PURPOSE

Aerial Outfit AKR replaces Aerial Outfit AGP as the aerial for type 95L, converting the latter to Type 95M 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 location, i.e. training the height finding aerial Outfit AGP of Type 95S on a selected target. Normally two Aerial Outfits AKR are fitted, one forward and one aft. Ships newly fitted are slight fleet carriers and A.D. frigates.

BEAM WIDTH

Vertical - 90° (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 amperes max.
200V 1100 c/s single phase - 5 amperes.
200V 50 c/s three phase - 5 amperes.

The above include supplies to Patn. 57959 Control Table 2W.

MAJOR UNITS

Aerial Outfit AKR comprises D.E.E. and D.E.E. Items as follows:-

(This is NOT a complete Parts List)

D.E.E. ITEMS

1. Patn. 59177 Altitude Control Unit, Des. 4
2. Patn. 57959 Control Unit 1W
3. Patn. 62826 Pedestal Unit BHE
4. Patn. 62535 Aerial Feed Linear Array
5. Patn. 62857 Resistor Unit, Des. 12
6. Patn. 63130 Waveguide Size 10, matched termination 12

D.E.E. ITEMS

17. Metadyne Set comprising:-

(a) Metadyne generator M975/3a-9
(b) Metadyne driving motor AT13SE (A.C. ships)
18. Motor, Training 199M/6

15. Starter for Metadyne Set

(a) Automatic back E.H.F. starter (for D.C. ships)
(b) Automatic direct starter (for A.C. ships)

14. Contactor Control Panel

16. Amplifier M269

NOTE

15. Item 11 is to be supplied only when Aerial Outfit AKR is mounted on extension mast.

16. Item 3 is the pedestal of Aerial Outfit AGP to which is added a fabricated mounting unit (Patn. 62853) for attachment of the aerial mast.
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 coverage.

The whole is mounted on the original Aerial Outfit 40B pedestal and is spaced to clear the turning circle of the Aerial Outfit 40B, where necessary, by an extension mast, which is supplied as a dockyard or contractor's item to suit each ship.

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. 57302 Control Unit 20M gives local control of aerial training and Patt. 57308 Control Unit (not supplied with Outfit 40B) permits remote control from the R.D.A.

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 40B method of stabilisation in azimuth is retained in order to maintain synchronism with Type 350 when this aerial feeds into a common display system.

HANDBOOK

B.A.2307(113)(13) and Addendum

ESTABLISHMENT LIST

K1090

INSTALLATION SPECIFICATION

B799