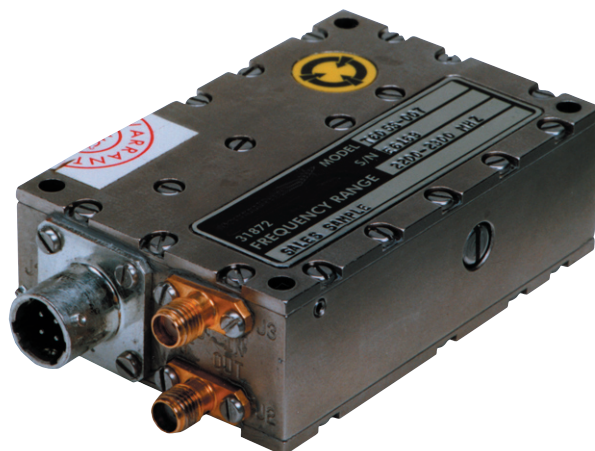


Product Bulletin

T-602/605

L/S Band Frequency Agile FM Transmitters
Airborne Telemetry Products



FEATURES

- Video/Telemetry Applications
- 6 Cubic Inches
- 9 Ounces
- Frequency Agile
- 1/2 MHz Steps
- Meets IRIG Turn-on Time
- Optional CCIR-405 Pre-Emphasis
- L or S Band



communications

DESCRIPTION

The T-602/605 series are 6 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 binary codes from a remote line or by connecting a prewired programming plug to the unit's MDM-15S frequency select connector J4. In addition, an optional DIP switch, integral to the transmitter, can be used for frequency selection. (See Outline Drawings for access locations). An internal PROM translator option enables custom selection codes or BCD thumbwheel inputs without the need for any additional hardware.

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.

The design accommodates the upgrading of all parts to fully hermetic high reliability requirements to meet almost any special program needs.

The T-600 transmitters are available in 2 and 5 watt versions operating in L or S band.

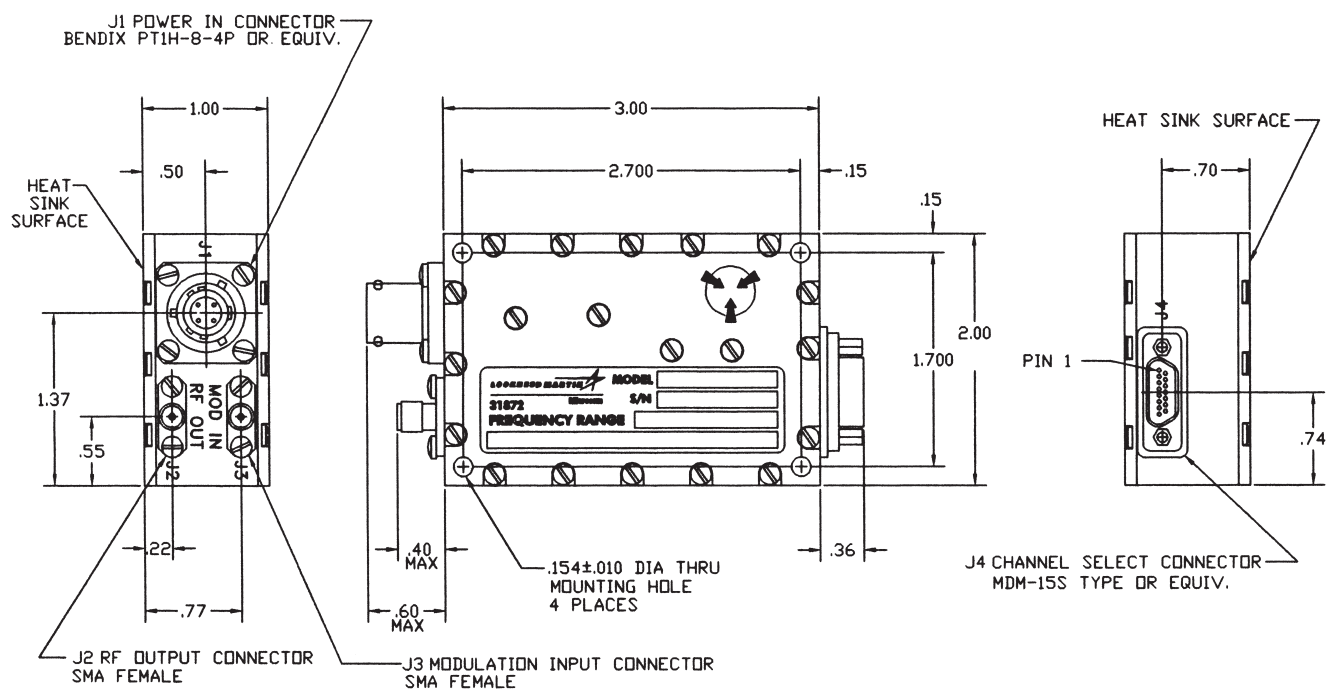
PIN CONNECTIONS

J1	Telemetry (Optional)	Video
A	+28 VDC In	+28 VDC In
B	Mod In	N.C.
C	+28 VDC RTN	+28 VDC RTN
D	MOD RTN (DELETE J3)	N.C.

CHANNEL SELECT CONNECTOR

J4	L-Band	S-Band	High S-Band	Step Size
P1	LSB	LSB	LSB	0.5 MHz
P2	—	—	—	1.0 MHz
P3	—	—	—	2.0 MHz
P4	—	—	—	4.0 MHz
P5	—	—	—	8.0 MHz
P6	—	—	—	16.0 MHz
P7	—	—	—	32.0 MHz
P8	MSB	MSB	MSB	64.0 MHz
P9	N.C.	N.C.	N.C.	128.0 MHz
P10-14	N.C.	N.C.	N.C.	—
P15	GND	GND	GND	—

T-602/605 Outline Drawing



(For units with the optional DIP switch, J4 is replaced with the switch and associated protective cover.)

SPECIFICATIONS

Output Characteristics

Power Output (min.):	T-602, 2 watts; T-605, 5 watts
Turn-on Time:	Per IRIG-106
Frequency Range:	1435.5 - 1535.5 MHz, 2200-2300 MHz, 2310-2390 MHz 2200-2400 MHz
Frequency Selection:	Frequency Agile, 1/2 MHz Steps Thru Operating Band

Frequency Stability:	±0.002%
Output Impedance:	50 ohm nominal
Output Load VSWR:	Isolator Protected

Power Requirements

Voltage:	28 ±4 VDC
Current (max.):	T-602, 1.0 Amp; T-605, 1.8 Amp
Reverse Polarity:	No damage from Indefinite Application
Over Voltage:	40 VDC, 3 minutes
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:	10 Hz to 6 MHz ±1.5 dB (See Options)
Deviation Sensitivity:	User Adjustable, Preset at ±4 MHz/Vp-p ±10% for Video and ±500 kHz/Vrms ±10% 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

Dimensions:	See Outline Drawing
Volume:	6 cubic inches
Weight:	9 oz .max.
Connectors:	See Outline Drawing
Pin Connections:	See Outline Drawing

Options

Extended Operating Temperature:	-40°C to +85°C
Video Pre-Emphasis:	CCIR-405
Higher Efficiency:	Consult Factory
Extended Frequency Response:	12 MHz max.
Other Modulation Sensitivity:	Consult Factory
Modulation Return Isolation:	Consult Factory
Frequency Select (Customer Specify):	
• Internal PROM Translator for BCD Thumbwheel or Custom Codes	
• Prewired Mating Connectors, • DIP Switch	
Modulation Input Connector:	SSMA or Modulation input on J1& deletion of J3

Specify When Ordering:

Model Number:	
T-602L, 2 watt, L-Band = 1435.5 - 1535.5 MHz	
T-602S, 2 watt, S-Band = 2200 - 2300 MHz	
T-602HS, 2 watt, S-Band = 2310 - 2390 MHz	
T-605L, 5 watt, L-Band = 1435.5 - 1535.5 MHz	
T-605S, 5 watt, S-Band = 2200 - 2300 MHz	
T-605HS, 5 watt, S-Band = 2310 - 2390 MHz	
T-605S-200, 5 watt, S-Band = 2200-2400 MHz	

Frequency Selection:	See Options
Modulation Input Impedance:	75 ohm or 10k ohm
Modulation Sensitivity:	Per Customer Requirement

