

Product Bulletin

T402S S-Band Frequency Agile FM Transmitters Airborne Telemetry Products



FEATURES

- Tactical Video/Telemetry Applications
- 3 Cubic Inches
- 4.5 Ounces
- Frequency Agile
- 1/2 MHz Steps
- Meets IRIG Turn-On Time
- Full S-Band

DESCRIPTION

The T402S Series are 3 cubic inch frequency agile transmitters designed for video and high data rate digital modulation requirements while operating in severe aerospace environments such as encountered in missiles, targets and RPV's.

Frequency is selectable in 0.5 MHz steps over an entire band by input of a binary code selected on the included frequency select switch.

A unique PLL control circuit permits 10 Hz modulation response while still meeting IRIG one second turn-on time requirements. Anti-sweep lock detect circuitry prevents RF radiation until the unit has locked on frequency, thereby eliminating the possibility of interference with other RF signals.

RF originates at full frequency rather than a subharmonic of the output frequency, thus eliminating low-order spurious signals. This scheme also minimizes parts counts and enhances the reliability of the transmitters.



communications

SPECIFICATIONS

Output Characteristics

Power Output (min.):	2 watts
Turn-On Time:	Per IRIG 106
Frequency Range:	2200-2400 MHz
Frequency Selection:	Frequency Agile, 1/2 MHz Steps Thru Operating Band.

Frequency Stability:	$\pm 0.002\%$
Output Impedance:	50 ohm nominal
Output Load VSWR:	Isolator Protected

Power Requirements

Voltage:	28 ± 4 VDC
Current (max.):	1.4 Amps
Reverse Polarity:	No Damage From Indefinite Application
Over Voltage:	40 VDC, No damage
Grounding:	Power And Modulation Returns Common To Case

Modulation Characteristics

Type:	True FM
Sense:	Positive
Input Impedance:	Video = 75 ohm, Telemetry = 10K ohm
Frequency Response:	100 Hz to 4 MHz ± 1.5 dB (See Options)
Deviation Sensitivity:	± 4 MHz/Vp-p $\pm 20\%$ for Video and ± 500 kHz/Vrms $\pm 20\%$ for Telemetry
Maximum Deviation:	± 8 MHz
Linearity:	2% BSL at 5 MHz deviation
IFM:	10 kHz Peak
IAM:	5% max.
Modulation Distortion:	2% max. at 5 MHz deviation

Environmental

Temperature	
Non-Operating:	-55°C to +100°C
Operating:	-20°C to +70°C, Baseplate (See Options)
Vibration	
Random:	20-2000 Hz, 14g rms, 3 axes
Sine:	20-2000 Hz, 20g peak, 3 axes
Shock:	100g, 11 msec, 1/2 sine, 3 axes
Acceleration:	100g, 3 axes
Altitude:	Unlimited
Humidity:	95% RH
EMI:	MIL-STD 461 at 28 VDC, IRIG-106 For Antenna Conducted

Mechanical

Volume:	3 cubic inches
Weight:	4.5 oz. max.

Options

Extended Operating Temperature:	-40°C to +85°C
Higher Efficiency:	Consult Factory
Extended Frequency Response:	Consult Factory
Other Modulation Sensitivity:	Consult Factory
Modulation Return Isolation:	Consult Factory
Other Frequency Bands:	Consult Factory

Specify When Ordering:

Modulation Input Impedance:	75 ohm or 10K ohm
Modulation Sensitivity:	Per Customer Requirement
Other Options:	(See Options)

