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For Philips

Service Dealers only

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Ned. Ver. v. Historie v/d Radio

# PHILIPS

## SERVICE NOTES

for the receivers

### B2X67U-65-98

1956. For A.C. mains supply.

#### Control knobs

From left to right:

1. Mains switch and volume control
2. Tone control
3. Waverange switch
4. Tuning

#### Tubes

B1 : UCH81  
B2 : UF89  
B3 : UBC81  
B4 : UL84  
B5 : UY42

#### Dial lamp

8009 D-07

#### Waveranges

#### B2X67U-65

M.W.: 517-1610 kc/s (186 - 580 m)  
S.W.: 4.75-18.1 Mc/s (16.6-63.2 m)

#### I.F.

452 kc/s.

#### Mains voltage

220 V - 110, 125 V.

#### Consumption

52 W to 220 V  
18 W to 110 V  
27 W to 125 V

#### Loudspeaker

Type AD 2500 X

#### Dimensions

Width : 312 mm  
Height : 177 mm  
Depth 189 mm

#### B2X67U-98

M.W.: 517-1610 kc/s (186- 580 m)  
S.W.: 3.2-12.05 Mc/s ( 25-93.7 m)

#### Bandwidth

The I.F. bandwidth (B10) measured from g1B1 is about 10 kc/s at 452 kc/s. The overall bandwidth measured from the aerial connection is about 9 kc/s at 1000 kc/s.

Trimming of the receiver

When the receiver is connected to an A.C. voltage mains, for measuring and checking purposes, an isolating transformer with not earthed secondary winding should be applied.

Connect a voltmeter to the loudspeaker connections via a trimming transformer.

I.F. band pass filter

Volume control to maximum.

Unscrew the cores of S5, S6 S7 and S8 as far as possible.

Turn the variable capacitor so that it is completely enmeshed (max. capacitance)

	Waverange	Variable capacitor in position	Signal	Trim for max. output voltage
I.F. band pass filter	M.W.	Maximum capacitance	452 kc/s via 33,000 pF to g1B1	S8, S7, S5, S6, S7

R.F. and oscillator circuits

For both waveranges the rule is : oscillator frequency tuning frequency + I.F.

Volume control to minimum. Apply a fixed negative bias voltage of 2 V to the point of junction, C7-R4-R17.

Apply modulated signals to the aerial socket via a normal dummy aerial and adjust the R.F. circuits to maximum voltage with the volume control in maximum position.

B2X67U-65

Waverange switch	Variable capacitor	Trimming frequency	Trim for max. output voltage
.W	Max.	4.7 Mc/s	S16, S13
S.W	Min.	18.3 Mc/s	C8
M.W.	Max.	507 kc/s	C4, S1, S2
M.W.	Min.	1630 kc/s	C27, C6

B2X67U-98

Waverange switch	Variable capacitor	Trimming frequency	Trim for max. output voltage
S.W.	Max.	3.15 Mc/s	S16, S13
S.W.	Min.	12.2 Mc/s	C8
M.W.	Max.	507 kc/s	C4, S1, S2
M.W.	Min.	1630 kc/s	C27, C6

### Repairs and exchange of parts

The wiring of this set is pressed for the greater part into a hard paper plate used as chassis, (printed circuit).

When exchanging parts, one should take care that the soldering places are not heated too much or too long, as otherwise the adhesion of the print may become bad at some places.

Use a soldering iron with a low temperature.

### Resistors, capacitors and trimmers

The leading-in holes for the various resistors and capacitors have different diameters. The consequence of this is that for instance our 1 W resistor range, in view of the thickness of the connecting wire, cannot be applied on all places without taking special measures. In these cases, 2 solutions are possible :

1. Widening the holes with a tapering pin.
2. Cutting off the wire of the old resistor close to the resistor core. The new resistor can now be soldered to the remaining wire ends with the aid of 2 soldering springs.

These solutions also apply to the exchanging of capacitors and trimmers. When exchanging capacitors and resistors, take care that they are mounted close against the mounting plate.

This in order to avoid that with a pressure exerted on one of these parts, the print gets loose at one place or another.

### Electrolytic capacitors

The can of the electrolytic capacitor is fixed with 3 twisted lips to the print.

Then they are soldered just as the 2 twisted connecting lips. For replacement proceed in the following manner :

After moving the lips a few times carefully up and down with a pair of flat nose pliers, they can be broken off.

### Coils

Remove the soldering tin with a clean brush. Then heat again the connecting lips and bend them so that they get loose.

The twisted coil fixing lips can now be cut off after having removed the soldering tin.

### Valve holders

Remove the soldering tin with a clean brush. Then heat the contact lips and place a knife or an other flat object between the lips and the print.

### Wiring strips

If for some reason a connecting strip is interrupted, this can be bridged with mounting wire. In case of a small interruption, this can be done with tin.

B2X57U-65-96

LIST OF PARTS

When ordering always quote :

1. Code number and colour
2. Description
3. Type number of the set.

	Description	Code number
	Cabinet	A3 770 88
	Knobs	A3 769 61
	Back panel	A3 258 35
	Switch (voltage adaptor)	A3 230 19
	Plexiglass cover plate for dial	A3 410 46
	Dial B2X6/U-98	
	Dial (South )	A3 808 21
	Dial (Oversea) B2X57U-65	A3 807 55
		FW/SR

B2X67U-65

S1		A3 118 35	R1	1500 n	B1 636 36 +
S2			R2	10 kn	49 379 78
S3		A9 999 23/185-	R3	15 kn	A9 999 00/10K
S4		590M	R4	2.7 Mn	A9 999 00/15K
S5			R5	0.05 Mn	A9 999 00/2M7
S6		A3 127 72	R6	0.45 Mn	A9 999 16/DL50K
C10	195 pF		R7	6.8 Mn	+450K
C11	195 pF		R8	0.22 Mn	A9 999 00/6M8
S7		A3 127 72	R9	0.56 Mn	A9 999 00/220K
S8			R10	150 n	A9 999 00/560K
C13	195 pF		R11	950 n	A9 999 00/150E
C14	195 pF		R12	130 n	49 417 12
S9		A3 153 51	R13		49 379 55
S9a			R14	1 kn	A9 999 00/1K
S10		AD 2500 X	R16	47 kn	A9 999 00/47K
S11		A3 802 16	R17	0.1 Mn	A9 999 00/100K
S12			R18	120 kn	A9 999 00/120K
S13		A3 118 45	R19	47 kn	A9 999 00/47K
S14		A3 802 51	<u>B2X67U-98</u>		
S15			S12		
S16		A9 999 12/L25+	S13		A3 802 52
C1	25 uF	25	S15		
C2	25 uF	49 001 93	S16		A3 802 53
C3		A9 999 06/V1K	C9	470 pF	A9 999 04/470E
C4		A9 999 08/30E	C24	240 pF	A9 999 04/240E
C5	1000 pF	A9 999 04/22K	C28	12.5 pF	A9 999 07/6E-25E
C6	30 pF	A9 999 08/30E	R18	0.12 Mn	A9 999 00/120K
C7	22000 pF	A9 999 04/470E			
C8	30 pF	A9 999 06/82K			
C9	470 pF	A9 999 04/100E			
C12	82000 pF	A9 999 04/10K			
C15	100 pF	A9 999 04/10K			
C16	10000 pF	A9 999 04/10K			
C17	10000 pF	A9 999 04/10K			
C18	10000 pF	A9 999 04/47E			
C19	47 pF	A9 999 04/220E			
C20	220 pF	A9 999 06/V10K			
C21	10000 pF	A9 999 04/220E			
C22	220 pF	A9 999 05/3K			
C23	3000 pF	A9 999 05/240E			
C24	240 pF	A9 999 04/4K7			
C25	4700 pF	A9 999 05/410E			
C26	470 pF	A9 999 08/30E			
C27	30 pF	A9 999 07/6E-			
C28	25 pF	25E			
C30	100 pF	A9 999 04/100E			

FW/SR

B2 X 67 U-65-98

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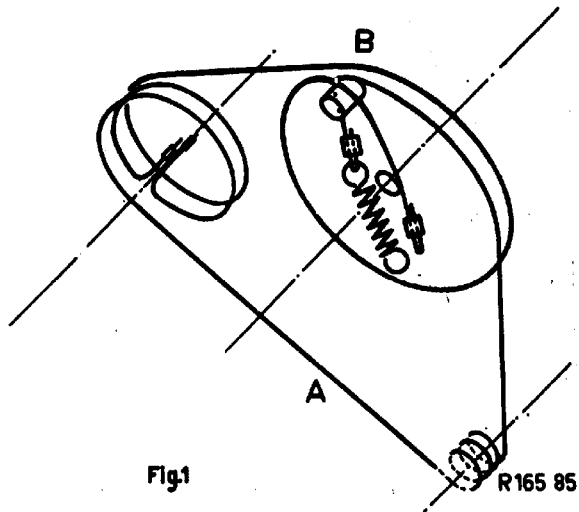
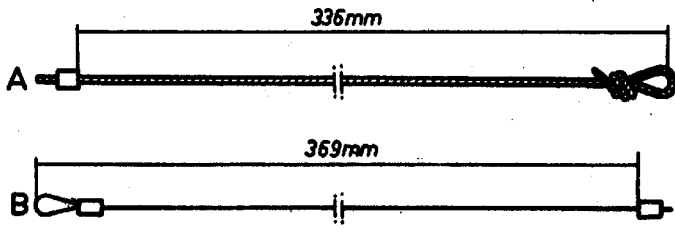
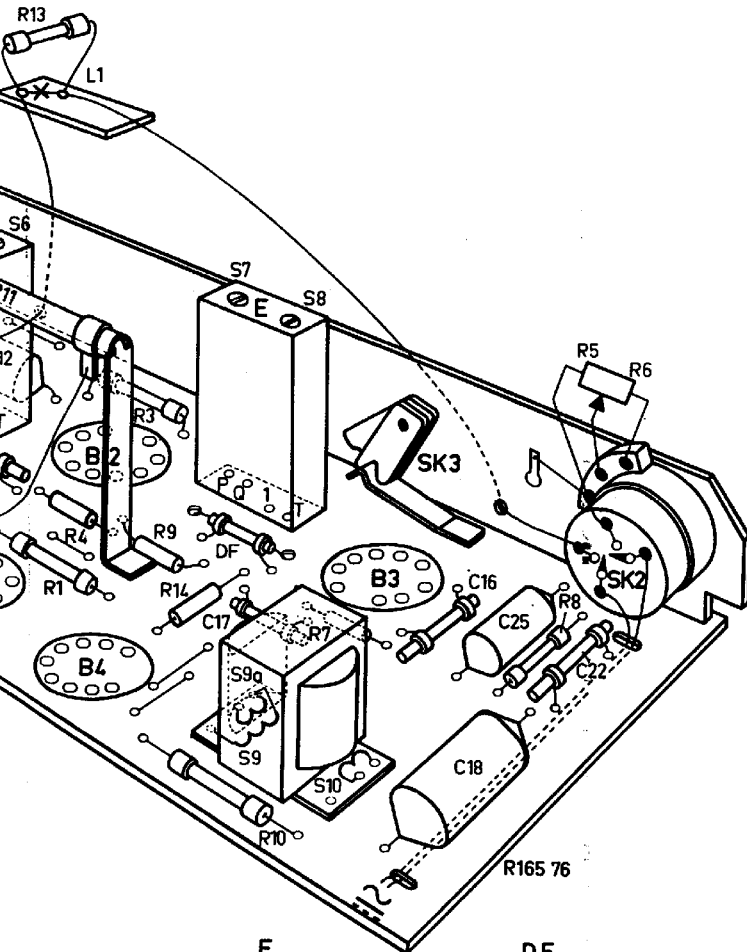
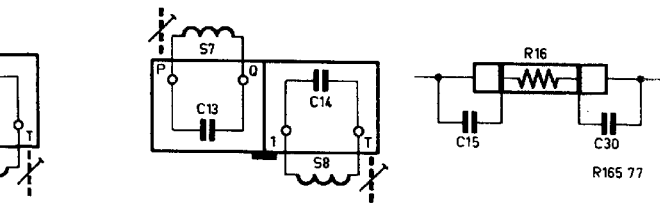


Fig.1



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EINDHOVEN

# Service Information

No. Ba215

28-1-1957

CENTRAL  
SERVICE  
DIVISION

GROUP: Apparatius  
ARTICLE: Radio  
TYPE: B2X67U-65-98

FW/NV

ALREADY PUBLISHED:

RE:

Correction of the representation of the waverange switch

A switch contact of the waverange switch has not been drawn in the circuit diagram of the above mentioned sets.  
The correct drawing is given below.

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Correction de la représentation du commutateur des gammes

Dans le schéma de principe des appareils susmentionnés un contact de commutateur des gammes n'a pas été dessiné.  
Veuillez trouver ci-dessus la représentation correcte.

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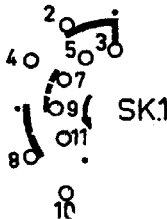
Corrección de la representación del computador de ondas

En el esquema de principio de los aparatos mencionados arriba no se ha dibujado un contacto del computador de ondas.  
La representación correcta se muestra en la figura dada al pie.

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# Service Information

No. Ba 247.

21-6-57

CENTRAL  
SERVICE  
DIVISION

**GROUP:** Apparatius  
**ARTICLE:** Radio  
**TYPE:** BX167U-00-03.B2X67U-65-98.

FW/JG

## ALREADY PUBLISHED:

### RE: Suppression of occurring mains hum:

In some cases it has appeared in practice that strong mains hum occurs in sets with the above mentioned type numbers. In order to prevent this, the following circuit elements should be replaced according to the list given below.

#### Opheffen van optredende netbrom:

In de praktijk kan het voorkomen, dat bij apparaten van bovengenoemde typen sterke netbrom optreedt.

Ter compensatie van dit verschijnsel, dienen onderstaande wijzigingen te worden aangebracht.

#### Suppression du bruit de secteur qui se présente:

En quelques cas un fort bruit de secteur a pris naissance dans la pratique dans les appareils des types mentionnés ci-dessus. Pour éviter cet inconvénient les éléments de circuit suivants doivent être échangés selon la liste mentionnée ci-dessous.

#### Beseitigung von auftretendem Netzbrumm.

In einigen in der Praxis vorgekommenen Fällen trat bei Geräten der obengenannten Typen stärkerer Netzbrumm auf.

Zur Beseitigung dieser Erscheinung sind folgende Schaltelemente nach untenstehender Liste auszutauschen.

#### Supresión del zumbido de red que ocurre:

En algunos casos que se han presentado en la práctica, ha ocurrido un fuerte zumbido de red en los aparatos de los tipos mencionados arriba. Para evitar esto los elementos de circuito siguientes deben reemplazarse según la lista indicada al pie.

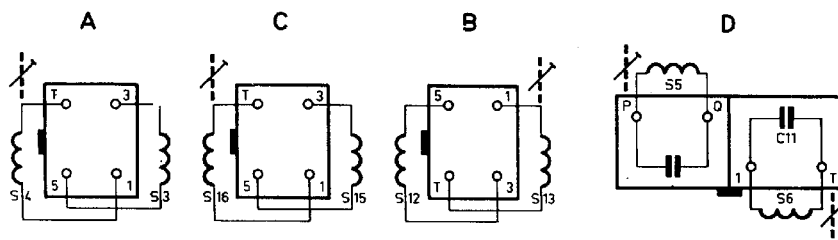
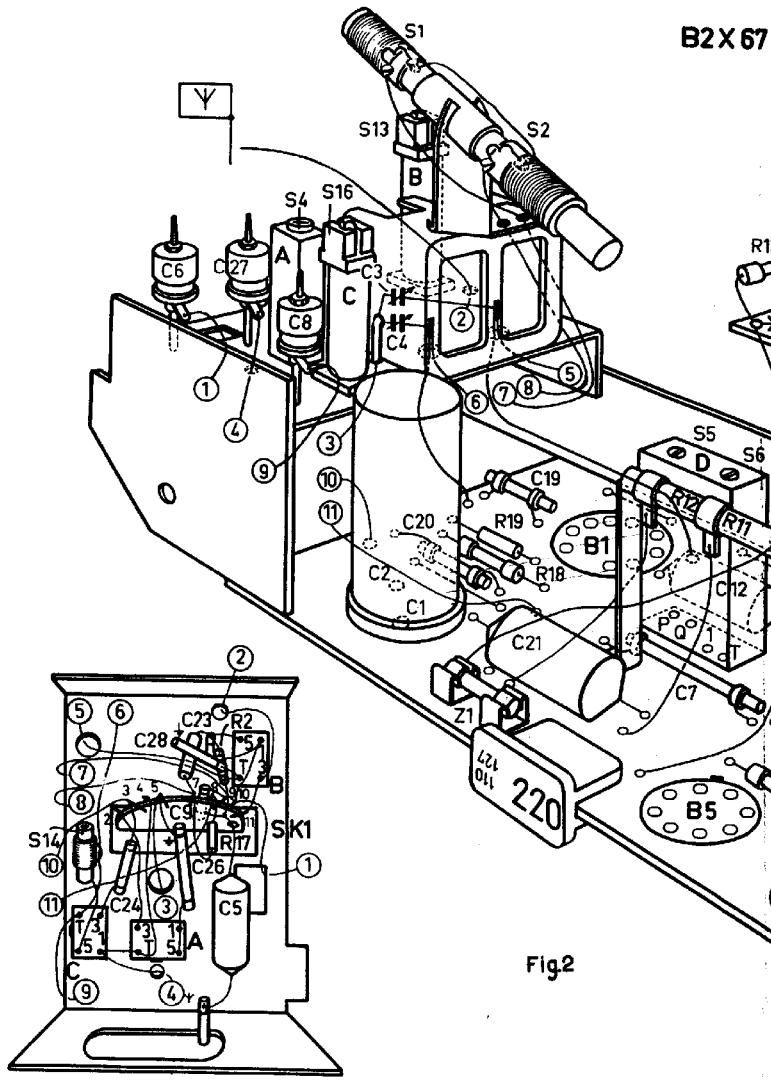
C1) 2x25  $\mu$ F ; A9 999 12/L25+25  $\longrightarrow$  2x50  $\mu$ F: A9 999 12/L50+50  
C2)

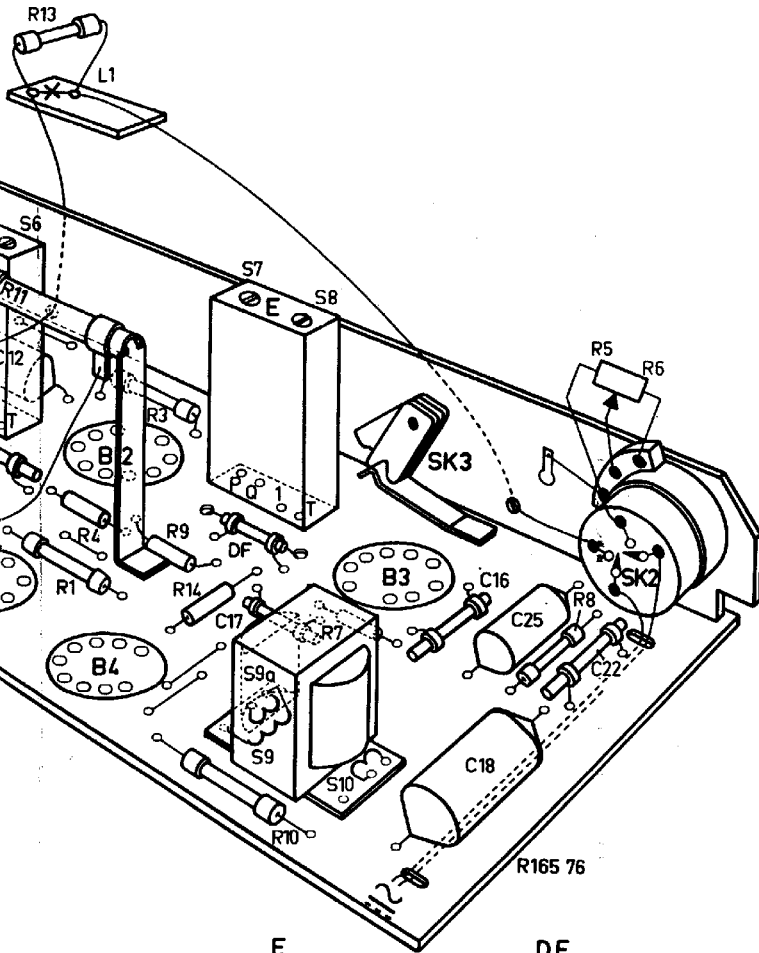
R1: 1500  $\Omega$  : A9 999 00/1K5  $\longrightarrow$  2700  $\Omega$ : A9 999 00/2K7

RB: 220k $\Omega$  : A9 999 00/220K  $\longrightarrow$  470 k $\Omega$ : A9 999 00/470K

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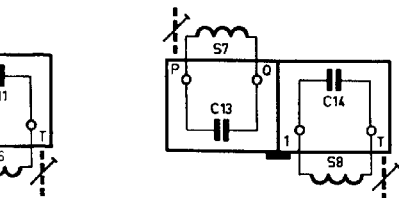
A. van Hecke





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