PURPOSE

I.F.F. Mk. 10 interrogator co-ordinated with Type JTF/111.

BRIEF DESCRIPTION

The Mark 10 I.F.F. system is a pulsed secondary radar in which a signal transmitted from an interrogator to the ship is received by a transponder fitted in the craft under observation. The transponder then sends back an appropriate reply which is detected by the receiving part of the interrogator and distributed for display. Thus "hugs" of movement are available for general, personal and functional identification.

Type 944(2) comprises (a) I.F.F. Mk.10 co-ordinated with radar Type JTF or 293 or 111 unco-ordinated. In (a) the I.F.F. aerial rotation is co-ordinated with that of the main aerials of the radar and the I.F.F. replies are superimposed on the radar video to provide a mixed display. In (b) the I.F.F. interrogator is completely independent, having its own exclusive display arrangements.

FREQUENCY

1030 MHz Transmission
1050 MHz Reception

POWER OUTPUT

1 kw approximately

PULSE REPETITION FREQUENCY

Co-ordinated - 390 pulses per second
Unco-ordinated - 400 pulses per second

PULSE LENGTH

1 ms approximately from transmitter, lengthenet to 4.5 ms approximately for display

INTERMEDIATE FREQUENCY

90.5 MHz

RECEIVER BANDWIDTH

8 MHz to 11 MHz at 6 dB down

BEAM WIDTH

14 degrees at half-power points

MAJOR UNITS

(a) American Items

(i) Receiver-Transmitter RT-1144/UPA-1 (MSA) [Part of SET 6/6X/14-130A]
(ii) Code-Decoder RT-614/UPA (MSA)
(iii) Electronic Control Amplifier AH-1369/UP (MSA) [Part of SET 6/6X/14-130A]
(iv) Antenna FT-503/UPA-23A (MSA)
(v) Antenna Redonda AE-412/UP (MSA)
(vi) Motor Generator PG-347/UP (MSA)
(vii) Test Set AM/DHM-48 (MSA)

(b) British Items

DISTRIBUTION ARRANGEMENT

Part of Cabinet

TEST SET

ANTENNA

CABINET (STORED IN MILD.)

A/MAIN PULSE LENGTHENING UNIT (DESIGN BEEING TESTED)

A/FUSS CABLE (DESIGN & WOOD)

RECEIVER TRANSMITTER ET (AMPLIFIER) (MAIN)

A/FUSS CABLE SERVICING COAX/COAXIAL (MAIN)

A/FUSS CABLE SERVICING EXT/DUAL (MAIN)

A/FUSS CABLE SERVICING AT HIGH CABINET DESIGN (MAIN)

ELECTRONIC CONTROL, AMPERS AND CABLES (MAIN)

SPACE FOR A/FUSS CABLE SERVICING, WITH LINERS

INTERROGATOR CABINET EQUIPMENT

6.17
ASSOCIATED AERIAL OUTFIT

Aerial Outfit AMC [Part of Type 941(2)].

PHYSICAL DATA

<table>
<thead>
<tr>
<th>Description</th>
<th>Height</th>
<th>Width</th>
<th>Depth</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabinets</td>
<td>4 ft</td>
<td>1 ft 10 in</td>
<td>2 ft 6 in</td>
<td>550 lb</td>
</tr>
<tr>
<td>Aerial Control Unit</td>
<td>3 ft</td>
<td>1 ft 1 in</td>
<td>1 ft</td>
<td>50 lb</td>
</tr>
<tr>
<td>Motor Generator</td>
<td>1 ft 1 in</td>
<td>10 in</td>
<td>2 ft 1 in</td>
<td>155 lb</td>
</tr>
<tr>
<td>Aerial and Pedestal</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>310 lb</td>
</tr>
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</table>

POWER REQUIREMENTS

115 V 50/60 Hz single phase main supply 2.5 kW (0.5 kW for 0.5 sec during start up of aerial system)

115/220/230 V d.c. or a.c. 210 W for anti-condensation heaters

24 V d.c. 40 W for mixer units

In unco-ordinated installations, additional electrical control for control in a single control unit:

115 V 50/60 Hz single phase 50 W

24 V d.c. 50 W

Heat dissipation in circuit 1 kW approx.

REMARKS

The main items of interrogator equipment, although made in the United Kingdom, are of American design and have been supplied under the Mutual Defence Aid Programme. The items necessary to link the U.S.T. A.M. 10 System with British radars have been designed in the United Kingdom.

HANDBOOK

BR 1979

ESTABLISHMENT LIST

E 1137

INSTALLATION SPECIFICATION

B 833

6.18