## S-BAND MULTI-MODE TELEMETRY TRANSMITTER



The ST-5000S Telemetry Transmitter is designed for S-Band operation in aerospace environments where size, weight and power efficiencies are critical.



L-3 Telemetry & RF Products (L-3 T&RF) evolutionary transmitter extends battery life while incorporating ultrahigh power efficiency, serial-loaded programmability and ARTM Tier 0, 1 and 2 modulation schemes. This all comes with the performance, quality, heritage and reliability you've come to expect from L-3 T&RF telemetry transmitter products. The ST-5000S continues the



legacy of the successful ST-800, 2000, 3000 and 4000 (SOQPSK) series of L-3 telemetry transmitters while utilizing advanced waveform technology.

The ST-5000S is available in 2-, 5- and 10-Watt models and can also offer a model where power flexibility/programmability can be provided. Center frequency, deviation sensitivity and other features can be programmed through a serial communications port using a basic PC.

The ST-5000's internal modules (modulator, regulator, and power amplifier) are housed in separate machined enclosures to maximize RF isolation, while providing a rigid and robust mechanical design able to withstand the harshest of missile, weapons and aircraft mission environments. All units are subjected to rigorous environmental testing requirements in the factory to ensure reliable operation under extreme mission conditions every time. Product and performance customizing is available to support customer specific requirements.

### **FEATURES**

- Integral and proprietary isolated switching power supply design resulting in ultrahigh efficiency, Programmable: 2 W, 5 W and 10 W
- Lower heat dissipation, Significantly reduces heat sink requirements
- Full S-Band coverage, 2200 to 2400 MHz
- Tier 0, 1 and 2 (selectable)
- Programmable center frequency via serial communications port RS-232 (Non-volatile memory retains settings when power is off)
- RS-422 data and clock interface, (LVDS & TTL optional)
- · Meets latest IRIG-106 requirements
- · Remote power on/off control
- Built-in status capability, including: Temperature, Forward power monitor, Internal power supply voltages
- Forward Error Correction (FEC), turbo product codes (optional)

# ST-5000S

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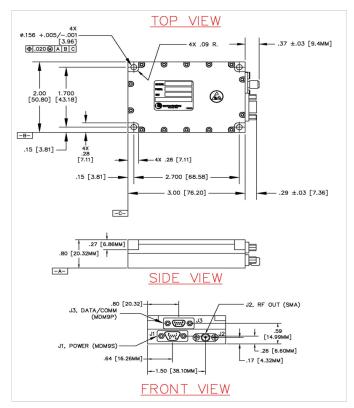


## **SPECIFICATIONS**

RF	
Modulation Type	ARTM Tier 0, I and II mod support (selectable)
Data Rate	PCM /FM: 100 Kbps to 25 Mbps SOQPSK: 500 Kbps to 40 Mbps CPM: 500 Kbps to 40 Mbps
RF Frequency	S-Band: 2200.5 MHz to 2394.5 MHz
Frequency Selection	500 kHz per IRIG-106 (tunable in flight via serial interface)
Carrier Stability	< 10 ppm
Phase Noise, Spurious & Harmonics	IRIG-106-compliant
RF Power Out	2-, 5- and 10-W, programmable
RF Output Impedance	$50\ \Omega$ nominal, open short-circuit protection
DIGITAL INTERFACE	

#### DIGITAL INTERFACE

Input Format	RS-422 standard LVDS and TTL optional
Input Impedance	RS-422: $100~\Omega, \pm 10\%$ differential LVDS: $220~\Omega, \pm 10\%$ differential TTL: $\geq 5~K\Omega$ , single-ended
Upload Interface	RS-232 IRIG standard



#### **POWER**

Input Power	22 VDC to 40 VDC (per MIL-STD-704F)
Current Consumption (total) Over Operating Voltage and Temperature Range	
Transient Suppression	Survives 10 µsec pulse @ ±200 V per MIL-STD-461
Reverse Polarity Protection	No damage from application of reversed input bias to -40 V, indefinite period
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#### **MECHANICAL**

Size (excluding connectors)	2.0 in. L x 3.0 in. W x 0.8 in. H
Weight	6 oz., ± 0.5 oz.

#### **ENVIRONMENTAL**

-40 °C to +85 °C
-54 °C to +95 °C
20 g peak, 20 to 2000 Hz, 3 axes
0.1 g2/Hz, 20 to 2000 Hz, 14 grms, 3 axes
200 g peak, ½ ms, ½ sine, 3 axes
100 g, 3 axes
MIL-STD-810 Method 507
Unlimited
IRIG-106 and MIL-STD-461 @ 28 VDC, including CE101, CE102, CE106, CS101, CS114, CS115, CS116, RE102, RS103

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