

LIGHT WEIGHT HELICOPTER/MPA SONOBUOY RECEIVER ARR-502(V)1

World-class receiver - a 16 acoustic channel receiver; extremely small in size and of very low weight.

- Helicopter/MPA Platforms
- Excellent reception of very weak signals

FLEXIBLE, POWERFUL TECHNOLOGY

- Sonobuoy compatibility: DIFAR, LOFAR, RANGER, BT, CASS, DICASS, VLAD, CAMBS, BARRA, ERAPS, HLA, ATAC, HIDAR, etc.



FEATURES

- Standard 99 RF channels
- 16 acoustic channels analog and or digital sonobuoys
- Receiver sensitivity -113 dBm
- Extremely low audio distortion <1% from 2 Hz to 5 kHz
- Dynamic range of > 100 dB
- Base frequency range: 136 MHz - 174 MHz
- Internal Acoustic Test Signal Generator (ATSG)
- Internal RF Pre-Amplifier
- Extensive Built-In-Test (BIT) capability

ARR-502(V)1



KEY CHARACTERISTICS

- Standard 99 RF channels (505 subchannels supported)
- 16 simultaneous acoustic channels with any mix of analog or digital sonobuoys
- Noise figure: 5dB
- Base frequency range: 136 MHz - 174 MHz
- Accommodates RF signals over the range of 113 dBm to 7 dBm
- Voltage Standing Wave ratio (SWR) doesn't exceed 2.0:1 over the base frequency range
- Dynamic range: 73 dB third order intermodulation
- FM receiver sensitivity: a minimum signal-plus-noise/noise ratio of 12 db at a 0.5 μ V input level, of 20 dB at a 1.0 μ V 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 V
- 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, SAR, HIDAR, ADAR, 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

GENERAL CHARACTERISTICS

- Extremely low acoustic receiver baseband noise floor
- Active mixer technology for exceptional third-order intermodulation and spurious response performance
- Threshold-extending FM detector with programmable time characteristics for sonobuoy type optimization
- Extended acoustic baseband frequency response yields superior low frequency response and outstanding ding infrasonic performance
- Provides the the best bearing accuracy for multiplexed sonobuoys and the best data error rate for digital sono-

- buoys
- High resolution, self-calibrating signal strength indication
- Resistance to microphony: excellent
- Internal acoustic preamplifier
- 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

SUPPORTABILITY

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

PHYSICAL CHARACTERISTICS

	(V) 1
WEIGHT	< 47.0 LBS
LENGTH	19.11 IN (485.5 MM)
HEIGHT	9.76 IN (247.9 MM)
DEPTH	15.10 IN (383.5 MM)

RELIABILITY/MAINTAINABILITY FEATURES

Category	Specification
MTBF	1,500 hours @ 25°C AIC predicted
MTBCF	>10,000 hours @ 25°C AIC predicted
MTTR	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