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.

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
**HRT-920**

**HIGH-RELIABILITY TRANSMITTER**

**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

**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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<tr>
<td>14 – +28 Vdc</td>
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<tr>
<td>15 – N/C</td>
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