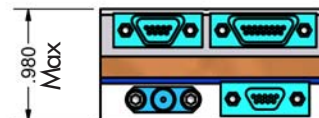
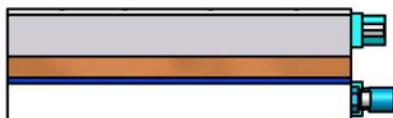
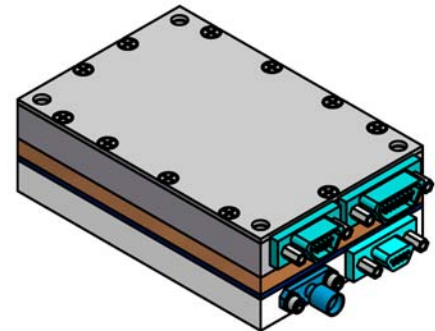
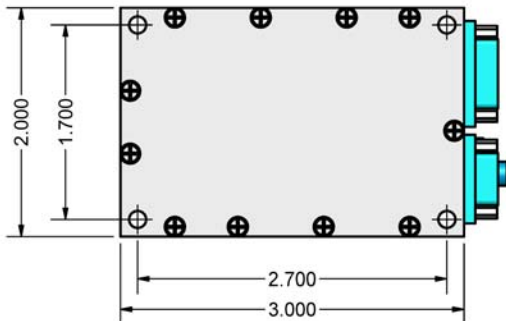
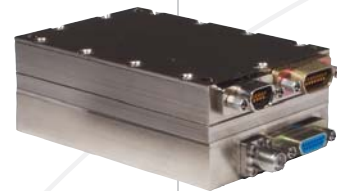


Hypermod™ MMT28-6 Transmitter - 6 cubic inch

2.0" x 3.0" x 0.98" Maximum Height
 10 watt, S-band
 5 watt, S-band
 Low power, S-band
 Low current versions available

Model: HM-MMT28-6

- ▼ 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) in 0.5 MHz steps
Carrier stability	Within +/- 20 PPM over operating temperature range
RF output	5 W or 10W incident minimum, into VSWR < 2:1, any phase angle, SMA jack
Impedance	50 ohms (nominal)
Load VSWR	No damage, any load VSWR and phase angle
Harmonic & spurious level	In accordance with latest MIL-STD 461
Turn-on time	RF output within 3 dB of rated output within 500 msec, full operation within 1 sec
Spectral masks	PCM/FM: per IRIG 106 spectral mask 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 Hypermod demodulator. Turbo Product Coding block size [32, 26]; [64, 57]; and [128, 120] in future models
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, clock and data, and RS-232 control: MDM-9, sockets Parallel frequency select: MDM-15, sockets
Power	
Input voltage	+22 to +34 V; reverse polarity protected
Input current	1.75 A typical at 5 watts (1.5 A optional), 2.5 A typical at 10 watts output power
Connector	MDM-9, sockets
Environmental	
Baseplate temperature	Operating: -20° C to +71° C (+85° C optional); Storage: -54° C to +125° C
Vibration	Random operating: 0.1 g ² /Hz, 20 Hz to 2000 Hz, 14 grms, 3 axes Sinusoidal operating: 20 g peak, 20 Hz to 2000 Hz, 3 axes
Shock	Operating: 100 g peak, 11 msec, 3 axes; Storage: MIL-STD-810E, method 514.4
Altitude	Unlimited
Humidity	95% (MIL-STD-810E, method 507)
Mechanical	
Dimensions	2.00" x 3.00" x 0.98" maximum, exclusive of connectors
Weight	8 oz. maximum

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