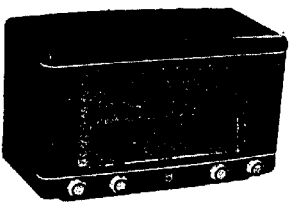
SERVICE DATA

133 133A

PHILIPS RADIOPLAYER

MODELS 133 & 133A



SPECIFICATIONS

(Subject to alteration without notice)

Power Supply	220-260V, 40-60c/s.
Tuning Ranges	530-1620kc/s. 5.9-18.4Mc/s.
Intermediate Frequency	455kc/s.
Cabinet	Bakelite table.

NOTE: Models 133 and 133A are identical except for the rectifier valve types — Model 133 uses type 6X5GT; Model 133A uses type EZ82.

VALVE EQUIPMENT AND VOLTAGE ANALYSIS

Valve Function	Valve No.	Valve Type	Plate Volts	Screen Volts	Osc. P. Volts
Frequency Converter	V1	6AN7	225	30	80
I.F. Amplifier, A.V.C. and Demodulator	V2	6N8	225	72	—
Audio Amplifier	V3	6N8	50	—	—
Power Amplifier	V4	6M5	210	225	—
Rectifier	V5	(133) 6X5GT (133A) EZ82	Cathode — L17 C.T., 261V		
Dial Lamps	V11 & V12	6.3V 0.32A tubular screw			
Voltage across R23, –2.0V; across R23 and R24, –6.4V					

NOTE: These voltages are measured with an "1,000 ohms per volt" meter and may vary ± 10% from the figures quoted. They are measured from the socket points indicated to chassis or across the resistors listed. The receiver should be in a "no signal" condition.

TO REMOVE CHASSIS FROM CABINET.

Remove the power plug from the supply outlet socket. Remove the four control knobs (a firm pull is all that is necessary) and the cabinet back. The chassis is held to the cabinet by two screws in the baffle and four screws through the bottom of the cabinet. Removal of these six screws enables the chassis to be withdrawn from the cabinet.

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

DIAL CALIBRATION.

If it is required to correct dial calibration for an equal error on all stations, provision is made for moving the cursor assembly with respect to the dial cord. Loosen the clamping screw, make the necessary adjustment to the cursor position and securely retighten the clamping screw.

MAINS VOLTAGE ADJUSTMENT.

The power transformer is provided with two mains voltage tappings—220/240 volts and 250/260 volts—for adjustment to the supply voltage at the point of installation. This receiver is adjusted at the factory to the 220/240 volts tapping.

ALIGNMENT.

The iron cores for the secondaries of the I.F. transformers are in the top of the cans, those for the primaries are in the bottom.

Broadcast band alignment frequencies are 1,420 kc/s (oscillator and aerial trimmers) and 600 kc/s (slug padding); short wave band alignment frequencies are 18.4 Mc/s (tuning gang fully open, oscillator trimmer) and 17.8 Mc/s (aerial trimmer).

The alignment calibration scale is stencilled on the dial drum. An auxiliary pointer for use with this scale can be made up from workshop materials and fixed to a convenient point of the tuning capacitor mounting bracket. The various markings of the scale can be identified as below.

Proceeding in an anti-clockwise direction around the dial drum, the various points are:—

"Stop"
550 kc/s (large dot)
600 kc/s (large and small dots together)
then 100 kc/s steps to 1,300 kc/s
1,420 kc/s (large and small dots together)
1,500 kc/s

Do not attempt to adjust the iron cores of the aerial coils.

DIAL SCALE.

There are two types of dial scale available with this receiver, one of perspex and the other of glass. The perspex scale is fitted to the cabinet by means of screwed-in clamps, whilst the glass scale is fitted by means of spring clips. If a receiver fitted with a glass scale is to be transported any distance, it would be to advantage to remove the scale and pack it separately.

PARTS LISTS

CAPACITORS

No.	Description	Code No.
C1, 29	10 pF mica	
C2	100 pF mica	
C3, 25	0.05 mF 200V paper	
C4, 5, 13, 14	30 pF air trimmer	CZ.113.700
C6, 7	2 gang tuning	CZ.107.746
C8, 18	0.01 mF 600V paper	
C9, 10	50 pF mica	
C11	475 pF mica 2%	CZ.066.119
C12	20 pF mica	
C15	0.008 mF mica	
C16, 17, 22, 23	100 pF mica 5% (part of I.F. transformers)	
C19, 27	24 mF 350V electrolytic	
C20	100 pF ceramic	CZ.096.602
C21	30 pF mica	
C24	0.002 mF 600V paper	
C26, 28, 33	0.02 mF 400V paper	
C30	47 pF ceramic	CZ.096.604
C31	150 pF mica	
C32	10 mF 40V electrolytic	
C34	0.02 mF 600V paper	

RESISTORS

No.	Description	Code No.
R1, 5	30,000 ohms 1W carbon	
R2	75,000 ohms 1W carbon	
R3, 10, 14, 19	50,000 ohms ½W carbon	
R4	100 ohms ½W carbon	
R6	100,000 ohms 1W carbon	
R7, 8	2 megohms ½W carbon	
R9	0.5 megohm ½W carbon	
R11	5,000 ohms ½W carbon	
R12, 25	100,000 ohms ½W carbon	
R13	0.5 megohm tapped carbon potentiometer	CZ.029.134
R15	10 megohms 1W carbon	
R16	1 megohm 1W carbon	
R17	250,000 ohms 1W carbon	
R18	1 megohm ½W carbon	
R20	25 ohms ½W carbon	
R21	400 ohms ½W carbon	
R22	250,000 ohms ½W carbon	
R23	35 ohms 1W W/W	
R24	75 ohms 1W W/W	

COILS

No.	Ohms	Description	Code No.
L1	1.5	S/W Aerial Coil (white spot)	CZ.323.006
L2	<0.5		
L3	30.0	B/C Aerial Coil (2 blue spots)	CZ.323.007
L4	2.0		
L5	<0.5	S/W Oscillator Coil (yellow spot)	CZ.330.601
L6	<0.5		
L7	1.2	B/C Oscillator Coil (red spot)	CZ.330.600
L8	3.4		
L9	12.0	1st I.F. Transformer	CZ.320.421
L10	12.0		
L11	12.0	2nd I.F. Transformer	CZ.320.420
L12	12.0		
L13	515	Filter Choke	CZ.341.000
L14	600	Speaker and Transformer (6,000 ohms)	CZ.161.111
L15	<0.5		
L16	3.0		
L17	650	Power Transformer	CZ.344.035
L18	0.8		
L19	<0.5		
L20	55.0		

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

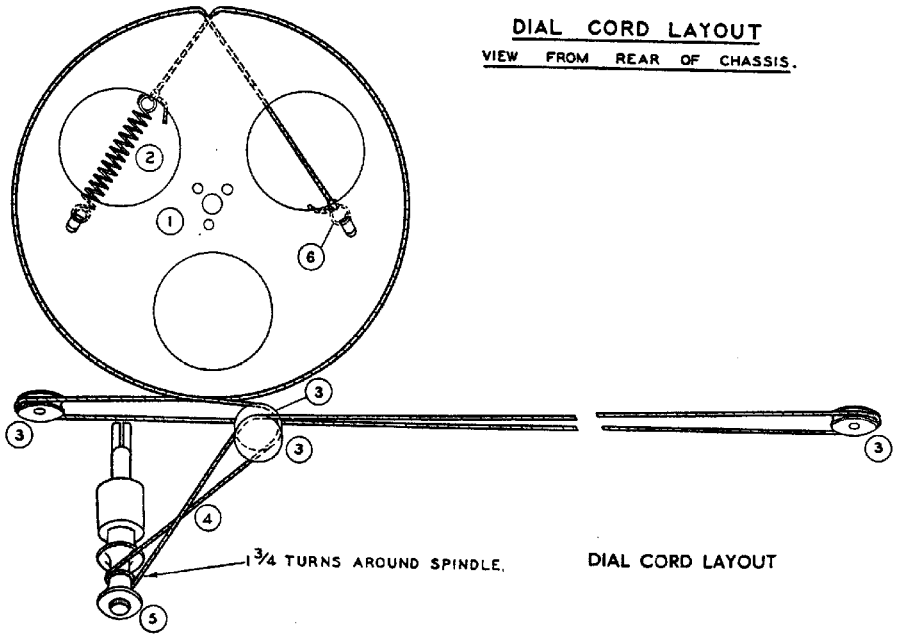
MISCELLANEOUS COMPONENTS

No. on Dial Parts	Diagram	Description	Code No.
—		Assembly, baffle	CR.005.236
—		Assembly, cursor	CR.480.639
—		Assembly, lampholder	CZ.367.900
—		Assembly, P/U socket	CZ.370.106
—		Assembly, pulley spindle (1 pulley)	CR.436.206
—		Assembly, pulley spindle (2 pulleys)	CR.436.208
—		Assembly, terminal	CZ.376.200
5		Assembly, tuning spindle	CR.371.320
—		Assembly, T/C—on/off switch	CZ.200.416
—		Assembly, T/C clicker	CR.450.037
—		Assembly, W/C switch	CZ.200.040
—		Assembly, W/C clicker	CR.450.036
—		Back, cabinet	CS.462.089
—		Badge, Philips	CS.436.414
—		Bank, T/C switch	CZ.200.204
—		Bank, W/C switch	CZ.200.041
—		Bracket, cabinet back mtg.	CS.244.602
—		Bracket, tuning spindle	CS.224.607
—		Cabinet	CS.460.505

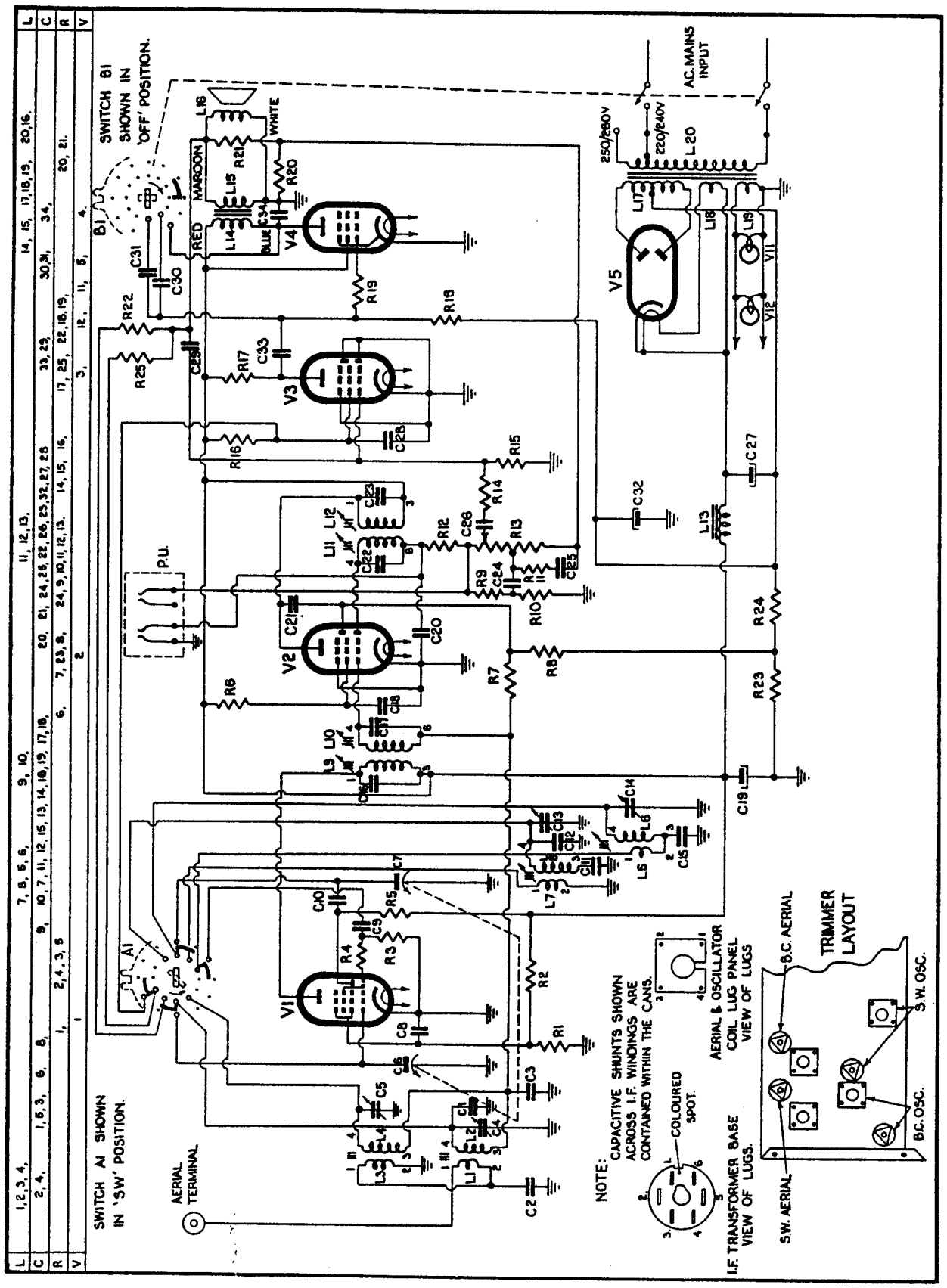
No. on Dial Parts	Diagram	Description	Code No.
—		Clip, coil can mtg.	CS.235.833
—		Clip, dial scale mtg. (perspex scale)	CS.227.002
—		Clip, dial scale mtg. (glass scale)	CS.227.000
—		Cloth, baffle	CE.081.85
4		Cord, dial drive	CS.361.829
1		Drum, dial	CS.360.006
—		Knob, control	CS.432.623
—		Nipple, slide rod adj.	CS.274.603
—		Plate, lampholder mtg.	CR.281.803
3		Pulley, wooden	CS.360.201
—		Ring, C	CS.281.802
6		Ring, dial cord	CS.281.807
—		Rod, dial slide	CS.382.213
—		Scale, dial (perspex)	CS.412.322
—		Scale, dial (glass)	CS.412.330
—		Socket, noval wafer	CZ.369.702
—		Socket, octal moulded (133 only)	CZ.369.515
2		Spring, dial drum	CS.210.010
—		Strip, masking	CS.050.413
—		Switch, mains on/off	CZ.220.001
—		Washer, felt (knobs)	CS.424.056

DIAL CORD LAYOUT

VIEW FROM REAR OF CHASSIS.



DIAL CORD LAYOUT


SWITCH B1 SHOWN IN 'OFF' POSITION.
SWITCH A1 SHOWN IN 'SW' POSITION.
AERIAL TERMINAL
P.U.
A.C. MAINS INPUT
250/260V
220/240V
L20
V1
V2
V3
V4
V5
V11
V12
L16
L17
L18
L19
L20
C32
C27
L13
R24
R23
C19
R22
R25
C31
C30
C29
R17
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C18
C17
L10
L9
C16
C14
C13
C12
C11
L6
L5
C15
L7
C10
C7
R5
C9
R4
R3
R2
R1
C8
C6
C5
C4
C3
C2
C1
L4
L3
L2
L1
A1
B1
MAROON
WHITE
RED
BLUE
NOTE:
CAPACITIVE SHUNTS SHOWN ACROSS I.F. WINDINGS ARE CONTAINED WITHIN THE CANS.
COLOURED SPOT.
I.F. TRANSFORMER BASE VIEW OF LUGS.
AERIAL & OSCILLATOR COIL LUG PANEL VIEW OF LUGS
TRIMMER LAYOUT
S.W. AERIAL
B.C. AERIAL
S.W. OSC.
B.C. OSC.