

RadioSet AN/ARC-3 is an eight channel, crystal-controlled, command set operating over the frequency range of 100 to 156 mc. Major components are a transmitter, receiver, control box and power junction box. Components have form factors comparable to twice the size of similar components of RadioSet SCR-274-N and are capable of being installed on the mountings of the SCR-274-N.

All of the operating functions of the set are remotely controlled. The only operation required to change the frequency of a particular channel is to insert the crystal units in the transmitter and receiver and roughly setting a dial on the receiver to the carrier frequency. Crystal units and their harmonic relations are identical with those used in RadioSet SCR-522. Access is provided to a terminal in the receiver socket so that a localizer may be used as an auxiliary piece of equipment. Access is also provided to the terminals in the receiver socket that the audio output of an auxiliary receiver or any other equipment may be fed through the fixed audio amplifier stage.

Operating from a 28 volt d.c. nominal primary power source, the equipment transmits voice amplitude modulated signals with tone transmission on any channel.

Designed to receive amplitude modulated signals only because of its low frequency response, the receiver is satisfactory for use in flying CAA localizer courses and ranges, if the receiver is provided with the proper crystals and external filters and indicators.

This set is intended for use on all initial installations in place of SCR-522 in heavy, very heavy, medium, and light bombers, one and two-engine fighters, photographic airplanes, heavy and medium transports.

AN/ARC-3 presents advantages over VHF components of the SCR-274-N in that high altitude limit is increased from 30,000 feet to 50,000 feet and production is simplified.

Include more simple design, saving of weight,

increase to eight channels, simplification of setting-up channels, and automatic modulation control.

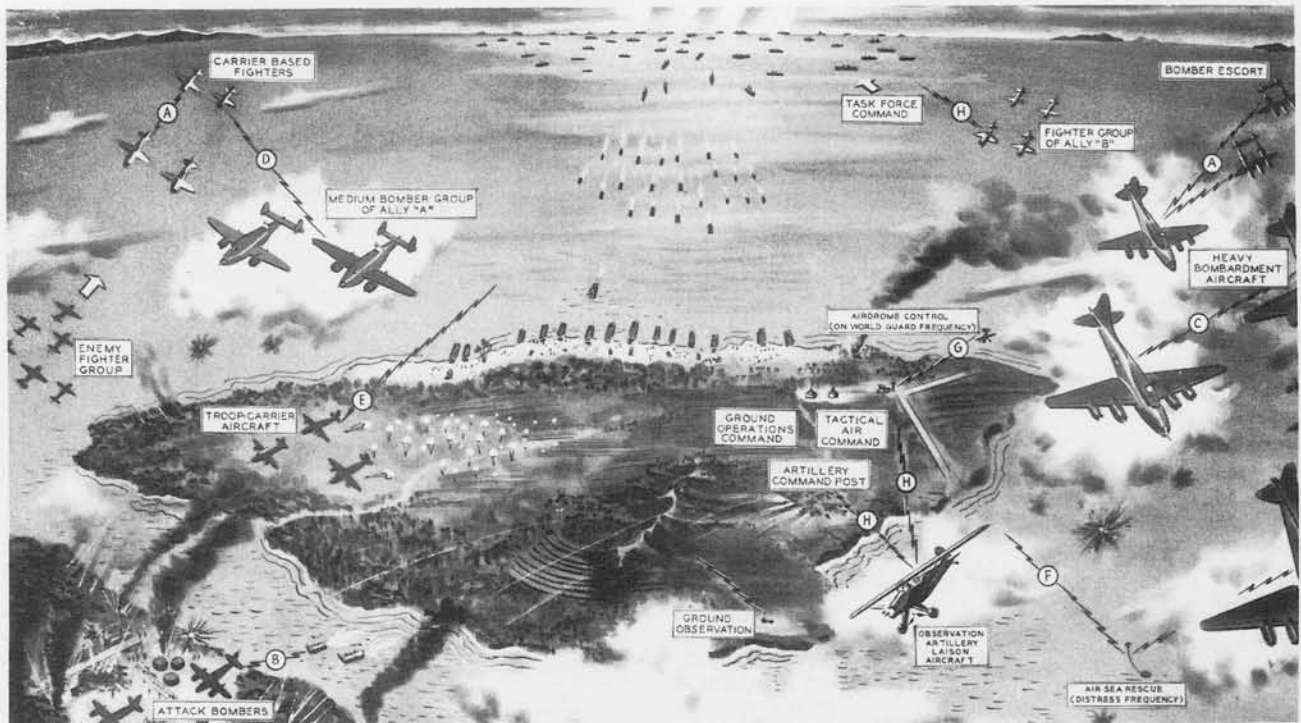
Because the AN/ARC-3 has eight channels available, this equipment has a superior anti-jamming feature when compared to the SCR-522 with its four channels. Quantity production of this equipment started in December 1944.

Test equipment required for the maintenance and tuning of the set includes; Test Set AN/ARM-1 and Phantom Transmitter Antenna TS-78.

Army Supply Program requirements as of 1 December 1944 were 50,000 for the calendar year 1945.

POWER INPUT	28 VOLTS DC
POWER OUTPUT	1 WATT (peak) RECEIVER 15 WATTS (peak) TRANSMITTER
FREQUENCY	100-156 MC
TYPE OF SIGNAL	RECEIVER TRANSMITTER AM: MCW
SENSITIVITY	5 MICROVOLTS
SELECTIVITY	100 KC AT 2X INPUT
RANGE	100 MILES AT 10,000 FT. ALTITUDE 200 MILES AT 25,000 FT. ALTITUDE

TUBE COMPLEMENT			
NO.	TYPE	NO.	TYPE
2	6L6	1	9002
3	6V6/GT	3	12SG7
2	832A	2	12SN7GT
2	12SH7	1	12SN7GT
1	6J5	1	12H6
6	6AK5	1	12A6GT
1	9001		



With eight remotely controlled channels, Radio Set AN/ARC-3 permits intercommunication between all elements of a tactical air force, definite assignment of a channel to each element and effective coordination of ground and air forces. Separate operating channels may be assigned to each element or function, as illustrated: (A) Fighters; (B) Fighter-Bombers; (C) Heavy Bombers; (D) Medium Bombers; (E) Troop Carriers; (F) Air-Sea Rescue; (G) "World Guard"; (H) Observation and other aircraft.

# AN/ARC-3

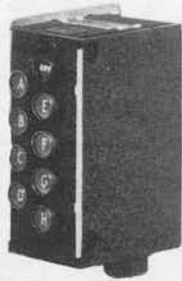
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Radio Transmitter T-67/ARC-3



Radio Receiver  
R-77/ARC-3



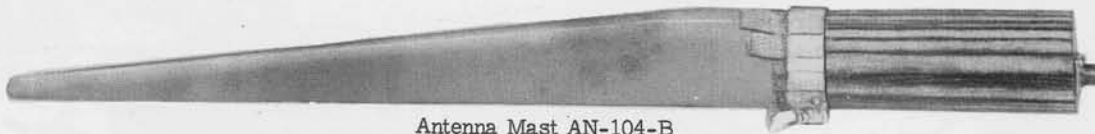
Control Box  
C-118/ARC-3

Dynamotor Unit  
DY-22/ARC-3



Dynamotor Unit  
DY-21/ARC-3

Power Junction Box  
J-68/ARC-3



Antenna Mast AN-104-B

## RADIO SET AN/ARC-3

TOTAL WEIGHT 85 LBS.

Component	Nomenclature	Size	Weight
Radio Transmitter	T-67/ARC-3	8" x 13" x 15"	19 Lbs.
Mounting Base	MT-238/ARC-3		
Radio Receiver	R-77/ARC-3	6" x 1" x 16"	18 Lbs.
Mounting Base	MT-237/ARC-3		
Power Junction Box	J-68/ARC-3	4" x 9" x 10"	7 Lbs.
Dynamotor Unit	DY-21/ARC-3	4" x 4" x 8"	9 Lbs.
Dynamotor Unit	DY-22/ARC-3	4" x 4" x 8"	5 Lbs.
Mounting Base	MT-236/ARC-3		
Control Box	C-118/ARC-3	6" x 2 1/2" x 6 1/2"	2 Lbs.
Mounting	FT-240-A		
Antenna Mast	AN-104-A		
Control Unit	C-197/ARC-3		3 Lbs.

and includes plugs, adapter and RF cable.