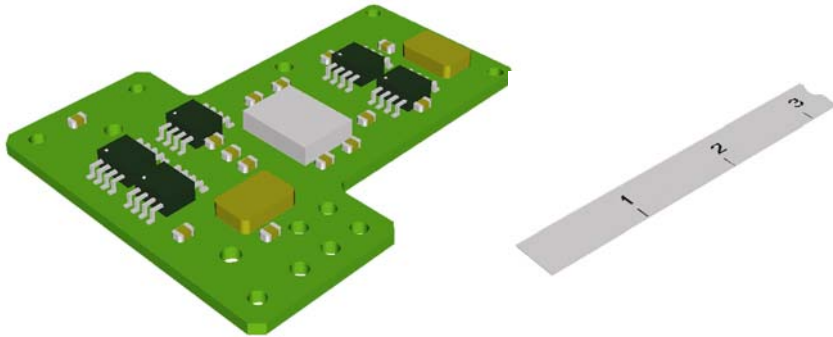
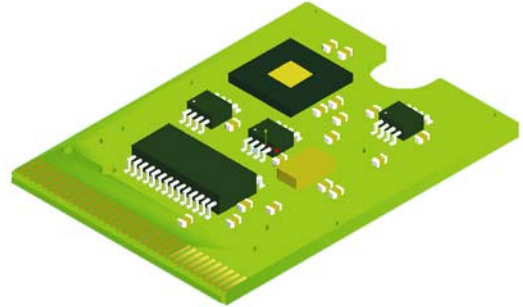


### S-Band Transmitter Module



### PCM Encoder Module



## DESCRIPTION

The Universal Tactical Telemetry System (UTTS) is a modular assembly consisting of Transmitter and PCM Encoder Modules (PC Board assemblies) designed specifically for extremely high shock applications. These applications include, but are not limited to, projectiles, high performance missiles, and in-bore (155 mm cannon and other) telemetry applications. The Transmitter and PCM Encoder modules are mounted in a compartmentalized aluminum housing to provide maximum isolation and EMI protection, and can be operated from a wide variety of power sources from 3.5 to 15 Vdc. The modules are small enough to allow packaging into virtually any type of mechanical system configuration, and in special cases, can be made even smaller through the use of ASIC and Hybrid devices. The versatility of these two basic module assemblies allows considerable latitude in the design and implementation of a Telemetry System for projectile and high environment programs. These components can be used for Test and Instrumentation applications, as Warhead replacement systems for projectile and missile performance evaluation applications, for training, or where a need for a Tactical Telemetry capability is required.

## TRANSMITTER FEATURES

- Minimum Size and Weight
- Available in 0.5 to 2.0 Watts RF Out
- S-Band 2200 to 2400 MHz
- Frequency Agile/Programmable
- Meets IRIG 106 Standards
- 1/2 MHz Steps
- Modulation Input 1 kHz to 10 MHz

## PCM ENCODER FEATURES

- FPGA based
- Minimum Size and Weight
- 1-16 Analog Inputs (Single Ended/Differential)
- 1-24 Discrete Inputs
- 1-2 RS-422/232 Serial Inputs
- I/O via PC Edge or MDM Connector
- Externally Programmable
- 6 Pole Pre Mod Filter



communications

## ELECTRICAL SPECIFICATIONS

### Transmitter – Typical

Power Output:	0.5 – 2.0 Watts
Turn-On time:	Per IRIG 106-01
Frequency Range:	2200 to 2400 MHz
Frequency Selection:	RS232 Std. (RS422 Option)
Frequency Stability:	± 0.002%
Output Impedance:	50 Ohm Nominal
Grounding:	Power/Mod Return to Case
Modulation Type:	True FM
Sense:	Positive
Frequency Response:	1K to 10 MHz ± 1.5 dB**
Deviation Linearity:	2.0% at ± 10 MHz

### PCM Encoder – Typical

Analog Inputs:	8*
Discrete inputs:	16*
Serial Inputs (RS422/232):	1*
Data Rate:	10 Mbps**
Gain:	Programmable
Offset:	Programmable
Programmability:	RS232/RS422
Measurement Accuracy:	± 1%
Over-voltage Protection:	± 15V
Crystal Clock Stability:	± 0.1%

## ENVIRONMENTAL SPECIFICATIONS

Acceleration:	To 15,500 g
Temperature	
Non-Operating:	-40° to + 85°C
Operating:	-20° to + 70°C
Shock (In/Out of container):	MIL-S-901
Vibration (In/Out of container):	MIL-STD-810
Altitude:	100,000 feet
Humidity:	MIL-STD-810
EMI/EMC:	MIL-STD-461
EME/EMV:	Per Cust. Rqmt.

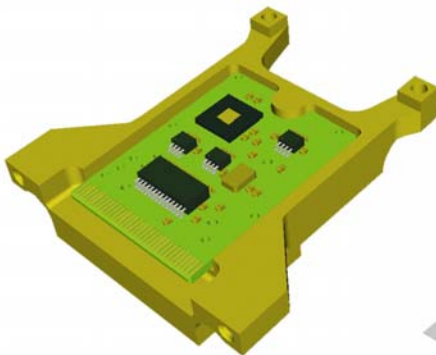
## OPTIONS

User Programmable PCM Encoder Format	
Extended Temperature:	Consult Factory
Mechanical Packaging:	Consult Factory
Different Form Factor:	Consult Factory
Encryption:	Consult Factory
Different Configurations:	Consult Factory
Built In Test (BIT):	Consult Factory

\*For Additional Inputs: Consult Factory

\*\*Extended Frequency/Data Rates Available

**Application**  
**Tactical Telemetry Module (Tac TM)**



**Application**  
**Tactical Telemetry Module (TTM)**

