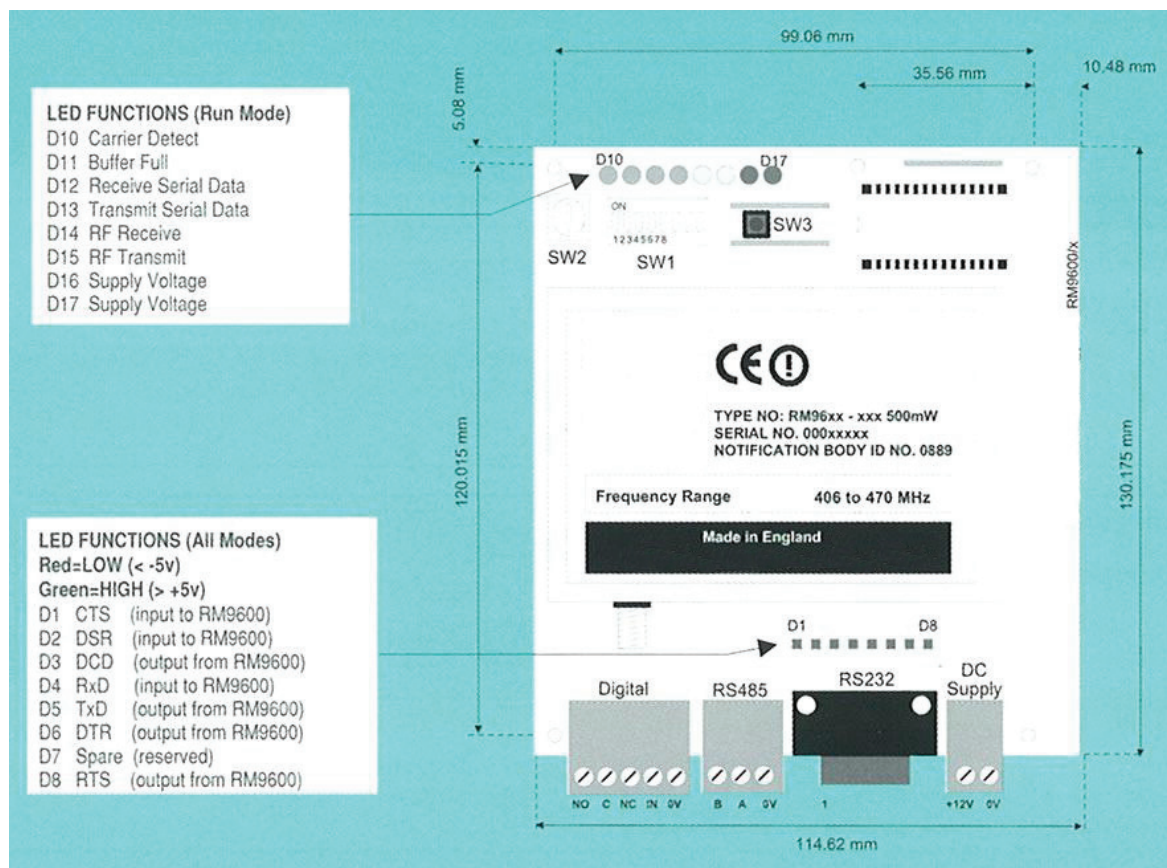


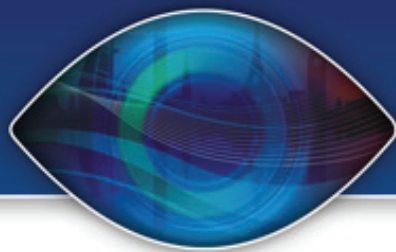
Application Notes

Chained Repeater



RM96xx Board Layout





Specifications

RM9600

Compliant with ETSI 300220 and R&TTE Directive 1999/5/EC

General

Frequency Range	10MHz band in the range 406-470MHz
Channel Spacing	10, 12.5, 20 or 25KHz
No of Channels (460MHz Units)	15 Selectable Channels

Transmitter

RF Power Output	50 - 500mW (in 4 steps)
Adj. Channel Power	-37dBm
Freq. Tolerance	± 1KHz
FM Deviation	± 3.5KHz

Receiver

RF Sensitivity	-110dBm for 10 ⁻⁴ BER
Intermodulation	170dB
Adj. Channel Rejection	-70dB

Data

RS232, RS485 Data Rate	Up to 19.2Kb/s
Max Bi-directional Data Throughput	RM9600 - 16Kb/s RM9634 - 8Kb/s

RM9634

Compliant with ETSI 300113 and R&TTE Directive 1999/5/EC

General

Frequency Range	10MHz band in the range 406-470MHz
Channel Spacing	12.5, 20 or 25KHz
No of Channels (460MHz Units)	35 Selectable Channels

Transmitter

RF Power Output	50 - 500mW (in 4 steps)
Adj. Channel Power	-37dBm
Freq. Tolerance	± 1KHz
FM Deviation	± 2KHz
Intermod Attenuation	>40dB
Spurious Emissions	< -36dBm 0-1GHz < -30dBm 1-4GHz

Receiver

RF Sensitivity	-110dBm for 10 ⁻⁴ BER
Co-channel Rejection	> -12dB
Adj. Channel Selectivity	>60dB
Spurious Response Rejection	>70dB
Intermod Response Rejection	>70dB
Blocking	>84dB for any signal >50KHz from the tune frequency
Spurious Emissions	< -57dBm 0-1GHz < -47dBm 1-4GHz

Distance

ANT0006A/C	Up to 1km
ANT0008	Up to 10km
ANT0009	Up to 20km
(note: longer distances very dependent on Antenna height as well as line of site)	

Part Numbers

Part Numbers

RM9600-xxx
RM9634-xxx
RM9600C-xxx
RM9634C-xxx

Description

Radio Modem card for OEM or customer's own enclosure, xxx denotes frequency
Radio Modem card for OEM or customer's own enclosure, xxx denotes frequency
Radio Modem, mounted in IP67 Polycarbonate Enclosure with clear lid, xxx denotes frequency
Radio Modem, mounted in IP67 Polycarbonate Enclosure with clear lid, xxx denotes frequency

xxx = 410, 420, 430, 440, 450, 560, 470MHz

NOTE: 460MHz is the only UK license free band

Antennas

ANT0006A	½ Wave Whip Antenna 440MHz – 470MHz, (omni-directional, enclosure mounted)
ANT0006C	½ Wave Whip Antenna 406MHz – 440MHz (omni-directional, enclosure mounted)
ANT0008	End-Fed Dipole Antenna 420MHz – 470MHz – with integral 0.5metre RG213 terminated with 'N'Type female connector, (omni-directional, pole mounted)
ANT0008-CAB	End-Fed Dipole Antenna 420MHz – 470MHz – with integral 0.5metre RG213 terminated with 'N'Type female connector + 3metre RG213 terminated with 'N'Type male connector, (omni-directional, pole mounted)
ANT0009-8	Eight Element Yagi 400MHz – 470MHz with integral 3metre cable terminated with 'N'Type female connector, (40 degree-directional, pole mounted)

D26000-00



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