

FLIGHT TERMINATION RECEIVER/DECODER

MODEL HFTR60-2HC



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

DESCRIPTION

Ultra Electronics Herley HFTR60-2HC High Control Flight Termination Receiver/Decoder is a three (3) or four (4) tone unit designed for missile and target applications. This unit is compact, and desirable for usage where size and weight are important considerations. The HFTR60-2HC is a single-conversion receiver designed to the requirements of both RCC319-07 and RCC313-01 documents. The design of the HFTR60-2HC 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

- RCC 319-07 Compliant
- MDA-QS-003 Mission Assurance Compliance
- MDA JESD22-A108 IC Qual Criteria Compliance
- 3 or 4 Tone Decoder Operation
- Over 2 Amp dc, 7.5 Amp pulsed command output current capability
- Solid State circuit design
- No RF/IF tuning elements
- Small, less than 3.7 cubic inches
- Lightweight, less than 5 ounces
- Standard range safety command logic
- Reverse polarity power protection
- Telemetry output protection
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- Telemetry output protection

OPTIONS

- Front End RF Limiter
- No Failsafe, STD Failsafe, Commanded Failsafe
- A&D Enable, C&D Disable (std), B&D Disable (opt)
- Operating Temperature to -54° and +85°
- Common Returns: Signal strength and command returns
- All Returns Connected to Chassis
- Audio Output: 7kHz to 32kHz, 155mV to 310mV RMS

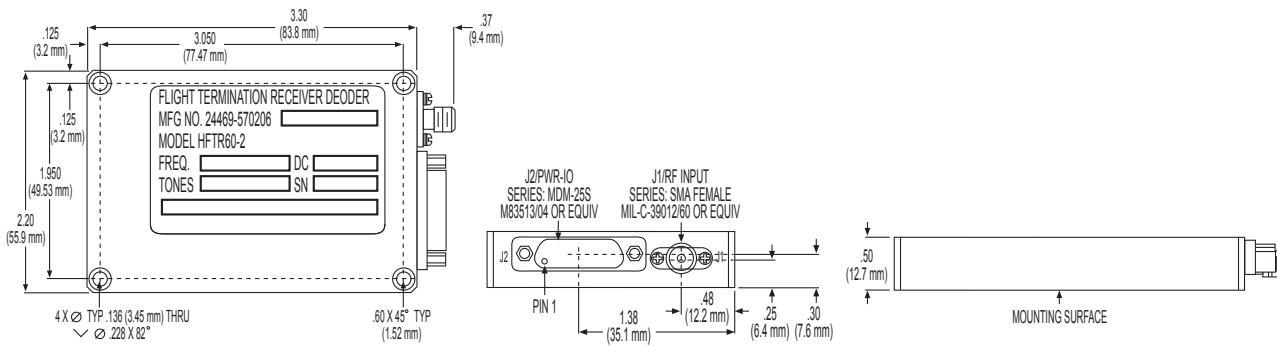


Due to U.S. Export Control Reform Ultra Electronics Herley Lancaster's Radar Transponders have transitioned from ITAR to Department of Commerce Export Administration Regulations (EAR) making them ITAR-free!



HERLEY

Ultra
ELECTRONICS



Pin	Function
1	DC Input Voltage
2	DC Return
3	DC Return
4	Command Return
5	Command Return
6	Failsafe Enable (FSE)
7	Failsafe Input
8	TERMINATE Command
9	Audio Output (optional)
10	OPTIONAL Command
11	Low Voltage Sense (Input)
12	Tone C Monitor
13	Case Ground
14	DC Input Voltage
15	Failsafe Telemetry
16	Tone B Monitor
17	Tone A Monitor
18	Command Return
19	Failsafe Output
20	TERMINATE Command
21	Tone D Monitor
22	MONITOR Command
23	ARM Command
24	Signal Strength Telemetry
25	Signal Strength TM Return

ELECTRICAL

- Frequency Range: 406 to 450 MHz (factory preset to customer specified frequency)
- Impedance: 50 ohms nominal
- VSWR: Less than 2:1
- Reverse Polarity Protection: Built-in
- DC Input Voltage: +22 to +36 Vdc, ±45Vdc over voltage protected
- Input Current: 120 mA max.
- Low Voltage Sense: isolated input
- Telemetry Outputs: signal strength, 3 or 4 tone monitors, failsafe, ±45 Vdc over voltage protected
- Command Outputs: 4 solid-state outputs
- Command Outputs, Voltage Drop Under Load: Terminate, ARM, MONITOR, OPTIONAL: 2 Vdc maximum at 1 AMP 3.5Vdc maximum at 2 AMPS TERMINATE: 4Vdc maximum at 7.5 AMPS, 100 msec
- Output Leakage Current: 50 microAMPS maximum
- Isolated Returns: Signal strength output isolated from DC return and chassis ground
- RFI/EMI: Meets MIL-STD-461E, tests; CE102, CE106, CS101, CS103, CS104, CS105, CS114, CS115, CS116, RE102 AND RS103

PHYSICAL

- Size: 3.3 X 2.2 X .5 INCHES (8.4 X 5.6 X 1.3 CM), less connectors
- Weight: 5 ounces maximum
- Antenna Connector (J1): RF input SMA
- Power and Signal Connector (J2): 25-pin micro-D socket M83513/04-D05N

ENVIRONMENTAL

- Random Vibration (ATP): 0.04 g/2 Hz (6.1 grms)
- Random Vibration (Qual): 36.6 grms
- Temperature, Operating (ATP): -40°C TO +71°C standard
- Temperature, Operating (Qual): -54°C TO +85°C
- Temperature, Storage (Qual): -62°C TO +95°C
- Shock (Qual): 100 g'S, 11 msec, and 1100g, 0.5 msec, half-sine
- Pyrotechnic Shock (Qual): 9500 g'S peak
- Altitude (Qual): unlimited
- Humidity (Qual): 95%
- Acceleration (Qual): Up to 120 g'S

RECEIVER

- Design: Single conversion super-heterodyne
- Sensitivity: -107 to -116 dBm
- Frequency Band: 406 to 450 MHz
- Frequency Tuning: Synthesized local oscillator
- Tuning Accuracy: 0.005%
- Dynamic Range: -107 dBm to +13 dBm
- Operating Bandwidth: ±45 kHz minimum
- IF Bandwidth: 3dB @ ±90 kHz minimum
- Selectivity: 60 dB @ ±180 kHz maximum
- Image Rejection: Greater than 60 dB
- Capture Ratio: Greater than 0.8
- AM Rejection: 100% at 100µV input
- Frequency Deviation: ±30 kHz per tone, nominal
- Signal Strength Monitor Output: No RF 0.5Vdc ± 0.25Vdc monotonically increases to 4.5Vdc minimum at -60 to -50dBm input. Maximum voltage 4.75Vdc ± 0.25Vdc.

DECODER

- Command Response Time: 4 to 25 msec (5 msec typical)
- Number of Tone Decoders: 3 or 4
- Simultaneous Usable Tones: 3 or 4
- Tone Monitor Outputs (into 10k Ohm): Activated 4.5Vdc ±0.5Vdc, Unactivated 0.0Vdc ±0.5 Vdc
- Tone Decoder Bandwidth: ±1% minimum at 2dB, ±4% max at 14 dB
- Adjacent Tone Rejection: Rejects simultaneous adjacent tones at up to ±50 kHz deviation
- Decoder Threshold Deviation: ±12 kHz, typical
- Power Dropout Recovery: 50 msec power dropout, Command, FS Enable restore
- Failsafe: Loss of Tone A (8 sec ±2 sec - typical)
- Low Voltage Failsafe Sense: 23.0Vdc +/-0.5dc (typical)
- Failsafe: RCC319-07, Dual receiver cross strap operation compliant

PRODUCT NUMBERS

- P/N 570206-XXX



making a difference

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