

Radar Set AN/APW-1 is radio control receiving equipment designed for installation and use in the tracking and flight control of JB-2 pilotless aircraft missiles. This unit combines the functions of an airborne beacon transponder (an adaptation of AN/APN-19) with that of target-control receiving equipment. A Radio Set SCR-584-M, modified for longer range and variable prf, is the control station that may be used to track and control the missile's flight.

Remote control of the missile may be effected from the SCR-584-M by positioning of the control mechanism to the various control positions. This will result in modulation of the SCR-584-M interrogation signal and transmission to the missile one of four tones (prf) for each movement or function that may be desired ("up", "down", etc). Fifteen control functions result from application of the four tones (prf) as follows: one tone (prf) may be used to actuate the step switch to set up one of three pairs of flight functions; another tone (prf) may be used to actuate the transponder; the other two tones (prf) may be used to select and control one of the flight functions ("up", "down", etc) set up by the step switch.

Receiver Transmitter Unit RT-86/APW-1, functions both as receiver and transponder, and includes an audio-filter-selector circuit for discrimination between the various tones received. The output of the selector circuit is relayed to servos that actuate the aircraft control surface mechanisms, or to relays that actuate the transponder. Actuation of the transponder results in the transmission to the SCR-584-M of coded signals that make possible the tracking of the missile.

Radar Set AN/APW-7 is similar to AN/APW-1 except that one audio filter channel has been modified to respond to a slightly different pulse repetition frequency.

The following items of test equipment are for maintenance of AN/APW-1 at equipment locations:

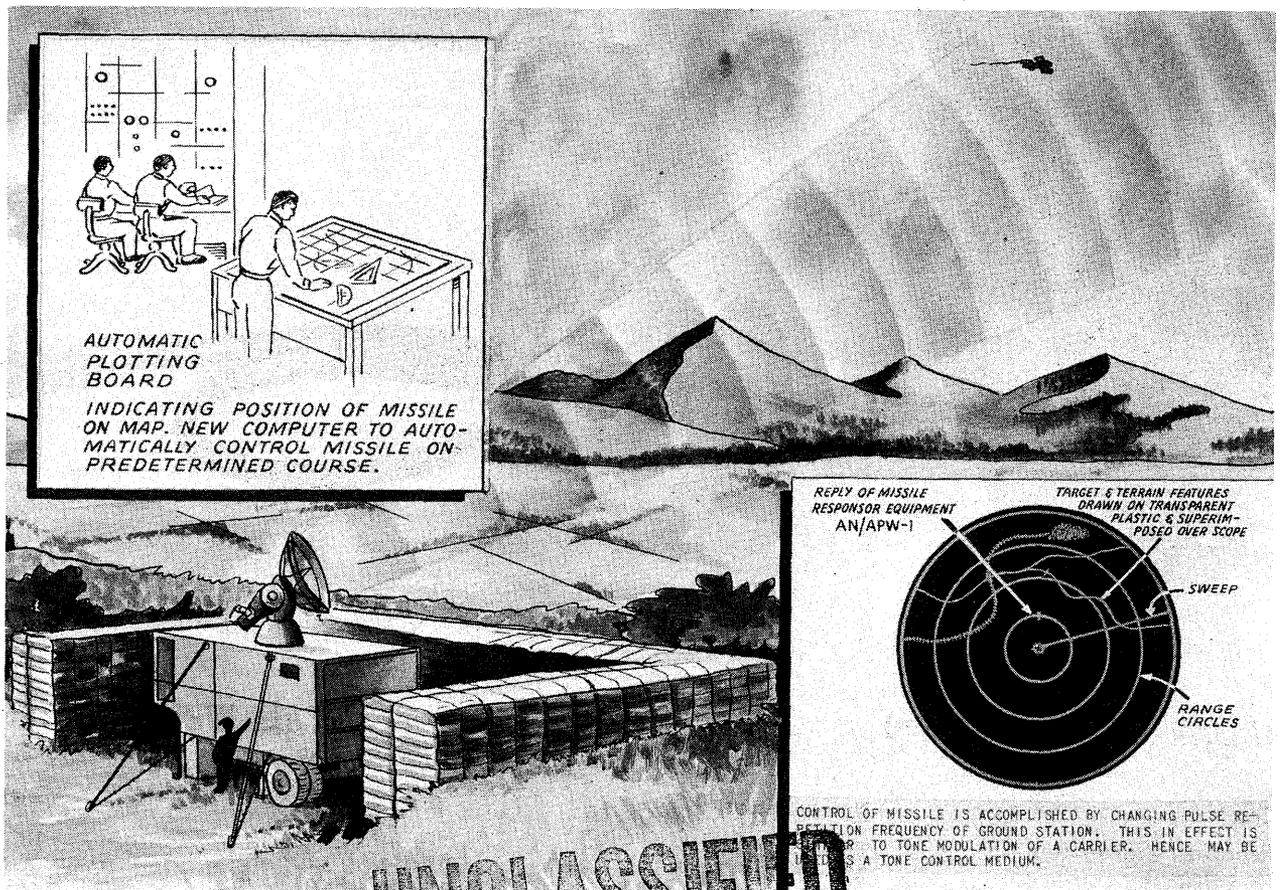
- |            |                    |
|------------|--------------------|
| TS-117/GP  | Wavemeter          |
| TS-125/AP  | Power Meter        |
| TS-155C/UP | Signal Generator   |
| TS-239/UP  | Oscilloscope       |
| TS-352/U   | Multimeter         |
| TS-382/U   | Audio Oscillator   |
| TS-414/U   | Dynamotor Test Set |
| I-139/A    | Test Set           |
| I-177      | Tube Tester        |

Note: additional test equipment for maintenance of this equipment is still in development stages.

CO-AN 16-30APW1-2-M is the HMI for AN/APW-1.

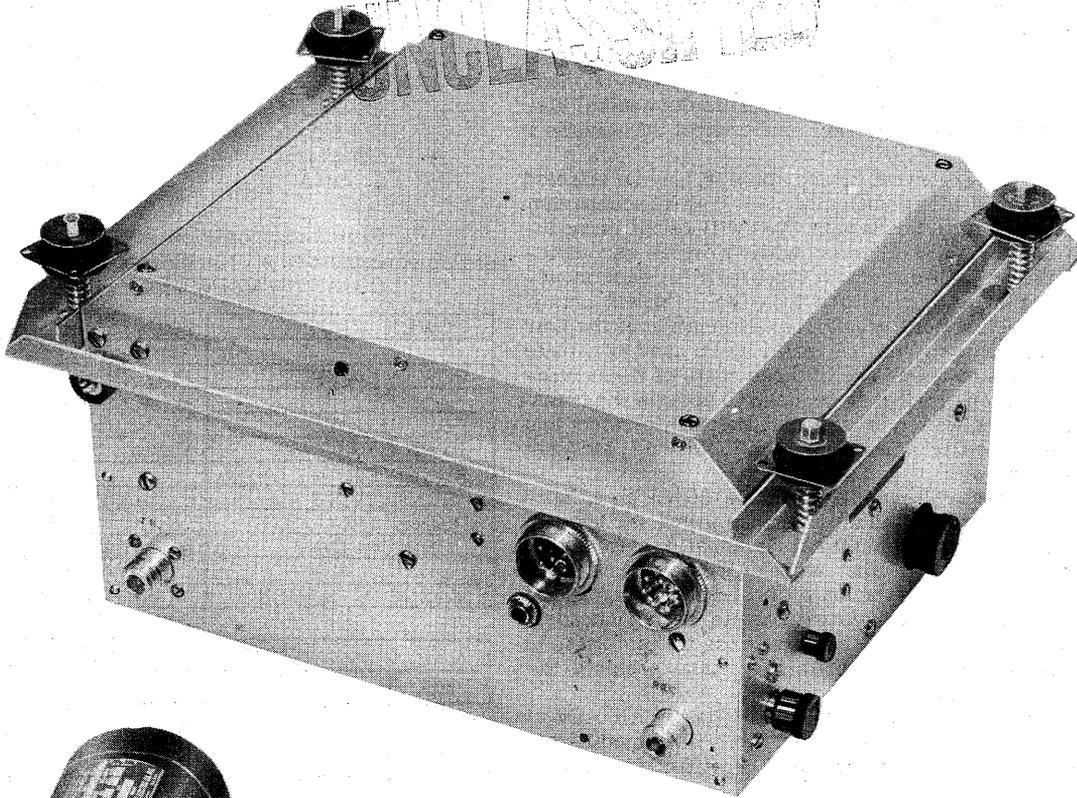
POWER INPUT	200 w, 28 v, d-c (supplied by missile)
POWER OUTPUT	Peak, 75 w Average, 40-70 milliwatts
FREQUENCY	2700-2900 Mc
TYPE OF SIGNAL	Pulse
RECEIVER SENSITIVITY	0.05 microwatts
PULSE DISCRIMINATION	Accepts pulse durations of 2 microseconds or more
MAXIMUM RANGE	95 miles at 7000'

TUBE COMPLEMENT			
NO.	TYPE	NO.	TYPE
6	7F8	3	2D21
2	6SN7	1	2C40

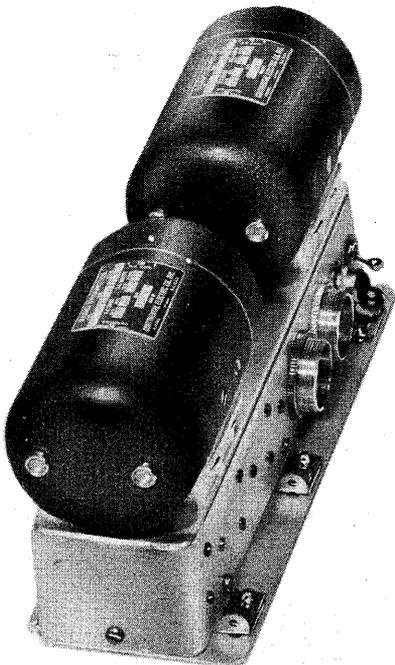


Radar Set AN/APW-1 is a radio control receiving set that is used in conjunction with Radio Set SCR-584-M (ground control equipment) to track and control the flight of pilotless aircraft.

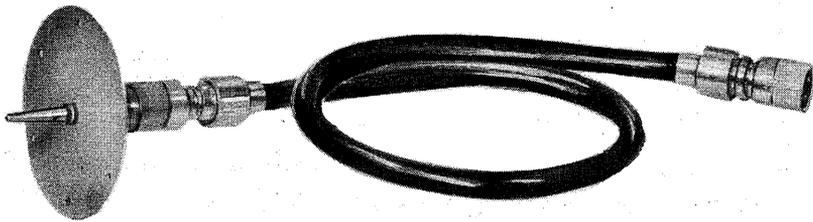
# AN/APW-1



Receiver Transmitter RT-86(XA)/APW-1



Dynamotor Unit DY-33(XA)/APW-1



Antenna Stub AT-111(XA)/AP

## RADAR SET AN/APW-1

TOTAL WEIGHT 25 LB

Component	Nomenclature	Size	Weight
Receiver Transmitter	RT-86( )/APW-1	7" x 9" x 11"	12 Lb
Mounting	MT-434/APW-1	2" x 11" x 13"	1 Lb
Dynamotor Unit	DY-33/APW-1	3" x 5" x 11"	7 Lb
Mounting Plate	MT-435/APW-1	1" x 3" x 11"	
Antenna Stub	AT-111/AP	3" dia. 2" long	