

DIRECTION FINDER SET

AN/ARD-7

TYPE CLASSIFICATION:
SECURITY CLASSIFICATION OF
EQUIPMENT:

Limited Standard
Unclassified

CURRENCY OF INFORMATION:

30 August 1957

INSTRUCTION LITERATURE:

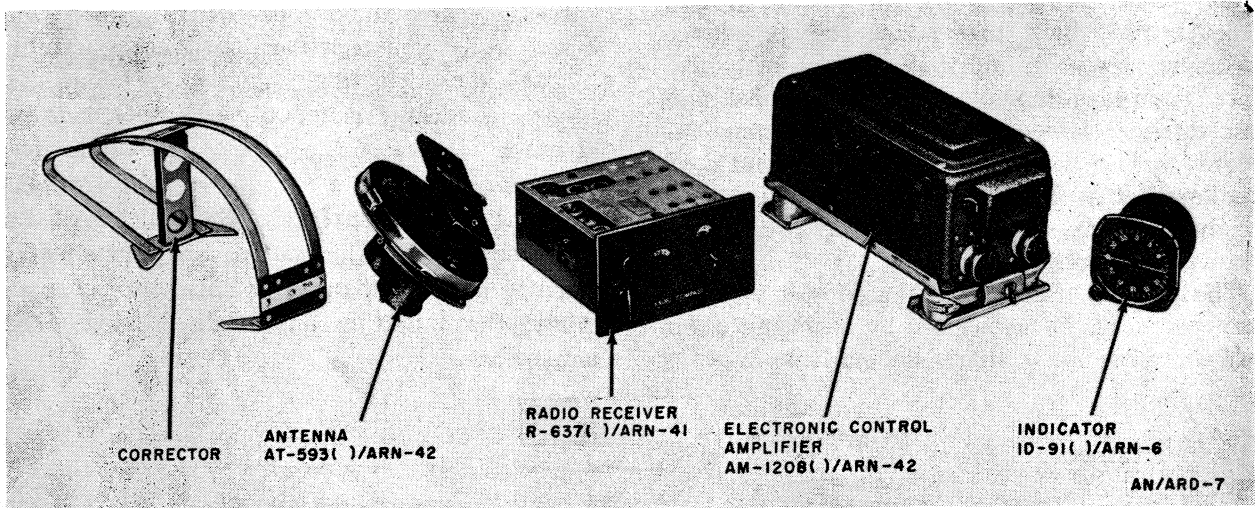
Commercial literature

FEDERAL STOCK NUMBER:
SIGNAL CORPS STOCK NUMBER:

5825-503-1365
2S9300

PROCUREMENT SPECIFICATION:
COGNIZANT SERVICE:

USA



DIRECTION FINDER SET

AN/ARD-7

TECHNICAL CHARACTERISTICS

FREQUENCY RANGE: 190 to 430 kc;
480 to 1,750 kc

Band 1: 190 to 430 kc
Band 2: 480 to 1,025 kc
Band 3: 1,025 to 1,750 kc

INTERMEDIATE FREQUENCY: 465 kc

RECEIVER SENSITIVITY: 10 uv or less for 500-mw output with a 6 db signal-plus-noise-to-noise ratio

ABSOLUTE COMPASS SENSITIVITY: 25 uv per meter

OVERALL SELECTIVITY:

Band No.	Frequency	Total bandwidth	
		2X down	1,000X down
1	220 kc	2.5 kc	8.5 kc
1	440 kc	2.8 kc	11.0 kc
2	600 kc	2.3 kc	10.1 kc
2	950 kc	2.4 kc	11.4 kc
3	1,100 kc	2.5 kc	10.5 kc
3	1,600 kc	2.5 kc	11.8 kc

INTERMEDIATE FREQUENCY SELECTIVITY (bandwidth at 465 kc) :

Multiplying factor	Bandwidth
2X	5 kc
10X	9 kc
100X	11 kc
1,000X	15.5 kc

AUDIO

POWER

OUTPUT: 3.5 w (maximum)

NUMBER AND TYPE OF TUBES:

Amplifier Unit: (4) 6AK6, (2) 6AT6,
(2) 6BJ6, (2) 6X4,
(2) 12AX7

Tuner Unit: (1) 12AU7, (2) 12BA6,
(1) 12BE6

POWER REQUIREMENTS: 28 v, 3 amp dc or 14 v, 5.8 amp dc

OPERATING AND/OR ADJUSTMENT CONTROLS

TUNER UNIT

VOLUME: Controls audio output to loudspeaker

TUNE: Tunes receiver to desired frequency within each band

TUNE TO MAX: Indicates level of received signal

CW ON-OFF: Turns beat frequency oscillator on and off

COMP.-ANT: Controls mode of operation of equipment: COMP. position for automatic direction finding use; ANT. position for standard radio receiver use

BAND SWITCH: Selects frequency band on which operation is desired

FUNCTIONAL DESCRIPTION

Direction Finder Set AN/ARD-7 is a light-weight combination automatic direction finder and radio receiver, designed for installation and use in Army aircraft. In conjunction with only a sense antenna (not supplied), it may be operated as a conventional receiver. By using both the loop and sense antennas, the equipment may be used as a direction finder. In this mode of operation the set provides automatic visual directional indications within its frequency range.

The relative heading of the aircraft with respect to the direction of location of any station to which the equipment is tuned is displayed on the azimuth indicator. Bearings on two or more stations "off course" may be taken to determine the position by triangulation. Alternatively, two complete units may be installed in an aircraft, and the relative headings with respect to two different stations may be shown on a single azimuth indicator equipped with two pointers, thereby facilitating triangulation.

This equipment consists essentially of a tuner unit, an amplifier unit, an azimuth indicator, and a loop antenna assembly and housing.

The set is functionally identical with Radio Receiving Set AN/ARN-54.

MAJOR COMPONENTS

Quantity	Name of item	Dimensions (inches)	Weight (pounds)
1	Amplifier unit	12 ¹ / ₈ x 5 ¹ / ₄ x 4 ⁷ / ₈	8
1	Azimuth indicator	3 ⁵ / ₈ long x 3 ¹ / ₄ dia	.82
1	Loop antenna assembly	7 ¹ / ₂ dia x 4 ¹ / ₂ high	2.7
1	Tuner unit	8 ¹ / ₂ x 7 x 3 ⁷ / ₈	4.3