

AUSTRALIAN MILITARY FORCES

A.E.M.E. WORKSHOP MANUAL W.M.27

TELECOMMUNICATION TEST EQUIPMENT

Section 6.9.

N.I.V. MODULATED OSCILLATOR AWA TYPE J6726

(1) *Function*:—

This is a portable battery-operated signal generator suitable for the alignment and testing of wireless sets.

(2) *Ranges*:—

Frequency-Band A	140	kc/s	to	350	kc/s
B	340	..	to	850	..
C	840	..	to	2100	..
D	2.07	Mc/s	to	5.17	Mc/s
E	5.0	..	to	12.5	..
F	12.0	..	to	30.0	..

Output—1 microvolt to 300 millivolts.

(3) *Dimensions and Weight*:—

Height	....	....	....	8-in.
Length	....	....	....	12-in.
Depth	....	....	....	8-in.
Weight	....	....	....	21-lb.

(4) *Service Uses*:—

Suitable only as a temporary substitute for Signal Generator TA101B or in locations where no AC supply is available.

(5) *Control*:—

This is not a controlled store.

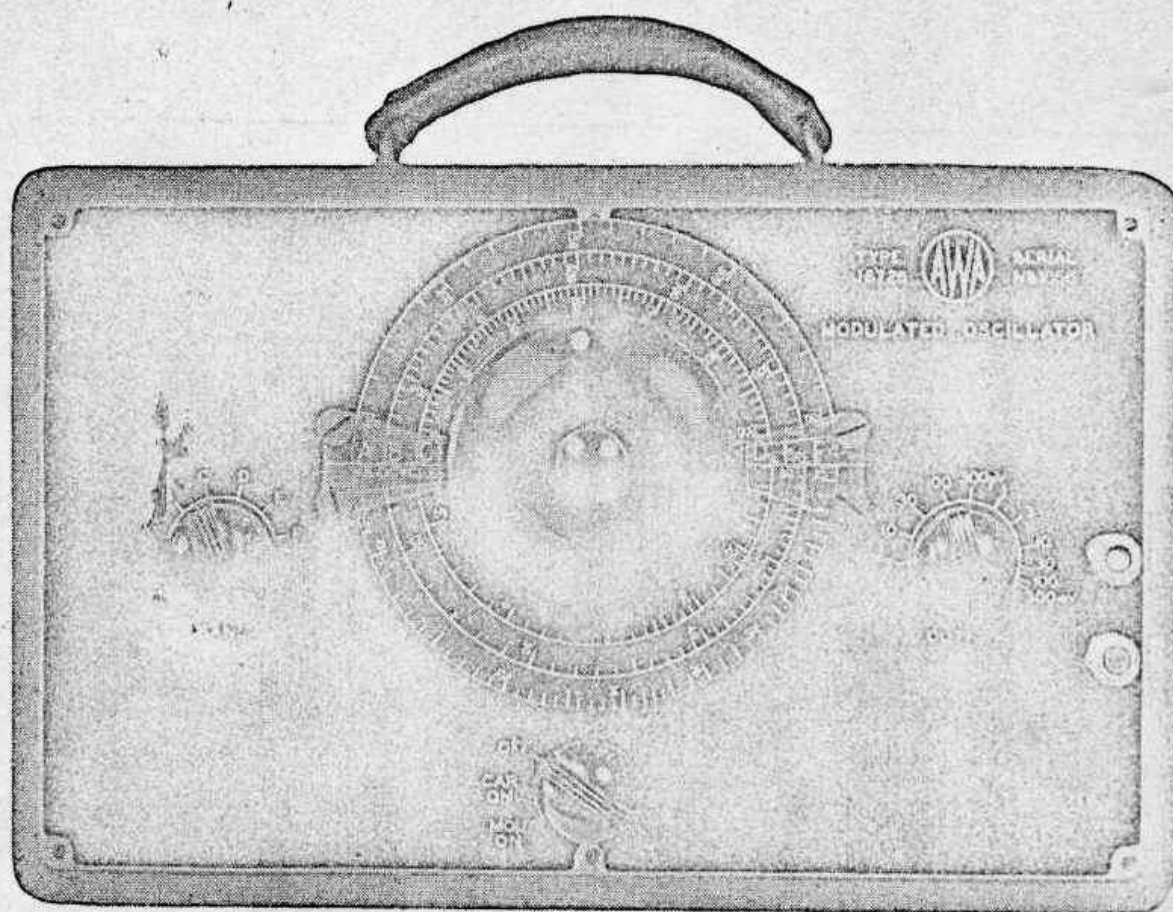


Fig. 1—N.I.V. MODULATED OSCILLATOR AWA TYPE J6726

(6) *Description:—*

The main features of this oscillator are its portability, simplicity of operation and low battery consumption. Its facilities are limited to the provision of an RF signal, with or without 400 cycle modulation. No provision is made for an audio-frequency output.

The valves used are two 1Q5GT beam tetrodes, both of which are operated as triodes. The first is connected in a Split Colpitts circuit as a variable RF oscillator, and is plate modulated to a depth of approximately 30% by the 400 cycle out-put of the second valve.

The switching system is simple, the panel controls consisting of band selector switch, main tuning dial, output level control and MODULATOR-CARRIER-OFF switch.

The band selector switch operates to short circuit all coils not in use, except that tuned for Band A (140 kc—350 kc) which is centre tapped and employed on all bands as HT feed.

The output level is controlled by a piston type variable capacity attenuator which is calibrated for use in conjunction with the shielded output cable provided.

This output cable has the correct characteristics to suit the piston attenuator and to behave as a dummy aerial at all frequencies.

At high outputs, the attenuator has some effect on frequency, causing a frequency shift of up to 0.3% at the low frequency end of the bands.

The attenuator is calibrated to indicate approximately the RF voltage at the end of the shielded output cable. It is direct reading in Bands A, B, C and D, but on bands E and F the attenuator scale reading should be multiplied by 0.7 and 0.4 respectively.

(7) *Accessories:—*

- (i) Shielded output cable (supplied with instrument)
- (ii) WBA 061 Batteries dry Wireless 1.5 volt (Aust)
- (iii) WBA 062 Batteries dry Wireless 45 volts (Aust)

(8) *Test Procedure:—*

- (i) Connect through shielded output cable to circuit under test.
- (ii) Set band selector and main tuning dial to frequency required.

NOTE: Bands D, E and F are calibrated in terms of wave length, not frequency.

- (iii) Set attenuator to minimum position.
- (iv) Switch to "CAR ON" or "MOD ON" as required.
- (v) Increase attenuator setting to output level required.
- (vi) Approximate output level may be read on attenuator scale. In the case of Bands E and F multiply attenuator scale by a factor of 0.7 and 0.4 respectively.

(9) *Relevant Service Publications:—*