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AUSTRALIAN MILITARY FORCES

HANDBOOK ZI/ZAA 8609

WIRELESS SET No. 128

Operating Instructions

1946

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CONTENTS

CHAPTER I.

GENERAL DESCRIPTION

CHAPTER II.

WORKING INSTRUCTIONS

CHAPTER III.

FIELD MAINTENANCE

ILLUSTRATIONS

CHAPTER I.

GENERAL DESCRIPTION

SECTION 1.—GENERAL

1.1—General Features:

The Wireless Set No. 128 has been designed as a low power portable equipment to provide RT, CW and MCW communication within an infantry battalion or similar unit. The set can be operated on the move by one man.

It is a combined Sender-Received (amplitude modulation) complete with an internal HT/LT, 162/3 Volt dry battery for power supply when operated as a manpack.

The circuits of the Sender and Receiver are so associated that the main tuning control of the receiver is also the master tuning control of the sender; therefore, the sender is automatically adjusted to transmit a signal at the same frequency as that received.

The set may be crystal controlled on three frequencies.

Range:

A moderately high-power sender operating in the frequency range of 2-4.5 Mc/s would radiate a ground-wave covering approximately 10 miles.

A vertical aerial radiates a strong ground-wave; therefore, operated as a manpack station using a vertical 8ft. to 12 ft. rod aerial, an approximate estimate of ground-wave for Wireless Set No. 128 would be 4 to 5 miles over flat country with good soil conductivity. The range may decrease to 3-2 miles over wooded or hilly country, and may be very much less in jungle.

See Section 4—"Aerials"—for further details.

1.2—Frequency Range:

The main tuning control covers the frequency range from 2.0 Mc/s (150 metres) to 4.5 Mc/s (66 metres), and may be

BLOCK DIAGRAM

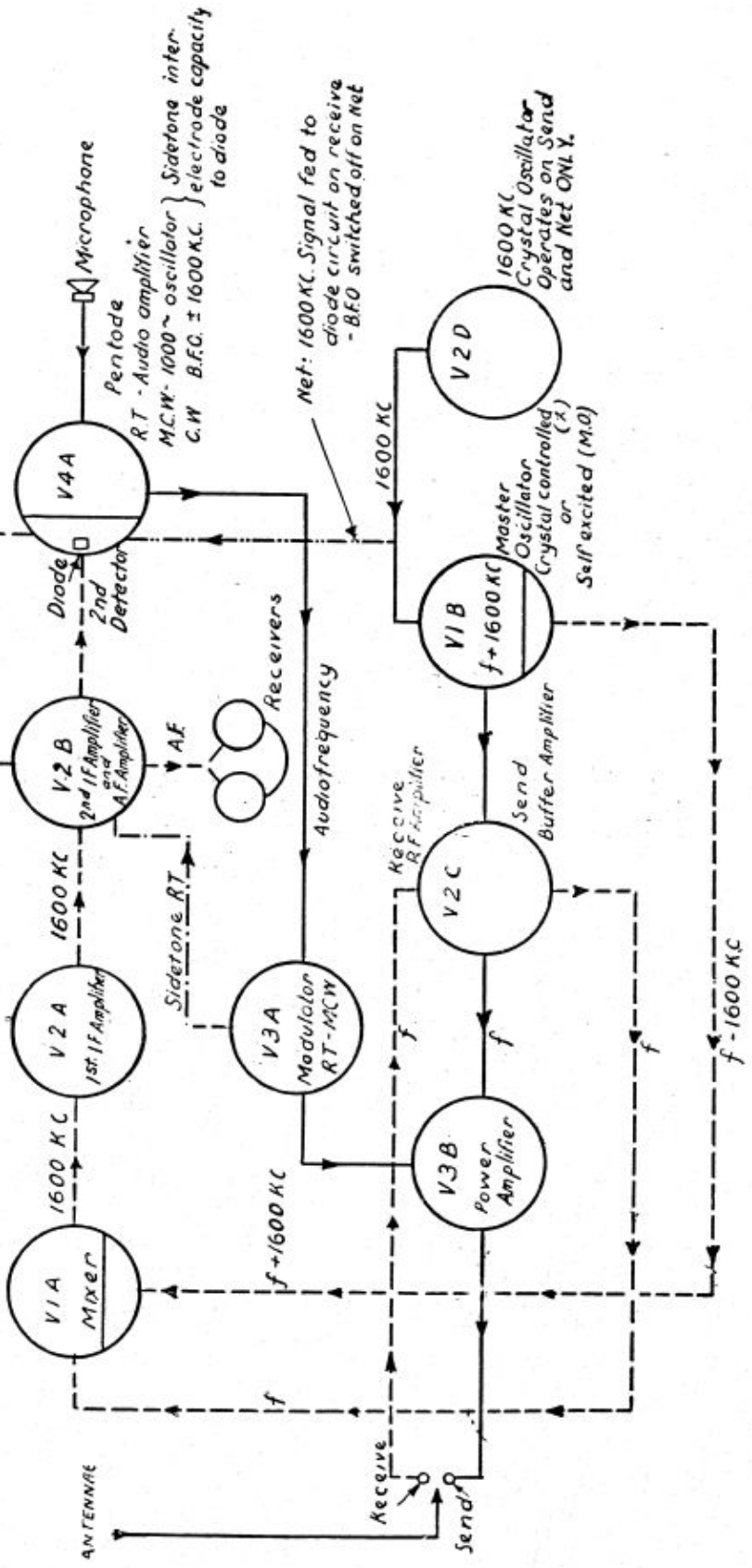


Fig. 1.—Block Diagram.

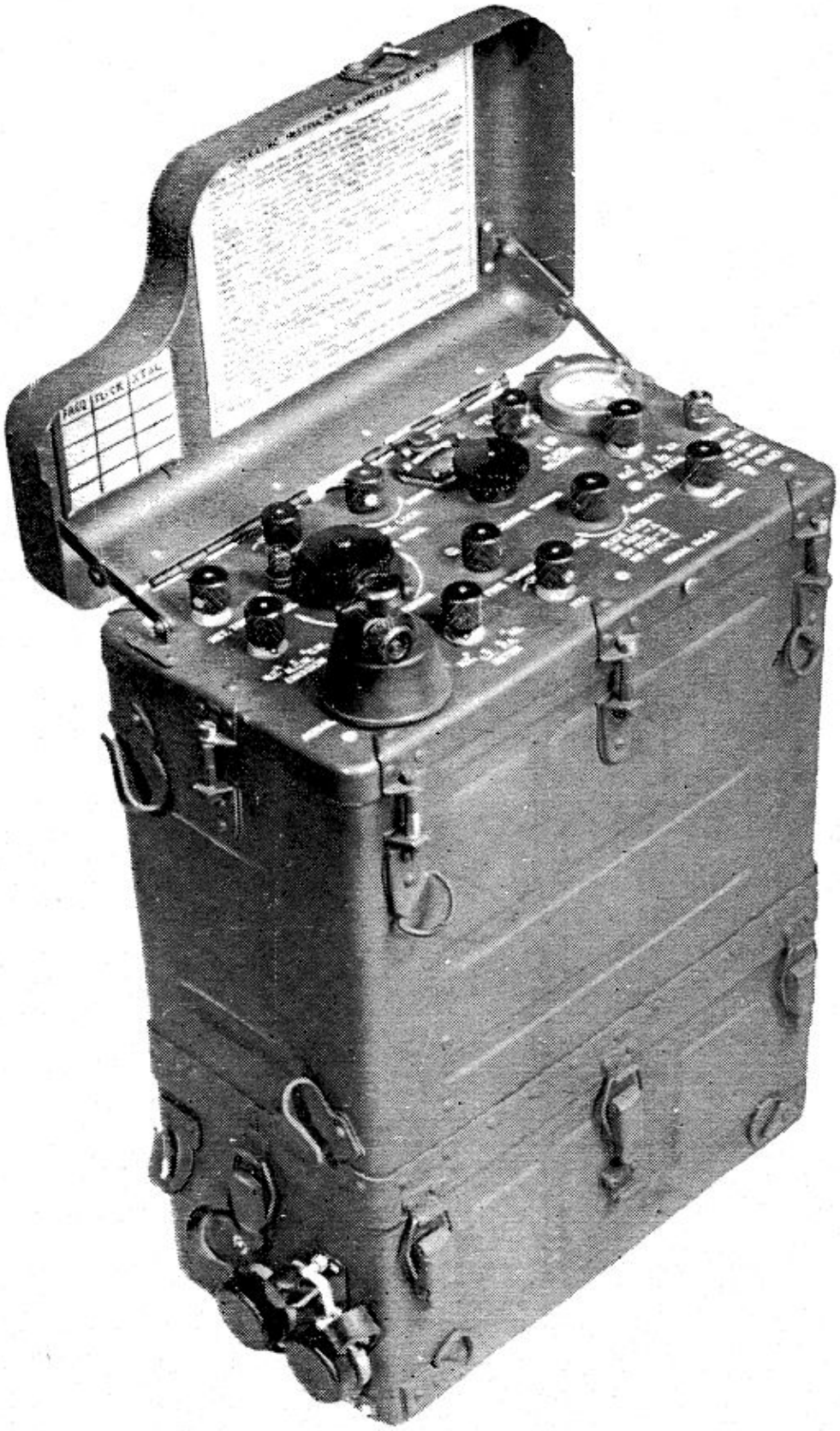


Fig. 2.—Wireless Set No. 128.

locked at any frequency by a 3 position Flick mechanism.

1.3—Valves:

The set is equipped with nine (9) miniature type valves, four of which are used for both sending and receiving.

SECTION 2.—POWER SUPPLY

POWER SUPPLY

2.1—Battery:

The "Wireless Set No. 128" is powered by one Battery, dry HT/LT, 162/3 Volts, No. 1 or No. 2.

This battery is a combined high-tension and low-tension block type, the output being terminated by a flush five pin socket.

One spare battery is carried in the bag, accessories, No. 2.

2.2—Connections:

A switch-box is located in the power supply compartment, the output of which is terminated by an octal type plug. The Send/Receiver unit is connected to this plug by an 8 core lead and an octal type socket.

CURRENT CONSUMPTION

2.3—Current Consumption:

Table 1 shows the approximate current consumption to be expected when using the Wireless under normal conditions.

TABLE I.

	RECEIVE		SEND				
	Volume Control		*Key Down*			*Key Up*	
	Max. mA.	Min. mA.	CW mA.	MCW mA.	RT mA.	CW mA.	MCW mA.
LT	250	250	300	400	400	300	400
HT	16	12.5	34	46	44	6	6

SECTION 3.—WEIGHTS AND DIMENSIONS

3.1—General:

Table II shows the weight and dimensions of the Wireless Set No. 128 and associated equipment.

TABLE 11.

Weights and Dimensions.

Item	*Weight (lbs.)*	*Height (inches)*	*Width (inches)*	*Length (inches)*
No. 128 Send/Rec. Unit	18	9	5¾	11
Cases, battery	2½	5	5¾	11
Batteries, dry, wireless HT/LT 162/3-V No. 1.	8	4	4¾	8½
Bags, accessories, No. 2 (filled).	16	9	5	13
Wireless Set No. 128 complete for man-pack operation (incl. Battery, dry).	32	15½	5¾	11
Carrier Assy.	Approx. 3			

SECTION 4.—AERIALS

4.1—Introduction:

The Wireless Set No. 128 is designed to operate efficiently with aerials of varying lengths.

Vertical Aerial—A vertical aerial 5/8 wave-length radiates the strongest ground-wave; this length may be impractical in the field. However, a vertical aerial of at least 1/8 wave-length long should be satisfactory.

The ground-wave radiation from a 1/4 wave vertical aerial is no better than that of an 1/8 wave aerial, therefore, the advantage of increasing the length over 1/8 wave-length is negligible. Improvement is not evident until the length of almost 1/2 wave is used.

Horizontal Aerial.—A horizontal aerial radiates a strong sky-wave.

For distances greater than ground-wave ranges (Section 1.1 Range), a horizontal aerial, oriented in the correct direction, must be erected using "aerial or counterpoise" (45ft. and 67ft.).

The important factor governing the radiation from a horizontal radiator is the height above ground.

To find the maximum usable frequency, refer to the Ionspheric predictions.

E.g. An aerial of approximately 1/4 wave-length in height is usually suitable for short distances of 5-20 miles. Where possible, it is advisable to cut the aerial length to 1/2 wave-length (operating), using the formula:—

$$1 = \frac{468}{f}$$

1 = length in feet (1/2 wave-length).

f = frequency in megacycles.

The following aerial equipment is issued with the complete station:—

(i) Antenna rods "B"
(ii) Aerial or counterpoise.

The aerial tuning control provides the adjustment necessary for the set to be coupled to any of the above aerial systems.

4.2—Antennae Rods "B":

Consist of eight tubular 12in. sections of identical construction. These may be connected to form an aerial 7ft. 4in. in length. Ten sections, which include two spare, are carried in "Bag, accessories, No. 1," attached to the set.

4.3—Aerial or Counterpoise:

Consists of a 45ft. and 67ft. length of rubber insulated wire; either length may be erected to form an aerial, the other connected to earth terminal as a counterpoise, when the set is operated as a ground station.

The two wire lengths are wound on wooden dowels and carried in Bags, accessory No. 2.

4.4—Insulators, W.T. (Aust.) No. 1D:

Consists of 75ft. of strong cord with a lead weight attached to one end, and an "egg" insulator secured to the opposite end.

When it is required to erect an aerial system, no masts being available, either the 45ft. or 67ft. length of wire is secured to the insulator. The lead weight is slung over a convenient projection, e.g., a branch of a tree, and the aerial hauled up by the cord.

The cord with attachments is wound on a wooden dowel and carried in "Bags, accessory, No. 2."

CHAPTER II.

WORKING INSTRUCTIONS

SECTION 5—VALVES

5.1—Valve Table:

Table III shows the valve types and functions. A total of nine miniature valves are used, seven of which are 1.4 volt filament, and two 3A4 have 2.8 volt filaments.

5.2—Replacing Valves:

(i) Loosen the eight screws using the 6in. screwdriver supplied, and remove the Send/Receiver unit from the case.

(ii) Remove the cover from the R.F. or B.F.O. compartment. Remove the metal shield and valve that is considered faulty.

(iii) Select a replacement valve of identical type and fit so that the pins correspond to the spacing of the socket contacts.

(iv) Replace the valve shield, or compartment cover, and fit the Send/Receiver unit into case (see NOTE). Tighten the eight screws evenly on to the neoprene rubber gasket, thus ensuring a water tight seal.

NOTE: To test operation of the set while removed from case, connect "lead-testing."

LAYOUT OF COMPONENTS

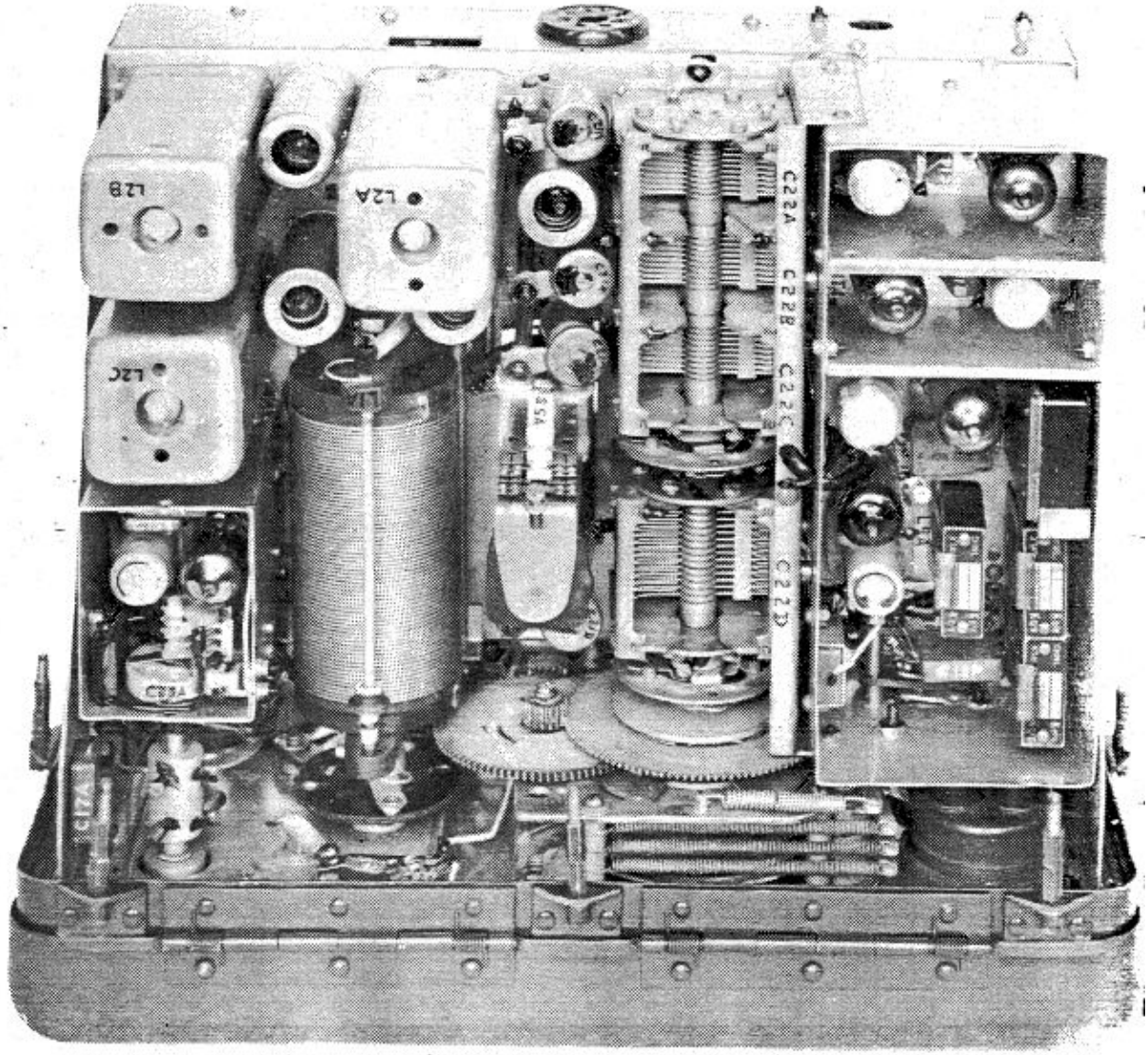


Fig. 3.—Layout of Components.

TABLE III.

Valve	*Type*	*Function*	
		Receive	*Send*
V1A	1R5 Pentagrid Converter	Mixer	
V1B	" " "	Local Oscillator Crystal controlled	Master Oscillator or Self excited
V2A	1T4 Super Controlled R.F.	First IF Amplifier	
V2B	" " " "	Second IF Amplifier & audio amplifier	Sidetone RT
V2C	" " " "	RF amplifier	Buffer amplifier
V2D	" " " "	NET ONLY (as for send)	1600 K.C. Crystal controlled
V3A	3A4 Pentode Amplifier	Modulator RT-MCW	oscillator
V3B	" " "	Power amplifier	
V4A	1S5 Diode Pentode Amplifier	Second detector (diode) BFO (Pentode)	Audio Amplifier—RT Audio Oscillator—MCW

VALVE FUNCTIONS

WIRELESS SET No. 128 COMPLETE STATION

Fig. 4.—Wireless Set No. 128. Complete Station.

Fig. 5.—Wireless Set No. 128. Complete Station.

WIRELESS SET No. 128 MK2. COMPLETE STATION

Fig. 6.—Wireless Set No. 128, Mark 2. Complete Station.

Fig. 7.—Wireless Set No. 128, Mark 2. Complete Station.

SECTION 6.—CONNECTING UP

6.1—Preliminary:

(i) Ensure the power control switch located on the lower compartment is in the "OFF" position.

(ii) Check the following accessories necessary for operation.

6.2—Power Supply:

Battery dry: Release the eight spring-loaded clasps, and remove the battery compartment. Fit a dry battery 162/3 volt, with the 5 point socket uppermost. Fit the 5 point connector to the battery, connect the 8 point connector to the switch box and fasten the battery compartment to the Send/Receiver unit case.

6.3—Crystals:

The wireless set is equipped with four crystals; three are for crystal control operation and may be changed. **The 1600 KC crystal is a fixture.**

To fit crystals:

(i) Remove the Send/Receive chassis from the case.

(ii) Remove the lid from R.F. compartment.

(iii) Fit crystal units (Fig. 3). Note that the Crystal frequency is 1600 KC higher than "Channel frequency."

(iv) Reassemble (ii) and (i).

6.4—Aerials:

When operated as a manpack Rods Antennae "B" are used.

Operated as a ground station for communication over greater distances, "Aerial or counterpoise" (45ft. and 67ft.) should be erected. Refer Section 4.

6.5—Receivers and Microphone:

"Receivers, headgear, H.S.30" and "Microphones, throat, low level, No. 2 (Aust.)," are terminated by similar 3 point connectors, which are plugged into either socket of the junction box.

The junction box (junction distribution) normally attached to the left should strap of the webbing harness, is con-

nected to the 8 point socket marked "Operator" on the Send/Receiver by an 8-point connector, and retained by a locking ring.

6.6—Key WT:

When operating CW or MCW, the microphone is disconnected and replaced by the morse key, which may be plugged into either 3 point socket of the junction box.

6.7—Staff Officers' Handset:

The set may be operated by the "Handset, Staff Officers' No. 128, which is plugged into the 8 point socket marked "Handset" on the case of the Send/Receiver Unit.

Press the pressel switch to send, release for receive.

SECTION 7.—CONTROLS

(See Fig. 8)

7.1—M.O./XTAL.:

One of three crystals (X^1, X^2, X^3) or M.O. (master oscillator) may be selected by this switch, for send and receive.

7.2—Emission:

The type of transmitted signal is determined by the position of this switch, i.e., CW, MCW or RT. For CW reception, the B.F.O. is brought into circuit.

7.3—Coarse Tuning:

Provides a quick-action on the "FREQUENCY—Mc/s" dial for rapid change of frequency.

7.4—Fine Tuning:

Provides vernier adjustment of the "FREQUENCY—Mc/s" dial, which may be locked on a setting by the dial lock.

7.5—Flick Selector:

This is a four position switch (OFF, A, B and C) that enables any one of three frequencies, previously locked on the dial, to be engaged automatically by rotation of the "Coarse tuning" knob.

The OFF position allows normal control of the "FREQUENCY—Mc/s" dial.

Section 10 deals with the Flick control in greater detail.

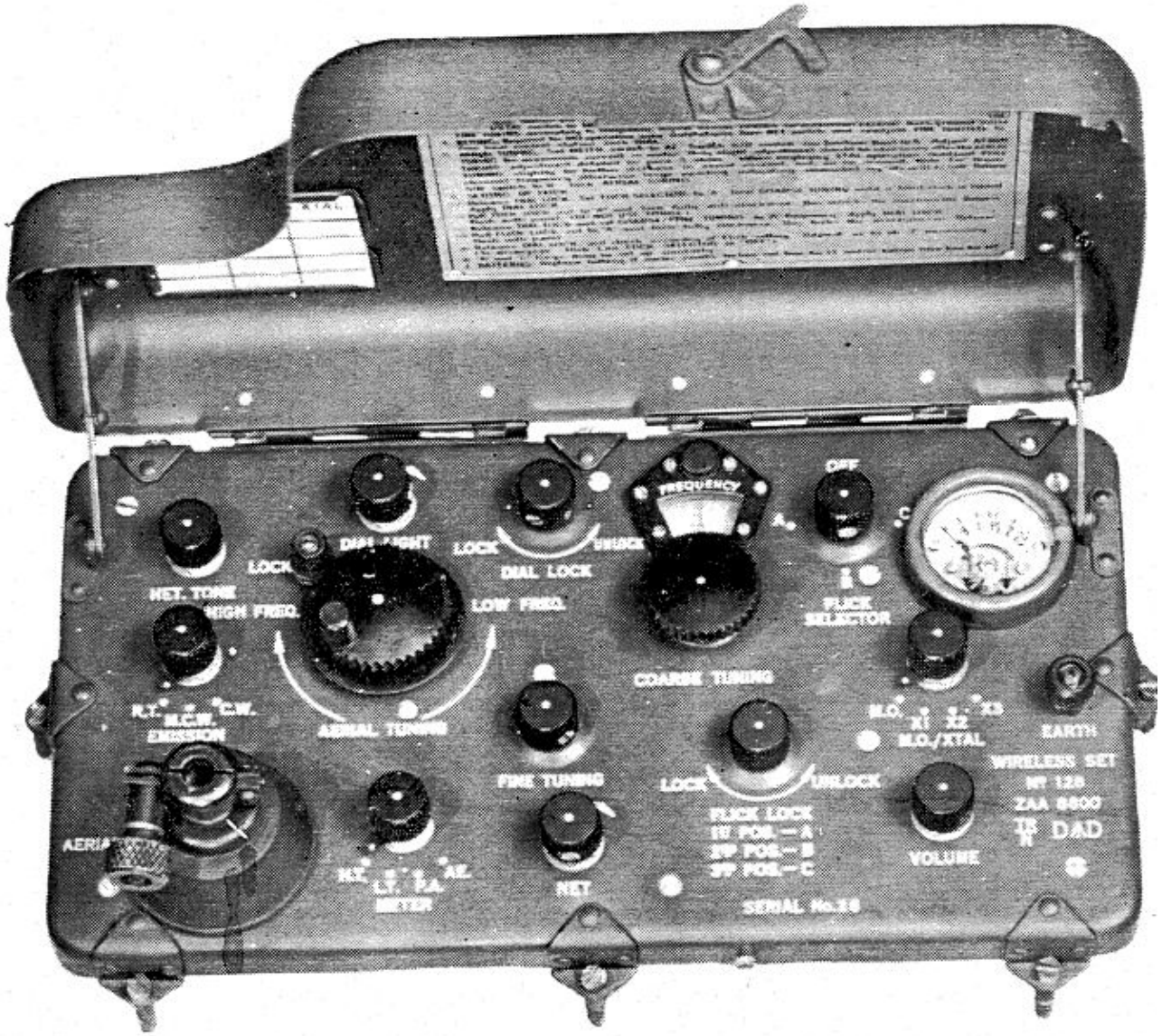
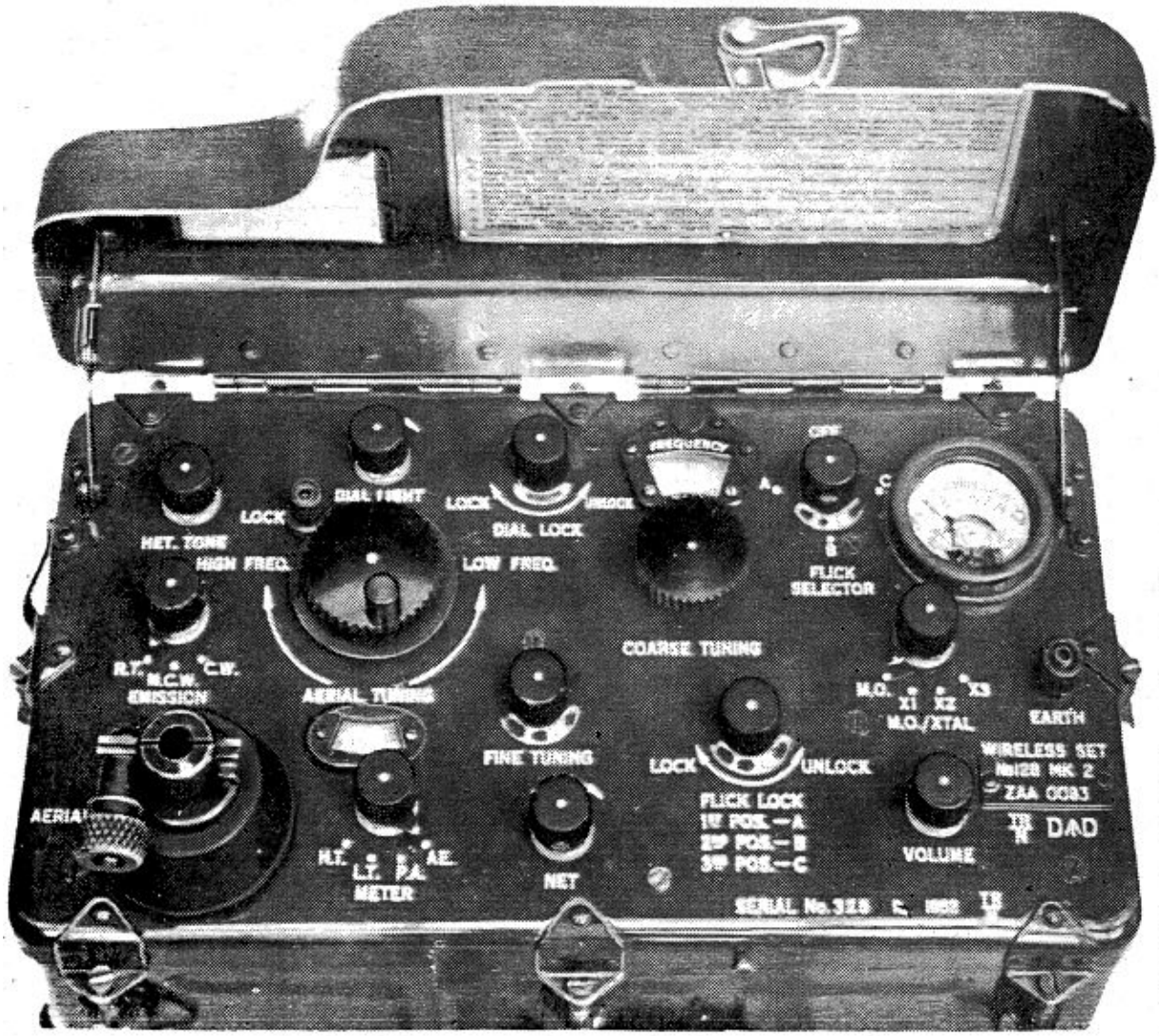


Fig. 8.—Front Panel, Wireless Set No. 128.



FRONT PANEL OF WIRELESS SET No. 128 MK2

Fig. 9.—Front Panel, Wireless Set No. 128, Mark 2.

7.6—Aerial Tuning:

This control adjusts the aerial tuning coil. A maximum indication is read from the meter (A.E. position) on Send, when this coil is correctly loaded into the aerial system on the operating frequency.

7.7—Volume Control:

Controls the signal output to the receiver, maximum position fully clockwise.

7.8—C.W. Heterodyne:

Varies the tone of the note, for CW reception only.

7.9—Net:

This spring loaded control enables the operator to accurately tune the set by "zero beating" to a signal from either a Control station or Wavemeter.

For further details see Section 9.

7.10—Metering:

This control is a four position switch that connects the meter in one of four circuits.

(i) A.E.—Sender output.
(ii) P.A.—Power amplifier plate circuit (Full scale 25 m.A.).
(iii) L.T.—Low tension 3 volt supply.
(iv) H.T.—High tention 162 volt supply.

The meter indications may be read on SEND ONLY.

SECTION 8.—OPERATING INSTRUCTIONS

8.1—Preliminary:

(i) Check and connect accessories as in Section 6.
(ii) Flick selector "OFF".
(iii) Loosen dial lock.
(iv) Loosen aerial tuning lock.
(v) Turn volume control fully clockwise.
(vi) Set M.O./XTAL. switch to M.O. or X. (fixed frequency).

8.2—Receive C.W.:

(i) Switch the Emission control to "CW."
(ii) Adjust coarse tuning approximately to required frequency.

(iv) Adjust the receivers headgear, and set the power supply switch "ON."
(v) Tune to the required frequency using fine tuning control. Refer Section 9—"Netting."
(iv) Adjust Aerial tuning for maximum signal strength.
(vii) Adjust note by C.W Heterodyne control.

8.3—Receive MCW/RT:

Switch the Emission control to M.C.W. or R.T. and proceed as for **ii to vi** Section 8.2.

NOTE.—Battery operated set.

The power control switch is effective only when the 8 point connector of either junction box or handset is connected. This prevents discharge of the dry battery should the power switch be unintentionally placed "ON."

8.4—Send CW:

(i) Connect Key, W/T, to junction box.
(ii) Emission to C.W.
(iii) M.O./XTAL. to M.O., for crystal control (X^1, X^2, X^3)—see footnote.
(iv) Adjust fine tuning control to operating frequency (check against wavemeter after final tuning).
(v) Send/Receive switch on junction box to "S".
(vi) Power switch "ON."
(vii) Metering to A.E.
(viii) Depress Key, W/T, and adjust aerial tuning for maximum indication on meter.

8.5—Send MCW or RT:

(a) MCW: Emission to "MCW," then proceed as for Send CW **(i) to (viii).**

(b) RT: Emission to RT. Replace Key WT with microphone, then proceed as for Send C.W. **(iii) to (vii),** and then adjust aerial tuning for maximum indication on meter.

NOTE: When operating crystal control (X^1, X^2, X^3) after (vi) Power switch "ON," switch metering to P.A. and adjust fine tuning control to lowest dip, then proceed as above.

Checking against wavemeter is not necessary.

SECTION 9.—NETTING

9.1—Introduction:

Reliable communication cannot be expected from a group of stations unless all are accurately tuned to the same frequency.

The tuning of a group of stations to an allotted frequency is called netting, and is carried out prior to an operation.

All operators of a group must be proficient in tuning their wireless set accurately and quickly, and strictly adhere to the netting drill in accordance with Signal Training. All Arms Pamphlet No. 7 part (ii) Sec. 2.

Netting is assured when communications are carried out on crystal control (X^1, X^2, X^3), which provides three fixed channels. It is essential that all sets of a group are equipped with an identical set of crystals.

9.2—Netting Instructions:

Before commencing operations, the operator will be advised of the following:—

(i) Allotted frequencies.

(ii) Call signs and code names.

(iii) Time of commencing netting calls and any special instructions.

To net Wireless Set No. 128 on M.O., first switch on to receive R.T. and tune to the allotted frequency. Adjust aerial tuning to maximum signal output.

When the control station carrier signals are recognised, rotate the spring-loaded net switch clockwise and adjust fine tuning control to "zero-beat," then release the net control. Both receiver and sender are now tuned to the same frequency.

9.3—Methods of Netting:

Netting may be carried out by one of the following methods:—

(i) Netting in proximity.

(ii) Netting with a wavemeter.

(iii) Netting to a distant station.

(i) The control station transmits on the allotted frequency; the other stations of the group tune in on "receive" and net as in Section 9.2.

During actual operations, this method is limited by "wireless silence" security requirements.

(ii) Netting with a wavemeter provides a frequency check, and is also used when interception by the enemy is imminent.

The wavemeter is switched on, adjusted to the allotted frequency, and brought near the aerial of each set. Each operator "zero-beats" his receiver to the wave-meter signal.

(iii) By prior arrangement, a group of sets may be netted to a distant station.
This method prevents detection by enemy D.F., of the group during netting.

SECTION 10.—FLICK CONTROL

10.1—Introduction:

Wireless Set No. 128 is provided with a three position flick dial which enables it to be tuned to any one of three pre-set frequencies. The three flick positions are numbered A, B and C and are selected by the knob marked "Flick Selector." Fine tuning is effected by placing the flick selector in the "off" position and adjusting the knob marked "fine tuning."

Before attempting to set up the flicks, it is desirable for the operator to familiarise himself with their operation. The following controls are associated with the flick drive mechanism.

(a) Flick Selector.

(b) Flick Lock.

(c) Dial Lock.

The Flick Selector operates the cam which allows the appropriate lever to drop into position when the dial is rotated. In the "off" position all levers are disengaged.

The Flick Lock engages a gear and pinion operating on a threaded boss on the main tuning shaft. When the gear is unscrewed it allows the flick plate to rotate on the flick shaft freely, and when tightened prevents movement on the flick plate. Pulling the knob marked "flick lock" outwards from the panel allows the pinion to mesh with the appropriate gear wheel and three grooves will be found on the spindle indicating positions A, B and C. Care should be exercised not to exert

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undue strain when tightening or loosening the flick lock as this is unnecessary to maintain its adjustment.

Dial Lock:

This is used to prevent rotation of the tuning condenser when loosening or tightening the flick lock. It may also be used to hold the tuning adjustment, once set, but is nominally left unlocked after the flicks have been set up. Procedure for setting up the flicks differs slightly, depending on whether crystal control or master oscillator operation is desired, and is much less critical when using crystal control.

10.2—Adjustment of "Flick" Mechanism:
Crystal Control—

Having previously fitted the battery, and crystals and plugged in the junction box complete with headphones, and microphone, and inserted at least 4 feet of "B" type Aerial Rod—

(a) Set the "On-off" switch on the side of the battery compartment to "On" and the emission switch to R.T.

(b) Turn the volume control clockwise to its fullest extent.

(c) Place the M.O./XTAL. switch in position X'.

(d) Place the metering switch in position marked "P.A. Plate.

(e) Press the "Send/Receive" switch on the operator's junction box to "send."

(f) Place the flick selected in position "A."

(g) Rotate the knob marked "Coarse Tuning" until the flick is felt to engage.

(h) Pull the knob marked "flick lock" out from the panel until the first ring marked "A" appears.

(i) Tighten the dial lock.

(j) Rotate the knob marked "flick lock" until it is felt to be loose.

(k) Loosen the dial lock.

(l) Set the main tuning dial to the "Channel" crystal frequency and adjust with fine tuning control for resonance as indicated by the lowest "dip" read from meter (P.A.).

(m) Move the meter switch to aerial and rotate the knob marked "aerial tuning" until maximum current is shown on the meter. (AE).

(n) Readjust fine tuning, if necessary, for maximum aerial current.

(o) Tighten the dial lock.

(p) Tighten the flick lock by rotating it in a clockwise direction, taking care to avoid strain.

(q) Loosen the dial lock.

This completes the procedure for setting up flick position "A" and should be repeated in detail for positions "B" and "C," making sure that the M.O./XTAL. switch is previously set to the position corresponding to the crystal it is desired to use, i.e., A corresponding to X^1, B to X^2, and C to X^3.

Master Oscillator.

In order to set up the flicks for Master Oscillator operation, it is first necessary to have some means of checking the operating frequency. This may take the form of a

Heterodyne type wavemeter or oscillator,

Another transmitter of correct frequency, or a

Calibrated dial of the set itself. (Only accurate to approximately 20 KC/s.)

Having selected the means to give the required frequency, proceed as follows:—

(a) Place the "on-off" switch on the side of the battery box in the "on" position and the function switch in the "RT" position.

(b) Place the "send/receive" switch on the operator's junction box to "receive."

(c) Rotate the volume control to the maximum clockwise direction.

(d) Switch on the wavemeter, oscillator or Master Control Transmitter, and carefully adjust same to the correct frequency.

(e) Place the M.O./XTAL. switch in position marked "M.O."

(f) Set the flick selector in position "A," and rotate the dial until the flick is felt to engage.

(g) Tighten the dial lock and loosen the flick.

(h) Locsen the dial lock.

(i) Adjust the FREQ. Mc/s. dial approximately to frequency as shown by the calibrations.

(j) Hold the knob marked "nett" in a clockwise direction and adjust the fine tuning control until zero beat is obtained with the signal from which it is desired to calibrate.

(k) Tighten the dial lock taking care not to disturb the tuning adjustment.

(l) Tighten the flick lock by rotating in a clockwise direction.

(m) Loosen the dial lock.

(n) Throw the "send/receive" switch to send.

(o) Rotate aerial tuning knob until maximum meter reading is obtained with meter switch in position marked "A.E."

This completes the procedure for setting up flick position "A" and should be repeated in detail for positions "B" and "C."

The tuning adjustments for "send" and 'receive" are identical and change over is effected simply by throwing the "send/receive" switch in the operator's junction box.

The frequency of transmission and reception is always the same.

FLICK ADJUSTMENT

CHAPTER III.

FIELD MAINTENANCE

SECTION II.—GENERAL MAINTENANCE

11.1—Introduction:

This chapter deals only with the maintenance and repair that can be handled by unit operators or signal units in the field.

Maintenance and repair is dealt with in greater detail in E.M.E.I. Tels F350/1 to F359/1.

Serious defects will be minimised if the daily routine is adhered to and symptoms of troubles are reported to the Section Officer immediately they are discovered.

11.2—Daily Maintenance.

To ensure reliable communication in the field, the operator must carry out daily maintenance. The complete set with all accessories should be checked by the operator.

(i) Clean, and if necessary, dry each piece of equipment.

(ii) Examine the microphone, receivers headgear, staff officers' handset, connecting cords—check for dirty or damaged plugs.

(iii) Connect up the set ready to operate.

(iv) Switch on to "Receive," turn the volume control up; tune over the entire frequency range, check reception on RT, MCW, and CW. With the volume control full on, the familiar background noise should be heard between stations.
On CW the heterodyne note will be heard whenever the carrier of a station is tuned in.

(v) Switch to "Send". Check the LT and HT for normal readings. Replace the battery if the meter reads

below the red line for LT or below the blue line for H.T.

(vi) Tune the set for operation on RT, MCW and CW using MO, then check crystal operation. Note all meter readings for future reference.
Before putting away the set after a day's work, the operator should observe the following procedure:—

(a) Note "LT" and "HT" meter readings, also the Aerial current "AE" reading on "Send." If these are low as compared with the readings when work commenced, or if the reading falls off quickly, change the dry battery.
A new spare dry battery must be obtained as quickly as possible.

(b) Switch to "Receive" and note the background noise. Should the noise be abnormal, first disconnect the aerial. If the noise disappears, the interference could be caused by atmospheric radiation from unsuppressed electrical equipment (e.g. ignition systems), loose aerial rod connections, or the aerial contacting some metallic object.

If the noise persists, examine the microphone receivers, or Staff Officers' handset cords and connections. Noise due to faulty connecting cords may be reproduced by shaking the cords or by flexing small sections of the cord progressively over the entire length. Noise can also be caused by dirty, damp or badly fitting electrical contacts.

11.3—Weekly Maintenance:

The routine to be followed in weekly maintenance includes the general check as set out in the Technical Handbook. In addition, it involves the checking of auxiliary equipment which goes to make up a complete station.

Weekly maintenance should be carried out in the following order:—

(i) Clean the outside of the case with a cloth to remove dust, mud or grease. Clean the aerial terminal insulation.

(ii) Test all the controls and see that they are neither jamming or turn so freely that a setting would alter with vibration. Ensure that the control knobs are tight on the spindles.

(iii) Overhaul the Antenna rods "B" making sure that the sections engage one another firmly and are free from dirt. Check wire aerial counterpoise 45ft. and 67ft. for fracture.

(iv) Check the complete kit of accessories and spare parts; pay particular attention to the spare valve types.

(v) Remove the battery compartment, unscrew the cap of the bakelite container that fits inside the Send/Receive compartment, withdraw the Silica-Gel cartridge and inspect; if pink crystals are present, replace cartridge.

(vi) Report any fault that cannot be put right, and any deficiency in kit.

In order to preserve the seal which the neoprene rubber gasket provides, it is desirable that the send/receive chassis should not be removed from the case, unless it is considered absolutely essential.

With the exception of valve or crystal replacement, there is no necessity for the operator to remove chassis from the case.

APPENDIX I

DETAIL OF WIRELESS STATIONS, No. 128, BATTERY OPERATED

Item No.	*Cat. or Part No.*	*Designation*	*Qty.*
		SECTION Z1.	
1.	Z1/ZAA.2980	*Packs,* No. 1. Wireless Sets, No. 128 (Comprising items 2 to 18)	1.
		SECTION Z.	
		Valves, Electronic—	
2.	Z/CV.782	CV782 (IR5)	2
3.	Z/CV.784	CV784 (1S5)	1
4.	Z/CV.785	CV785 (1T4)	4 (b)
5.	Z/CV.807	CV807 (3A4)	2
		SECTION Z1.	
6.	Z1/ZAA.4843	*Cartridges,* silica gel.,	1
7.	Z1/ZAA.4844	*Container,* Metal, silica gel, cartridge	1
8.	Z1/ZAA/AWA/R5587/1600	*Crystal Units,* AWA type R5587, 1600 Kc/s	1(b)
9.	Z1/ZAA.7990	*Keys, W.T.,* waterproof, (Aust.), No. 1	1
10.	Z1/ZAA.1932	*Microphones,* throat, low level, No. 2, (Aust.)	1
11.	Z1/ZAA.7996	*Receivers,* headgear, H.S. 30	1
12.	Z1/ZA.0479	*Sections,* antennae rods, B., Mk. 1	10
		Wireless Sets, No. 128—	
13.	Z1/ZAA.8601	Bags, accessories, No. 1	1
14.	Z1/ZAA.8607	Carrier Assemblies	1
15.	Z1/ZAA.8609	Handbooks, (Operating Instructions)	1
16.	Z1/ZAA.8604	Junctions, Distribution	1
17.	Z1/ZAA.5526	Tablets, Calibration	1
18.	Z1/ZAA.8600	*Wireless Sets,* No. 128, Battery Operated	1
19.	Z1/ZAA.2981	*Packs,* No. 2 Wireless Sets, No. 128 (Comprising items 20 to 35)	1
		SECTION Y3.	
20.	Y3/WBA.0209	*Bulbs,* 3-volt, 0.57-watt	2
		SECTION Z.	
		Valves, Electronic—	
21.	Z/CV.782	CV782 (1R5)	2
22.	Z/CV.784	CV784 (1S5)	1
23.	Z/CV.785	CV785 (1T4)	4
24.	Z/CV.807	CV807 (3A4)	2

APPENDIX 1 (Contd.)

Item No.	*Cat. or Part No.*	*Designation*	*Qty.*
		SECTION Z1.	
		Aerial or Counterpoise—	
25.	Z1/ZAA.8606	45 foot	1
26.	Z1/ZAA.8611	67 foot	1
27.	Z1/ZAA.4843	*Cartridges,* silica gel., (Aust.), No. 1.	1
28.	Z1/ZAA.4844	*Containers,* metal, silica gel., cartridge	1
29.	Z1/ZAA.4991	*Insulators,* W.T., (Aust.), No. 1D	1
30.	Z1/ZAA.1932	*Microphones,* throat, low level, No. 2, (Aust.)	1
31.	Z1/ZAA.7996	*Receivers,* headgear, H.S. 30	1
		Wireless Sets, No. 128—	
32.	Z1/ZAA.8612	Bags, accessories, No. 2	1
33.	Z1/ZAA.8603	Cases, spare, valves	1
34.	Z1/ZAA.8610	Leads, Testing	1
35.	Z1/ZAA.1668	*Handsets,* staff officers, No. 128	1
		The following items are separate demandable stores and will be indented for separately:—	
		SECTION F1.	
36.	F1/FA.16772	*Screwdrivers,* electricians and signallers, 6in.	1
		SECTION Y3.	
		Batteries, dry, H.T./L.T., 162/3 volts—	
37.	Y3/WBA.0200	No. 1, (Aust.) (or)	2.
38.	Y3/WBA.0201	No. 2, (Aust)	
		The following items will be indented for separately through signal channels:—	
		SECTION Z1.	
39.	Z1/ZAA.0713	*Crystal Units,* CR(A)-1(B)	3(a)

FOOTNOTE:—

(a) When frequencies have been allocated through Signal channels, indents should be submitted to the C.S.O. or S.O. Sigs of the respective Command or Military District. Indents should be submitted on the pro-forma "Indents for Wireless Crystal Units".

(b) Included in Wireless Set No. 128.

APPENDIX II

DETAIL OF Z1/ZAA 0082 WIRELESS STATIONS No. 128 MARK 2.

Item	*Cat. No.*	*Designation*	*Qty.*		
1.	Y3/WBA.0209	*Bulbs,* 3-volt, 0.57 Watt	(d)		2.
		SECTION Z1			
		Aerial or Counterpoise—			
2.	Z1/ZAA.8606	45 foot	(c)		1.
3.	Z1/ZAA.8611	67 foot	(c)		1.
4.	Z1/ZAA.4843	*Cartridges,* silica gel, (Aust.), No. 1			
5.	Z1/ZAA.4844	*Containers,* metal, silica gel. cartridge	(c)		1.
6.	Z1/ZAA.0713	*Crystal Units*—			
		Type CR(A)-1(B)	(e)		3.
7.	Z1/ZAA.1668	*Handsets,* staff officers, No. 128.	(c)		1.
8.	Z1/ZAA.499	*Insulators, W.T.,* (Aust.), 1D.	(c)		1.
9.	Z1/ZAA.0274	*Keys, W.T.,* waterproof, (Aust.), No. 1 Mk. 2.	(b)		1.
10.	Z1/ZAA.0275	*Microphones,* throat, low level, No. 2, (Aust.)/2.	1(b)	1(c)	2.
11.	Z1/ZAA.0276	*Receivers,* headgear, HS30, (Aust.)/2.	1(b)	1(c)	2.
12.	Z1/ZA.0479	*Sections,* Antennae Rods, "B", Mk. 1.	8(b)	1(c)	10.
		Valves, Electronic—			
13.	Z/CV.782	CV782	(d)		2.
14.	Z/CV784	CV784	(d)		1.
15.	Z/CV.785	CV785	(d)		4.
16.	Z/CV.807	CV807	(d)		2.
17.	Z1/ZAA.0083	*Wireless Set,* No. 128, Mk. 2.	(a)		1.
		Bag accessories—			
18.	Z1/ZAA.0084	No. 1, Mk. 2.			1.
19.	Z1/ZAA.8612	No. 2			1.
20.	Z1/ZAA.8603	Cases, spare valve			1.
21.	Z1/ZAA.8609	Handbooks, Operating Instructions	(c)		1.
22.	Z1/ZAA.0085	Junctions, Distribution, Mk. 2.	(b)		1.
23.	Z1/ZAA.8610	Leads, Testing	(c)		1.
24.	Z1/ZAA.5526	Tablets, Calibration	(b)		1.

APPENDIX II (Contd.)

Item	*Cat. No.*	*Designation*	*Qty.*
		The following stores will be indented for separately.	
		SECTION F.	
25.	F1/FA16772	*Screwdriver,* electricians (b) and signallers, 6in.	1.
		SECTION Y3.	
26.	Y3/WBA.0200	*Batteries,* dry, HT/LT, 1(a) 162/3 Volts, No. 2, (Aust.).	1(c) 2.
27.	Y3/WBA.0201	*Batteries,* dry, HT/LT, 1(a) 162/3 Volts, No. 1, (Aust.).	1(c) 2.

NOTES:—

(a) Set complete with valves, 1600 Kc/s Crystal and Battery.
(b) Carried in Bag, Accessories, No. 1, Mk 2.
(c) Carried in Bag, Accessories, No. 2.
(d) Carried in Cases, Spare Valves.
(e) When frequencies have been allocated through signal channels, indents should be submitted through the CSO or SO Sigs of the respective Command or Military District. Indents should be submitted on the pro-forma "Indents for Wireless Crystal Units."

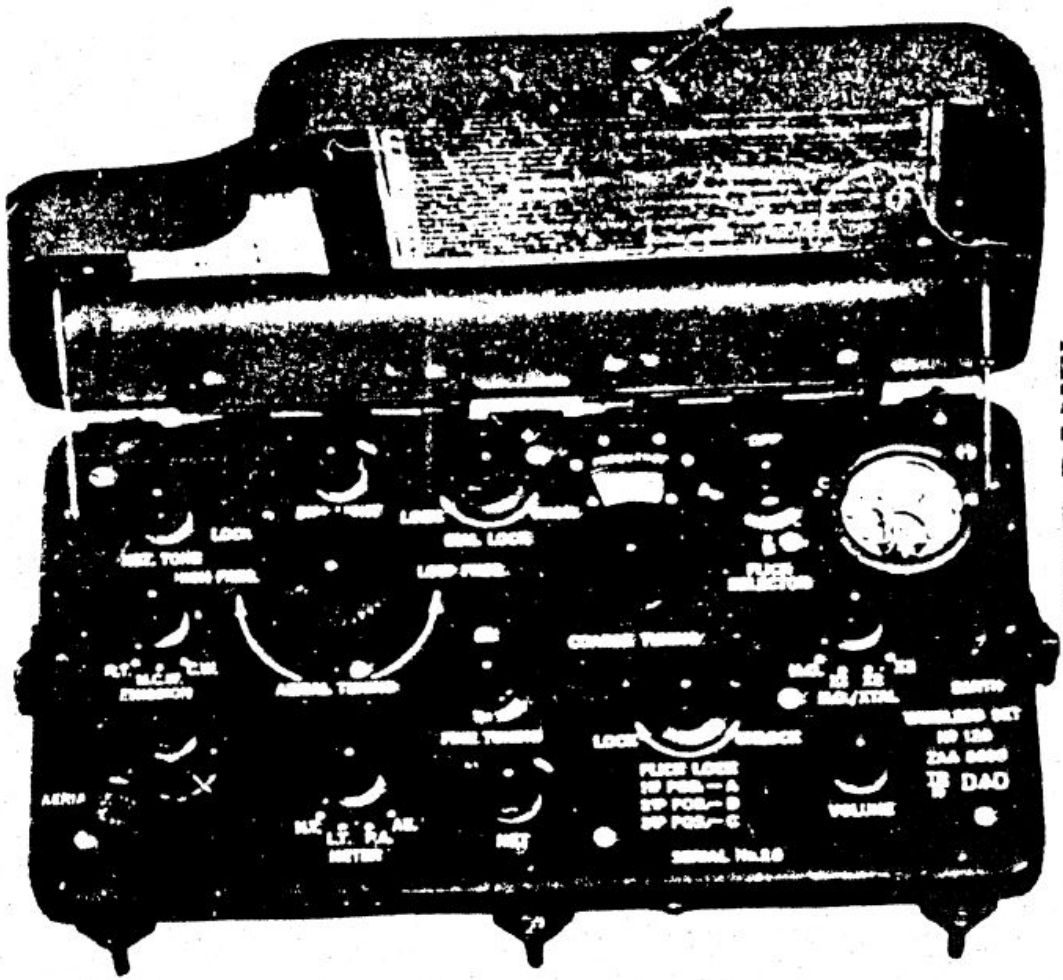


Fig. 6. *Front Panel*

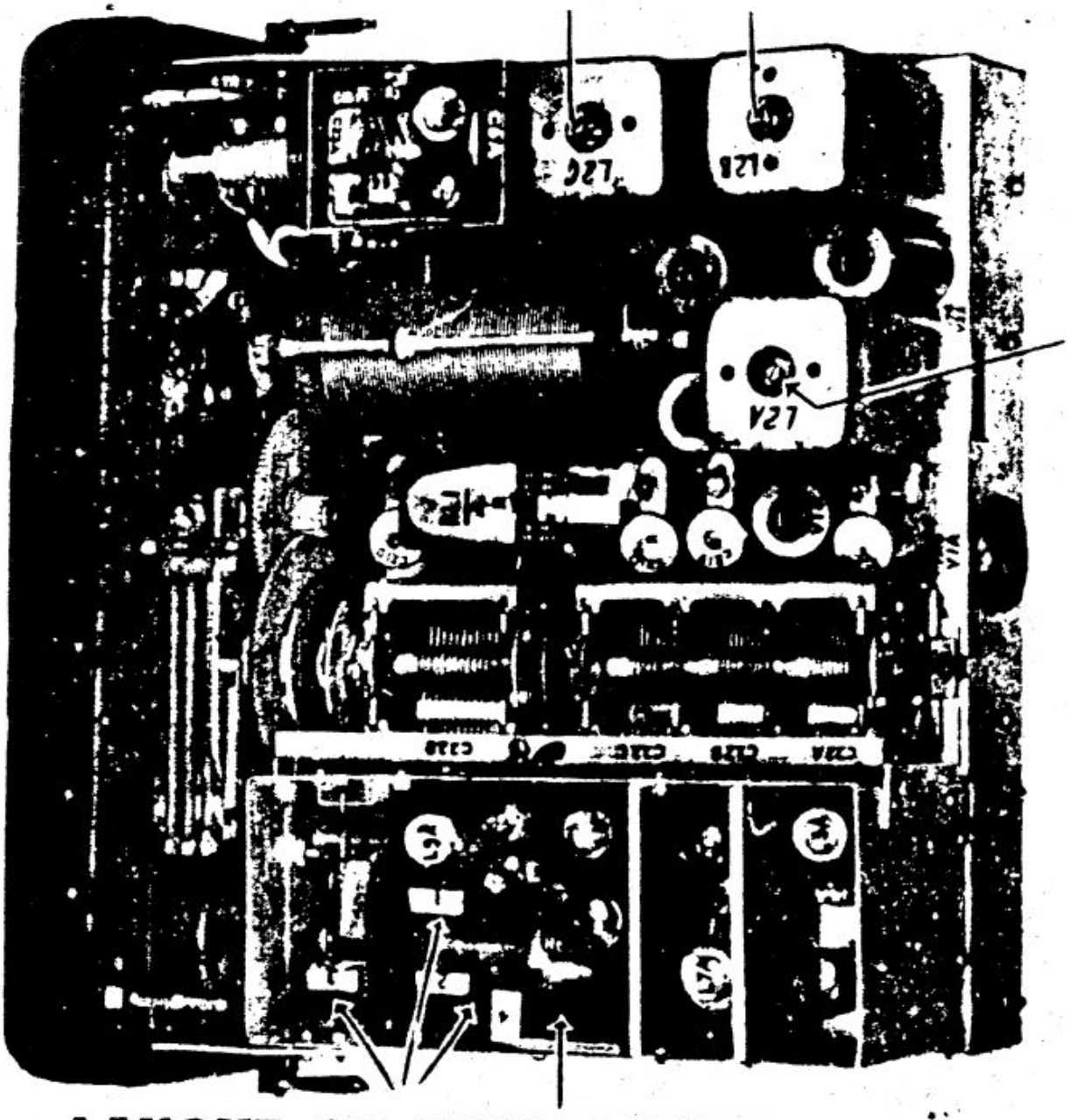


Fig. 4. *Layout of Components*

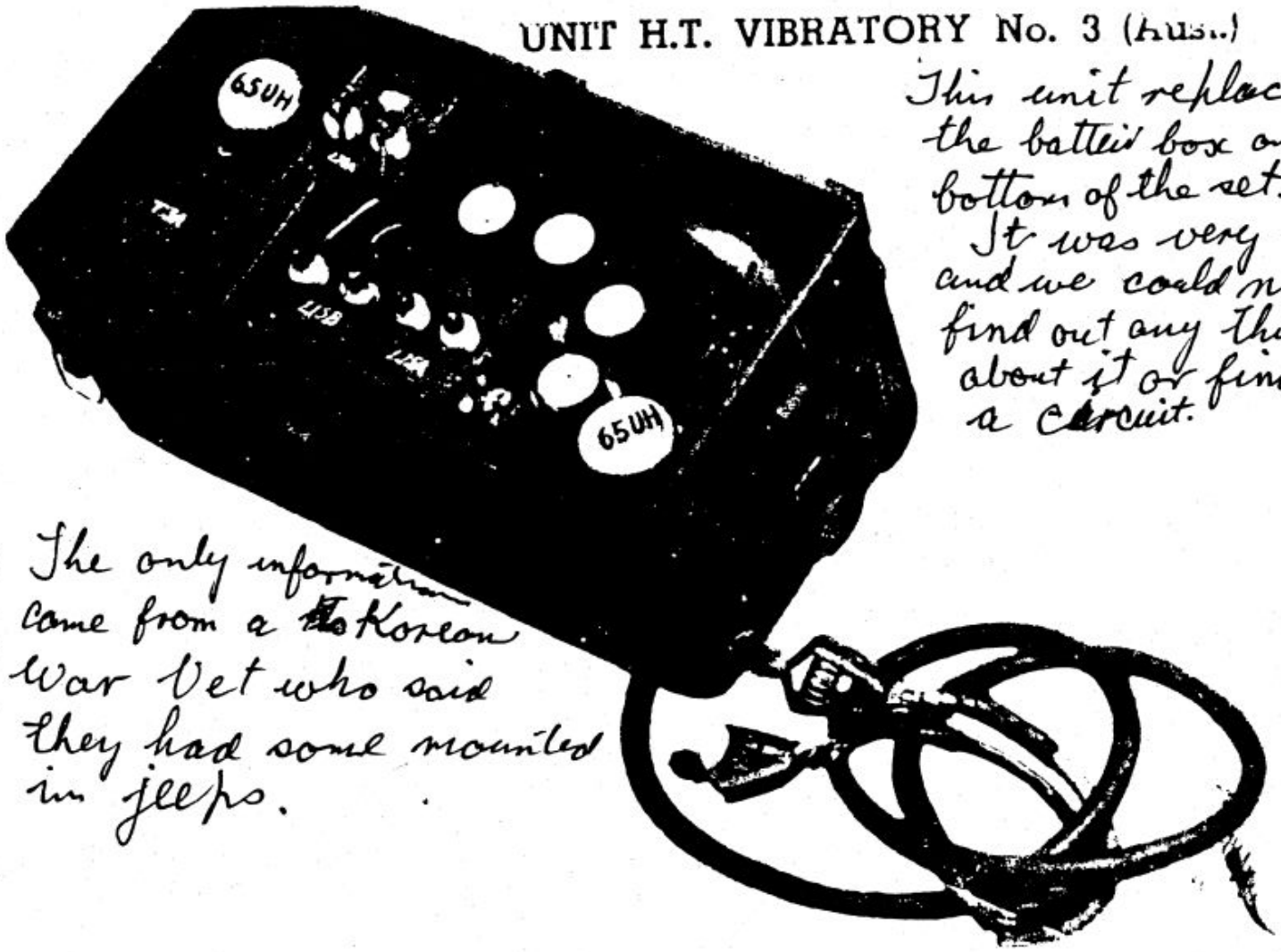
UNIT H.T. VIBRATORY No. 3 (Aust.)

Fig. 3. *Unit H.T. Vibratory No. 3 (Aust.)*

From user handbook note a maintance manual.

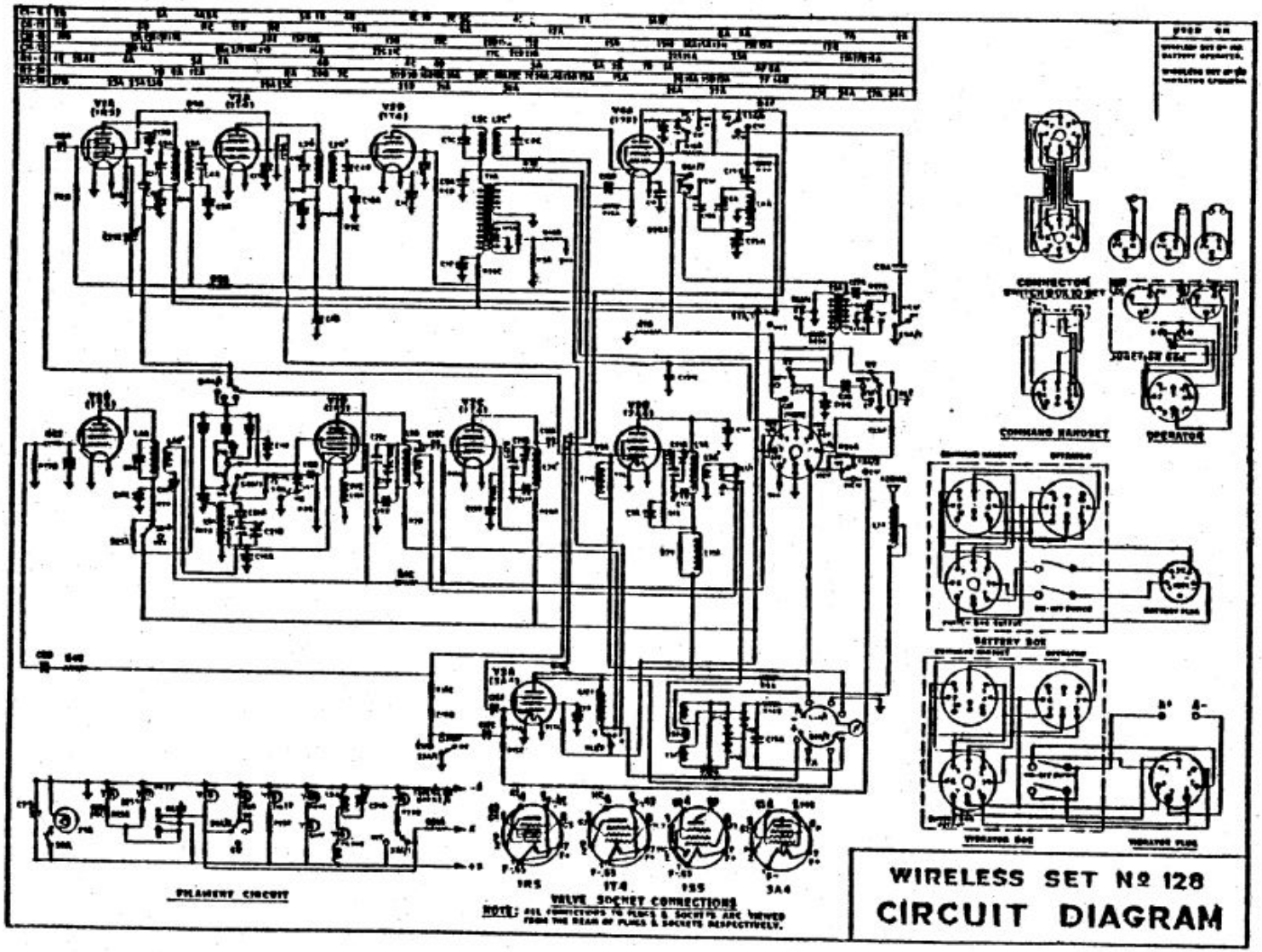
UNIT H.T. VIBRATORY No. 3 (Aus..)

This unit replaces the battiri box on the bottom of the set.
It was very rare and we could not find out any thing about it or find a circuit.

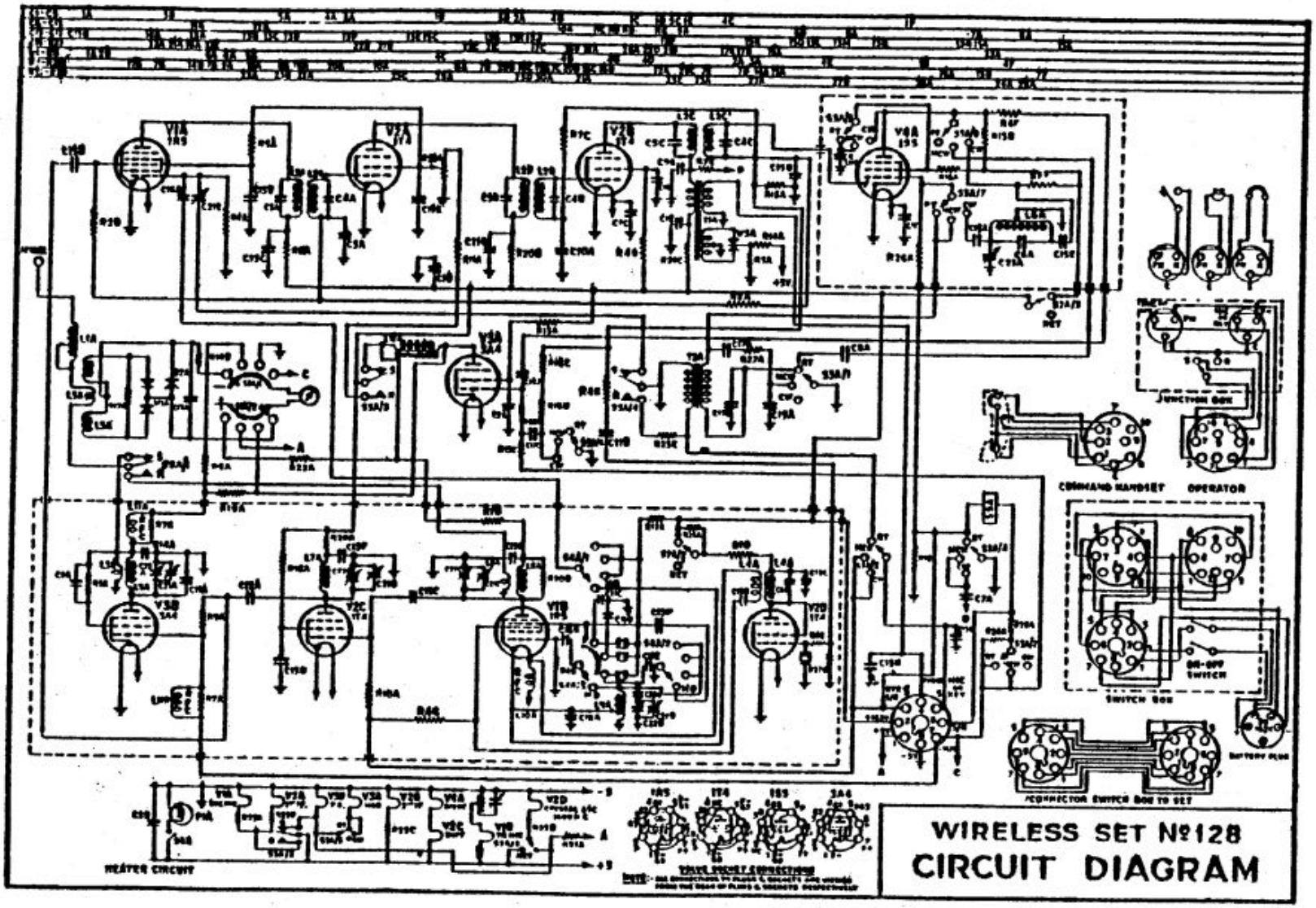


The only information come from a Korean War Vet who said they had some mounted in jeeps.

Fig. 3. Unit H.T. Vibratory No. 3 (Aust.)

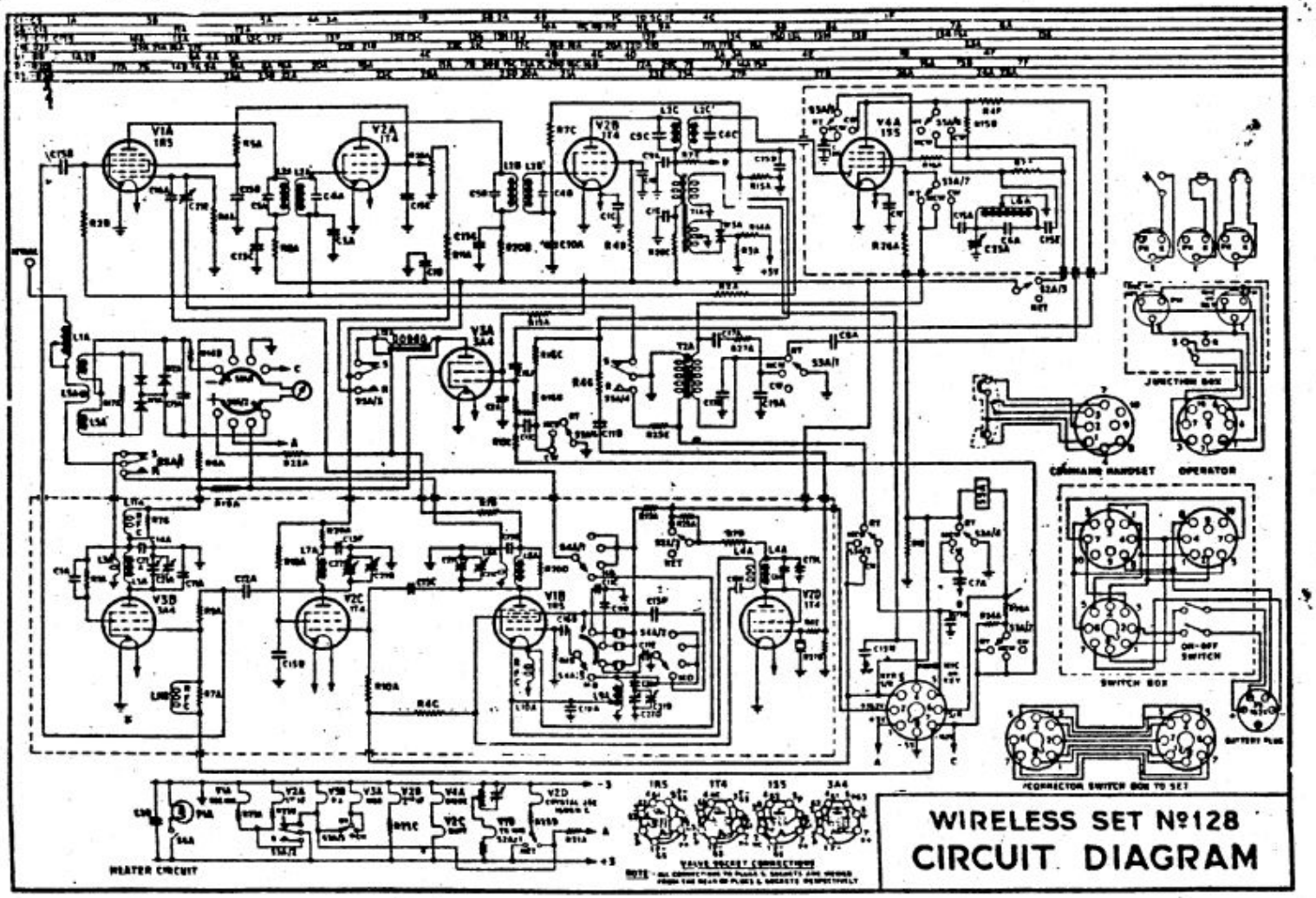


LOW SERIAL NUMBER MARK 1 (No 31 or 44)

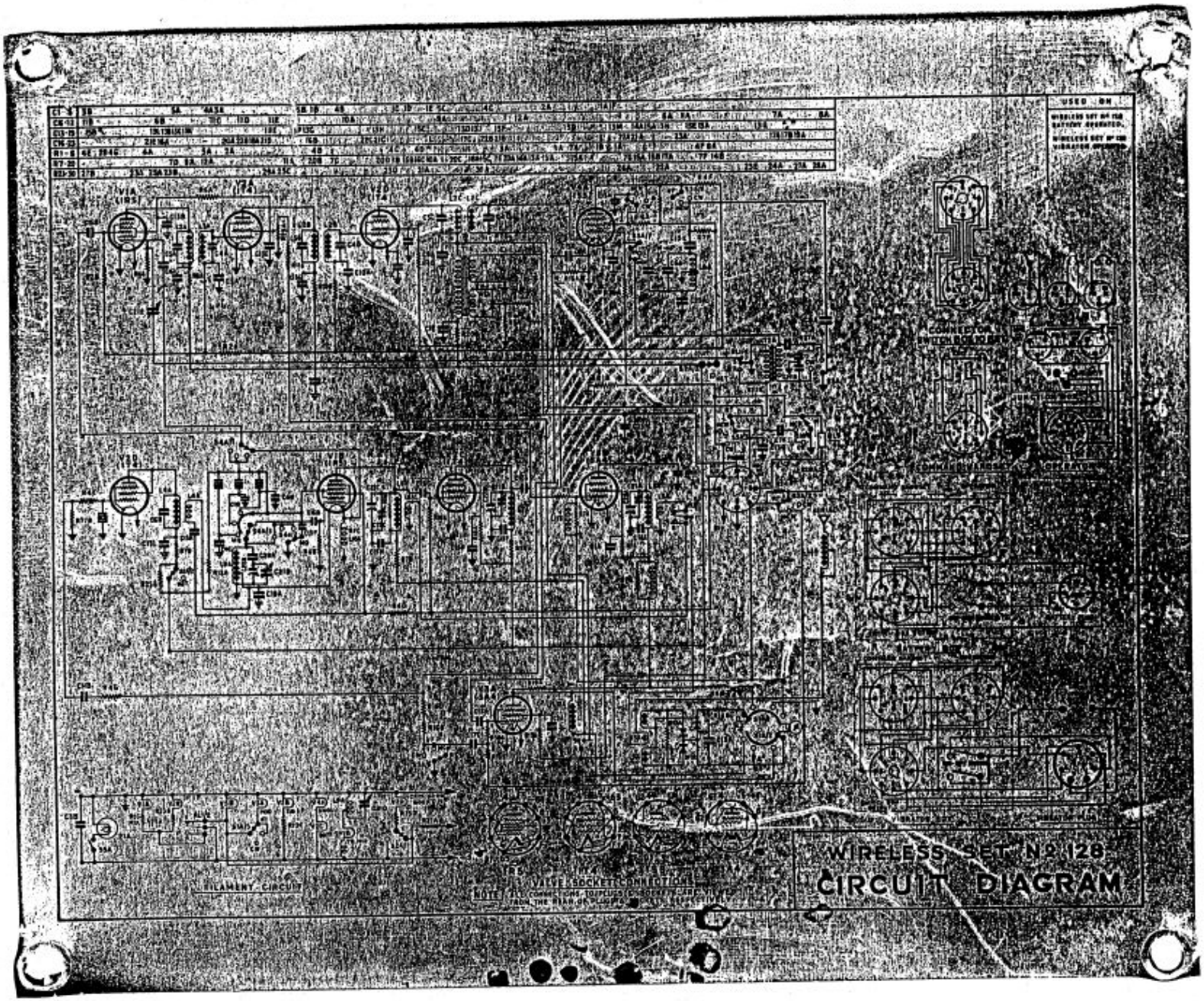


HIGH SERIAL NUMBER MARK 1 OR A MARK 2

MOST LIKELY A MARK 1



This circuit diagram is copy of the aluminium plate from inside the set case.


WIRELESS SET No. 128
CIRCUIT DIAGRAM
FILAMENT CIRCUIT
VALVE SOCKET CONNECTIONS

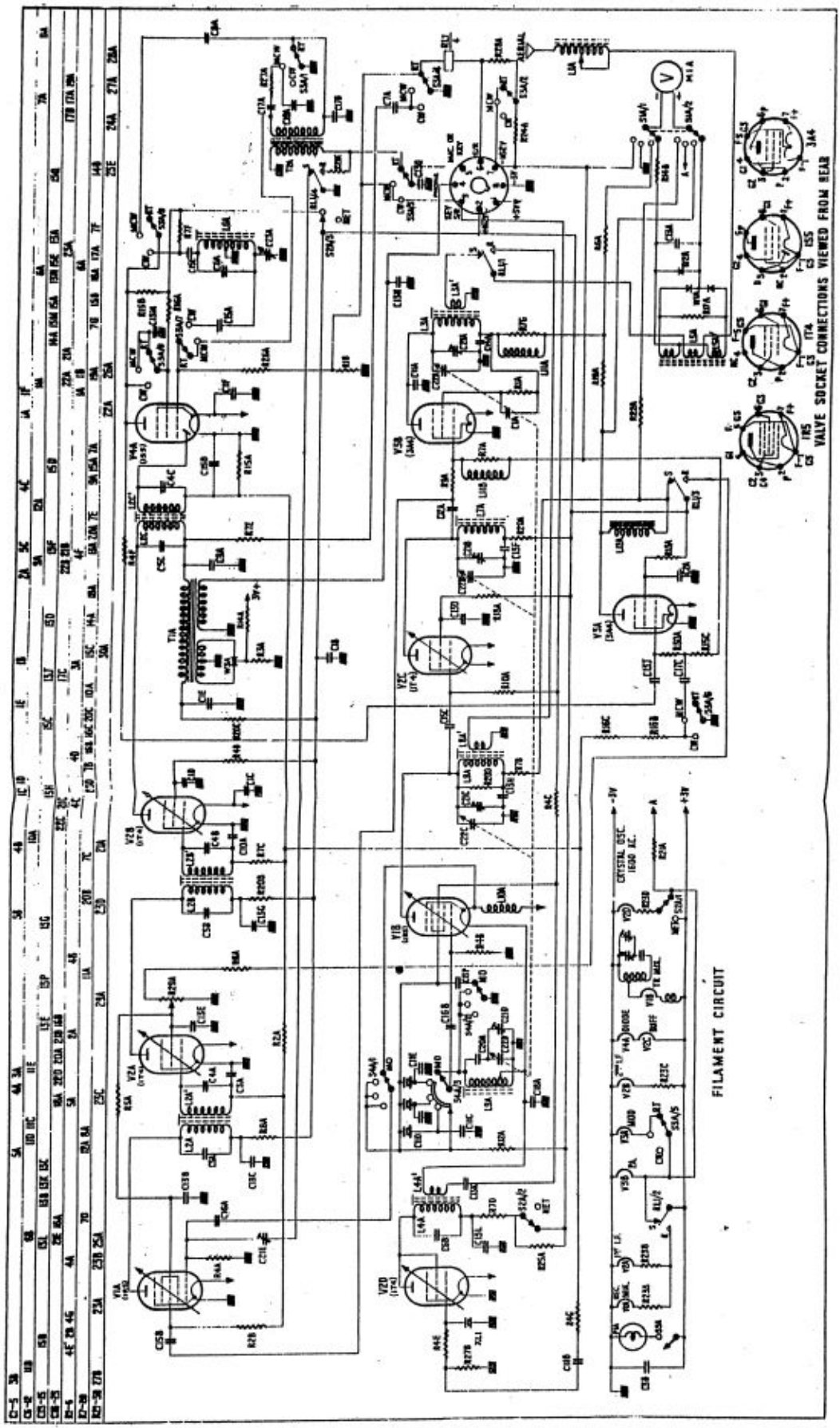


FIG. 14 - CIRCUIT DIAGRAM