

## SUMMARY OF DATA

## PURPOSE

A general purpose low power (40 watts HF 15 watts MF) transmitter and receiver fitted in all classes of ships replacing the Type TCS, 607E, 608E and 60EQR.

## TYPE OF TRANSMISSION AND RECEPTION

CW, MCW, or Voice (No Voice on MF Transmitter). Maximum keying speed 30 Bauds.

## FREQUENCY RANGE

HF Transmitter - 1.5 - 16 MHz in 3 ranges  
MF Transmitter - 330 - 500 kHz in 1 range  
Receiver - 60 kHz - 30 MHz in 8 ranges.

## BRIEF TECHNICAL DESCRIPTION

HF Transmitter AP 100337

Frequency Control	Crystal or Master Oscillator	
Frequency Stability	Crystal $\pm 0.02\%$ MO $\pm 0.1\%$	} for $\pm 10\%$ supply voltage fluctuation
Output	40 Watts	

The RF circuit has oscillator, frequency doubler, buffer, and power amplifier stages. The oscillator stage is switchable between any of eight crystals and a continuous coverage master oscillator. The modulation circuit has oscillator (MCW) or pre-amplifier (voice), limiter, phase-splitter, and power amplifier stages, the last modulating the anode and screen grid supplies to the RF power amplifier stage.

MF Transmitter AP 100338

Frequency Control	Master Oscillator
Frequency Stability	$\pm 0.1\%$ for $\pm 10\%$ supply voltage fluctuation
Output	15 Watts

The RF circuit has oscillator, buffer amplifier, and power amplifier stages. The modulation circuit has oscillator, phase splitter and power amplifier stages, the last modulating the anode and screen grid supplies to the RF power amplifier stage.

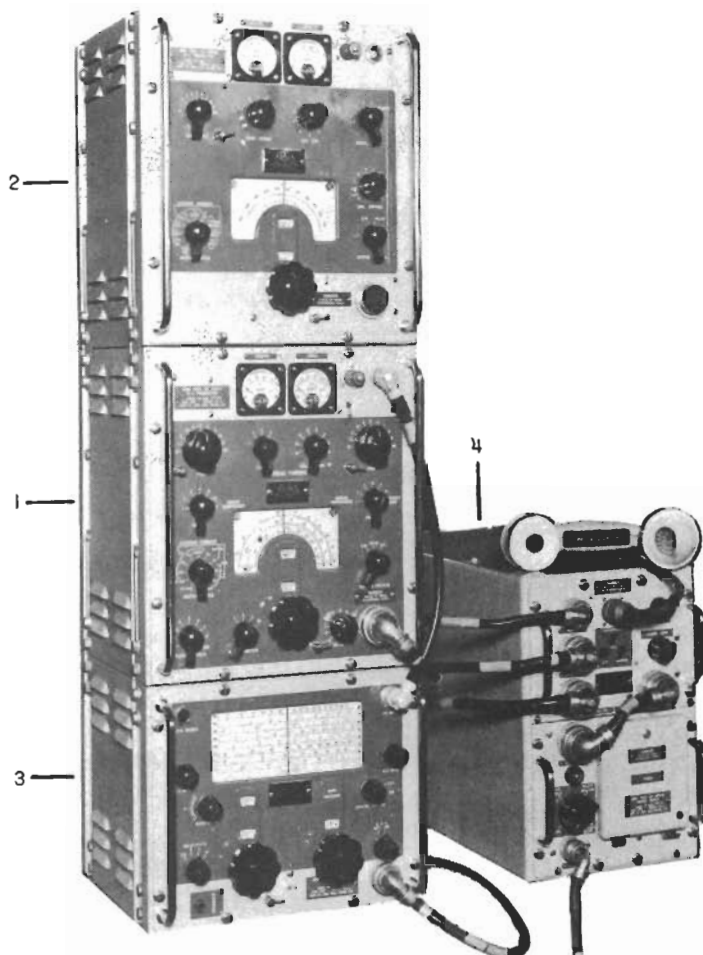
Receiver AP 100339 (Receiver Outfit CAT)

Overall Sensitivity	: Input for 2 Watts output	CW 10-30 dB above 1 $\mu$ V
	(depending on frequency)	MCW 20-30 dB above 1 $\mu$ V
Intermediate Frequency:	1.4 MHz and/or 460 kHz	
IF Selectivity Band-width	as single superheterodyne for 6 dB down	
	Wide 6.5 kHz, Intermediate 4-6 kHz, Narrow 1.0 kHz, Very Narrow 720 Hz	
Outputs	2 Watts into 600 Ohm load, and 60 mW into 100 ohms.	

The circuit is a single superheterodyne (460 kHz) on ranges 1, 2, 4, 5 and double (1.4 MHz and 460 kHz) on ranges 3, 6, 7, 8. It may be crystal or separate oscillator controlled and the IF selectivity is variable in 4 stages. AGC and noise limiter controls are pre-set. AF gain and alternative manual RF gain controls are provided. Radiation is less than 9.1  $\mu$ V/metre at 1 nautical mile.

Power Unit AP 100340

The power unit is designed to operate on a single phase 50-60 Hz 110/240 V supply and takes 450 watts when supplying Type 619 and CAT or 400 watts when supplying Type 619H or 619L only. The power unit is to be adjusted to suit the mains input voltage by means of tapings on the mains transformers, tapping voltages being 110, 115, 220, 230, 240V.



TRANSMITTER TYPE 619 &amp; RECEIVER OUTFIT CAT

## MAJOR UNITS

PATTERN NO.	DESCRIPTION	PHYSICAL DATA			
		height	width	Depth	weight
1. 100337	Transmitter, HF (Type 619)	14½ in	13½ in	14 in	63 lb
2. 100338	Transmitter, MF (Type 619)	14½ in	13½ in	14 in	48 lb
3. 100339	Receiver HF, MF (Outfit CAT)	10½ in	13½ in	14 in	44 lb
4. 100340	Power Unit (Type 619)	14 in	9½ in	21½ in	118 lb

Type 619 has power unit and both transmitters  
Type 619H has power unit and HF transmitter only  
Type 619L has power unit and MF transmitter only

## POWER REQUIREMENTS

110 V to 240 V      50 to 60 Hz

HF or MF Transmitter only connected      400 watts

Receiver only connected      50 watts

HF Transmitter and Receiver      450 watts

when the above supplies are not directly available, A.C. Supply Outfits DWH, DWJ and DWK are used from the 24 V, 110 V and 220 V D.C. supplies respectively.

## CONTROL CIRCUITS

Type 619/H/L and Receiver Outfit CAT are designed to work with Control Outfits KH series.

## HEAT DISSIPATION

Power Unit      50 watts

Receiver      50 watts

HF or MF Transmitter      350 watts

Total      450 watts Approx.

## AERIAL SYSTEM

wire or whip depending on particular ship installation.

## REMARKS

when the equipment is fitted for emergency purposes, the normal 230 V 50 Hz A.C. supply will be used with the facility to switch to emergency supply when necessary. Aerial and power connections are changed over between transmitters.

## HANDBOOK

BR 2169

## ESTABLISHMENT LIST

E1065 (Type 619).

E1051 (A.C. Supply Outfits DWH, DWJ and DWK).

## INSTALLATION SPECIFICATION