

C-band TX Tuning Statement.txt

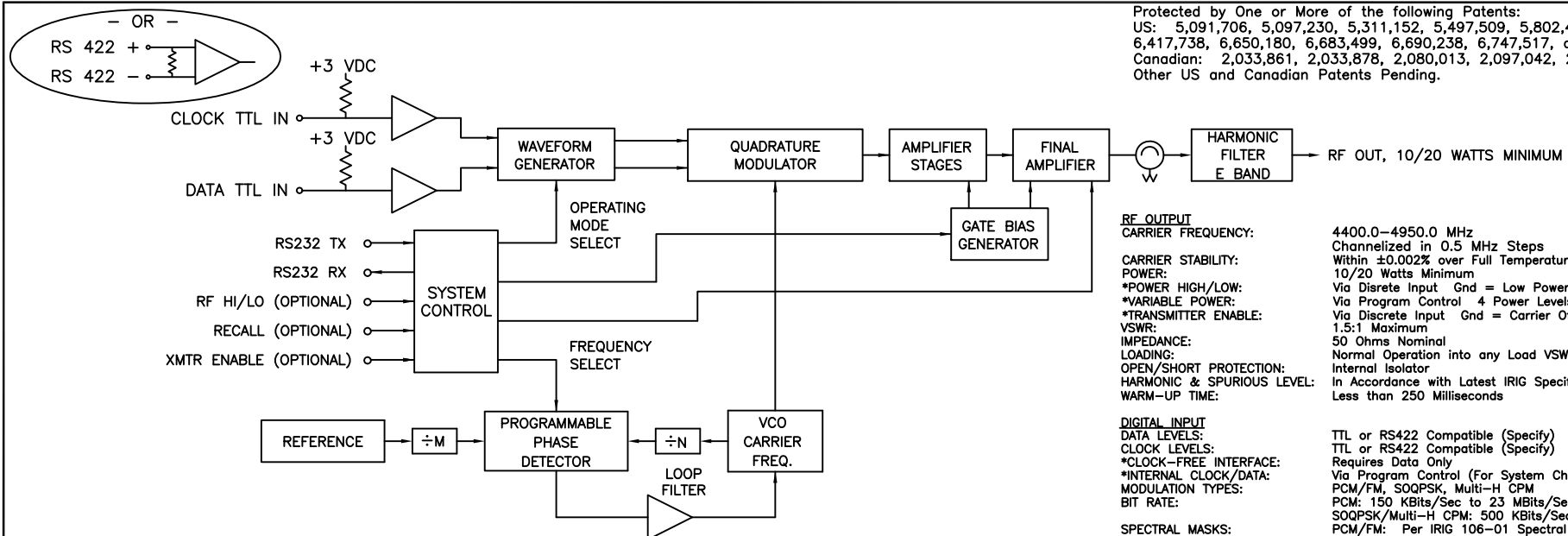
Current data sheet for transmitter and amplifier do not reflect the actual proposed frequency band of 4800 - 5250 MHz but those COTS products will be tuned to cover that frequency range without any hardware change / development.

Multi-Mode Transmitter Model ESTI-09G1 Series

9 Cubic Inches 10 or 20 Watts

DC Coupled Channelized 4400.0 to 4950.0 MHz 28 VDC

Protected by One or More of the following Patents:
 US: 5,091,706, 5,097,230, 5,311,152, 5,497,509, 5,802,462, 6,404,292, 6,411,237,
 6,417,738, 6,650,180, 6,683,499, 6,690,238, 6,747,517, and 6,771,133.
 Canadian: 2,033,861, 2,033,878, 2,080,013, 2,097,042, 2,235,091, and 2,308,209.
 Other US and Canadian Patents Pending.



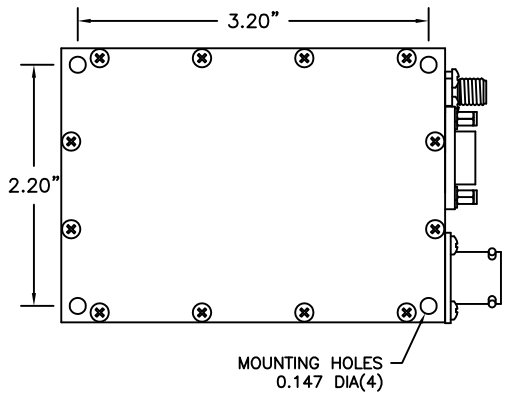
RF OUTPUT
 CARRIER FREQUENCY: 4400.0-4950.0 MHz
 Channelized in 0.5 MHz Steps
 CARRIER STABILITY: Within ±0.002% over Full Temperature Range
 POWER: 10/20 Watts Minimum
 *POWER HIGH/LOW: Via Discrete Input Gnd = Low Power; Open = High Power
 *VARIABLE POWER: Via Program Control 4 Power Levels
 *TRANSMITTER ENABLE: Via Discrete Input Gnd = Carrier Off; Open = Carrier On
 VSWR: 1.5:1 Maximum
 IMPEDANCE: 50 Ohms Nominal
 LOADING: Normal Operation into any Load VSWR and Phase Angle
 OPEN/SHORT PROTECTION: Internal Isolator
 HARMONIC & SPURIOUS LEVEL: In Accordance with Latest IRIG Specifications
 WARM-UP TIME: Less than 250 Milliseconds

DIGITAL INPUT
 DATA LEVELS: TTL or RS422 Compatible (Specify)
 CLOCK LEVELS: TTL or RS422 Compatible (Specify)
 *CLOCK-FREE INTERFACE: Requires Data Only
 *INTERNAL CLOCK/DATA: Via Program Control (For System Checkout Purposes)
 MODULATION TYPES: PCM/FM, SOQPSK, Multi-H CPM
 BIT RATE: PCM: 150 KBits/Sec to 23 MBits/Sec
 SOQPSK/Multi-H CPM: 500 KBits/Sec to 40 MBits/Sec
 SPECTRAL MASKS: PCM/FM: Per IRIG 106-01 Spectral Mask for PCM/FM (Tier 0)
 Deviation: ±0.35 x Bit Rate
 Conditioning: 6 Pole Bessel Digital Filter at 0.7 x Bit Rate
 SOQPSK: Per IRIG 106-01 Quaternary Spectral Mask (Tier 1)
 MULTI-H CPM: Per ARTM Spectral Mask (Tier 2)
 Low Density Parity Check (LDPC)
 IAW IRIG 106-07
 Returns All Variables to Factory Settings

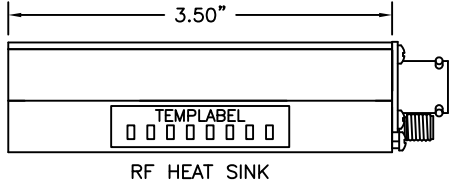
POWER REQUIREMENTS
 INPUT VOLTAGE: +21 to +36 VDC; Reverse Polarity Protected
 INPUT OVERVOLTAGE: +40 VDC for 30 Seconds with No Damage
 INPUT CURRENT @ +28 VDC: 10 Watts 20 Watts
 1.8 Amps Maximum 2.7 Amps Maximum

ENVIRONMENTAL SPECIFICATIONS
 TEMPERATURE: Operating: -20°C to +70°C; Storage: -54°C to +125°C
 Extended Temperature Ranges Available
 -50°C to +100°C
 VIBRATION: 14 G's, Random, Standard Haystack, 20 Hz to 2 KHz, 3 Axes
 SHOCK: 1/2 Sine, 100 G's Pk, 11 mS, 3 Axes
 ACCELERATION: 100 G's, 3 Axes
 ALTITUDE: Unlimited
 HUMIDITY: To 95% at any Temperature forming Frost or Condensation

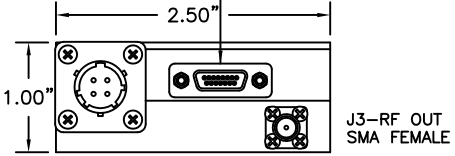
PHYSICAL CHARACTERISTICS
 DIMENSIONS: Per Outline Drawing
 WEIGHT: 12 oz. Maximum
 *OPTIONAL: See Model Builder Excel Sheet



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| J1-PWR/DIGITAL IN
ALTERNATE TTL PINOUT
MDM-15P | J1-PWR/DIGITAL IN
ALTERNATE 422 PINOUT
MDM-15S |
| PIN # 1: SERIAL CONTROL REPLY | PIN # 1: N/C |
| 2: RF ON/OFF | 2: POWER GND |
| 3: SERIAL CONTROL GND | 3: RF HIGH/LOW |
| 4: TTL DATA | 4: +RS422 CLOCK |
| 5: TTL CLOCK | 5: +RS422 DATA |
| 6: RF HIGH/LOW | 6: SERIAL CONTROL GND |
| 7: PWR GND | 7: RF ON/OFF |
| 8: N/C | 8: SERIAL CONTROL REPLY |
| 9: SERIAL CONTROL INPUT | 9: N/C |
| 10: RECALL | 10: POWER GND |
| 11: N/C | 11: N/C |
| 12: N/C | 12: -RS422 CLOCK |
| 13: N/C | 13: -RS422 DATA |
| 14: POWER GND | 14: RECALL |
| 15: N/C | 15: SERIAL CONTROL INPUT |



- J2-POWER INPUT
 'A' +28 VDC
 'B' N/C
 'C' GROUND
 'D' GROUND
 #PT02H-8-4P



DATE	16 02 12		EMHISER RESEARCH, INC. 2705 OLD HIGHWAY 40 WEST TEL: 775-345-2705 P.O. BOX 189 VERDI, NEVADA FAX: 775-345-2484 89439-0189 U.S.A. EMAIL: INFO@EMHISER.COM
DWN	L3		
APVD		MULTI-MODE TRANSMITTER, 10/20 WATTS CHANNELIZED 4400.0 TO 4950.0 MHZ	
QC			
CAGE CODE IDENT NO.	60666	MODEL NO. ESTI-09G1-SERIES	