



L3HARRIS™
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AIRBORNE FLIGHT TERMINATION RECEIVER (AFTR-925)

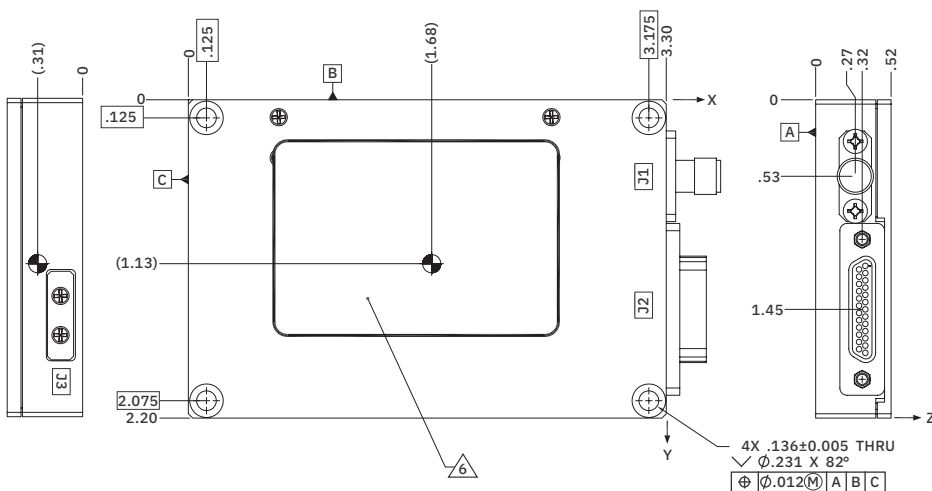
Ideally suited for missiles, targets, launch vehicles, drones and UAV programs

L3Harris' AFTR-925 is a miniature, state-of-the-art receiver/decoder that features three- or four-channel tone logic and redundant failsafe circuitry. It is designed to be upgradeable to support enhanced digital logic.

The AFTR-925 is a small (4.5 cubic inch), lightweight (5 ounce) receiver consistent with today's missile programs that require smaller, lighter-weight components. This is accomplished with modern component technology and packaging techniques, while retaining the highly reliable functional and environmental integrity of previous designs.

The AFTR-925 is an industry standard that can be easily upgraded to an enhanced flight termination receiver (EFTR-925) with minimal effort and no impact to form or fit.

The AFTR-925 is an evolutionary design based on 33 years of range-safety experience and meets the design and test requirements of both IRIG 313-01 and RCC 319-14 documents.



KEY FEATURES

- > Factory programmable (receive frequency, three or four tone operation, tone frequencies); field re-programmability for these characteristics
- > Digital radio which manages analog tones
- > No RF/IF tunable elements
- > All-solid-state design
- > Failsafe operation (redundant cross-strapping)
- > RCC 319-14 compliant (Standard: RCC 319-14 stress and derating compliant; Optional: RCC 319-14 parts program compliant)

SPECIFICATIONS

RECEIVER/COMMAND DECODER

Tuning range	406 to 450 MHz; the center frequency is crystal-controlled $\pm 0.005\%$
Operating temperature	-44°C to +75°C maximum
Input impedance	50 Ω nominal with a maximum voltage standing wave ratio (VSWR) of 2:1
Dynamic range	With standard modulation, range is 1 mV to 1 Vrms (-107 to +13 dBm)
Threshold sensitivity	-116 dBm to -107 dBm with standard modulation of ± 30 kHz per tone
Modulation	Demodulates up to four simultaneous tones at 30 kHz nominal peak frequency deviation
Operating bandwidth	All command functions operate at RF signal levels from 1 mV to 1 Vrms over an operating bandwidth of ± 45 kHz
Intermediate frequency (IF) bandwidth	Greater than 180 kHz nominal peak frequency deviation
Image, spurious responses	All greater than 60 dB down from the threshold sensitivity (-110 dBm typical) over the band of 10 MHz to 1.0 GHz
Tone channel command response time	The response time, after application of response time modulation to any command output, is less than 25 ms and greater than 4 ms
Decoder deviation sensitivity	Command outputs are obtained from sensitivity carrier deviations between 27 kHz and 33 kHz peak per tone; tone decoder threshold settings are between 10 kHz and 18 kHz peak
Noise immunity	Decoder noise margin is >12 dB Single Point Mode
Failure	No Terminate or Arm command is produced if any one component fails during unit operation
Input voltage	All requirements are satisfied with an input voltage range of 22 to 36 VDC; no damage with over voltage as high as 45 VDC
Input current	150 mA maximum in standby and command mode operation
Isolation	The unit has a minimum of 1M Ω Isolation resistance between: <ul style="list-style-type: none"> • Case and primary power return • Case and command outputs • Case and telemetry
Reverse polarity protection	No damage or permanent deterioration of performance from indefinite application of reversed input power polarity
Failsafe option	When the receiver/decoder is failsafe enabled, a terminate command output is produced under the conditions: <ul style="list-style-type: none"> • Loss of carrier/tone A for 8 ± 2 seconds or specify time between 1.5 & 10 seconds • Power drops to 23 ± 1 VDC
Failsafe enable pulse	4.5 ± 0.5 VDC for 18 milliseconds minimum

ENVIRONMENTAL (QUALIFICATION TEST LEVELS)

Electromagnetic interference (EMI)	Per MIL-STD-461F
Qualification temperature	Qualified to RCC 319-14 levels
Humidity	0 to 97%; relative
Shock	Exceeds RCC 319-14 levels
Random vibration	Full spectrum up to 71.4 Grms
Acceleration	125 Gs, 3 axes
Altitude/temperature	250,000 ft. at -40°C
Derating	MIL-STD-975 is used as a guideline for derating of all components
Pressure	30 lb./in ² for 30 minutes

MECHANICAL

Dimensions	4.5 cu. in.
Weight	5 oz. maximum

Airborne Flight Termination Receiver (AFTR-925)

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Nonexport-controlled Information

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