



RF INNOVATIONS

Introducing the

CRESCENDO SERIES RFI-150 VHF Half Duplex Radio Modem

Crescendo is a new series of data-driven radio modems for VHF and UHF applications operating in 12.5kHz and 25kHz channels.

The RFI-150 VHF half duplex radio modem is the newest member of this family. It is type-approved for operation in Australia (AS-4295) and has been designed for worldwide compliance (ETSI and FCC approval planned).

Its maximum transmit power of 5 Watt (+37dBm) and air rate of 9.6kbit/s (12.5kHz channels) / 19.2kbit/s (25kHz channels) make it the ideal choice for long-range applications with even the most demanding real-time constraints.

Features

- Full switching bandwidth 148 - 174MHz
- 6.25kHz frequency raster (and multiples)
- Up to 80 km line of sight*
- Integrated radio modem
- Forward Error Correction and data interleaving
- Low-latency data-driven transparent operation
- Dual RS232 serial ports
- Separate data and diagnostics ports
- In-built configuration menu
- Front panel diagnostics for ease of testing and installation
- Multi-mode front panel display includes RSSI meter



Applications

The RFI-150 VHF half duplex radio modem is suited for applications ranging from small point-to-point links through to large broadcast point-to-multipoint data communications networks.

For above-ground applications, the RFI-150 can be used with common VHF antennas. The RFI-150 VHF half duplex radio modem is equally suited for below ground operation in leaky feeder systems.

Potentially large wireless SCADA networks can be set using a combination of RF Innovations radio modems and I/O modules.

Please contact RF Innovations for further information, or visit <http://www.rfinnovations.com.au>

**Maximum practical point-to-point distance with suitable antennas*



Available from:
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RFI-150 VHF Half Duplex Radio Modem Crescendo

SPECIFICATIONS

Physical

Dimensions L: 156mm x W: 100mm x H: 41.5mm
 Weight 500g
 Construction Powder-coated aluminium chassis and cover

Connectors

Antenna BNC Female (50 Ohm nominal)
 Serial 2 x DB9 RS232 Female
 Power Phoenix PH1776508 (mating connector provided)

General

Operating Voltage 10V to 16V DC (negative ground)
 Operating Current
 Transmit (@ 12.5V) 1.25A nominal @ 5W
 Receive (@ 12.5V) 78mA nominal
 Operating temperature range -10 to +60°C
 Operating humidity range Up to 90% non condensing relative humidity
 Approvals AS-4295, ETSI (planned) and FCC (planned)

Radio

Frequency Range 148MHz to 174MHz software programmable
 Mode of Operation Single-Port Half Duplex
 Duty Cycle 100%
 Air Data Rate 9.6kbit/s (12.5kHz channels), 19.2kbit/s (25kHz channels)
 RF Data Latency (end to end) Maximum 50ms (25kHz)
 Transmit Power 5W / +37dBm
 Channel Bandwidth 12.5kHz or 25kHz (model specific)
 Modulation Nyquist shaped 4-Level FSK
 Receiver Sensitivity -113dBm (reference sensitivity)

Modem

Serial Data RS232 Asynchronous with handshaking
 Interface Speed 110, 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 bps software selectable

Ordering Information

Frequency Band		Channel Bandwidth		RF Mode		Operating Mode		Air Data Rate		Compliance Classification	
150	VHF	N	12.5 kHz	D	Duplex	PD	Packet Driven	L	1200/2400	0	Unlicensed
290	VHF	W	25 kHz	H	Half Duplex	DD	Data Driven	M	9600	1	Licensed
450	UHF	C	Custom	T	Tx Only	RD	Raw Data	H	19200	2	Military
				R	Rx Only	VF	VF Only	X	VF Only		
						C	Custom	C	Custom		

Typical Application:

