

FLIGHT TERMINATION RECEIVER/DECODER

MODEL HFTR120-2



SUPPLYING HIGH PERFORMANCE FLIGHT INSTRUMENTATION, RF/MICROWAVE ASSEMBLIES, POWER AMPLIFIERS, IFF AND DATA ACQUISITION SYSTEMS FOR SEVERE ENVIRONMENTS.

DESCRIPTION

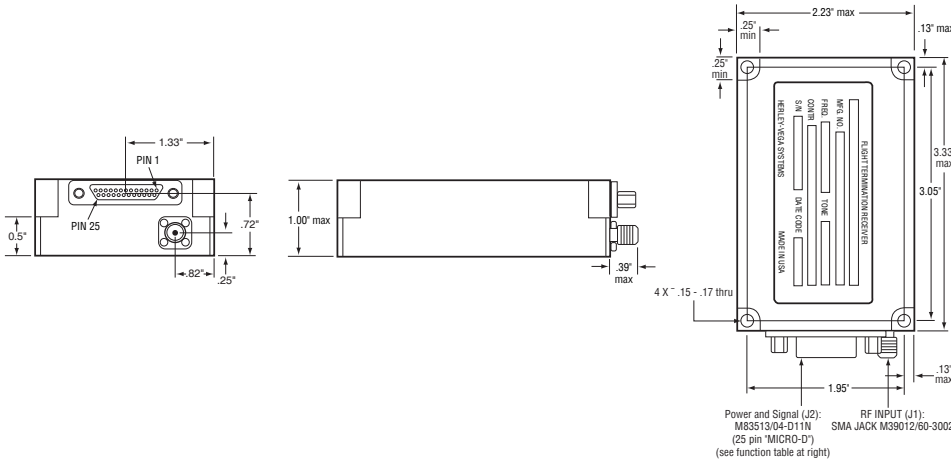
The HFTR120-2 Flight Termination Receiver/Decoder is a three (3) simultaneous channel unit designed for missile and target applications. This unit is compact, and desirable for usage where size and weight are important considerations. The HFTR120-2 is a single-conversion receiver, with phase-locked loop tone decoders and advanced phase lock loop local oscillator. It is designed to the requirements of both RCC313-94 and RCC319-92 documents.

The design of the HFTR120-2 employs the latest in devices, circuitry, and modern production processes to provide a reliable product with extremely long operating life. This unit is intended for programs and applications with stringent environmental, EMI, and reliability requirements.

FEATURES

- Covers full 406 to 450 MHz band
- 3 simultaneous decoder channels
- All solid-state design
- Over 3 Amp dc, 10 Amp pulsed output current capability
- High sensitivity receiver
- Small, less than 7.4 cubic inches (18.9 cubic cms)
- Lightweight, less than 8 ounces (229 grms)
- No RF/IF tuning elements
- Standard range safety logic
- Reverse polarity power protection





Pin	Function
1	+28 Vdc
2	No Connection
3	Power Return
4	TERMINATE Return
5	MONITOR Return
6	ARM Return/Failsafe Enable (FSE)
7	No Connection
8	TERMINATE Command
9	No Connection
10	OPTIONAL Command
11	No Connection
12	Tone C Monitor
13	Case Ground
14	+28 Vdc Power
15	No Connection
16	Tone B Monitor
17	Tone A Monitor
18	OPTIONAL Return
19	No Connection
20	TERMINATE Command
21	No Connection
22	MONITOR Command
23	ARM Command
24	Signal Strength Telemetry
25	Signal Strength Return

ELECTRICAL

- Reverse Polarity Protection: Built-in
- Input Voltage: +22 to +36 Vdc
- Input Current: 210 mA max. at 22 Vdc, 140 mA max. at 36 Vdc
- Output Leakage Current: 50 microAmps maximum
- RFI/EMI: Meets MIL-STD-461C for antenna, power and signal leads for category A1a receivers. Tests, CE03, CE06, CE07, CS01, CS02, CS03, CS04, CS05, CS06, RE02, RS02, and RS03
- Telemetry Outputs: Signal strength, tone monitors
- Tone Monitor Outputs: Activated 4.0Vdc ±1.0Vdc into 10k Ohms, Unactivated 0.5Vdc maximum
- Signal Strength Monitor Output: No RF 0.5Vdc ±0.25Vdc monotonically increases to 4.5Vdc minimum at -50dBm input, max output voltage is 4.75Vdc ±0.25Vdc
- Command Outputs: 4 solid-state outputs
- Output Currents: ARM, MONITOR, OPTIONAL: 1 Amp dc, 5 Amp 10 msec pulse; TERMINATE: 3 Amp dc, 10 Amp 10 msec pulse
- Isolated Returns: Signal strength output isolated from DC return and chassis ground

PHYSICAL

- Size: 3.3 x 2.2 x 1.0 inches (8.4 x 5.9 x 2.5 cms), less connectors
- Volume: 7.4 cubic inches (18.9 cubic cms)
- Weight: 8 ounces (229 grms) maximum
- Antenna Connector (J1): RF input SMA, female M39012/60
- Power and Signal Connector (J2): 25-pin MICR-O-D socket M83513/04-D11N

RECEIVER

- Frequency Range: 406 to 450 MHz (factory preset to customer specified frequency)
- Impedance: 50 ohms nominal
- VSWR: Less than 2:1
- Design: Single conversion super-heterodyne
- Sensitivity: 1 µV (-107 dBm) to 0.36 µV (-116 dBm)
- Frequency Band: 406 to 450 MHz
- Frequency Tuning: Synthesized local oscillator
- Frequency Accuracy: 0.005%
- Dynamic Range: -107 dBm to +13 dBm
- Operating Bandwidth: ±45 kHz minimum

RECEIVER (CONTINUED)

- IF Bandwidth: 3 dB @ ±90 kHz minimum
- Selectivity: 60 dB @ ±180 kHz maximum
- Image Rejection: Greater than 60 dB
- Response Time: 15 msec. nominal, 25 msec maximum
- Capture Ratio: Greater than 0.8
- AM Rejection: 100 µV with 100% AM rejected
- Spurious Response Rejection: 60 dB, 10 to 1000 MHz, max

DECODER

- Frequency Deviation: ±30 kHz per tone, nominal
- Number of Channels: 9
- Simultaneous Usable Tones: 3
- Tone Channel Bandwidth: ±1% min. at 2 dB, ±4% min. at 14 dB
- Adjacent Channel Rejection: Adjacent ±50 kHz tones rejected
- Decoder Threshold Deviation: ±12 kHz, nominal

ENVIRONMENTAL

- Vibration Random: 0.1 g²/Hz (12 g's rms) standard
- Temperature, Operating: -40°C to +71°C standard
- Temperature, Storage: -62°C to +95°C
- Shock: 100 g's, 11 msecs, and 1100g, 0.5 msec, half-sine
- Altitude: Unlimited
- Humidity: To 100%
- Acceleration: 50 g's
- Extended Tests: Salt fog, dust (fine sand), explosive atmosphere

OPTIONS

- Operating Temperature to -54°C and +85°C
- Vibration to 32 g's rms with various G²/Hz profiles
- Failsafe Options: No failsafe, STD failsafe (STD failsafe: Loss of Tone A (8 ±2 sec standard) (Low voltage sense: 23.0Vdc ±1Vdc)
- Common Returns: Signal strength return tied to DC return
- All Returns Connected to Chassis

PRODUCT NUMBERS

- P/N 570104-xxx - (see below for ordering options)
- P/N 570304-xxx - (gun hardened for high shock environments)



making a difference

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