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For Trade Use Only

"HIS MASTER'S VOICE"

SERVICE MANUAL

for

FIVE-VALVE A.C. MAINS-OPERATED MEDIUM-WAVE CHASSIS TYPE 65

■

THE GRAMOPHONE COMPANY LIMITED
(Inc. in England)
HOMEBUSH - - N.S.W.

■

PART No. 683-0511

TECHNICAL SPECIFICATION

POWER SUPPLY:

225 to 250 volts, 40 to 50 c.p.s.
(Receiver only).

CONSUMPTION:

33 watts.

FREQUENCY RANGE:

540 Kc/s to 1600 Kc/s.

I.F. FREQUENCY:

457.5 Kc/s.

OUTPUT IMPEDANCE:

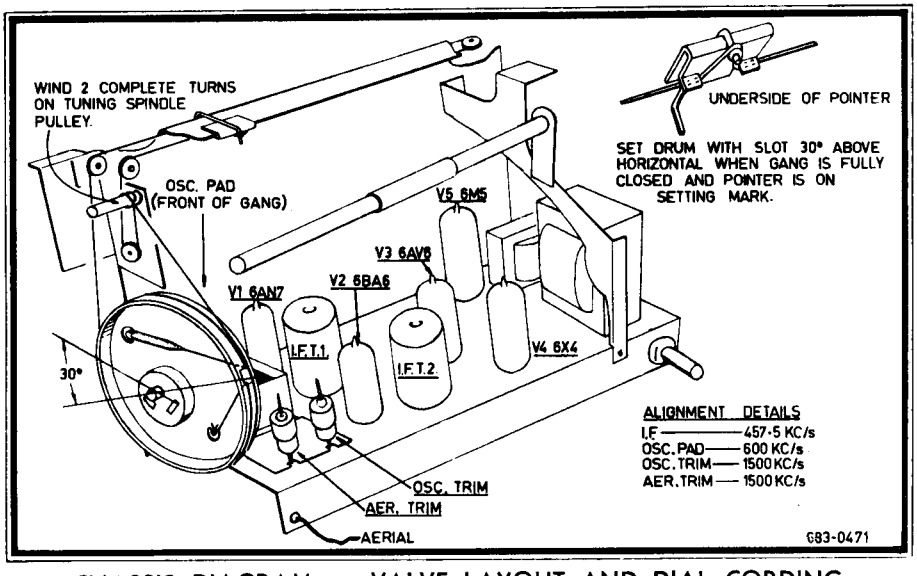
3.7 ohms at 400 c.p.s.

VALVE COMPLEMENT:

6AN7 ..... Frequency Changer.
6BA6 ..... I.F. Amplifier.
6AV6 ..... A.V.C.-Demod.-Audio Amp.
6M5 ..... Power.
6X4 ..... Rectifier.

DIAL LAMPS:

6.3 volt, 0.25 amp.



CHASSIS DIAGRAM — VALVE LAYOUT AND DIAL CORDING

RECEIVER ALIGNMENT PROCEDURE

In any case where a component replacement has been made in either the tuned I.F. or R.F. circuits of a receiver, all circuits must be realigned. I.F. alignment should always precede R.F. alignment, and even if only one coil has been serviced, the whole of the realignment should be done in the order given. An output meter should be connected across the voice terminal of the speaker to indicate that the circuits are tuned to resonance. In carrying out the following operations, it is important that the input to the receiver from the signal generator should be kept low and progressively reduced as the circuits are brought into line, so that the output meter reading does not exceed about 1 volt.

I.F. ALIGNMENT

(1) Rotate the volume control fully clockwise and fully enmesh the tuning capacitor vanes. Connect the output leads of a signal generator to the signal grid of the 6AN7 frequency changer valve through a 0.1 mf. capacitor.

(2) Tune signal generator to exactly 457.5 Kc/s.

(3) Adjust the I.F. transformer tuning cores for maximum reading on the output meter, commencing with the second I.F. transformer and following with the first.

(4) Continue this alignment on each transformer in turn until no greater output can be obtained. It is necessary to repeat this procedure twice to ensure correct alignment.

NOTE: If tuning cores are screwed too far in, it may be possible to obtain a false peak, due to coupling effects between the iron cores. Start alignment of each individual transformer by first screwing its core well out, and then advancing core into the coil until resonance is obtained.

R.F. ALIGNMENT

(1) With controls set as for I.F. alignment, connect signal generator output leads in series with a 200 mmF. capacitor to the aerial and earth terminals of the receiver.

(2) Check that, when the gang capacitor is fully enmeshed, the pointer coincides with the setting line on the extreme right of the dial scale. If necessary, the pointer may be adjusted at the point where the drive cord is attached to the pointer carrier.

(3) Tune signal generator to 600 Kc/s.

(4) Rotate tuning knob until the pointer is exactly over the 600 Kc/s calibration mark (above 4AT), and adjust the padder screw for maximum response.

(5) Tune signal generator to 1500 Kc/s.

(6) Rotate tuning knob until the pointer coincides with the 1500 Kc/s calibration mark (above 3AK), and adjust the oscillator trimmer and aerial trimmer in turn for maximum response.

(7) Repeat operations (3) to (6) inclusive for proper alignment.

During the course of production of this receiver, the Company reserves the right, without notice, to make any modifications or improvements in design which may be necessary to meet prevailing conditions.

Information concerning changes, which is likely to be of benefit to retailers and servicemen, will be notified as far as possible by issuing a Technical Data Sheet.

PARTS LIST

RESISTORS

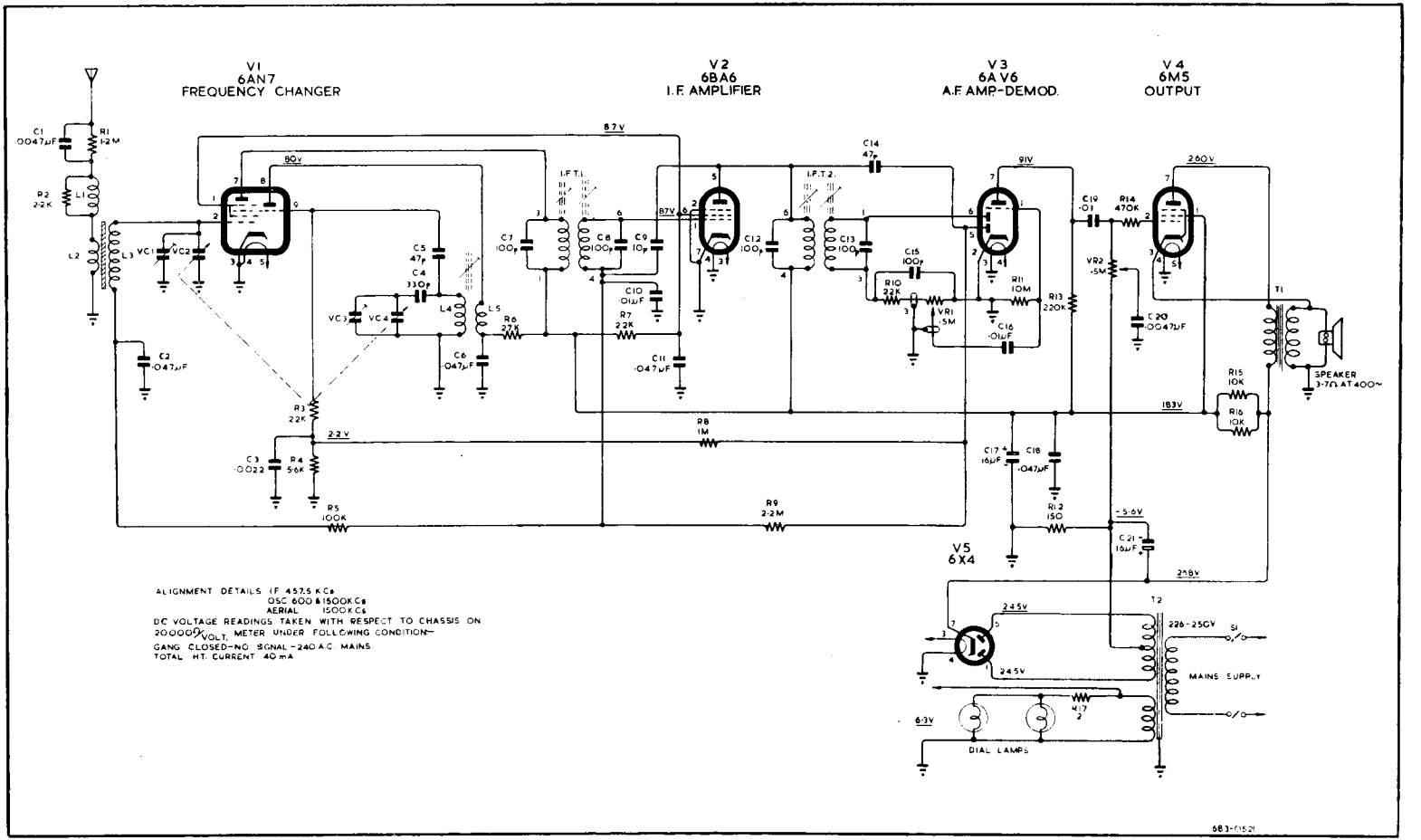
Ref.	Part No.	Description	Ref.	Part No.	Description
R1	742-0982	1.2M ohms ± 10% 1 watt	R10	742-0102	22,000 ohms ± 10% ½ watt
R2	742-0511	2,200 ohms ± 10% 1 watt	R11	742-0232	10M ohms ± 10% ½ watt
R3	742-0102	22,000 ohms ± 10% ½ watt	R12	740-0273	150 ohms ± 10% ½ watt
R4	840-1142	5,600 ohms ± 10% ½ watt	R13	742-0452	220,000 ohms ± 20% 1 watt
R5	740-0142	100,000 ohms ± 10% ½ watt	R14	740-0622	470,000 ohms ± 20% ½ watt
R6	742-0062	27,000 ohms ± 10% 1 watt	R15	749-0292	10,000 ohms ± 10% 2 watt
R7	840-0052	22,000 ohms ± 10% 1 watt	R16	749-0292	10,000 ohms ± 10% 2 watt
R8	740-0532	1.0M ohm ± 20% ½ watt	R17	748-0162	2 ohms ± 10% 1 watt
R9	740-0202	2.2M ohms ± 10% ½ watt			

CAPACITORS

Ref.	Part No.	Description	Ref.	Part No.	Description
C1	271-0391	0.0047 mF Ceramic	C12	275-0041	100 pF ± 5%
C2	279-1081	0.047 mF ± 20% 200V.	C13	275-0041	100 pF ± 5%
C3	279-1541	0.0022 mF ± 20% 400V.	C14	273-0541	47 pF ± 10%
C4	273-1071	330 pF ± 5 pF	C15	273-0051	100 pF ± 10%
C5	273-0541	47 pF ± 10%	C16	280-1371	0.01 mF ± 20% 400V.
C6	279-1701	0.047 mF ± 20% 400V.	C17	269-0061	16 mF 300V. W.
C7	275-0041	100 pF ± 5%	C18	279-1701	0.047 mF ± 20% 400V.
C8	275-0041	100 pF ± 5%	C19	280-1371	0.01 mF ± 20% 400V.
C9	273-0011	10 pF ± 10%	C20	279-2081	0.0047 mF ± 20% 600V.
C10	279-4621	0.01 mF ± 10% 400V.	C21	269-0061	16 mF 300V. W.
C11	279-1701	0.047 mF ± 10% 400V.			

MISCELLANEOUS

Ref.	Part No.	Description	Ref.	Part No.	Description
L1	259-0712	Coil, aerial loading	SI	855-0421	Switch, 2-pole
L2-L3	253-0211	Coil, aerial rod		381-0141	Drum Dial
L4-L5	257-0211	Coil, oscillator		279-0011	Cord Drive
IFT.1	906-0063	Transformer, I.F.		837-0451	Spindle Assembly
IFT.2	906-0063	Transformer, I.F.		840-0251	Spring—Drum
T1	905-0381	Transformer, Output		794-1181	Scale—Dial
T2	904-0321	Transformer, Power		932-1171	Lamp, 6.3V. 0.25A, B.C.
VC1	281-0031	Capacitor, Trimmer		671-0541	Pointer Assembly
VC3	281-0031	Capacitor, Trimmer		932-0151	Valve 6AN7
VC2-VC4	281-0221	Capacitor, 2-gang, Variable		932-0331	Valve 6BA6
VR1	677-0024	Potentiometer, 0.5M		932-0321	Valve 6AV6
VR2	677-0024	Potentiometer, 0.5M		932-0291	Valve 6M5
				932-0301	Valve 6X4
				831-0911	Speaker



CIRCUIT DIAGRAM — CHASSIS TYPE 65