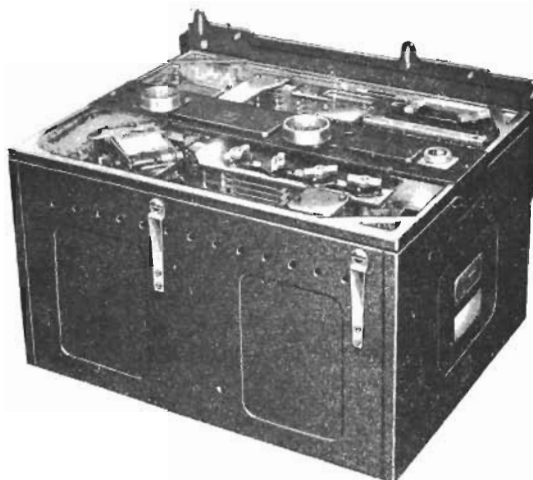


## SUMMARY OF DATA



TRANSMITTER-RECEIVER 7BP

**PURPOSE**

A low power (6 - 8 watts) V.H.F. transmitter-receiver fitted in light craft and above.

**TYPE OF TRANSMISSION**

Voice.

**FREQUENCY RANGE**

100 - 156 MHz. (Four pre-set frequencies).

**BRIEF TECHNICAL DESCRIPTION**Transmitter

Frequency : 100-156 MHz. (Four pre-set frequencies any one of which may be selected by pressing the appropriate button in the Controller Electric Type 3).  
 Frequency Control : Crystal Oscillator  
 Output : 6 - 8 watts.

The transmitter employs a crystal controlled oscillator circuit, the anode circuit of which is tuned to the second harmonic of the crystal frequency. Two trebler stages follow the oscillator and precede the final amplifier, thus making the output frequency greater than the crystal fundamental by a factor of eighteen. The final output stage is modulated by a push-pull modulator driven by a speech amplifier.

Receiver

Frequency : 100-156 MHz. (Four pre-set crystal controlled frequencies any one of which may be selected by pressing the appropriate button in the Controller Electric Type 3).  
 Intermediate Frequency : 12 MHz  
 Sensitivity : 4  $\mu$ V for a 10 dB Signal to Noise ratio.  
 System : Superheterodyne.

Controller Electric Type 3 - A.M. Ref. 10J/26

A small portable unit containing the push buttons for selecting the required frequency of transmitter and receiver and for switching off the equipment. Indicator lamps show the condition of the equipment (transmit or receive) and the particular channel being used.

Rectifier Unit SE8 - Patt. W7456/A

This unit has an input of 230/250 V 50 Hz and gives the following d.c. output voltages:

(a) 13 volts 3 amps (b) 320 volts 225 milliamps (c) 150 volts 10 milliamps

The approximate consumption is 300 watts.

## MAJOR UNITS

Type 86M/MS comprises the following units:-

Patt. No. or A.M. Ref.	DESCRIPTION	PHYSICAL DATA			
		Height	Width	Depth	Weight
56695 or 71295	Transmitter-Receiver 7BP	9 $\frac{1}{4}$ "	1' 0 $\frac{1}{2}$ "	1' 4"	49 lb
65628	Dummy Load for Transmitter-Receiver 7BP	3"	1 $\frac{1}{8}$ " dia.		$\frac{1}{2}$ lb
10A/12650	Box Junction Type 17B	2 $\frac{1}{2}$ "	4 $\frac{1}{2}$ "	8 $\frac{1}{2}$ "	2 $\frac{1}{4}$ lb
W7456/A and/or 10K/37	Rectifier Unit SE8	11 $\frac{1}{8}$ "	1' 2 $\frac{1}{4}$ "	1' 8"	107 lb
or 110K/248	Power Unit Type 16	6 $\frac{1}{4}$ "	9"	1' 1"	37 lb
10J/26	Controller Electric Type 3	5 $\frac{7}{8}$ "	5 $\frac{5}{8}$ "	2 $\frac{1}{2}$ "	2 $\frac{1}{2}$ lb
* W2926	Attenuator Unit Design 13				
* 57723	Loudspeaker Unit Design 2				
* 12554	Loudspeaker single horn Type G				

\* These items are not fitted in coastal craft or ships fitted with W/T and Voice Control Outfits KHA-F or Fighter Direction Outfits KFD-G.

## POWER SUPPLY ARRANGEMENTS

The power supply for the equipment is derived from either:-

- (a) Rectifier Unit SE8 which needs an input of 230 V 50 Hz from ships mains with a consumption of 300 watts.
- (b) A Power Unit Type 16 or 5016 which needs an input of 24 V derived from a battery outfit special to Type 86M. This battery outfit consists essentially of four Patt. W1469 Battery accumulator 6 volts 144 amp-hours. The consumption of the Power Unit is 12 amps.

## CONTROL CIRCUITS

The equipment can be operated locally or remotely up to 60 feet using the Electric Controller Type 3 and can operate in conjunction with W/T and Voice Control Outfits KHA-Z or Fighter Direction Outfits KFA-G.

## AERIAL SYSTEM

The following aerial outfits are used depending on class of ship fitted:

Aerial Outfit ARU - Aircraft Carriers. Aerial Outfit AJD used with Transmitter-Receiver 7BP(A)  
 Aerial Outfit AJA - Coastal Craft.  
 Aerial Outfit APH - Other Ships.  
 Aerial Outfit ANC - Cruisers and above. (Fitted in conjunction with Aerial Outfits AQD and AQB).  
 Aerial Outfit ACT - Royal Naval Air Stations.

In submarines a special aerial consisting essentially of a length of Patt. 4987 Cable.

## REMARKS

The transmitter may be tuned without breaking wireless silence by using the Dummy Load Patt. 65628.

HANDBOOKS BR 1401

## ESTABLISHMENT LISTS

L604 (Type 86M) E879 (Type 86MS)  
 E607 (Aerial Outfits ARU, APH, AJA)  
 E884 (Aerial Outfit ANC)  
 E707 (Aerial Outfit ACT)

## INSTALLATION SPECIFICATION

B342 (Type 86M with Control Outfits KFA-G, KHA-Z)  
 B603 (Type 86M in submarines)  
 B190 (Type 86M in destroyers and below)  
 B337 (Aerial Outfit ARU, APH)  
 B635 (Aerial Outfits ANC, ANZ)