

Murphy

MURPHY SERVICE INFORMATION

MURPHY NEW METROPOLITAN MODEL MA75 SERVICE INFORMATION

REFERENCE LIST FOR CIRCUIT DIAGRAM

Abbreviations: -

cer	-	ceramic	m.c.t.	-	metal case tubular
p.s.m.	-	protected silver mica	elect.	-	electrolytic
tub.	-	paper tubular	v.d.c.	-	d.c. voltage rating
m.tub.	-	metallised paper tubular	W.	-	wattage rating
pl.f.	-	plastic film	lin.	-	linear law
p.l.f.	-	protective lacquer film	log.	-	logarithmic law

Part No.	Circuit No	Description and Remarks
27237	R1	Resistor 68K 20% 1/2 watt
27269	R2	" 100K 20% 1/2 "
27461	R3	" 1M 20% 1/2 "
26885	R4	" 1K 20% 1/2 "
27109	R5	" 15K 20% 1/2 "
RW2581	R6	" 1K 10% 1/2 " (L9 wound over).
27333	R7	" 220K 20% 1/2 "
25535	R8	" 33K 10% 1.5 "
27461	R9	" 1M 20% 1/2 "
25573	R10	" 47K 10% 1/2 "
25439	R11	" 18K 10% 1.5 "
25613	R12	" 56K 10% 1/2 "
26181	R13	" 1.8M 10% 1/2 "
27397	R14	" 470K 20% 1/2 "
27269	R15	" 100K 20% 1/2 "
27365	R16	" 330K 20% 1/2 "
25797	R17	" 180K 10% 1/2 "
27109	R18	" 15K 20% 1/2 "
24677	R19	" 220 10% 1/2 "
27269	R20	" 100K 20% 1/2 "
25797	R21	" 180K 10% 1/2 "
27653	R22	" 10M 20% 1/2 "
26949	R23	" 2.2K 20% 1/2 "
27397	R24	" 470K 20% 1/2 "
27205	R25	" 47K 20% 1/2 "
24653	R26	" 180 10% 1/2 "
79602	R27	" 1350 5% 1/2 "
26981	R28	" 3.3K 20% 1/2 "

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Part No.	Circuit No.	Description and Remarks
66169	C1	Capacitor 100 pfd. 20% cer. 750 v.d.c.
56328	C2	" trimmer 3-30 pf.
56328	C3	" " 3-30 pf.
56328	C4	" " 3-30 pf.
56328	C5	" " 3-30 pf.
66162	C6	" 27 pfd. 20% cer. 750 v.d.c.
67502	C7	" 56 pfd. 10% cer. 750 "
66161	C8	" 22 pfd. 20% cer. 750 "
49453	C9	" .01 mfd. ± 25% 400 w.v.m.tub.
66177	C10	" 470 pfd. 20% cer. 750 v.d.c.
75236	C11	" 300 pfd. 2% p.f.
78568	C12	" .05 mfd. ± 20% 250 w.v. p. l.f.
66169	C13	" 100 pfd. ± 20% cer. 750 v.d.c.
49453	C14	" .01 mfd. ± 25% 400 w.v. m.tub.
66300	C15	" 470 pf. ± 5% p.l.f. 350 v.d.c.
66153	C16	" 4.7 pfd. ± 20% cer. 750 v.d.c.
56325	C17	" trimmer 2.5-15 pf.
66300	C18	" 470 pfd. 5% pl.film non induct.
49453	C19	" .01 mf. ± 25% 400 w.v. m.tub.
66292	C20	" 220 pf. ± 5% p.f. 350 v.d.c.
78568	C21	" .05 mfd. ± 20% 250 w.v. p.l.f.
66292	C22	" 220 pf. ± 5% p.f. 350 v.d.c.
67503	C23	" 68 pfd. ± 10% cer. 750 v.d.c.
56328	C24	" trimmer 3-30 pfd.
56328	C25	" " 3-30 pfd.
56328	C26	" " 3-30 pfd.
56328	C27	" " 3-30 pfd.
75240	C28	" 3900 pf ± 2% p.f. 350 v.d.c.
75239	C29	" 1470 pf ± 2% p.f. 350 v.d.c.
XP2437	C30	" 480 pf ± 2% p.f. 350 v.d.c.
69303	C31	" 5.6 pf ± 1% pf. cer. 750 v.d.c.
28404	C32	" 10 pf. ± 20% p.s.m. 350 v.d.c.
67502	C33	" 56 pf ± 10% cer. 750 v.d.c.
75237	C34	" 250 pf ± 2% p.f. 350 v.d.c.
49453	C35	" .01 mf ± 25% 400 w.v. m.tub.
66292	C36	" 220 pf ± 5% p.f. 350 v.d.c.
66169	C37	" 100 pf ± 20% cer. 750 v.d.c.
66298	C38	" 390 pf ± 5% p.f. 350 v.d.c.
57815	C39	" .01 mf ± 25% 150 v.d.c. m.tub.
54085	C40	" 680 pf ± 20% cer. 500 v.d.c.
54090	C41	" 1800 pf ± 20% cer. 500 v.d.c.
49454	C42	" .04 mf ± 25% 150 v.d.c. m.tub.
49454	C43	" .04 mf ± 25% 150 v.d.c. m.tub.
57815	C44	" .01 mf ± 25% 150 v.d.c. m.tub.
41404	C45	" .1 mfd. ± 20% tub. 350 v.d.c.
53077	C46	" .02 mf ± 25% m.c.tub. 500 v.d.c.
74915	C47	" 50 mfd + 100% - 20% 25 v.d.c.elect.

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Part No.	Circuit No.	Description and Remarks.
49454	C48	Capacitor .04 mf \pm 25% 150 v.d.c.m.tub.
41418	C49	" .005 mf \pm 25% 1000 v.d.c. tub.
56157	C50 } C51 }	" (50 mfd - 50 mf. \pm 100 20%) (350 v.d.c. elect.)
L1 } L2 }	RW 2554 pri. S.W.3 Ant. Coil sec. " " "	
L3 } L4 }	RW 2553 pri. S.W.2 " " sec. " " "	(2.8 ohms)
L5 } L6 }	RW 2552 pri. S.W. 1 Ant. coil sec. " " "	(7.5 ohms)
L7 } L8 }	RW 2551 pri. M.W. " " sec. " " "	(28 ohms) (2.8 ohms)
L9	RA 2581	I.F. Shunt Coil (3.6 ohms)
L10	RW 2580	Series peaking coil.
L11 } L12 }	RW 2551 pri. M.W. R.F. coil sec. " " "	(28 ohms) (2.8 ohms)
L13 } L14 }	RW 2558 pri. S.W.3 Osc. Coil sec. " " "	
L15 } L16 }	RW 2557 pri. S.W.2 " " sec. " " "	(2.1 ohms)
L17 } L18 }	RW 2556 pri. S.W.2 Osc. Coil sec. " " "	
L19 } L20 }	RW 2555 pri. M.W. " " sec. " " "	
T1	RA 2570	I.F.T. No.1 5.6 ohms/ 5.6 ohms
T2	RA 2571	" No.2 5.6 ohms/ 4.1 ohms
T3	RA 2563	(Output Trans. 930 ohms total " " 35 ohms at tap
T4	RA 2589	(Mains Trans. prim. 37 ohms H.T.sec. 199 ohms " " 211 ohms

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Part No.	Circuit No.	Description and Remarks
RP1828	VC1) VC2) VC3)	Capacitor, Variable 3 gang
16888	LP1 LP2	Panel lamp 6.8 volt .3 amp M.E.S. " " " " " "
RP1139	V1	6F19/EF85 valve
RP1146	V2	6C12/ECH81 "
RP1147	V3	6F18/EF89 "
RP1142	V4	EM81 "
RP1149	V5	6LD13/EBC81 "
RP1143	V6	6P15/EL84 "
RP1150	V7	EZ80 "
RP1148	V4	EM85 " (Alternative, Rewire)
RP2081	VR1	5M ohm Bass control
RP2051	VR2 VR3	{ 1M ohm treble " } Concentric { 1M " tapped volume } Control

Part No.	Description
RA2566	Assy. of Piano Key Switch completely wired
RP2534	Panel, Mounting Coils
RP2527	Feed through Insulator (anchor point)
RP2301	Brass anchor point pin
CP2546	Dial scale
EP3074	Pad (for scale)
RP1358	Channel for scale
RP1433	Grommet $\frac{3}{8}$ "
XP1313	Drive Wire, Steel, 7/.012" (22" per set)
XP1209	Cord Nylon dial (22" per set)
RP1679	Spring, dial cord
RP2149	Circlip (pulley pin)
RP1024	Pulley, plastic
XP2541	" $1\frac{1}{4}$ " diam.
RM2523	Pointer
58651	Washer, felt, (pointer tip).

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MA75 & SG814 RECEIVER ALIGNMENT

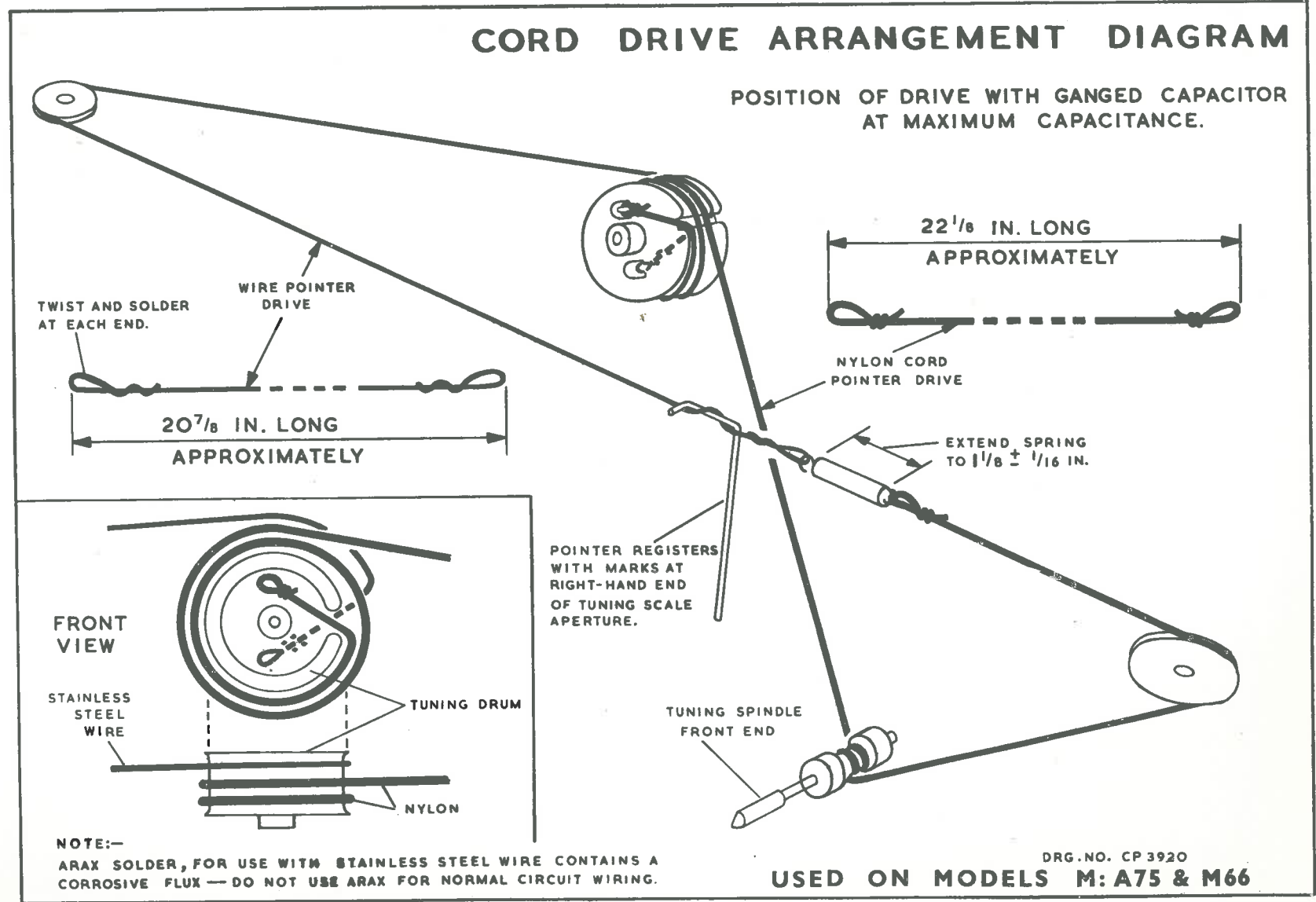
- (1) Receiver output: Make all adjustments for greatest output with the volume and treble and bass controls at the maximum positions. Adjust the signal generator attenuator so that this output does not exceed 500 m.w., or approx. 1.2 volts across the loudspeaker voice coil.
 - (2) Trimming Tool: A non-metallic tool must be used for adjusting the I.F.T., R.F., and Oscillator Coil cores.
 - (3) Tuning Pointer: This must be correct before aligning the R.F. circuits, and is adjusted only with the ganged capacitor at maximum capacitance. Pointer should lie directly behind end of dial scale. (Dot marker).
 - (4) Alignment: This should be made according to the alignment table given.
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CIRCUIT	NOTES	SIG.GEN. FREQ.	SIG.GEN. TERMINATION	CONNECT SIG. GEN. TO	RECEIVER SETTING	ADJUSTMENTS
2nd I.F.T.	Unscrew sec. core (top of can) before starting adjustments	455 kc/s	Via. .01 mfd capacitor	V3 grid 1 (pin 2)	Ganged capacitor fully meshed	T2 (pri) below chassis T2 (sec) top of can. Do not readjust prim. core.
1st I.F.T.	As above	455 kc/s	As above	V2 grid 1 (pin 2)	As above	T1 (pri) below chassis T1 (sec) top of can. Do not readjust prim. core.
Medium Wave		1364 kc/s	Dummy Aerial	Aerial & Earth Sockets	1364 kc/s	Osc. trimmer (rear M.W. piano key) Ant. trimmer, (front, M.W. piano key). R.F. trimmer, (right side of unit).
		600 kc/s	As above	Aerial & Earth Sockets	600 kc/s	Osc. coil, (rear, M.W. Key) R.F. " (right, switch unit) Ant. " (front, M.W. key).
S1		5.0m.c.	As above	As above	5.0 m.c.	Osc. Trimmer, (rear, S1 key) Ant. " (front, S1 key)
		2.5 m.c.	" "	" "	2.5 m.c.	Osc. Coil (rear, S1 key) Ant. " (front, S1 key)
S2		11.8 m.c.	" ""	" "	11.8 m.c.	Osc. trimmer, (rear, S2 key) Ant. " (front, S2 key)
		7.25 m.c.	" "	" "	7.25 m.c.	Osc. Coil (rear S2 Key) Ant. " (front S2 key)
S3		26.1 m.c.	" "	" "	26.1 m.c.	Osc. trimmer (rear, S3 key) Ant. " (front, S3 key)
		15.23 m.c.	" "	" "	15.23 m.c.	Osc. Coil (rear S3 key) Ant. " (front S3 Key)

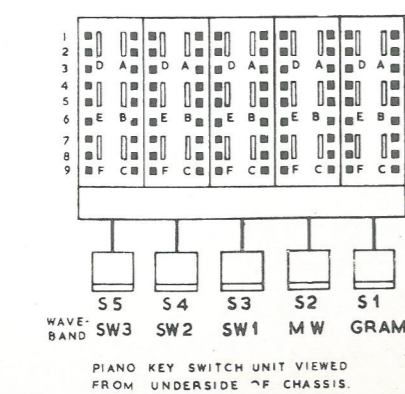
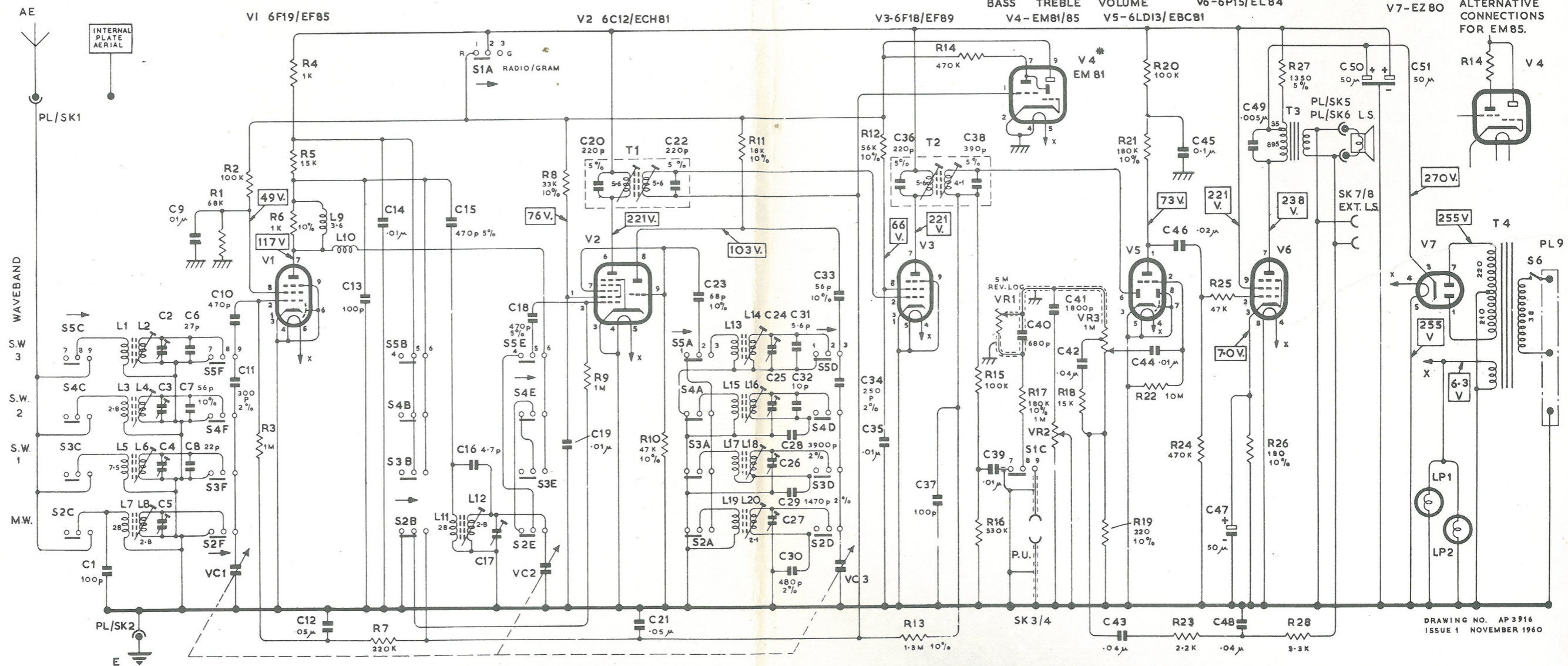
N.B. All Ant. Cores peak on outer core position. All osc. cores peak on inner core position.

CORD DRIVE ARRANGEMENT DIAGRAM

POSITION OF DRIVE WITH GANGED CAPACITOR AT MAXIMUM CAPACITANCE.



CAPACITORS 1	2	6	10											15	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	CAPACITORS
RESISTORS	1	2	3	4	5	6	7											11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	RESISTORS														
AE	S5C	L1-2	S5F	S5B	S1A	S5E	VC2	V2	T1	S5A	L13-14	S5D	VC3	V3	T2	V4	VR1	S1C	VR2	VR3	V5	V6	T3	PL/SK 5-6	V7	MISCELLANEOUS																								
PL/SK1	S4C	L3-4	S4F	S4B	L11	L12	VC1	V1	L9-L10	S3A	L15-16	S4D	VC3	V3	T2	VR1	S1C	VR2	VR3	V5	V6	T3	PL/SK 5-6	V7	MISCELLANEOUS																									
S2C	S3C	L5-6	S3F	S3B	L11	L12	VC1	V1	L9-L10	S3A	L15-16	S4D	VC3	V3	T2	VR1	S1C	VR2	VR3	V5	V6	T3	PL/SK 5-6	V7	MISCELLANEOUS																									
	S2C	L7-8	S2F	S2B	L11	L12	VC1	V1	L9-L10	S3A	L15-16	S4D	VC3	V3	T2	VR1	S1C	VR2	VR3	V5	V6	T3	PL/SK 5-6	V7	MISCELLANEOUS																									



NOTES: THE POWER SWITCH S6 IS SHOWN IN THE OFF POSITION. S6 IS GANGED WITH VR3.

THE PIANO KEY SWITCHES S1-S5 ARE SHOWN IN THE 'RELEASE' POSITION. ARROWS SHOW DIRECTION OF MOVEMENT OF SLIDERS WHEN KEYS ARE DEPRESSED.

CIRCUIT VOLTAGES SHOWN WITHIN RECTANGLES WERE MEASURED UNDER NO-SIGNAL CONDITIONS (RECEIVER SWITCHED TO MEDIUM WAVE) USING A 20,000 OHM/VOLT METER.

VALVE PIN NUMBERS ARE SHOWN ADJACENT TO ELECTRODES ON THE CIRCUIT DIAGRAM.

RESISTANCES ARE QUOTED IN OHMS. WHERE THE RESISTANCE OF A COIL OR TRANSFORMER IS LESS THAN ONE OHM, THE VALUE IS NOT SHOWN ON THE DIAGRAM.

WHEN CHANGING TUNING INDICATOR CARE MUST BE TAKEN TO ENSURE THAT VALVE BASE IS CORRECTLY WIRED

THE MANUFACTURERS RESERVE THE RIGHT TO ALTER THE CIRCUIT WITHOUT PRIOR NOTICE BEING GIVEN.

REFER TO PARTS LIST FOR PART NUMBERS AND COMPLETE DESCRIPTIONS OF ELECTRICAL COMPONENTS. ORDER ALL REPLACEMENTS BY PART NUMBER AND LIST DESCRIPTION.

CIRCUIT DIAGRAM FOR MURPHY MA75 ALL-WAVE MANTEL RECEIVER.

— NEW METROPOLITAN —

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