MARITIME PATROL AIRCRAFT AND SHIPBOARD MULTI-CHANNEL SONOBUOY RECEIVER
AN/ARR 502B

SHIPBOARD AND FIXED WING MARITIME PATROL AIRCRAFT

The AN/ARR-502B Multi-Channel Sonobuoy Receiver System is Flightline Systems’ original 502 style Sonobuoy Receiver. This Receiver, designed to satisfy the requirements of both current and future Fixed-Wing Maritime Patrol Aircraft and shipboard use, offers excellent RF and acoustic performance.

World-class Receiver - a 16 acoustic channel receiver
• Excellent reception of very weak signals
• Direction Finding/Sonobuoy Positioning System

FLEXIBLE, POWERFUL TECHNOLOGY

• Internal acoustic processor
• Acoustic Test Signal Generator (ATSG), On Top Positioning Indicator (OTPI) support
• AM demodulation
• Sonobuoy compatibility: DIFAR, LOFAR, RANGER, BT, CASS, DICASS, VLAD, CAMBS, BARRA, ERAPS, HLA, ATAC, HIDAR, etc.
KEY CHARACTERISTICS

- Standard 99 RF channels (495 subchannels supported)
- 16 simultaneous acoustic channels with any mix of analog or digital sonobuoys
- Noise figure: 5 dB
- Base frequency range: 136 MHz - 174 MHz
- Accommodates RF signals over the range of –113 dBm to –7 dBm
- Voltage standing wave ratio (VSWR) doesn’t exceed 2.0:1 over the base frequency range
- D73 dB third order inter-modulation
- FM receiver sensitivity: A minimum signal-plus-noise/noise ratio of 12 dB at a 0.5 μV input level, of 20 dB at a 1.0 μV input level
- AM immunity: progressive AGC with programmable time constants for improved multipath immunity
- Audio Distortion is < 1% from 2 Hz to 5 kHz, and <3% from 5 kHz to 50 kHz for input levels of 10 to 100,000 μV
- Interference rejection: Greater than 125 dB out of band; Greater than 80 dB in band
- Sonobuoy compatibility: DIFAR, LOFAR, RANGER, BT, CASS, DICASS, VLAD, CAMBS, BARRA, ERAPS, HLA, ATAC, HIDAR, etc.
- RS-422 data bus. optional 1553 or ethernet control interface
- RF Scan (clear channel for RFI mitigation)
- Input Power: 115 VAC 400Hz 3 Phase WYE
- Power Consumption: ~ 220W

SUPPORTABILITY

- Comprehensive built-in-test (BIT) provides Go/No Go indication, system maintenance, and fault isolation capability
- No special test equipment required

GENERAL CHARACTERISTICS

- Extended acoustic base band frequency response yields superior low frequency response and outstanding infrasonic performance
- Provides the best bearing accuracy for multiplexed sonobuoys and best data error rate for digital sonobuoys
- High resolution, self-calibrating signal strength indication
- Resistance to microphony: Excellent
- Internal acoustic pre-amplifier
- Exceptional EMI/EMC performance
- High resolution local oscillator tuning to optimize performance with off-tuned sonobuoys and for operating in a countermeasure environment
- Internal forced-air systems cooling, no external cooling systems required

PHYSICAL CHARACTERISTICS

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<tbody>
<tr>
<td>WEIGHT</td>
<td>&lt; 51.0 LBS (&lt; 23 KG)</td>
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<tr>
<td>LENGTH</td>
<td>19.11 IN (485.5 MM)</td>
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<tr>
<td>HEIGHT</td>
<td>9.76 IN (247.9 MM)</td>
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<tr>
<td>DEPTH</td>
<td>15.10 IN (383.5 MM)</td>
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RELIABILITY/MAINTAINABILITY FEATURES

<table>
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<tr>
<th>Category</th>
<th>Specification</th>
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<tbody>
<tr>
<td>MTBF</td>
<td>&gt; 1,500 HOURS @ AIC + 25° C PREDICTED</td>
</tr>
<tr>
<td>MTBCF</td>
<td>&gt; 10,000 HOURS @ AIC + 25°C PREDICTED</td>
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<tr>
<td>MTTR</td>
<td>16 MINUTES FOR LEVEL 1, BASED ON LRU REPLACEMENT ON AIRCRAFT MAINTENANCE PHILOSOPHY: LEVEL 1 LRU REPLACEMENT ON AIRCRAFT, LEVEL 2 SRA REPLACEMENT OFF AIRCRAFT</td>
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