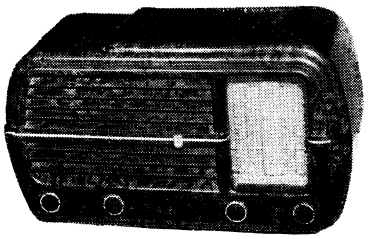
SERVICE DATA

PHILIPS RADIOPLAYER
MODEL 101



SPECIFICATIONS

Subject to alteration without notice.

Power Supply	220-260 volts 40-60 C/s
Tuning Range	B/C Band 535-1620 Kc/s S/W Band 5.9-18.4 Mc/s
Intermediate Frequency	455 Kc/s
Cabinet	De Luxe Bakelite Table executed in several colours

VALVE EQUIPMENT AND FUNCTIONS

Frequency Converter	V1	ECH35	Triode-hexode
1st I.F. Amplifier	V2	6SK7GT	R.F. Pentode
2nd I.F. Amplifier	V3	EBF35 or	Duo-diode Pentode
Demodulator and A.V.C.		EBF2G/GT	
Power Amplifier	V4	EL3NG or EL33A	Power Pentode
Rectifier	V5	6X5GT	Full Wave Vacuum Rectifier
Dial Lamp	V11	6.3V 0.64A globular	Screw Pilot Lamp

TO REMOVE CHASSIS FROM CABINET.

Remove plug from power socket. Remove control knobs and cabinet back. The chassis proper is held to the cabinet by six screws, two on the speaker clamping bracket, two at the top of the dial assembly, and two at the rear of the chassis. The removal of these screws now permits withdrawal of the chassis.

The chassis may be replaced by a reversal of the above procedure.

MAINS VOLTAGE ADJUSTMENT.

The power transformer is provided with two mains voltage tappings—220-240 volts and 250-260 volts. This Radioplayer is adjusted at the Factory to the 220-240 volts tapping. Mains voltage adjustment is made by changing the wire from the "ON-OFF" switch to the appropriate terminal lug.

DIAL CALIBRATION.

In the event of dial calibrations being out by an equal amount on all stations, this can be corrected by moving the pointer assembly, with a slight pressure, on the dial drive cord.

VOLTAGE ANALYSIS.

Valve Position	Plate Voltage	Screen Voltage	Osc. Plate Voltage	Bias Voltage	Bias Resistor
V1	220	50	95	1.2	R2
V2	220	60	—	—	—
V3	195	71	—	—1.2	R15
V4	208	220	—	—5.7	R14 & 15
V5	220 volts AC per Plate. Unfiltered B + 236 volts				

NOTE: All voltages are measured with an "1,000 ohms per volt" meter and may vary $\pm$ 10% from the quoted figures. Measurements are made from the appropriate socket points, or from the resistors stated, to chassis. The 250v scale should be used for all readings other than bias, which are read on the 10 v scale. The receiver should be in a "no signal" condition.

MODIFICATION.

A modification in respect of the 1st, 2nd and 3rd I.F. chokes and transformers has been incorporated. Refer to Parts Lists for Coils and Condensers and Alignment Instructions for details.

In the case of the 1st and 2nd I.F. chokes, the original and modified units are directly interchangeable. When I.F. transformer CZ.320.800-2H (code No. stamped on side of can) is used, it is necessary to use a 150 pfd. condenser shunted across each winding, and align the circuits by the "damped" method (refer Alignment Instructions). When transformer CZ.320.801-0H is used; no shunts are necessary and peak alignment is undertaken.

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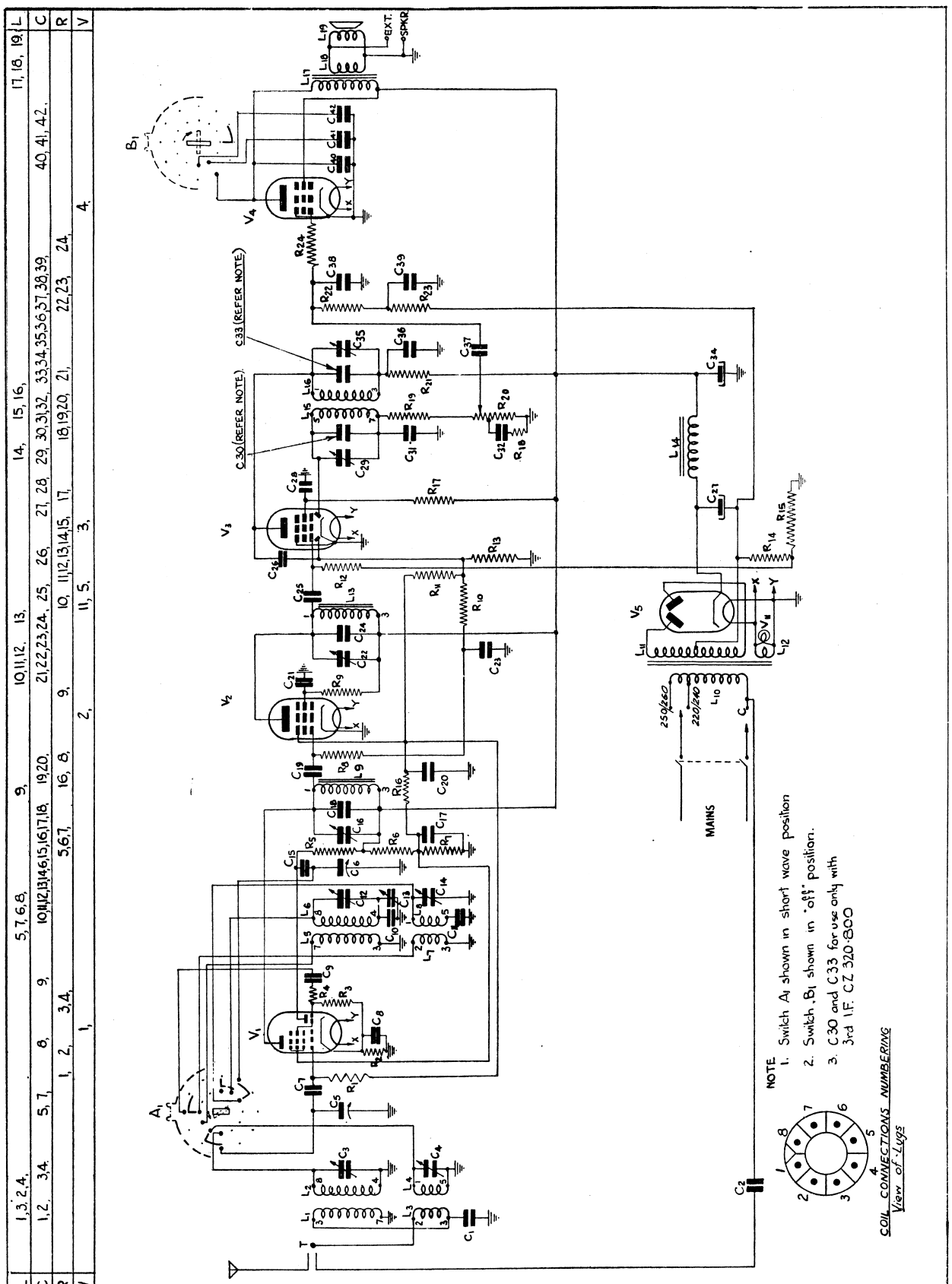

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ALIGNMENT

GENERAL.

This receiver uses coiled wire trimmers which have been proved to remain stable for long periods of time. If adjustments are made to these trimmers they should be sealed with wax—not solder—as extreme heat will destroy the trimmer. In order to determine if adjustments to the original alignment are necessary, the following notes are given.

TO CHECK I.F. CHANNEL.

The 250 pfd damping condenser should be used when checking the 3rd I.F. transformer (see Procedure notes), on those Radioplayers of this model which require it to be used in I.F. alignment (see Note E).

With the receiver connected to the modulated oscillator and output meter, in preparation for I.F. alignment, and the correct signal of 455 Kc/s passing through the I.F. channel, bring a finger near each trimmer in turn and note the results. An increase in output indicates that more capacity is needed in that trimmer. A decrease in output can indicate either that the trimmer is correctly adjusted or needs less capacity. These two conditions can be differentiated between by reducing the modulated oscillator frequency by approximately 1 Kc/s and re-checking the doubtful trimmers. Those trimmers which are correctly adjusted will, on re-test, cause an increase in output, whilst those which are out of adjustment by this 1 Kc/s change or more, will give a decrease in output.

TO CHECK AERIAL COIL.

With a 1,400 Kc/s or 17.8 Mc/s signal passing through the receiver, check the appropriate aerial trimmers in a manner similar to that used with the I.F. trimmers. Care must be taken to make only a slight change in the modulated oscillator frequency.

PROCEDURE.

The pointer should be adjusted so that, with the gang fully closed, it coincides with the bottom edge of the word "Philips" at the top of the dial glass. Keep the receiver volume control full on, the T/C switch in the "high" position and the output of the modulated oscillator as low as possible. Remove the capacity aerial wire from terminal.

Operation	Modulated Oscillator		Receiver			
	Frequency	Dummy Aerial	W/C Switch	See Note	Connect Osc. to	Peak Trimmers in Following Sequence
I.F. Alignment	455 Kc/s	0.1 mfd	B/C	A & E	Grid of V1	C29, 35, 22, 16
B/C Alignment	1,400 Kc/s	Standard	B/C	B	Aerial	C12, 3
B/C Alignment	600 Kc/s	Standard	B/C	C	Aerial	C13
S/W Alignment	18.4 Mc/s	400 ohms	S/W	D	Aerial	C14
S/W Alignment	17.8 Mc/s	400 ohms	S/W	C	Aerial	C4

NOTE A: Gang fully closed, grid clip on. Add 250 pfd across primary of 3rd I.F. whilst aligning secondary and vice versa. 1st and 2nd I.F.s aligned in usual manner.

NOTE B: Set pointer to 2PK.

NOTE C: Rock gang whilst peaking.

NOTE D: Gang fully open. The oscillator operates on a frequency higher than that of the incoming signal, so of the two signals tuneable on the S/W range the higher frequency one is correct.

NOTE E: The damped alignment method is not used on receivers using 3rd I.F. CZ.320.801-0H.

CONDENSERS

No.	Description	Code No.
C1	150 pfd mica	
C2	100 pfd ceramic	CZ.118.001.AG
C3-4-14	30 pfd wire/glass trimmer	CZ.117.600.A
C5-6	2 gang assembly	CZ.107.710.2
C7-9-15-19 25-31-38	100 pfd ceramic	CZ.096.602.A
C8-17-21-28 32-36-41	.01 mfd paper 600v	
C10	400 pfd mica	
C11	.0045 mfd mica	
C12	30 pfd air trimmer	CZ.113.700.1B
C13-16-22 29-35	125 pfd ceramic trimmer	CZ.118.200.A
C18-24 30-33 (See Note)	150 pfd mica	
C20-23-39	.1 mfd paper 200v	
C26	33 pfd ceramic	CZ.096.605.B
C27-34	24 mfd electrolytic 350v	
C37	.002 mfd paper 600v	
C40	.006 mfd paper 600v	
C42	.04 mfd paper 600v	

NOTE: C30 and 33 are not used on receivers using 3rd I.F. CZ.320.801-0H.

RESISTORS

No.	Description	Code No.
R1-8-12 13-22	1 megohm 1/2w carbon	
R2	200 ohms 1w ,,	
R3-19-24	50,000 ohms 1/2w ,,	
R4	100 ohms 1/4w ,,	
R5	30,000 ohms 1w ,,	
R6	50,000 ohms 1w ,,	
R7	25,000 ohms 1w ,,	
R9-17	100,000 ohms 1w ,,	
R10-11	2 megohms 1/2w ,,	
R14	100 ohms 1w w/w	
R15	25 ohms 1w w/w	
R16	5 megohms 1w carbon	
R18	20,000 ohms 1/2w ,,	
R20	.5 megohm tapped potentiometer	CZ.030.501.1
R21	5,000 ohms 1w carbon	
R23	100,000 ohms 1/2w carbon	

COILS

No.	Ohms	Description	Code No.
L1	24.5	Aerial Coil	CZ.320.009.1
L2	4		
L3	1.7		
L4	< .5		
L5	2.3	Oscillator Coil	CZ.321.006
L6	5		
L7	< .5		
L8	< .5		
L9	5.5	1st I.F. Choke	CZ.320.403.2H
*L9	7.5		CZ.320.405.0H
L13	5.5	2nd I.F. Choke	CZ.320.604.5H
*L13	7.5		CZ.320.606.0H
L15-16	5.5 each	3rd I.F. Transformer	CZ.320.800.2H
*L15-16	27.5 each		CZ.320.801.0H
L14	450	Filter Choke	CZ.340.406
L10	72	Power Transformer	CZ.344.203.2
L11	760		
L12	< .5		
L17	900	Speaker Transformer 7,000 ohms	CZ.345.001.GL
L18	1		
L19	3	Speaker Complete	CZ.161.103

*NOTE: Alternative units (see "Modification" Page 1)

IMPORTANT !

In ordering spare parts quote CODE NUMBER of part and MODEL NUMBER of Radioplayer. In claiming free replacement under GUARANTEE, return defective part PROMPTLY and quote MODEL and SERIAL NUMBER of Radioplayer and DATE OF PURCHASE.

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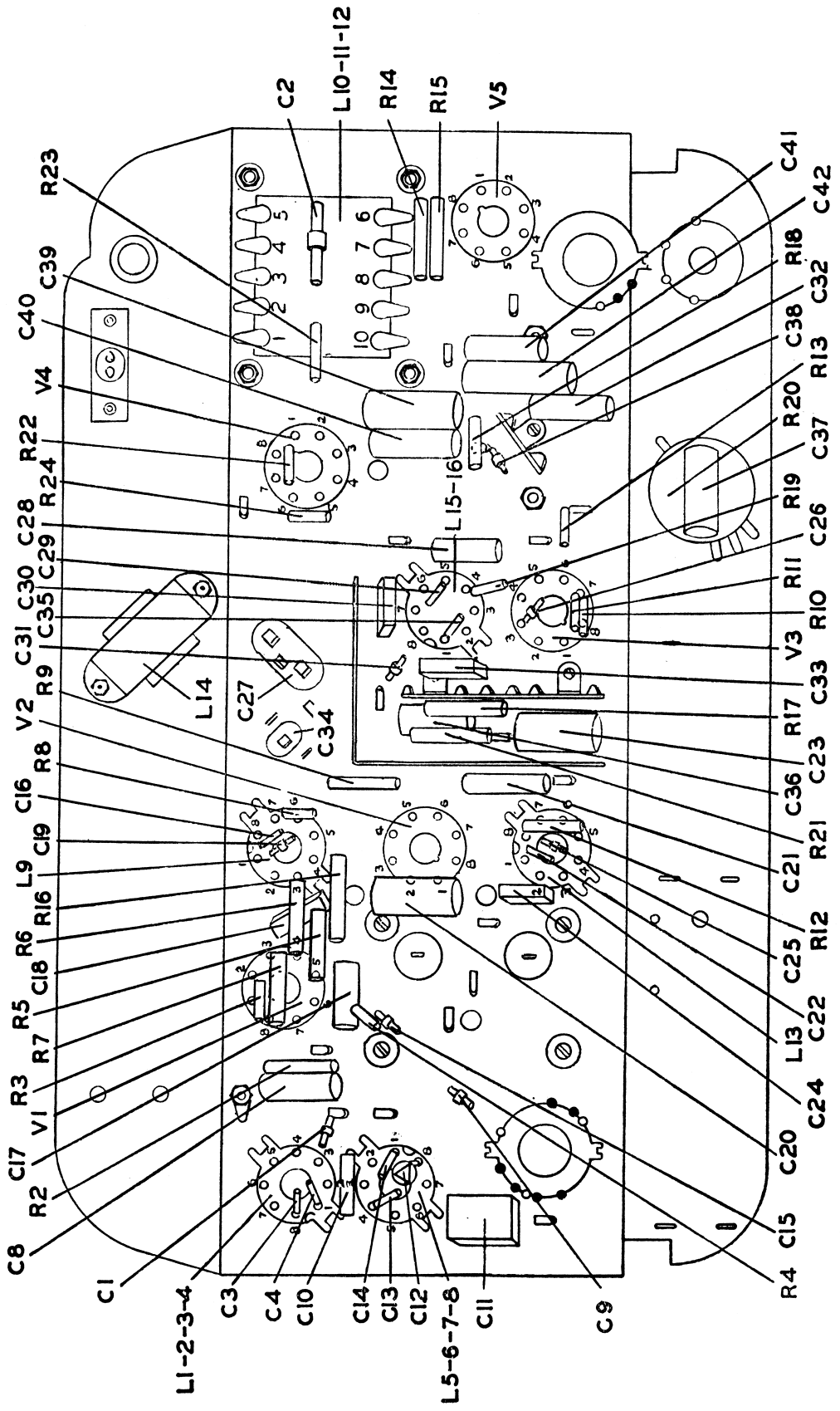

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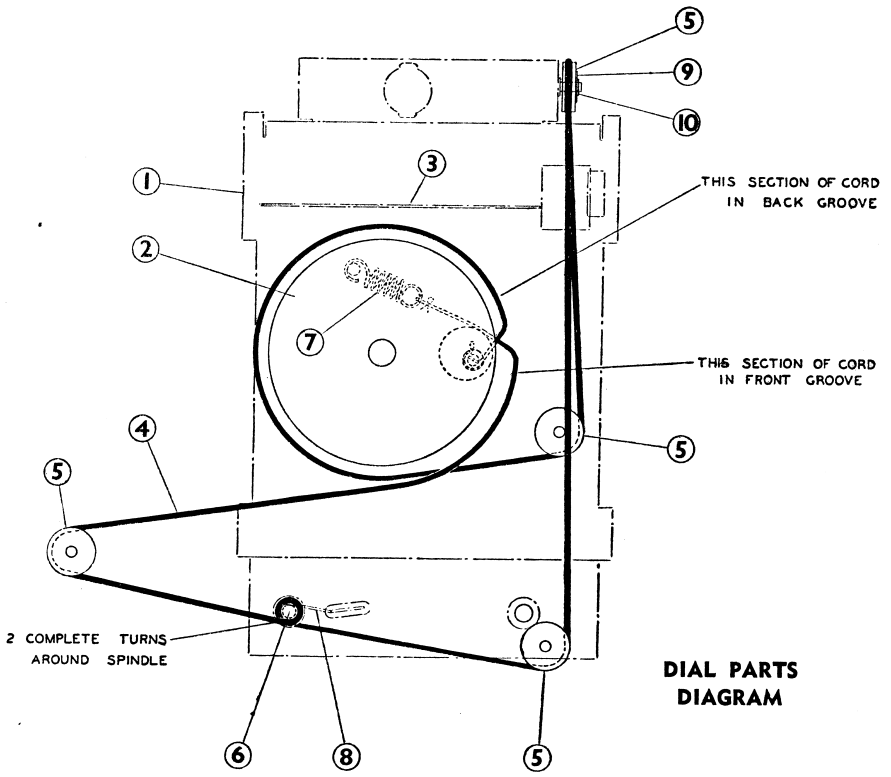
PARTS NOT SHOWN ON CIRCUIT DIAGRAM

No. on Dial Diagram	Description	Code No.
—	Assembly, clicker T/C	CR.450.000.6
—	Assembly, clicker W/C	CR.450.006.3H
1	Assembly, dial back plate	CR.280.207.1
2	Assembly, dial drum	CR.382.802.2
—	Assembly, lampholder	CZ.367.900.3K
3	Assembly, dial pointer	CR.480.601
—	Assembly, terminal	CZ.376.200.EC
—	Back, cabinet	CS.462.003
—	Badge, Philips	CR.531.406
—	Bracket, speaker	CS.223.800.2
—	Bracket, speaker clamping	CS.235.600.1
—	Bracket, tuning control	CS.225.204
—	Cabinet, walnut	CS.460.406
—	Cabinet, ebony	CS.460.405
—	Cabinet, rosewood	CS.460.425
4	Cord, dial drive	CS.361.801
—	Cover, chassis shield	CS.117.205.1
—	Glass, dial, printed	CS.412.208
—	Knob, walnut	CR.523.616.1
—	Knob, ebony	CR.523.628.1
—	Knob, rosewood	CR.523.626.1
—	Plug, polarised 2-pin	CR.102.200.EB
5	Pulley, wooden	CS.360.201.2H
10	Ring "C"	CS.281.801
—	Section, switch, T/C	CZ.200.204.3
—	Section, switch, W/C	CZ.200.009.2
—	Shield, chassis	CS.117.203
—	Socket, octal wafer	CZ.369.507
—	Socket, polarised 2-pin	CR.102.401.EB
6	Spindle, tuning	CS.351.205.1
—	Spring, chassis	CS.212.002
7	Spring, dial cord	CS.210.003.2
8	Spring, tuning spindle	CS.212.001
—	Switch, T/C complete	CZ.200.400.8
—	Switch, W/C complete	CZ.200.008.5
9	Washer, pulley spindle	CH.657.460.3A



DIAL PARTS DIAGRAM