

# Philips Radioplayer

## BATTERY MODELS 518 or 518V

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● \*Made in Australia but

SPECIFICATIONS imported to NZ.

### GENERAL.

This model is a five valve receiver of excellent performance and appearance, whose sensitivity averages 5 microvolts and whose frequency coverage is 1500-550 k'cs.

### VALVE EQUIPMENT.

Radio Frequency Amplifier .....	Type KF3	Cap P.
Frequency Converter (Octode) .....	Type KK2	Cap P.
Intermediate Frequency Amplifier .....	Type KF3	Cap P.
Duo-diode Detector, AVC, & 1st Audio	Type KBC1	Cap P.
Power Amplifier (Steep Slope) .....	Type KL4	Cap P.
Dial Lamps (518) .....	Two 2.5V.	.1 Amp Radio Panel
(518V) .....	Two 6 V.	.1 Amp Radio Panel
Fuse .....	One	.1 Amp Torch or Panel Lamp

### ELECTRICAL.

Power Supply. 518: 135 volt B. Battery and 2 volt 110 AH accumulator

518V: Vibrator Unit and 6 volt 130 AH accumulator

### SERVICE INSTRUCTIONS

**Dismantling Set.**—First disconnect all batteries. Remove knobs by slackening grub screws and withdraw speaker plug from its socket. Now remove the chassis bolts underneath the cabinet and the unit required may then be slipped out. To remove the loudspeaker, extract the four wood screws fixing same to the baffle board.

**Alignment.**—This receiver has been carefully adjusted in the factory and re-alignment should not be attempted unless reliable test apparatus is available. However, should it be necessary to retrim any of the sections the following procedure should be adopted:

**I.F. Adjustments.**—Set the test oscillator to a frequency of 472.5 kcs. and connect the oscillator output through a .1 mfd. condenser to the grid of the KK2 Octode, but leaving its grid cap in place. The

oscillator return lead should be connected to the receiver chassis. Fully mesh the tuning condenser plates, and adjust the two pairs of trimmers mounted on the under side of the I.F. transformers for maximum deflection of the output meter. Reduce the oscillator output until the lowest easily read indication on the meter is obtained.

**R.F. Adjustments.**—The three trimmers on the gang condenser as viewed from the front of the chassis are as follow—aerial trimmer, oscillator trimmer, and RF trimmer—while the padder condenser is located on the right hand end of the chassis and is adjusted through a hole in the chassis.

Before continuing with R.F. adjustments, see that the pointer comes about midway between the last scale division (600 kc. end) and the sector line,

when the tuning condenser plates are fully meshed.

Attach output of oscillator to aerial and earth terminals of the receiver and output meter across the H.T. winding of the speaker output transformer. Now set test oscillator to 1400 kc. and turn dial pointer to 1400 kc. and adjust oscillator trimmer for maximum response. Then adjust the aerial and RF trimmers for peak output. For the low frequency end of the band, set the test oscillator and receiver to 600 kc. and again adjust for maximum response by means of the padding condenser and, at the same time, rocking the tuning condenser slightly above and below 600. Here again the output indication should be kept low to prevent undue AVC action taking place. After the set is aligned at 600 kc. the adjustments at 1400 kc. should be re-checked. The oscillator trimmer, and then the RF trimmers, readjusted if necessary. The set is now lined up and can be replaced in the cabinet.

## THE VIBRATOR UNIT.

The circuit diagram is shown. The operation of the unit is stable over long periods and it requires little or no attention.

AN EFFICIENT AND LOW RESISTANCE EARTH MUST BE USED for the maximum performance of this receiver with an absence of hum or "hash".

Should the set be accidentally connected to the "A" battery with the wrong polarity the 5 amp fuse in the vibrator unit will probably "blow" and it is important that this should be replaced with one of the same value, otherwise the vibrator may be ruined.

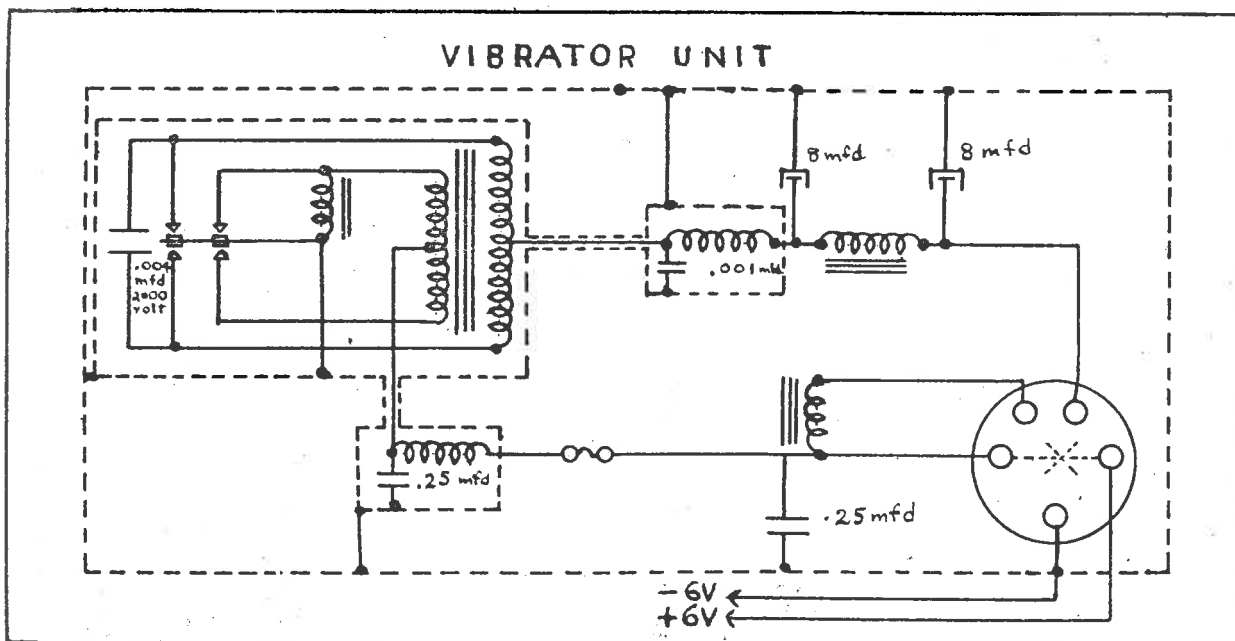
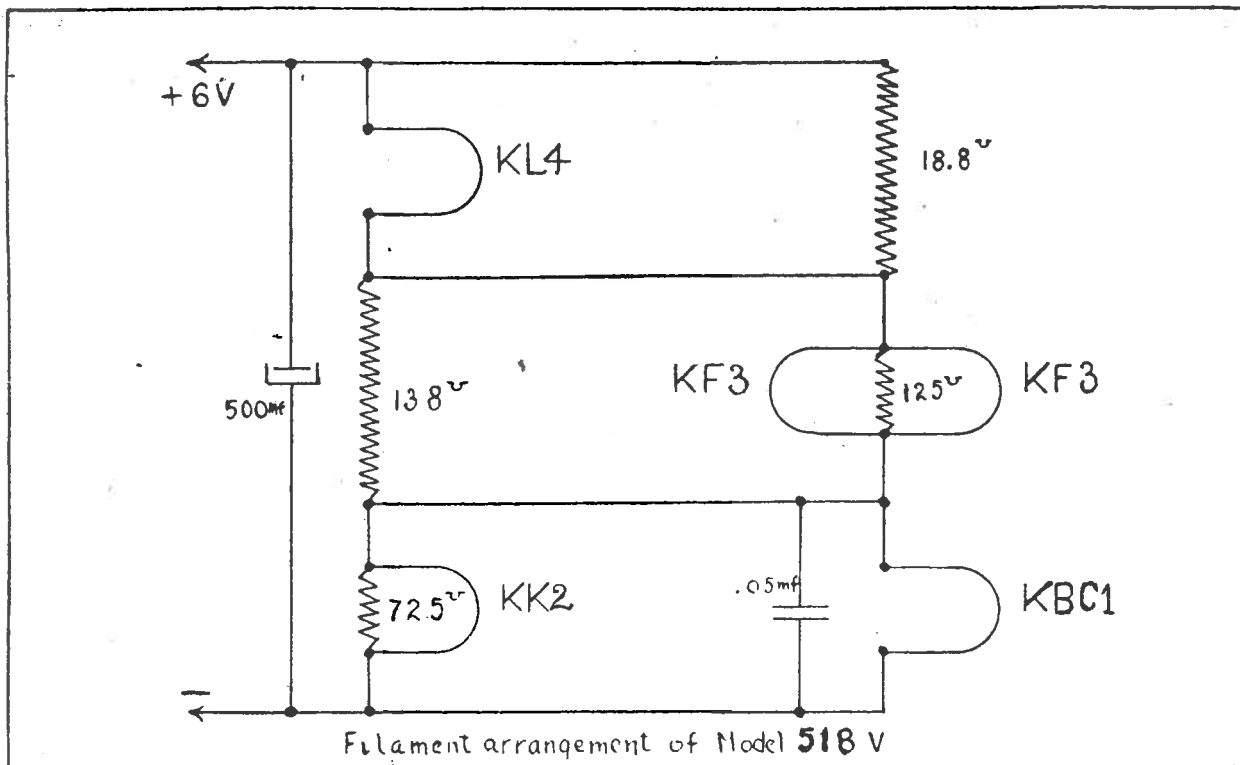
A check of normal operation of a vibrator unit is that on "no load" it should draw not more than .4 amps.

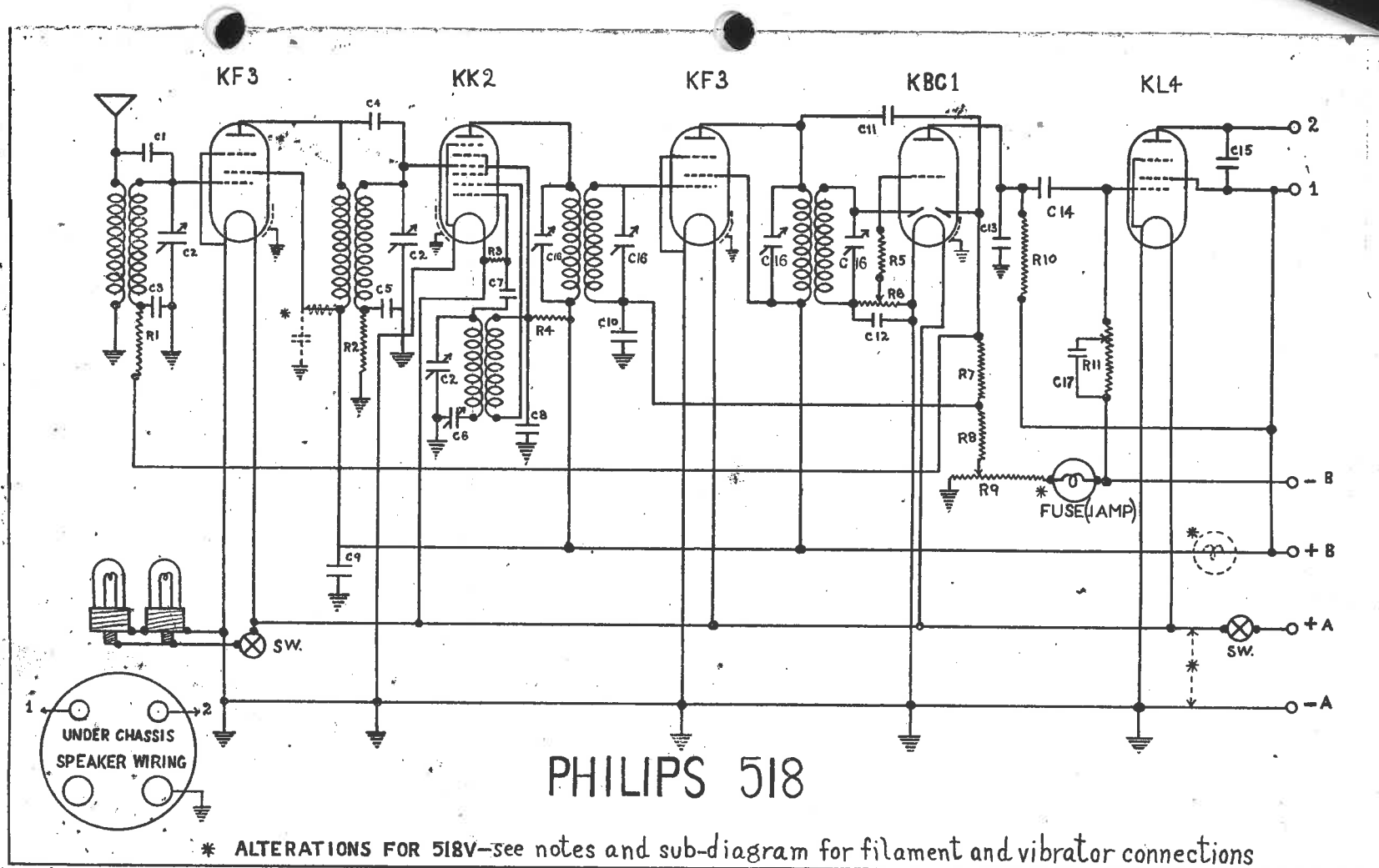
All battery terminals should be kept clean and bright and well greased to prevent corrosion.

## VOLTAGE ANALYSIS

Valve	Plate Voltage		Plate & (Scr.) Current mA		Screen Voltage		Bias Voltage		Current Drain
	518	518V	518	518V	518	518V	518	518V	
KF3	135	138	1.75 (.45)	1.4 (.44)	135	114	—2	—2	518V With pilots 1.1A W/out „ .9A
KK2	osc.	32			30				518 With pilots .65A W/out „ .45A "B" Current 12mA
	135	138	1.3 (1.1)	1.45 (1.2)	30	32	0	0	
KF3	135	138	1.5 (.5)	1.7 (.5)	135	138	—2	—2	
KBC1	19	20	.35	.4	—	—	—2	—2	
KL4	134	137	5.15 (.85)	7.25 (1.15)	135	138	—5.25	—4	

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### COMPONENT PARTS

#### Condensers.

C1, C4	Ceramic 10 mmfd.
C2	Gang
C3, C5, C10	Paper .05 mfd.
C6	350-600 mmf padder
C7, C11	Mica .0001 mfd.
C8	Paper .1 mfd.
C9	Paper .25 mfd.
C12, C13	Mica .00025 mfd.
C14	Paper .02 mfd.
C15, C17	Mica .004 mfd.
C16	IF. Trimmers

#### Resistors.

R1, R2, R8	$\frac{1}{2}$ watt 1 megohm
R3, R4, R5	$\frac{1}{2}$ watt 50000 ohm.
R6, R11	.5 meg. vol. and tone controls
R7	$\frac{1}{2}$ watt .5 megohm
R9	wirewound 400 ohm.
R10	$\frac{1}{2}$ watt .25 megohm

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#### NOTES AND MODIFICATIONS

**NOTE.**—In model 518V the filaments are wired in a series-parallel arrangement as shown in the accompanying diagram. The screen of the KF3 in the R.F. stage is fed through a 25,000 ohm resistor and bypassed by a .1 mfd. condenser and, therefore, has a potential of 114 volts instead of 135 volts as in model 518.

The "B" circuit fuse is transferred from the —B lead to the +B lead in the vibrator model, otherwise the two machines are identical.