

## SUMMARY OF DATA

## PURPOSE

A general purpose medium power (400 watts) HF transmitter for communication between ship/ship, ship/shore and ship/air. It is fitted as one of the main wireless transmitters and replaces Types 89M/P/Q, TBK and TBM.

## TYPE OF TRANSMISSION

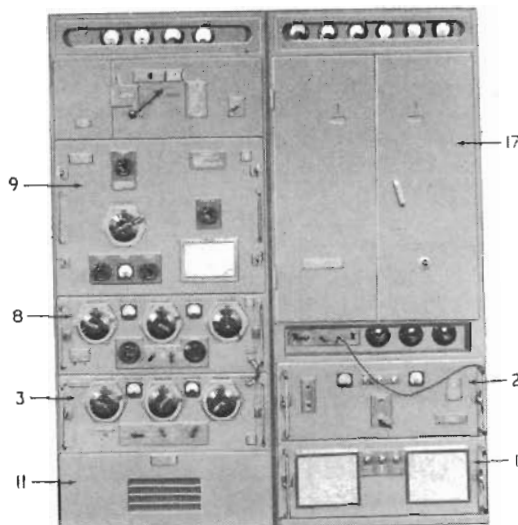
CW, MCW or Voice.

## FREQUENCY RANGE

1.5 - 24 MHz.

## MAJOR UNITS

Types 603 and 603D comprise the following units:-



GENERAL VIEW OF EQUIPMENT

Unit No.	Patt. No.	DESCRIPTION	PHYSICAL DATA			
			Height	Width	Depth	Weight
3	W8360	Transmitter 5AB	10½ in	2 ft 4¾ in	1 ft 5 in	80 lb
8	W9431	Amplifier M88	10¾ in	2 ft 5 in	2 ft 0 in	130 lb
9	W9439	Aerial Tuning Unit, 400 watt	1 ft 9 in	2 ft 3 in	1 ft 9 in	190 lb
11	53345A	Framework Design 1	6 ft 0 in	2 ft 5½ in	1 ft 11 in	500 lb
1	W8358	Rectifier Unit SE13	10½ in	2 ft 5 in	1 ft 5 in	130 lb
2	W8359	Modulator and Rectifier Unit Design A	10½ in	2 ft 4¾ in	1 ft 2½ in	140 lb
12	W9433	Transformer Unit Design 1	14½ in	2 ft 3 in	1 ft 1 in	340 lb
13	54298	Rectifier Unit Design 45	1 ft 9 in	2 ft 3 in	8¾ in	200 lb
14	W9432	Modulator Unit Design 2	10½ in	2 ft 3 in	1 ft 5 in	120 lb
15	57824	Contacting Unit Design 3	7½ in	2 ft 3 in	1 ft 2½ in	55 lb
16	55057	Bias Unit	8 in	2 ft 4 in	8 in	60 lb
17	57825	Framework Design 3	6 ft 9 in	2 ft 5½ in	1 ft 11 in	530 lb

Units 3, 8 and 9 are separate panels housed in Unit 11. Units 1, 2, 12, 13, 14, 15 and 16 are separate panels housed in Unit 17.

## ANCILLARY EQUIPMENT

Patt. No.	DESCRIPTION	REMARKS
53325 65416	Rectifier Unit, Design 46 Attenuator Unit, Design 29	Only fitted in cruisers and above, and ships fitted with Wireless and Voice Control Outfits KHA Series.

## BRIEF DESCRIPTION OF MAJOR UNITS

Amplifier M88 Patt. W9431 - This unit contains a single stage RF Amplifier designed to increase the output of the Transmitter 5AB from 50 watts to 650 watts on CW and to 450 watts, unmodulated carrier on MCW and Voice. It feeds the Aerial Tuning Unit Patt. W9439.

Aerial Tuning Unit, 400 watt Patt. W9439 - This unit consists of a generously proportioned tuned circuit to provide maximum transference of power to the aerial. It is capable of withstanding voltages up to 20 kv and a maximum current of about 20 amps. This unit also contains a Dummy Load for the transmitter with a meter for measuring the RF current.

Transformer Unit, Design 1 Patt. W9433 - This unit contains two identical transformers which provide power for the two sides of the Rectifier Units Design 45.

Rectifier Unit Design 45 Patt. 54298 - Consists of two separate full wave rectifier systems providing HT for the Amplifier M88 and the Modulator Unit, Design 2.

Modulator Unit, Design 2 Patt. W9432 - Designed to raise the power of the Modulator and Rectifier Unit Design A from 50 watts to 375 watts and modulates the Amplifier M88.

Contractor Unit, Design 3 Patt. 57824 - Contains relays and contactors for applying power to the various units comprising the transmitter.

Bias Unit Patt. 55057 - Provides the D.C. voltages used for:-

- (a) operate the interlock and Set-on relays
- (b) operate the Delay contactor in the Contractor Unit, Design 3
- (c) provide a fixed grid bias for Amplifier M88 and
- (d) provide a variable grid for the Modulator Unit Design 2.

A brief description of Units 1, 2 and 3 may be found in the Data Sheet on Types 601 and 601D.

## POWER REQUIREMENTS AND CONSUMPTION

Power Supply : 230 volts 50 Hz single or 3 phase A.C.

Power Consumption : 3 kW on CW  
4.5 kW on MCW or Voice

## CONTROL CIRCUITS

Type 603 can be operated in 'Local Control' or with any of the standard Wireless and Voice Control Outfits.

Type 603D works with the standard Central Wireless Control Outfits ( DA Series)

## AERIAL SYSTEM

The Aerial Tuning Unit will accommodate any aerial of 30 ft or longer, including whip aeriels.

## REMARKS

Wavemeter GN or GJ is not required for the calibration of Transmitter 5A3 since the accuracy of the Partial Crystal Control circuit is of the same order as these wavemeters. Calibration is affected by making use of the Crystal Oscillator.

## HANDBOOK

BR 1468(1)(2)

## ESTABLISHMENT LIST

E696

## INSTALLATION SPECIFICATION

8689