

murphy service information

Smith Lane Service

KEITH WALKER LTD.
 TRAFALGAR STREET
 Box 166, NELSON

MURPHY MODEL P76 SERVICE INFORMATION

REFERENCE LIST FOR CIRCUIT DIAGRAM

	K.W.	
	G.L.	
	F.H.	
	RADIO	✓
	STORE	
	Photo	

Abbreviations

- m. tub. - metallised paper tubular
- w. - wattage rating
- elect. - electrolytic
- v.d.c. - d.c. voltage rating

16/12/63

Part No.	Circuit No.	Value		Description
B.AP62651	C 2	0.01 uf	± 20%	150 v.d.c. m. tub.
B.A ⁷ 22251	C 3	0.02 uf	± 20%	150 v.d.c. m. tub.
B.AP65010	C 4	200 pf	± 2½%	125 v.d.c. polystyrene
B.AP65010	C 6	200 pf	± 2½%	125 v.d.c. "
XP10001	C 7	345 pf	± 2½%	125 v.d.c. "
B.AP64288	C 8	4 uf	± 100% 20%	15 v.d.c. elect.
B.AP65679	C 9	8 uf	± 100% 20%	12 v.d.c. "
B.AP65010	C10	200 pf	± 2½%	125 v.d.c. polystyrene
B.AP65078	C11	0.1 uf	± 50% 20%	3 v.d.c. ceramic
B.AP65010	C12	200 pf	± 2½%	125 v.d.c. polystyrene
B.AP65010	C13	200 pf	± 2½%	125 v.d.c. "
B.AP62651	C14	0.01 uf	± 20%	150 v.d.c. m. tub.
B.AP67222	C15	0.01 uf	± 50% 20%	12 v.d.c. ceramic
B.AP21245	C16	0.1 uf	± 20%	125 v.d.c. polyester
B.AP67222	C17	0.01 uf	± 50% 20%	12 v.d.c. ceramic
B.AP62651	C18	0.01 uf	± 20%	150 v.d.c. m. tub.
B.AP65679	C19	8 uf	± 100% 20%	12 v.d.c. elect.
B.AP61237	C20	0.04 uf	± 20%	150 v.d.c. m. tub.

Part No.	Circuit No.	Value		Description
B.AP67085	C21	100 uf	\pm $\frac{100\%}{20\%}$	6 v.d.c. elect.
B.AP66520	C22	100 uf	\pm "	10 v.d.c. "
B.AP65679	C23	8 uf	\pm "	12 v.d.c. "
B.AP67085	C24	100 uf	\pm "	6 v.d.c. "
B.AP66519	C25	100 uf	\pm "	10 v.d.c. "
B.AP64289	C26	50 uf	\pm "	6 v.d.c. "
B.AP64288	C27	4 uf	\pm "	15 v.d.c. "
B P 32788	R 1	47 ohms	\pm 10%	0.4 w.
B P 32992	R 2	33K ohms	\pm 10%	0.4 w.
B P 32944	R 3	6.8K ohms	\pm 10%	0.4 w.
B P 32896	R 4	1.5K ohms	\pm 10%	0.4 w.
BAP 25396	R 5	120K ohms	\pm 10%	0.5 w.
B P 32872	R 6	680 ohms	\pm 10%	0.4 w.
B P 32602	R 7	150K ohms	\pm 10%	0.1 w.
BAP 25234	R 9	680 ohms	\pm 10%	0.5 w.
B P 32908	R 8	2.2K ohms	\pm 10%	0.4 w.
BAP 25336	R10	18K ohms	\pm 10%	0.5 w.
BAP 25342	R11	22K ohms	\pm 10%	0.5 w.
BAP 25294	R12	4.7K ohms	\pm 10%	0.5 w.
BAP 25246	R13	1K ohms	\pm 10%	0.5 w.
B P 32866	R14	560 ohms	\pm 10%	0.4 w.
B P 33182	R15	2.2 ohms	\pm 0.5 ohms	0.4 w.
B P 32896	R16	1.5K ohms	\pm 10%	0.4 w.
BAP 66801	R17	15K ohms	\pm 10%	0.4 w.
B P 33022	R18	82K ohms	\pm 10%	0.4 w.
B P 32938	R19	5.6K ohms	\pm 10%	0.4 w.

Part No.	Circuit No.	Value	Description
B P 32818	R20	120 ohms \pm 10%	0.4 w.
B P 32884	R21	1K ohms \pm 10%	0.4 w.
B P 33010	R22	56K ohms \pm 10%	0.4 w.
B P 32518	R23	10K ohms \pm 10%	0.1 w.
BAP 25228	R24	560 ohms \pm 10%	0.5 w.
B P 32788	R25	4.7 ohms \pm 10%	0.4 w.
B P 32410	R26	330 ohms \pm 10%	0.1 w.
B P 32872	R27	680 ohms \pm 10%	0.4 w.
B P 6414	R28	1.5K ohms \pm 5%	0.4 w.
B P 6084	R29	75 ohms \pm 5%	0.4 w.
B P 32897	R30	1.5K ohms \pm 5%	0.4 w.
B P 32804	R31	75 ohms \pm 5%	0.4 w.
B P 33197	R32	4.7 ohms \pm 0.5 ohms	0.4 w.
B P 33197	R33	4.7 ohms \pm 0.5 ohms	0.4 w.
M 25574	R34	47K ohms \pm 10%	0.5 w.
BAP 61162	SK1	External aerial socket	
DW 4714	L1, L2 L3, L4	Ferrite rod aerial, with coils.	
BAP 66422	CV1 CV2	2 gang variable capacitor.	
BAP 65079	VT1	AF117 transistor	
"	VT2	" "	
"	VT3	" "	
BAP 67794	VT4	OC71 transistor	
BAP 64014	(VT5	OC81D transistor	} supplied as a matched set
	(VT6	OC81 "	
	(VT7	OC81 "	
CW 4709	L6, L7, L8	Oscillator coil	
CW 4710	I.F.T.1.	First I.F. transformer	
"	I.F.T.2.	Second I.F. transformer	
CW 4711	I.F.T.3	Third I.F. transformer	

Part No.	Circuit No.	Description
DW 4712	T.1.	Audio driver transformer
BAP 26422	MR1	A.G.C. overload diode OA79
BBP 65088	JK	Gram socket. (Miniature jack socket).
BCP 66434	S1, S2 S3, S4	4 bank push button switch.
BAS 67110		Knobs for push button switch
XA 3739	LS1	25 ohms speaker.
BAP 65044	MR2	Signal diode OA90
BBP 66420	RV1	5K ohms \pm 20% variable resistor (volume control) inverse log.
XP 4727		Miniature jack plug for gram socket.
XP 4728		Coaxial plug for external aerial.
BEP 66329		Cabinet front
BAP 66331		Plastic strip
BAP 67302		Moulded pad. 2 off.)
EP 4725		Surround for badge.
EP 4726		Badge, Murphy
DP 4717		Perspex dial scale.
BCP 66342		Grille for front of cabinet
EA 4707		Handle, covered
BDP 67308		Escutcheon to hold handle.
BAP 67341		Back holding screw.
BDP 67310		Cabinet trim
EA 4705		Cabinet rear
BAS 67099		Dial pulley and knob assembly.
BCP 66433		Volume control knob

} order as one unit

P76 ALIGNMENT INSTRUCTIONS

1. Equipment required:-
 - (a) A signal generator to cover 450 Kc/s to 1500 Kc/s, modulated 30% at 400 or 1000 c.p.s.
 - (b) An output wattmeter with a range of 0-200 mW to match 25 ohms impedance.
 - (c) A non metallic trimming tool suitable for adjusting the I.F.T. and oscillator coil cores.
 - (d) A 10 p.f. capacitor for injecting signals into the car aerial socket and a 6.8K resistor for desensitizing the receiver during R.F. alignment.

2. For R.F. alignment the chassis must be in the cabinet and for I.F. alignment, the chassis must be taken out.

3. The signal generator should be switched on at least 15 minutes before beginning alignment.

4. The internal loudspeaker should be disconnected and the output meter connected in its place. If an out-put meter is connected with the budspeaker still in circuit, care must be taken to ensure that the power output from the receiver does not rise to a level high enough to damage the power output transistors (70 mW).

5. Set the receiver volume control to maximum. During the alignment, the signal input should be adjusted to maintain the output at 50 mW (20mW if the loudspeaker is left in circuit) each time a trimming adjustment is made. The tone button should be set to maximum treble response.

I.F. Alignment

Note:

The outer peak is the correct one for all I.F.T. adjustments.

1. Set tuning indicator to 1 Mc/s.
2. Set the signal generator to 455 Kc/s, modulated 30%.
Connect the output of the signal generator via a 0.1 uf isolating capacitor to the junction of R1 and C2 and align I.F.T.3, I.F.T.2 and I.F.T.1 in that order for maximum audio output. Align each I.F.T. once only.
(There are 2 cores in I.F.T. 1 and 2)

R.F. Alignment

Note:

For R.F. alignment under conditions of interference, the receiver may be temporarily desensitized by connecting a 6.8K ohms resistor between the junction of R10 and C9 to chassis. Make sure that the tuning pointer lines up with the datum mark at the low frequency end of the scale when the tuning capacitor is fully meshed. Connect the signal generator to the car aerial via a 10 p.f. capacitor.

<u>Operation</u>	<u>Signal Gen. Freq.</u> (Modulated 30%)	<u>Tuning Pointer</u> <u>Setting</u>	<u>Adjust for Max.</u> <u>Output</u>
<u>Osc. Circ.</u>			
1	600 Kc/s	600 Kc/s	Osc. coil slug (L6,L7,L8)
2	1500 Kc/s	1500 Kc/s	Osc. trimmer CT2
<u>Aerial Circ.</u>			
1	600 Kc/s	600 Kc/s	L1/2/3*
2	1500 Kc/s	1500 Kc/s	CT2

* The ferrite rod is unlikely to require adjustment but, if necessary, the formers of coils L1/2 and L3 may be moved along the ferrite rod for maximum output at 600 Kc/s. The formers should be sealed to the rod with wax after adjustment.

D.C. Resistance of coils and transformers.

Oscillator coil (Less than 0.5 ohms.
 (Less than 0.5 ohms.
 (2.5 ohms.

First I.F. Transformer	(7.5 ohms (7.5 ohms
Second I.F. Transformer	(7.5 ohms (7.5 ohms
Third I.F. Transformer	(7.5 ohms (1 ohm
Driver Transformer	Primary 205 ohms Secondary 1 53 ohms Secondary 2 48 ohms

* * * * *

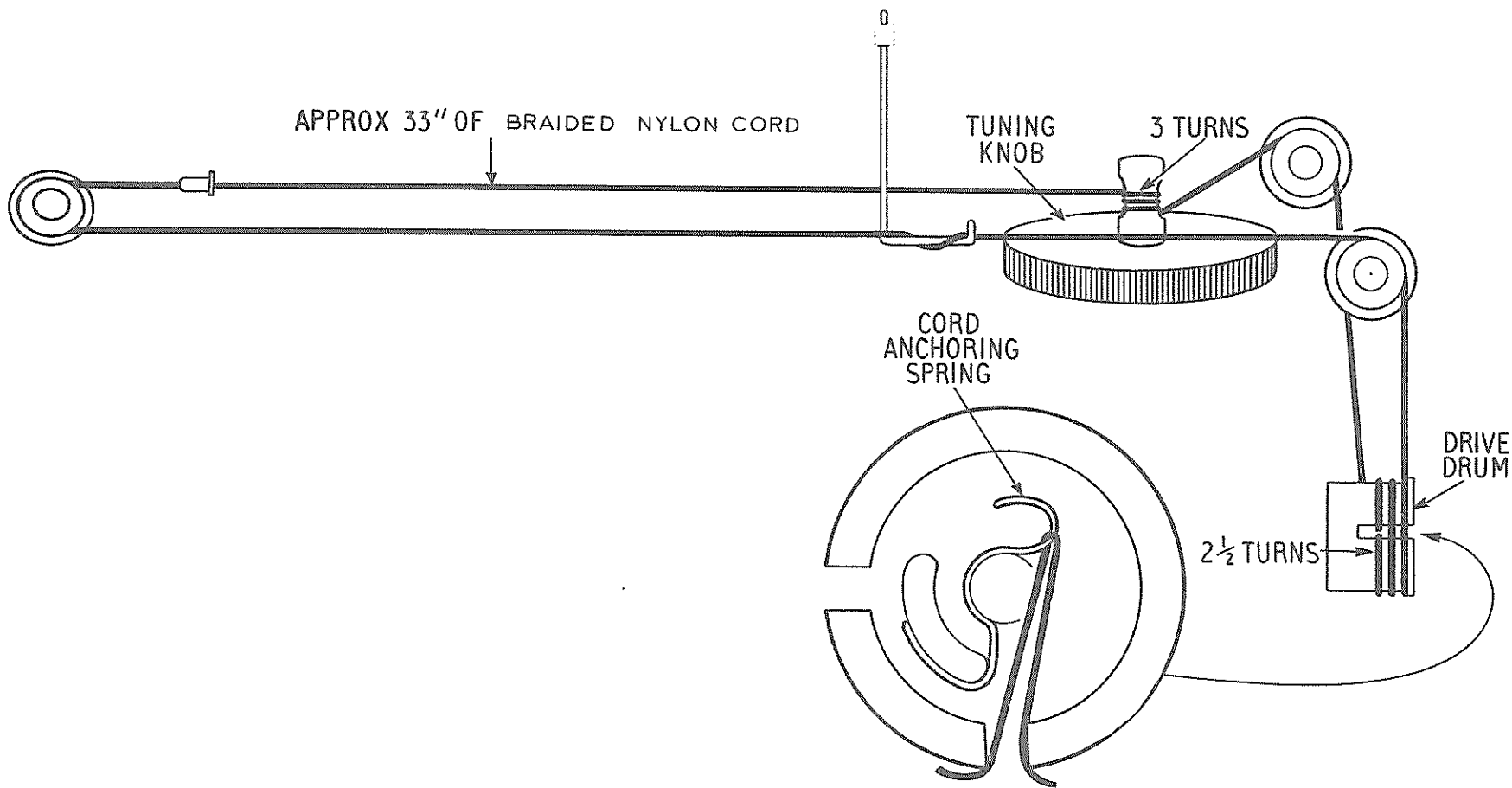


Fig. 1 Tuning cord assembly

2	NYLON WAS 'GLASS.' C/N 1301. 30-10-63. R..	DRAWN	R	CH'K'D	D-4	APPR'VD	- 864
			10.10.63		10/10/63		- 10.63
1		TITLE TUNING CORD ASSEMBLY. (SERVICE INFORMATION)- P76 -				DRG. NO. EP4731	
ISSUES		ALLIED INDUSTRIES LIMITED. N.Z.					

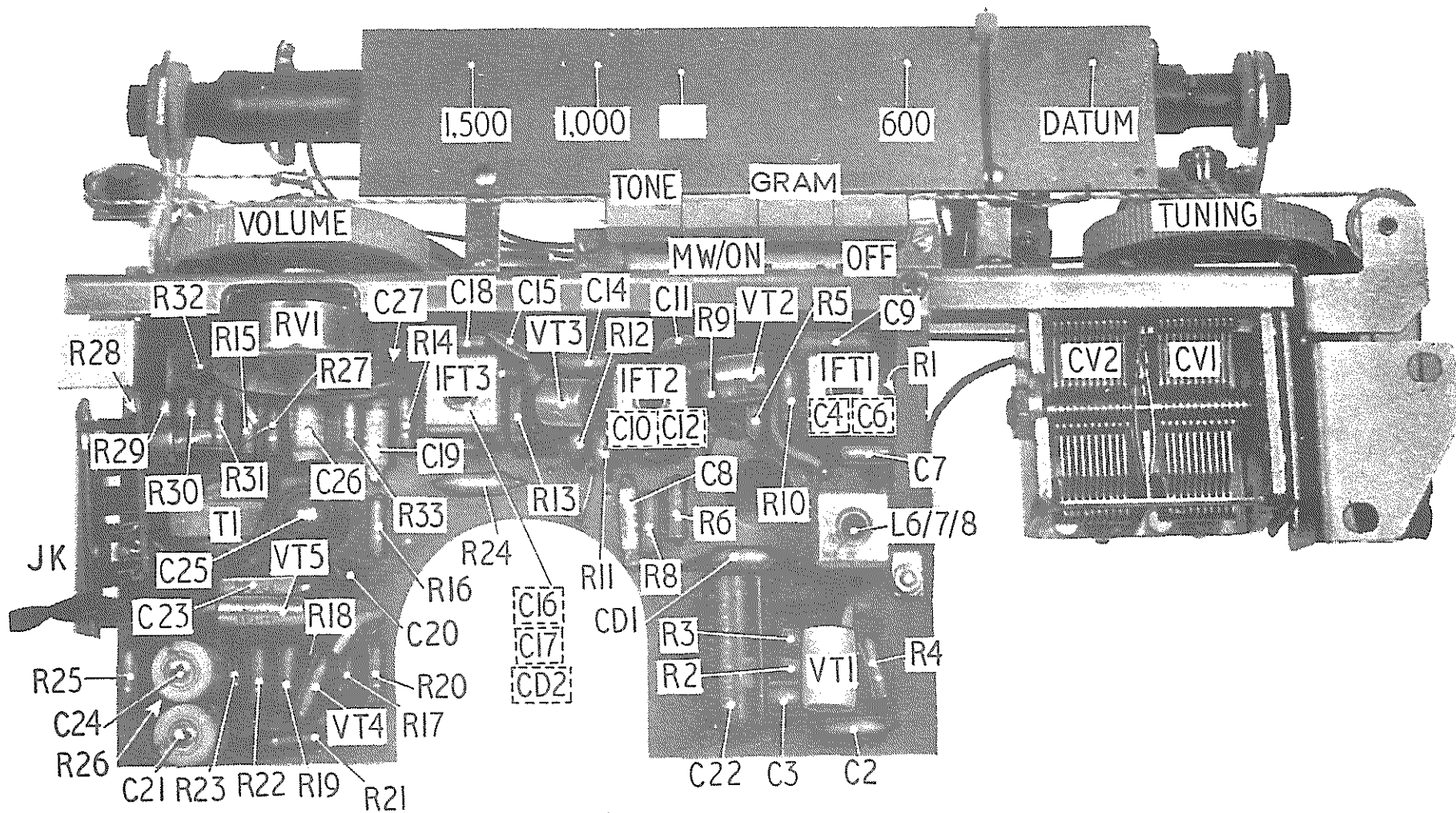
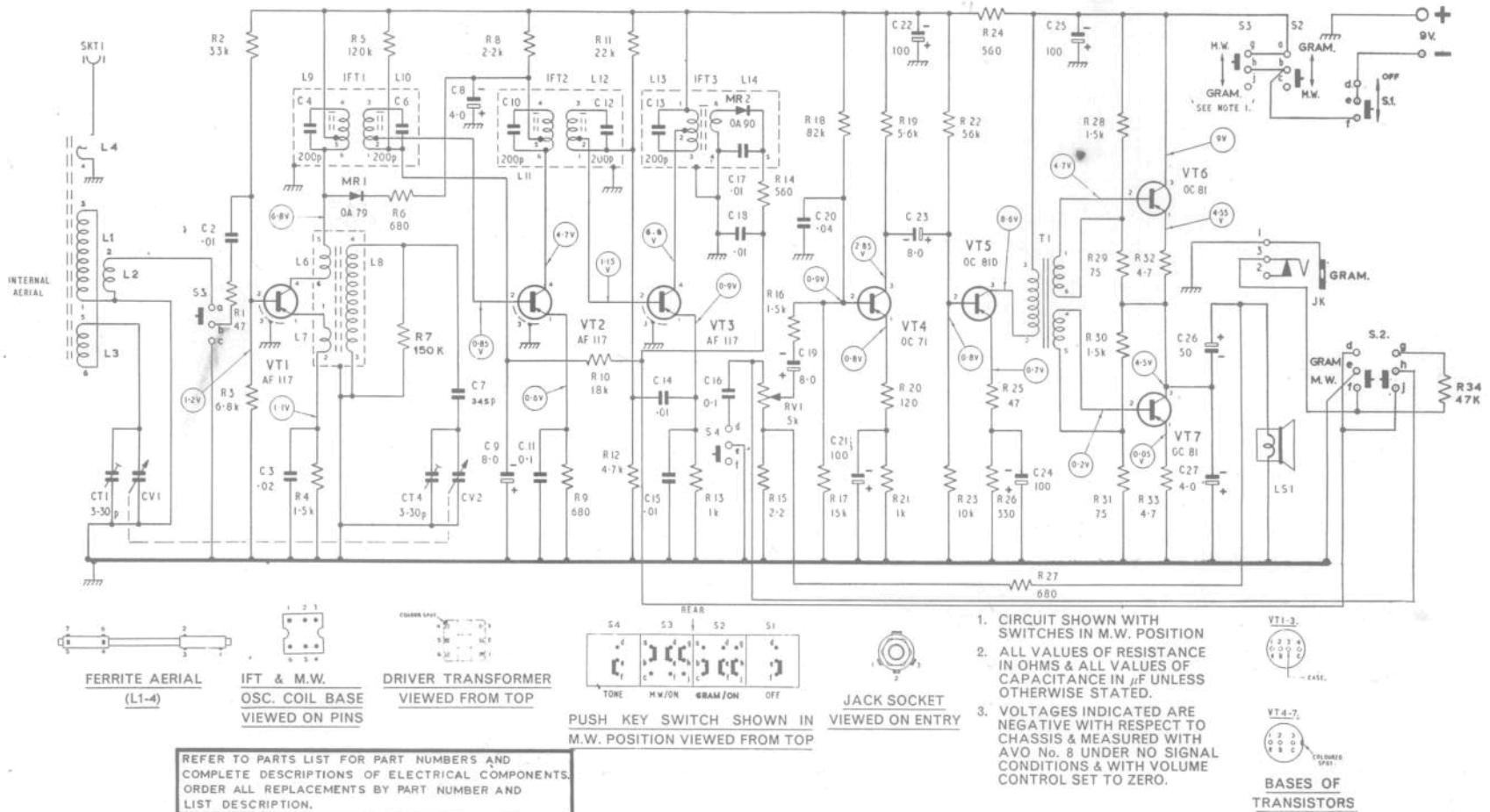


Fig. 2 Front of chassis

RESISTORS.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	34	R			
CAPACITORS		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	34	C			
MISCELLANEOUS	SKT1	L1 L3 L2 L4	CT1 CV1	53	VT1	L6 L7	IFT1 L8 MR1	CT4 CV2	VT2	IFT2	VT3	IFT3	MR2 RV1	54	VT4	VT5	T1	VT6 VT7	53	L51	52	JK	51	50													MISC.



CIRCUIT DIAGRAM FOR MURPHY P76 OLYMPIAN TRANSISTOR RECEIVER