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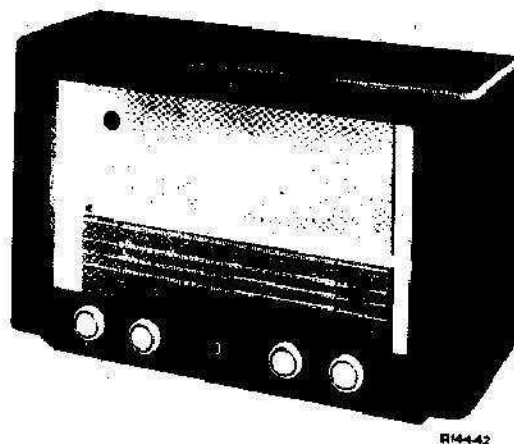
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# PHILIPS

## SERVICE NOTES

for the receiver

### BX626U



1952

For A.C. and D.C. mains supply.

#### GENERAL

##### WAVERANGES

1. M.W.	: 185 - 580	m	{ 1622 - 517	kc/s	<u>I.F.:</u> 452 kc/s
2. S.W.3	: 60 - 187	m	{ 5 - 1.604	Mc/s	
3. S.W.2d	: 32.7 - 60	m	{ 9.15 - 5	Mc/s	
4. S.W.2c	: 23.07 - 32.96	m	{ 13.0 - 9.1	Mc/s	
5. S.W.2b	: 17.00 - 25.87	m	{ 17.6 - 11.6	Mc/s	
6. S.W.2a	: 10.98 - 17.00	m	{ 27.3 - 17.6	Mc/s	

##### CONTROLS

From left to right:

1. Knob : volume control + mains switch.  
Lever: radio-P.U. switch.
2. Knob : tone control.  
Lever: bass switch.
3. Knob : vernier tuning.
4. Knob : waverange switch.
5. Knob : main tuning.

##### MAINS VOLTAGE

110, 125, 200, 220 V ac/dc.

##### CONSUMPTION

50 W approx. 220V a.c.

##### LOUDSPEAKER

Type 9770 Z-5  $\Omega$

##### VALVES

B1 : UF41  
B2 : UCH42  
B3 : UBF80  
B4 : UAF42  
B5 : UL41  
B6 : UY41  
B7 : UM4

##### DIMENSIONS

Length : 55 cm } knobs  
Depth : 26 cm } included  
Height : 34.5 cm }

##### WEIGHT

11.0 kg.

##### BANDWIDTH

The I.F. bandwidth (1:10) measured from g1 of B2 is approx. 11 kc/s. The "overall" bandwidth (1:10) measured from the aerial socket is about 9 kc/s at 1000 kc/s and at 547 kc/s.

##### DIAL LAMPS

L1 : 8097 D - 00; L2 : 8097 D - 00

93 977 52.1.05

## LIST OF ILLUSTRATIONS

- Fig. 1 R.F. and oscillator circuit for each position of the waverange switch.
- Fig. 2 Location of trimmers and cores.
- Fig. 3 Trimming points on the dial.
- Fig. 4 Pointer drive.
- Fig. 5 Switch segments and coil connections.
- Fig. 6 Circuit diagram.
- Fig. 7 Wiring diagram (under).
- Fig. 8 Wiring diagram (above).

## IMPORTANT

When connecting to A.C. mains for repair or trimming it is necessary to use a transformer with separate windings. The secondary winding must not be earthed and only one set should be connected to the transformer.

The chassis can then be earthed.

When connecting to D.C. mains see that the right polarity is observed.

## CIRCUIT DESCRIPTION

### R.F. Part

Fig. 1 shows for every position of the waverange switch a simplified diagram of the R.F. part.

Bandspread in the ranges S.W.2a, S.W.2b and S.W.2c is obtained by connecting capacitors in series and in parallel with the variable condenser.

The vernier control is obtained by self-induction changes (moving in and out of the core) of the coil S29 for the ranges S.W.2a, S.W.2b and S.W.2c and of the coil S30 for the range S.W.2d.

### A.F. Part

The detected A.F. signal is applied to the grid of B4 via the volume control R14-R15 and C61-C52.

The cathode resistor R17 of B4 is not decoupled, so that negative current feedback takes place for this valve.

Physiological tone correction, accentuating the bass notes compared with the treble, at low signal strength, is obtained by connecting R16 in series with C51 in parallel across the part R15 of the volume control.

### Tone control

A negative feedback voltage taken from the slider of the tone control R26, shunted across the secondary S50 and S51 of the output-transformer, is applied via C53 to the cathode of B4. Together with R17, C53 forms a high-pass filter. When the slider of the tone control R26 is in the lowest position the negative feedback is minimum, with the result that the treble notes are not suppressed. This is the "quality" position of the tone control.

As the slider of R26 is moved upwards the negative feedback voltage increases, with the result that the treble notes are more suppressed. This is the "mellow" position.

In the "minimum-low-notes" position of SK6, C52 is inserted and C32 is short-circuited so that a stronger feedback-voltage from the low pass-filter is applied to the cathode of B4, with the result of suppressing the low notes.

In the "maximum-low-notes" position of SK6, C52 is short-circuited and the negative feedback voltage from R26, via the low-passfilter R23-C38-R30, is applied via C32 to the cathode of B4.

### TRIMMING THE RECEIVER

#### A. The I.F. Part

1. Set the waverange switch to M.W.
2. Turn the variable capacitor to minimum.
3. Set the volume control to maximum.
4. Set the P.U. radio switch to radio.
5. Unscrew the iron cores of the I.F. coils almost entirely.
6. Connect a voltmeter via a trimming transformer to the extension loudspeaker socket.
7. Apply to g1 of B2 a modulated signal of 452 kc/s via a capacitor of 33000 pF.
8. Trim the I.F. circuits in the following order:

4th I.F. circuit	S45-S46-C48	{ coil U }
3rd I.F. circuit	S43-S44-C47	{ coil U }
1st I.F. circuit	S39-S40-C44	{ coil T }
2nd I.F. circuit	S41-S42-C45	{ coil T }
3rd I.F. circuit	S43-S44-C47	{ coil U }

After the last circuit has been trimmed the cores of the I.F. coils must be left as they are.

9. Seal the cores.

#### Note

The iron cores of the I.F. bandfilters have been sealed with "Vaseline Compound" (see list of parts and tools). This compound can easily be removed in the cold state with the aid of a screwdriver. Heating of the core damages the core holder and makes trimming impossible.

#### B. R.F. and oscillator circuits

Trimming is done with the aid of trimming points on the dial (see fig.3).

There is no need to uncase the apparatus. Before starting to trim, be sure that the pointer is in the right position at minimum capacitance of the variable condenser.

The pointer has then to be adjusted opposite the extrem left trimming mark on the dial.

For all waveranges the following applies:

1. Set the volume control to maximum.
2. Turn the tone control to the "quality" position.
3. Connect a voltmeter via a trimming transformer to the extension loudspeaker socket.