

**PURPOSE**

Reception of UHF A.M. and F.M. signals.

**TYPE OF RECEPTION**

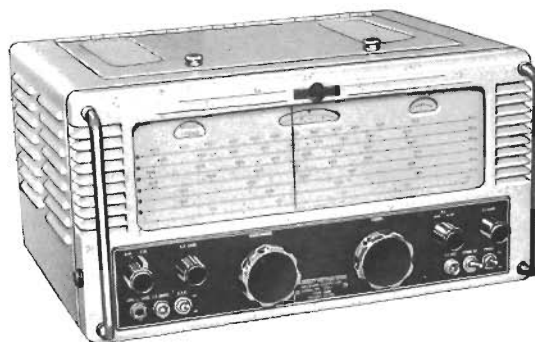
A.M. or F.M. MCW or Voice.

**FREQUENCY RANGE**

150 MHz to 400 MHz in six bands. First i.f. 50 MHz, second i.f. 5.2 MHz.

**BRIEF TECHNICAL DESCRIPTION**

The receivers are double superheterodyne comprising grounded-grid r.f. amplifier, germanium diode mixer, local oscillator, two stages of i.f. amplification at 50 MHz, frequency changer, two stages of i.f. amplification at 5.2 MHz, F.M. limiter, discriminator, A.M. demodulator, a.f. amplifier and output stage. In addition, there is a cathode follower output stage at 5.2 MHz, a tuning meter control valve, and A.G.C. and noise limiter circuits. Range-changing is effected by switching a coil turret assembly and the tuning capacitor is driven through a 140:1 reduction gear. Indicator lamps on the dial show the range selected. Signals at 50 MHz may be injected into the first i.f. amplifier and the cathode follower output enables the 5.2 MHz i.f. signal to be displayed on an oscilloscope. No loud-speaker is fitted but a phone jack for high impedance phones is mounted on the front panel and 2.5 ohm and 600 ohm outputs are available at the rear. Pick-up terminals are provided. A stabilised h.t. supply is used for the r.f. stages and other critical circuits. Receiver Outfit QS(2) is fitted with a crystal calibrator unit to facilitate dial alignment together with an associated mechanical cursor shift.



AP 103990 RECEIVER

**MAJOR UNIT**

	Height	Width	Depth	Weight
AP 103990 Receiver 770U UHF and 5820-99-972-1465 Receiver	8 $\frac{1}{2}$ in.	16 $\frac{1}{2}$ in.	15 in.	54 lb

**ELECTRICAL CHARACTERISTICS**

Sensitivity:	Better than 10/ $\mu$ V on all ranges for a 15 dB signal to noise ratio and 50 mW output
I.F. Selectivity: (5.2 MHz)	3 dB $\pm$ 2 dB down 15 kHz off resonance 6 dB $\pm$ 2 dB down 20 kHz off resonance 20 dB $\pm$ 3 dB down 50 kHz off resonance At least 40 dB down 100 kHz off resonance
Image Ratio:	400 MHz Range 1 better than 20 dB 400 MHz Range 2 better than 25 dB 200 MHz Range 5 better than 40 dB
A.G.C.:	The audio level does not change by more than 12 dB when the input is varied 60 dB above 10/ $\mu$ V
Discriminator:	Designed for narrow band F.M. deviation of 15 kHz
Input Impedance:	75 ohms unbalanced
Output:	0.5 watts to the 2.5 ohm speaker terminals and to the 600 ohm line terminals. High impedance output to telephone
A.F. Response:	$\pm$ 6 dB from 100 Hz to 10 kHz

**POWER REQUIREMENTS AND CONSUMPTION**

110, 115, 125, 200, 220, 230, 240 or 250 V, 40-60 Hz, 90 VA.

## HEAT DISSIPATION

90 watts approx.

## AERIAL SYSTEM

Aerial Outfit AQA for frequencies up to 210 MHz

Aerial Outfit AJE for frequencies between 210 and 500 MHz

A balance to unbalance Transformer Unit, R.F., AP 71000 is fitted with Aerial Outfit AQA.

## REMARKS

AP 103990 and 5820-99-972-1464 Receivers are the Naval versions of Stratton Model 770U Mk. I and Mk. II UHF Communications Receiver respectively.

## HANDBOOKS

BR 1153 Receiver Outfit QS(1) and QS(2)

BR 2062(1) Aerial Outfit AJE

## ESTABLISHMENT LIST

E1205

## INSTALLATION SPECIFICATION

B849