HRT-920
HIGH-RELIABILITY TRANSMITTER

The next-generation software defined HRT-920 miniature S-Band multi-waveform telemetry transmitter features small size, light weight, and excellent thermal design for today's critical airborne applications.

L-3 Telemetry & RF Products (L-3 T&RF) HRT-920 delivers a minimum output power up to 20 W with data rate capability to 20 Mbps. The RF output is also fully protected from high VWSR loads as well as short and open conditions.

This unit also provides new breakthroughs in price and performance with simplified internal construction and multi-waveform & encoding capability. Fully synthesized channel selection is offered via factory fixed or external user control. Standard off-the-shelf waveforms are available or may be customized to user needs. Improved capabilities are provided while still meeting or exceeding the most stringent operational requirements.

The transmitter may be provided with the common analog and digital modulation waveforms as well as user defined custom implementations. Digital and analog data interfaces are provided as well as an IRIG 106-11 serial control and status interface.

This transmitter provides MIL-SPEC quality and environmental capability, while maintaining compliance with IRIG 106-11 and tailored MIL-STD-461F EMI requirements.

FEATURES

- Increased performance, lower cost, replacement for the CTS-910
- Size: 2.5" L x 3.5" W x 0.81" D
- Multimode - supports ARTM Tier 0, 1; PCM/FM; SOQPSK
- Filtered RF output to avoid GPS and FTR desensitizing/jamming
- All components derated for high-reliability
- Operation to 20 Mbps (Factory set)
- Frequency agile over full S-Band
- Programmable RF Output Power to 20 W (Factory set, 3 field tunable points)
- Forward Error Correction comes standard (CE/RS)
- Serial control and status to IRIG 106-11 over RS-422
- Analog or digital data input
- Clock free input standard
- Current (HRT-920) and heritage (CTS-910) transmitters are on multiple munitions test programs
- Ideally suited to test flights with difficult environmental requirements

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SPECIFICATIONS

FUNCTIONAL

Frequency Set	2200 to 2400, 0.5 MHz steps
Frequency Selection	Field programmable
Carrier Stability	±0.002%
Output Power	up to 20 W
Output Load VSWR	50 Ω nominal, no damage into open/ short
Type	Multimode - supports ARTM Tier 0, 1; PCM/FM; SOQPSK
Coupling	DC
Input Impedance	100 Ω differential

POWER REQUIREMENTS

Supply Voltage	21 V to 36 V
Supply Current	1.7 A (28 V) at 16 W RF Out
Grounding	Power and modulation returns common to chassis
Reverse Polarity Protection	No damage from application of reversed input bias to -40 V, indefinite period

Programming Connector, J1 M83513/03-D11N
1 – +28 Vdc
2 – +28 Vdc
3 – N/C
4 – DC RTN
5 – N/C
6 – Ground
7 – Ground
8 – Status (+) RS-422
9 – FREQ SET (+) RS-422
10 – RF ON/OFF
11 – MOD Data RTN RS-422
12 – MOD Data (+) RS-422
13 – MOD Data CLK (+) RS-422
14 – +28 Vdc
15 – N/C

Programming Connector, J1 M83513/03-D11N Continued
16 – DC RTN
17 – DC RTN
18 – ACL_BIT
19 – Ground
20 – Status (-) RS-422
21 – FREQ SET (-) RS-422
22 – RF ON/OFF RTN
23 – MOD Data CLK RTN RS-422
24 – MOD Data (-) RS-422
25 – MOD Data CLK (-) RS-422

ENVIRONMENTAL

Operating Temperature	-45 °C to +85 °C
Storage Temperature	-54 °C to +95 °C
Sinusoidal Vibration	20 g peak
Random Vibration	28 g RMS
Shock	100 g peak
Acceleration	100 g
Humidity	MIL-STD-810 Method 507
Altitude	Unlimited
EMI	IRIG 106-11 and MIL-STD-461F at 28 VDC

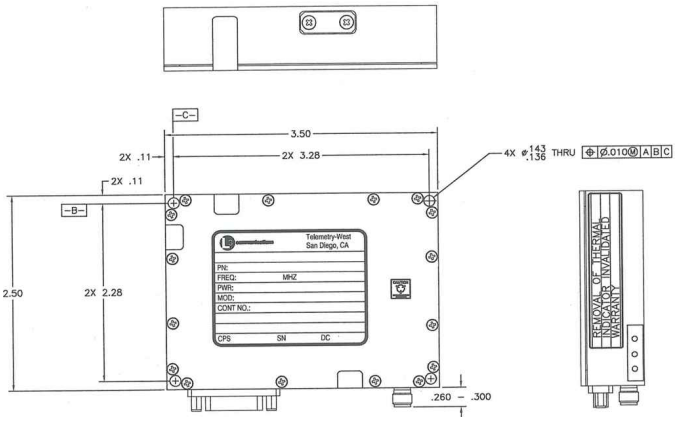
MECHANICAL

Volume	7.1 cu. in. nominal
Size	2.5” L x 3.5” W x 0.81” D (see outline drawing below)
Weight	8 oz. maximum

OPTIONS

Single connector with frequency and modulation mode selectable via serial interface

Switchable power levels



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ML647 Rev C