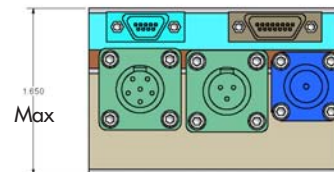
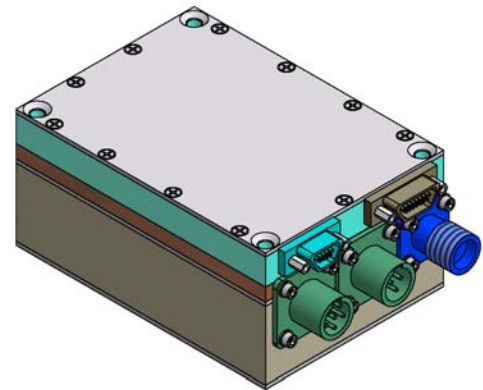
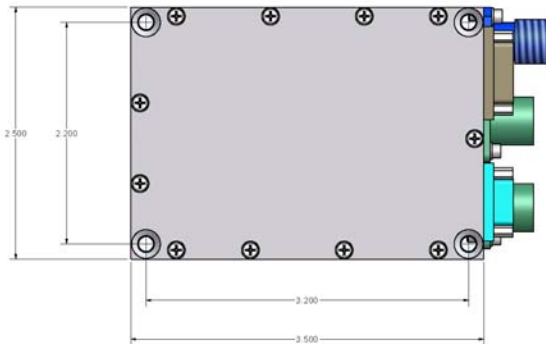


Hypermod™ MMT28-14 Transmitter - 14

2.5" x 3.5" x 1.62" Maximum Height
 10 watt, S-band
 10 watt, Upper L-band
 10 watt, Lower L-band
 Low power versions available

Model: HM-MMT28-14

- ▼ Uniquely capable of transmitting legacy and more efficient waveforms:
 ARTM Tier II (Multi-h CPM), Tier I (SOQPSK), & Tier 0 (PCM/FM)
- ▼ 3x data capacity versus legacy transmitters - up to 27.8 Mbps
- ▼ Spectral mask meets or exceeds IRIG 106 telemetry standards
- ▼ Forward Error Correction (FEC) adds 4-8 dB of link margin
- ▼ No external premodulation filter required



Parameter	Specifications
RF Output	
Carrier frequency	2200.5 to 2394.5 MHz (S-band), 1750 to 1850 MHz (Upper L-band) or 1435.5 to 1534.5 MHz (Lower L-band) in 0.5 MHz steps
Carrier stability	Within +/- 20 PPM over operating temperature range
Output power	10 W, incident, into VSWR < 2:1, any phase angle, TNC
Impedance	50 ohms (nominal)
Load VSWR	No damage, any load VSWR and phase angle
Harmonic & spurious level	In accordance with latest IRIG specifications
Turn-on time	RF output within 3 dB of rated output within 500 msec, full operation within 1 sec for SOQPSK-TG
Spectral masks	PCM/FM: per IRIG 106 spectral mask (Tier 0) SOQPSK-TG: per IRIG 106 spectral mask (Tier 1) - (twice the spectral efficiency of PCM/FM) Multi-h CPM: per ARTM spectral mask (Tier 2) - (three times the spectral efficiency of PCM/FM)
FEC Encoder	Adds 4-8 dB of link margin with the Hypermod demodulator. Turbo Product Coding block size [32, 26]; [64, 57]; and [128, 120]
Data and Control	
Data & clock levels	Single-ended TTL (Differential RS-422 optional), (Clock-free option available for legacy installations)
Bit rate	PCM/FM: 50 kbps to 13.9 Mbps SOQPSK: 50 kbps to 27.8 Mbps Multi-h CPM: 50 kbps to 27.8 Mbps
Pre-mod filter	Internal premodulation filter, 6 pole bessel with 3 dB cutoff, automatically scales with bit rate
Input impedance	Data & Clock: Single-ended TTL: 50 ohms, Differential RS-422: 100 ohms Control: TTL: 10 kohm to +5 VDC
Connectors	Mode control and RS-232 control: MDM-9, sockets Parallel frequency select: MDM-15, sockets Clock and data: MIL-STD-2747, 6 pins
Power	
Input voltage	MIL-STD-704E voltage range; reverse polarity protected
Input current	3.0A (maximum)
Connector	MIL-C-38999J, series II, 3 pins
Environmental	
Baseplate temperature	Operating: -40° C to +85° C; Storage: -55° C to +110° C
Vibration	Operating: 0.05 g ² /Hz, 20~100 Hz, 0.125 g ² /Hz 200~2000 Hz
Shock /Acceleration	Operating: 20 g, 6~9 msec, 3 axes; Storage: MIL-STD-810E, method 514.4; 100 Gs, 3 axes
Altitude	Sea level to 80,000 feet MSL
Humidity	5% to 95% (non-condensing)
Mechanical	
Dimensions	2.50" x 3.50" x 1.65" maximum, exclusive of connectors
Weight	18 oz. (maximum)

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