SUMMARY OF DATA


5/60 = 361/4 Hz/s

8.5 - 8.7 cm

100 mW (peak)

500 pulses per second

0.5 microsecond

60 Hz/s

4 Hz/s

AERIAL ARRAY (AUS) ON N. X Y DIRECTI

1. Transmitter (half field strength) - 6.00° horizontal 6.00° vertical

2. Receiver (half field strength) - 6.00° horizontal 6.00° vertical

3. Combined beam width (half field strength) - 4.00° horizontal 3.20° vertical

4. Overall width of radiation pattern of transmitter plus receiver plus conical scanning (half field strength)

100V 500 c/s = 2.5 mW

200V D.C. = 2.5 mW (additional 1.5 mW required)

50V 50 c/s = 200 mW

If Type 275 is fitted in H.A.

* Similar supplies are required for Type 275 in H.A. If fitted.

Panel L36 = 860 watts

Modulator and Receiver = 14 kW

E.P.I. = 225 watts

Type 282 = 200 watts
(a) Transmitter and Modulator

22. Parts: W006A Thorpe Generator Design B
23. Parts: W008A Relay Unit Design C
24. Parts: W009A Control Unit Design A
25. Parts: W010A Work Section 9
26. Parts: W011A Spark Gap KV16 complete with box
27. Parts: W012A Transmitter 28
28. Parts: W013A Wave meter 09
29. Parts: W020A Oscillator 0210

(b) Receiver Outfit CCH (or CCH for Type 274B)

10. Parts: W002A Panel LJS (Receiving)
11. Parts: W008A Rectifier Unit B.E.11
12. Parts: W035A Amplifier IV
13. Parts: W038A Frequency Control Unit 54A
14. Parts: W046A Cathode Follower Unit Dec. 6
15. Parts: W046A/C Cathode Ray & Rectifier Unit Dec. 3
16. Parts: W057A Performance Meter Design 2 (Part of Type 274B)
17. Parts: W076A Wave meter 09
18. Parts: W076A Test Oscillator 9615
19. Parts: W076A/C Panel LJS (B.E.) Inner Right
20. Parts: W076A Rectifier Unit B.E.3
21. Parts: W080A Control Unit Design B
22. Parts: W080A Range Spot Generator B.E.3
23. Parts: W098A Time Base Unit Design Q
24. Parts: W098A Amplifier II
25. Parts: W098A Panel LJS (B.E.) Inner Left
26. Parts: W098A Time Base Unit Design P
27. Parts: W098A Receiver Unit B.E.18

* Type 275 becomes Type 275G when Receiver Outfit CCH is fitted in lieu of CCH. Receiver Outfit CCH is a CCH modified to reduce internal fire risk and the units carry the same pattern numbers with a letter suffix letter.

PHYSICAL DATA

Weight of Display Panels and Related Apparatus = 68 oz.
Weight of Receiver and Modulator Panels = 34 oz.
Weight of Display Unit Design 13 or 25 (E.P.I.) = 1 oz. Note
Dimensions of typical office = 84" x 64.5"

ASSOCIATED AERIAL FITTIT

Aerial Outfit 20 consisting of a transmitter and receiver antennas are fixed relative to the aircraft. The antennas, their reflectors and associated equipment are part of the A.E.20.

BRIEF DESCRIPTION

Type 273 is an improved version of Type 205 and was designed as an integral part of the U.S. Fire Control System in cruisers and above and the U.S. Fire Control System in destroyers. It can provide accurate ranges, bearing and elevation of a target.

The set consists of separate transmitter and receiver aerial arrays with certain of the transmitter and receiver equipment fitted in the two cabins mounted on the Director tower. The aerials are air conditioned. Beam switching in the form of Conical Scanning is provided in the Receiver cabin, giving side-by-side presentation of echoes on the display equipment.

The modulator, receiver and display equipment is supplied with the display equipment is fitted in the B.E. or B.E.G. The display equipment consists of elevation, bearing, course and fire rate presentations. Display Outfit 302 is mounted adjacent to Panel LJS to facilitate the detection of targets in elevation (E.P.I.)

HARDBOOK

ESTABLISHMENT LISTS

INSTALLATION SPECIFICATIONS

B.E.1041(1) = (5), B.E.1291(1) = (4)

E350 (type 279) E379 (aerial units)

E379 (type 275) E379 (aerial units)
TYPE 275P

SUMMARY OF DATA

PURPOSE
Similar to Type 275M but with the additional facility of automatic selecting.

FREQUENCY
4500 - 3614 M/s

WAVELENGTH
8.3 - 8.7 cm

POWER OUTPUT
40 W (peak)

PULSE REPEITION FREQUENCY
500 pulses per second

PULSE LENGTH
0.5 microsecond

INTERMEDIATE FREQUENCY
60 MHz

RECEIVER BANDWIDTH
4 MHz

BEAM WIDTH
(a) Transmitter (half field strength) - 6.0° Horizontal 8.2° Vertical
(b) Receiver (half field strength) - 6.8° Horizontal 6.0° Vertical
(c) Combined beam width (half field strength) - 4.2° Horizontal 5.2° Vertical
(d) Overall width of radiation pattern of transmitter plus receiver plus control scanning (half field strength) - 7.0° Horizontal 8.5° Vertical

POWER REQUIREMENTS AND CONSUMPTION
180V 500 w/s = 2.5 kW *
20V D.C. = 2.5 kW (Additional 1.5 kW required if Type 275P is fitted in R.M.A.)

HEAT DISSIPATION IN OFFICE
Panel L.M.A. - 360 watts
Modulator & Receiver - 11 kW
E.P.I. - 225 watts

MAJOR UNITS

(a) Transmitter and Modulator
1. Patt. WP2010 Panel SAW Modulating & Rectifying
2. Patt. WP2015 Trigger Unit Design B
3. Patt. WP2025 Discharge Line Unit 25 kW working
4. Patt. WP3031 Control Unit for Panel SAW
5. Patt. WP404 Waveguide 0.9

(b) Spark Gap
6. Patt. WP5057 Spark Gap WP5057 complete with box

(c) Transmitter
7. Patt. WP2012 Transmitter 6W
8. Patt. WP1017 Waveguide 0.9

(d) Oscillator 0.9
9. Patt. WP3000/40 Oscillator 0.9
35. Pst. G43X  Filter Unit Design 66
34. Pst. G63X  D1-56 Modulation
33. Pst. C43X  Filter Unit Design 65
32. Pst. C63X  D1-55
31. Pst. G36M  BNC Plug-in Unit, Type 307
30. Pst. W17M  Control Unit Design 7
29. Pst. W17M  Board Controlling & Distributing Design 3
28. Panel G17M  Receiver P/U
26. Pst. W17M  Filter Unit Design 
25. Pst. W17M  Cathode Follower Unit Dec. 3
23. Pst. W17M  Cathode Follower Unit Dec. 3
22. Pst. G17M  Type 707
20. Pst. G17M  Unloading Unit B.U.2
19. Pst. W17M  Test Unit Design 8
17. Pst. G17M  Bus Bar Units, 707
16. Pst. G17M  Bus Bar Units, 707
15. Pst. G17M  Bus Bar Units, 707
13. Pst. G17M  Bus Bar Units, 707
12. Pst. G17M  Bus Bar Units, 707
11. Pst. G17M  Bus Bar Units, 707
8. Pst. G17M  Bus Bar Units, 707
7. Pst. G17M  Bus Bar Units, 707
6. Pst. G17M  Bus Bar Units, 707
5. Pst. G17M  Bus Bar Units, 707
4. Pst. G17M  Bus Bar Units, 707
3. Pst. G17M  Bus Bar Units, 707
2. Pst. G17M  Bus Bar Units, 707
1. Pst. G17M  Bus Bar Units, 707

Weight of Display Panels and Related Apparatus - 511 lbs
Weight of Receiver and Modulator Panels - 155 lbs
Weight of Display Unit Design 13 or 25 (E.U.1) - 911 lbs
Weight of Modulator 58 - 911 lbs
Weight of Receiver P/U and Panel Switch Mechanism - 105 lbs
Dimensions of typical office - 8 1/4" x 9 1/4"

ASSOCIATED AERIAL OUTFIT
Aerial Unit 66 consisting of a trans-

ASSOCIATED POWER SUPPLY OUTFITS
A.C. Supply Outfit D20 - Ships fitted with type 272/3U-FP
A.C. Supply Outfit D20 - Ships fitted with type 272/3U-FP
A.C. Supply Outfit D20 - Ships fitted with type 272/3U-FP
See respective Summary of Data Sheets.

BRIEF DESCRIPTION
Type 272 is the microwave version of Type 272B, intended for application to fire-control systems that are capable of operating on 200 or 400 V.R.M.S. and 50 and 60 Hz. The same type Type 272M is affected by adding certain new units to Panel L66 and modifying others, after which the Panel becomes L53A. In addition, the original reference signal generator unit in the receiving aerial case is replaced by a receiver gear box. The modifications are manually carried out as an A and A Item.

HANDBOOK
8.8.1706(1) to (5) Amendment No. 1.

ESTABLISHMENT LIST
E.C.

INSTALLATION SPECIFICATION
B907

Note: Some pattern numbers may carry later suffix letters as a result of minor modifications.