

# RESTRICTED

BR 333(1)  
Original

## AUTOMATIC SURFACE PLOTTING SYSTEM JYA(7)

JYA(7)

### SUMMARY OF DATA

#### PURPOSE

To present on three operational displays, two of which are plotting tables, a PP1 picture with interlaced bearing and position markers. The picture projected on the plotting table surface is sea stabilised.

#### BRIEF TECHNICAL DESCRIPTION

Radar data from up to three radar outfits may be displayed. Each of the three display positions has independent choice of the radar to be displayed except when JYA markers are being interlaced with the radar data, then each of the displays showing these markers must show whichever of the three radars has been selected to be processed, at that time, by the Marker Cabinet. Mixed video data, I.F.F. Sonar Markers etc. may be displayed with their associated radar independently at each display, when required, with the same restriction as above when JYA Markers are to be displayed.

Six JYA Markers may be displayed at the same time on each or either of the plotting tables. Five of these may be in the form of either a Bearing or a Position Marker, the other is Position only. The latter marker only is shown on the third display. Selection of Marker sources for four of the JYA Markers is carried out externally to the system at a Data Selection Panel mounted over one of the plotting tables. These sources may be range and/or bearing transmissions from other displays, sonar outputs, visual sights etc. Two of the markers, not selected via the Data Selection Panel, may be offset to show bearing lines from points other than the display centre. The plotting table picture is projected onto a phosphor sheet on the underside of the plotting surface. The projection unit, which also projects a range and bearing graticule, is mounted on a carriage, in the base of the table, which moves under the control of ships speed and course data.

#### MAJOR UNITS

- |     |                                |                 |
|-----|--------------------------------|-----------------|
| (1) | Plotting Table Assembly        | Two in number   |
| (2) | Marker Cabinet Assembly        | One in number   |
| (3) | Co-ordinate Converter Assembly | One in number   |
| (4) | Servicing Cabinet Assembly     | One in number   |
| (5) | Power Units                    | Three in number |
| (6) | Display Outfits JDA3M          | Two in number   |

Plotting Table Data

Plotting Area                      30 in North-South  
   45 in East-West

Display Diameter                    20 in

Display centre movement            To within 5½ in of the edge of the Plotting surface

Scales

¼ mile per inch	Total range 5000 yds
½ mile per inch	Total range 10 000 yds
1 mile per inch	Total range 20 000 yds
2 miles per inch	Total range 40 000 yds
5 miles per inch	Total range 50 miles

Accuracy

Radar Range 1% of full range

Bearing ± 2°

Marker Range ± 3% of full range

Bearing ± 4°

Table Movement Speed ± 0.25 knots below 10  
   ± 2.5% above 10 knots

Bearing ± ½°

#### PHYSICAL DATA

Pattern No.	Description	Height	Width	Depth	Weight
-	Plotting Table Assembly	41 in	62 in	44 in	1000 lb
-	Marker Cabinet Assembly	76½ in	27 in	24 in	930 lb
-	Co-ordinate Converter Assembly	57½ in	27 in	24 in	700 lb
-	Servicing Cabinet Assembly	74½ in	34½ in	24½ in	500 lb
AP 173415	Selector Unit Relay	18 in	12 in	8½ in	10 lb
972-5302	Switch Unit Control Selector	6 x 6 in	VCS		4 lb
-	Power Cabinet Assembly	21½ in	18½ in	19½ in	254 lb
AP 173416	Distribution Unit Radar and Marker	14½ in	12 in	6½ in	8 lb
-	Tracker Control Assembly	12 in	10½ in	14 in	28 lb

(Illustrations as before)

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7.59

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### POWER REQUIREMENTS

440 V 60 Hz 8 kW      115 V 400 Hz 0.2 kW  
115 V 60 Hz 2 kW      24 V d.c. 0.8 kW  
220 V d.c. or 115 V a.c. (for anti-condensation heaters) 1.3 kW

### HEAT DISSIPATION

Operations Room	Plotting Tables	1.25 kW each
	JDA Display	0.5 kW
	Ancillaries	0.5 kW
Annexe	Marker Cabinet	2 kW
	Co-ordinate Converter	1.25 kW
	Power Units	0.5 kW each
	Servicing Cabinet	0.5 kW
	Monitor Display	0.5 kW

### HANDBOOK

BR 1173

### ESTABLISHMENT LIST

E 1336

### INSTALLATION SPECIFICATION

B 1025