

TYPE 242M/P/Q
SUMMARY OF DATA

PURPOSE

Type 242M is an interrogator equipment used in conjunction with radar Type 277 series and Type 293.

Type 242P/Q is normally used with Types 960/982/983.

FREQUENCY

Fixed frequency in the band 159-169 Mc/s.

WAVELENGTH

1.9 to 1.6 metres (approximately).

PEAK POWER OUTPUT

2 or 10 kW.

PULSE REPETITION FREQUENCY

Submultiple of 500 p.p.s. with Types 277/293/982/983.

Submultiple of 250 p.p.s. with Type 960.

PULSE LENGTH

4 microseconds.

BEAM-WIDTH

88° (to half field strength) for Aerial Outfits ASS, ANH and ANR.

INTERMEDIATE FREQUENCY

11 Mc/s.

RECEIVER BAND-WIDTH

4 Mc/s to 6 dB's down.

POWER REQUIREMENTS

180V 500 c.p.s. 500 watts (Type 242M/P office equipment)

180V 500 c.p.s. 750 watts (Type 242Q office equipment)

220V D.C. 100 watts)

22V D.C. 22 watts) (for aerial control)

Power supplies are usually obtained from the associated radar equipment.

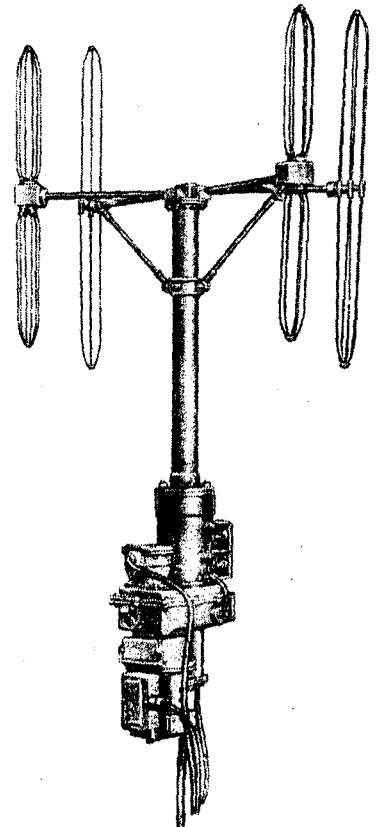
MAJOR UNITS

Type 242M

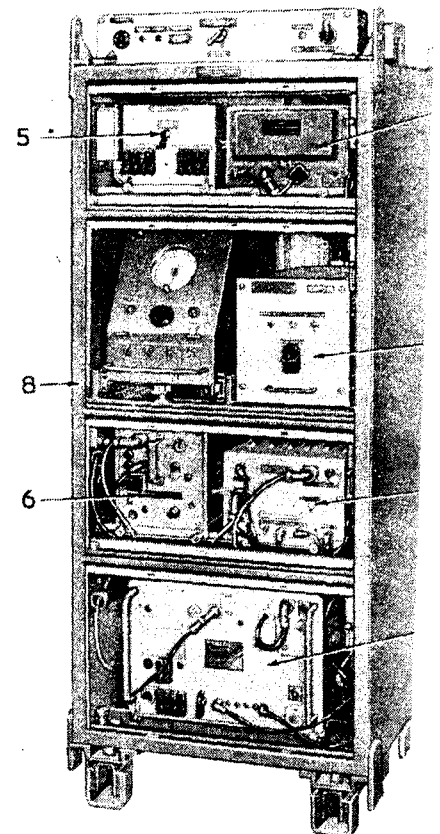
1. Patt. W4790A/B/C Responder Unit, Des. 'A'
2. Patt. W6332A/B/C Modulator and Mixer Unit, Des. 'D' with Types 277/P (not remotely controlled), Types 293M (except where Indicator Outfits JH1/2 are fitted)

or Patt. W7383A/B Modulator and Mixer Unit, Des. 'E' with Type 293M/P/Q remotely controlled, Type 277/P/Q with H.F.P. and Indicator Outfit JH2 and Type 972M.

3. Patt. W9458A Transmitter and pre-amplifier Unit, Des. 1
4. Patt. W9050 Switch Unit, 2 pole 1 way
5. Patt. 53874 Performance Meter, Des. '2'



AERIAL OUTFIT ASS



TYPE 242Q

Type 242P/Q

1. Patt. 65073 Responsor Unit, Des. 7
2. Patt. 65072 Modulator and Mixer Unit, Des. 8
3. Patt. W9458A Transmitter and pre-amplifier Unit, Des. 1
4. Patt. W9050 Switch Unit, 2 pole 1 way (Type 242P only)
5. Patt. 65071 Switch Unit, Des. 41 (Type 242Q only)
6. Patt. 53874 Performance Meter, Des. 2
7. Patt. 59883 Display Co-ordination Unit (Type 242Q only)
8. Patt. 65349 Cabinet, Des. 1 (Type 242Q only)

PHYSICAL DATA

Weight of Office Equipment

Type 242M/P	150 lb.
Type 242Q (in cabinet)	800 lb.
Type 242P when fitted with Types 960/982	350 lb.

Dimensions of Cabinet, Des. 1 (A.P.65349) (including resilient mounts)

<u>Height</u>	<u>Width</u>	<u>Depth</u>
6' 7"	2' 3"	2' 2"

ASSOCIATED AERIALS

- Aerial Outfit ASS (Type 242M with Types 276, 277, 293 and 972M)
- Aerial Outfit ANR (Type 242P with Types 960, and 277P)
- Aerial Outfit ANH (Type 242Q with Types 960, 982 and 983)

ASSOCIATED TEST EQUIPMENT

- Patt. W8053 Output Tester S.E.6.
- A.M. Ref. No. 10T/87 Wavemeter W1310.
- A.M. Ref. No. 10T/90 Monitor, Type 25 (not when Patt. 68622, Oscilloscope, Miniature, is supplied).
- A.M. Ref. No. 10T/6045 Wavemeter, Type W1649 (only to Depot and Repair Ships).

BRIEF DESCRIPTION

The operation of the Type 242M is similar to that of Type 242 (q.v.) with minor modifications. The new transmitter (Design 1) replacing transmitter Type 7AD, offers a choice of high or low power output (10 kW or 2 kW) with a variation of the frequency over a band approximately 30 Mc/s wide. A pre-amplifier is incorporated in the transmitter unit which increases the responsor range, and the T/R switching arrangements are improved. The "responsor" and "modulator and mixer" units of Type 242M are changed to convert to Type 242P which is fitted in conjunction with radar Types 960/277. The new units enable 'A'-band interrogation to be displayed on the Display Outfit JM1 in the R.D.R. Type 242Q is fitted with radar Types 960/982/983 and consists basically of Type 242P mounted in a cabinet and with a new switch unit which enables control of the Interrogator Aerial, gain control and ON-OFF switching to be carried out either from the Type 242Q in the Type 960 office or the JM1 in the R.D.R.

REMARKS

As for Type 242.

HANDBOOKS

- B.R.1436 (Type 242M)
- B.R.1961 (Type 242P/Q)
- B.R.1439 (Type 242)
- B.R.1583 (Performance Meter Des. 2)

ESTABLISHMENT LIST

E.534.

INSTALLATION SPECIFICATIONS

- B.480 (Type 242M/P)
- B.628 (Type 242Q)
- B.478 (Aerial Outfit ASS)
- B.623 (Aerial Outfits ANH and ANR)