Go Beyond Normal Limits...℠

RITRON®
WIRELESS SOLUTIONS

60 Series
DTX+ Transceiver

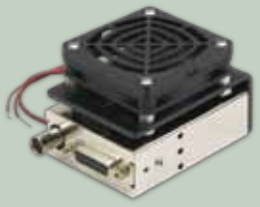
The Wireless Connection

Ideal for system integrators and OEM applications.

FEATURES

- Wide Band (25 kHz)*
- Narrow Band (12.5 kHz)
-Very Narrow Band (6.25 kHz) Models
- Broadband TX/RX Design:
  38 MHz@VHF, 28 MHz@220 MHz,
  20 MHz@UHF
- 6 Watt (VHF & 220MHz) and
  3/6/10 (UHF) Models
- DSP audio processing for cleaner
  data transmission
- Frequency Ranges: **
  136-174 MHz 400-430 MHz
  217-245 MHz 450-470 MHz
  380-400 MHz
- Compact Size: 3.6"l x 2.3"w x 1.0"h
- Frequency Stability Standard @ 1.0 ppm
- Ultra Fast TX/RX Attack Times
- Controlled Envelope[sm] TX Keying
- Dual Transmit and Receive Audio Paths
- Meets FCC and IC (Canada) Standards **
- Programmable Output Power
- SMD Component Design
- Custom Frequency Ranges Available
- Designed and Manufactured in the USA
- Optional Fan

Optional fan kit permits continuous duty operation.



* Wideband (25KHz) model available by special order only and where allowed by appropriate regulatory authorities.

**Contact Ritron with your specific frequency band requirement.

MADE IN THE USA

DTX+ Transceiver

The DTX+ 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 DTX+ Series perfect as a retrofit to RNet and JSLM installations. Direct modulation with low distortion and low group delay result in a low bit-eror-rate (BER) for enhanced system integrity and reliability. The Swift Lock[sm] synthesizer-loading algorithm reduces unit turn-on-time to less than 10ms for high-speed data throughput rates, and Controlled Envelope[sm] keying reduces adjacent channel "keyclicks", resulting in spectrum-friendly operation.

Capable of 6.25kHz and 12.5 kHz channel spacing operation, the DTX+ Series can be installed in systems where refarming compliant narrow band frequencies have been assigned.

For high performance, reliable and cost-effective wireless data solutions, call Ritron at **800.USA.1.USA** (800-872-1872).

Have a radio modem requirement?
Ask about the DTXM RadioModem.

AVAILABLE MODELS

DTX+ 60 Series		DTX+ 60 Series RF Board	
Model	Frequency	Model	Frequency
DTX-160-O	136-174 MHz	DTX-160-O-DD	136-174 MHz
DTX-260-O	217-245 MHz	DTX-260-O-DD	217-245 MHz
DTX-360-M	380-400 MHz	DTX-360-M-DD	380-400 MHz
DTX-460-G	400-430 MHz	DTX-460-G-DD	400-430 MHz
DTX-460-O	450-470 MHz	DTX-460-O-DD	450-470 MHz

Various power and voltage options are available. Other frequency ranges possible.
Please contact Ritron for your specific requirements.

DTX+ 60 Series SPECIFICATIONS

GENERAL	VHF	220 MHz	UHF
FCC	AIERIT33-1600	AIERIT33-2660	AIERIT33-4600
Industry Canada	1084A-RIT331600	1084A-RIT332600	1084A-RIT334600
Number of Channels	8	8	8
TX/RX Spacing (w/in frequency range)	38 MHz max.	28 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			
Wide Mode*	16 kHz	16 kHz	16 kHz
Narrow Mode	11 kHz	11 kHz	11 kHz
Very Narrow Mode	4 kHz	4 kHz	4 kHz
Frequency Stability (-30° to +60° C)	1.0 ppm	1.0 ppm	1.0 ppm
Frequency Stability (-30° to +65° 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 +65° C	-30° to +65° C	-30° to +65° 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	38 MHz	28 MHz	20 MHz
RF Output Power	1-6 watts	1-6 watts	1-3/6/9 watts
Duty Cycle @ 25° C			
3 Watts	30%	30%	30%
6 Watts	20%	20%	20%
10 Watts	20%	20%	20%
With Optional Fan @ 4 Watts (up to 50° C)	100%	100%	100%
Key-Down Time (seconds) @ 25° C			
3 Watts	45 s	45 s	45 s
6 Watts	30 s	30 s	30 s
10 Watts	15 s	15 s	15 s
RF Load Impedance	50 ohms	50 ohms	50 ohms
Transmitter Attack Time:	<10 ms	<10 ms	<10 ms
Spurious and Harmonics:	<-25 dBm	<-25 dBm	<-25 dBm
FM Hum and Noise			
12.5 kHz channel operation	>45 dB	>45 dB	>45 dB
6.25 kHz channel operation	>40 dB	>40 dB	>40 dB
Current Drain@12VDC			
1 watt	<1.0 A	<1.0 A	<1.0 A
6 watt	<2.0 A	<2.0 A	<2.1 A
10 watt version(13.7 VDC supply)	N/A	N/A	<2.4 A

RECEIVER			
Operating Bandwidth	38 MHz	28 MHz	20 MHz
Sensitivity (12 dB SINAD)	<0.25 uV	<0.25 uV	<0.25 uV
RF Input Impedance	50 ohms	50 ohms	50 ohms
Adjacent Channel Selectivity			
+/- 12.5 kHz	>60 dB	>60 dB	>60 dB
+/- 6.25 kHz	>45 dB	>45 dB	>45dB
Spurious and Image Rejection	>60 dB	>60 dB	>60 dB
Intermodulation Rejection	>67 dB	>67 dB	>67 dB
FM Hum and Noise			
12.5 kHz channel operation	>45 dB	>45 dB	>45 dB
6.25 kHz channel operation	>40 dB	>40 dB	>40 dB
Conducted Spurious	<-57 dBm	<-57 dBm	<-57 dBm
Receive Attack Time	<10 ms	<10 ms	<10 ms
Squelch Attack Time	<5 ms	<5 ms	<5 ms
Receive Current Drain	<120 mA	<120 mA	<120 mA

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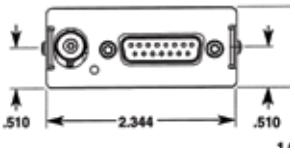
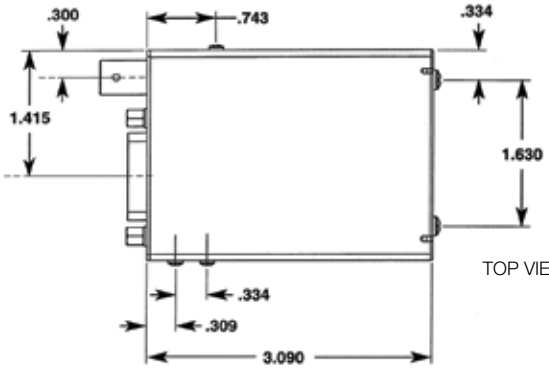
Founded in 1977, Ritron, Inc. specializes in the design and manufacture of commercial and industrial-grade wireless voice and data communication equipment.

RF and CONTROL BOARD MODULE

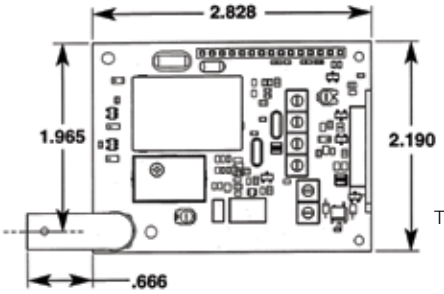


FRONT VIEW

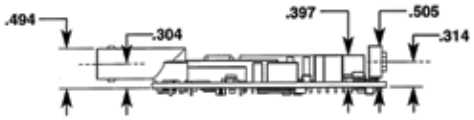


TOP VIEW

RF BOARD MODULE



TOP VIEW



SIDE VIEW

DTX PLUS INPUT/OUTPUT CONNECTORS

PIN #	Name	Description
1	CSO	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	GND	Ground

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