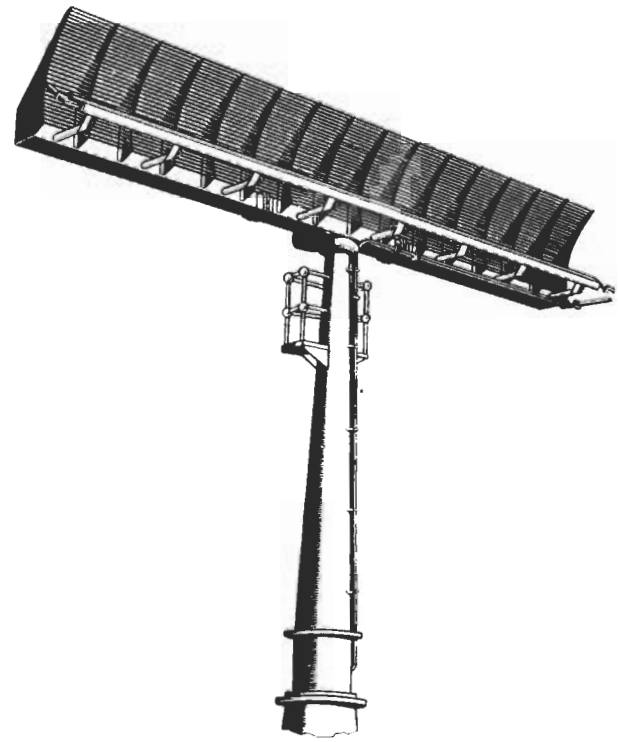
AERIAL OUTFIT AKR.

SUMMARY OF DATA

PURPOSE

Aerial Outfit AKR replaces Aerial Outfit AQS as the aerial for Type 982, converting the latter to Type 982M when certain additional modifications to the receiver and metadyne units are included. It provides long range air and surface warning with high bearing accuracy. The display obtained is used for aircraft direction and also for azication, i.e. training the height finding Aerial Outfit AQT of Type 983 on a selected target. Normally two Aerial Outfits AKR are fitted, one forward and one aft. Ships normally fitted are light fleet carriers and A.D. frigates.



AERIAL OUTFIT AKR

BEAM WIDTH

Vertical - $8\frac{1}{2}^{\circ}$ (to half field strength) Beam is "shaped" to produce constant height cover up to 30° angle of sight.

Horizontal - approximately 1°.

POWER REQUIREMENTS

220V D.C. - 20 amps.

24V D.C. - 15 amps max.

200V 1100 c/s single phase - 5 amps.

50V 50 c/s three phase - 5 amps.

The above include supplies to Patt. 57592 Control Table 20M.

MAJOR UNITS

Aerial Outfit AKR comprises D.R.E. and D.E.E. items as follows:-
(This is not a complete Parts List)

D.R.E. ITEMS

1. Patt. 53177 Air Conditioning Unit, Des. 4
2. Patt. 57592 Control Unit 20M
3. Patt. 62254 Pedestal Unit 58E
4. Patt. 62256 Aerial Feed Linear Array
5. Patt. 62257 Reflector Unit, Des. 12
6. Patt. 63190 Waveguide Size 10, matched termination
7. Patt. 63191 Waveguide Size 10, elbow, flange, major 90°
8. Patt. 63192 Waveguide Size 10, connection, Des. 1
9. Patt. 63193 Waveguide Size 10, connection, Des. 2
10. Patt. 63194 Waveguide taper, Size A to Size 10
11. Patt. 63195 Waveguide Size A, connection, Des. 103
12. Patt. 66917 Indicator, Bearing, Tape Type (2)

D.E.E. ITEMS

13. Metadyne Set comprising:-
    (a) Twin Metadyne Generator MD75/74-G
    (b) Metadyne driving motor AY115AT (D.C. ships)
    or Metadyne driving motor AY128Z (A.C. ships)
14. Motor, Training 1419ASX.
15. Starter for Metadyne Set
    (a) Automatic back E.M.F. starter (for D.C. ships)
    (b) Automatic direct starter (for A.C. ships)
16. Contactor Control Panel
17. Amplifier MD49

NOTES

1. Item 11 is to be supplied only when Aerial Outfit AKR is mounted on extension mast.
2. Item 3 is the pedestal of Aerial Outfit AQS to which is added a fabricated mounting unit (Patt. 62255) for attachment of the aerial mast.

PHYSICAL DATA

Weight of Aerial Reflector and Feed	- 850 lb
Weight of Support Mast and Working Platform	- depends on height which varies with site, with a maximum of 1200 lb for 16 ft 6 in.
Weight of Pedestal Unit 58E	- 5830 lb
Span of Aerial	- 26 ft.6 ins. (turning circle)
Height of Reflector	- 3 ft. (approx.)

BRIEF DESCRIPTION

The aerial comprises an S-band cylindrical reflector of spaced rods, all made in light alloy, illuminated by a slotted waveguide system running parallel with the axis of the reflector and fed from one end. The reflector cross section differs slightly from a parabola, in order to provide constant height cover.

The whole is mounted on the original Aerial Outfit AQS pedestal and is spaced to clear the turning circle of the Aerial Outfit AQT, where necessary, by an extension mast, which is supplied as a dockyard or contractor's item to suit each ship.

Both the reflector and the waveguide feeder systems are made in three units, a centre section, left and right hand sections, to facilitate storage and shipment.

Patt. 57592 Control Unit 20M gives local control of aerial training and Patt. 57858 Control Unit (not supplied with Outfit AKR) permits remote control from the R.D.R.

The speed of rotation is 0-7 R.P.M. (continuously variable). Owing to its large beam width in the vertical plane "Roll Along" and "Roll Across" stabilisation ("Level" and "Cross Level" stabilisation) is unnecessary, but the AQS method of stabilisation in azimuth is retained in order to maintain synchronism with Type 960 when this aerial feeds into a common display system.

HANDBOOK	B.R.2107(1)(2)(3) and Addendum
ESTABLISHMENT LIST	E1090
INSTALLATION SPECIFICATION	B789