

Collins

RADIO SETS ARC-2 and ARC-2A



Transmitter - Receiver RT-91/ARC-2



Control Box C-244A/ARC-2



Control Panel C-245A/ARC-2



Radio Set Control C-732/ARC-2



Radio Set Control C-732A/ARC-2A

APPLICATION

The AN/ARC-2 and the AN/ARC-2A are high frequency (HF) radio communication equipments designed for installation in all types of Naval aircraft. It provides reliable, preset, multichannel, two-way radio communication, using cw, mcw, or voice. Communication may be controlled by the pilot or radio operator, and provision is made for rapid selection among eight preset operating channels.

Control of the equipment from a remote position is entirely electrical and several control stations may be employed.

DESCRIPTION

The transmitter and receiver are contained in a single cabinet. When the chassis is removed from the cabinet, the circuit elements are easily accessible along the two sides of the chassis. Most of the other elements are accessible at the top or bottom of the chassis. Ventilation is obtained through two air filters, which extend through the rear of the cabinet and screw into the chassis.

The mounting base is designed to be installed as an integral part of the aircraft. The front panel of Transmitter-Receiver RT-298/ARC-2A differs from that of Transmitter-Receiver RT-91/ARC-2 in that fuse holders have been added to the right side of the panel for RT-298/ARC-2A, and the METER switch that was included on the panel of the RT-91/ARC-2, has been removed.

The Autotune system is an electrically controlled means of mechanically repositioning adjustable elements such as switches, and variable inductors to predetermined settings. Eight frequency channels, within the range of 2 mc to 9.05 mc (2000 kc to 9050 kc), may be manually selected and locked. No tools or external frequency-measuring equipment are required to select a channel. The tuning controls are located on the front panel of the equipment, and a channel-selecting switch on each remote control component. All of these controls are common to both the transmitter and receiver. When the eight channels have been preset, it is only necessary to operate a channel-selecting switch, to the position corresponding to the desired channels. Selection of a channel is made in eight seconds or less and the accuracy of repositioning is of a very high order.

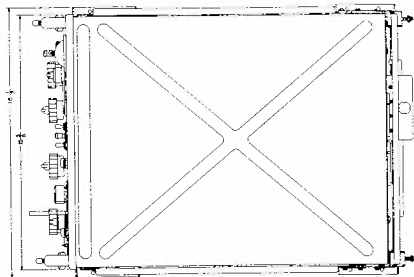
The transmitting and receiving functions of the ARC-2 and ARC-2A are identical. The transmitters differ only in mechanical detail and in the milliammeter circuit. The transmitter and receiver circuits are tuned by a common set of controls. Tuning is linear with shaft rotation. The low voltage required to operate the tube filaments, relays, dynamotor and Auto-tune motor is supplied by a 27.5 volt, d-c power source. The dynamotor furnishes high voltages for both the transmitter and receiver tubes.

A unique feature of this radio set is the circuit arrangement which makes possible either transmission or reception, on the same frequency, with the adjustment of one common set of controls.

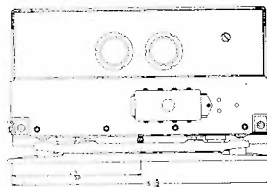
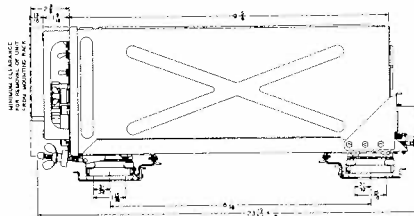
EQUIPMENT SPECIFICATIONS

POWER SUPPLY	26.5-volt, d-c 10 amperes when receiving 20 amperes when transmitting Surge when switching channels 60 amperes										
TEMPERATURE	Operative range -40° to $+60^{\circ}$ C										
FREQUENCY RANGE, BANDS AND CHANNELS	Frequency variable from 2 mc to 9.05 mc Four bands eight frequency channels:										
	<table border="0"> <thead> <tr> <th>Band</th> <th>Frequency Range (mc)</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>2 to 3</td> </tr> <tr> <td>B</td> <td>3 to 4.5</td> </tr> <tr> <td>C</td> <td>4 to 6</td> </tr> <tr> <td>D</td> <td>6 to 9.05</td> </tr> </tbody> </table>	Band	Frequency Range (mc)	A	2 to 3	B	3 to 4.5	C	4 to 6	D	6 to 9.05
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FREQUENCY STABILITY	plus or minus 0.04 percent ± 1 kc. Tolerance includes all frequency changes accompanying operation of the equipment, plus frequency changes due to inaccuracies in the channel selecting mechanism.										
POWER OUTPUT	approximately 15 to 30 watts.										
RECEIVER	output will contain 15 percent distortion or less										
TYPES OF EMISSION AND RECEPTION	Voice, cw or mcw signals may be transmitted or received with this equipment. The type of transmission or reception desired may be selectable by operating the EMISSION selector switch.										
RECEIVER SENSITIVITY	100 milliwatts output at 1000 cps, the ratio of signal-plus-noise to noise being 10 db for cw and 6 db for voice, with an r-f input to the receiver not in excess of 5 microvolts in the frequency range 2 mc to 8 mc, and not in excess of 10 microvolts in the range 8.1 mc to 905 mc										

OUTLINE DIMENSIONAL DRAWING



Note: All dimensions are given in inches



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