

RESTRICTEDBR 333(1)
Original**AERIAL OUTFIT AYD****AYD****SUMMARY OF DATA****PURPOSE**

A fixed SHF DF aerial outfit fitted in surface vessels in conjunction with Aerial Outfits AYC and AYE for use with Radio Search and DF Outfit UA2/3

TYPE OF RECEPTION

Pulsed RF signals from target radar.

FREQUENCY RANGE

4100 to 7000 Mc/s.

POLARISATION

Horizontal and vertical.

POWER GAIN

Approx. 8 dB.

BRIEF DESCRIPTION

The Outfit comprises four Aerial Units and four RF Units with interconnecting cables. The Aerial Units are mounted at the top of the mast with their horns facing Fore and Aft, Port and Starboard and the associated RF Units at a distance not greater than 20 ft cable run from the aerial. The horns are designed to give reception of both horizontally and vertically polarised waves. For each horn, the radiation pattern in a horizontal plane approximates to a cosine 2θ law, the beam width in the vertical plane being 30° . Bar and post type transformers effect transition from the aerial unit waveguide tail-piece to the RF cable and from the RF cable to the RF Unit. The latter comprises a low-pass waveguide filter preceded and followed by taper matching sections to feed a ridge-type crystal holder. Here the RF signals are detected by a biased silicon cartridge crystal (CV7181, 7182 or 7183) and the resulting video signal passed via a line matching transformer and Pyrotex cable to the office equipment.

MAJOR UNITS

Patt. No.	Description	Qty.	Physical Data			
			Length	Breadth	Height	Weight
61559	Box, junction for one Patt. 13941 and one Patt. 13832 cables	4	2½ in	2 in	1½ in	1 lb
5985-A.P.186487	Aerial Unit	4	20½ in	5¼ in	6¾ in	7 lb
5985-A.P.186488	RF Unit Video	4	40 in	9½ in	8 in	30 lb

SPECIAL TEST EQUIPMENT

Patt. 63369 Test Set Des. 19 (with Patt. 62856 Aerial Injection Unit Des. 3).

A.P.62840 Cable CT538 Signal Generator.

HANDBOOKS

B.R.2354(1) Handbook for Aerial Outfits AYC/D/E.

B.R.2348 Handbook for Radio Search and DF Outfit UA2.

B.R.2349 Handbook for Radio Search and DF Outfit UA3. C.B. Handbook for Reciprocal Intercept in Submarines.

INSTALLATION SPECIFICATION B.806/R2**ESTABLISHMENT LIST** E.1182**RESTRICTED**