

## SERVICE DATA.

(Continued from page 1.)

the KK2 octode through an 0.5 uF condenser and the "earth" side of the oscillator should be joined to the receiver chassis. The normal grid clip should remain on the cap of the valve. Tune the oscillator to exactly 462.5 kc/s. Advance the volume control to full on position and adjust the receiver tuning control to a point where the condenser plates are fully engaged. Increase the output of the test oscillator until a slight indication is observed on the output indicator. Then adjust the two trimmers on the 2nd I.F. transformer for peak receiver output. Next adjust the two trimmers on the first I.F. transformer for maximum indication on the output meter.

During these adjustments the output of the test oscillator should be regulated so that the output is as low as possible. This will prevent errors in alignment due to the A.V.C. action. The I.F. trimmers should be gone over again to ensure that mutual coupling has not displaced the original adjustment.

**R.F. TRIMMER ADJUSTMENTS.** The three trimmers on the gang condenser are indicated as aerial, R.F. and oscillator trimmer in the component location illustration. The padder is indicated in the same photograph.

Before proceeding with the R.F. adjustment see that the dial pointer just coincides with the end of the scale when the tuning condenser plates are fully engaged.

Attach the output of the test oscillator to the aerial and earth terminal of the receiver.

Proceed further as follows:---

- (a) Connect output meter to output of set and turn volume control to maximum.
- (b) Adjust test oscillator to 1500 kc/s and tune receiver until pointer indicates 1500 kc/s on dial.
- (c) Increase test oscillator output until a small indication is given on output meter.
- (d) Adjust the oscillator trimmer until a maximum output is recorded.
- (e) Adjust test oscillator to 1400 kc/s and set dial of receiver to same frequency. Adjust aerial trimmer and R.F. trimmer for maximum output on meter.
- (f) Adjust test oscillator to 600 kc/s and tune dial of set to same frequency. Adjust padder for maximum output.
- (g) If padder has been altered very much it will be advisable to return to 1400 kc/s and recheck alignment as per para. (e).



# PHILIPS RADIOPLAYER

## MODEL 6517 (BATTERY OPERATED)

### SPECIFICATIONS.

(Subject to Alteration Without Notice).

**TUNING RANGE:** 200-550 metres.  
**BATTERY EQUIPMENT:** 1-2 volt Accumulator (100 amp. hours capacity).  
 3-45 volt Heavy Duty "B" Batteries.

### VALVE EQUIPMENT.

Radio Frequency Amplifier	Type KF3	R.F. Penthode
Frequency Converter	„ KK2	Octode
Intermediate Frequency Amplifier	„ KF3	R.F. Penthode
Demodulator and 1st Audio	„ KBC1	Diode Triode
Power Amplifier	„ KL4	Power Penthode
Dial Lamp	2.5 volt 0.1A	Panel Lamp

### BATTERY CONSUMPTION.

"A" Battery	0.57 amp. approx.
"B" Battery	11mA. approx.

**INSTALLATION.** Full instructions for the installation of Model 6517 are contained in the instruction book supplied with each Radioplayer.

**FUSE LAMP.** A fuse lamp is fitted in series with the "B" Battery positive lead as a precaution against valve filament burnouts. The Radioplayer will not operate if the lamp is fused or is not properly screwed into the socket.

### DISMANTLING THE SET.

1. Disconnect batteries.
2. Remove knobs at front of cabinet (recessed grub screws).
3. Withdraw loudspeaker plug from socket.
4. Unscrew the four bolts holding the chassis to floor of cabinet. The chassis may now be withdrawn from the cabinet.

### REMOVING LOUDSPEAKER.

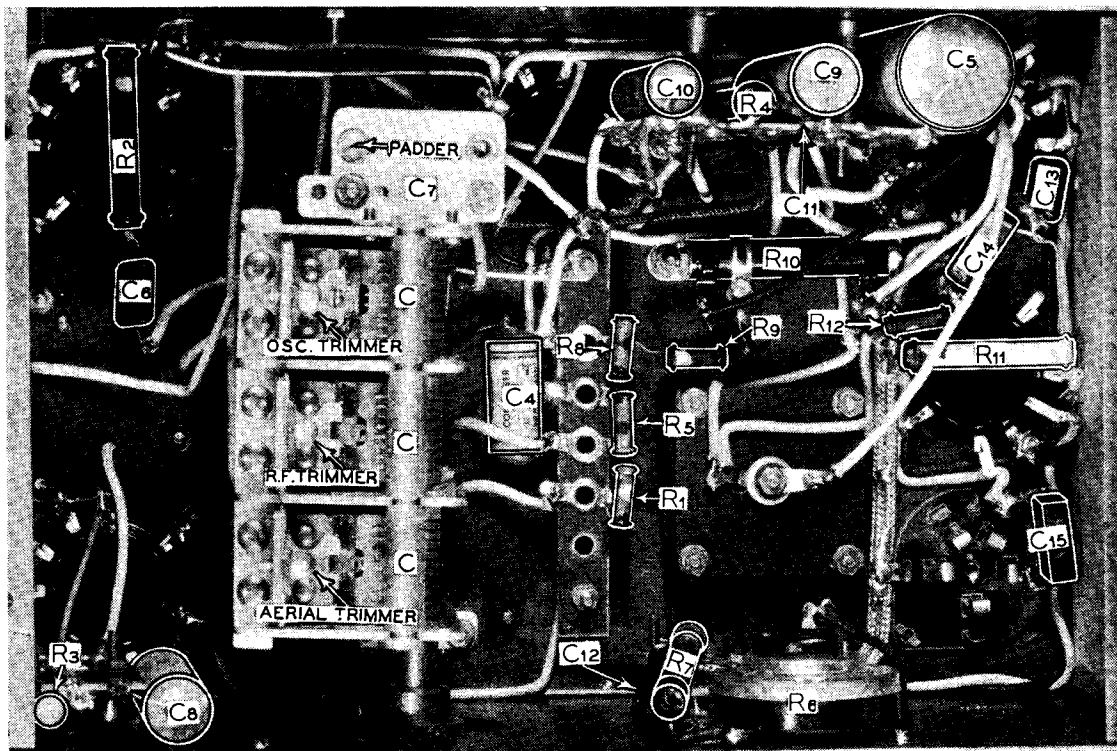
If it is desired to remove the speaker this may be accomplished by unscrewing the four woodscrews securing same.

**ALIGNMENT.** Precise alignment is vital to the proper functioning of this receiver. There are four trimming adjustments provided on the intermediate frequency transformers and four in the octode tuning circuits (three at the gang condenser together with the padder). These trimmers are accurately adjusted at the factory and will retain the alignment unless affected by abnormal climatic conditions or unless alterations have been made to the trimmers or wiring for service purposes. Incorrect alignment is usually indicated by loss of selectivity coupled with poor sensitivity. The correct performance can only be obtained if the set alignment is achieved by reliable test apparatus and no attempt should be made to tamper with the trimmers unless a suitable service oscillator and visual output meter is available.

**I.F. TRIMMER ADJUSTMENTS.** The position of the four I.F. trimmers is shown in the chassis layout diagram. Each must be aligned to the basic frequency of 462.5 kc/s. To accomplish this, connect an output meter to the receiver and connect the batteries. The "hot" side of the test oscillator should be connected to the grid of

(Continued on back page.)

COMPONENT LOCATIONS.



COMPONENT PARTS

CONDENSERS		RESISTORS	
C, C, C	3 gang variable	R1	100,000 ohm, ½ watt
C1, C3	Special capacitor (inside coil can)	R2, R7	50,000 ohm, 1 watt
C2	0.05 uF paper (inside coil can)	R3	25,000 ohm, 1 watt
C4, C10	0.05 uF paper	R4	100,000 ohm, 1 watt
C5	0.5 uF paper	R5, R8	1 megohm, ½ watt
C6, C11, C12	.0001 uF mica	R6	0.5 megohm, potentiometer
C7	padder	R9, R12	0.5 megohm, ½ watt
C8, C9	0.1 uF paper	R10	400 ohm wire wound
C13	.00025 uF mica	R11	0.25 megohm, 1 watt
C14	0.01 uF mica		
C15	0.004 uF mica		

SERVICE DATA.

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## MODIFICATIONS

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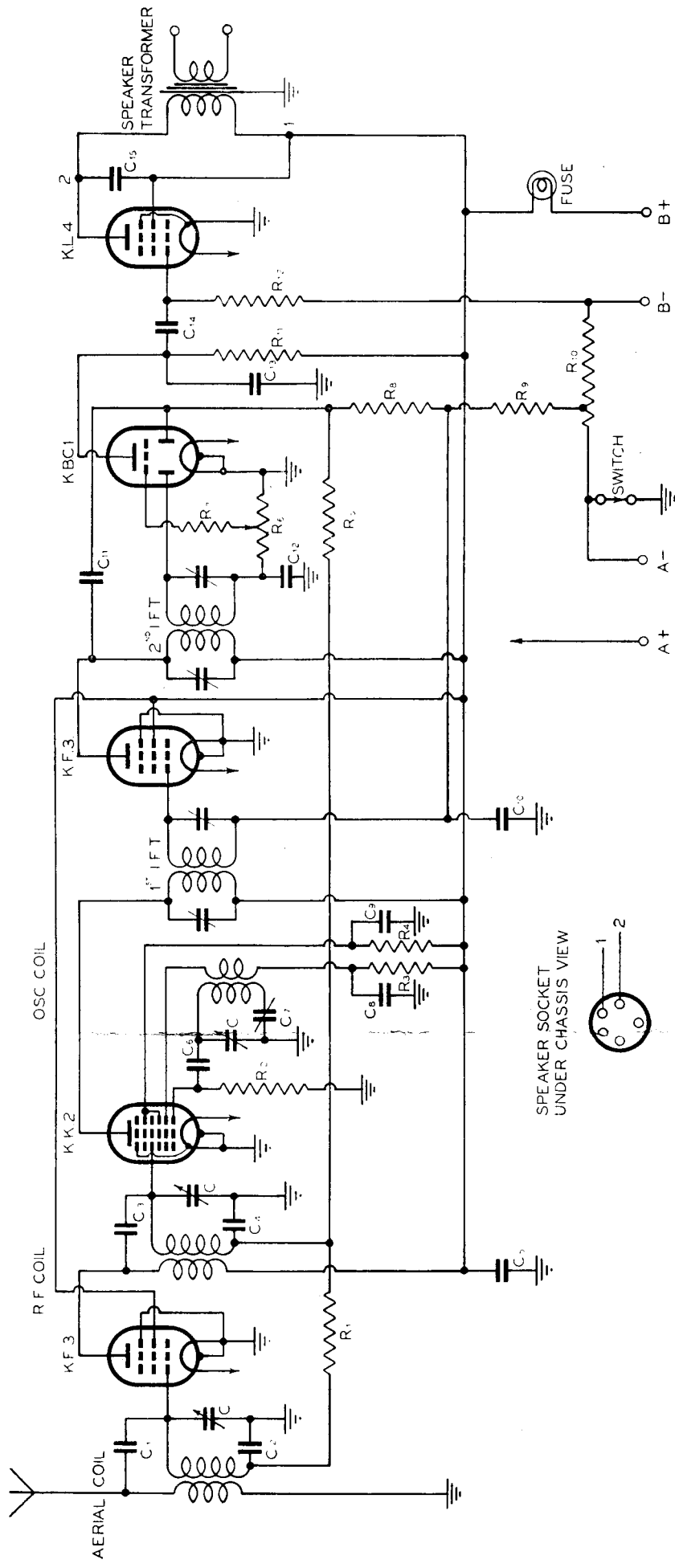
VOLTAGE ANALYSIS

Valve Type	Plate Voltage	Plate Current	Screen Voltage	Control Grid Voltage	Filament Voltage
KF3	132	1.5	132	1	2
KK2	132	0.5	40	1	2
KF3	132	1.5	132	1	2
KBC1	25	0.2	—	1	2
KL4	130	6.0	132	4.5	2

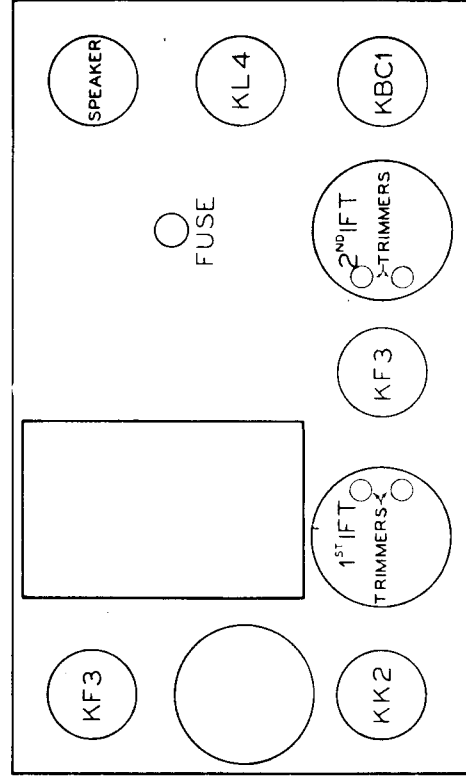
**NOTE.**—The above voltages are for the no-signal condition and are measured with a 1000 ohms. per volt voltmeter between the respective valve sockets and the chassis. The grid voltages are measured at the source of potential, and not at the sockets.



SPEAKER SOCKET UNDER CHASSIS VIEW

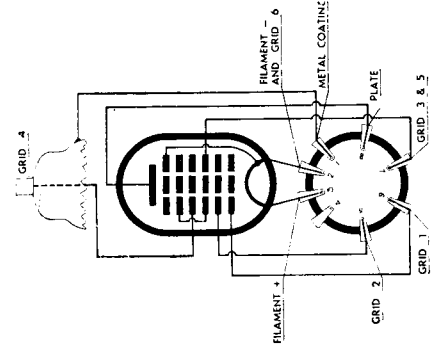


CHASSIS LAYOUT

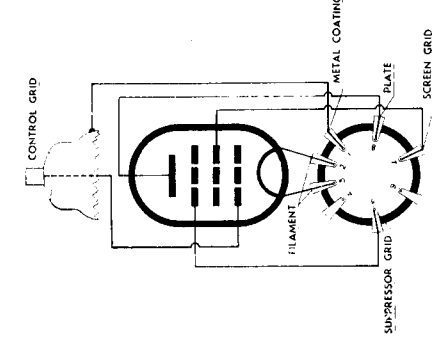


BACK OF CHASSIS

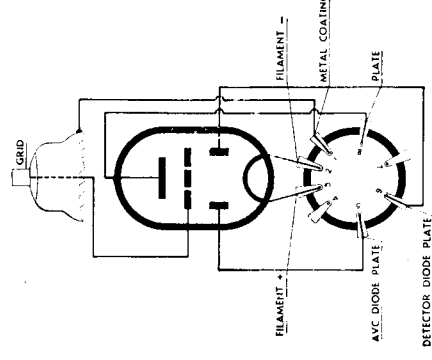
SOCKET CONNECTIONS VIEWED FROM BOTTOM OF BASE.



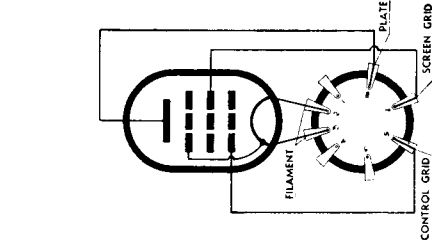
KF3



KK2



KBC1



KL4

# Philips "Radioplayer" Battery Broadcast Model 6517

Philips' Radioplayer Model "6517" is a five-valve battery-operated broadcast receiver. The valves used are of the Philips "K" series, two-volt, "P" based type, and the receiver is operated completely from a two-volt accumulator and three 45-volt "B" batteries. No bias battery is required. The receiver is housed in a console cabinet, and uses an 8-inch, permanent magnet type, loudspeaker. Only four battery connections are required for this receiver. These are two for "A" supply and two for "B" supply. The leads are clearly tagged as an indication of their respective connections.

Two controls are fitted to model 6517. One of these is a combined battery-switch and volume control and the other is the tuning knob. The dial is of the "floodlit" type and uses a single 2.5 volt 0.3 ampere miniature screw lamp for illumination. No dial lamp switch is provided.

Circuit features are the use of a series resistor in the "B" negative lead for the provision of output valve bias voltage; A.V.C. delay voltage obtained from a tapping on the output valve bias resistor; "diode" biasing for the amplifier section of the second detector valve; full "B" voltage operation of the R.F. and I.F. valve screens; series dropping resistors for the "mixer" operating voltages; and the use of the A.V.C. delay voltage for minimum biasing of the R.F. mixer, and I.F. valves. An important point to watch, if one of these receivers suddenly ceases to operate, is the fuse lamp which is fitted to the chassis near the speaker plug. This is a "60 mA." miniature screw type globe and is wired in series with the "B" positive lead. Failure of this lamp or its working loose in the socket will cause the receiver to stop operating.

## OPERATING VOLTAGES.

The following operating voltages were measured with a "1,000 ohms per volt" meter when the receiver was detuned from a station. Plate and screen voltages were measured between the chassis and socket contacts, but the grid voltages were measured at their source (across the bias resistor).

**KF3, R.F. Amplifier:** Plate, 130 v.; screen, 130 v.; control grid, 1.0 v. Plate current, 1.5 mA.

**KK2, Octode Frequency Converter:** Plate, 130 v.; osc. plate, 90 v.; screen, 40 v.; control grid, 1.0 v. Plate current, 0.5 mA.

**KF3, 462.5 KC. I.F. Amplifier:** Plate, 130 v.; screen, 130 v.; control grid, 1.0 v. Plate current, 1.5 mA.

**KBC1, Detector, A.V.C. Rectifier and "Diode-biased" Audio Amplifier:** Plate voltage, 40 v. Plate current, 0.2 mA.

**KL4, Output Pentode:** Plate, 125 v.; screen, 130 v.; control grid, 4.5 v. Plate current, 6.0 mA.

## COMPONENT VALUES.

### CONDENSERS.

C<sub>1</sub>, C<sub>2</sub>—3 gang variable; C<sub>1</sub>, C<sub>3</sub>—special couplings; C<sub>2</sub>—0.05 mfd. paper (inside coil can); C<sub>4</sub>, C<sub>10</sub>—0.05 mfd. paper; C<sub>5</sub>—0.5 mfd. mica; C<sub>6</sub>, C<sub>11</sub>, C<sub>12</sub>—0.0001 mfd. mica; C<sub>7</sub>—osc. padder; C<sub>8</sub>, C<sub>9</sub>—0.1 mfd. paper; C<sub>13</sub>—0.00025 mfd. mica; C<sub>14</sub>—0.01 mfd. mica; C<sub>15</sub>—0.004 mfd. mica.

### RESISTORS.

R<sub>1</sub>—100,000 ohms, ½ watt; R<sub>2</sub>, R<sub>7</sub>—50,000 ohms, 1 watt; R<sub>3</sub>—25,000 ohms, 1 watt; R<sub>4</sub>—100,000 ohms, 1 watt; R<sub>5</sub>, R<sub>8</sub>—1.0 megohm, ½ watt; R<sub>6</sub>—500,000 ohms volume control with combined single pole switch; R<sub>9</sub>, R<sub>12</sub>—500,000 ohms, ½ watt; R<sub>10</sub>—400 ohms wire-wound with variable tapping; R<sub>11</sub>—250,000 ohms, 1 watt.

