RF INNOVATIONS

Introducing the

CRESCENDO SERIES

RFI-150D VHF Full Duplex Radio Modem

The RFI-150 VHF full duplex is part of the new Crescendo series of radio modems for UHF and VHF operation. Incorporating a 5 Watt radio and integrated modem the unit is capable of 19.2kbit/s full duplex transmission over the air.

Features

- *Transparent operation*
- *Up to 80 km line of sight**
- *Inbuilt configuration menu*
- *Fully integrated radio modem*
- *Separate transmit and receive RF ports*
- *User data speeds up to 19.2kbit/s full duplex*
- *Forward Error Correction and data interleaving*
- *Rugged design for high vibration environments*
- *Diagnostics mode for testing and installation*

Design

Radio

The RFI-150 VHF full duplex radio modem has been designed to comply with world wide regulatory guidelines. The radio provides frequency selection anywhere within the specified VHF band in 12.5kHz software selectable increments. Microprocessor control ensures powerful data control algorithms whilst advanced receiver design provides superior rejection of unwanted signals.

Modem

The inbuilt modem provides RS232 serial connection with handshaking at interface speeds up to 115000bps. It allows transparent communications by emulating dumb data-driven modem operation; making the RFI-150 VHF full duplex suitable for wireless transmission of even the most timing critical serial protocols.

Application

The RFI-150 VHF full duplex is suitable for small point-to-point or large broadcast point-to-multipoint data communications networks either through standard antennas or underground leaky-feeder cables. Additional RF Innovations I/O modules can be connected to the radio modems for potentially large wireless SCADA networks.

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

RFI-150 VHF Full Duplex Crescendo

Available from
Esis Pty Ltd
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SPECIFICATIONS

Physical

Dimensions	258mm L x 158mm W x 37mm H (inc vibration mount)
Weight	1600g (inc vibration mount)
Construction	Coated machined aluminium chassis and cover

Connectors

Antenna Ports	Separate Tx/Rx BNC Female (50 Ohm nominal)
User Data Ports	2 x DB9 RS232 Female
Power	PSC 1.5/3-M (mating connector provided)

General

Operating Voltage	10.8V to 13.8V DC (negative ground)
Operating Current	
Transmit mode (37dBm)	1.3A
Operating temperature range	-10 to +60°C
Operating humidity range	Up to 95% non condensing RH @ 50°C
Parameter and mode settings	In built software
Approvals	Approval pending

Radio

Frequency Range	148MHz to 174MHz software selectable
Duty Cycle	100% full duplex
Air Data Rate	19.2kb/s
RF Data Latency	Maximum 100ms
Output Power	100mW to 5 Watt software selectable
Channel Bandwidth	Model specific 12.5kHz or 25kHz
Modulation	Nyquist Shaped 4-Level FSK
Receiver Sensitivity	-113dBm @ 10^{-4} raw BER

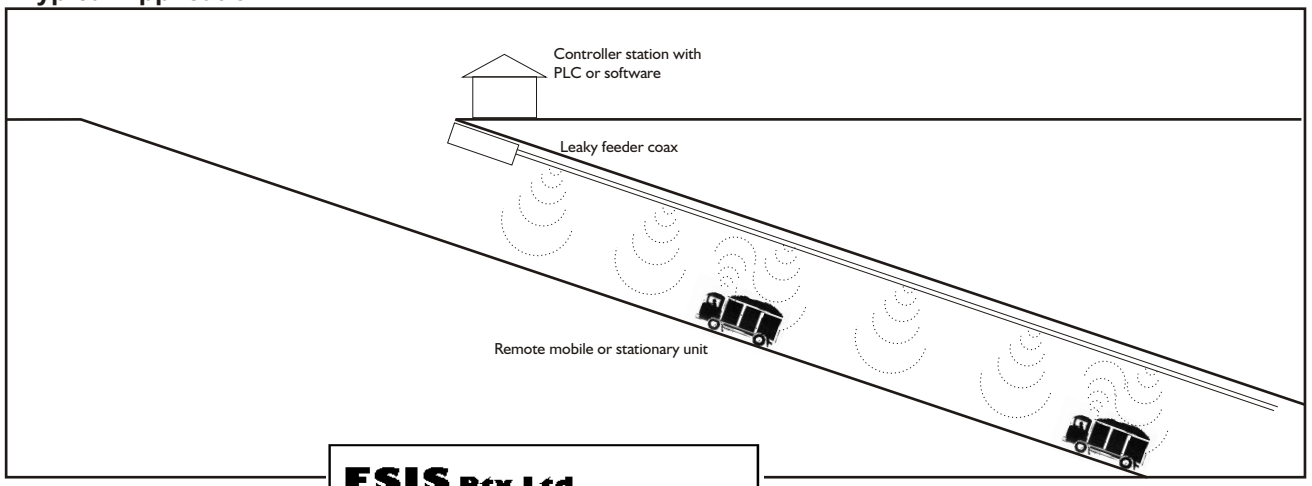
Modem

Serial Data	RS232 Asynchronous with handshaking
Interface Speed	110bps to 115000bps software selectable

Ordering Information

Frequency Band		Channel Bandwidth		RF Mode		Operating Mode		Air Data Rate		Compliance Classification	
150	VHF	**N**	12.5 kHz	**D**	Full 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:



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