

TYPE 944M(2)

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SUMMARY OF DATA

PURPOSE

I.F.F. Mark 10 interrogator with selective identification feature (S.I.F.), co-ordinated with primary radar, or unco-ordinated.

BRIEF DESCRIPTION

The Mark 10 system of I.F.F. with S.I.F. 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 S.I.F. decoders and distributed for display. The equipment may be switched to basic operation if required, when the S.I.F. decoding circuits will be by-passed. Three modes of operation are available.

Type 944M(2) comprises (a) I.F.F. Mark 10 co-ordinated with a primary radar or (b) unco-ordinated. In (a) the I.F.F. aerial rotation is co-ordinated with the radar aerial rotation, and the I.F.F. responses 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.  
1090 MHz reception.

POWER OUTPUT

1 kW approximately.

PULSE REPETITION FREQUENCY

Co-ordinated - the nearest sub-multiple of the radar p.r.f. below 400 (e.g. 250 pulses per second for a 500 Hz radar).  
Unco-ordinated - 400 pulses per second.

PULSE DURATION

1  $\mu$ s from transmitter. Reply (decoded) 0.75  $\mu$ s pulse lengthened to 4.0  $\mu$ s approximately for display.

INTERMEDIATE FREQUENCY

59.5 MHz

RECEIVER BANDWIDTH

8 MHz to 11 MHz at 6 dB down.

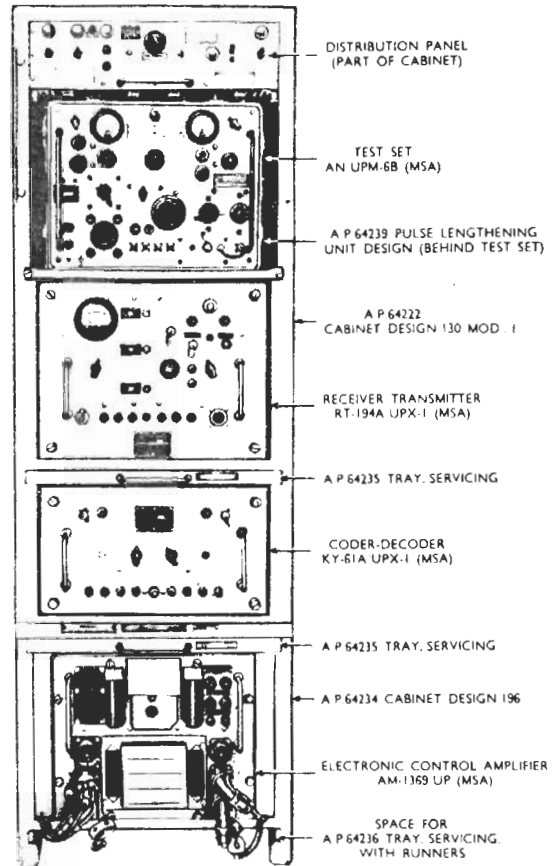
AERIAL BEAM WIDTH

14 degrees at half-power points.

MAJOR UNITS

Items of American Design

- |  |   |
|--|---|
| 1. Receiver-Transmitter RT-194A/UPX-1(MSA) | } Part of Radar Recognition Set AN/UPX-1A (MSA) |
| 2. Coder-Decoder KY-61A/UPX-1 (MSA)        |   |
| 3. Radar Test Set AN/UPM-6B (MSA)          |   |



INTERROGATOR CABINET EQUIPMENT

Accessory Outfit FFB

Pattern No.	Description	Remarks
1. 64222	Cabinet Design 130 Mod. 1	
2. 64234	Cabinet Design 196	
3. 64229	Mixer Control Unit Design 2	
4. 64238	Aerial Control Unit 41B	Numbers vary with installation.
5. 64227	Video Distribution Unit	Unco-ordinated installations only. Only when more than five displays are required to show I.F.F. signals.

S.I.F. Outfit SNA

1. 5895-AP 164334	Decoder, Passive	} Numbers vary with installation
2. 5895-AP 164340	Stand, Cabinet Mounting	
3. 5895-AP 164341	Cabinet, Distribution Section	
4. 5895-AP 164342	Cabinet, 2 Decoder Section	
5. 5895-AP 164343	Cabinet, 3 Decoder Section	
6. 5895-AP 164338	Mixer Control Unit (All Modes)	
7. 5895-AP 164336	Decoder, Distress	
8. 5895-AP 164335	Control, Coder, Mode 1	
9. 5895-AP 164337	Coder, Transponder (Supplied for use as a Test Set)	

**PHYSICAL DATA**

	Height	Width	Depth	Weight
Interrogator Cabinet with equipment	6 ft	22 in	28 in	550 lb
Aerial Control Unit 41B	12 in	13 in	12 in	50 lb
Motor Generator	16 in	10 in	25 in	155 lb
Aerial, with pedestal	-	-	-	210 lb
Cabinets with S.I.F. decoders				
2 decoders	3 ft 6 in	22 in	26 in	285 lb
3 decoders	4 ft 10 in	22 in	26 in	385 lb
4 decoders	5 ft 2 in	22 in	26 in	500 lb
5 decoders	6 ft 0 in	22 in	26 in	600 lb

**POWER REQUIREMENTS**

	115 V, 50/60 Hz Single Phase	115 or 220 V for heaters	24 V d.c.
Interrogator Cabinets complete	2.5 kW (9.25 kW starting)	250 watts	0.1A + 0.35A for each passive decoder and M.C.U.
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	
Aerial Control Unit 41B (when fitted)	50 watts	45 watts	50 watts
Video Distribution Unit (when fitted)	185 watts	45 watts	
Coder, Transponder Test Set	50 VA		

Heat dissipation in office 1 kW approximately

**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, S.I.F. decoders and items necessary to link the I.F.F. Mark 10 system with British radars are of British design and manufacture.

**HANDBOOK**

BR 2355

**ESTABLISHMENT LISTS**

Type 944M(2)	E1127
Outfit AMC	E1171
Outfit FFB	E1172
Outfit SNA	E1262
Test Set AN/UPM-6N(MSA)	AE25

**ASSOCIATED AERIAL OUTFIT**

Aerial Outfit AMC or AME.

**INSTALLATION SPECIFICATION**

B833