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FOR PHILIPS  
SERVICE DEALERS ONLY

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1948

Publication of Philips  
Central Service division:  
Eindhoven

PHILIPS

SERVICE NOTES  
FOR THE RECEIVER:

BX 388A

23 935  
23 939  
23 944

For A.C.mains supply.

GENERAL

WAVE RANGES

Short wave 1 : 11,29 - 33 m (26,55 - 9,09 Mc/s)  
Short wave 2 : 33 - 100 m (9,09 - 3 Mc/s)  
Medium wave : 165 - 560 m (1818,2 - 535,7 kc/s)

INTERMEDIATE FREQUENCY

452 kc/s.

VALVES AND PILOT LAMP

B1 : ECH21  
B2 : ECH21  
B3 : EBL21  
B4 : AZ1  
L1 : 8045D-00

LOUDSPEAKER

Type 9726.

CONTROL KNOBS

Right side : waverange switch  
Frontside right : tuning  
Frontside left : mains switch and volume control  
Left side : tone switch (up: speech; middle: normal; down:mellow).

DIMENSIONS

Height : 25 cm. )  
Length : 44 cm. ) including knobs  
Depth : 19 cm. )

WEIGHT

7 kg., including valves.

BANDWIDTH

- a. The I.F. bandwidth (1:10) is about 10,5 kc/s. measured from the control grid g1 of valve B1.
- b. The overall-bandwidth (1:10) measured from the aerial socket is about 10 kc/s at 1000 kc/s.

CONSUMPTION

48,5 Watt at 220 V 50 c/s.

SUPPLY PART

The set is suitable for connection to A.C. mains of 110, 125, 145, 200, 220 and 245 Volt. The voltage adaptor is provided at the back of the set.

TRIMMING THE RECEIVER

GENERAL

For the trimming the set has to be decased. In all waveranges the oscillator frequency is higher

Printed in the Netherlands

than the signal frequency.

A. I.F. BANDFILTERS

- 1. Set tone switch to normal (middle position) and volume control to maximum.
- 2. Waverange switch to the M.W. position.
- 3. Variable condenser to minimum capacity
- 4. Earth the chassis.
- 5. Connect outputmeter via trimming transformer to the extension loudspeaker sockets.
- 6. Apply a modulated signal of 452 kc/s via a 33000 pF condenser to g1 of valve B1. Unacrew all iron cores as far as possible.
- 7. Trim successively to maximum output the 4th, 3rd, 1st and 2nd I.F. circuit.
  - 1st circuit : coil D above S19/S20
  - 2nd circuit : coil D underneath S21/S22
  - 3rd circuit : coil E above S23/S24
  - 4th circuit : coil E undernath S25/S26After the last I.F.circuit (2nd circuit) has been trimmed no more adjustments may be made to the others.
- 8. Seal the trimmers.

REMARK

The iron cores of the I.F.bandfilters are sealed with 'vaseline compound' (for code number see list of parts and tools). This compound does not require heating for making adjustments for it can be removed in the cold state with a screw-driver. HEATING OF THE CORE DAMAGES THE COREHOLDER AND MAKES ADJUSTMENTS IMPOSSIBLE.

I.F. BLOCKING CIRCUIT

- 1. Volume control to maximum. Tone switch to normal(middle position)
- 2. Wave range switch in M.W. position.
- 3. Variable condenser to maximum capacity.
- 4. Connect outputmeter to extension loudspeaker sockets.
- 5. Apply a modulated signal of 452 kc/s to the aerial socket.
- 6. Trim CG to minimum output.
- 7. Seal CG.

B. H.F. AND OSCILLATOR CIRCUITS

Tone switch to normal (middle position)  
Earth the chassis.

Waverange to be trimmed

		S.W.1	S.W.2	M.W.
1	Waverange switch in position			
2	Apply 15° jig to variable condenser. Turn variable condenser against the jig (minimum capacity) Volume control to maximum. Connect outputmeter via trimming transformer to extension loud-speaker sockets.	15°	15°	15°
3	Apply to the aerial socket via a normal dummy aerial a modulated signal of	25,6 Mc/s	9 Mc/s	1700 kc/s
4	Trim to maximum output successively the trimmers (fig. 2) (First maximum from minimum capacity)	C16, C8	C17, C9	C19, C10
5	Remove 15° jig. Volume control to minimum. Short circuit C5. Connect anode of E1 (heptode part) via a capacitor of 25 pF to the aerial socket of an auxiliary set or the input socket of an aperiodic amplifier. Outputmeter behind auxiliary set or aperiodic amplifier. Tune auxiliary set to	9,6 Mc/s	-	550 kc/s
6	Apply to the aerial socket of the set to be trimmed a modulated signal of Tune the set to be trimmed to maximum output. Do not turn variable condenser any more	9,6 Mc/s	-	550 kc/s
7	Remove auxiliary set or aperiodic amplifier. Connect outputmeter to set to be trimmed Remove short circuit of C5 and set volume control to maximum. Trim to maximum output	C15	-	C20
8	Repeat the points	1 till 4	-	1 till 4
9	Seal the following trimmers	C8 C15 C16	C9 C17	C18 C19 C20

## REPAIRS AND EXCHANGING PARTS

## DECASING

1. Remove the ornamental strips by inserting a small screw-driver between dial and the strip.
2. Remove the dial (taking out two screws).
3. Remove the pointer. This is pressed on to the intermediate drum.
4. Take off the knobs. The switch lever need not be taken off.
5. Remove two screws at the side of the chassis and one screw above the intermediate drum.
6. Desolder loudspeaker connections.
7. Take the chassis out of the cabinet.

## RENEWING DRIVING CORD AND DRIVING CABLE

Fig. 3 shows how the driving cord and driving cable are laid. The lengths of cable and outer-cables are indicated in the illustrations. The length of the driving cord is 395 mm. Slightly longer length of cord is required for making the loops. The driving cable is first laid round the drum of variable condenser. The outer-cables are then put in place and the cable laid over the

guide pulleys and intermediate drum. Take the spring from the intermediate drum and hook it onto the cable loops, then putting it back again. After the cable has been put on lay on the driving cord.

## REPLACING THE PILOT LAMPHOLDER

1. Decase the chassis and remove the driving cable and -cord from the intermediate drum.
2. Take off the chassis the bracket on which the intermediate drum is mounted.
3. Remove screw A from the back of the bracket (see fig. 4), after which the intermediate drum with pilot lampholder can be taken off the bracket.
4. Slide intermediate drum from pilot lampholder (see fig. 5).
5. Solder the new lampholder to the connections and give it a little grease.
6. Slide the intermediate drum onto the lampholder and secure it on the bracket. See that the sporn B fits in the hole of the bracket. Put the bracket back in place and re-affix the driving cable and -cord.

## CONDENSATEURS - CAPACITORS - CONDENSADORES

No	Waarde Valeur Valor		Codenummer No. de code No. de code
C1	50	uF)	48 317 9/50*50
C2	50	uF)	
C3	100	uF)	49 020 39 0
C4	12-492	pF)	49 001 23 1
C5	12-492	pF)	
C6	30	pF)	28 212 36 4
C8	32	pF)	23 212 06.2
C9	32	pF)	23 212 06.2
C10	7	pF)	49 005 26 1
C11	220	pF)	48 408 20/220E
C12	47000	pF)	48 750 20/47K
C13	82	pF)	48 410 10/82E
C14	150	pF)	48 410 20/150E
C15	125	pF)	28 212 07 2
C16	30	pF)	28 212 36 4
C17	30	pF)	28 212 36 4
C18	2500	pF)	48 429 02/2K5
C19	30	pF)	28 212 36 4
C20	350-575	pF)	49 005 46 1
C21	115	pF)	Spoeien
C22	115	pF)	Bobines
C23	47000	pF)	Coils
C24	82	pF)	48 751 20/82K
C25	115	pF)	48 406 10/115E
C26	115	pF)	Spoeien
C27	47	pF)	Bobines
C28	27000	pF)	Coils
C29	19000	pF)	48 406 10/47E
C30	0,1	uF)	48 750 10/57K
C31	10000	pF)	48 750 20/19K
C32	10	pF)	48 751 20/10K
C33	4700	pF)	48 751 20/10K
C38	47000	pF)	48 406 99/19E
C39	470	pF)	48 758 26/47K
C40	10000	pF)	48 750 20/47K
C41	22000	pF)	48 408 20/470E
C43	3300	pF)	48 750 10/10K
			48 756 20/22K
			48 751 20/3K3

## BOBINES - COILS - BOBINAS

No.	Weerstand Resistance Resistencia		Codenummer No. de code No. de code
S1	45	Ohm)	
S2	240	Ohm)	
S3	1	Ohm)	A3 141 32.0
S4	1	Ohm)	
S5	40	Ohm)	A3 110 60.0
S6	2	Ohm)	
S7	1	Ohm)	
S8	5	Ohm)	A3 122 00.0
S9	1,5	Ohm)	
S10	10	Ohm)	
S11	5	Ohm)	
S12	1	Ohm)	A3 122 34.0
S13	1	Ohm)	
S14	1,5	Ohm)	
S15	1	Ohm)	
S16	1	Ohm)	A3 122 02.0
S17	3	Ohm)	
S18	6,5	Ohm)	
S19	3	Ohm)	
S20	4,5	Ohm)	
S21	3	Ohm)	A3 121 94.1
S22	4,5	Ohm)	
C21			
C22			
S23	3	Ohm)	
S24	4,5	Ohm)	
S25	4,5	Ohm)	
S26	3	Ohm)	A3 121 94.1
C25			
C26			
S27	700	Ohm)	
S28	20	Ohm)	A3 168 63.0
S29	1	Ohm)	

## RESISTANCES - RESISTORS - RESISTENCIAS

No.	Waarde Valeur Valor		Codenummer No. de code No. de code
R1	1200	Ohm	48 468 10/1R2
R2	0,82	MOhm	48 425 10/820K
R3	47000	Ohm	48 425 10/47K
R4	22000	Ohm	48 427 10/22K
R5	15000	Ohm	48 427 10/47K Super
R6	12000	Ohm	48 425 10/12K
R7	47000	Ohm	48 425 10/47K
R8	0,28	MOhm)	
R9	0,07	MOhm)	49 501 02.0
R10	1,5	MOhm	48 426 10/1M5
R13	0,82	MOhm	48 425 10/820K
R14	1,5	MOhm	48 426 10/1M5

No.	Waarde Valeur Valor		Codenummer No. de code No. de code
R15	1,5	MOhm	48 426 10/1M5
R16	0,1	MOhm	48 426 10/100K
R17	0,5G	MOhm	48 425 10/5G0K
R18	0,1	MOhm	48 425 10/100K
R19	33	Ohm	48 426 10/33E
R20	68	Ohm	48 426 10/68E
R21	120	Ohm	48 425 10/120E
R29	1,5	MOhm	48 426 10/1M5
R30	22000	Ohm	48 425 10/22K
R31	10	Ohm	48 425 10/10E
R32	1000	Ohm	48 425 10/1K

In latere series is als schaalverlichtingslampje de 8073D-00 toegepast.

Dans les series ulterieures on a employe la lampe d'eclairage 8073D-00

En series ulteriores se ha usado la lamparita de uliminacion de escala tipo 8073D-00.

213

223,1 -  
EX300A

4

LIST OF SPARE PARTS AND TOOLS

WHEN ORDERING ALWAYS STATE

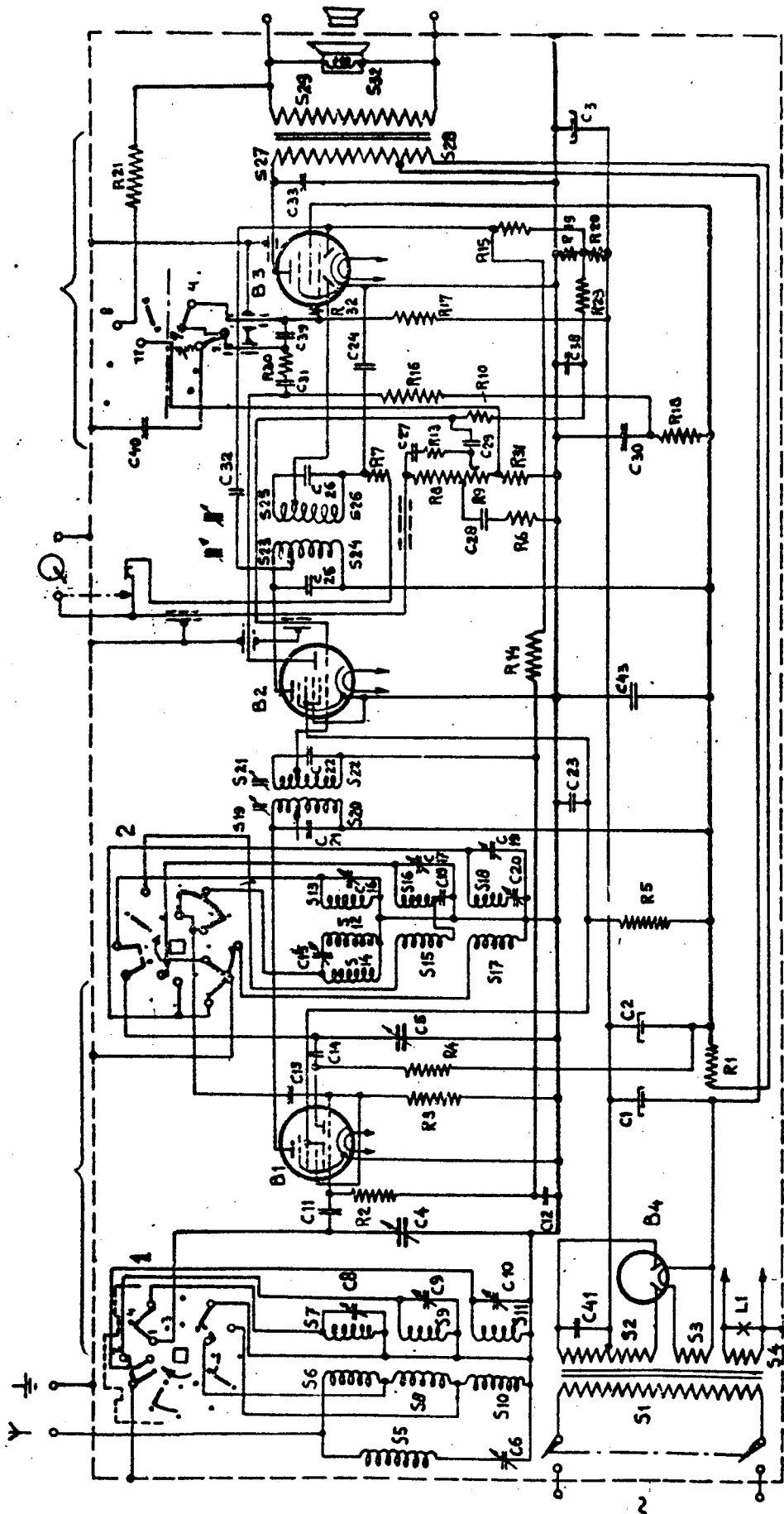
1. Codenumber
2. Description
3. Type number of set

Fos.	Fig.	Description	Code number
1	5	Cabinet	23 641 79.0
		Back plate	A3 250 33.0
2	5	Bracket for fixing back plate	A3 449 00.1
		Knob (030) for volume controls and tuning	23 609 10.0
3	5	Knob (030) for waverange switch	23 609 07.0
		Lever (030) for tone switch	A3 209 26.1
		Spring for knobs	28 753 01.2
		Dial	A9 862 51.0
		Pointer	23 693 13.2
		Ornamental strip	A3 320 97.0
3	5	Valve holder	28 226 10.0
4	5	Bracket for fixing coil box	A1 515 09.0
4	5	Plug socket plate for serial/earth	A3 378 51.0
5	5	Plug socket plate for pick-up	A3 185 19.0
5	5	Plug pin plate for tension changeover	A3 378 03.0
7	5	Cap for voltage changeover (111)	A1 339 01.1
		Spindle for tuning	A3 332 73.0
		Spindle for volume control	A3 428 42.1
		rubber grommet 11x1	25 655 56.0
		Tension spring for driving cable	A3 646 09.3
		Tension spring for driving cord	A3 646 26.0
		Switch segment No. 1	A3 199 48.0
		Switch segment No. 2	A3 199 20.0
		Spindle for waverange switch	A3 196 23.0
		Stopplate for waverange switch	A1 638 78.0
		Spring for stop mechanism waverange switch	A3 648 42.0
		Plate for fixing springs	A3 514 13.3
9	5	Switch segment for tone switch	A3 181 12.0
1	4	Pilot lamp holder	A3 359 40.0
2	4	Driving drum (111)	23 644 92.7
1	3	Slide pulley	A3 575 00.0
		Driving cable	33.403 57.0
		Driving cord	06 606 29.0
		Sheath for driving cable	08 010 52.0
		Rubbertube for limiting movements of variable condenser	A3 437 10.1
		Rubberdisc for limiting movements of variable condenser	A3 574 73.0
		Spring for suspension of variable condenser	A3 652 22.2
		L. GUNTER ER	
		Clamping ring	25 373 41.0
		Taperring	28 452 09.0
		Cone with coil	49 981 11.0
		TOOLS	
		Service oscillator	36 2382
		Universal measure apparatus	GS-4256 or GV 4257
		150 jig	09 994 02.0
		Trimming transformer	09 932 22.0
		Vaseline compound	X 007 14.0

*Sam. M. ...*

# BX388A

S:	1, 5, 6, 7, 2, 3, 4, 9, 10, 11,	14, 15, 17, 12, 13, 14, 10,	19, 20, 21, 22	23, 24, 25, 26	27, 28, 29, 32
C:	5, 6, 9, 10, 11, 12,	13, 1, 14, 5, 2,	15, 20, 18, 17, 19, 21, 23, 22, 4, 3	25, 26, 27, 28, 29, 30, 32, 40, 31, 39, 24, 38	53, 3
R:	2,	3, 4, 1,	5	14, 6, 7, 8, 9, 13, 1, 10, 18, 16, 50, 17, 29, 15, 19, 20, 32, 21	



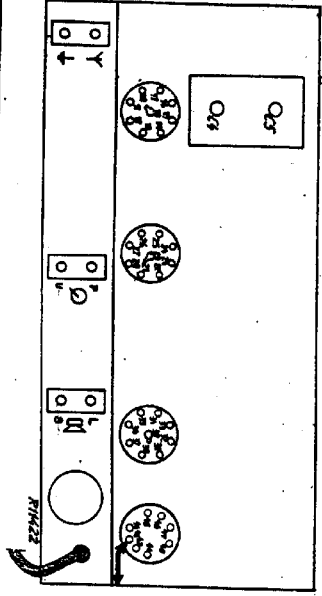
R11919

Fig. 6.

9	R											C				
	16	23	24	26	33	35	36	P/Q								
45	580	60	60	200	235	280	280									
10	18	14	15	17	25											
	280	280	270	250	270											
11	12	22	32	34	45	48	Y/L									
	450	480	500	450	200	240	780									
12	18	27	28	37			C/L									
	5	5	5	5	5	5	30-35	31-100	100-500	500-1000	1000-3000	3000-10000	10000-30000	30000-100000	100000-300000	300000-1000000
12																

GM 4256

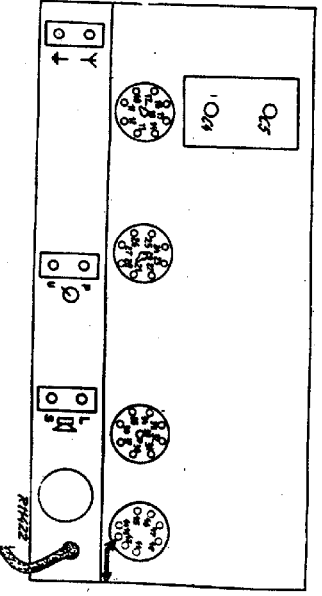
R14479



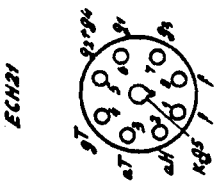
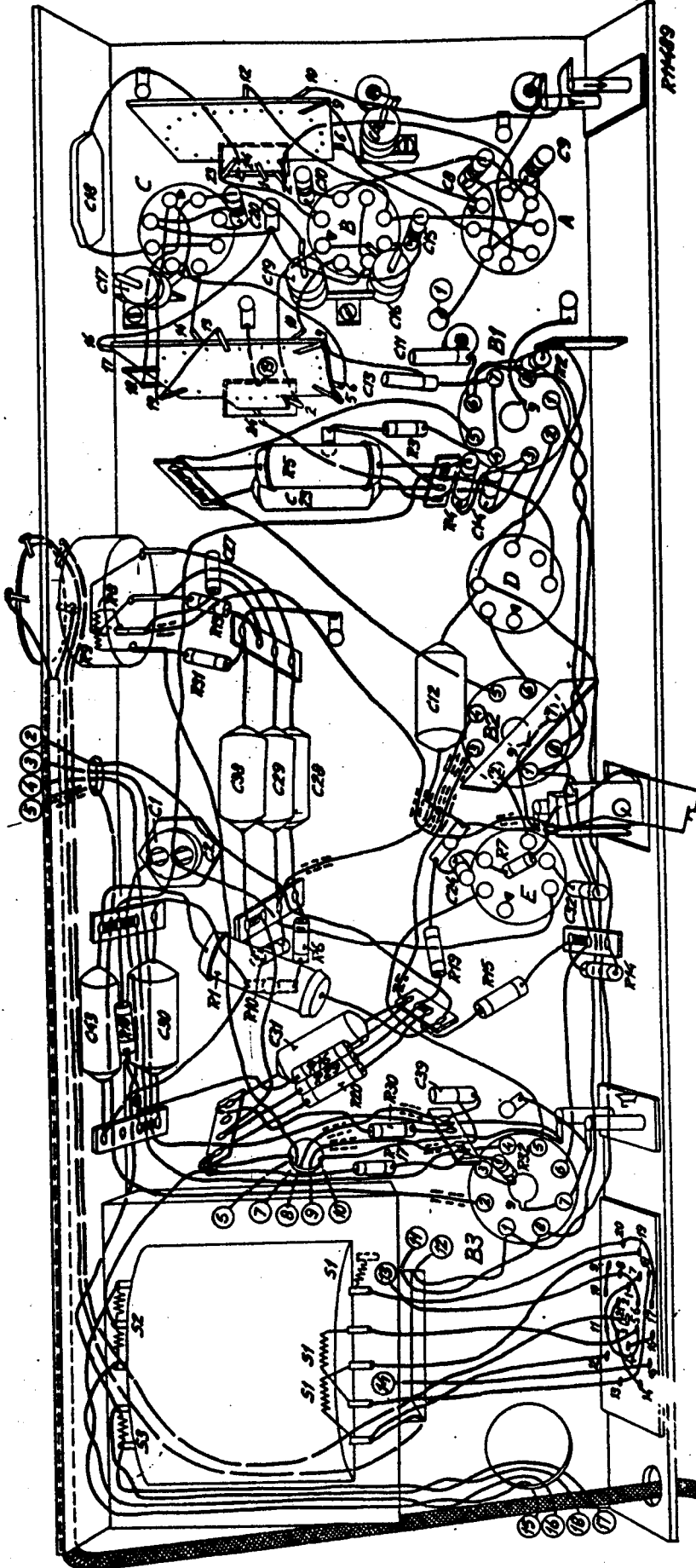
LF	U											
	19	27	29	39	71.3-35	33-100	105-500	100-35	11.3-35	35-100	100-350	350-1000
x1	500	500	500	500	445	180	340	240	240	240	240	240
x1	4/6											
x10	12	22	32	34	45	48						
x10 <sup>2</sup>	140	140	205	140	340	340						
x10 <sup>3</sup>												
x10 <sup>4</sup>	19	14	15	17	25							
x10 <sup>5</sup>	340	260	375	260	375							
5x10 <sup>5</sup>	23	32	35	35	74							
	335	235	265	280								
	76	24	26	36								
	197	230	225	310								
x10 <sup>-3</sup>												
x10 <sup>-2</sup>												
x10 <sup>-1</sup>	48											
	270											

GM 4257

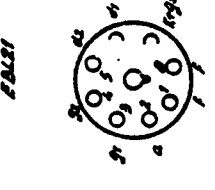
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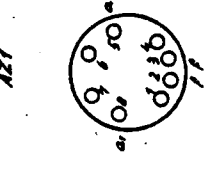
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C:	39	43	30	31	32	12	24	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80		
P:	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110	112	114	116	118	120



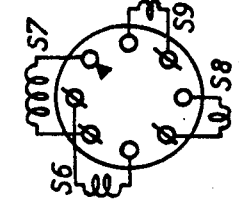
B1+B2



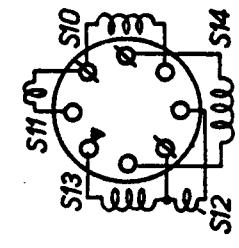
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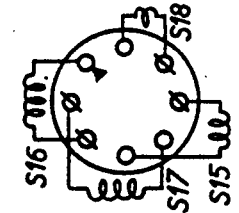
B4



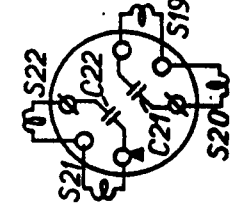
A



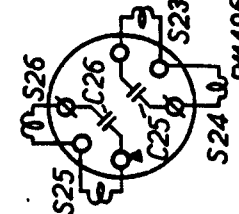
B fig 7



C

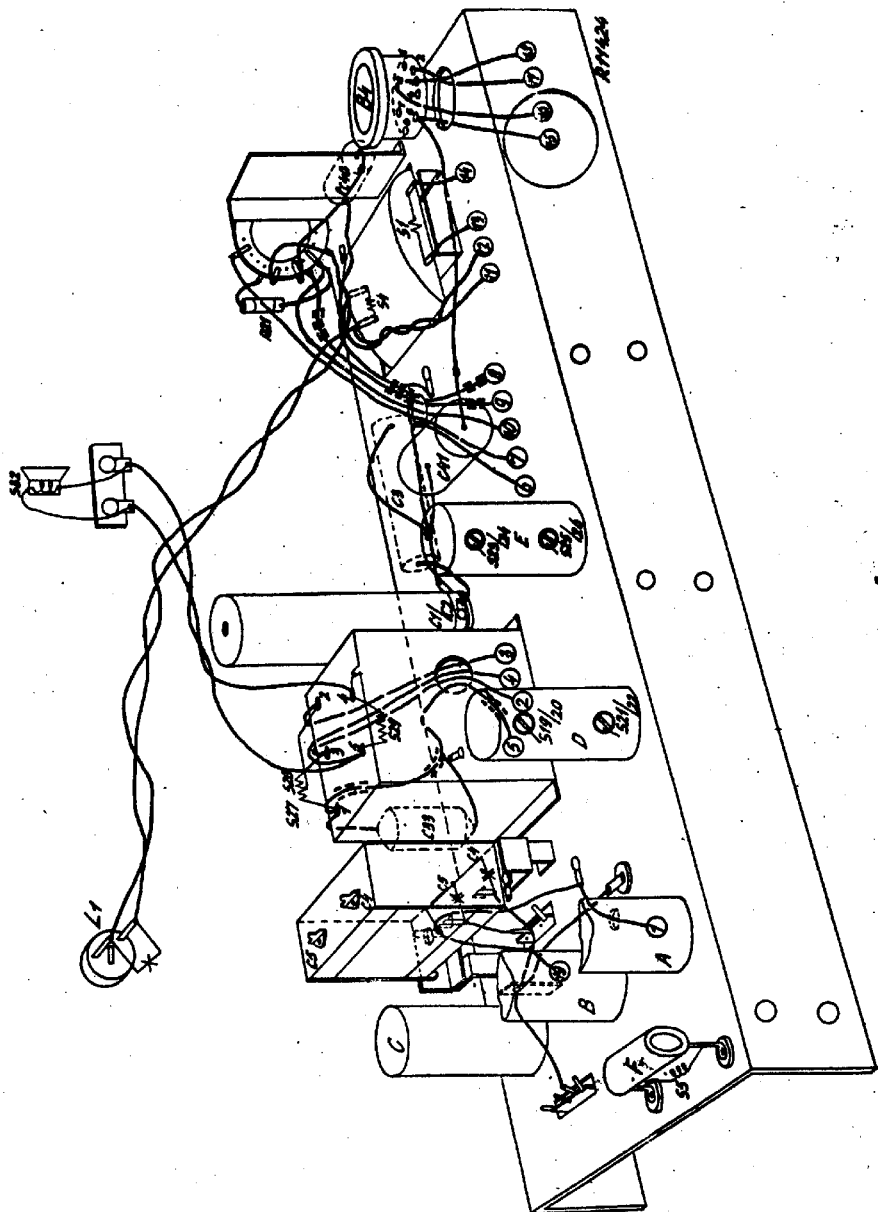


D



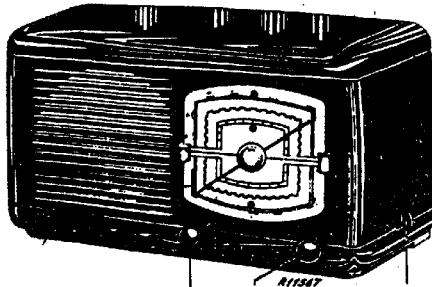
E

R1496



198.





VOL+~

R11547

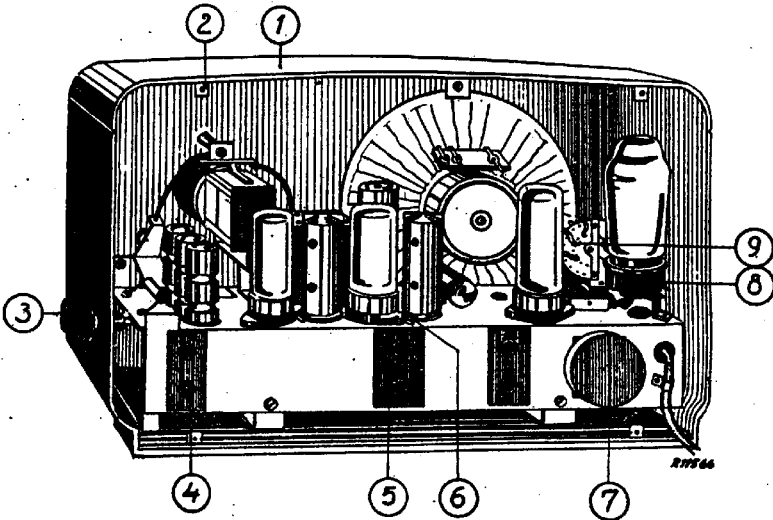


Fig. 1

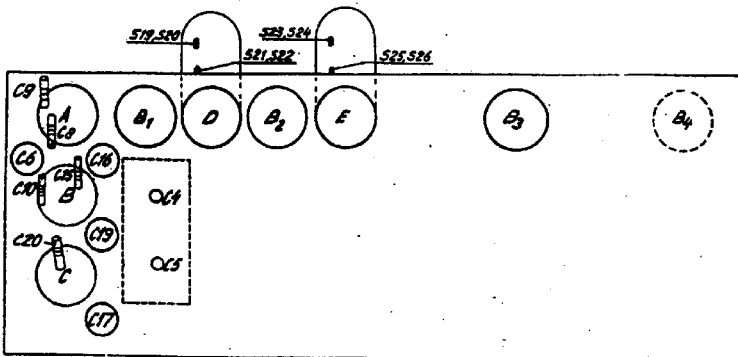


fig. 2.

R11488

BX388A

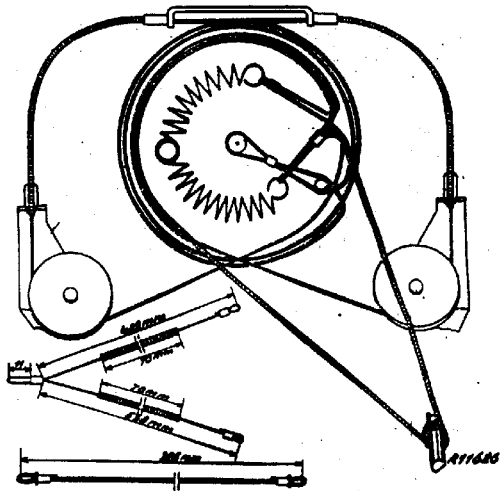
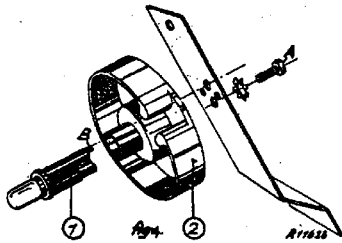


fig. 3.



TENSIONS ET COURANTS.  
TENSIONS AND CURRENTS.  
TENSIONES Y CORRIENTES.

	Va Volt	Vg2 Volt	Ia mA	Ig2(+g4) mA
B1	H 235 T 130	80	1,9 4,4	5,7
B2	H 235 T 35	80	5,7 1	4,3
B3	250	235	27	3,5

VC1= 270 Volt.

VC2= 235 Volt.

N.V. PHILIPS'  
GLOEIAMPENFABRIEKEN  
EINDHOVEN

Conc.: Application of a gramophone  
pick-up to the sets BX 370 U,  
BX 380U, BX 388U, BX 480 U,  
BX 485U.

R.S.912

SERVICE

10.3.49

As is already indicated in the documentations it is possible to apply a gramophone pick-up to a "U" apparatus, by means of an isolating transformer.

The code nrs. being:

For a magnetic pick-up only A1 347-82

For a crystal or magnetic pick-up A1 349-46

By the use of this isolating transformer all risks of electric shock when handling the pick-up are obviated.

An example of a rear panel with the isolation transformer fitted is depicted in fig.1, the cut-out in the rear panel behind which the unit is mounted is shown to the top left of the diagram.

To improve the appearance of the cut-out in the rear panel, it is suggested that a plate of thin pertinax is cut and drilled to the dimensions depicted in fig.2. This then can be mounted on the front of the panel.

The unit is furnished with a screened lead and a 2 pin plug which has to be inserted into the existing pick-up sockets on the rear of the chassis.

The unit consists of:

1. A gramophone pick-up socket "A", to which the lead from the gramophone pick-up must now be connected.
2. A "Radio-Gramophone" switch "B".
3. An isolating transformer S1-S2.

The "Radio-Gramophone" switch and the pick-up sockets are accessible from the rear of the receiver.

N.B. On several receivers of the above-mentioned types, cut outs for mounting the unit have been provided on the top right side of the rear panel. These should not be used to avoid possible harmful effects from the heat-rising from the rectifier and the output valve directly below.

Service Department

G.B. Hut

U/GJ.

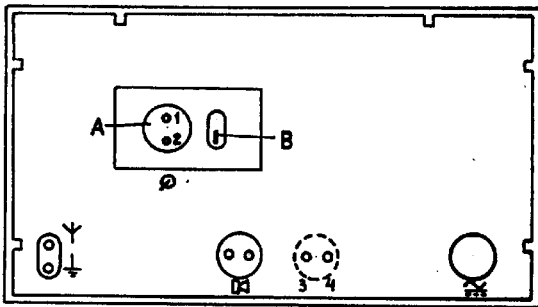


Fig. 1

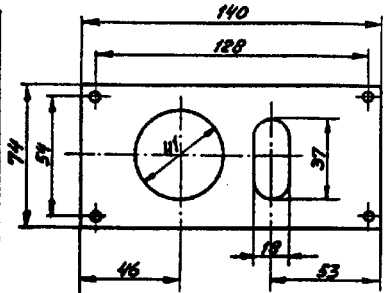


Fig. 2

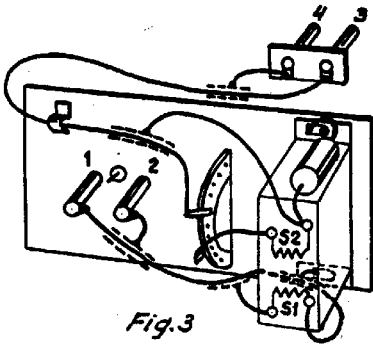


Fig. 3

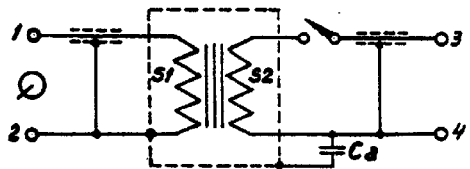
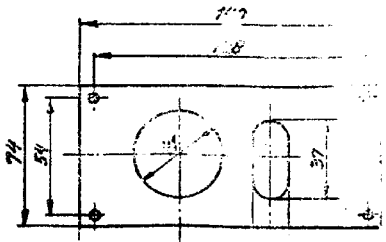
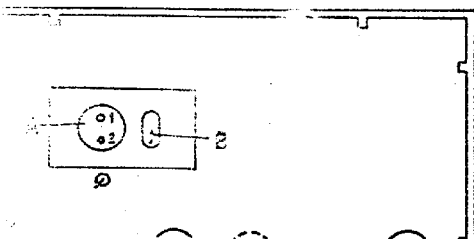


Fig. 4



STRICTLY CONFIDENTIAL

In more recent series the power transformer has been changed. In case of repair the new transformer must be connected according to figure B. Figure A is the old one. The code number of the new transformer is A3 141 32.2.

STRICTEMENT CONFIDENTIEL

Dans les séries ultérieures le transformateur d'alimentation a été modifié. En cas de réparation, le nouveau transformateur doit être connecté comme dans la figure B. La figure A est l'ancien transformateur. Le numéro de code du nouveau transformateur est A3 141 32.2.

ESTRICTAMENTE CONFIDENTIEL

En las series más recientes se ha modificado el transformador de alimentación. En caso de reparación se debe conectar el nuevo transformador. El número de código del nuevo transformador es A3 141 32.2.

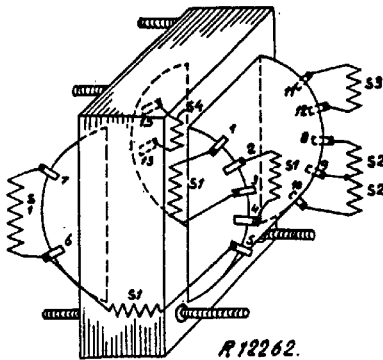
Note : This information replaces our information RS916 of April 4th 49.

Observation: Cette RS remplace notre RS916 du 4-4-49.

Observacion: Esta información ramplaza nuestra RS916 del 4.4.49.

Service Department

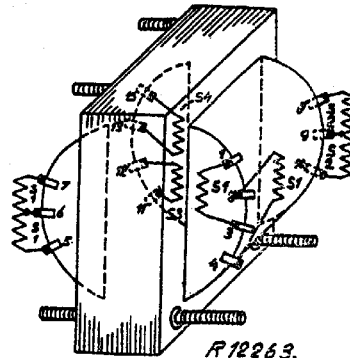
*P. Hut*  
P. Hut



R12262.

*B*  
Eo/AS

A



R12263.

B.

N.V. PHILIPS'  
GLOEILAMPENFABRIEKEN  
EINDHOVEN

R.S.944

SERVICE

30.9.49

In de hieronder aangegeven ontvangers zijn de genoemde draadweerstandstanden Rl vervallen. Bij defectraken dienen ze te worden vervangen door koolweerstandstanden zoals in de rechter kolom is aangegeven.

In the receivers listed below, the indicated wire-wound resistances Rl are no longer used. In case of break-down they have to be replaced by carbon resistances as given in the right-hand table.

Dans les récepteurs indiqués ci-dessous les résistances à fil Rl mentionnées sont supprimées et pour le cas où celles-ci se dérangeraient elles doivent être remplacées par des résistances au carbone mentionnées dans la colonne droite.

En los aparatos mencionados a continuación se han suprimido las resistencias bobinadas Rl. En caso de ser defectuosas, deben reemplazarse las por resistencias de carbón, indicadas en el columnio a la derecha.

Type		Oud Old Ancien Antiguo	Nieuw New Nouveau Nuevo
Tipo			
BIN186U	Rl	48 467 10/1K	48 427 10/2K2 } P 48 427 10/2K2 }
BX195U	Rl	48 467 10/1K	48 427 10/1K
BX387A BX388A	Rl	48 468 10/1K2	48 427 10/2K7 } P 48 427 10/2K2 }
BX387U BX388U	Rl	48 468 10/1K	48 427 10/1K
BX495A BX495U	Rl	48 468 10/1K2	48 427 10/2K7 } P 48 427 10/2K2 }
BX675V-09	Rl	48 467 10/680E	48 427 10/680E
BX695A	Rl	48 468 10/1K2	48 427 10/2K7 } P 48 427 10/2K2 }
BX697V	Rl	48 467 10/680E	48 427 10/680E

(parallel  
P (en parallel  
(en paralelo

vWi/vWi-S

vWi

Service afdeling

G. B. Hut