

RESTRICTED

BR 333(1)
Original

TYPE 944M(1)

944M(1)

SUMMARY OF DATA

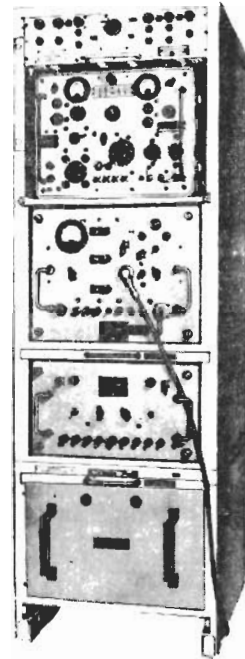
PURPOSE

IFF Mark 10 interrogator with Selective identification Feature (SIF) integrated with Radar Type 965M.

BRIEF DESCRIPTION

The Mark 10 system of IFF with SIF is a pulsed secondary radar in which a signal transmitted from an interrogator in the ship is received by a transponder in the craft under observation. The transponder then sends back a reply in the form of a coded pulse train for each interrogation. This is detected by the receiving part of the interrogator and then converted to a single pulse by SIF decoders and distributed for display. The equipment may be switched to basic operation if required when the SIF decoding circuits will be by-passed. Three modes of operation are available.

In the case of Type 944 the interrogator transmitter is triggered by the Type 965M trigger unit, the aerial is mounted on the radar aerial and rotates with it and the IFF responses are displayed on the radar displays. Mixer Control Units are fitted adjacent to each display by means of which the operator can set the mode and SIF code required. The main items of equipment are fitted in the radar office. SIF Decoders are fitted in cabinets in or adjacent to display rooms.



INTERROGATOR CABINET

FREQUENCY

1030 MHz Transmission
1090 MHz Reception

POWER OUTPUT

1 kW approximately

PULSE REPETITION FREQUENCY

(Pulses per second)
380 or 190 from Type 965M External Trigger Unit

PULSE DURATION

Transmitter — 1 microsecond
Reply (decoded) — 0.75 microsecond pulse
lengthened to 4.0 microsecond approximately for display.

INTERMEDIATE FREQUENCY

59.5 MHz

RECEIVER BANDWIDTH

8 MHz to 11 MHz at 6 dB down.

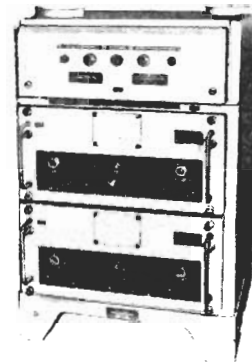
AERIAL BEAM WIDTH

7 degrees at half-power points

MAJOR UNITS

(a) Items of American Design

- | | |
|--|-----------------------------|
| (i) Receiver-Transmitter RT-194A/UPX-1 (MSA) |) Part of Radar Recognition |
| (ii) Coder-Decoder KY-61A/UPX-1 (MSA) |) Set AN/UPX-1A (MSA) |
| (iii) Radar Test Set AN/UPM-6B (MSA) | |



2 -- DECODER CABINET

RESTRICTED

(b) Accessory Outfit FFA

	<u>Pattern No.</u>	<u>Description</u>	<u>Remarks</u>
(i)	64221	Cabinet Design 129 Mod.1	
(ii)	64224	Cabinet Design 132	
(iii)	64227	Video Distribution Unit	
(iv)	64229	Mixer Control Unit Design 2	Numbers vary with installation.

(c) SIF Outfit SNA

(i)	5895-AP 164334	Decoder, Passive)
(ii)	5895-AP 164340	Stand, Cabinet Mounting)
(iii)	5895-AP 164341	Cabinet, Distribution Section)
(iv)	5895-AP 164342	Cabinet, 2 Decoder Section)
(v)	5895-AP 164343	Cabinet, 3 Decoder Section)
(vi)	5895-AP 164338	Mixer Control Unit (All Modes)
(vii)	5895-AP 164336	Decoder, Distress
(viii)	5895-AP 164335	Control, Coder, Mode 1
(ix)	5895-AP 164337	Coder, Transponder (Supplied for use as a Test Set)

PHYSICAL DATA

	<u>Height</u>	<u>Width</u>	<u>Depth</u>	<u>Weight</u>
Interrogator Equipment in Cabinet	183.0 cm (72 in.)	55.9 cm (22 in.)	71.1 cm (28 in.)	272 Kg (600 lb)
Cabinets with Decoders				
2 Decoders	106.7 cm (42 in.)	55.9 cm (22 in.)	66.0 cm (26 in.)	129 Kg (285 lb)
3 Decoders	147.3 cm (58 in.)	55.9 cm (22 in.)	66.0 cm (26 in.)	175 Kg (385 lb)
4 Decoders	157.5 cm (62 in.)	55.9 cm (22 in.)	66.0 cm (26 in.)	227 Kg (500 lb)
5 Decoders	183.0 cm (72 in.)	55.9 cm (22 in.)	66.0 cm (26 in.)	272 Kg (600 lb)

POWER REQUIREMENTS

	115 V 50/60 Hz Single Phase	115 or 220 V for heaters	24 V DC
Interrogator Cabinet	670 watts	210 watts (220 V only)	0.1A + 0.35A for each passive decoder and M.C.U. (all Modes) combined.
Decoder Passive Mode 1	200 VA (the supply can also be 230 V)	30 watts	0.05A
Decoder, Distress	70 VA	10 watts	0.05A
Decoder Cabinet, for each Decoder, Passive	200 VA (the supply can also be 230 V)	30 watts	
Coder, Transponder Test Set	50 VA		
Additional V.D.U.	185 watts	45 watts	

Heat dissipation in office 1 kW approximately.

ASSOCIATED AERIAL OUTFIT

IFF Mk. 10 Aerial, AT-352/UPA-22A (MSA) integral with Aerial Array AKE

REMARKS

The main items of interrogator equipment are of American design, although manufactured in the United Kingdom under the Mutual Security Aid (MSA) agreement. Cabinets, SIF decoders and items necessary to link the IFF Mark 10 system with British radars are of British design and manufacture.

HANDBOOK

BR 2330

ESTABLISHMENT LISTS

Type 944M(1)	E1127
Outfit AMB	E1171
Outfit FFA	E1172
Outfit SNA	E1262
Test Set AN/UPM-6B (MSA)	AE25

INSTALLATION SPECIFICATION

B831