

making **RF** the strongest link

NL5000-T

Telemetry Transceiver

TELEMETRY APPLICATIONS

- Data Terminals
- Water Management
- Remote Data Loggers
- Oil & Gas Monitoring
- Irrigation Control

MOBILE APPLICATIONS

- Database Access
- Computer Aided Dispatch
- Vehicle Tracking
- Asset Tracking
- Fleet Management

Features

- Narrow Band (12.5 kHz) or Wide Band (25 kHz) Models
- Broadband TX/RX Design: 26 MHz VHF, 28 MHz 220 MHz, 20 MHz UHF
- 6 Watt (VHF/220 MHz) and 6 Watt (UHF) Models
- Compact Size: 3.6"l x 2.3"w x 1.0"h
- Frequency Stability Standard@ 1.5 ppm for fixed applications
- Ultra-Fast TX/RX Attack Times
- Controlled Envelope TX Keying
- Dual Transmit and Receive Audio Paths
- Meets FCC and IC (Canada) Standards
- Programmable High/Low Output Power
- SMD Component Design
- Custom Frequency Ranges

Frequency Range

136-162 MHz VHF

148-174 MHz VHF

216-245 MHz VHF

400-420 MHz UHF

450-470 MHz UHF



PRODUCT OVERVIEW

The NL5000-T Series is ideal for any system design where high performance RF specifications, fast TX/RX attack times, and compact size are a requirement. High specifications permit integration into systems demanding the utmost performance in congested frequency environments.

This compact design makes the NL5000-T Series perfect as a retrofit to RNet and JSLM installations. Direct modulation with low distortion and low group delay result in a low bit-error-rate (BER) for enhanced system integrity and reliability. The Swift Lock synthesizer-loading algorithm reduces unit turn-on-time to less than 15ms for high-speed data throughput rates, and Controlled Envelope keying reduces adjacent channel *key clicks*, resulting in spectrum-friendly operation.

Capable of half and full-channel spacing operation, the NL5000-T Series can be installed in systems where re-farming compliant narrow band frequencies have been assigned.

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Division of RF Industries

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Synthesized Telemetry Transceivers Technical Specifications

General	VHF	220 MHz	UHF
Number of Channels	8	8	8
TX/RX Spacing (w/in frequency range)	26 MHz max.	528 MHz max.	20 MHz max.
Mode of Operation	— — — Simplex/Half Duplex — — —		
Channel Increment (Synthesizer Step Size)	2.5 kHz	2.5/3.125 kHz	5/6.25 kHz
Emissions Bandwidth			
Narrow Mode	11 kHz	11 kHz	11 kHz
Wide Mode	16 kHz	16 kHz	16 kHz
Frequency Stability (-30° to +55°C)	1.5 ppm	1.5 ppm	1.5 ppm
Supply Voltage (VDC)	7.5 or 11-16	7.5 or 11-16	7.5 or 11-16
RF Input/Output Connector	BNC	BNC	BNC
Power/Data Interface	15 pin sub D	15 pin sub D	15 pin sub D
Operating Temperature	-30° to +55°C	-30° to +55°C	-30° to +55°C
Maximum Dimensions (L x W x H)	3.6 x 2.3 x 1.0	3.6 x 2.3 x 1.0	3.6 x 2.3 x 1.0
Weight	6 oz	6 oz	6 oz

Transmitter	VHF	220 MHz	UHF
Operating Bandwidth	26 MHz	28 MHz	20 MHz
RF Output Power	1-6 watts	1-6 watts	1-3/6/9 watts
Duty Cycle	5% - 100%	5% - 100%	5% - 100%
RF Load Impedance	50 Ohms	50 Ohms	50 Ohms
Transmitter Attack Time:	<15 ms	<15 ms	<15 ms
Spurious and Harmonics:	<-20 dBm	<-20 dBm	<-20 dBm
FM Hum and Noise			
12.5 kHz channel operation	>40 dB	>40 dB	>40 dB
25 kHz channel operation	>45 dB	>45 dB	>45 dB
Current Drain			
1 watt	<1.0 A	<1.0 A	<1.0 A
6 watt	<2.4 A	<2.4 A	<2.4 A
10 watt version (13.7 VDC supply)	N/A	N/A	<2.4 A

Receiver	VHF	220 MHz	UHF
Operating Bandwidth	26 MHz	28 MHz	20 MHz
Sensitivity (10-5 BER)	<0.28 uV	<0.28 uV	<0.28 uV
RF Input Impedance	50 Ohms	50 Ohms	50 Ohms
Adjacent Channel Selectivity			
+/- 12.5 kHz with narrow IF	>60 dB	>60 dB	>60 dB
+/- 25 kHz with wide IF	>70 dB	>70 dB	>70 dB
Spurious and Image Rejection	>70 dB	>70 dB	>70 dB
Intermodulation Rejection	>67 dB	>67 dB	>67 dB
FM Hum and Noise			
12.5 kHz channel operation	>35 dB	>35 dB	>35 dB
25 kHz channel operation	>40 dB	>40 dB	>40 dB
Conducted Spurious	<-57 dBm	<-57 dBm	<-57 dBm
Receive Attack Time	<15 ms	<15 ms	<15 ms
Noise Squelch Attack Time	<13 ms	<13 ms	<13 ms
RSSI Squelch Attack Time	<5 ms	<5 ms	<5 ms
Receive Current Drain	<80 mA	<80 mA	<75 mA

RF Neulink reserves the right to change specifications of this product at any time without notice and without obligation to notify any person of such changes.

For outside operation of radio modem products, a NEMA 4 enclosure is recommended

Available Models

NL5000-T Module

Model	Frequency
NL5000-VHF/LN	136-162 MHz
NL5000-VHF/HN	148-174 MHz
NL5000-220	216-245 MHz
NL5000-UHF/LN	400-420 MHz
NL5000-UHF/HN	450-470 MHz

Various power and voltage options are available

Input/Output Connectors

Pin#	Name	Description
1	CS0	Channel Select Low Bit
2	CS1	Channel Select Mid Bit
3	CS2	Channel Select High Bit
4	MIC IN	Microphone Input
5	CSN	High/Low Power or Channel 1/2
6	RAW SUPPLY	Power Supply Input
7	AUX IN	Auxiliary Input
8	AUX OUT	Auxiliary Output
9	PGN IN/OUT	Programming I/O
10	CTS	Clear to Send
11	RX MON	Monitor
12	AUDIO OUT	Audio PA Output
13	DCD	Carrier Detect
14	PTT RTS	Push-to-Talk
15	GDN	Ground

ORDERING INFO

Contact RF Neulink for details

Call toll-free (800) 233-1728 or

email: rfneulink@rfindustries.com

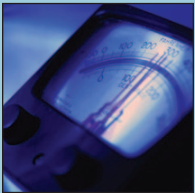
APPLICATION IDEAS



Oil and Gas Monitoring



Irrigation Control

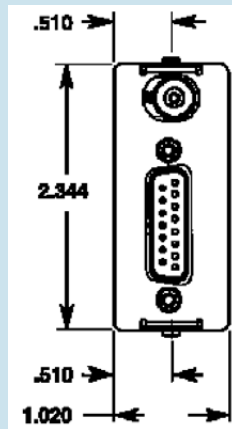
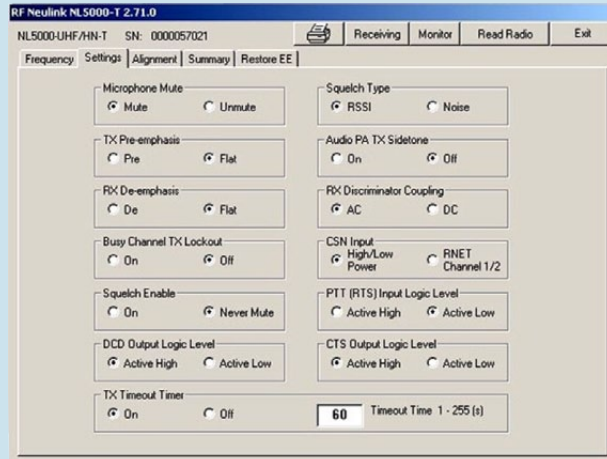


Data Logging

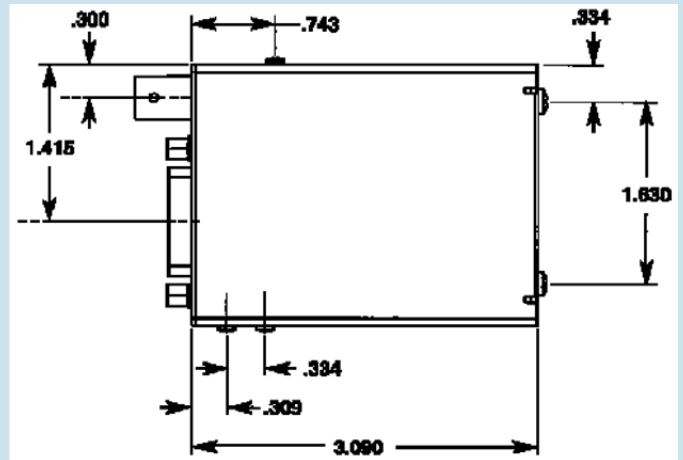


Water Management

Configuration Software Included



RF and Control Board Module



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WHO IS RF NEULINK?



RF Neulink has been manufacturing radio link equipment for 30 years. Our line of transmitter and receiver units for point-to-point communications, paging excitors, radio data and control products reflect our experience in this marketplace.

Our publicly held parent company, RF Industries (NASDAQ symbol RFIL), provides a well capitalized base for continued future growth and product development. RF Neulink's customers include Fortune 500 companies, municipalities, government agencies, educational and health institutions, utilities, small companies, casinos, irrigation companies, armed forces here and abroad, and many others that need or want reliable, state of the art, cost effective communications links.