

TYPES 903 AND 904
AND AERIAL OUTFIT AKK

SUMMARY OF DATA

903
904
AKK

PURPOSE

Type 903 is the associated radar set of either the Medium Range Systems Mark 3, Mod 1 and Mod 3 (MRS 3, Mod 1 and MRS 3, Mod 3) or the Guided Weapon System Mark 22A (GWS 22A) which is an adaptation of the arrangement used with MRS 3, Mod 1.

Type 904 is the associated radar set of the Guided Weapon System Mark 22 (GWS 22).

BRIEF DESCRIPTION

Radar Types 903 and 904 supply the non-radar units of the associated automatic fire control systems with continuous information on the misalignment between the line of sight of the director and the present line of sight of the target. This information is subsequently processed by the non-radar units, which deduce target movement and provide the director with the signals which keep the radar line of sight on target. Radar Type 904 is substantially the same as Type 903 except for a different demodulator unit and no splash spotting display.

Both types of radar are able to initiate a spiral scan of the aerial but this facility is used for searching and target acquisition in certain MRS 3 Mod 1 and GWS 22A systems only. In the remaining MRS 3 and GWS 22 systems the scanning unit clutch is permanently energised for conical scanning, search and acquisition being achieved by applying a raster type of search pattern to the director.

ELECTRICAL CHARACTERISTICS

Frequency	8500 MHz — 9600 MHz
Power Output	50 kW peak
Pulse Repetition Frequency	3000 p/o
Pulse Duration	0.1 μ s
Intermediate Frequency	60 MHz
Receiver Bandwidth	12 MHz — 3 dB

MAJOR UNITS

Director Mounted

<u>AP NO.</u>	<u>DESCRIPTION</u>
AP 670851	Unit Transmitter Receiver
AP 67086	Unit, Receiver Power
AP 67087	Unit, Transmitter Power
AP 67104	Reflector Design 10
AP 67081	Cutler Feed, Design 1
or AP 67082	Cutler Feed, Design 2
AP 671251	Unit, Scanning, Design 4
5840-AP 172698	Demodulator, Video Target

Transmitting Station

5840-AP 172321	Unit, Synchronising
AP 67095	Unit, Range Capacitor
AP 67091	Display, 51E (Range)
or 5840-AP 172700	Indicator Range
AP 173091	Indicator, Elevation
AP 67092	Display, 51F (Bearing)
AP 64410	Display, 51 (Splash Spotting)
AP 173259	Unit Indicator (Splash Spotting)
AP 67090	
or 5840-AP 173405	Demodulator

ASSOCIATED AERIAL OUTFIT

Aerial Outfit AKK. Includes a Cutler feed and a 1.2m (4 ft) parabolic reflector mounted on the director and moving with it in training. The aerial elevates with the director sight to which it is linked.

Types of scan	Spiral and Conical
Polarisation	Vertical
Beam Width	2 degrees of approx. half power

RESTRICTED

BR 333(1)

Original

POWER REQUIREMENTS

440 V 60 Hz three phase

115 V 60 Hz one phase

115 V 60 Hz three phase

HANDBOOKS

BR 2479 Types 903 and 904

Associated Systems

BR 2544 MRS 3 MOD 1

BR 2515 MRS 3 MOD 3

BR 2519 GWS 22

ESTABLISHMENT LIST

E 1077 (903)

E 1356 (904)

INSTALLATION SPECIFICATIONS

B (903)

B 1264 1265 (904)