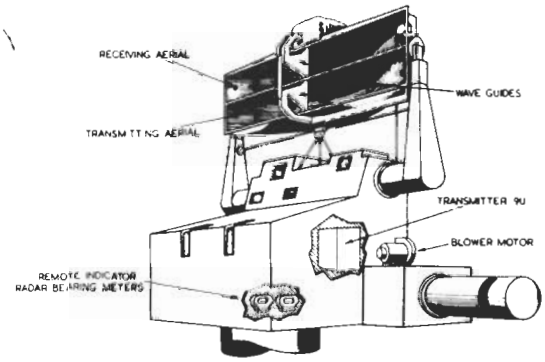
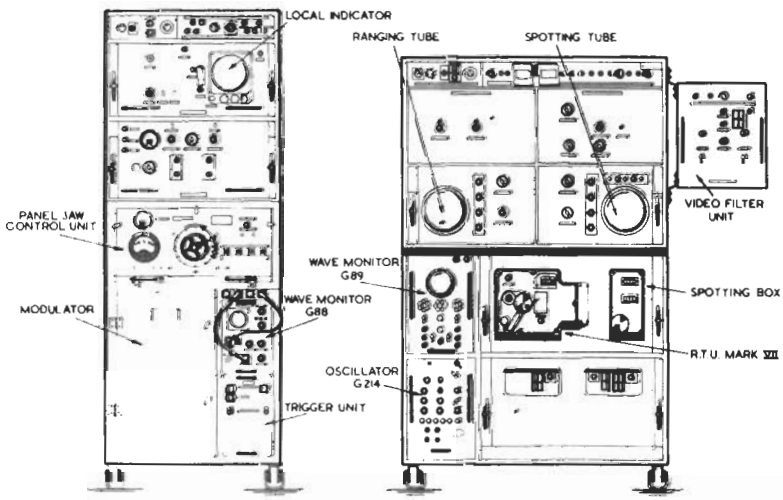
TYPE 274

SUMMARY OF DATA

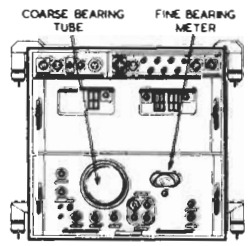
PURPOSE	A G.S. set for the control of the main armament in cruisers and above.
FREQUENCY	3230-3380 Mc/s.
WAVELENGTH	8.88- 9.29 cms.
POWER OUTPUT	400 kW (peak)
PULSE REPETITION FREQUENCY	500 pulses per second
PULSE LENGTH	0.5 micro seconds
INTERMEDIATE FREQUENCY	60 Mc/s.
RECEIVER BANDWIDTH	Wide (operational) - 4 Mc/s. Narrow (for setting up local oscillator) - 2- 2½ Mc/s.
BEAM-WIDTH	Aerial Outfit AUM - 1° horizontal (half field strength) 13° Vertical (half field strength) Aerial Outfit AUD - 1° horizontal (half field strength) 25° Vertical (half field strength)
POWER REQUIREMENTS	180V 500 c/s 2.5 kW 220V D.C. 1.25 kW (approx.) 50V 50 c/s 100 watts 24V D.C. 90 watts (approx.)
HEAT DISSIPATION IN OFFICE	Panel L30 } 1½ kW Panel L32(B) ½ kW Panel 3AW } Panel L31 (R.S.) ½ kW A.C. Outfit - 2½ kW



AERIAL ARRAY (AUM) ON DIRECTOR CONTROL TOWER



PANELS 3AW & L30



PANEL L31

PANEL L32

MAJOR UNITS

TRANSMITTER AND MODULATOR

1.	Patt. W7012D	Panel 3AW Modulating & Rectifying
2.	Patt. W7015	Trigger Unit Design B
3.	Patt. W9346A	Blower Unit
4.	Patt. W7013B	Control Unit for Panel 3AW
5.	Patt. W6258	Discharge Line Unit 25 kV working
6.	Patt. W7016	Spark Gap adjustable S.E.1
7.	Patt. W7004	Transmitter 9U
8.	Patt. W7014	Wavemonitor G88
9.	Patt. 53919/A/B	Oscillator G209/A/B
10.	Patt. 53916	Wavemeter G94
11.	Patt. 54618	Board V.C. Manual Des. B
12.	Patt. W6435A	Board Distributing Single phase A.C. & D.C.

RECEIVER OUTFIT CEG

13.	Patt. W8006	Receiver P54
14.	Patt. W7010	Panel L30 (Receiving)
15.	Patt. 55312	Rectifier Unit Des. 50
16.	Patt. W7114	Oscillator G204
17.	Patt. 53633	Amplifier M77
18.	Patt. 53634	Amplifier M78
19.	Patt. W7011	Cathode Follower Unit S.E.1
20.	Patt. 53277	Cathode Ray Unit Des. 19
21.	Patt. W9277	Filter Unit 500V 3 amps
22.	Patt. W7020A	Panel L31 (R.5) Upper Left
23.	Patt. W7026	Oscillator G203
24.	Patt. W7027	Time Base and Relay Unit Des. 1

RECEIVER OUTFIT CEG (contd.)

25.	Patt. W7025	Ranging Spot Generator S.E.1
26.	Patt. W7029	Strobe Generator Design A
27.	Patt. 58213	Amplifier Unit Video Design 2
28.	Patt. W7028	Integrator Unit S.E.1
29.	Patt. W7019	Delay Unit Design C
30.	Patt. W7031	Control Unit Design D
31.	Patt. W7288A	Panel L31 (R.5) Upper right
32.	Patt. W7032	Calibrator Unit Design B
33.	Patt. W7034	Time Base Unit Design L
34.	Patt. W7033	Ranging Spot Generator S.E.2
35.	Patt. W7035	Blanking Generator S.E.1
36.	Patt. 59092	Amplifier Unit Video Des. 4
37.	Patt. W7037	Delay Unit Design O
38.	Patt. W7038	Control Unit Design E
39.	Patt. W7289	Panel L31 (R.5) Middle
40.	-	Ranging Gonio Assembly
41.	Patt. 10633	R.T.U. Mk.VII (D.N.O. Item)
42.	-	Spotting Gonio Assembly
43.	Patt. 10757	Spotting Box (D.N.O. Item)
44.	Patt. W7291	Panel L31 (R.5) Lower left
45.	Patt. W7041	Rectifier Unit S.E.3
46.	Patt. W7044A	Wavemonitor G89
47.	Patt. 54732	Test Oscillator G214
48.	Patt. W7290	Panel L31 (R.5) Lower Right
49.	Patt. W7042	Rectifier Unit S.E.4
50.	Patt. W7050A	Panel L32 (B)
51.	Patt. W7043	Rectifier Unit S.E.5
52.	Patt. W7830	Control Unit Design F
53.	Patt. W7047A	Time Base Unit Design M
54.	Patt. W7048	Blanking Generator S.E.2
55.	Patt. 56911	Control Unit (Valve) and filter unit for Panel L32
56.	Patt. 55531	Filter Unit Design 8
57.	Patt. 55115	Air Conditioning Unit

Items 2 - 23 are components of Item 1
Items 23 - 30 are components of Item 22
Items 40 - 43 are components of Item 39
Item 49 is a component of Item 48
Item 45

Items 15 - 20 are components of Item 14
Items 32 - 38 are components of Item 31
~~Item 45 is a component of Item 44~~
Items 49, 51 - 55 are components of Item 50

PHYSICAL DATA

Weight of T.S. apparatus (including modulator and receiver) displays and distribution boards - 16½ cwt

Weight of Modulator, Receiver and Distribution Boards - 5½ cwt

Weight of Aerial Outfit excluding reflectors - 5½ cwt

ASSOCIATED AERIAL OUTFIT

Aerial Outfit AUM - fitted wherever practicable.

Aerial Outfit AUO - fitted where insufficient vertical height exists for Aerial Outfit AUM

The aerial consists of two cylindrical paraboloid (cheese) reflectors each approximately 14'0" by 14½" aperture mounted on the director control tower. Aerial Outfit AUM is stabilised in elevation. The aerial system is air conditioned and separate transmitting and receiving aerials are used in conjunction with an aerial switch unit.

ASSOCIATED POWER SUPPLY OUTFIT

A.C. Supply Outfit DUE - Ships fitted with one Type 274

A.C. Supply Outfit DVG - In ships fitted with 3 - Type 275, 2½ kW is obtained from A.C. Supply Outfit DVG

A.C. Supply Outfit DUB - Ships fitted with two Type 274

(SEE RESPECTIVE SUMMARY OF DATA SHEETS)

ASSOCIATED TEACHER OUTFIT

Teacher Outfit HRB

BRIEF DESCRIPTION

Type 274 is a G.S. set which supersedes Type 284 and was designed as an integral part of L.A. Fire Control System in cruisers and above. It can provide accurate range and bearing of a target also accurate range of fall of shot relative to target with estimation of line correction.

The set consists of separate transmitter and receiving aerial arrays with transmitter fitted on the Director Control Tower. In the transmitting station, the Receiver Panel stands on top of the Modulator Panel and the Ranging and Spotting Panel is situated close to the Admiralty Fire Control Table (A.F.C.T.) whilst the Bearing Panel is situated above the A.F.C.T. The Power Supply and Distribution Boards are also situated in the office.

HANDBOOK

B.R.1767(1) - (6)

ESTABLISHMENT LISTS

E583 (Type 274) E677 (Aerial Outfits AUM/AUO)

INSTALLATION SPECIFICATIONS

B305 (Type 274) B306 (Aerial Outfits AUM/AUO)