

PURPOSE

Two interrogator sets fitted in conjunction with types 281B/BQ. Type 243Q being used to identify aircraft as hostile or friendly and Type 941 for the identification of individual aircraft.

FREQUENCY

Type 243Q - A spot frequency between 157 - 187 Mc/s (usually 171 Mc/s)
Type 941 - A spot frequency between 200 - 210 Mc/s (usually 209 Mc/s)

WAVELENGTH

Type 243Q - 1.75 metres approximately (in A-band)
Type 941 - 1.44 metres approximately (in G-band)

PEAK POWER OUTPUT

1 kW.

PULSE REPETITION FREQUENCY

50 or 100 pulses per second depending on whether the "Bubbly" modification has been carried out or not.

PULSE LENGTH

10 μ secs.

INTERMEDIATE FREQUENCY

11.2 Mc/s.

RECEIVER BAND-WIDTH

4 Mc/s.

BEAM WIDTH

80° horizontal at 6 dB (all variations of aerial)

POWER REQUIREMENTS AND CONSUMPTION

230 Volts 50 c/s - 600 watts
180 Volts 500 c/s - 100 watts
22 Volts D.C. - 3 amps

This covers requirements for both Types 243Q/941 and their aerial outfits.

The 230 volts 50 c/s and 22 volts D.C. supply is taken from the Type 281B/BQ Distribution Board but the source of the 180 volts 500 c/s supply depends on the Radar Gunnery and Tactical Communications Arrangements for the ship concerned.

HEAT DISSIPATION

500 watts (approximately)

MAJOR UNITS

Patt. 56246 Framework, Steel, in which the following units are mounted:-

Type 243Q

Patt. 54108 Transmitter 7BD
Patt. 10DB/778 Modulator Unit Type 50
Patt. 54451 Responder Unit Des. 3
Patt. 54449 Suppression and Control Unit

Type 941

Patt. 56244 Transmitter 7BN
Patt. 10DB/778 Modulator Unit Type 50
Patt. 56245 Responder Unit Des. 5
Patt. 54449 Suppression and Control Unit
Patt. 55763 Mixer Unit Des. 7

Test Equipment

A.M. Ref. 10T/90 Monitor Type 25
Patt. 55750 Wavemeter G300
A.M. Ref. 10T/87 Wavemeter Type W1310

Patt. W5640 Output Tester SE5 Comparator
Patt. W8053 Output Tester SE6 Diode Head
Patt. 56834 Performance Meter Des. 4

PHYSICAL DATA

Weight of office equipment - 375 lb.
Weight of aerial arrays - 170 lb.
Dimensions of Rack Framework - 5' 8" high 2' 2" wide 1' 8" deep.

AERIAL OUTFITS

- AQF - 243Q (only when 243Q is fitted in addition to Type 941).
- AQD - 941 (1 only when Type 941 is fitted in conjunction with Type 281 BQ)
- AQC - 941 (1 only when Type 941 is fitted in conjunction with Type 281/B/BP/P)
- ASC - 243Q (1 only when Type 941 is not fitted in addition to Type 243Q)

Aerial Outfits AQC and AQD rotate with the main Type 281B/BQ aerial, while Aerial Outfit AQF is controlled locally in the Type 281B/BQ receiver office by Control Unit Patt. 56940 or remotely from the Sector Selector Patt. W9084, part of Display Outfit JH2 in the R.D.R.

BRIEF DESCRIPTION

Types 243Q/941 comprise two separate interrogator sets fitted in a common framework and used with all variations of Type 281. Type 243Q provides "A" scan display of I.F.F. responses in the Type 281B/BQ receiver office (and in the R.D.R. when Display Outfit JH2 is fitted), while Type 941 provides plan display of G band responses on the various JE and JK display outfits fitted. Type 941 aerial is mounted above the Type 281B/BQ aerial and rotates with it. Type 243Q aerial is fitted on a bracket on the mast and can be controlled from a unit mounted in the Type 281B/BQ receiver office (or from Display Outfit JH2 in the R.D.R. when fitted).

HANDBOOKS

B.R.1553 and 1553(1)(Type 243Q) B.R.1503 (Type 941).

ESTABLISHMENT LISTS

E.531 (Types 243Q, 941, Aerial Outfits AQC and AQF)
E.936 (Aerial Outfit AQD).

INSTALLATION SPECIFICATION

B.528/R1.