

Multimode Radio Set

AD3500



- VHF / UHF, AM and FM
- ECCM capability
- MIL-STD 1553B databus operation
- Preset channels
- Voice and data operation

AD3500



The AD3500 multimode radio set is designed and qualified to operate reliably in the modern airborne military environment. The system is capable of AM and FM clear and secure voice communication over the frequency range 108 - 400MHz.

AD3500 comprises a Control Unit type AA35002 and a Transmitter / Receiver type AA35001 which is of a modular slice construction. The system is operated from the Control Unit via an ARINC 429 interface or over a MIL-STD 1553B databus. The Control Unit provides a 6 digit display with operating frequency, channel, BIT status and ECCM parameters conveyed to the operator. Function, Mode and Frequency selections are available through three rotary switches.

The system incorporates BITE, a self test facility, which automatically monitors for correct system operation. A number displayed on the control unit in test mode indicates fault to LRU and module level. The fault information is stored in a non-volatile memory to aid in the investigation.

Transmitter / receiver type AA35001-1
MIL-STD 1553 control



Data Summary

General

Frequency bands

108-173.975MHz / 225-399.975MHz
Transmitter inhibited between 108-117.975MHz.

Channel spacing: 25kHz

Preset channels: 30

Modes

AM / FM automatic and manual
Clear Voice, Secure Voice, ECCM

Duty cycle

1 minute transmit / 5 minutes receive

Channel change time: < 65 msec

Guard receivers

VHF 121.5MHz / UHF 243.0MHz

Guard override

Precedence selection of transmitter and receiver to 243MHz by external switch.

Mechanical

Transmitter / Receiver AA35001

Height	Width	Depth	Weight
124mm	127mm	241mm	4.5kg

Control Unit AA35002

Height	Width	Depth	Weight
57mm	146mm	140mm	1.36kg

Power supplies

28V DC : Receive 25W max
: Transmit 150W max

Electrical - Transmitter

Power output

Not less than 10W AM or 15W FM

Audio input impedance

Normal voice : 175ohms \pm 25% balanced :
2000ohm \times \pm 25% balanced

Audio input level : 0.25 - 1.5V R.M.S.

Electrical - Receiver

Sensitivity

(S+N)/N \nless 10dB for AM, 4 μ V e.m.f. input at 30% modulation or FM, 1 μ V e.m.f. input at \pm 2.4kHz deviation.

Selectivity

Narrow band (voice)

\pm 11kHz minimum at 6dB points
 \pm 24kHz maximum at 60dB points

Wide band (data)

\pm 34.5kHz minimum at 6dB points
 \pm 85kHz maximum at 60dB points

Audio output

Narrow band (voice)

250mW minimum into 150 / 600ohms at 30% modulation

Wide band (data)

8.3V R.M.S. into 20,000ohms

Homing and ADF

Separate output ports are provided.

Squelch

Adjustable signal to noise type. Operates automatically for (S+N) / N \geq 10dB.

Control unit AA35002



Transmitter / receiver type AA35001-2
ARINC 429 control



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