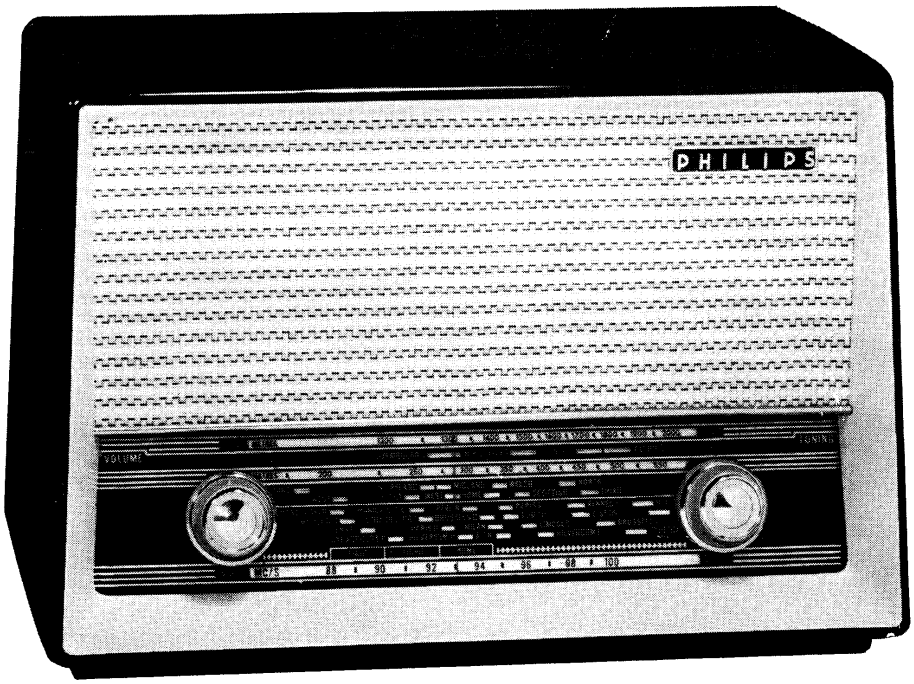


TYPE B3G 75U

SERVICE MANUAL

PHILIPS RADIO RECEIVER

TYPE B3G 75U

GENERAL DESCRIPTION
The B3G.75U is an A.M./F.M. receiver in a moulded cabinet.

VALVE COMBINATION

V1	UF80	R.F. Amplifier (F.M. only).
V2	UF80	Frequency Changer (F.M. only).
V3	UCH81	First I.F. Amplifier F.M. Frequency Changer A.M.
V4	UF89	Second I.F. Amplifier F.M. I.F. Amplifier A.M.
V5	UABC80	Detector and Amplifier.
V6	UL84	Power Amplifier.
V7	UY85	Mains Rectifier.

PILOT LAMP
Type 8097D 19 V. 0.1 A.

WAVEBAND RANGES
A.M. Medium Wave 187 to 569 metres.
Long Wave 1128 to 2000 metres.
F.M. 87.5 to 100 Mc/s.

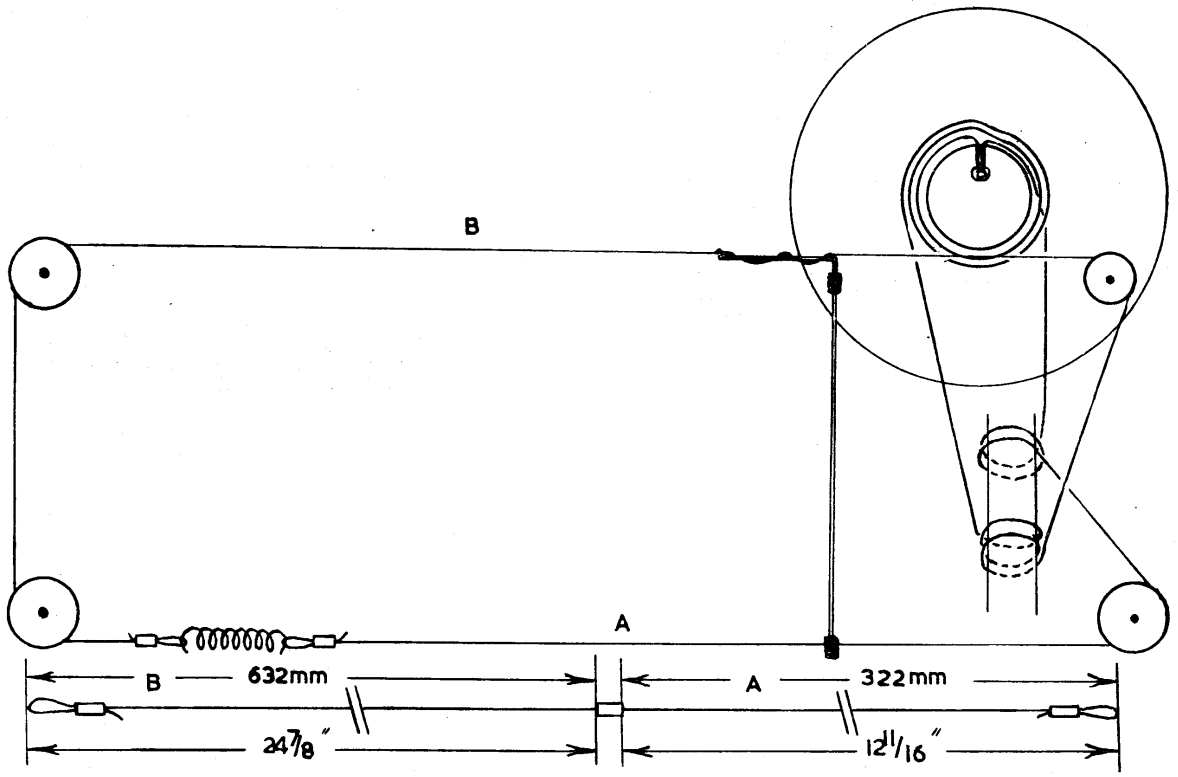
TRIMMING FREQUENCIES
A.M. I.F. 470 Kc/s.
M.W. 1620 Kc/s.
L.W. 180 Kc/s.
F.M. I.F. 10.7 Mc/s.
R.F. 87.5 Mc/s. 100 Mc/s.

MAINS CONSUMPTION
Approximately 60 watts.

VOLTAGE RANGE
200 to 250 V. A.C./D.C.

DIMENSIONS OF CABINET
Width 14″. Height 9½″. Depth 7″.

REMOVING THE CHASSIS
Remove the two chassis fixing screws which are located at the front of the top side of the chassis. Withdraw the chassis assembly and unsolder the speaker leads.
When replacing the chassis, the front chassis positioning guides ride on the top of the cabinet moulding and the rear positioning guides slide into the slots in the moulding.



POINTER DRIVE REPLACEMENT

Make up the drive cord to the dimensions shown.

Turn the tuning unit drum to its maximum clockwise position. Insert the collar on the cord into the slot in the small diameter section of the drum, the short end of the cord leading. Pass the short end of the cord clockwise round the drum to the rear section of the spindle pulley. Wind on two turns from back to front in a clockwise direction, and then pass the cord round the bottom right-hand pulley. Fit the tension spring to the cord and anchor it to a convenient point.

Take the longer end of the cord and wind on 2½ turns in an anti-clockwise direction around the drum. Next pass the cord round the front section of the drive spindle pulley and wind on 2½ turns in an anti-clockwise direction, winding from back to front. Feed the cord up to the top right-hand pulley, around the two left-hand pulleys, and attach it to the tension spring.

REPLACING THE PERMABILITY TUNER UNIT

The unit is changed complete with the drum assembly.

Remove the pointer cord, the coil wiring connections and the three unit fixing screws. When wiring the replacement unit, care must be taken to replace the components in their original positions.

Note.—The tie wires attached to the cores in the A.M. coils must not be unsoldered from their anchoring points.

REMOVING THE SWITCH BEVEL GEARS (See diagram Page 4)

Slacken off the gear grub screws.
Remove the circlip between the operating gear and the support bracket.
Push the operating gear and spindle towards the support bracket, to allow the switch gear to be withdrawn.
The operating gear can now be removed.

CHANGING THE SWITCH WAFERS (See diagram below)

Remove the scale, scale backplate and pilot lamp reflection plate.

Remove the two screws securing the centering plate of the operating spindle bush.

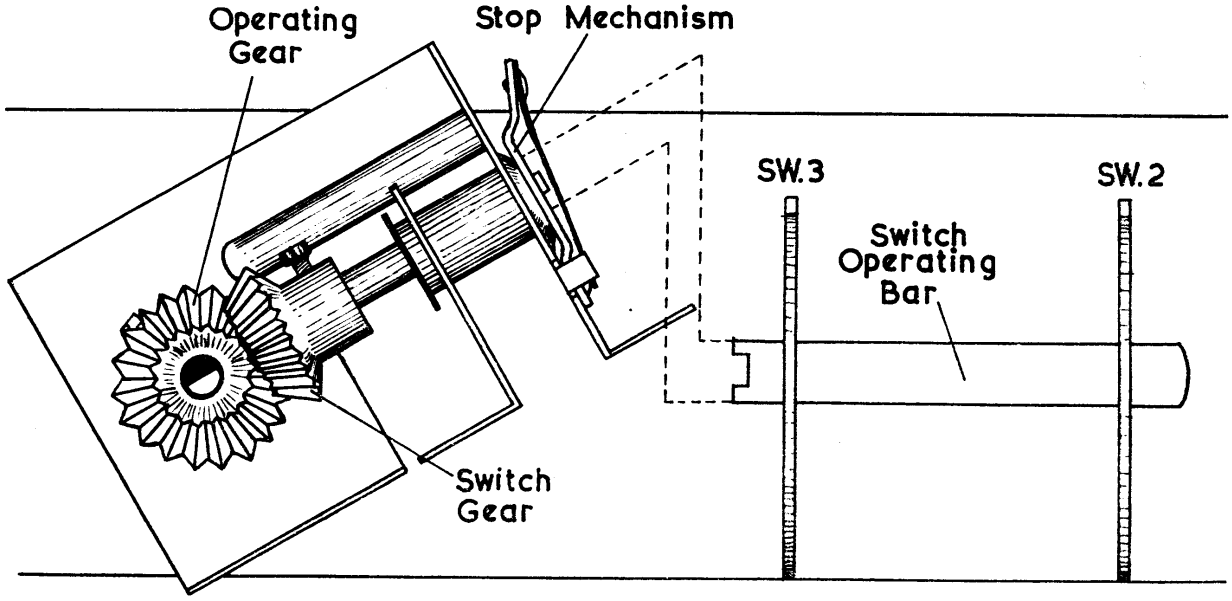
Remove the brass strip which clamps the switch wafers in position and the six fixing screws which hold the support brackets.

The switch operating bar can now be disengaged from the stop mechanism, allowing the assembly to be lifted into the position shown.

Withdraw the bar, allowing the switch wafers to be removed.

The input signal is applied via the M.W. and L.W. internal aerials S11/S32, the M.W. coupling transformer S12/S13 and the wavechange switch, to the grid of the mixer section of the frequency changer V3 (UCH81). This section of the valve is gain controlled from the AGC line, R9 and C59 being the de-coupling components. The oscillator (the triode section of V3) is a parallel fed Colpitt's type, S10 being the M.W. and S33 the L.W. oscillator coils.

From the 1st I.F. transformer S16/S17 signals are passed to the grid of the I.F. amplifier V4 (UF89). AGC is applied to the valve and the necessary de-coupling components are R15, C59 and C70. S21/S22 is the 2nd I.F. transformer which couples the I.F. signals to the detector diode in the V5 envelope (UABC80).



CIRCUIT DESCRIPTION

The power supplies for the receiver follow normal universal technique. The valve heaters are series connected with a brimistor (R.33) in circuit to maintain the normal heater current should the dial lamp become open circuit. H.T. smoothing is provided by C1, C2, R1 and a section of the output transformer primary S23.

Operation on A.M.

When switched to A.M. the H.T. line is switched off from V1 and V2.

The negative D.C. voltage at the top of R20 is applied via R18 to the AGC line, and A.F. signals across R37 are fed to the volume control via contacts 17, 19, 22 and 18 of the wavechange switch S.W.3. A.F. amplification takes place in the triode section of V5 which is coupled to the output valve V6 (UL84) via C49 and the top cut filter capacitor C61. Tone correction is provided by R40 and C51. Negative feedback is used on both A.F. stages, being applied via R38 to the grid circuit of V5.

Operation on F.M.

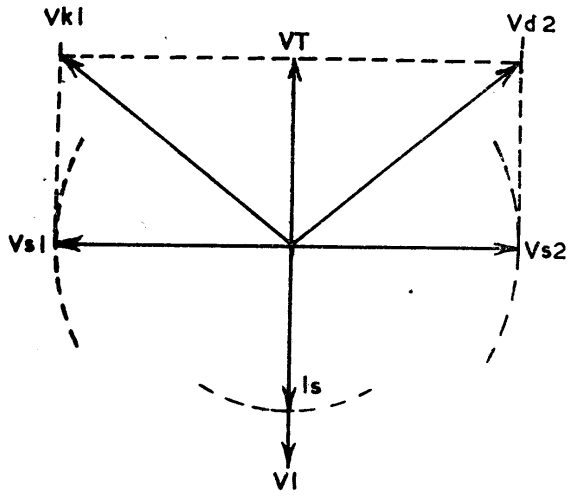
When switched to F.M. the H.T. line is switched off from the triode section of V3.

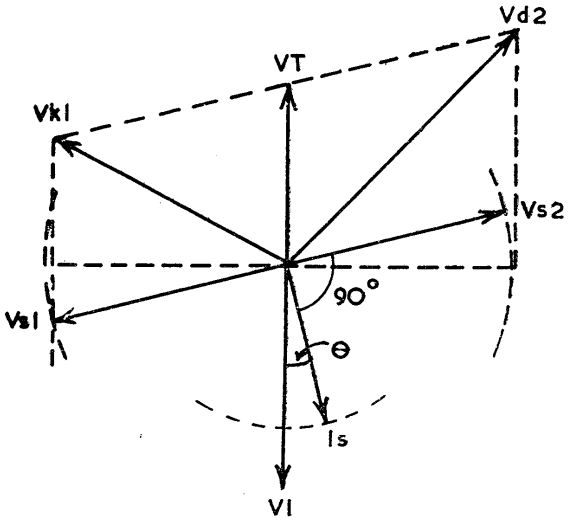
The input signal is applied via the balanced aerial transformer S2-S4 to the grid of the R.F. amplifier V1 (UF80). The anode circuit S5, C62 and C10 is tuned, S5 being a section of the permability tuner unit. V2 (UF80) is the frequency changer. The oscillator coils are S6/S7 with C16 the oscillator trimmer.

S8/S9 (the 1st I.F. transformer) couples the I.F. signal to the input of the 1st I.F. amplifier (the hexode portion of V3 (UCH81)). The AGC line is now connected to chassis via switch contacts 2 and 24 S.W.3. The valve is biased by the grid contact potential. Coupling to the 2nd I.F. amplifier V4 (UF89) is via the 2nd I.F. transformer S14/S15. This valve, working with a short grid base due to low screen volts, will also provide A.M. limiting.

Coils S18-S20 and the diodes of V5b form a ratio detector circuit, R21 is the load resistor and C46 the reservoir capacitor. To compensate for the top note emphasis at the transmitter the circuit includes a de-emphasis filter R19/C47. The output from the ratio detector is passed to the volume control, via switch contacts 15 and 18 S.W.3. The remainder of the circuit is the same as for A.M.

AT I.F. FREQUENCY





VECTOR ANALYSIS OF THE RATIO DETECTOR

The diagrams shown indicate the condition present at the I.F. frequency and at a deviation frequency.

The input voltage (across S18) is represented by V1 and is taken as the fixed vector. The secondary current (Is) is in phase with V1 at I.F., but lags it or leads it at frequencies above and below the I.F. respectively. The movement of the vector is indicated by the dotted line.

The voltages across each half of the secondary (VS1 and VS2) are always 180° out of phase with each other, and are always 90° out of phase with Is. These two vectors therefore also move as indicated by the dotted lines.

The voltage applied via the tertiary winding S20 is represented by V.T. It is at 180° to V1 and of fixed value. The voltages applied to the diodes (VK1 and Vd2) are vector sums of VS1 and VT, and VS2 and VT respectively. It will be evident that these two voltages will vary in amplitude in accordance with the variation of phase between V1 and IS.

TRIMMING INSTRUCTIONS—A.M.

1. **I.F. Circuits A.M.**
   Switch to medium wave and fully open the tuner (i.e., tuning knob fully anti-clockwise).
   Turn the volume control to maximum.
   Connect an output meter to the loudspeaker leads.
   Apply a modulated signal of 470 Kc/s to G1V3 via a 47K pF capacitor.
   Trim S22, S21, S17 and S16 in that order for maximum output.
   Repeat as necessary.

2. **R.F. and Oscillator Circuits—A.M.**
   Connect an output meter to the loudspeaker leads and turn the volume control to maximum.
   Apply the input to the A.M. aerial socket via a dummy aerial.

Medium Wave

Switch to M.W.

With the tuning unit fully closed, adjust the pointer setting to the bottom right-hand trimming mark on the scale.

Now open the tuning unit until the pointer lines up with the 185 metres trimming mark and apply a signal of 1620 Kc/s.

Trim C58 and C32 for maximum output.

Long Wave

Switch to L.W.

Adjust the pointer to the 1665 metres trimming mark and apply a signal of 180 Kc/s.

Trim C65 and C68 for maximum output.

TRIMMING INSTRUCTIONS—F.M.

(a) **Using and F.M. Method**

1. **Ratio Detector Alignment**

Switch to F.M.
Disconnect C46.

Connect an oscilloscope across R21 through a 100 KΩ resistor.

During the following operation the voltage across R21 should not exceed 3 volts.

Apply an input of 10.7 Mc/s with a deviation of 500 Kc/s at 50 c/s to G1V4.

Trim S18 for best response, with a 10.7 Mc/s marker at the bottom of the response curve.

Trim S19/S19a for maximum curve width and symmetry.

2. **Check Ratio Detector Curve**

Reconnect C46.

Connect an oscilloscope across C41.

Check the straight part of the curve.

The curve must be straight over approximately 200 Kc/s.

Apply A.M. modulation 30% at 400 c/s.

The straight part of the curve should remain unchanged.

3. **I.F. Trimming F.M.**

Connect an oscilloscope across R21 with C46 disconnected.

Apply an input of 10.7 Mc/s with a 500 Kc/s deviation at 50 c/s to G1V3.

Trim S14 for maximum height with a 10.7 Mc/s marker at the bottom of the response curve.

Trim S15 for maximum curve height and symmetry consistent with marker position.

Change the input to G1V1. The earthing side of the generator is connected to the earth point beside R4.

Trim S8 for maximum height with a 10.7 Mc/s marker at the top of the response curve.

Trim S9 for maximum height and symmetry consistent with marker position.

S14 may require slight re-adjustment.

4. **I.F. Curve Check F.M.**

Reconnect C46.

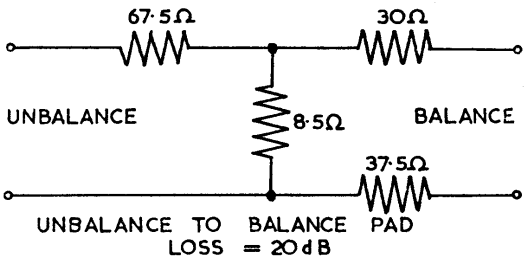
Apply a signal (10.7 Mc/s unmodulated) to the grid of V2 and adjust the input level to give 8 V. across C46.

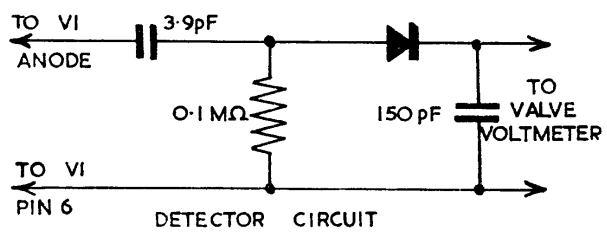
Swing the generator frequency either side of 10.7 Mc/s until the output drops to 5 volts.

The total frequency change should be greater than 200 Kc/s.

H.F. TRIMMING F.M.

1. A 75 ohms balanced input is required. If the generator output is unbalanced the matching transformer shown below should be used.





Set C10, C14 and C16 to mid positions.
Connect a valve voltmeter via a 100K ohms resistor across C46.

During this operation the output voltage should not exceed 8 volts.

Set the pointer to the top right-hand trimming mark. Apply an unmodulated signal of 87.5 Mc/s to the F.M. aerial socket (via a matching transformer if necessary) and trim S6 and S5 for maximum output.

Set the pointer to 100 Mc/s.

Adjust the generator to 100 Mc/s and trim C16 and C10 for maximum output.

2. Disconnect the generator.

Set the pointer to 94 Mc/s and connect the detector pad (see Page 6) between the anode of V1 and the earth of V1 valveholder.

Connect a valve voltmeter to the detector output.

Trim C14 for minimum oscillator voltage.

Repeat 1 as necessary.

3. Disconnect the detector pad.

Connect a valve voltmeter via a 100K ohms resistor across C46.

Apply an unmodulated signal of 94 Mc/s to the F.M. aerial sockets.

Trim S2/S3 for maximum output.

TRIMMING INSTRUCTIONS F.M.

(b) Using an A.M. Method

For the convenience of those who have no suitable F.M. test gear, the following instructions involve the use of an A.M. generator only as a signal source.

I.F. Trimming F.M.

1. Switch to F.M.

Turn the volume control to minimum and the tuning unit to the closed position.

Connect a valve voltmeter via a 100K ohms resistor across C46.

During trimming the input should be such that the voltage across C46 does not exceed 8 volts.

Apply an unmodulated signal of 10.7 Mc/s to G1V3 via a ceramic capacitor of 1,500 pF.

Damp S14 with a 4K7 ohms resistor.

Trim S15 for maximum output.

Remove the damper from S14 and apply it to S15.

Trim S14 for maximum output.

Remove the damping from S15.

Trim S18 for maximum output on the meter and then adjust the input to give an output of 8 volts.

Disconnect the voltmeter from C46 and reconnect it across C41.

Adjust S19 to give 4 volts on the meter.

Change the input point to G1V2.

Reconnect the meter across C46.

Apply the damper to S8 and trim S9 for maximum output.

Remove the damper from S8 and apply it to S9

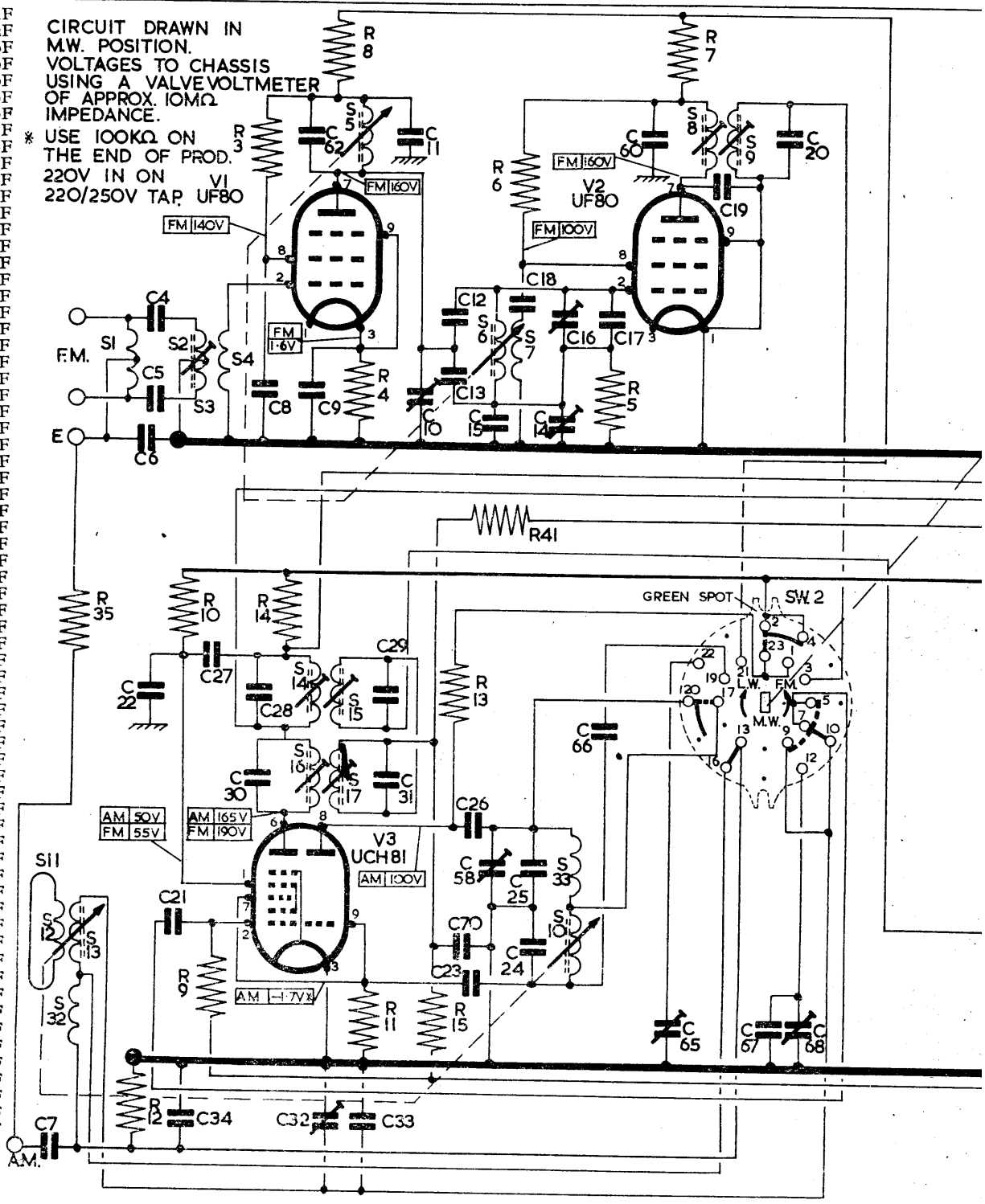
Trim S8 for maximum output.

2. **H.F. Circuits**
The H.F. trimming procedure is the same as that shown in the "Trimming Instructions F.M. Using an F.M. Method."

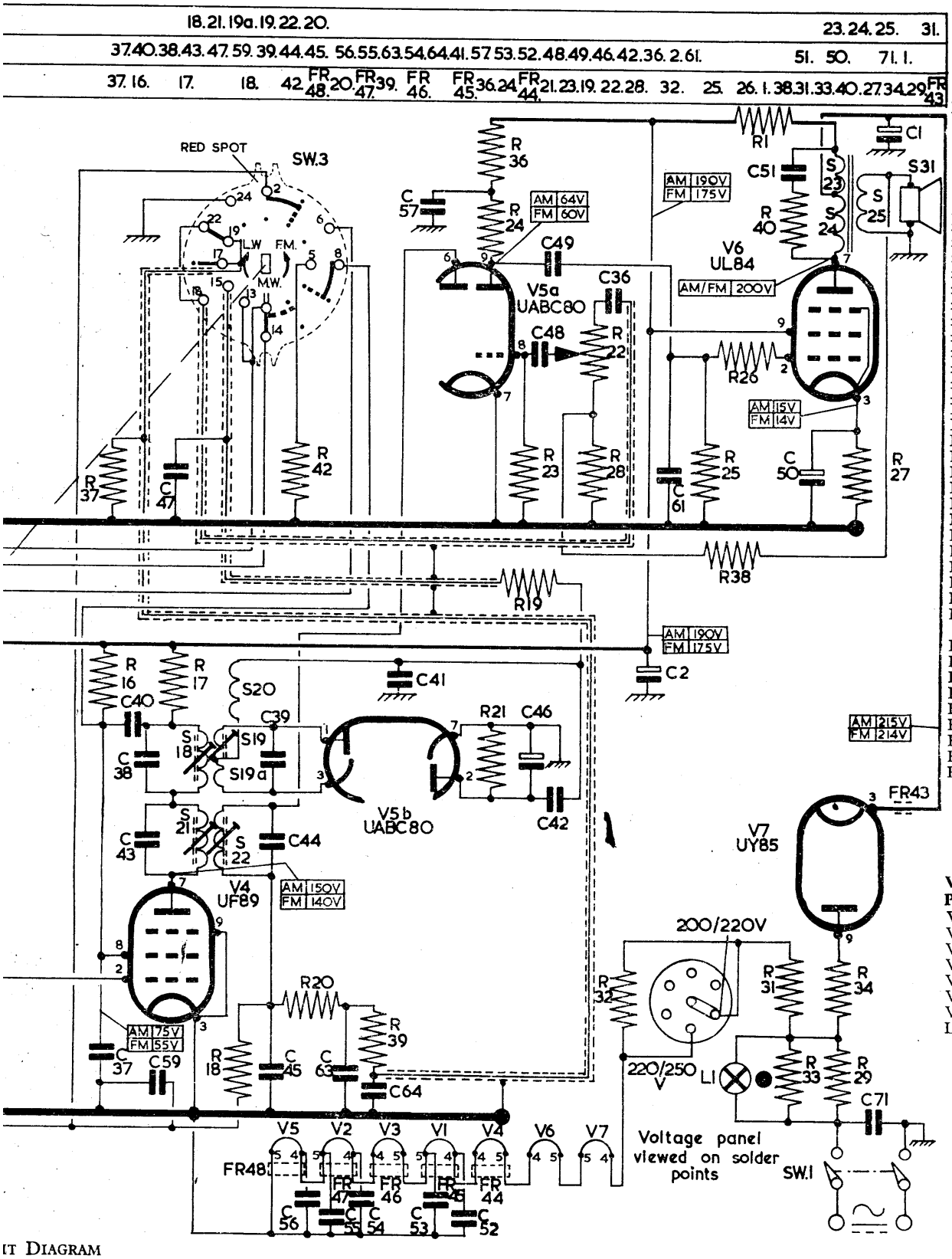
S	11. 12. 13. 32. 1. 2. 3. 4. 14. 16. 15. 17. 5. 6. 7. 33. 10. 8. 9.
C	7. 6. 22. 4. 5. 21. 34. 27. 8. 28. 30. 9 62. 32 33. 29. 31. 11. 10. 12. 13. 15. 26. 70. 23. 18. 25. 24. 16. 14. 17. 66. 65. 19. 60. 20. 67. 68.
R	35. 12. 10. 9. 3. 14. 8. 4. 11. 15. 13. 41. 6. 5. 7.

CAPACITORS

C1	50 uF
C2	100 uF
C4	1,000 pF
C5	1,000 pF
C6	4,700 pF
C7	1,800 pF
C8	1,000 pF
C9	220 pF
C10	2–5 pF
C11	1,000 pF
C12	8.2 pF
C13	8.2 pF
C14	2–10 pF
C15	8.2 pF
C16	2–5 pF
C17	18 pF
C18	47 pF
C19	18 pF
C20	15 pF
C21	100 pF
C22	3,900 pF
C23	56 pF
C24	290 pF
C25	125 pF
C26	470 pF
C27	4,700 pF
C28	33 pF
C29	33 pF
C30	110 pF
C31	195 pF
C32	18 pF
C33	33 pF
C34	3,000 pF
C36	4,700 pF
C37	6,800 pF
C38	22 pF
C39	47 pF
C40	4,700 pF
C41	390 pF
C42	390 pF
C43	195 pF
C44	195 pF
C45	82 pF
C46	10 uF
C47	820 pF
C48	10,000 pF
C49	22,000 pF
C50	25 uF
C51	1,000 pF
C52	1,000 pF
C53	1,000 pF
C54	1,000 pF
C55	1,000 pF
C56	1,000 pF
C57	0.1 uF
C58	18 pF
C59	47,000 pF
C60	1,000 pF
C61	1,500 pF
C62	5.6 pF
C63	47 pF
C64	47 pF
C65	25 pF
C66	15 pF
C67	390 pF
C68	400 pF
C70	100 pF
C71	33,000 pF



CIRCUIT D



IT DIAGRAM

RESISTORS

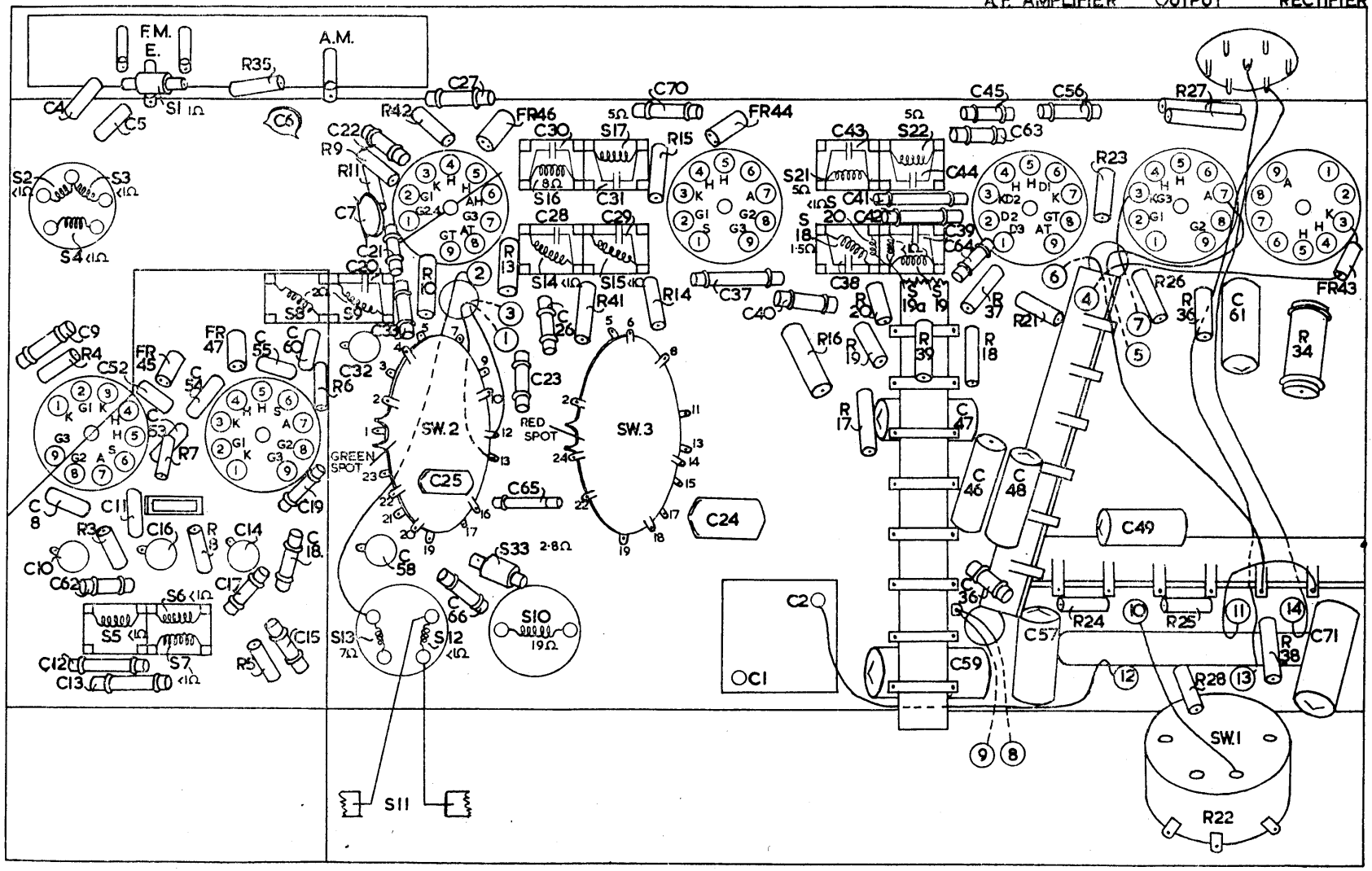
R1	1,000 Ohm
R3	10,000 Ohm
R4	180 Ohm
R5	1.0M Ohm
R6	22,000 Ohm
R7	2,200 Ohm
R8	2,200 Ohm
R9	1.0M Ohm
R10	39,000 Ohm
R11	47,000 Ohm
R12	33,000 Ohm
R13	33,000 Ohm
R14	2,200 Ohm
R15	1.0M Ohm
R16	33,000 Ohm
R17	4,700 Ohm
R18	1.2M Ohm
R19	47,000 Ohm
R20	27,000 Ohm
R21	10,000 Ohm
R22	2.0M Ohm
R23	10.0M Ohm
R24	0.22M Ohm
R25	0.47M Ohm
R26	1,000 Ohm
R27	560 Ohm
R27a	560 Ohm
R28	68 Ohm
R29	146 Ohm
R31	119 Ohm
R32	235 Ohm
R33	10,000 Ohms Cold 250 Ohms Hot
R34	30 Ohm
R35	1.0M Ohm
R36	0.1M Ohm
R37	0.22M Ohm
R38	3,300 Ohm
R39	27,000 Ohm
R40	27,000 Ohm
R41	10.0M Ohm
R42	47,000 Ohm

VALVES AND PILOT LAMPS

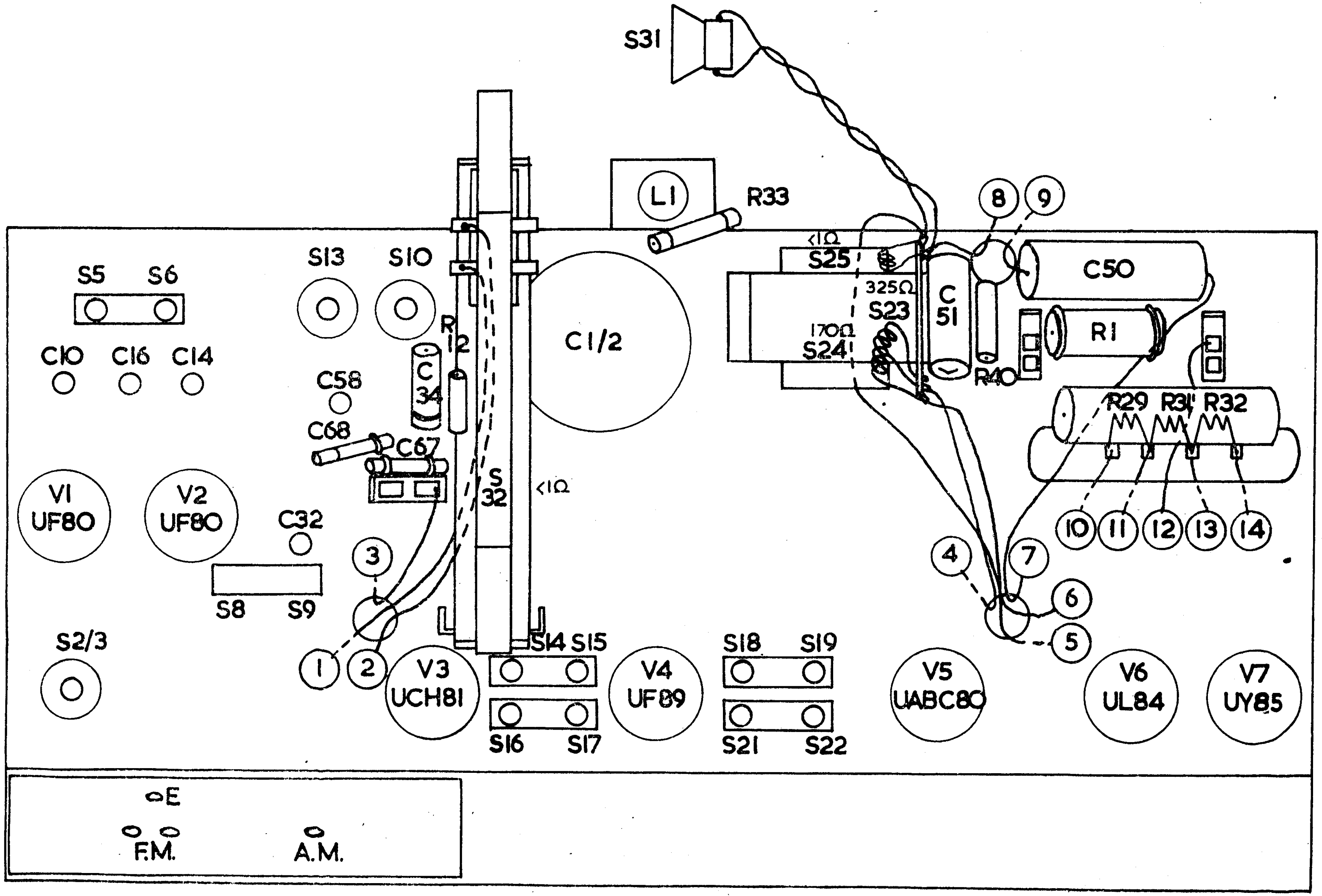
V1	UF80
V2	UF80
V3	UCH81
V4	UF89
V5	UABC80
V6	UL84
V7	UY85
L1	00.080.97D

S	2. 3. 4. 5. 1. 6. 7. 8. 9. 13. 12. 11. 33. 10. 16. 14. 15. 17. 21. 18. 20. 19a. 22. 19.
C	9. 4. 5. 52. 54. 53. 6. 55. 60. 20. 32. 7. 22. 21. 33. 27. 23. 30. 28. 26. 31. 29. 70. 37. 40. 43. 38. 44. 41. 42. 47. 45. 63. 64. 56. 61. 8. 10. 62. 12. 13. 16. 17. 14. 15. 18. 19. 58. 25. 66. 65. 24. 1. 2. 39. 59. 46. 36. 48. 57. 49. 71.
R	4. 3. FR45. 7. 8. FR47. 5. 35. 6. 11. 9. 42. 10. FR46. 13. 41. 15. 14. FR44. 16. 17. 20. 19. 39. 18. 37. 21. 23. 24. 26. 25. 27. 36. 28. 22. 38. 34. FR43.

V1 UF80 — F.M. R.F. AMPLIFIER
V2 UF80 — F.M. OSCILLATOR
V3 UCH81 — A.M. OSCILLATOR & MIXER; 1st F.M. I.F. AMPLIFIER
V4 UF89 — 1st A.M. I.F. AMPLIFIER; 2nd F.M. I.F. AMPLIFIER
V5 UABC80 — F.M. RATIO DETECTOR; A.M. DETECTOR A.G.C.; A.F. AMPLIFIER
V6 UL84 — OUTPUT
V7 UY85 — RECTIFIER



S	2. 3. 5. 6. 8. 9. 13. 10. 32. 14. 16. 15. 17. 31. 18. 21. 19. 22. 25. 23. 24.
C	10. 16. 14. 32. 58. 68. 67. 34. 1. 2. 51. 50
R	12. 33. 40. L 29. 31. 32.



SPARE PARTS LIST—TYPE B3G75U

CABINET ASSEMBLY

Cabinet (moulded)	MK.979.53/Grey
Spire clips for backplate (5)	MK.750.69

CONTROL KNOBS

Control knob—Volume (large) ...	MK.855.43/Grey
Control knob—Waveband ...	MK.855.42/Grey
Leaf spring for above	MK.751.16
Control knob—Volume (small) ...	MK.855.44/Grey
Control knob—Tuning	MK.855.45/Grey
Grub screws for above	A3.324.16
Screw plugs for above	MK.931.62

STATION SCALE (glass) MK.705.63

BAFFLE ASSEMBLY

Speaker fabric (330 × 145 mm.)	K.300.ZZ/937
Philips trade name	MK.705.62
Escutcheon for above	MK.909.44

BACKPLATE ONLY	MK.401.11
Screws for backplate (7)	MK.946.88

BASEPLATE ASSEMBLY MK.878.35

CHASSIS ASSEMBLY

POINTER ASSEMBLY	MK.878.28
Felt rings for above (2)	A3.564.36

POINTER DRIVE ASSEMBLY

Small pulley (1)	MK.931.12
Large pulley (3)	A3.322.40
Drive cord only	K.803.ZZ/900
Cord loop grips	MK.908.99

PILOT LAMP holder A1.326.30

WAVEBAND SWITCH ASSEMBLY

Bevel gears (2)	MK.912.15
Set screws—cup ended (4 × 8 mm.)	B.061.GD/4×8
Steel ball ($\frac{7}{32}$")	89.205.05
Switch section (Green spot)	MK.960.72
Switch section (Red spot)	MK.960.73

MISCELLANEOUS

Voltage adjustment plate	MK.875.51
Voltage adjustment knob	MK.854.64
Aerial/Earth socket plate	MK.960.54
Holder for V2	B1.507.01
Other valveholders	MK.225.67
Spring clips for coils	MK.730.23
Mains lead	K3.975.00
Nut for potentiometer	MK.927.05

VALVES AND PILOT LAMPS

V1	UF80
V2	UF80
V3	UCH81
V4	UF89
V5	UABC80
V6	UL84
V7	UY85
L1	OO.080.97D

TRANSFORMERS AND COILS

S1	Choke	MK.550.09
S2/4	F.M. aerial coil	MK.566.50
S5	F.M. coupling coil } Complete ...	MK.892.98
S6/7	F.M. Osc. coil } Tuning Unit	
S8/9	1st I.F. coil F.M.	A3.126.99
S10	Osc. coil M.W. } Complete	
S11-13	Aerial coil & Loop M.W. } Tuning Unit ...	MK.892.98
S14/15	2nd F.M. I.F. coil	A3.127.00
S16/17	1st A.M. I.F. coil	A3.126.98
S18-20	Ratio detector coil F.M. ...	A3.127.01
S21/22	2nd A.M. I.F. coil	MK.566.52
S23-24	Output transformer	MK.515.14
S25	Ferroxcube Bead	56.390.31/4B
S26	„ „	56.390.31/4B
S27	„ „	56.390.31/4B
S28	„ „	56.390.31/4B
S29	„ „	56.390.31/4B
S30	„ „	56.390.31/4B
S31	Loudspeaker	MK.860.93
S32	Aerial coil L.W.	MK.568.48
S33	Osc. coil L.W.	MK.568.47

CORES FOR COILS

S8, 9, 14, 15, 18 and 19	P4.380.61/99
S16, 17, 21 and 22	A3.750.70

SPARE PARTS LIST—TYPE B3G75U—(Contd.)

CAPACITORS

			Working Voltage	Permitted Tolerance %	
C1 } C2 }	Electrolytic	50 uF } 100 pF }	275		MK.184.27/100+65
C4	Ceramic	1,000 pF ...		−25 +50	MK.206.05
C5	Ceramic	1,000 pF ...		−25 +50	MK.206.05
C6	Ceramic	4,700 pF ...			MK.205.93
C7	Ceramic	1,800 pF ...		+80 −20	MK.205.83
C8	Ceramic	1,000 pF ...		−25 +50	MK.205.86
C9	Ceramic	220 pF ...		20	48.406.02/220E
C10	Trimmer	2-5 pF ...			49.627.50
C11	Ceramic	1,000 pF ...		−25 +50	MK.205.86
C12	Ceramic	8.2 pF ...		10	48.406.99/8E2
C13	Ceramic	8.2 pF ...		10	48.406.99/8E2
C14	Trimmer	2-10 pF ...			49.005.64
C15	Ceramic	8.2 pF ...		10	48.406.99/8E2
C16	Trimmer	2-5 pF ...			49.627.50
C17	Ceramic	18 pF ...		10	48.406.02/18E
C18	Ceramic	47 pF ...		10	48.406.02/47E
C19	Ceramic	18 pF ...		10	48.406.05/18E
C20	... ...	15 pF ...			In 1st F.M. I.F. coil
C21	Ceramic	100 pF ...		10	48.406.01/100E
C22	Ceramic	3,900 pF ...		−20 +50	C.301.AA/H3K9
C23	Ceramic	56 pF ...		10	48.406.02/56E
C24	Mica	290 pF ...		1	MK.193.01/290E
C25	Mica	125 pF ...		1	MK.193.01/125E
C26	Ceramic	470 pF ...		10	48.406.10/470E
C27	Ceramic	4,700 pF ...		+50 −20	C.301.AA/H4K7
C28	... ...	33 pF }			In 2nd F.M.
C29	... ...	33 pF }			I.F. coil
C30	... ...	110 pF }			In 1st A.M.
C31	... ...	195 pF }			I.F. coil
C32	Trimmer	18 pF ...			49.005.59
C33	Ceramic	33 pF ...		10	48.406.05/33E
C34	Suflex	3,000 pF ...		5	MK.205.84
C36	Ceramic	4,700 pF ...		+50 −20	C.301.AA/H4K7
C37	Ceramic	6,800 pF ...		+50 −20	C.301.AA/H6K8
C38	... ...	22 pF }			In F.M. Ratio
C39	... ...	47 pF }			Detector coil
C40	Ceramic	4,700 pF ...		+50 −20	C.301.AA/H4K7
C41	Ceramic	390 pF ...		10	48.406.02/390E
C42	Ceramic	390 pF ...		10	48.406.02/390E
C43	... ...	195 pF }			In 2nd A.M.
C44	... ...	195 pF }			I.F. coil
C45	Ceramic	82 pF ...		10	48.406.05/82E
C46	Electrolytic	10 uF ...	70		AC.5717/10
C47	Paper	820 pF ...	400	10	48.751.10/820E
C48	Paper	10,000 pF ...	125	10	48.751.10/10K
C49	Paper	22,000 pF ...	400	10	48.751.10/22K
C50	Electrolytic	25 uF ...	25		MK.183.02/25
C51	Paper	1,000 pF ...	1,300	20	HT.193.20/1K
C52	Ceramic	1,000 pF ...		+50 −25	MK.205.86

SPARE PARTS LIST—TYPE B3G75U—(Contd.)

			Working Voltage	Permitted Tolerance %	
C53	Ceramic	1,000 pF		+50 −25	MK.205.86
C54	Ceramic	1,000 pF		+50 −25	MK.205.86
C55	Ceramic	1,000 pF		+50 −25	MK.205.86
C56	Ceramic	1,000 pF		+50 −20	C.301.AA/H1K
C57	Paper	0.1 uF	400	20	48.751.10/100K
C58	Trimmer	18 pF			49.005.59
C59	Paper	47,000 pF	125	20	49.751.10/47K
C60	Ceramic	1,000 pF		−25 +50	MK.205.86
C61	Paper	1,500 pF		10	48.751.10/1K5
C62	Ceramic	5.6 pF		20	48.406.99/5E6
C63	Ceramic	47 pF		10	48.406.02/47E
C64	Ceramic	47 pF		10	48.406.02/47E
C65	Trimmer	25 pF			49.005.49
C66	Ceramic	15 pF		10	48.406.10/15E
C67	Ceramic	390 pF		10	48.406.02/390E
C68	Trimmer	400 pF			49.005.54
C70	Ceramic	100 pF		20	48.406.05/100E
C71	Paper	33,000 pF	600	20	48.752.10/33K

RESISTORS

N.B.—Wattage is based upon an ambient temperature of 70°C.

			Wattage	Permitted Tolerance %	
R1	Wirewound	1,000 Ohms	3	10	48.468.10/1K
R3		10,000 Ohms	½	10	48.426.10/10K
R4		180 Ohms	½	10	48.426.10/180E
R5		1.0M Ohms	½	10	48.426.10/1M
R6		22,000 Ohms	½	10	48.426.10/22K
R7		2,200 Ohms	½	10	48.426.10/2K2
R8		2,200 Ohms	½	10	48.426.10/2K2
R9		1.0M Ohms	½	10	48.426.10/1M
R10		39,000 Ohms	1	10	48.427.10/39K
R11		47,000 Ohms	½	10	48.426.10/47K
R12		33,000 Ohms	½	10	48.426.10/33K
R13		33,000 Ohms	1	10	48.427.10/33K
R14		2,200 Ohms	½	10	48.426.10/2K2
R15		1.0M Ohms	½	10	48.426.10/1M
R16		33,000 Ohms	1	10	48.427.10/33K
R17		4,700 Ohms	1	10	48.427.10/4K7
R18		1.2M Ohms	½	10	48.426.10/1M2
R19		47,000 Ohms	½	10	48.426.10/47K
R20		27,000 Ohms	½	10	48.426.10/27K
R21		10,000 Ohms	½	10	48.426.10/10K
R22	Potentiometer	2.0M Ohms	Log Law		MK.811.41
R23		10.0M Ohms	½	10	48.426.10/10M
R24		0.22M Ohms	½	10	48.426.10/220K
R25		0.47M Ohms	½	10	48.426.10/470K
R26		1,000 Ohms	½	10	48.426.10/1K

			Wattage	Permitted Tolerance %	
R27 }	In parallel	560 Ohms ...	1	10	48.427.10/560E
R27a }		560 Ohms ...	1	10	48.427.10/560E
R28		68 Ohms ...	½	10	48.426.10/68E
R29 }		146 Ohms ...	4	5	}
R31 }	Wirewound	119 Ohms ...	3	5	} MK.791.68
R32 }		235 Ohms ...	3	5	}
R33	Varite	Cold 10,000 Ohms. Hot 250 Ohms.			49.379.67
R34	Wirewound	30 Ohms ...	3	10	48.468.10/30E
R35		1.0M Ohms ...	½	20	48.426.10/1M
R36		0.1M Ohms ...	½	20	48.426.10/100K
R37		0.22M Ohms ...	½	20	48.426.10/220K
R38		3,300 Ohms ...	½	20	48.426.10/3K3
R39		27,000 Ohms ...	½	10	48.426.10/27K
R40		27,000 Ohms ...	1	10	48.427.10/27K
R41		10.0M Ohms ...	½	10	48.426.10/10M
R42		47,000 Ohms ...	½	10	48.426.10/47K