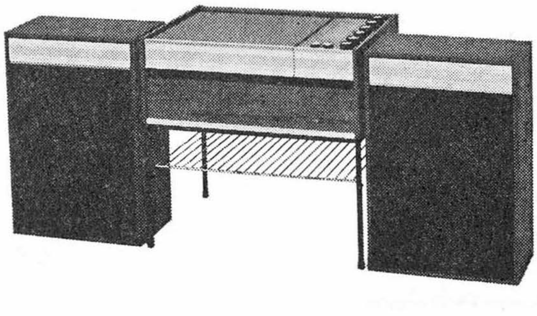
PHILIPS **RF695**

Service notes

MODEL RF695 "SCATTERGRAM"



SPECIFICATIONS

Power Supply	220-250V 50Hz
Power Consumption	20W
Record Changer	Philips GC036
Pick-up Head	GP200 (stereo, ceramic)
Modules	UF311, 2xUA505
Tuning Range	520–1620 KHz
Intermediate Frequency	455 KHz
Lamps	8045D (6.3V 0.3A Tub. Screw)
Lamp, bezel	8008D (6.3V 0.15A Tub. Screw)
Fuse	750mA

CHASSIS REMOVAL

Unplug mains lead at power point.
Remove control knobs, nylon dial escutcheon retainers, dial escutcheon and four chassis retaining screws.

Initially raise front end of chassis to release rod aerial adjusting arm from cabinet aperture; unplug changer pick-up and power leads from chassis.

Lead length is sufficient to allow chassis to be removed and serviced adjacent to cabinet.

When refitting chassis swivel rod aerial to a position parallel with chassis to prevent breakage.

LAMP REPLACEMENT

Dial Lamps
Remove dial escutcheon. Back off the screws holding the dial scale clamping bracket and rubber support.

The dial lamp in its holder may now be withdrawn from the rubber support.

Bezel Lamp
The bezel lamp is mounted on the chassis.

Follow chassis removal procedure; raising the front end of the chassis facilitates removal of the bezel lamp.

RECORD CHANGER REMOVAL

Unplug mains lead at power point.
Remove chassis and unplug changer pick-up and power leads.

Two holes in turntable beneath mat provide access to two locking screws, one securing each changer retaining bracket.

Loosen screws and move brackets towards centre.
Lift changer clear of cabinet.

I.F. ALIGNMENT

Connect signal generator via I.F. dummy to base of TRI. Peak coils in the following order at the quoted frequencies.

I.F.T. 2	457 KHz
I.F.T. 1	453.3 KHz
I.F.T. 3	457.5 KHz

Repeat adjustments as necessary.

R.F. ALIGNMENT

Fully close tuning capacitor and position dial cursor to the 520 KHz mark. Inject signal via a single turn around the aerial rod. Set signal generator at 520 KHz and peak oscillator coil. Tune receiver to full H.F. limit and set generator at 1620 KHz. Peak oscillator trimmer.
Repeat above until band end setting is correct.
Tune generator and receiver to 600 KHz and adjust rod aerial assembly.
Tune generator and receiver to 1500 KHz and adjust aerial trimmer.
Repeat last two adjustments as necessary.

OUTPUT TRANSISTOR ADJUSTMENT

The quiescent current of the output transistors can be adjusted by means of R108 and measured via the metering points provided. Under no signal conditions, the current should be adjusted in accordance with the following table.

Temperature °F	40-85	90	95	100	105	110	115
Collector current mA ...	7.5	7.5	7.7	8	8.5	9	10.5
Total current mA ...	27	27.5	28	28.5	30	31	32

January, 1970 Published by Philips Electrical Pty. Ltd., Australia

Branches in all States

ELECTRICAL PARTS LIST

CAPACITORS

Cct. No.	Description	V.W.	Tol. ± %	Type or Code No.
C1	47K ceramic	25	+80—20	Ducon CDR 47K—B (CZ 097 906D)
C3	22K ceramic	25	+80—20	Ducon CDR 22K—A (CZ 097 905D)
C4	3K6 styroflex	63	5	C295 AH/B3K6
C5, 6	47K ceramic	25	+80—20	Ducon CDR 47K—B (CZ 097 906D)
C7	150E ceramic			Part of 2nd IFT
C8, 9, 10, 11	47K ceramic	25	+80—20	Ducon CDR 47K—B (CZ 097 906D)
C12	150E ceramic			Part of 3rd IFT
C13	2M5 electrolytic	16	+100—10	C426 AS/E2.5
C14, 15	4K7 ceramic	25	+80—20	Ducon CDR 4K7—F (CZ 097 567D)
C16, 17	47K ceramic	25	+80—20	Ducon CDR 47K—B (CZ 097 906D)
C101	2M5 electrolytic	64	+50—10	C426 AR/H2.5
C102	125M electrolytic	10	+50—10	C426 AR/D125
C103	40M electrolytic	16	+50—10	C426 AR/E40
C104	1G electrolytic	16	+50—10	C437 CB/ E1000
C105	2K7 polyester	400	10	C296 AC/A2K7
C201	10K polyester	160	10	C296 AA/A10K
C202	640K electrolytic	64	+100—10	C426 AS/H0.64
C204	2M5 electrolytic	64	+50—10	C426 AR/H2.5
C301 (2x)	680E ceramic	500	20	C322 DC/ P680E
C302 (2x)	5K6 polyester	400	10	C296 AC/A5K6
C303 (2x)	100E ceramic N750	500	5	C304 GH/ B100E
C304	6E8 ceramic N750			Ducon Style Y (CZ 096 114)
C305, 6, 7, 8	Tuning capacitor OS180			2222 807 10087
C309	6E8 ceramic N1500			Ducon Style Y (CZ 096 350)
C310 (2x)	6K8 polyester	400	10	C296 AC/A6K8
C311 (2x)	18K polyester	160	10	C296 AA/A18K
C312 (2x)	4K7 polyester	400	10	C296 AC/A4K7
C313 (2x)	82K polyester	160	10	C296 AA/A82K
C314	200M electrolytic	10	+50—10	C426 AR/D125
C315	1K polyester	400	10	C296 AC/A1K
C316	80M electrolytic	25	+50—10	C426 AR/F80
C317	2G electrolytic	25		Ducon ET5D (CZ 100 152)
C318	47K polyester	160	10	C296 AA/A47K
C319	47K polyester	160	10	C296 AA/A47K
C320 (2x)	2K2 polyester	400	10	C296 AC/A2K2
C321	80M electrolytic	16	+50—10	C426 AR/E80

RESISTORS

Cct. No.	Description	W.	Tol. ±%	Type or Code No.
R1	22E carbon	½	10	B8 031 05A/22E
R2	1K8 carbon	½	10	B8 031 05A/1K8
R3	680K carbon	½	10	B8 031 05A/680K

RESISTORS (cont.)

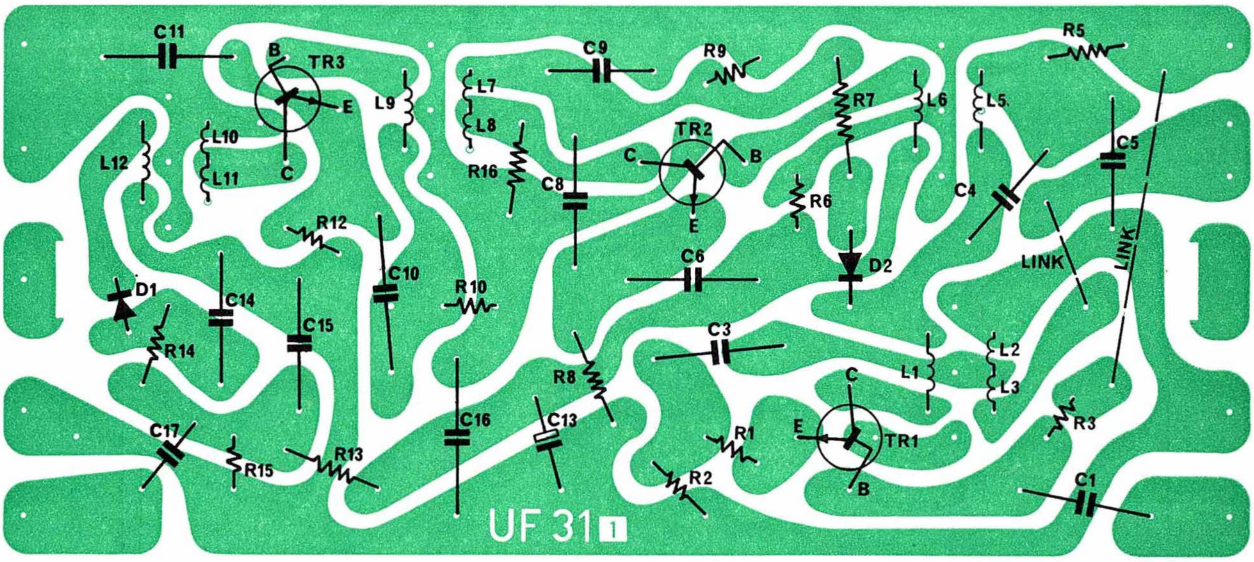
Cct. No.	Description	W	Tol. ± %	Type or Code No.
R5	680E carbon	½	10	B8 031 05A/680E
R6	150K carbon	½	10	B8 031 05A/150K
R7, 8, 9	1K carbon	½	10	B8 031 05A/1K
R10	270K carbon	½	10	B8 031 05A/270K
R12	470E carbon	½	10	B8 031 05A/470E
R13	82K carbon	½	10	B8 031 05A/82K
R14	3K3 carbon	½	10	B8 031 05A/3K3
R15	10K carbon	½	10	B8 031 05A/10K
R16	39K carbon	½	10	B8 031 05A/39K
R101	56K carbon	½	10	B8 031 05A/56K
R102	68K carbon	½	10	B8 031 05A/68K
R103	22E carbon	½	10	B8 031 05A/22E
R104	4K7 carbon	½	10	B8 031 05A/4K7
R105	4K7 carbon	½	10	B8 031 05A/4K7
R106	33E carbon	½	10	B8 031 05A/33E
R107	33E N.T.C. disc	1	20	E201 BC/P33E
R108	100E preset	—	20	E097 AC/100E
R109	220E carbon	½	10	B8 031 05A/220E
R110	E68 wire wound	½	10	CZ 008 494
R111	E68 wire wound	½	10	CZ 008 494
R112	220E carbon	½	10	B8 031 05A/220E
R113	15K carbon	½	10	B8 031 05A/15K
R201	100K carbon	½	10	B8 031 05A/100K
R202	470K carbon	½	10	B8 031 05A/470K
R203	100K carbon	½	10	B8 031 05A/100K
R204	6K8 carbon	½	10	B8 031 05A/6K8
R205	33K carbon	½	10	B8 031 05A/33K
R301 (2x)	680K carbon	½	10	B8 031 05A/680K
R302 (2x)	1M5 carbon	½	10	B8 031 05A/1M5
R303 (2x)	15K carbon	½	10	B8 031 05A/15K
R304	1M ganged potentiometer Tapped at 40K (volume)	Taper C		CZ 029 353
R305 (2x)	100K carbon	½	10	B8 031 05A/100K
R306	100K potentio-meter	Taper S21 (Balance)		CZ 034 196
R307	50K ganged potentiometer	Taper A (Treble)		CZ 034 197
R308 (2x)	6K8 carbon	½	10	B8 031 05A/6K8
R309 (2x)	10K carbon	½	10	B8 031 05A/10K
R310 (2x)	820E carbon	½	10	B8 031 05A/820E
R311	50K ganged potentiometer	Taper A (Bass)		CZ 034 197
R312 (2x)	3K9 carbon	½	10	B8 031 05A/3K9
R313	2K2 carbon	½	10	B8 031 05A/2K2
R314	120E carbon	½	10	B8 031 05A/120E
R315 (2x)	4K7 carbon	½	10	B8 031 05A/4K7
R316 (2x)	100E carbon	½	10	B8 031 05A/100E

INDUCTORS

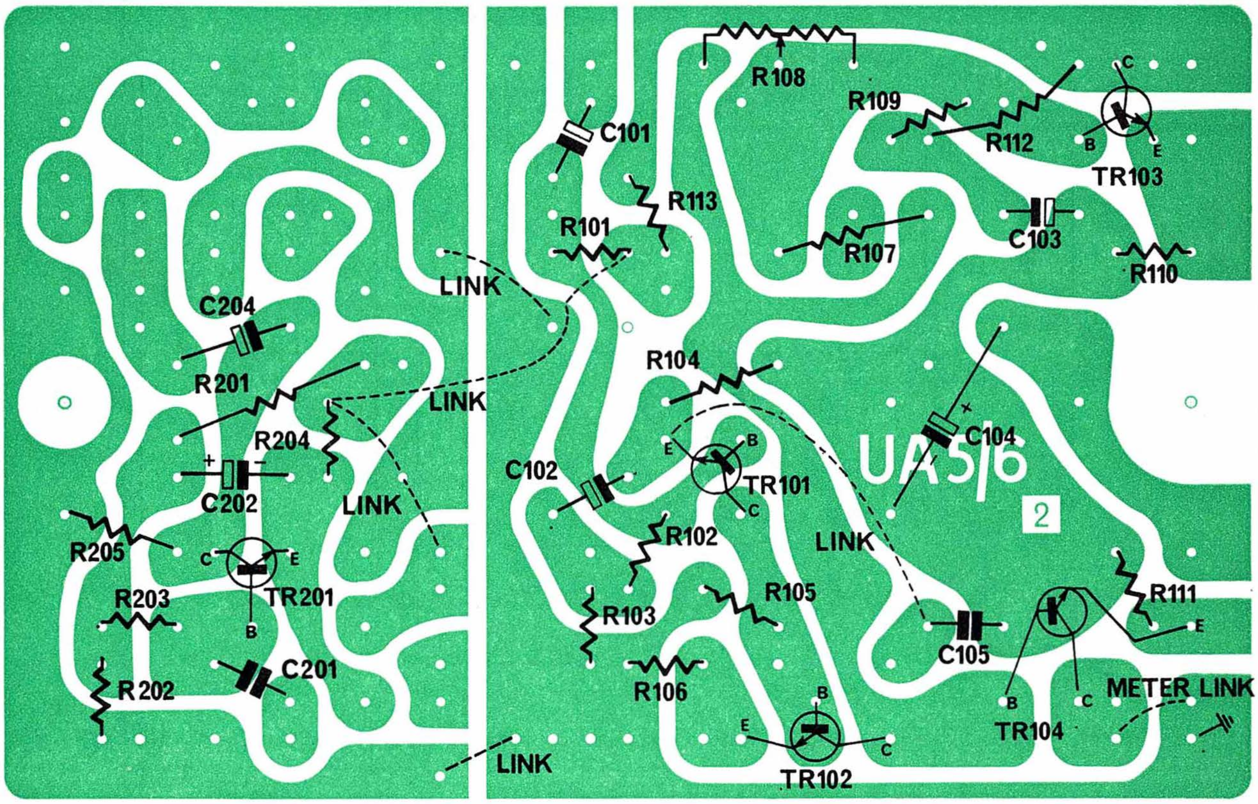
Cct. No.	Description	Code No.
L1, 2, 3	Oscillator coil	CZ 652 019
L5, 6	1st I.F.T.	CZ 651 004
L7, 8, 9	2nd I.F.T.	CZ 651 010
L10, 11, 12	3rd I.F.T.	CZ 651 009
L301	Loading coil	CZ 321 292
L302, 303	Rod aerial assy.	CZ 323 119
	Aerial rod (cut to 5")	CS 152 424
L304, 305, 306	Mains transformer	CZ 344 155
	Speaker (2x) Rola 8C8MX	CZ 161 244

RF695

UF311



UA505



PHILIPS ELECTRICAL PTY. LTD.

DIAGRAM CODE:

UNIT MODEL: RF 695

CIRCUIT CODE: 07/365

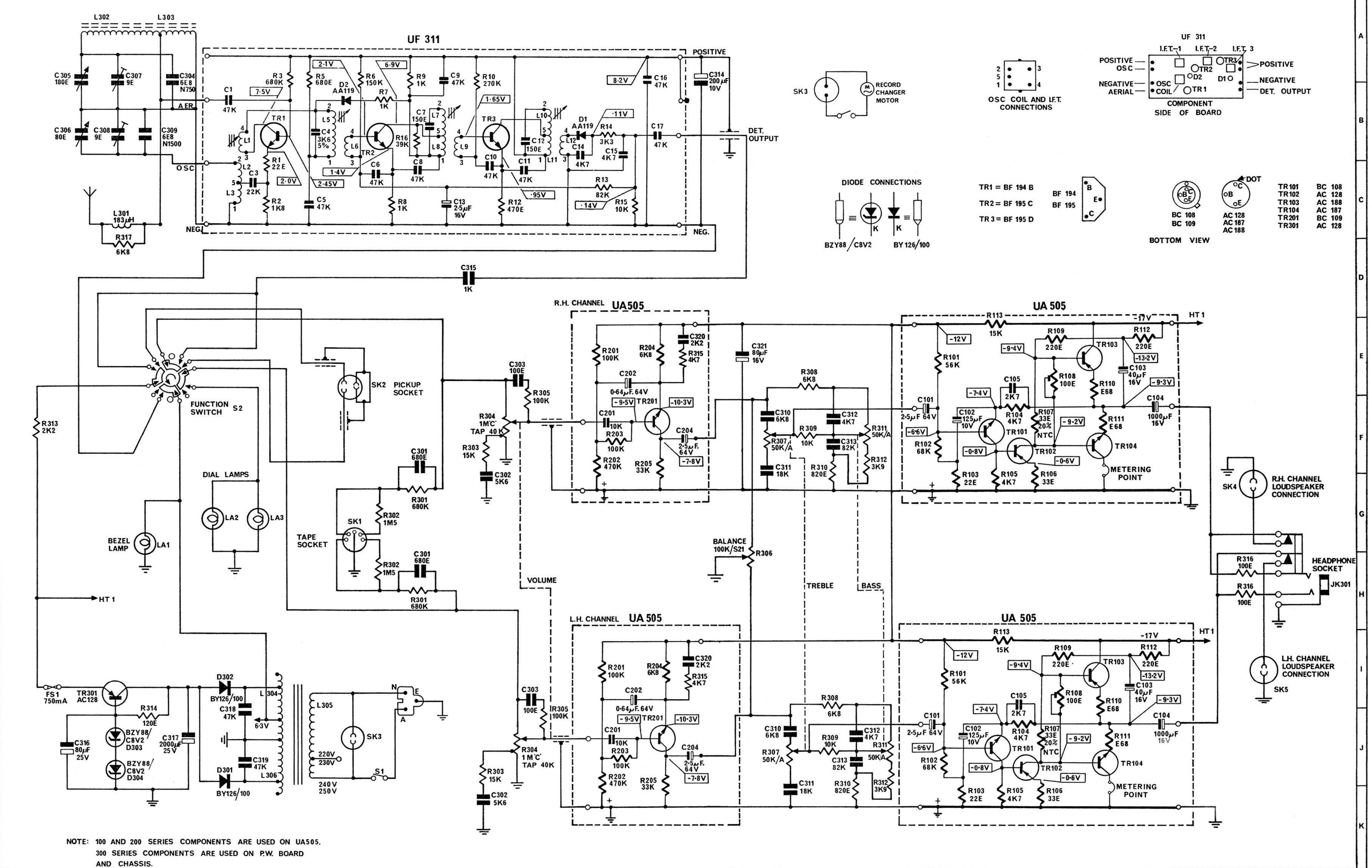
COMPONENT LOCATION

COMP	ZONE	COMP	ZONE	COMP	ZONE	COMP	ZONE
R301	G6	C301	F6	La 1	G3		
R301	H6	C301	H6	La 2	G3		
R302	G6	C302	G7	La 3	G4		
R302	H6	C302	K7				
R303	F 7	C303	E 7				
R303	J 7	C303	I 7	S1	J 5		
R304	F 7	C304	A3	S2	E 3		
R304	J 7	C305	A2				
R305	F 7	C306	B2				
R305	J 7	C307	A2	L301	C 2		
R306	H10	C308	B2	L302	A 2		
R307	J 11	C309	B 3	L303	A 3		
R307	F11	C310	J 11	L304	I 4		
R308	I 11	C310	F10	L305	E 5		
R308	E 11	C311	K11	L306	J 4		
R309	F11	C311	F 10				
R309	J 11	C312	J 12				
R310	G11	C312	F 11				
R310	K12	C313	J 12	TR301	I 2		
R311	F 12	C313	F11				
R311	J 12	C314	A10				
R312	F 12	C315	D 7	D301	J3		
R312	J 12	C316	J 2	D302	I 3		
R313	F1	C317	J 3	D303	J2		
R314	J 3	C318	J4	D304	J2		
R315	E 9	C319	J4				
R315	I 9	C320	E9				
R316	H17	C320	I 9				
R317	D 2	C321	E10				

1. RESISTORS ARE 1/2 WATT.
2. CAPACITORS ARE IN pf UNLESS OTHERWISE STATED.
3. CIRCUIT DIAGRAM UA505 07/340
4. CIRCUIT DIAGRAM UF311 07/316
5. VOLTAGES MEASURED FROM CHASSIS UNDER NO SIGNAL CONDITIONS WITH A V.T.V.M. TOLERANCE ± 10%.
6. SWITCH S1/S2 DRAWN IN OFF POS.
   POSITION 2 IS GRAM.
   POSITION 3 IS RADIO.
7. PLUGS SHOWN FROM PIN SIDE.
8. SOCKETS SHOWN FROM LUG SIDE.
9. SWITCH S1 IS MOUNTED ON S2.
10. UF 311 CAN IS EARTHED TO POSITIVE RAIL OF MODULE.
    La1 6·3V 0·15A 8008D
    La2, La3 6·3V 0·32A 8045D

TOLERANCES

R	± 10%
C	CERAMIC DISC TYPE −20% +80% ELECTROLYTICS −10% +50% OTHERS ± 10% UNLESS TOLERANCE SHOWN.

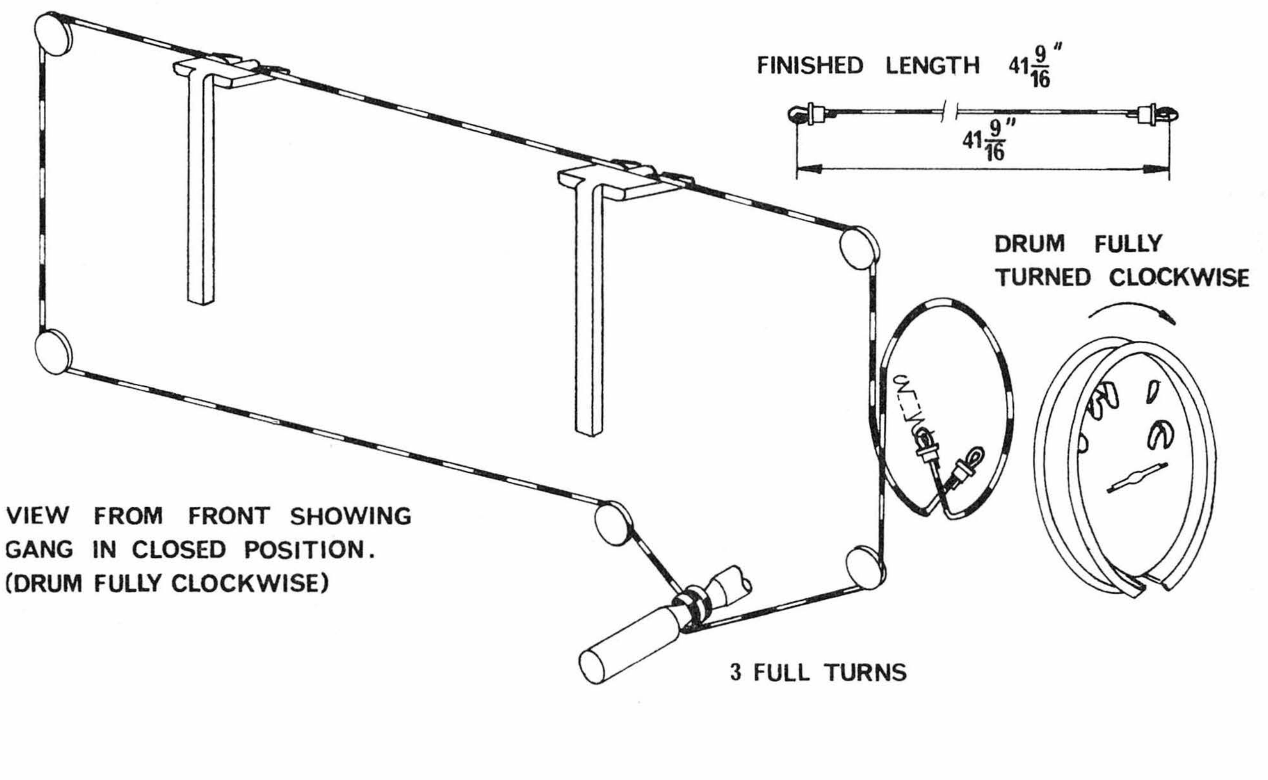


NOTE: 100 AND 200 SERIES COMPONENTS ARE USED ON UA505. 300 SERIES COMPONENTS ARE USED ON P.W. BOARD AND CHASSIS.

MECHANICAL PARTS LIST

Description	Code No.
Baffle assembly	CR 701 328
Bezel	CS 430 193
Cover, socket assembly	CR 572 313
Cursor	CS 410 687
Dial cord (43" required)	4822 321 30101
Dial cord spring	CS 200 086
Dial drum	CS 359 820
Dial drum spring clip	CH 629 240 or CH 777 371
Dial overlay	CS 431 135
Dial scale	CS 412 065
Dial scale support block	CS 219 166
Fin, cooling	CS 066 603
Knob, control (6x)	CR 523 599
Lampholder (3x)	4822 255 10007
Lid assembly complete	CR 701 357
Lid stay (less pivot bracket)	CR 285 824
Lid stay pivot	CS 351 808
Panel, decorative, lid	CS 241 559
Panel, decorative, speaker box (2x)	CS 241 560
Panel, decorative, side	CS 241 251
Plug — 2 pin (Speaker) (2x)	4822 264 30041 (G. Griep LS7Z)
Plug — 3 pin (changer motor)	CZ 365 240 (McMurdo 3QP/B)
Plug—4 pin (pick-up)	CZ 365 320 (McMurdo B4CP)
Pulley, special	CS 359 627
Rubber foot	CS 423 050
Socket — 2 pin (speaker) (2x)	4822 267 40073 (G. Griep LB1)
Socket — 3 pin (changer motor)	CZ 370 319 (McMurdo 3QMS/C)
Socket — 4 pin (pick-up)	CZ 370 512 (McMurdo 4QMS/C)
Socket — (Tape input) DIN 5S	4822 267 40073
Socket, jack (headphone)	CZ 367 040 (McMurdo MC39 DPST)
Switch, function and on/off	CZ 220 401
Tuning spindle	CS 351 277

DIAL CORD LAYOUT



PRINTED BY HARMAN & JACKA PTY. LTD., 6–28 CHARLES STREET, UNLEY, S.A.