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STATION, RADIO, A43R, MK 2 MANPACK/GROUND

TECHNICAL HANDBOOK - FAULT-FINDING AND REPAIR DATA

This Part 2 contains fault finding and repair data in tabular and diagrammatic form. Part 1 of this EMER contains a general description of the equipment. Tels F 533 and F 534 deal with repairs.

**NOTE:** These Pages 1001 to 1002, Issue 2, supersede Pages 1001 to 1002, Issue 1, dated 24 Sep 64. They have been amended.

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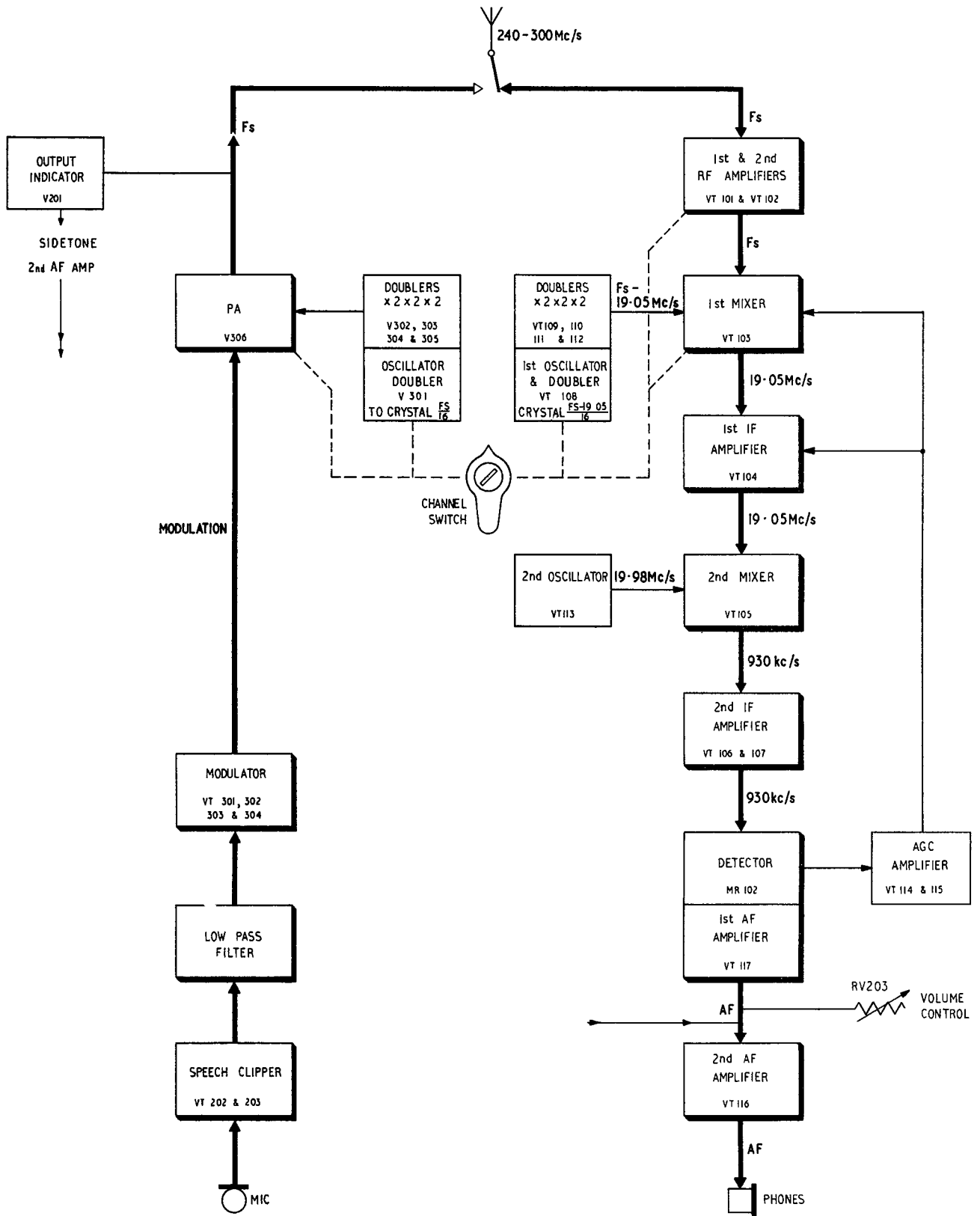
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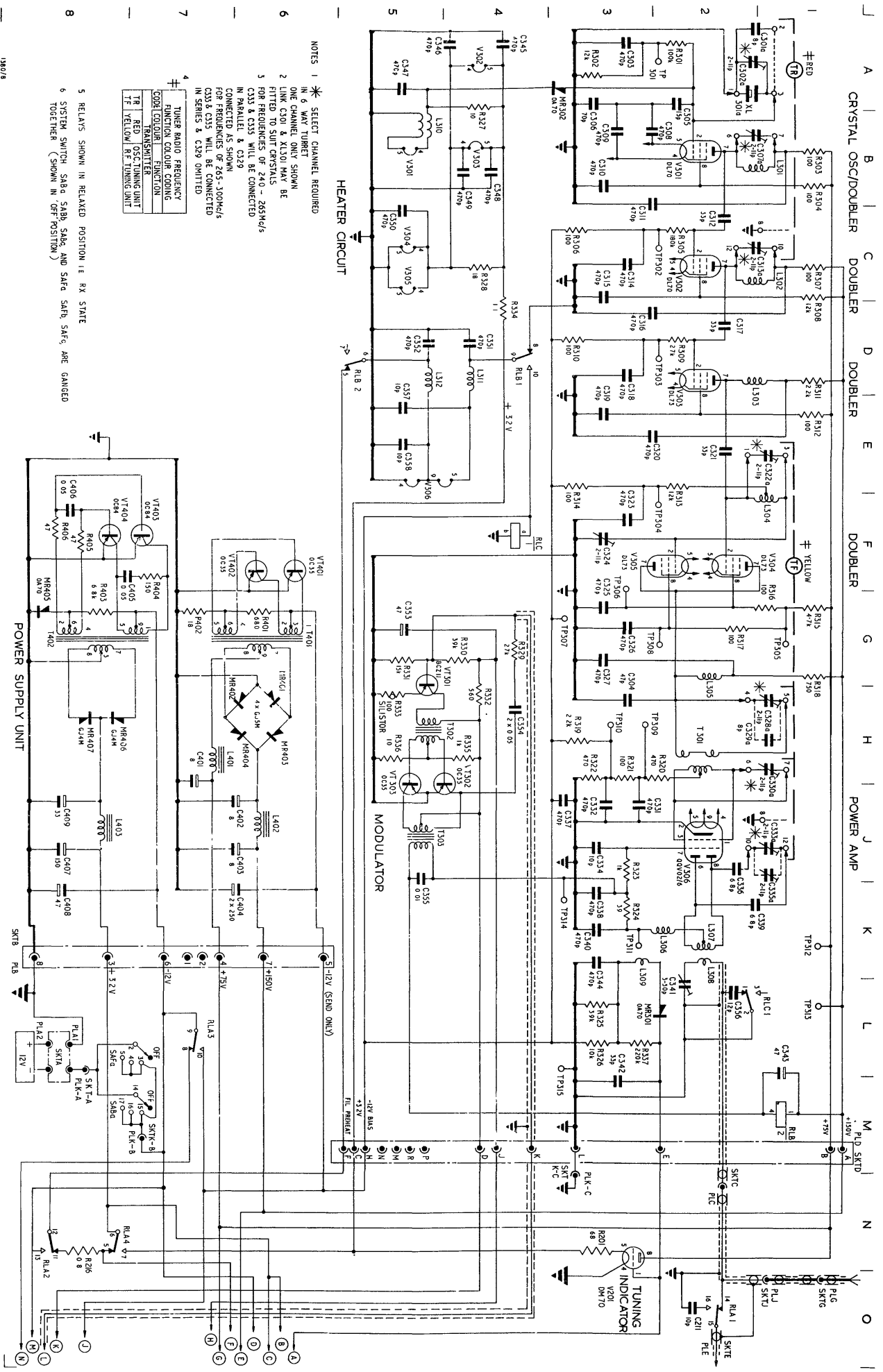
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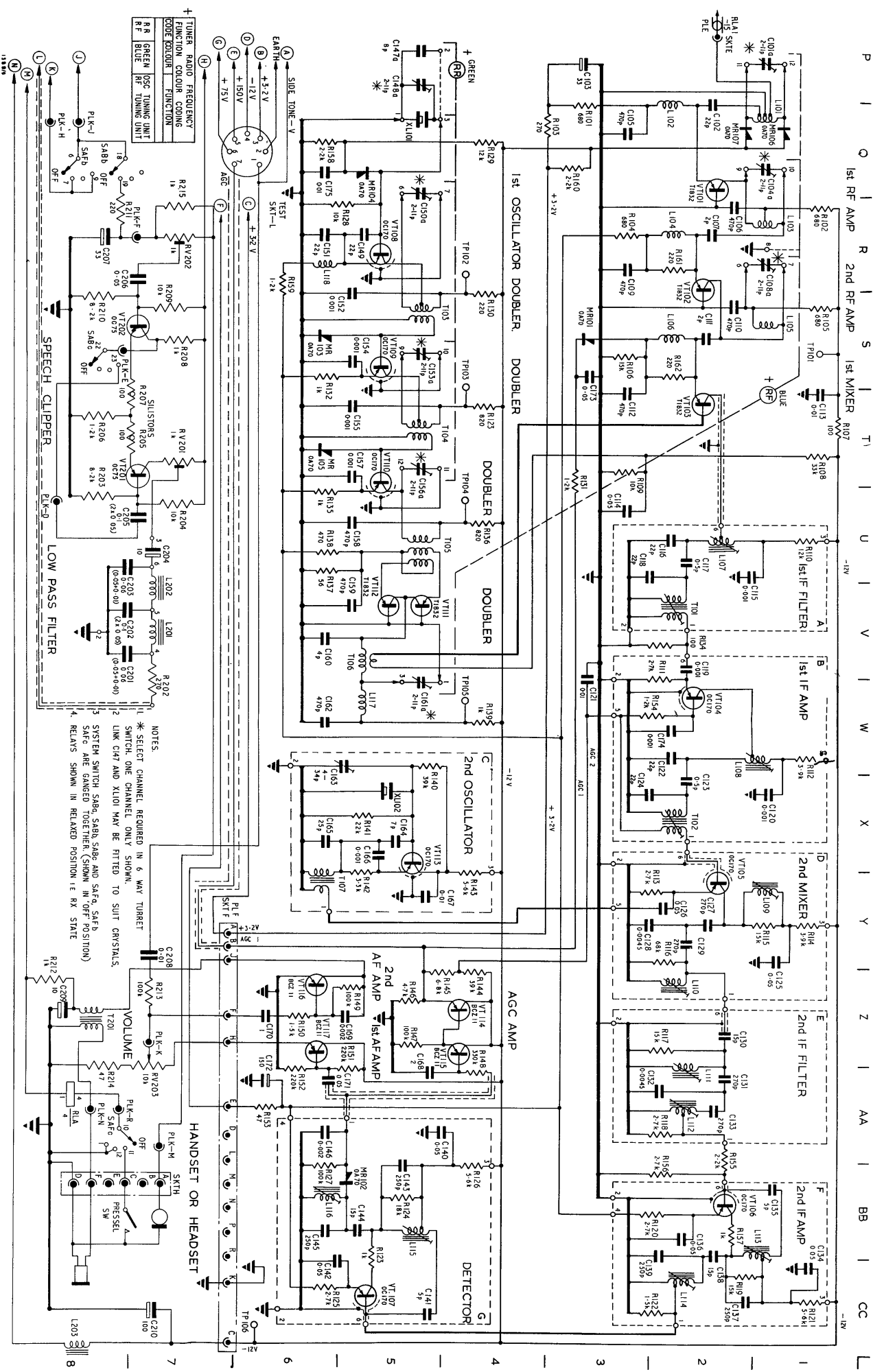
Fig 2501 - Block diagram



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- NOTES
- 1 \* SELECT CHANNEL REQUIRED
  - 2 ONE CHANNEL ONLY SHOWN
  - 3 LINK C301 & X1501 MAY BE FITTED TO SUIT CRYSTALS
  - 4 FOR FREQUENCIES OF 240 - 265MHz C333 & C335 WILL BE CONNECTED IN PARALLEL & C329 CONNECTED AS SHOWN
  - 5 FOR FREQUENCIES OF 265-300MHz/6 C333 & C335 WILL BE CONNECTED IN SERIES & C329 OMITTED
- |    |                                |
|----|--------------------------------|
| +  | TUNER RADIO FREQUENCY FUNCTION |
| +  | CODE COLOUR FUNCTION           |
| +  | TRANSMITTER FUNCTION           |
| TR | RED OSCILLATING UNIT           |
| TF | YELLOW T.F. TUNING UNIT        |
- 6 RELAYS SHOWN IN RELAXED POSITION I.E. RX STATE
  - 7 SYSTEM SWITCH S48A, S48B, S48C AND S48F, S48G, S48H, ARE GANGED TOGETHER (SHOWN IN OFF POSITION)

Fig 2502 - Transmitter and p.s.u. circuit diagram



TUNER RADIO FREQUENCY	FUNCTION	COLOR CODING
R R	GREEN	OSC TUNING UNIT
R R	GREEN	OSC TUNING UNIT
R R	GREEN	OSC TUNING UNIT
R R	GREEN	OSC TUNING UNIT
R R	GREEN	OSC TUNING UNIT
R R	GREEN	OSC TUNING UNIT
R R	GREEN	OSC TUNING UNIT
R R	GREEN	OSC TUNING UNIT
R R	GREEN	OSC TUNING UNIT
R R	GREEN	OSC TUNING UNIT

Fig 2503 - Receiver, circuit diagram

Additional copies of the figures for use as bench copies are available on supplementary demand

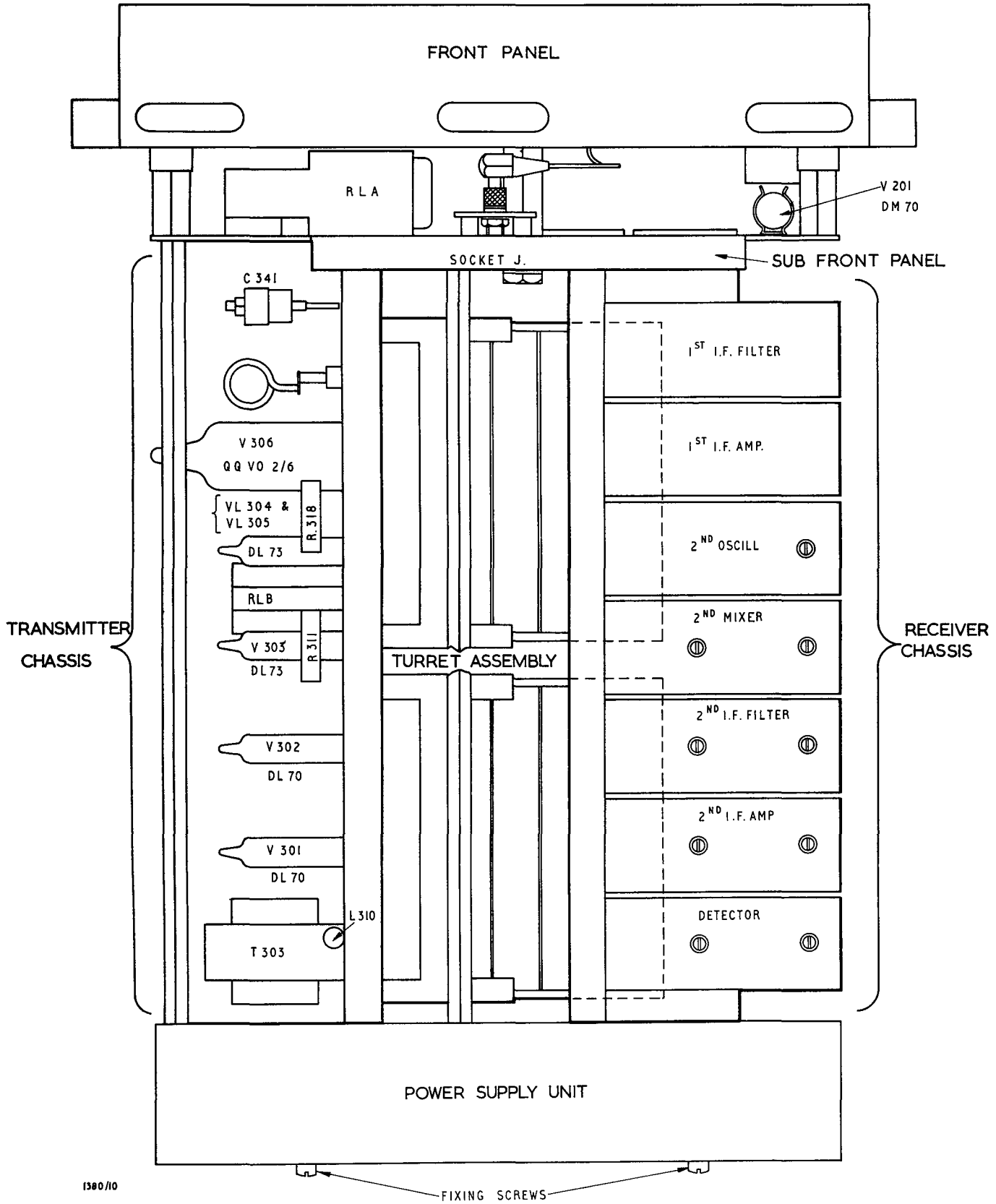


Fig 2504 - A43 Mk2 chassis, sideview

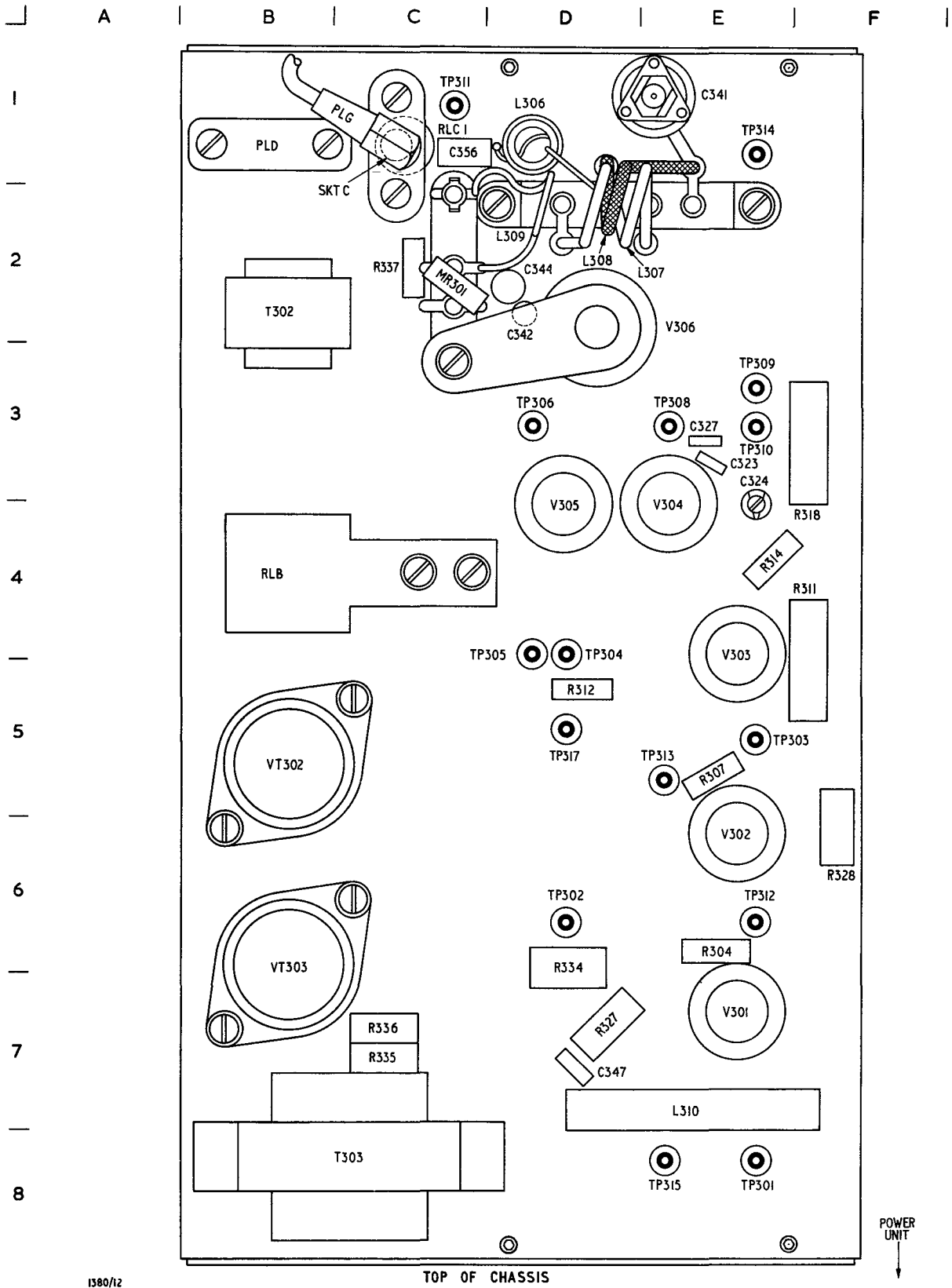


Fig 2505 - Transmitter layout, above chassis

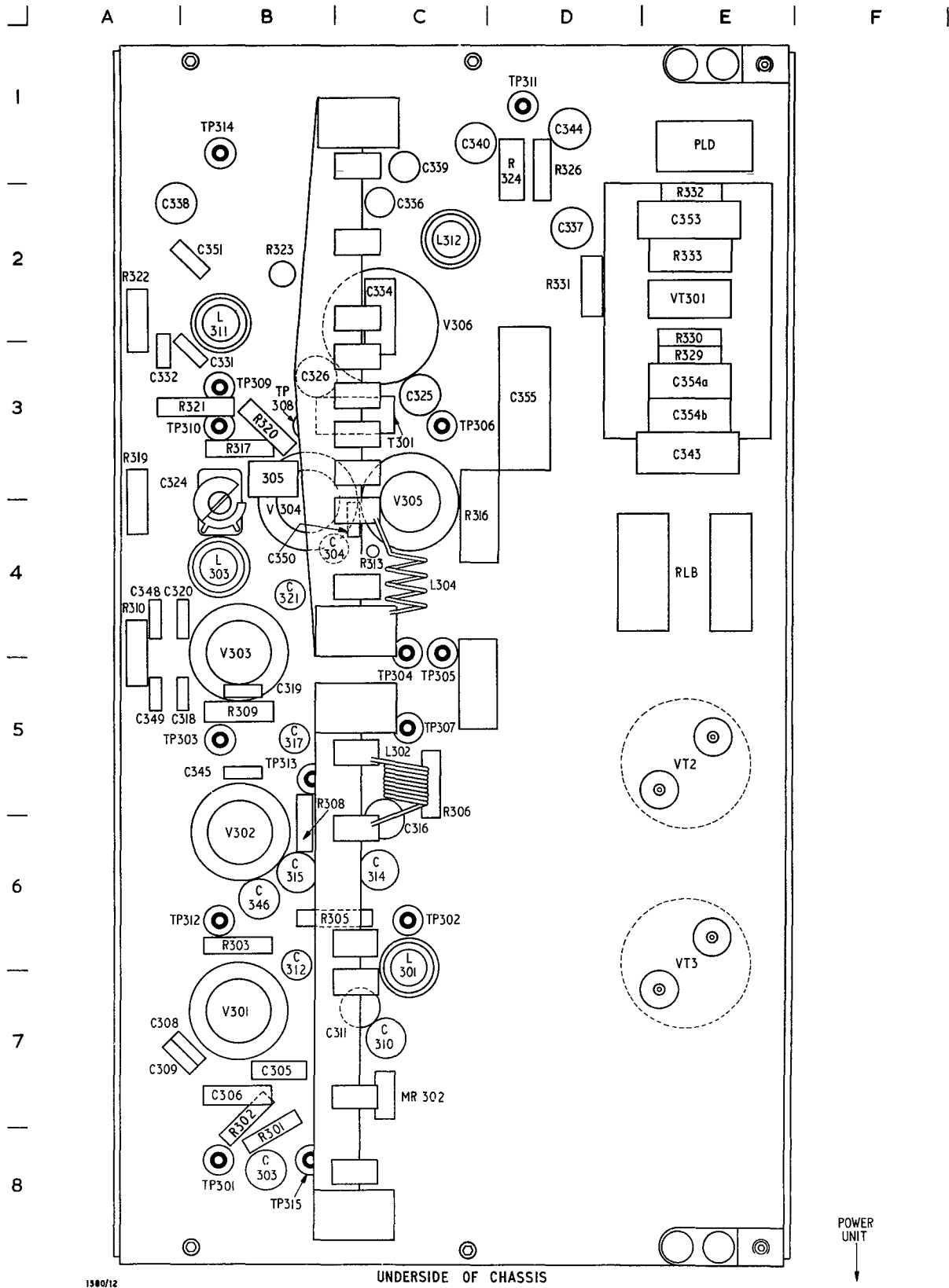


Fig 2506 - Transmitter layout, below chassis



Table 2501 - Transmitter unit, component schedule

Cct ref	Component location			Value ( $\Omega$ )	Rating (W)	Type and limit ( $\pm\%$ )	
	Main cct	Unit layout					
	Fig 2502	Fig 2505	Fig 2506				
RESISTORS							
R301	A2		B8	100k	1/8	comp	10
R302	A3		B8	12k	1/8	comp	10
R303	B1		B6	100	1/8	comp	10
R304	B1		E6	100	1/8	comp	10
R305	C2		B6	180k	1/8	comp	10
R306	C3		C5	100	1/8	comp	10
R307	C1		E5	100	1/8	comp	10
R308	C1		B6	12k	1/8	comp	10
R309	D2		B5	27k	1/8	comp	10
R310	D3		H4	100	1/8	comp	10
R311	D1	F4		2.2k	3	w.w.	5
R312	E1	D5		100	1/8	comp	10
R313	E2		C4	12k	1/8	comp	10
R314	E3	E4		100	1/8	comp	10
R315	G1		C5	4.7k	1/8	comp	10
R316	G1		C4	100	1/8	comp	10
R317	G2		B3	100	1/8	comp	10
R318	G1	F3		750	3	w.w.	5
R319	H3		A3	2.2 (22k)*	1/8	comp	10
R320	H3		B3	470 (1k)*			10
R321	H3		B3	100	1/8	comp	10
R322	H3		A2	470(4.7k)*	1/8	comp	10
R323	J3		B2	1k	1	comp	10
R324	K3		L1	39	1/4	comp	10
R325	L3	D2		39k	1/4	comp	10
R326	L3		D1	10k	1/8	comp	10
R327	A4	D7		10	1/4	comp	10
R328	C4	F6		(12) 18*	1/4	comp	10
R329	G4		E3	27k	1/8	comp	10
R330	G4		E2	39k	.062	comp	10
R331	G5		D2	15k	1/8	comp	10
R332	H4		E2	560	1/8	comp	10
R333	H5		E2	100		STC type 503k	20
R334	D4	D6		1.1 (0.8)*	3	fixed w.w. vit enam	10
R335	H4	C7		1k	1/4	comp	10
R336	H5	C7		10	1/4	comp	10
R337	L3	C2		220k	1/4	comp	10

\*Denotes - (as fitted on early models)

Table 2501 - (cont)

Cct ref	Component location			Value	Rating (V)	Type and limit (%)
	Main cct	Unit layout				
	Fig 2502	Fig 2505	Fig 2506			
CAPACITORS						
C301A	A1			8pF		in xtal osc. tuner
C302A	A2			2-11pF		in xtal osc. tuner
C303	A3		B8	470pF	500	cer disc +80 -20
C304	H3		C4	47pF	750	±10
C305	B2		B7	15pF	750	cer tub ins ±5
C306	A3		B7	70pF(470pF)*	350	+80 -20
C307A	B2			2-11pF		in xtal osc. tuner
C308	B2		A7	470pF	500	cer disc +80 -20
C309	B3		A7	470pF	500	cer disc +80 -20
C310	B3		C7	470pF	500	cer disc +80 -20
C311	C3		C7	470pF	500	cer dis +80 -20
C312	C2		B6	33pF	750	cer tu ±5
C313A	C2			2-11pF		in 1st doubler stage osc. tuner
C314	C3		C6	470pF	500	cer disc +80 -20
C315	C3		B6	470pF	500	cer disc +80 -20
C316	D3		C6	470pF	500	cer disc +80 -20
C317	D2		B5	33pF	750	cer tub ±5
C318	D3		B5	470pF	500	cer disc +80 -20
C319	D3		B5	470pF	500	cer disc +80 -20
C320	E2		B4	470pF	500	cer disc +80 -20
C321	E2		B4	33pF	750	cer tub ±5
C322A	E1			2-11pF		in r.f. tuner
C323	F3	E3		470pF	500	cer disc +80 -20
C324	F3		B3	2-11pF	8.5	var
C325	G3		C3	470pF	500	cer disc +80 -20
C326	G3		B3	470pF	500	cer disc +80 -20
C327	G3	E3		470pF	500	cer disc +80 -20
C328A	H1			2-11pF		in p.a. r.f. tuner
C329A	H2			8pF		in p.a. r.f. tuner
C330A	H1			2-11pF		in p.a. r.f. tuner
C331	J3		B3	470pF	500	cer disc +80 -20
C332	J3		A3	470pF	500	cer disc +80 -20
C333A	J1			2-11pF		in p.a. r.f. tuner
C334	J3		C2	10pF	750	cer tub ins ±10
C335A	J1			2-11pF		in p.a. r.f. tuner

\*Denotes - (as fitted on early models)

Note: These Pages 1011 and 1012, Issue 2, supersede Pages 1011 and 1012, Issue 1, dated 24 Sep 64.  
Fig 2507 has been revised.

Table 2501 - (cont)

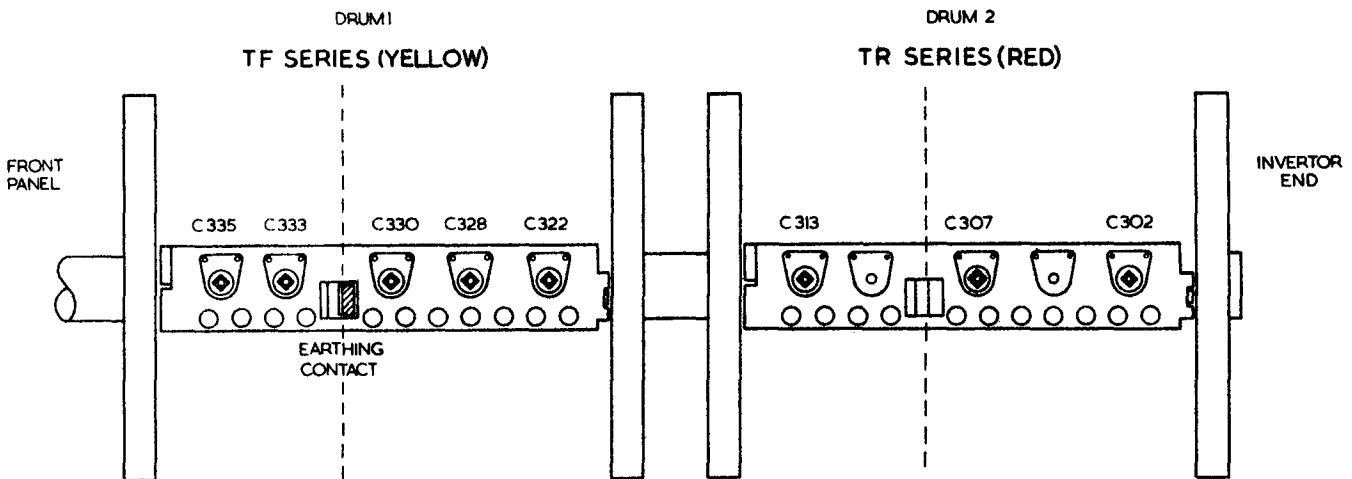
Cct ref	Component location			Value ( $\mu$ F)	Rating (V)	Type and limit (%)
	Main cct	Unit layout				
	Fig 2502	Fig 2505	Fig 2506			
CAPACITORS - (cont)						
C336	J2		C2	6.8pF	750	cer tub ins $\pm 5$
C337	J3		D2	470pF	500	cer disc +80 -20
C338	K3		A2	470pF	500	cer disc +80 -20
C339	K2		C1	6.8pF	750	cer tub ins $\pm 5$
C340	K3		C1	470pF	500	cer disc +80 -20
C341	L2	E1		3-30pF		var concen self-locking
C342	M3	D2		33pF	750	cer tub $\pm 5$
C343	L1		E3	47	15	tant tub met ins $\pm 20$
C344	K3		D2	470pF	500	cer disc +80 -20
C345	A4		B5	470pF	500	cer disc +80 -20
C346	A5		B5	470pF	500	cer disc +80 -20
C347	A5	D7		470pF	500	cer disc +80 -20
C348	B4		A4	470pF	500	cer disc +80 -20
C349	B4		A5	470pF	500	cer disc +80 -20
C350	C5		C4	470pF	500	cer disc +80 -20
C351	D4		B2	470pF	500	cer disc +80 -20
C352	D5			470pF	500	cer disc +80 -20
C353	G5		E2	47	15	tant tub met ins $\pm 20$
C354A)	H4		E3	2x0.05	150	p.m.t. plastic case $\pm 20$
C354B)						
C355	J5		D3	0.01	350	pap foil tub met ins $\pm 20$
C356		C1		12 (22pF)*	750	$\pm 5$
C357	E5		B2	10pF	750	cer tub ins $\pm 10$
C358	E5		C2	10pF	750	cer tub ins $\pm 10$

\*Denotes - (as fitted on early models)

Cct ref	Component location			Description
	Main cct	Unit layout		
	Fig 2502	Fig 2505	Fig 2506	
MISCELLANEOUS				
L301	B1		C6	Inductor, r.f.
L302	C1	C5		Inductor, r.f.
L303	D2		B4	Inductor, r.f.

Table 2501 - (cont)

Cct ref	Component location			Description
	Main cct	Unit layout		
	Fig 2502	Fig 2505	Fig 2506	
<b>MISCELLANEOUS - (cont)</b>				
L304	F1	C4		Inductor, r.f.
L305	G2		B3	Inductor, r.f.
L306	K2	D1		Inductor, r.f.
L307	K2	D2		Not listed in ISPL
L308	K2	D2		Not listed in ISPL
L309	K2	D2		Not listed in ISPL
L310	B5	E7		Inductor, r.f.
L311	D4		B2	Inductor, r.f.
L312	D5		C2	Inductor, r.f.
T301	H2		C3	Transformer, r.f.
T302	H5	B2		Transformer, a.f.
T303	J5	BC8		Transformer, a.f.
RLB	M1	A4		Relay, 90Ω coil
RLC	F4	C1		Relay, 425Ω coil
VT301	H5		E2	Sil transistor, CV7363
VT302	J5	B5		Ger transistor, CV7084
VT303	J5	B6		Ger transistor, CV7084
MR301	L2	C2		Semi-conductor device diode OA70
MR302	A3		B7	Semi-conductor device diode OA70



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Fig 2507 - Transmitter tuning unit, trimmer location

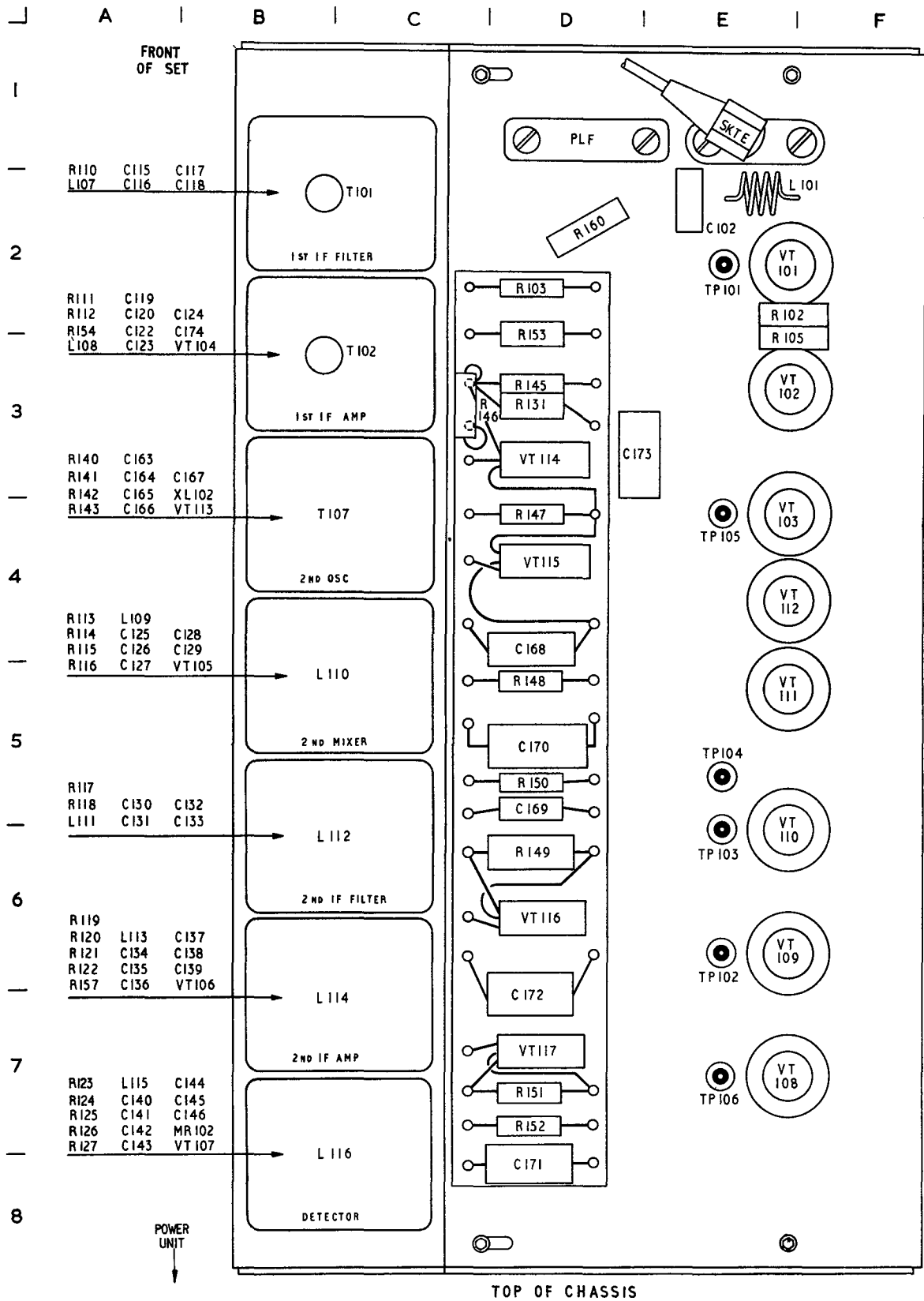


Fig 2508 - Receiver layout, above chassis

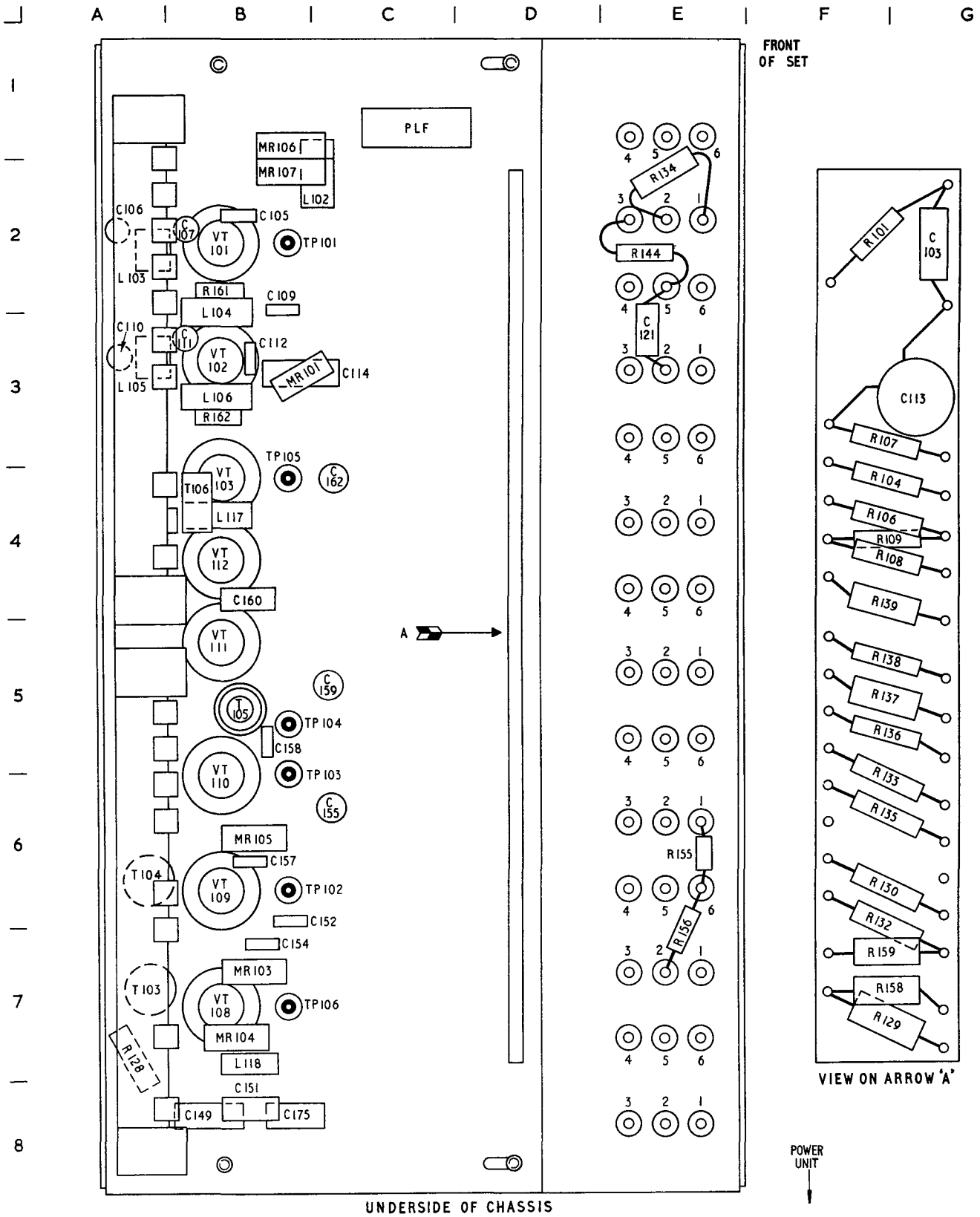


Fig 2509 - Receiver layout, below chassis

Table 2502 - Receiver unit, component schedule

Cct ref	Component location			Value ( $\Omega$ )	Rating (W)	Type and limit (%)	
	Main cct	Unit layout					
	Fig 2503	Fig 2508	Fig 2509				
RESISTORS							
R101	Q3		F2	680	1/8	comp	$\pm 10$
R102	R1	EF2		680	1/8	comp	$\pm 10$
R103	Q3	D2		270	1/8	comp	$\pm 10$
R104	R3		F4	680	1/8	comp	$\pm 10$
R105	S1	EF2		680	1/8	comp	$\pm 10$
R106	S3		F4	15k	1/8	comp	$\pm 10$
R107	T1		F3	100	1/8	comp	$\pm 10$
R108	T1		F4	33k	1/8	comp	$\pm 10$
R109	T3		F4	10k	1/8	comp	$\pm 10$
R110	U1	BC2		12k	1/8	comp	$\pm 10$
R111	V2	BC3		2.7k	1/8	comp	$\pm 10$
R112	W1	BC3		3.9k	1/8	comp	$\pm 10$
R113	Y2	BC4,5		2.7k	1/8	comp	$\pm 10$
R114	Y1	BC4,5		3.9k	1/8	comp	$\pm 10$
R115	Y1	BC4,5		15k	1/8	comp	$\pm 10$
R116	Y2	BC4,5		68k	1/8	comp	$\pm 10$
R117	Z2	BC5,6		15k	1/8	comp	$\pm 10$
R118	AA2	BC5,6		2.7k	1/8	comp	$\pm 10$
R119	CC2	BC6,7		15k	1/8	comp	$\pm 10$
R120	BB2	BC6,7		2.7k	1/8	comp	$\pm 10$
R121	CC1	BC6,7		5.6k	1/8	comp	$\pm 10$
R122	CC2	BC6,7		1.5k	1/8	comp	$\pm 10$
R123	CC5	BC7,8		1k	1/8	comp	$\pm 10$
R124	BB5	BC7,8		18k	1/8	comp	$\pm 10$
R125	CC6	BC7,8		2.7k	1/8	comp	$\pm 10$
R126	BB4	BC7,8		5.6k	1/8	comp	$\pm 10$
R127	BB6	BC7,8		100k	1/8	comp	$\pm 10$
R128	R5		A7	10k	1/8	comp	$\pm 10$
R129	Q4		F7	12k	1/8	comp	$\pm 10$
R130	S4		F6	220	1/8	comp	$\pm 10$
R131	T3	D3		1.2k	1/8	comp	$\pm 10$
R132	S6		F6	1k	1/8	comp	$\pm 10$
R133	T4		F5	820	1/8	comp	$\pm 10$
R134	V2		E2	100	1/8	comp	$\pm 10$
R135	U6		F6	1k	1/8	comp	$\pm 10$

Table 2502 - (cont)

Cct ref	Component location			Value ( $\Omega$ )	Rating (W)	Type and limit (%)
	Main cct	Unit layout				
	Fig 2503	Fig 2508	Fig 2509			
RESISTORS (cont)						
R136	U4		F5	820	1/8	comp $\pm 10$
R137	U6		F4	56	1/4	comp $\pm 10$
R138	U6		F5	470	1/8	comp $\pm 10$
R139	W4		F4	1k	1/8	comp $\pm 10$
R140	X5	BC3,4		39k	1/8	comp $\pm 10$
R141	X5	BC3,4		22k	1/8	comp $\pm 10$
R142	Y5	BC3,4		3.3k	1/8	comp $\pm 10$
R143	Y4	BC3,4		(10k)5.6k*	1/8	comp $\pm 10$
R144	Z4		E2	39k	1/8	comp $\pm 10$
R145	Z4	D3		6.8k	1/8	comp $\pm 10$
R146	Z5	C3		4.7k	1/8	comp $\pm 10$
R147	Z5	D4		100k	1/8	comp $\pm 10$
R148	AA4	D5		330k	1/8	comp $\pm 10$
R149	Z5	D6		100k	1/8	fixed film $\pm 10$
R150	Z6	D5		1.5k	1/8	comp $\pm 10$
R151	AA5	D7		220k	1/8	comp $\pm 10$
R152	AA6	D7		220k	1/8	comp $\pm 10$
R153	AA6	D2		47	1/8	comp $\pm 10$
R154	V2	BC2,3		1.2k	1/8	comp $\pm 10$
R155	AA2		E6	2.2k	1/8	comp $\pm 10$
R156	AA2		E6	2.7k	1/8	comp $\pm 10$
R157	BB	BC6,7		1k	1/8	comp $\pm 10$
R158	Q6		F7	2.2k	1/8	comp $\pm 10$
R159	R6		F7	1.2k	1/8	comp $\pm 10$
R160	Q3	D2		2.2k	1/8	comp $\pm 10$
R161	R2		B2	220	1/8	comp $\pm 10$
R162	S2		B3	220	1/8	comp $\pm 10$

\*Denotes - (as fitted on early models)



Table 2502 - (cont)

Cct ref	Component location			Value ( $\mu$ F)	Rating (V)	Type and limit (%)
	Main cct	Unit layout				
	Fig 2503	Fig 2508	Fig 2509			
CAPACITORS						
C101A	P1			2-11pF		in r.f. tuner
C102	Q2	E2		22pF	750	cer tub ins $\pm 5$
C103	P3		G2	33 $\mu$ F	6	Elect tub met case ins $\pm 20$
C104A	Q1			2-11pF		in r.f. tuner
C105	Q3		G2	470pF	500	cer disc +80 -20
C106	R2		A2	470pF	500	cer disc +80 -20
C107	R2		B2	2pF	750	cer $\pm 0.1$ pF
C108A	R1			2-11pF		in r.f. tuner
C109	R3		B2	470pF	500	cer disc +80 -20
C110	S2		A3	470pF	500	cer disc +80 -20
C111	S2		B3	2pF	750	cer $\pm 0.1$ pF
C112	T3		B3	470pF	500	cer disc +80 -20
C113	T1		G3	0.01	350	cer disc +80 -20
C114	U3		C3	0.05	150	p.m.t. plas case $\pm 20$
C115	U2	BC1,2		0.001	400	pap tub non metal case $\pm 20$
C116	U2	BC1,2		22pF	750	tub ins $\pm 5$
C117	U2	BC1,2		0.5pF	750	cer tub ins $\pm 0.1$ pF
C118	U3	BC1,2		22pF	750	tub ins $\pm 5$
C119	V2	BC2,3		0.001	400	pap tub non metal case $\pm 20$
C120	X1	BC2,3		0.001	400	pap tub non metal case $\pm 20$
C121	W3	E3		0.01	150	p.m.t. plas case $\pm 20$
C122	W2	BC2,3		22pF	750	tub ins $\pm 5$
C123	X2	BC2,3		0.5pF	750	fixed cer tub ins $\pm 0.1$ pF
C124	X2	BC2,3		22pF	750	tub ins $\pm 5$
C125	Y1	BC4,5		0.05	150	p.m.t. plas case $\pm 20$
C126	Y2	BC4,5		0.05	150	p.m.t. plas case $\pm 20$
C127	Y2	BC4,5		270pF	125	plas foil tub $\pm 2$
C128	Y2	BC4,5		0.0045	125	plas foil tub $\pm 2$
C129	Y2	BC4,5		270pF	125	plas foil tub $\pm 2$
C130	Z2	BC5,6		15pF	750	cer tub ins $\pm 5$

Table 2502 - (cont)

Cct ref	Component location			Value ( $\mu$ F)	Rating (V)	Type and limit (%)
	Main cct	Unit layout				
	Fig 2503	Fig 2508	Fig 2509			
CAPACITORS (cont)						
C131	AA2	BC5,6		270pF	125	plas foil tub $\pm 2$
C132	AA2	BC5,6		0.0045	125	plas foil tub $\pm 2$
C133	AA2	BC5,6		270pF	125	plas foil tub $\pm 2$
C134	CC1	BC6,7		0.05	150	p.m.t. plas case $\pm 20$
C135	BB1	BC6,7		5pF	750	cer tub ins $\pm 10$
C136	BB2	BC6,7		0.05	150	p.m.t. plas case $\pm 20$
C137	CC2	BC6,7		250	125	plas foil tub $\pm 2$
C138	BB2	BC6,7		15pF	750	cer tub ins $\pm 5$
C139	BB2	BC6,7		250pF	125	plas foil $\pm 2$
C140	AA4	BC7,8		0.05	150	p.m.t. plas case $\pm 20$
C141	CC5	BC7,8		5pF	750	cer tub ins $\pm 10$
C142	CC6	BC7,8		0.05	150	p.m.t. plas case $\pm 20$
C143	BB5	BC7,8		250pF	125	plas foil $\pm 2$
C144	BB5	BC7,8		15pF	750	cer tub ins $\pm 5$
C145	BB6	BC7,8		250pF	125	plas foil $\pm 2$
C146	AA6	BC7,8		0.002	400	fixed non met tub $\pm 20$
C147A	P5			8pF		in 1st osc tuner unit
C148A	P5			2-11pF		in 1st osc tuner unit
C149	R5	B8		22pF	750	tub ins $\pm 5$
C150A	R5			2-11pF		in 1st doubler tuner unit
C151	R6	B8		22pF	750	tub ins $\pm 5$
C152	S5	B6		0.001	500	cer disc +80 -20
C153A	S5			2-11pF		in 1st doubler tuner unit
C154	S5	B7		0.001	500	cer disc +80 -20
C155	T5	C6		0.001	500	cer disc +80 -20
C156A	T5			2-11pF		in 2nd doubler tuner unit
C157	T5	B6		0.001	500	cer disc +80 -20
C158	U5	B5		470pF	500	cer disc +80 -20
C159	V5	C5		470pF	500	cer disc +80 -20
C160	V6	B4		4pF	750	cer tub ins $\pm 5$
C161A	W5			2-11pF		in 3rd doubler tuner unit
C162	W6	C4		470pF	500	cer disc +80 -20
C163	W5	BC3,4		4-34pF		var preset swing
C164	X5	BC3,4		7pF	750	cer tub ins $\pm 0.25pF$
C165	X6	BC3,4		25pF	750	cer tub ins $\pm 5$

Table 2502 - (cont)

Cct ref	Component location			Value ( $\mu$ F)	Rating (V)	Type and limit (%)
	Main cct	Unit layout				
	Fig 2503	Fig 2508	Fig 2509			
CAPACITORS (cont)						
C166	X5	BC3,4		0.001	500	cer disc +80 -20
C167	Y4	BC3,4		0.01	150	p.m.t. plas case $\pm$ 20
C168	AA5	D4		2	6	p.v.c. sleeved +50 -20
C169	Z5	D5		0.002	400	fixed non met tub $\pm$ 20
C170	Z6	D5		1	12	elect foil tub non met case ins +50 -20
C171	AA6	D8		0.05	150	p.m.t. plas case $\pm$ 20
C172	AA6	D6		150	6	elect tant tub met case ins $\pm$ 20
C173	S3	D3		0.05	150	p.m.t. plas case $\pm$ 20
C174	W2	BC2,3		0.001	400	pap tub non met case $\pm$ 20
C175	Q6	B8		0.01	150	p.m.t. plas case $\pm$ 20
Cct ref	Component location			Description		
	Main cct	Unit layout				
	Fig 2503	Fig 2508	Fig 2509			
MISCELLANEOUS						
L101	P1	E2				In 1st r.f. amp tuner
L102	P2		B2			Inductor, r.f.
L103	P1		A2			In 2nd r.f. amp tuner
L104	R2		B3			Inductor, r.f.
L105	S1		H3			In 1st mixer tuner
L106	S2		B3			Inductor, r.f.
T101/ L107	U2	BC1,2				Filter, i.f., with can
T102/ L108	W2	BC2,3				Amplifier, i.f. 19Mc/s, with can
L109	Y1	BC4,9				Mixer stage, 19.05Mc/s incoming 930kc/s resultant, screened
L110	Z2	BC4,5				Mixer stage, 19.05Mc/s incoming 930kc/s resultant, screened
L111	AA2	BC5,6				Filter, i.f., screened
L112	AA2	BC5,6				Filter, i.f., screened
L113	BB1	BC6,7				Amplifier, i.f., screened

Table 2502 - (cont)

Cct ref	Component location			Description
	Main cct	Unit layout		
	Fig 2503	Fig 2508	Fig 2509	
MISCELLANEOUS (cont)				
L114	CC2	BC6,7		Amplifier, i.f., screened
L115	BB5	BC7,8		Detector, r.f., screened
L116	BB6	BC7,8		Detector, r.f., screened
L117	W5	B4		Detector, r.f., screened
T103	S5		A7	Transformer, r.f.
T104	T5		A6	Transformer, r.f.
T105	U5		B5	Transformer, r.f.
T106	V6		B4	Transformer, r.f.
T107	X6	BC3,4		R.F. osc
XL101	Q5	Not shown in layout		1st osc crystal
XL102	X5	BC2,3		2nd osc crystal
SEMI-CONDUCTORS				
VT101	Q2		E2	Transistor 2N1742/T1832
VT102	R2		E3	Transistor 2N1742/T1832
VT103	T2		E4	Transistor 2N1742/T1832
VT104	W2		B3	Transistor OC170
VT105	Y2		B5	Transistor OC170
VT106	BB2		B7	Transistor OC170
VT107	CC5		B8	Transistor OC170
VT108	R5		E7	Transistor OC170
VT109	S5		E6	Transistor OC170
VT110	U5		E6	Transistor OC170
VT111	V5		E5	Transistor 2N1742/T1832
VT112	V5		E4	Transistor 2N1742/T1832
VT113	X5		B4	Transistor OC170
VT114	Z4		D3	Transistor silicon CV7363
VT115	Z4		D4	Transistor silicon CV7363
VT116	Z6		D6	Transistor silicon CV7363
VT117	Z6		D7	Transistor silicon CV7363

Note: These Pages 1021 and 1022, Issue 2, supersede Pages 1021 and 1022, Issue 1, dated 24 Sep 64.  
Fig 2510 has been revised.

Table 2502 - (cont)

Cct ref	Component location			Description
	Main cct	Unit layout		
	Fig 2503	Fig 2508	Fig 2509	
SEMI-CONDUCTORS - (cont)				
MR101	S3		B3	Diode OA70
MR102	BB5		B8	Diode OA70
MR103	S6		B7	Diode OA70
MR104	Q5		B7	Diode OA70
MR105	T6		B6	Diode OA70
MR106	Q1		B1	Diode OA70
MR107	Q2		B2	Diode OA70

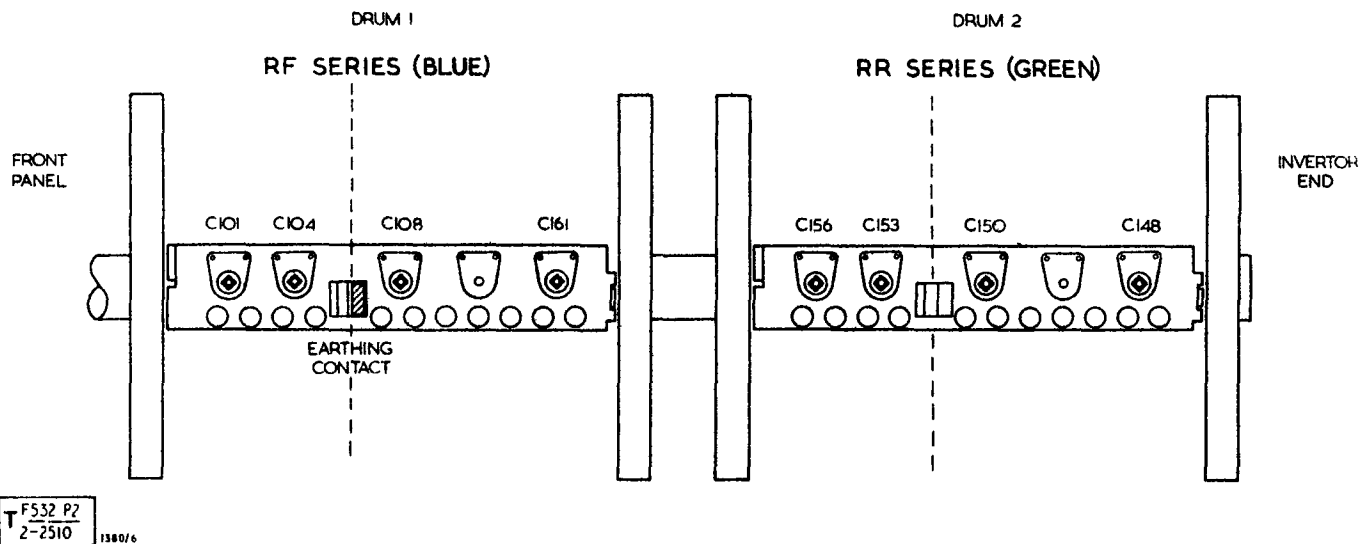
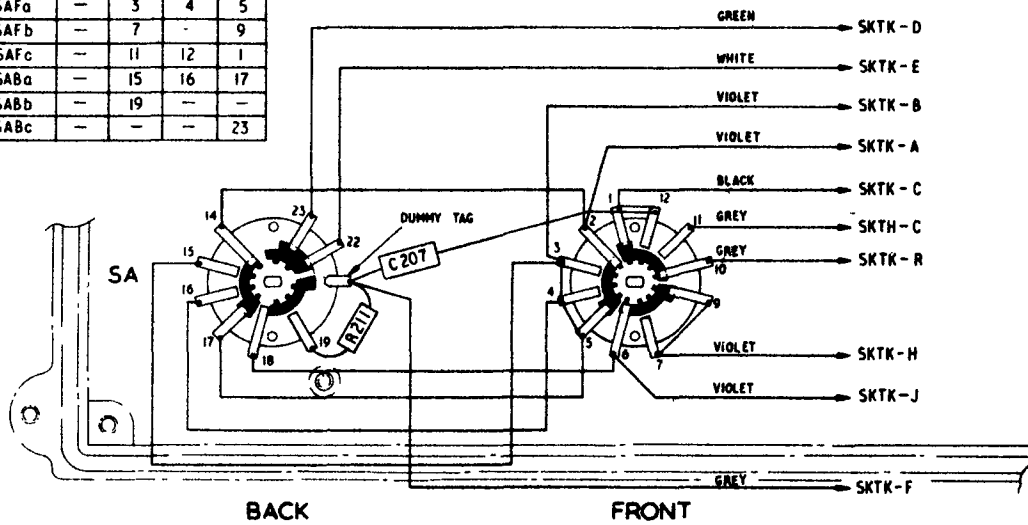


Fig 2510 - Receiver tuning unit, trimmer location

	OFF	T/R PHONE	BEACON CW	BEACON TONE
SAFa	-	3	4	5
SAFb	-	7	-	9
SAFc	-	11	12	1
SABa	-	15	16	17
SABb	-	19	-	-
SABc	-	-	-	23



NOTE - SWITCH SHOWN AS VIEWED FROM REAR OF FRONT PANEL  
 FRONT OF WAFER SHOWN LOOKING THROUGH WAFER  
 SWITCH SHOWN IN 'BEACON TONE' POSITION

T F 532 P2  
 2-2511 1980/54

Fig 2511 - System switch SA, wiring detail

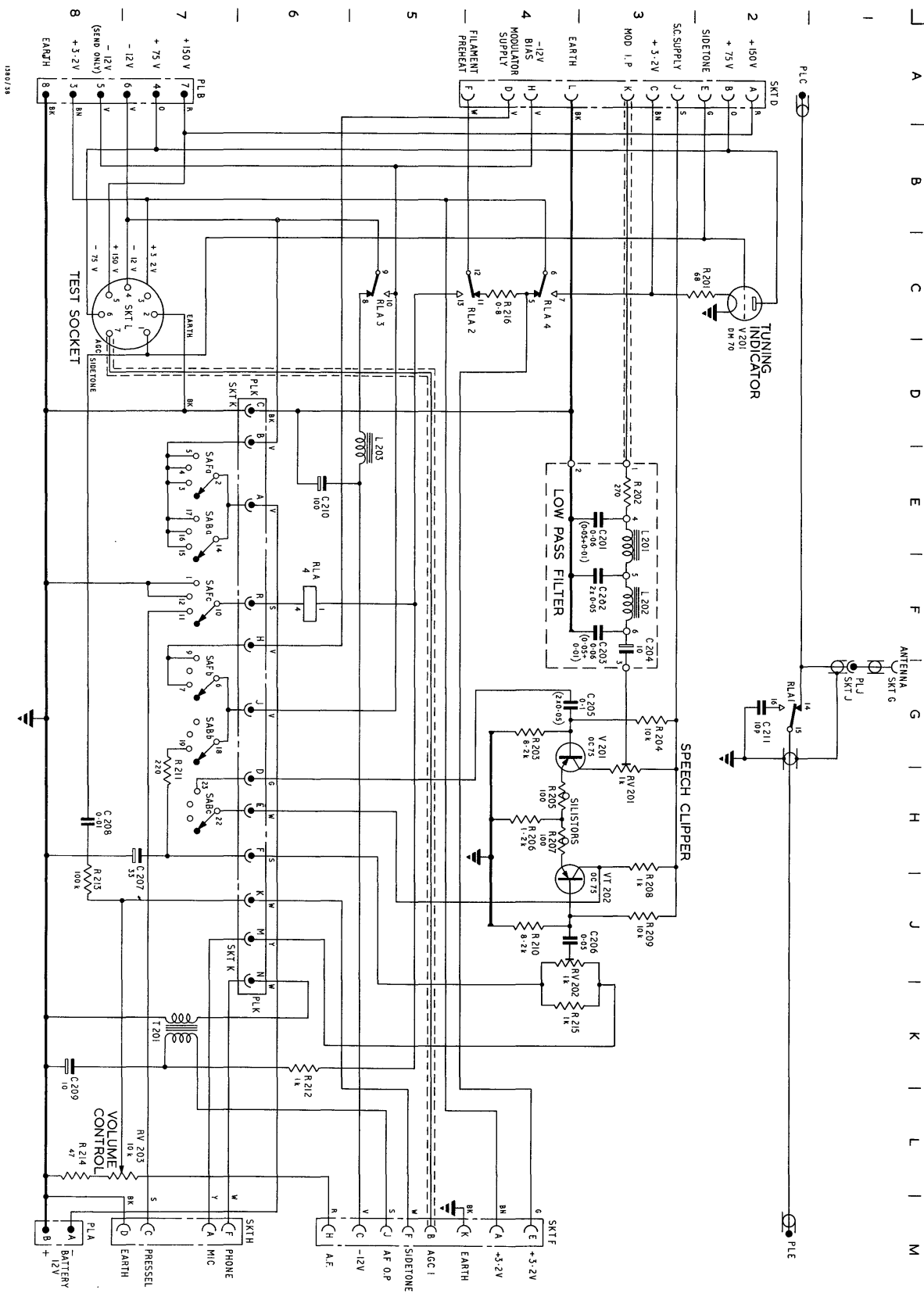
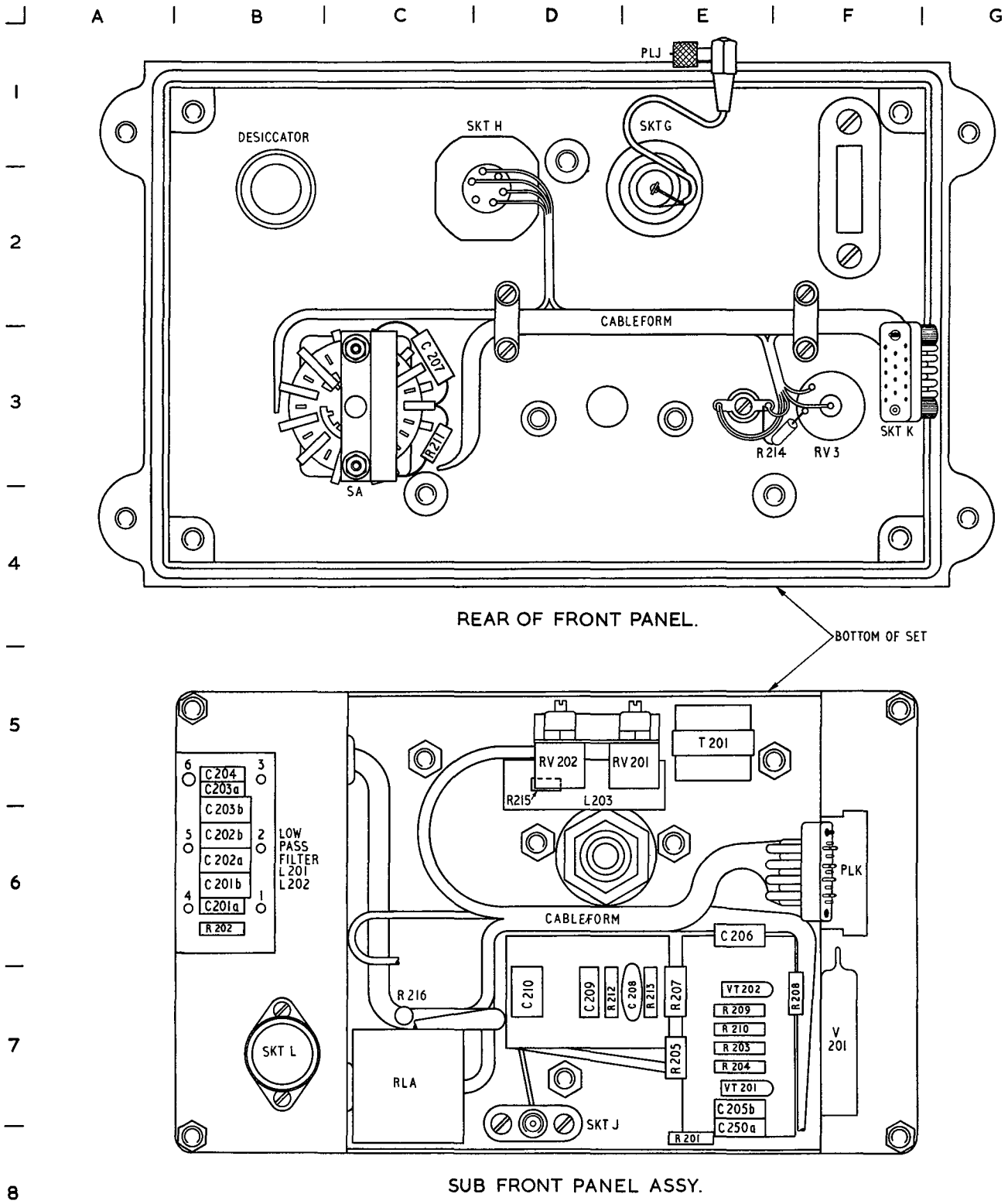


Fig 2512 - Front panel, circuit diagram



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Fig 2513 - Rear of front panel and sub-front panel assembly layout



Table 2503 - Front panel assembly, component schedule

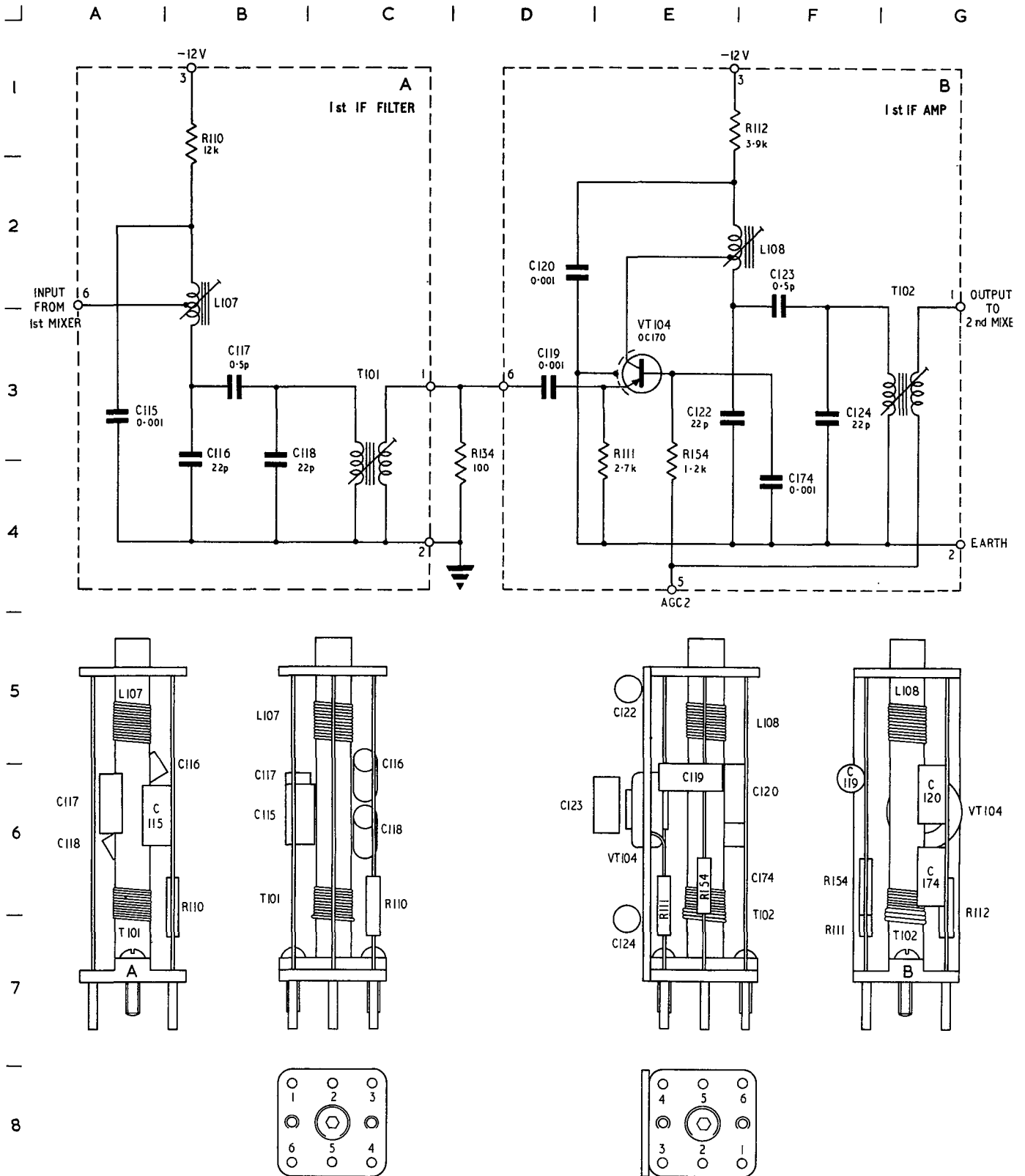
Cct ref	Component location			Value ( $\Omega$ )	Rating	Type and limit (%)
	Main cct	Unit cct	Unit layout			
	Fig 2502/3	Fig 2512	Fig 2513			
RESISTORS						
R201	N3	C2	E7	68		
R202	W7	E3	B6	270	1/8W	comp $\pm 10$
R203	U8	G4	E7	8.2k	1/4W	fixed film non ins
R204	U7	G3	E7	10k	1/4W	fixed film non ins
R205	T7	H4	E7	100		
R206	T8	H4	E7	1.2k	1/8W	comp $\pm 10$
R207	T7	H4	E7	100		
R208	S7	H3	F7	1k	1/8W	comp $\pm 10$
R209	S7	J3	E7	10k	1/4W	fixed film non ins
R210	S8	J4	E7	8.2k	1/4W	fixed film non ins
R211	R8	H7	C3	220	1/8W	comp $\pm 10$
R212	Z8	K6	D7	1k	1/8W	comp $\pm 10$
R213	Z7	J8	E7	100k	1/8W	comp
R214	AA8	M8	E3	47		
R215	R7	K4	D5	1k	1/4W	comp $\pm 10$
R216	N8	G4	C7	0.8		
RV201	T7	H3	E5	1k	1/4W	comp var $\pm 20$
RV202	R7	J3	D5	1k	1/4W	comp var $\pm 20$
RV203	AA7	M8	F3	10k	1/4W	comp var $\pm 20$
CAPACITORS						
				( $\mu F$ )		
C201A	V8	E3	B6	0.05	150V	p.m.t. plas case $\pm 20$
C201B	V8	E3	B6	0.01	150V	p.m.t. plas case $\pm 20$
C202A	V8	F3	B6	} 0.05	150	p.m.t. plas case $\pm 20$
C202B	V8	F3	B6			
C203A	U8	F3	B5	0.05	150	p.m.t. plas case $\pm 20$
C204	U7	F3	B5	10	15	elect tant tub met $\pm 20$
C205A	U7	G4	E7	} 0.05	150	p.m.t. plas case $\pm 20$
C205B	U7	B4	E7			
C206	R7	J4	E6	0.05	150	p.m.t. plas case $\pm 20$
C207	R8	J7	C3	33	6	elect tant tub met $\pm 20$
C208	Y7	H8	E7	0.01	350	cer disc $+80 -20$
C209	Z8	L8	D7	10	15	elect tant tub met $\pm 20$
C210	CC7	E6	D7	100	15	elect tant tub met $\pm 20$
C211	O2	G2	C7	10pF	750	cer tub ins $\pm 10$

Table 2503 - (cont)

Cct ref	Component location			Description
	Main cct	Unit cct	Unit layout	
	Fig 2502/3	Fig 2512	Fig 2513	
MISCELLANEOUS				
T201	Z8	K7	E5	Transformer, a.f.
L201	V7	F3	B6	} Inductor, a.f., encapsulated
L202	V7	F3	B6	
L203	CC8	E5	E5	Inductor, a.f.
VT201	T7	G3	E7	Ger transistor, CV5439
VT202	S7	J3	E7	Ger transistor, CV5439
RLA	AA8	F6	C7	Relay, armature 100V 1A, 4 c/o contacts

Table 2504 - List of test points and voltages

Note: Although d.c. voltages are listed, the primary use of the test points are for functional measurements					
Cct ref	Chassis ref	Function	Nominal voltage, d.c. voltage		
			Phone	Beacon c.w.	Beacon tone
TRANSMITTER					
TP301	TP1	Osc V301 (V1) grid	-0.55	-0.55	-0.44
TP302	TP2	Doubler V302 (V2) grid	-11.5	-11.5	-10.1
TP303	TP3	Doubler V303 (V3) grid	-11.5	-11.8	-10.2
TP304	TP4	Doubler V304/V305 (V4/5) bias	-11.8	-11.9	-10.4
TP306	TP6	V304 (V4) screen h.t.	+48.0	+48.0	+43.8
TP308	TP8	V305 (V5) screen h.t.	+47.5	+47.8	+43.2
TP305	TP5	V305/6 screen supply	+48.0	+48.0	+43.8
TP307	TP7	-12V supply	+11.5	+11.5	+11.5
TP309	TP9	V306 (V6) bias	-9.3	-9.1	-6.2
TP310	TP10	V306 (V6) bias	-8.9	fluctuating -8.8	-6.0
TP311	TP11	V306 (V6) anode circuit	+140.0	+140.0	+121.0
TP312	TP12	Positive 75V supply	+75.0	+75.0	+66.0
TP313	TP13	Positive 150V supply	+150.0	+150.0	+132.0
TP314	TP14	Mod drive to p.a.	+142.0	+142.0	+142.0
TP315	TP15	Chassis earth			
Cct ref	Chassis ref	Function	Set switched to receive (STANDBY)		
RECEIVER					
TP101	TP1	Negative supply to VT101 (VT1) and VT102 (VT2)			-11.2
TP102	TP2	1st oscillator collector load VT108 (VT8)			-11.5
TP103	TP3	1st doubler collector load VT109 (VT9)			-9.7
TP104	TP4	2nd doubler collector load VT110 (VT10)			-9.6
TP105	TP5	3rd doubler collector load VT111/112 (VT11/VT12)			-9.0
TP106	TP6	-12V smoothed supply			-11.9



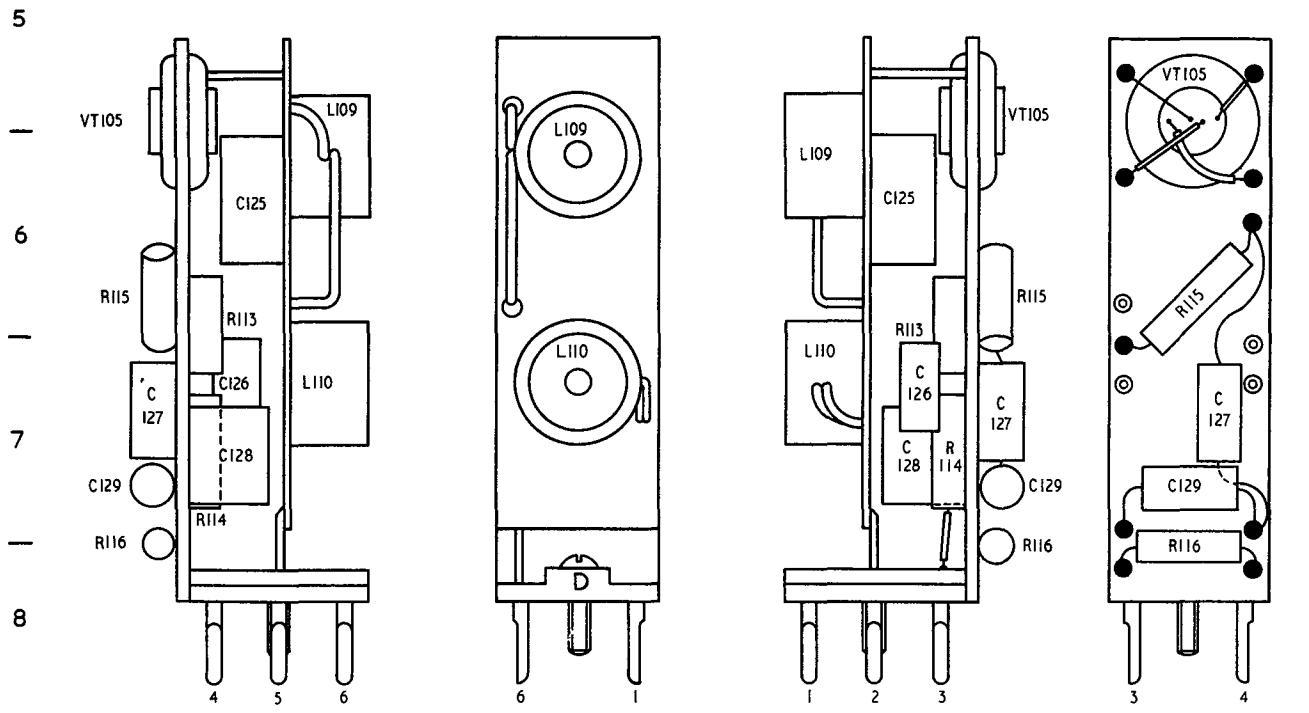
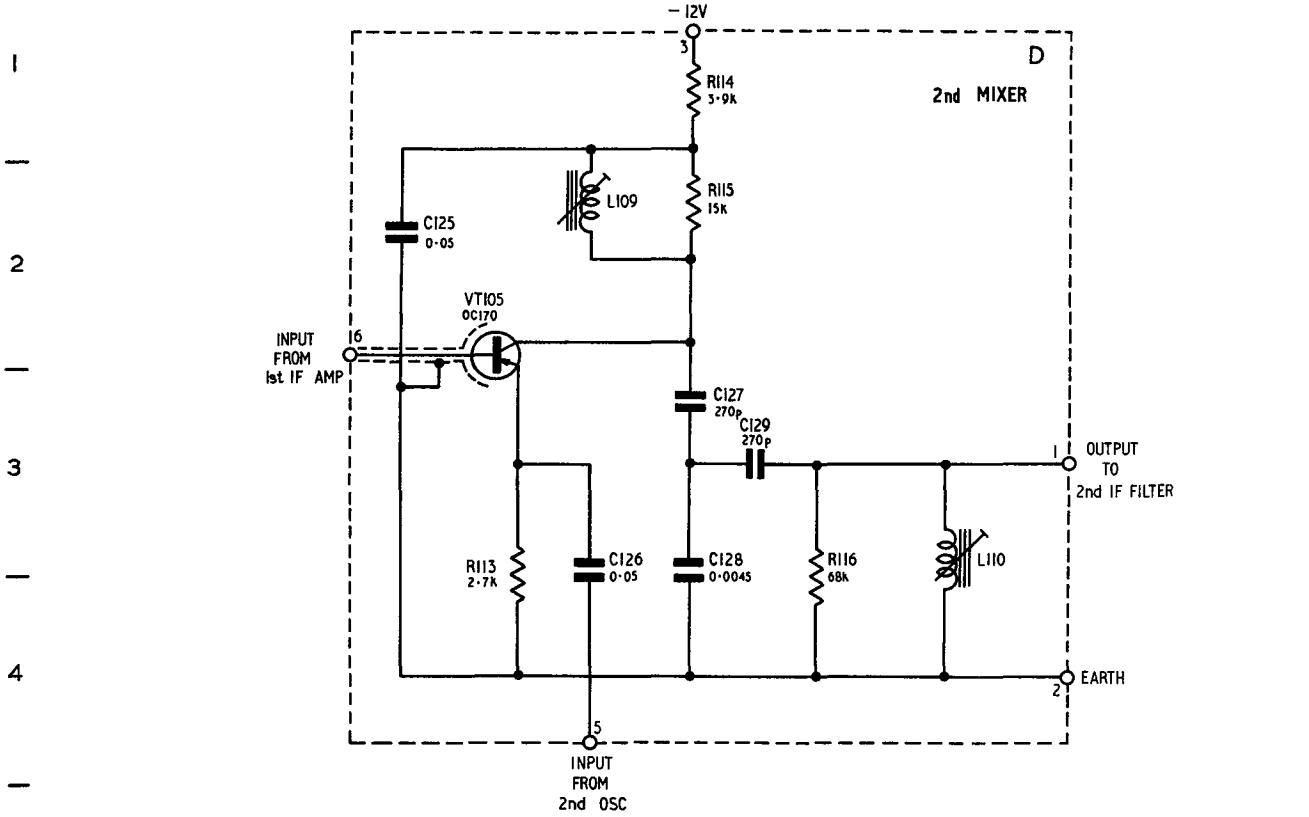
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Fig 2514 - 1st i.f. filter and amplifier, circuit diagram, and layout

Table 2505 - 1st i.f. filter and amplifier, component schedule

Cct ref	Component location			Value ( $\Omega$ )	Rating	Type and limit (%)
	Main cct	Unit cct	Unit layout			
	Fig 2503	Fig 2514	Fig 2514			
RESISTORS						
R110	U1	B1	B6	12k	1/8W	comp $\pm 10$
R111	V2	E3	E7	2.7k	1/8W	comp $\pm 10$
R112	W1	E1	G7	3.9k	1/8W	comp $\pm 10$
R154	W2	E4	E6	1.2k	1/8W	comp $\pm 10$
CAPACITORS						
				( $\mu F$ )		
C115	U2	A3	B6	0.001	400V	pap tub non met case $\pm 20$
C116	U2	B4	B6	22pF	750V	tub ins $\pm 20$
C117	U2	B3	A6	0.5pF	750V	cer tub ins $\pm 0.1pF$
C118	U3	B4	C6	22pF	750V	tub ins $\pm 20$
C119	V2	D3	E6	0.001	400V	pap tub non met case $\pm 20$
C120	X1	D2	G6	0.001	400V	pap tub non met case $\pm 20$
C122	W2	E3	E5	22pF	750V	tub ins $\pm 20$
C123	X2	F2	E6	0.5pF	750V	fixed cer tub ins $\pm 0.1pF$
C124	X2	F3	E7	22pF	750V	tub ins $\pm 20$
Cct ref	Component location			Description		
	Main cct	Unit cct	Unit layout			
	Fig 2503	Fig 2514	Fig 2514			
MISCELLANEOUS						
T101/ L107	U2	C4/B2	A7/A5			Filter, i.f.
T102/ L108	W2	G3/E2	G7/G5			Amp, i.f.
VT104	W2	E6	E6			Transistor, OC170

┌ A | B | C | D | E | F | G



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Fig 2515 - 2nd mixer, circuit diagram and layout

Table 2506 - 2nd mixer, component schedule

Cct ref	Component location			Value ( $\Omega$ )	Rating	Type and limit (%)
	Main cct	Unit cct	Unit layout			
	Fig 2503	Fig 2515	Fig 2515			
RESISTORS						
R113	Y2	C4	A6	2.7k	1/8W	comp $\pm 10$
R114	Y1	D1	E7	3.9k	1/8W	comp $\pm 10$
R115	Y1	D2	G6	15k	1/8W	comp $\pm 10$
R116	Y2	D4	G8	68k	1/8W	comp $\pm 10$
CAPACITORS						
C125	Y1	B2	A6	( $\mu F$ ) 0.05	150V	p.m.t. plas case $\pm 20$
C126	Y2	C4	E7	0.05	150V	p.m.t. plas case $\pm 20$
C127	Y2	D3	G7	27OpF	125V	plas foil tub $\pm 2$
C128	Y2	C4	B7	0.0045	125V	plas foil tub $\pm 2$
C129	Y2	D3	G7	27OpF	125V	plas foil tub $\pm 2$
Cct ref	Component location			Description		
	Main cct	Unit cct	Unit layout			
	Fig 2503	Fig 2515	Fig 2515			
MISCELLANECUS						
L109	Y1	C2	B6	Inductor r.f., mixer stage		
L110	Z2	E3	B7	Inductor r.f., mixer stage		
VT105	Y2	C2	A5	Transistor, OC170		

┌ A | B | C | D | E | F | G

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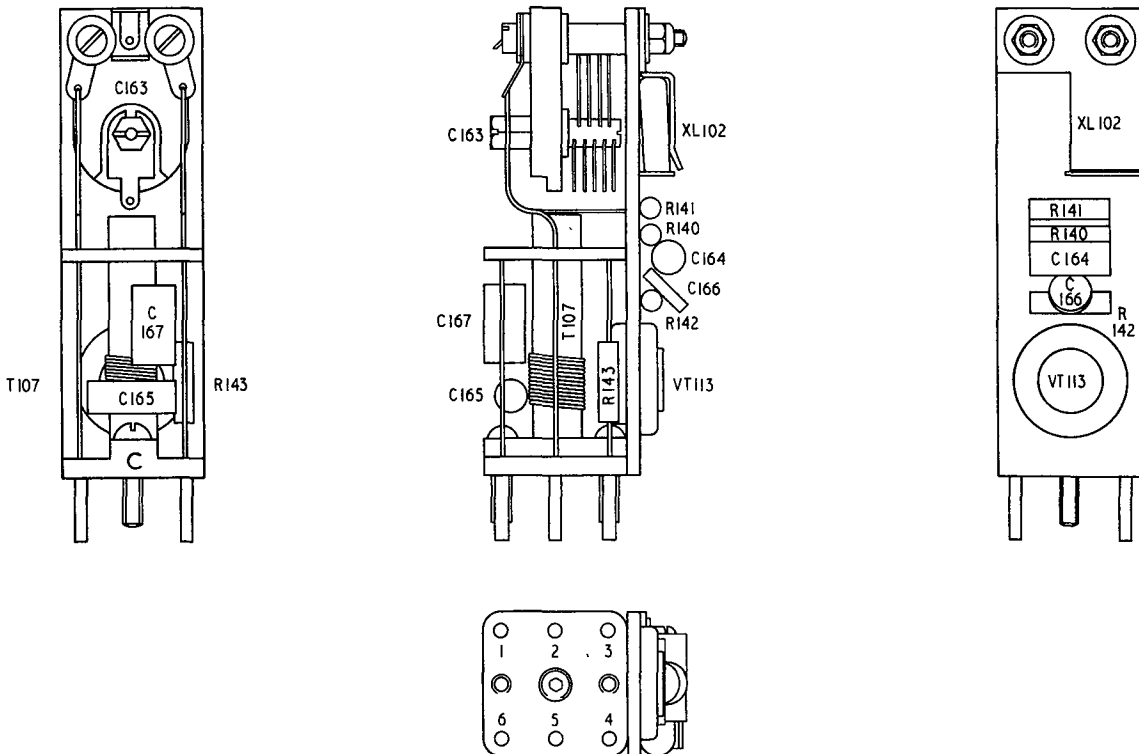
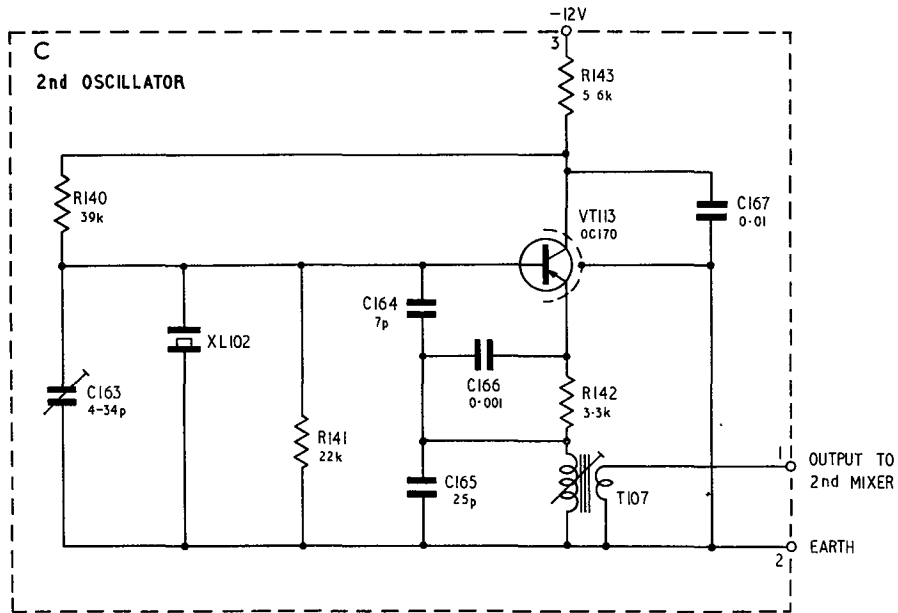


Fig 2516 - 2nd oscillator, circuit diagram and layout

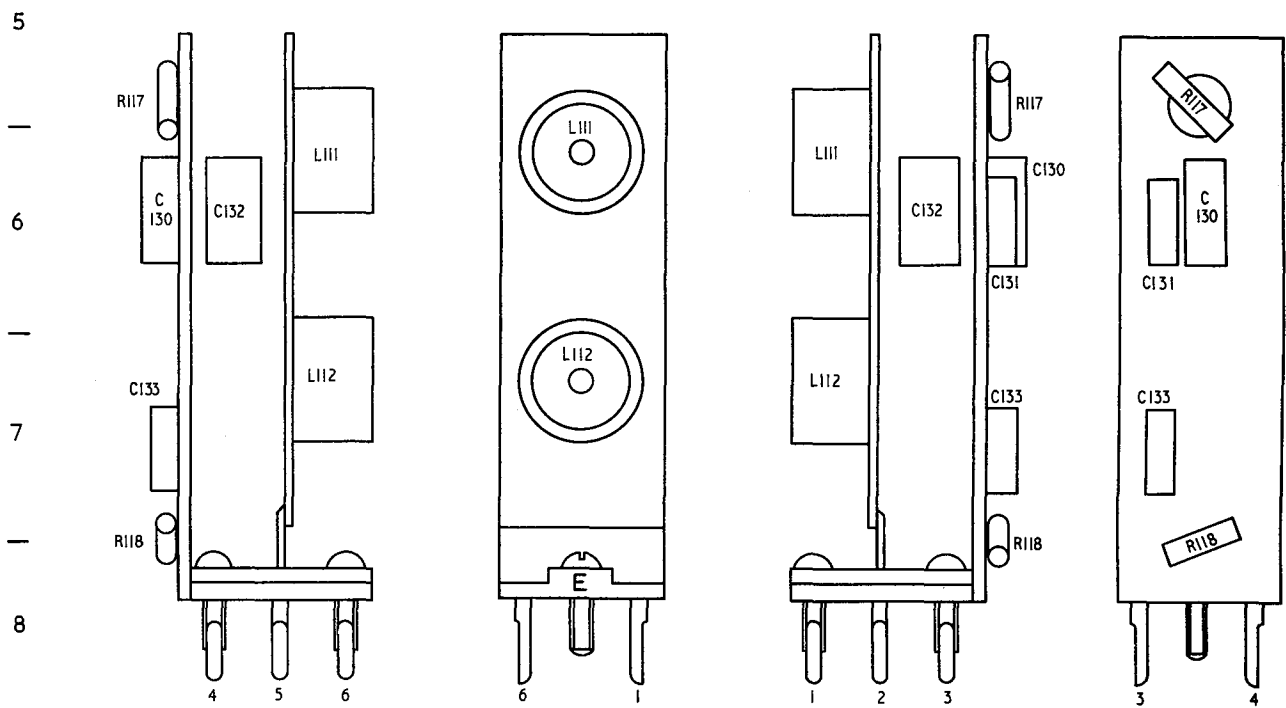
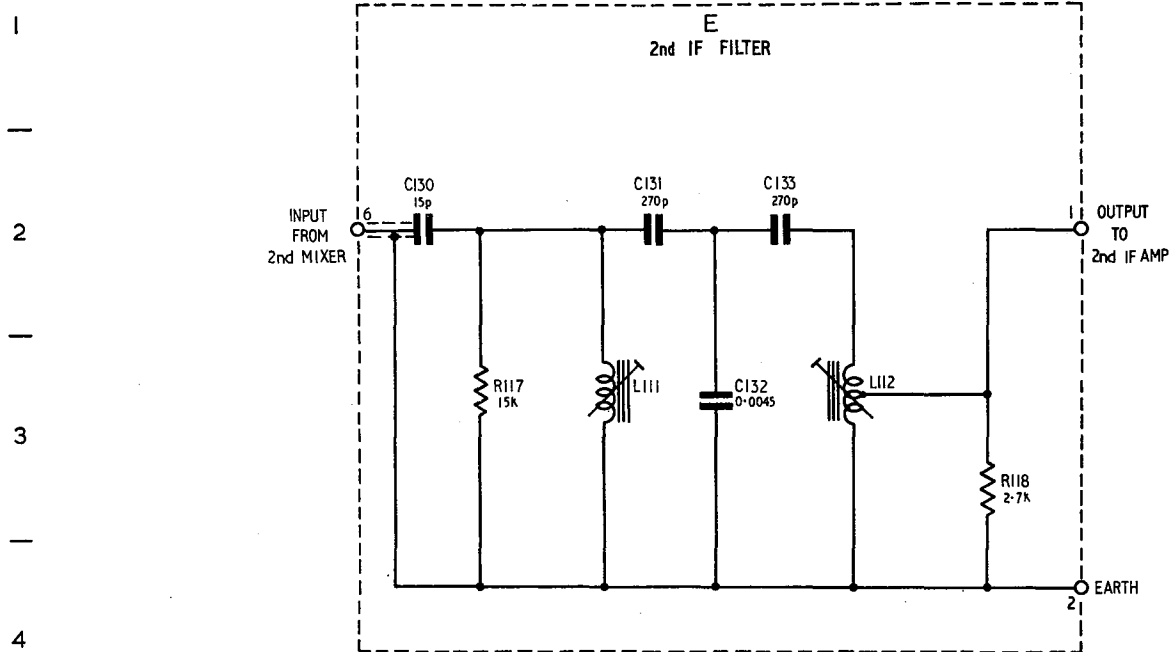
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Table 2507 - 2nd oscillator, component schedule

Cct ref	Component location			Value ( $\Omega$ )	Rating	Type and limit (%)
	Main cct	Unit cct	Unit layout			
	Fig 2503	Fig 2516	Fig 2516			
RESISTORS						
R140	X5	B2	D6	39k	1/8W	comp $\pm 10$
R141	X5	C3	D5	22k	1/8W	comp $\pm 10$
R142	Y5	E3	D6	3.3k	1/8W	comp $\pm 10$
R143	Y4	E1	B6	5.6k	1/8W	comp $\pm 10$
CAPACITORS						
C163	W5	B3	B5	( $\mu F$ ) 4-34pF		var rotary preset swing
C164	X5	D2	D6	7pF	750V	cer tub ins $\pm 0.25pF$
C165	X6	D3	B6	25pF	750V	cer tub ins $\pm 5$
C166	X5	D3	D6	0.001	500V	cer disc +80 -20
C167	Y4	F2	B6	0.01	150V	p.m.t. plas case $\pm 20$
Cct ref	Component location			Description		
	Main cct	Unit cct	Unit layout			
	Fig 2503	Fig 2516	Fig 2516			
MISCELLANEOUS						
T107	X6	E3	D6	Transformer, r.f. osc		
XL102	X5	C2	D5	2nd osc crystal		
VT113	X5	E2	D6	Transistor, OC170		

┌ A | B | C | D | E | F | G



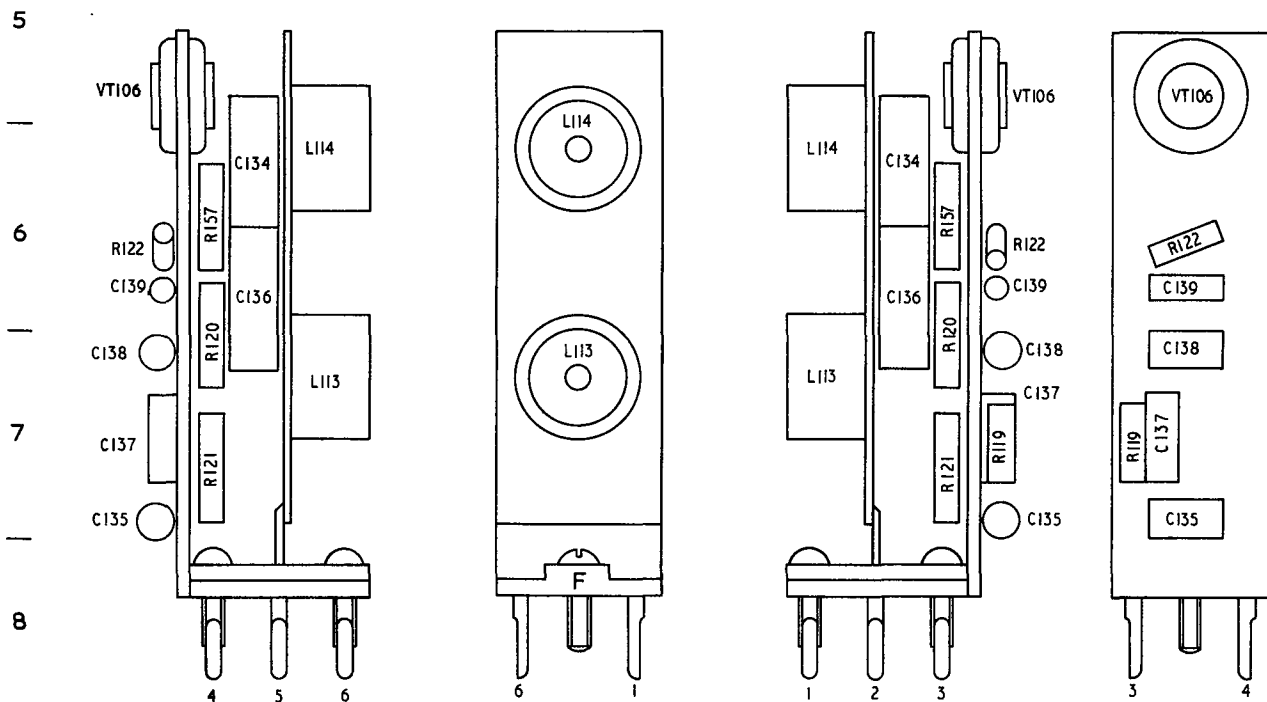
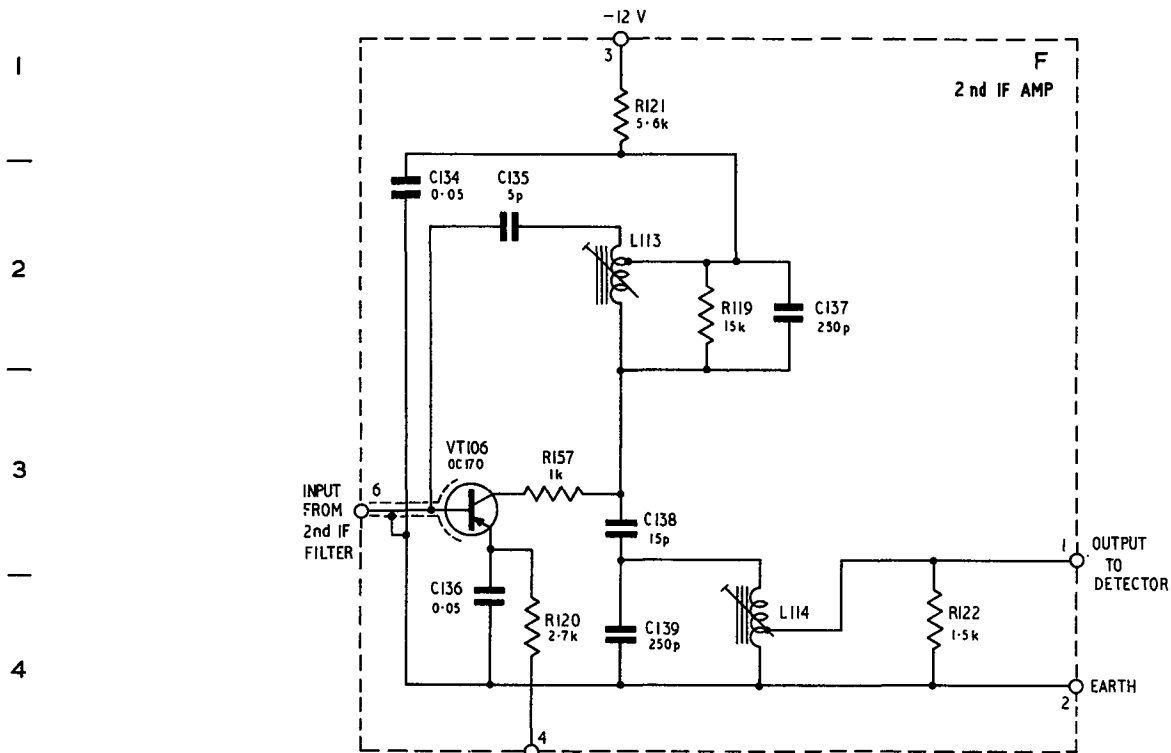
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Fig 2517 - 2nd i.f. filter, circuit diagram and layout

Table 2508 - 2nd i.f. filter, component schedule

Cct ref	Component location			Value ( $\Omega$ )	Rating	Type and limit (%)
	Main cct	Unit cct	Unit layout			
	Fig 2503	Fig 2517	Fig 2517			
RESISTORS						
R117	Z2	C3	A5	15k	1/8W	comp $\pm 10$
R118	AA2	E3	A7	2.7k	1/8W	comp $\pm 10$
CAPACITORS						
C130	Z2	B2	A6	( $\mu F$ ) 15pF	750V	cer tub ins $\pm 5$
C131	AA2	D2	G6	270pF	125V	plas foil tub $\pm 2$
C132	AA2	D3	B6	0.0045	125V	plas foil tub $\pm 2$
C133	AA2	D2	A7	270pF	125V	plas foil tub $\pm 2$
Cct ref	Component location			Description		
	Main cct	Unit cct	Unit layout			
	Fig 2503	Fig 2517	Fig 2517			
MISCELLANECUS						
L111	AA2	C3	B6	Inductor r.f.		
L112	AA2	E3	B7	Inductor r.f.		

┌ A | B | C | D | E | F | G

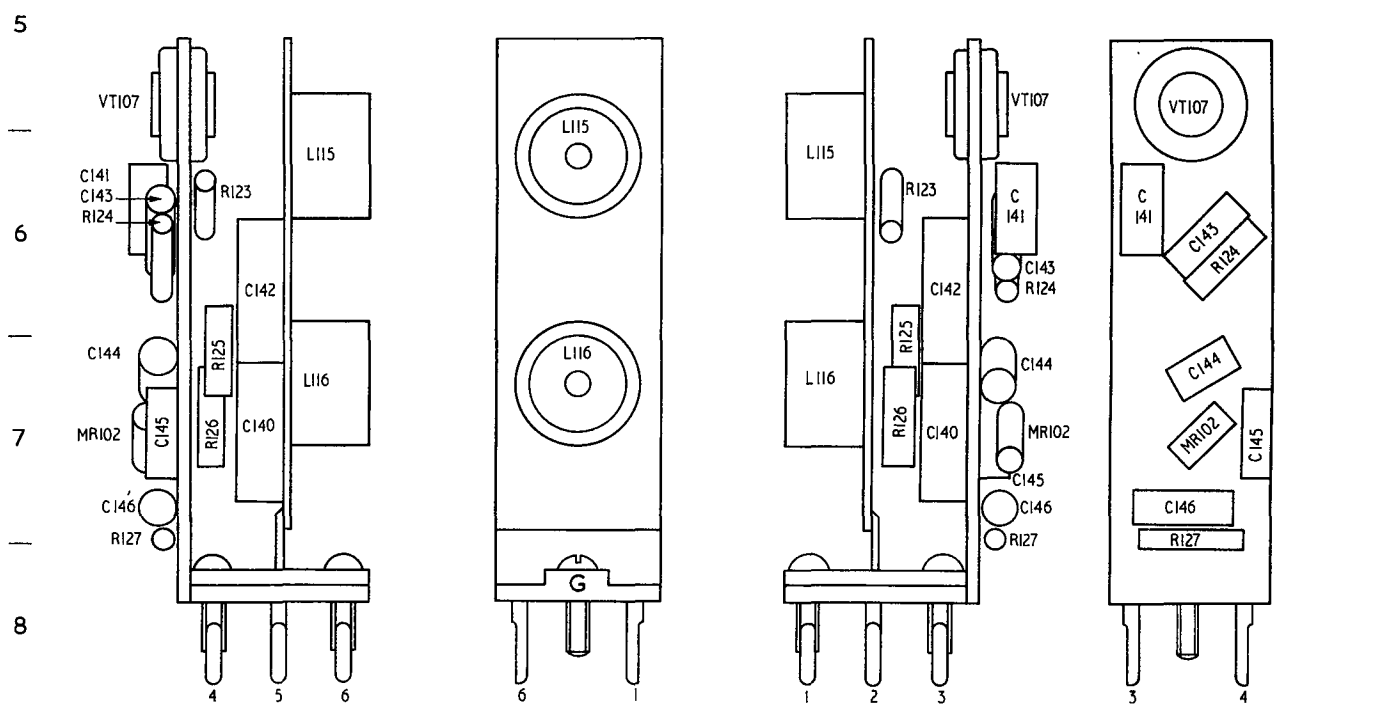
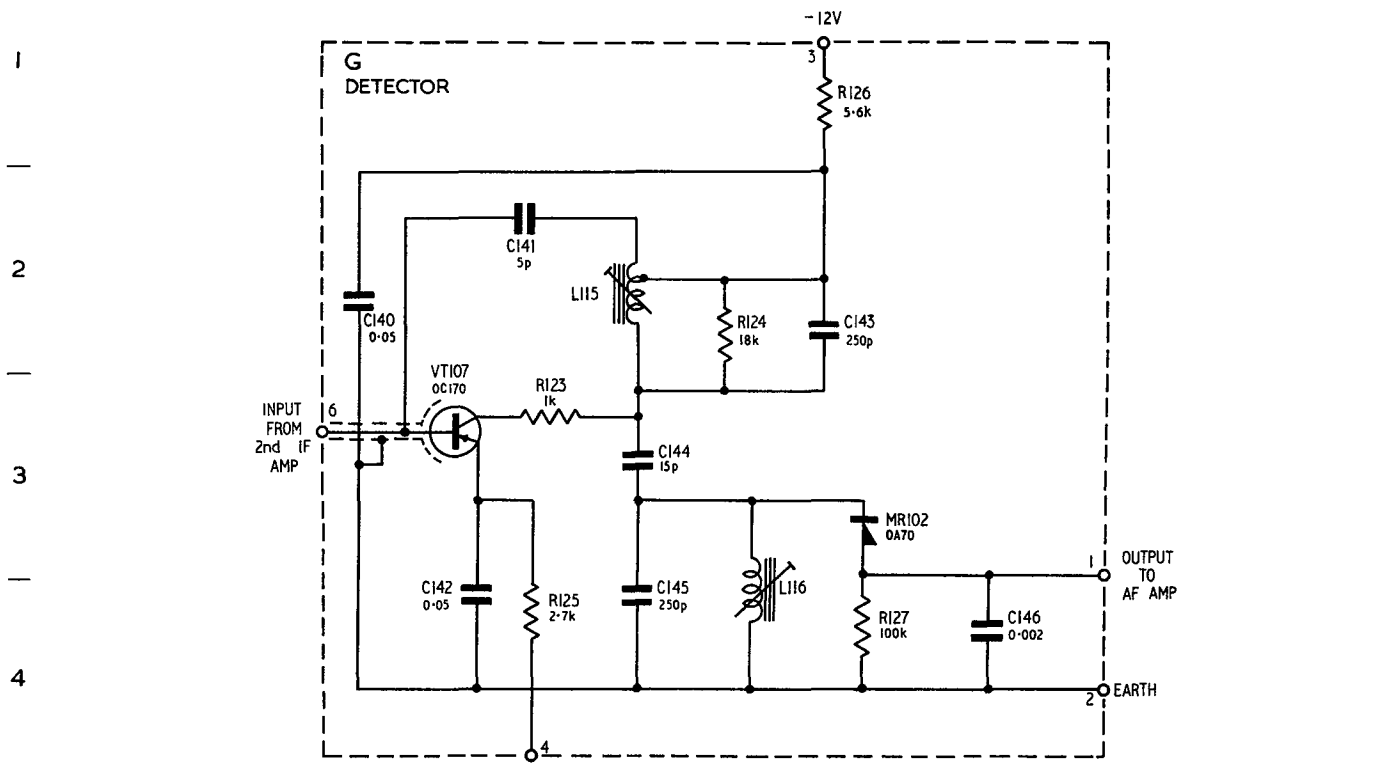


1340/10 Fig 2518 - 2nd i.f. amplifier, circuit diagram and layout

Table 2509 - 2nd i.f. amplifier, component schedule

Cct ref	Component location			Value ( $\Omega$ )	Rating	Type and limit (%)
	Main cct	Unit cct	Unit layout			
	Fig 2503	Fig 2518	Fig 2518			
RESISTORS						
R119	CC2	D2	E7	15k	1/8W	comp $\pm 10$
R120	BB2	C4	A6	2.7k	1/8W	comp $\pm 10$
R121	CC1	C1	A7	5.6k	1/8W	comp $\pm 10$
R122	CC2	E4	A6	1.5k	1/8W	comp $\pm 10$
CAPACITORS						
C134	CC1	B2	B6	( $\mu F$ ) 0.05	150V	p.m.t. plas case $\pm 20$
C135	BB1	C2	A7	5pF	750V	cer tub ins $\pm 10$
C136	BB2	C4	B6	0.05	150V	p.m.t. plas case $\pm 20$
C137	CC2	D2	A7	250	125V	plas foil tub $\pm 2$
C138	BB2	C3	A7	15pF	750V	cer tub ins $\pm 5$
C139	BB2	C4	A6	250pF	125V	plas foil $\pm 2$
Cct ref	Component location			Description		
	Main cct	Unit cct	Unit layout			
	Fig 2503	Fig 2518	Fig 2518			
MISCELLANECUS						
L113	BB1	C2	B7	Inductor r.f.		
L114	CC2	D4	B6	Inductor r.f.		
VT106	BB2	C3	A5	Transistor, OC170		

┌ A | B | C | D | E | F | G ─

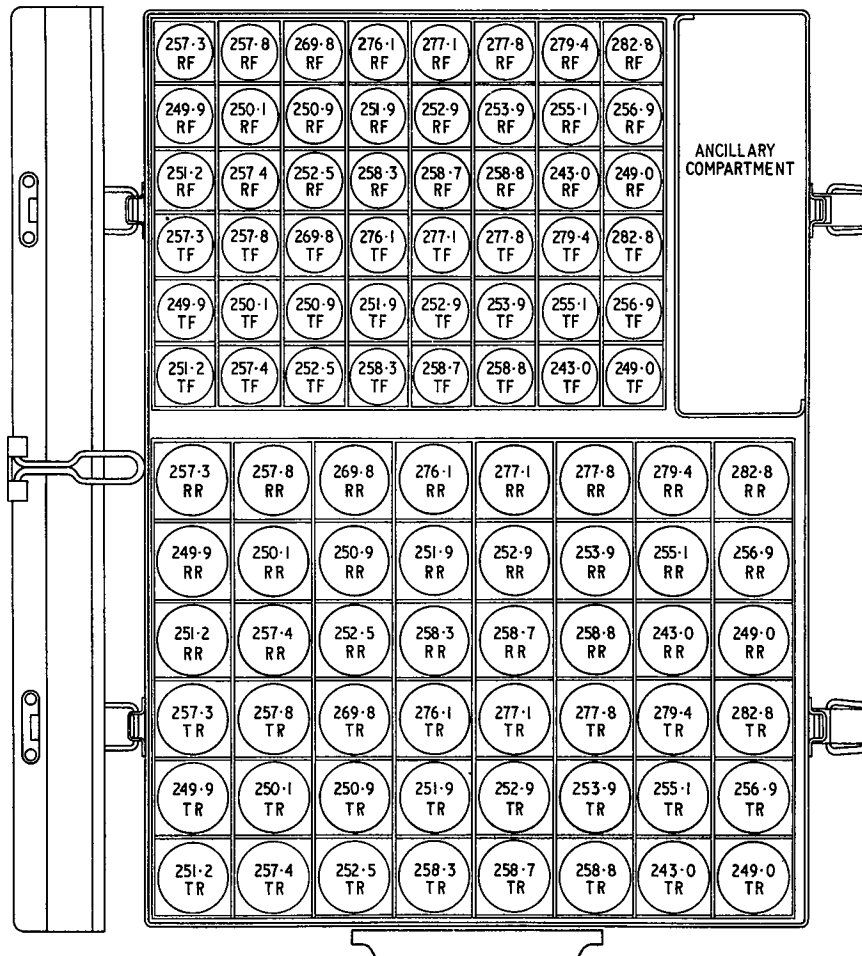


1380/19

Fig 2519 - Detector stage and 3rd i.f. amplifier circuit diagram and layout

Table 2510 - Detector, component schedule

Cct ref	Component location			Value ( $\Omega$ )	Rating	Type and limit (%)
	Main cct	Unit cct	Unit layout			
	Fig 2503	Fig 2519	Fig 2519			
RESISTORS						
R123	CC5	C3	A6	1k	1/8W	comp $\pm 10$
R124	BB5	D2	A6	18k	1/8W	comp $\pm 10$
R125	CC6	C4	B7	2.7k	1/8W	comp $\pm 10$
R126	BB4	E1	E7	5.6k	1/8W	comp $\pm 10$
R127	BB6	E4	A7	100k	1/8W	comp $\pm 10$
CAPACITORS						
C140	AA4	B2	B7	( $\mu F$ ) 0.05	150V	p.m.t. plas case $\pm 20$
C141	CC5	C2	G6	5pF	750V	cer tub ins $\pm 10$
C142	CC6	C4	B6	0.05	150V	p.m.t. plas case $\pm 20$
C143	BB5	E2	A6	250pF	125V	plas foil $\pm 2$
C144	BB5	D3	G7	15pF	750V	cer tub ins $\pm 5$
C145	BB6	D4	A7	250pF	125V	plas foil $\pm 2$
C146	AA6	E4	A7	0.002	400V	fixed non met $\pm 20$
Cct ref	Component location			Description		
	Main cct	Unit cct	Unit layout			
	Fig 2503	Fig 2519	Fig 2519			
MISCELLANEOUS						
L115	BB5	D2	B6	Inductor r.f.		
L116	BB6	D4	B7	Inductor r.f.		
VT107	CC5	C3	A5	Transistor, OC170		
MR102	BB5	E3	F7	Diode, OA70		



1580/55

Fig 2520 - Arrangement of tuning unit stowage



Note: These Pages 1041 and 1042, Issue 2, supersede Pages 1041 and 1042, Issue 1, dated 24 Sep 64.  
Para 4 has been amended, para 5 is additional.

Table 2511 - Transmitter and receiver crystal table

Notes

1. The 96 Tuners, radio frequency, included in a Station kit, radio, TRA43R Mk 2, No 1 or 2 are aligned in that particular TRA43R during manufacture. This is to ensure that circuit trimming will allow for variations in stray capacitance. It is a workshop task to repair a damaged or defective tuner, r.f.
2. Complete Tuners, r.f. with crystals are not held as spares but Tuner, r.f. less crystals, and replacement crystals are available. When replacement Tuners, r.f. are required it is a workshop task to demand the necessary parts, and align it to that particular SRA43R Mk 2.
3. Defective or damaged Tuners, r.f. should, if fitted with channel frequency crystals, have the crystal removed and refitted on to a replacement type of Tuner, r.f. If the crystal on a serviceable Tuner, r.f. is non-active a suitable replacement as listed on page 1042 and 1043 should be fitted.
4. The five basic types of Tuner, r.f. shown in Fig 2502 and 2503:-
  - a. (TF) Yellow code - Tuner, radio frequency; channel frequency range 265-300Mc/s. Cat No Z1/5820-99-949-4518
  - b. (TF) Yellow code - Tuner, radio frequency; channel frequency range 240-265Mc/s. Cat No Z1/5820-99-949-4517
  - c. (RF) Blue code - Tuner, radio frequency; channel frequency range 240-300Mc/s. Cat No Z1/5820-99-949-4515
  - d. (TR) Red code - Tuner, radio frequency; channel frequency range 240-300Mc/s (T) non-crystallised. Cat No Z1/5820-99-949-4514
  - e. (RR) Green code - Tuner, radio frequency; channel frequency range 240-300Mc/s (R) non-crystallised. Cat No Z1/5820-99-949-4516
5. The letter coding indicates the nature of the biscuit and its position in the turret, that is:-

TF	-	transmitter biscuit, front turret drum	-	yellow
TR	-	transmitter biscuit, rear turret drum	-	red
RF	-	receiver biscuit, front turret drum	-	blue
RR	-	receiver biscuit, rear turret drum	-	green



Table 2511 - (cont)

Item No	Vocab Sect Part No	Service designation	Fundamental frequency	Symbol and channel freq.
RECEIVER				
	Z1/5955-99-949-			
25	4490	) Crystal for tuning unit, quartz, style 'J'	13.996875Mc/s	R 243.0Mc/s
26	4491		14.371875Mc/s	R 249.0Mc/s
27	4492		14.428125Mc/s	R 249.9Mc/s
28	4493		14.440625Mc/s	R 250.1Mc/s
29	4494		14.490625Mc/s	R 250.9Mc/s
30	4495		14.509375Mc/s	R 251.2Mc/s
31	4496		14.553125Mc/s	R 251.9Mc/s
32	4497		14.590625Mc/s	R 252.5Mc/s
33	4498		14.615625Mc/s	R 252.9Mc/s
34	4499		14.678125Mc/s	R 253.9Mc/s
35	4500		14.753125Mc/s	R 255.1Mc/s
36	4501		14.865625Mc/s	R 256.9Mc/s
37	4502		14.890625Mc/s	R 257.3Mc/s
38	4503		14.896875Mc/s	R 257.4Mc/s
39	4504		14.921875Mc/s	R 257.8Mc/s
40	4505		14.953125Mc/s	R 258.3Mc/s
41	4506		14.978125Mc/s	R 258.7Mc/s
42	4507		14.984375Mc/s	R 258.8Mc/s
43	4508		15.671875Mc/s	R 269.8Mc/s
44	4509		16.065625Mc/s	R 276.1Mc/s
45	4510		16.128125Mc/s	R 277.1Mc/s
46	4511		16.171875Mc/s	R 277.8Mc/s
47	4512		16.271875Mc/s	R 279.4Mc/s
48	4513		16.484375Mc/s	R 282.8Mc/s

Table 2512 - Power supply unit, component schedule

Cct ref	Component location		Value ( $\Omega$ )	Rating	Type and limit (%)
	Unit cct	Unit layout			
	Fig 2521	Fig 2522			
RESISTORS					
R401	G6	C5	680	1/8W	comp ins $\pm 10$
R402	G7	D5	18	1/4W	comp ins $\pm 10$
R403	G8	A1	6.8k	1/8W	comp ins $\pm 10$
R404	F7	A1	150	1/8W	comp ins $\pm 10$
R405	F8	A2	47	1/4W	comp ins $\pm 10$
R406	F8	A1	47	1/4W	comp ins $\pm 10$
CAPACITORS					
C401	H7	F2	( $\mu F$ ) 8	150V	elect tant foil tub met case $\pm 20$
C402	J7	E1	8	150V	elect tant foil tub met case $\pm 20$
C403	J7	E2	8	150V	elect tant foil tub met case $\pm 20$
C404A) C404B)	K7	F1	2x250	15V	elect tant pellet $\pm 20$
C405	F8	A1	0.05	150V	p.m.t. plas $\pm 20$
C406	F8	A1	0.05	150V	p.m.t. plas case $\pm 20$
C407	J8	C6	150	6V	elect tant tub met ins $\pm 20$
C408	K8	F1	47	15V	elect tant tub met ins $\pm 20$
C409	J8	B6	33	6V	elect tant tub met ins $\pm 20$
Cct ref	Component location		Description		
	Unit cct	Unit layout			
	Fig 2521	Fig 2522			
MISCELLANEOUS					
L401	H7	F2			Inductor, a.f.
L402	J6	E1			Inductor, a.f.
L403	J8	E1			Inductor, a.f.
T401	G6	CD345			Transformer
T402	G8	B5			Transformer
VT401	F6	E6)			Transistor, CV7084
VT402	F6	C6)			
VT403	F7	B2 )			Transistor, CV5416
VT404	F8	B1 )			
MR401	H6	F8)			Diode, CV7039
MR402	H6	F8)			
MR403	H6	F6)			
MR404	H6	F6)			
MR405	G8	A8			Diode, OA70
MR406	H8	A6			Diode, CV7036
MR407	H8	A8			Diode, CV7036

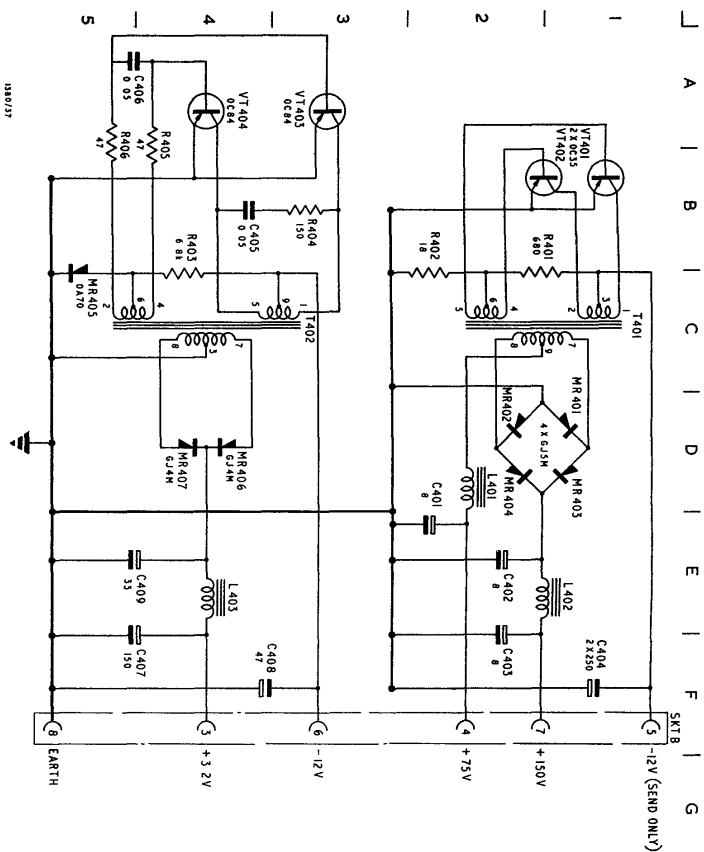


Fig 2521 - P.S.U. circuit

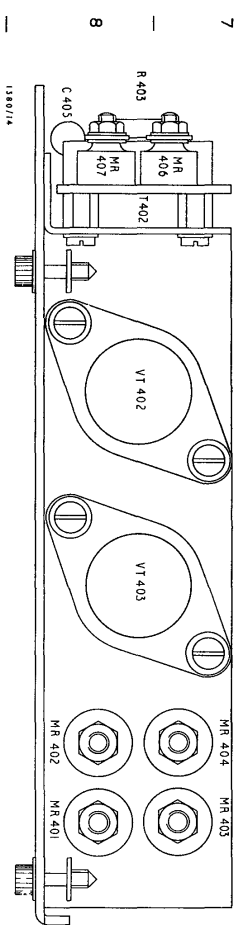
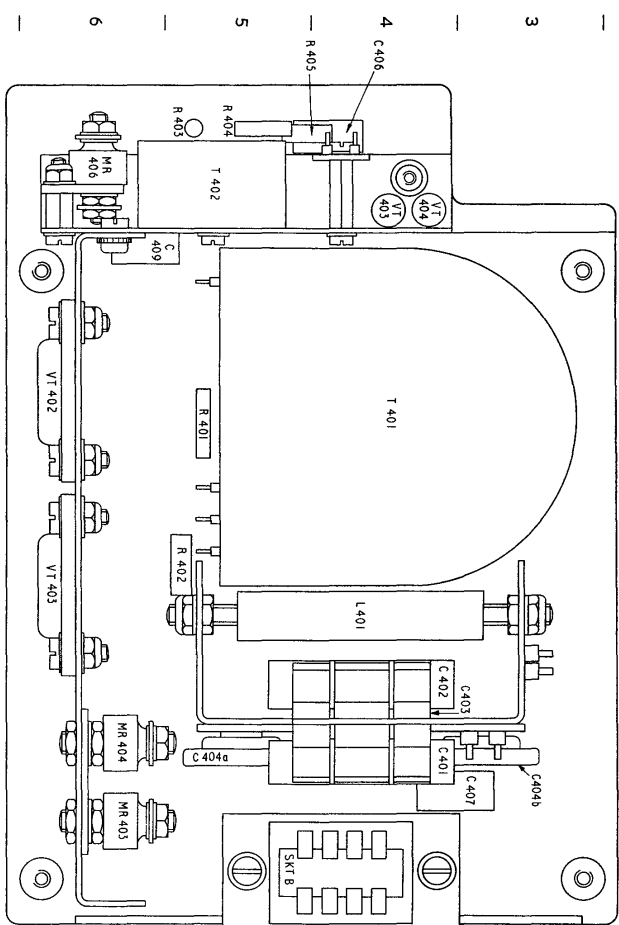
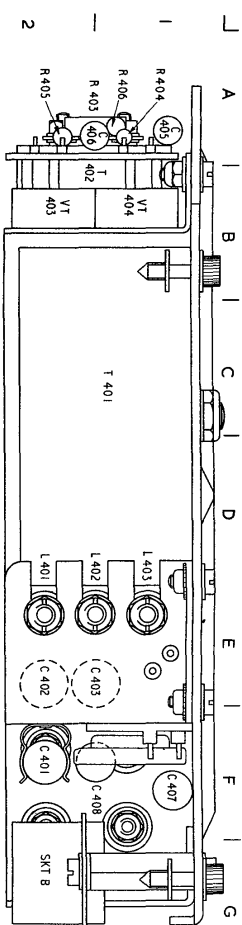


Fig 2522 - P.S.U. layout, above and below chassis

Table 2513 - Battery charger, component schedule

Cct ref	Component location		Value ( $\Omega$ )	Rating	Type and limit (%)
	Unit cct	Unit layout			
	Fig 2523	Fig 2523			
RESISTORS					
R501	C1	C7			on test, value selected
R502	D2	B7	2.7k	1/4W	comp ins $\pm 10$
R503	D2	B7	680	1/4W	comp ins $\pm 10$
R504A) R504B)	D3	M7	5	1/4W	comp ins $\pm 10$
R505A) R505B)	F1	II7	5	1/4W	comp ins $\pm 10$
R506A) R506B)	F3	M8	5	1/4W	comp ins $\pm 10$
R507	L2	B5	1.2k	1/4W	comp ins $\pm 10$
R508	J1	M5	1	4.1/2W	w.w. vit enam $\pm 10$
R509	J2	C5	10	1/4W	comp ins $\pm 10$
R510	J2	C5	2.2k	1/4W	comp ins $\pm 10$
R511	J3	B5	10k	1/4W	comp ins $\pm 10$
R512	J3	C5	680	1/4W	comp ins $\pm 10$
R513	J4	B5	680	1/4W	comp ins $\pm 10$
R514	K1	M5	2	1/4W	w.w. vit enam $\pm 10$
R515	K1	L5	2	1/4W	w.w. vit enam $\pm 10$
R516	K2	C5	10	1/4W	comp ins $\pm 10$
R517	K2	C5	10	1/4W	comp ins $\pm 10$
R518	K3	C5	2.7k	1/4W	comp ins $\pm 10$
R519	L1	L5	270	1/4W	comp ins $\pm 10$
R520	L4	M6	820		comp ins $\pm 10$
R521	L4	M6	220	1/4W	comp ins $\pm 10$
R522	L2	M6	1k	1/4W	comp ins $\pm 10$
R523	M3	L5	1	4.1/2W	w.w. vit enam $\pm 10$
RV501	L3	M6	100	1W	var w.w. lin $\pm 10$
RV502	M2	M6	1k	1/4W	var lin comp $\pm 20$
CAPACITORS					
C501	B2	B6	( $\mu F$ ) 500	50V	elect aluminium electrode processed foil met tub case ins $+100 -20$
C502	F2	C7	0.1	175V	p.m.t. ins $\pm 20$
C503	J3	L6	1000	25V	elect aluminium electrode processed foil met tub case ins $+50 -20$
C504	K4	B5	0.1	175V	p.m.t. ins $\pm 20$

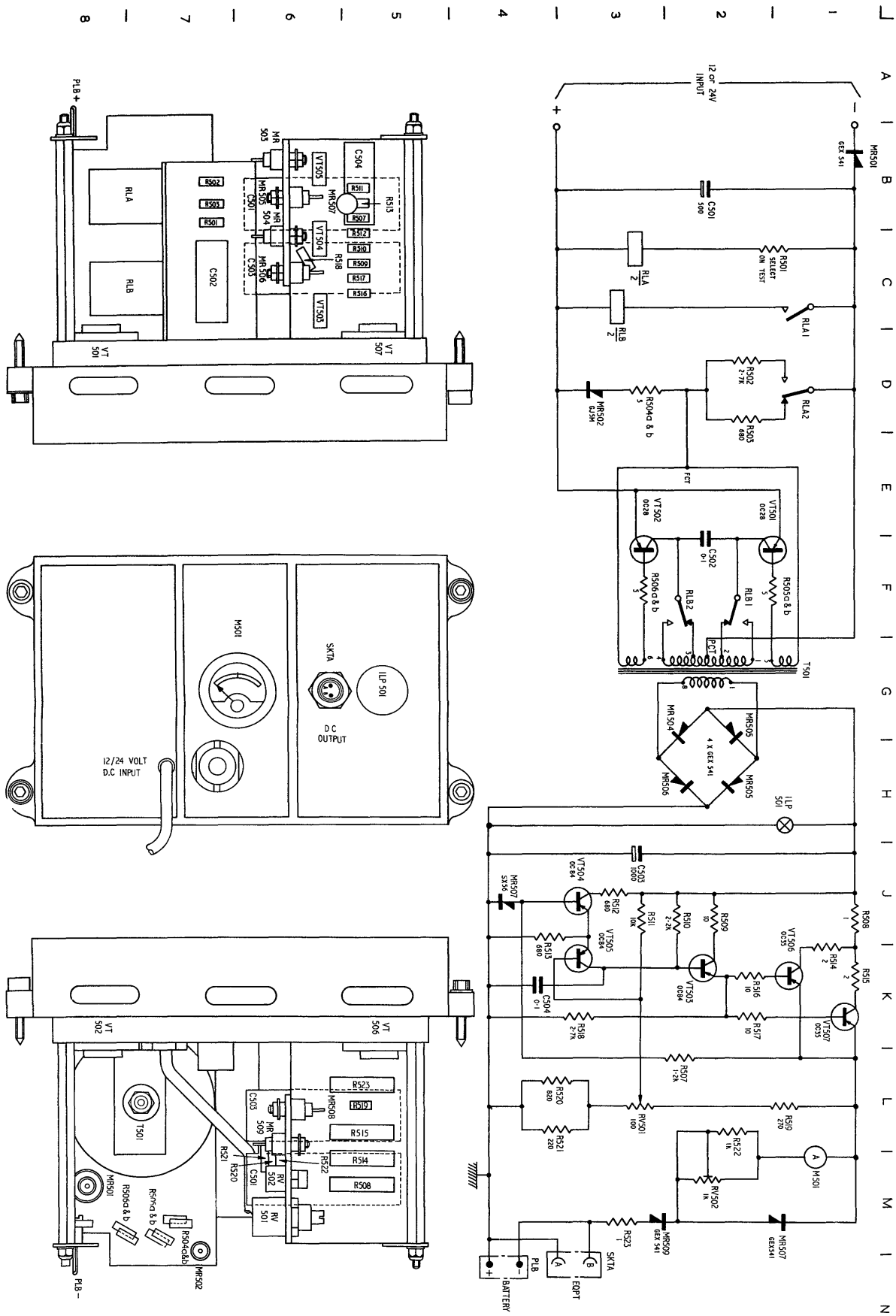


Fig 2523 - Battery charger, circuit diagram of layout

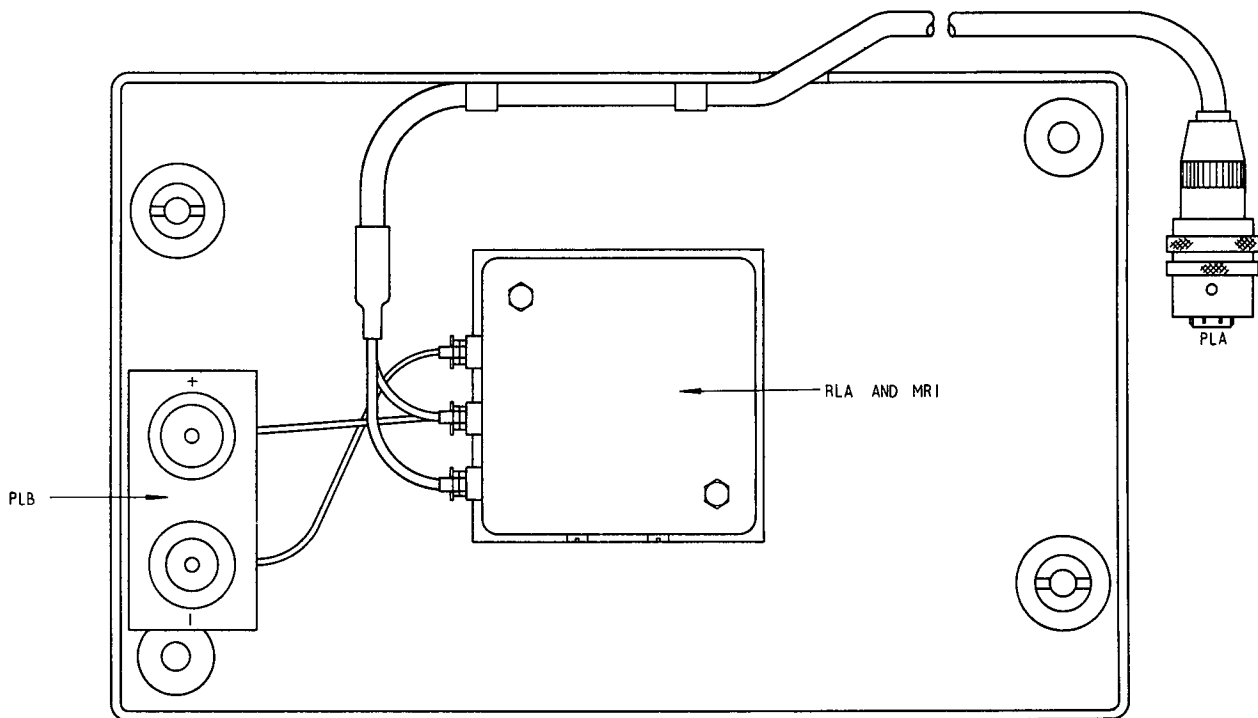
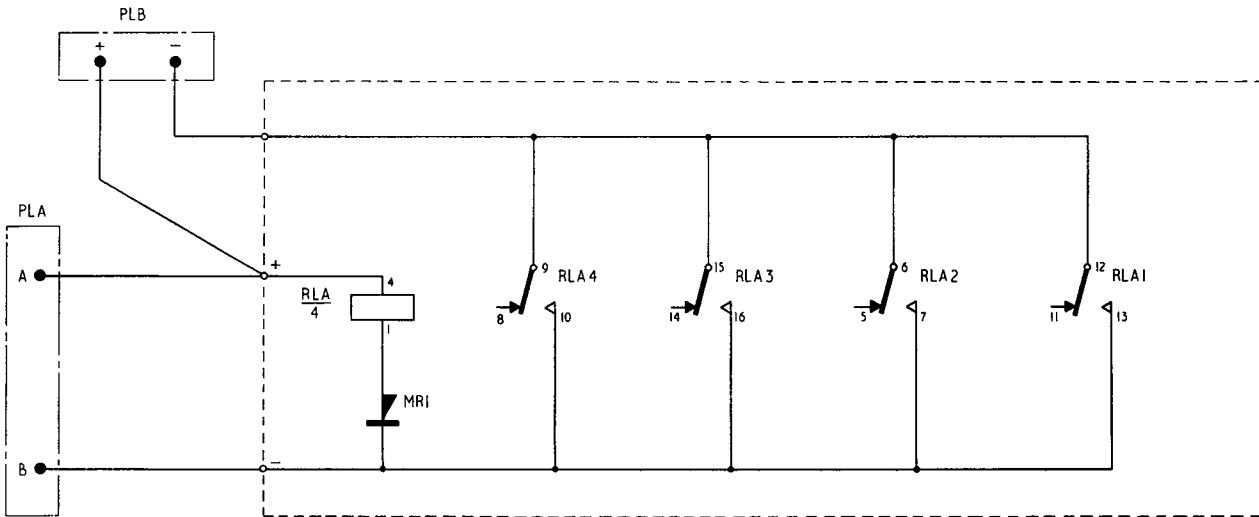
Table 2513 - (cont)

Cct ref	Component location		Description
	Unit cct	Unit layout	
	Fig 2523	Fig 2523	
MISCELLANEOUS			
T501	G2	L7	Transistor power supply. Prim 4 sect each 44+44 turns bifilar wound. Sec. 72 turns feedback 10-0-10 turns
RLA	C3	B7	4-pole c/o 630Ω coil 16-31V
RLB	C3	C7	4-pole c/o 630Ω coil 16-31V
M501	M1	G6	Moving coil 0-1mA F.S.D. 0-5mA
VT501	F1	D8	Transistor, CV7085
VT502	F3	K8	Transistor, CV7085
VT503	K2	C6	Transistor, CV5416
VT504	J3	C6	Transistor, CV5416
VT505	K3	B6	Transistor, CV5416
VT506	K1	K5	Transistor, CV7084
VT507	K1	D5	Transistor, CV7084
MR501	B1	F7	Rect diode, CV7122
MR502	D3	N7	Rect diode, CV7039
MR503	G2	B6	Rect diode, CV7122
MR504	G2	B6	Rect diode, CV7122
MR505	H2	B6	Rect diode, CV7122
MR506	H2	B6	Rect diode, CV7122
MR507	J4	B6	Silicon Zener diode, CV7069
MR508	M2	L6	Rect diode, CV7122
MR509	M3	L6	Rect diode, CV7122

Table 2514 - Battery adaptor, component schedule

Cct ref	Component location		Description
	Unit cct	Unit layout	
	Fig 2524	Fig 2524	
MISCELLANEOUS			
MR1	-	-	Semi-conductor, CV7049
RLA	-	-	Relay - armature 100V 1A d.c. 4 c/o contacts





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Fig 2524 - Battery adaptor, circuit diagram and layout

Table 2515 - Test equipment schedule - ARMY

Item	Cat ref No	Description	Remarks
1	Z4/ZD 00425	Signal generator, No 15	R.F. signal source 200-300Mc/s for overall performance checks and realignment via Modulator, amplitude, TF1102
2	Z4/ZD 04302	Signal generator, No 18, CT402 equipment	1st i.f. signal source 19,05Mc/s f.m./a.m., for i.f. check and realignment with MODULATOR
3	Z4/ZD 02674	Signal generator, No 12, CT320 equipment	2nd i.f. signal source 930kc/s, for i.f. checks and realignment
4	Z4/ZD 04247 OR Z4/ZD 00498	Signal generator, video frequency No 1, CT416 Oscillator, beat frequency, No 8	Audio-osc 300-3000c/s for audio checks and setting up speech clipper and modulation of Signal generator, No 15 when used in conjunction with Modulator, amplitude, TF1102
5	Z4/ZD 00498	Oscillator, beat frequency, No 8	Current limit protection required
6	Z4/	Stabilized power supply 0-30V, 5A, max ripple 1mV (Solatron type AS1218)	
7	Z4/6625-99-993-1822 with Z4/6625-99-103-3677 and Z4/6625-99-103-3678	Frequency counter 30Mc/s upper frequency. Accuracy 1 in 10 <sup>6</sup> . Counts of 1 to 10 secs. Input sensitivity less than 100mV. Input impedance greater than 10kΩ. (Marconi TF1417/2 with Marconi TF2400 and TM7164)	Used for frequency checks of channel fundamental frequencies, also 2nd oscillator, and for final radiated and received channel frequencies.
8	Z4/6625-99-972-0247	Multimeter electronic, CT471. (Bradley type 113/S)	Alignment and performance testing
9	Z4/6625-99-943-2419	Test set, electronic valve, Avo, type CT160	Transmitter valves AL3R, Mk 2
10	Z4/	Kits testing AL3R, Mk 2	Required for repair of AL3R, Mk 2 at field and base
11	Z4/	Modulation meter. Frequency range 20Mc/s and 240-300Mc/s. Modulation a.m., 0-100% peak and trough. (Airmec 210)	Transmitter testing (I.F. output to oscilloscope CT436)
12	Z4/6625-99-949-0510	Wattmeter, absorption, a.f., No 1, CT44	A.F. output wattmeter for overall performance checks, setting up and realignment of receiver unit
13	Z4/6625-99-949-2037	Modulator, amplitude, type TF1102	To provide modulated r.f. input to set, in conjunction with Signal generator, No 15 and modulation source
14	Z4/6625-99-943-5568	Wattmeter, absorption, v.h.f., CT419	U.H.F. power output meter, for overall performance checks, setting up and realignment of the transmitter. 50R input
15	Z4/6625-99-913-8618	Oscilloscope, set, CT436	I.F. alignment and speech clipper adjustments
16	Z4/6625-99-949-1999 OR Z4/6625-99-943-1524	Multimeter, set, Avo, type 9SX (CT498)	Power supply checks, d.c. levels, setting up and realignment
17	Z4/6625-99-949-0872	Multimeter, Avo, model 8S	Testing semi-conductors during fault diagnosis and repair
18	Z4/6625-99-949-0872	Test set, transistor, CT446	Seal testing checks after repair
19	Z4/6625-99-200-2271	Leak locator CT509	Drying out equipments after repair but before resealing
20	Z4/6625-99-942-4825	Oven, drying, telecommunication equipment	

Note: If Signal Generator TF801D/2/S, CT394A is available it should be used in preference to items 1 and 13

Table 2516 - Test equipment schedule - NAVAL equivalents to Table 2515

Item	N.A.T.O. Cat No	Description	Remarks
1	6625-99-972-6346	Signal generator CT394A	R.F. Signal source covering 200 to 300Mc/s for overall performance checks and realignment using internal amplitude modulation of 1kc/s in lieu of Modulator, amplitude, TP1102
2	ZD 00784	Test oscillator, portable CT212	1st I.F. signal source 19.0Mc/s f.m./a.m. for I.F. check and realignment
3	ZD 00784	Test oscillator, portable CT212	2nd I.F. signal source 930kc/s for I.F. check and alignment
4	} 6625-99-943-4059	Signal generator CT433	Audio oscillator for audio checks in 300-3000c/s range
5		-	Not available
6	-	-	-
7	6625-99-971-8519	Digital frequency counter CT488 with 100Mc/s adaptor	Present limit 100Mc/s. Future adaptor will extend range
8	6625-99-972-0247	Multimeter, electronic CT471	Alignment and performance testing
9	6625-99-943-2419	Test set, electronic valve, CT160	Testing of transmitter valves
10	-	-	Not available
11	6625-99-943-2784	Test set (Radio) CT214	Transmitter testing
12	6625-99-949-0510	Wattmeter, absorption A.F. No 1 CT44	A.F. output wattmeter for overall performance checks setting up and realignment of receiver unit
13	-	-	See Item 1 above
14	6625-99-943-2784	Test set (Radio) CT214	UHF power O/P meter for overall performance checks
15	6625-99-914-2605	Oscilloscope CT436 (without accessories of 6625-99-913-8618)	I.F. alignment and speech clipper adjustments
16	} 6625-99-943-1524	Multimeter Model 85X	Power supply checks, d.c. levels etc.
17		-	-
18	6625-99-949-0872	Test set, transistor CT446	G.P. transistor test set
19	-	-	Not available
20	-	-	Not available

N.B. Not all ships carrying the S.R.43R Mk 2 (Naval Type 634) will be entitled to the items of G.R.E.T.E. scheduled above - this schedule is not to be construed as authority to demand G.R.E.T.E. in excess of normal allowance.

Table 2517 - Test equipment schedule - R.A.F. equivalents to Table 2515

Item	Cat ref No	Description	Remarks
1	10/S17134 6625-99-972-6436	Signal generator, CT394A (TF801D/2/S) Set	R.F. signal source 200-300Mc/s for overall performance checks and realignment using internal amplitude modulation of 1kc/s
2	10S/17626 6625-99-944-7666	Signal generator, 9208B (TF995A/2/M) Set	1st i.f. signal source 19.05Mc/s f.m./a.m., for i.f. check and realignment with MODULATION
3	10S/16780	Signal generator, CT218 (TF937)	2nd i.f. signal source 930kc/s, for i.f. checks and realignment
4	} 10S/9449754	Wide range RC osc audio and video TF1370	} Audio-osc 300-3000c/s for audio checks and setting up speech clipper
5			
6	10K/ 10S/9331822 (S1/1) 10S/9331823 (S2/1) 10S/9331824 (S5/1) OR 10AF/9701766 as item 7 Table 2515	Stabilised power supply 0-30V, 5A, max ripple 1mV (SPARTRONIC POWER PACK)	Current required 4A. Current limit protection required
7	10S/9331822 (S1/1) 10S/9331823 (S2/1) 10S/9331824 (S5/1) OR 10AF/9701766 as item 7 Table 2515	Frequency counter 300Mc/s upper frequency. Accuracy 1 in 10 <sup>6</sup> . Counts of 1 to 10 secs. Input sensitivity less than 100mV. Input impedance greater than 10kΩ. (Marconi TF1417/2 with 500Mc/s converters)	} Used for frequency checks of channel fundamental frequencies, also 2nd oscillator, and for final radiated and received channel frequencies
8	6625-99-972-0247	Multimeter electronic, CT471. (Bradley type 113/S)	Alignment and performance testing
9	6625-99-943-2419	Test set, electronic valve, Avo, type CT160	Transmitter valves AL3R, Mk 2
10	-	-	-
11	10S/ 6625-99-949-0510	Modulation meter. Frequency range 20Mc/s and 240-300Mc/s. Modulation a.m. 0-100% peak and trough. (Airmec 210)	Transmitter testing (I.F. output to oscilloscope CT436)
12	6625-99-949-0510	Wattmeter, absorption, a.f., No 1, CT44	A.F. output wattmeter for overall performance checks, setting up and realignment of receiver unit
13	-	-	-
14	6625-99-943-5568	Wattmeter, absorption, v.h.f., CT419, TF1152/1	U.H.F. power output meter, for overall performance checks, setting up and realignment of the transmitter. 500 input
15	6625-99-913-8618	Oscilloscope, set, CT436	I.F. alignment and speech clipper adjustments
16	6625-99-949-1999	Multimeter set, Avo, type 9SX (CT498)	} Power supply checks, d.c. levels, setting up and realignment
17	6625-99-943-1524	Multimeter, Avo, model 8S	} Power supply checks, d.c. levels, setting up and realignment
18	10S/9490872 6625-99-949-0872	} Test set transistor, CT446	Testing semi-conductors during fault diagnosis and repair
19	6625-99-200-2271	Leak locator CT509	Seal testing checks after repair
20	6625-99-942-4825	Oven, drying, telecommunication equipment	Drying out equipment after repair but before resealing

Table 2518 - Specification tests

1. The figures quoted have been extracted from the design specification.

TRANSMITTER

2. R.F. parameters: 240-300Mc/s. Channel spacing 100kc/s minimum, frequency tolerance  $\pm 0.003\%$  over temp. range  $-40^{\circ}\text{C}$  to  $55^{\circ}\text{C}$ .
- R.F. power output rating: At least 2W unmodulated carrier into a  $50\Omega$  load.
- Types of emission: Telephone (A3) Amplitude modulated.  
Beacon service (unkeyed):-  
C.W. (A0)  
M.C.W. (A2) - Tone frequency preset within the range 300-3000c/s.
- Modulator response: Within -3dB of level at 1000c/s, from 300 to 3000c/s
- A.F. input: Unbalanced - suitable for carbon microphone
- A.F. characteristic: Excluding speech clipper but including low pass filter - within +1.5 and -3.5dB of the level at 1000c/s, from 300 to 3000c/s. Above 3500c/s, the rate of attenuation is greater than 20dB/octave.
- Clipping: When the a.f. input voltage is increased by four times that required at the clipper threshold, the clipper peak output voltage does not increase by more than 26%.
- Harmonic distortion: When the carrier is modulated to a depth of 90% at 1000c/s, with the speech clipper inoperative, the harmonic distortion does not exceed 10%.
- Sidetone: Derived from the r.f. output.

RECEIVER

3. R.F. parameters: 240-300Mc/s. Channel spacing 100kc/s minimum, frequency tolerance  $\pm 0.003\%$  over temp. range  $-40^{\circ}\text{C}$  to  $55^{\circ}\text{C}$ .
- Sensitivity: A signal of  $5\mu\text{V}$ , modulated to 30% at 400c/s, will produce not less than 2mW a.f. output with a signal/noise ratio better than 10dB.
- Selectivity: Not more than 6dB attenuation at 55-60kc/s total bandwidth; 60dB attenuation at 200kc/s total bandwidth.
- I.F. rejection: For the two I.F. amps (19.05Mc/s not less than 60dB and 930kc/s not less than 60dB).
- Image rejection: At least 50dB.

Table 2518 - (cont)

Input impedance:	50 $\Omega$ unbalanced.
A.G.C.:	An increase input signal by 60dB above 5 $\mu$ V produces a change of less than 6dB in output.
A.F. response:	100-1000c/s; -1 to +2dB of level at 1000c/s. 1.0-3.0kc/s, the response falls until at 3kc/s it is -5 to -8dB relative to 1kc/s. Above 3kc/s, the response falls at greater than 6dB octave.
A.F. output:	At least 2mW into 300 $\Omega$ at 1000c/s.
A.F. distortion:	Not greater than 10% for an output of 2mW into 300 $\Omega$ at 1000c/s.

POWER SUPPLY UNIT (Transmitter/Receiver)

4. Power consumption

(i) Receive:	2.6 watts
(ii) Transmit:	(a) Telephony A3: 32 watts
	(b) CW AO' : 30 watts
	(c) MCW A2 : 39 watts

Output voltages	(i) Transmitter main HT +150V
	(ii) Transmitter 2nd HT +75V
	(iii) Transmitter filament LT. Receiver bias and P.A. valve pre-heat +3.2V

The modulator, receiver HT and the transmitter bias are obtained direct from the -12V supply line.

Output current	(a) Measured on a resistive load. Input 11.5V d.c.
	(b) Set on 'TRANSMIT' phone, no audio input. Input 11.5V d.c.
	(i) Transmitter HT 150V (a) 148mA (b) 110mA
	(ii) Transmitter HT 75V (a) 18mA (b) 18.5mA
	(iii) Bias and Filament 3.2V (a) 460mA (b) 420mA

The above readings are typical and may vary by as much as 10%.

Table 2519 - Transmitter, typical test readings

All readings taken with Avo, model 8 or 9. Voltages indicated are with respect to chassis.									
Valve	Pin number/electrode/multimeter range								
	1	2	3	4	5	6	7	8	9
	-	G1 25V	-	H 25V	H 25V	-	A 250V	G2 250V	-
V301	-	0	-	1.4	0.15	-	73	75	-
V302	-	-8.5	-	1.4	2.7	-	162	135	-
V303	-	-11.5	-	1.4	2.7	-	162	75	-
V304	-	-11.5	-	1.4	0	-	158	70	-
V305	-	-11.5	-	1.4	0	-	158	70	-
	G1a 25V	-	G1b 25V	-	H 25V	Aa 250V	G2 250V	Ab 250V	HCT 25V
V306	-0.9	-	-0.9	-	-12	150	140	150	-6

Table 2520 - Modulator typical test readings

All readings taken with Avo, model 8 or 9. Voltages indicated are with respect to chassis			
Transistor	Electrode/Avo range		
	E 2.5V	B 2.5V	C 25V
VT301	-0.8	-1.35	-11.0
VT302	0	-0.13	-11.3
VT303	0	-0.13	-11.3

Table 2521 - Speech clipper, typical test readings

All readings taken with Avo, model 8 or 9. Voltages indicated are with respect to chassis			
Transistor	Electrode/Avo range		
	E 10V	B 10V	C 10V
VT201	-3.65	-3.7	-7.18
VT202	-3.68	-3.72	-7.0

Table 2522 - Receiver, typical test readings

All readings taken with Avo, model 8 or 9. Voltages indicated are with respect to chassis						
Transistor	Electrode					
	E		B		C	
	Reading	Avo range (V)	Reading	Avo range (V)	Reading	Avo range (V)
VT101	0.25	2.5	0	2.5	-9.5	25
VT102	0.25	2.5	0	2.5	-9.2	25
VT103	-2.6	10	-2.7	10	-10.0	25
VT108	0.27	2.5	0.03	2.5	-12.0	25
VT109	0.27	2.5	0	2.5	-10.5	25
VT110	0.25	2.5	0	2.5	-10.5	25
VT111	0.2	2.5	0	2.5	-11.7	25
VT112	0.2	2.5	0	2.5	-11.7	25
VT114	-1.0	2.5	0	2.5	-12.5	25
VT115	0	2.5	-0.02	2.5	-12.5	25
VT116	0	2.5	-0.57	2.5	-7.2	25
VT117	-4.0	10	-3.2	10	-12.5	25

Table 2523 - Stage gain voltages

1. Input voltages stated are those required to give 7mW output at the headphone terminals. Volume control set fully clockwise.

Audio stages

2. Signal input - 400c/s via 1μF capacitor.

<u>Test point</u>	<u>Input</u>
Pin 1 detector sub-unit	275mV
VT117 base	270mV
VT117 emitter	3.2V
VT116 base	0.9V



Table 2523 - (cont)

2nd i.f. stage3. Signal input - 930kc/s, 30% a.m. via .1 $\mu$ F capacitor

<u>Test point</u>	<u>Input</u>
I.F. detector unit pin 6	4.5mV
I.F. amplifier pin 6 (VT106)	90 $\mu$ V
I.F. filter pin 1	250 $\mu$ V
I.F. filter pin 6	1.4mV
Mixer (VT105)	30 $\mu$ V

1st i.f. stages4. Signal input - 19.05Mc/s 30% a.m. via .1 $\mu$ F capacitor

<u>Test point</u>	<u>Input</u>
I.F. frequency to mixer pin 6 (VT105)	40 $\mu$ V
I.F. amplifier pin 6 (VT104)	18 $\mu$ V
I.F. filter	40 $\mu$ V
1st mixer VT103 base	32 $\mu$ V
1st mixer VT103 emitter	4-5 $\mu$ V

Table 2524 - Battery charger, voltage and current readings

Notes: 1. The charger is suitable for charging Magnatex cells or Nife nickel-cadmium cells. Internal preset control is provided for selecting the required output. An external plate shows the type of battery for which the charger has been set.

(a) Approximate charging times - Lead-acid batteries - 8 hr  
Nickel-cadmium batteries - 4 hr

(b) The meter indication gives the state of charge of the batteries and the fully charged condition.

2. Input supply voltage:

(a) 11.0V to 16.0V d.c. and 22.0V to 30.0V d.c., ie a 12V or 24V lead-acid battery fully charged down to discharged condition, the selection of the voltage taps is automatic.

Table 2524 - (cont)

(b) The charger is protected against damage due to incorrect polarity of the supply.

3. Output supply:

(a) 13.2V  $\pm$ 100mV for lead-acid batteries

(b) 14.6V  $\pm$ 100mV for cadmium batteries

	Supply voltage			
	11	16	22	30
Input current (no load)	0.405A	0.54A	0.265A	0.36A
Input current (1A load)	2A	2.15A	1.05A	1.15A
Input current regulator disconnected	0.175A	0.265A	0.16A	0.235A
Base voltage VT1/2	1V	1.45V	1.05V	1.4V
VT1 peak-to-peak voltage on 1A load	18V	48V	40V	52V
VT4 collector (no load)	12.5V	23.3V	12.4V	21.1V
VT4 base (no load)	5.2V	5.2V	5.3V	5.3V
VT4 emitter (no load)	5.1V	5.2V	5.2V	5.2V
VT5 collector (no load)	13.5V	13.4V	13.6V	13.5V
VT5 base (no load)	5.2V	5.3V	5.3V	5.3V
VT3 collector (no load)	16.7V	25V	15.6V	23.5V
VT3 emitter (no load)	13.4V	13.3V	13.4V	13.3V
Converter O/P volts (no load)	16.8V	25V	16.8V	23.2V
VT6 collector on 1A load	13.2V	21.6V	14.3V	20.6V
VT6 emitter on 1A load	13.2V	13.2V	13.2V	13.2V

Table 2525 - List of subminiature valves and semi-conductors

TRANSMITTER

VT301	Crystal oscillator	CV2105(DL70)
VT302	Doubler	CV2105(DL70)
VT303	Doubler	CV2299(DL73)
VT304, VT305)	Doubler	CV2299(DL73)
VT306	P. i.	CV2466 (QQV02/6)
MR301 } MR302 }	Diodes	(OA70)

MODULATOR

VT301	Transistor	CV7075 (BCZ11)
VT302 ) VT303 )	Transistor	CV7084 (OC35)

RECEIVER

VT101	R.F. amplifier	Transistor	2N1742/T1832
VT102	R.F. amplifier	Transistor	2N1742/T1832
VT103	Mixer	Transistor	2N1742/T1832
VT104	I.F. amplifier	Transistor	(OC170)
VT105	Mixer	Transistor	(OC170)
VT106	I.F. amplifier	Transistor	(OC170)
VT107	I.F. amplifier	Transistor	(OC170)
VT108	Oscillator	Transistor	(OC170)
VT109	Doubler	Transistor	(OC170)
VT110	Doubler	Transistor	(OC170)
VT111 ) VT112 )	Doubler	Transistor	2N1742/T1832
VT113	Oscillator	Transistor	(OC170)
VT114	A.G.C. amplifier	Transistor	CV7363 (BCZ11)
VT115	A.G.C. amplifier	Transistor	CV7363 (BCZ11)
VT116	A.F. amplifier	Transistor	CV7363 (BCZ11)
VT117	A.F. amplifier	Transistor	CV7363 (BCZ11)

SPEECH CLIPPER/M.C.W. OSCILLATOR

VT201	Clipper transistor	CV5439	(OC75)
VT202	Clipper transistor	CV5439	(OC75)
MR101	Protective diode		(OA70)
MR102	Detector diode		(OA70)
MR103	Protective diode		(OA70)
MR104	Protective diode		(OA70)
MR105	Protective diode		(OA70)
MR106	Protective diode		(OA70)
MR107	Protective diode		(OA70)

Table 2525 - (cont)

POWER SUPPLY

VT4.01) VT4.02)	Transistor oscillator	CV7084	(OC35)
VT4.03) VT4.04)	Transistor oscillator	CV7009	(OC84)
MR4.01) MR4.02) MR4.03) MR4.04)	Bridge diodes	CV7039	(GJ5M)
MR4.06) MR4.07)	F.W. diodes	CV7036	(GJ4M)
MR4.05	Protective diode		(OA70)

FRONT PANEL

OUTPUT	Indicator	CV2980	(DM70)
--------	-----------	--------	--------

BATTERY CHARGER

MR1	Protective diode	CV7122	(GEX541)
MR2	Starter diode	CV7039	(GJ5M)
VT1) VT2)	Switch transistors	CV7085	(OC28)
MR3-MR6	Rectifiers	CV7122	(GEX541)
MR7	Reference diode	CV7069	(SX56)
MR8	Metering diode	CV7122	(GEX541)
MR9	Protective diode	CV7122	(GEX541)
VT4) VT5)	D.C. amplifiers	CV7009	(OC84)
VT3	D.C. amplifier c/f transistor	CV7009	(OC84)
VT6) VT7)	Regulator transistors	CV7084	(OC35)

Table 2526 - A43R, Mk 2 production modifications since November 1962

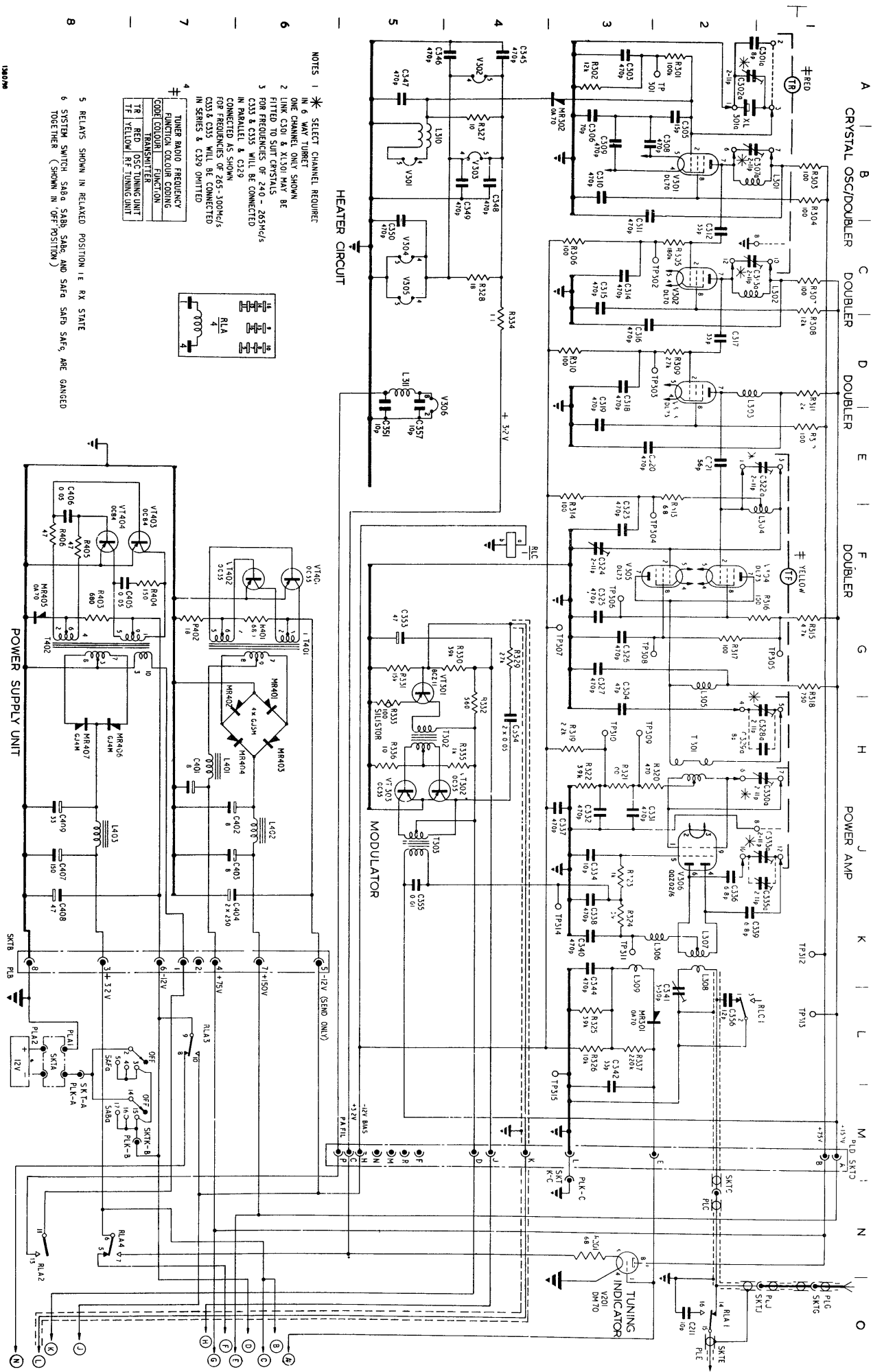
Note: This is for information only. Modification action should only be taken in accordance with official instructions published in EMERS, Air Publications, D. F. Councils instructions or BR 19/17.										
Item	Date	Detail								
1	5.11.62	<p>To support flying leads to 14 way plugs on TRX and REC 2 cable supports and 2 cable straps added. These require NO additional holes or fixings.</p> <p>To secure the REC flying lead in position, 1 cable clip added. This requires 2 additional holes in sub-front panel and 2 rivets or alternatively 2 screws, nuts and washers.</p> <p>MANUFACTURER NOT CERTAIN OF QUANTITY DISPATCHED LESS THIS MODIFICATION</p>								
2	11.10.62	<p>On REC transfer collector lead of VT102 to end of coil L105 <u>nearest</u> front panel.</p> <p>Transfer -12V supply (via R105) to end of coil L105 <u>furthest</u> from front panel.</p> <p>To reduce unwanted coupling between 2nd r.f. amp and final osc-multi stage.</p> <p>FIRST 6 DISPATCHED LESS THIS MODIFICATION</p>								
3	25.10.62	<p>On TRX change C356 to 12pF.</p> <p>Change lengths of subminiature co-axial cables as follows:-</p> <table border="0"> <tr> <td>SKTG to PLJ .....</td> <td>1.1/2 in.</td> </tr> <tr> <td>SKTJ to RLA .....</td> <td>2.1/8 in.</td> </tr> <tr> <td>Relay RLA to TRX .....</td> <td>8.1/4 in.</td> </tr> <tr> <td>Relay RLA to REC .....</td> <td>12 in.</td> </tr> </table> <p>Exposed centre and screen of each cable must not exceed 1/4 in. Do not use rubber sleeves. Solder screen as close to cable as possible.</p> <p>To regularise performance.</p> <p>UP TO 150 DISPATCHED LESS THIS MODIFICATION</p>	SKTG to PLJ .....	1.1/2 in.	SKTJ to RLA .....	2.1/8 in.	Relay RLA to TRX .....	8.1/4 in.	Relay RLA to REC .....	12 in.
SKTG to PLJ .....	1.1/2 in.									
SKTJ to RLA .....	2.1/8 in.									
Relay RLA to TRX .....	8.1/4 in.									
Relay RLA to REC .....	12 in.									
4	31.10.62	<p>On REC modify all seven i.f. coils to incorporate various strengthening wires.</p> <p>UP TO 150 DISPATCHED LESS THIS MODIFICATION</p>								

Table 2526 - (cont)

Item	Date	Detail
5	26.11.62	To TRX rear stator contact assy, add 1 extra long earthing contact. 1 rivet 1 contact required. Holes exist. To prevent loss of REC sensitivity around 270-280Mc/s.
6	26.11.62	In 2nd osc can on REC change value of R143 from 10k $\Omega$ to 5.6k $\Omega$ .  To increase output of low limit 2nd osc.
7	1.12.62	On TRX change R319 from 22k $\Omega$ to 2.2k $\Omega$ 10% Dubilier BTR.  Change R322 from 4.7k $\Omega$ to 470 $\Omega$ 10% Dubilier BTR. (Both R319 and R322 since change to Erie Type 15. CH/N. 20387/L).  Change R320 from 1k $\Omega$ to 470 $\Omega$ 10% Erie 15.  To accommodate change in performance of Mullard QQV02/6 valves.  APPROXIMATELY 50 DISPATCHED LESS THIS MODIFICATION
8	14.12.62	On TRX change R328 from 12 $\Omega$ to 18 $\Omega$ . Change R334 from .8 $\Omega$ to 1.1 $\Omega$ . To equalise filament voltage distribution.  APPROXIMATELY 150 DISPATCHED LESS THIS MODIFICATION
9	12.12.62	On TRX change MR302 to Mullard diode OA70 and reposition. Change C306 to 70pF.  Change stand off insulator at junction of R327, C347 and L310, for 1 lead thro' insulator. To this point connect positive side of MR302 (under chassis) and connect other side of MR302 to junction of V401 pin 2, R301 and C305. To reduce crystal dissipation.  APPROXIMATELY 150 DISPATCHED LESS THIS MODIFICATION

EME8c/1380

END



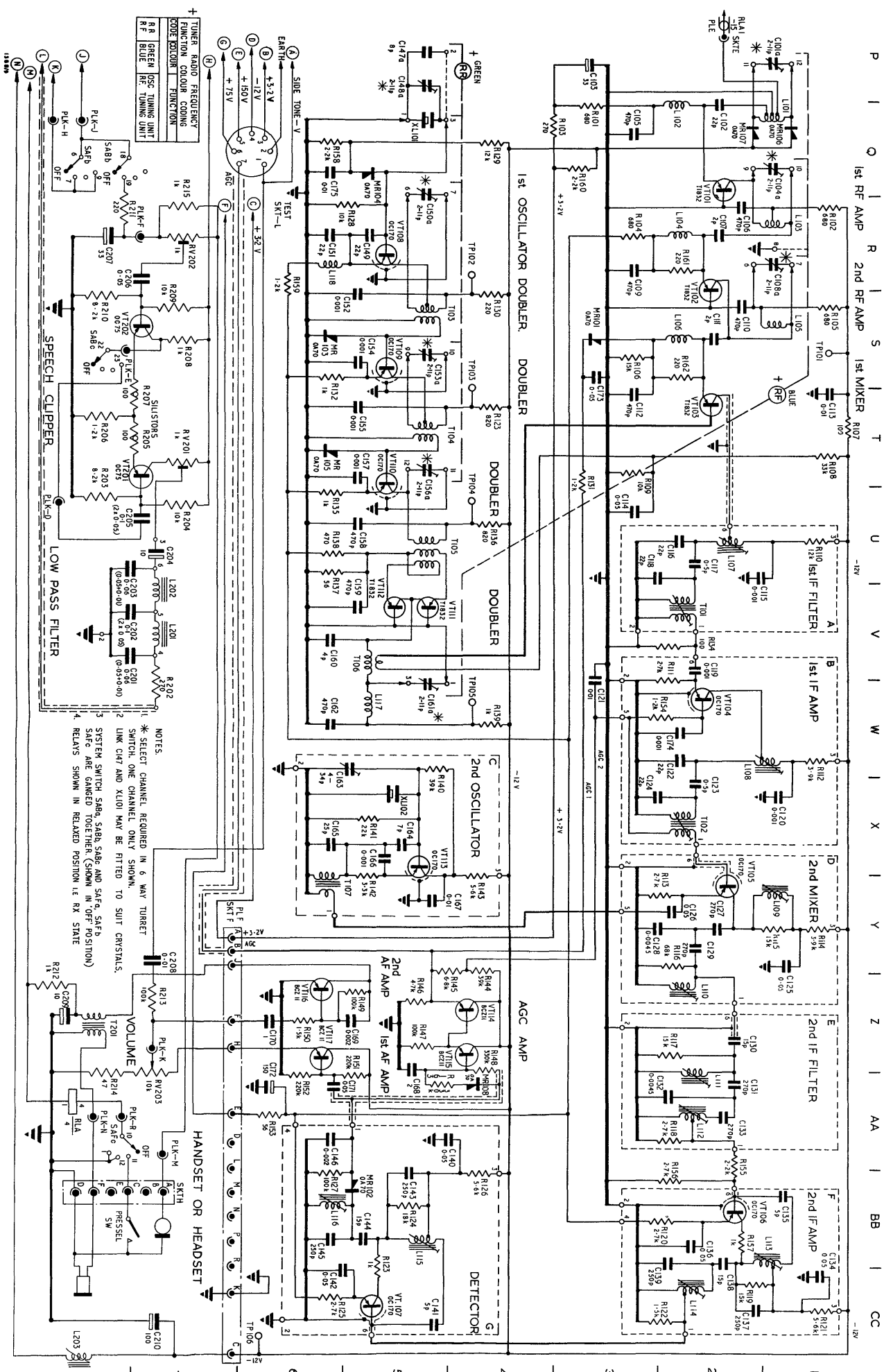
- NOTES
- \* SELECT CHANNEL REQUIREMENT IN 6 WATT TUNING UNIT
  - LINK C301 & C310 MAY BE OMITTED TO SUIT CHANNELS
  - FOR REQUIREMENTS OF 240-265Mc/s C311, C312 & C313 IN PARALLEL & C314 CONNECTED AS SHOWN FOR REQUIREMENTS OF 265-300Mc/s C331, C332 WILL BE CONNECTED IN SERIES & C329 OMITTED

CODE	COLOR	FUNCTION
TR	RED	OSC TUNING UNIT
TF	YELLOW	RF TUNING UNIT

- TUNER RADIO FREQUENCY FUNCTION, COLOR CODING
- TRANSMITTER
- RELAYS SHOWN IN RELAXED POSITION I.E. RX STATE
- SYSTEM SWITCH (SAB A, SAB B, SAB C AND SAB F SAF A, SAF B, SAF C ARE GANGED TOGETHER (SHOWN IN OFF POSITION))

1M09M

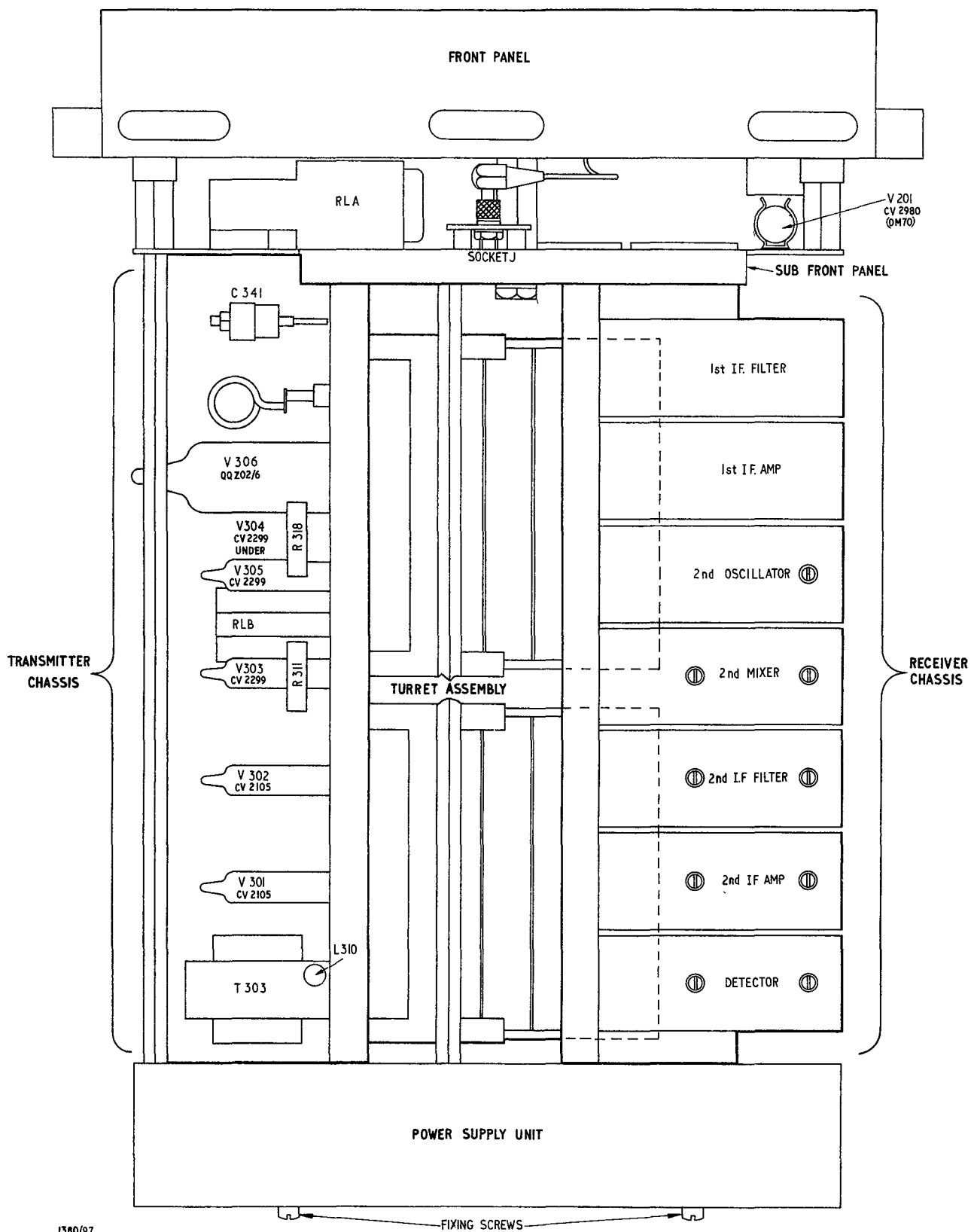
Fig 2525 - Transmitter and p.s.u. circuit diagram



Issue 2, 6 Jun 67

Fig 2526 - Receiver circuit

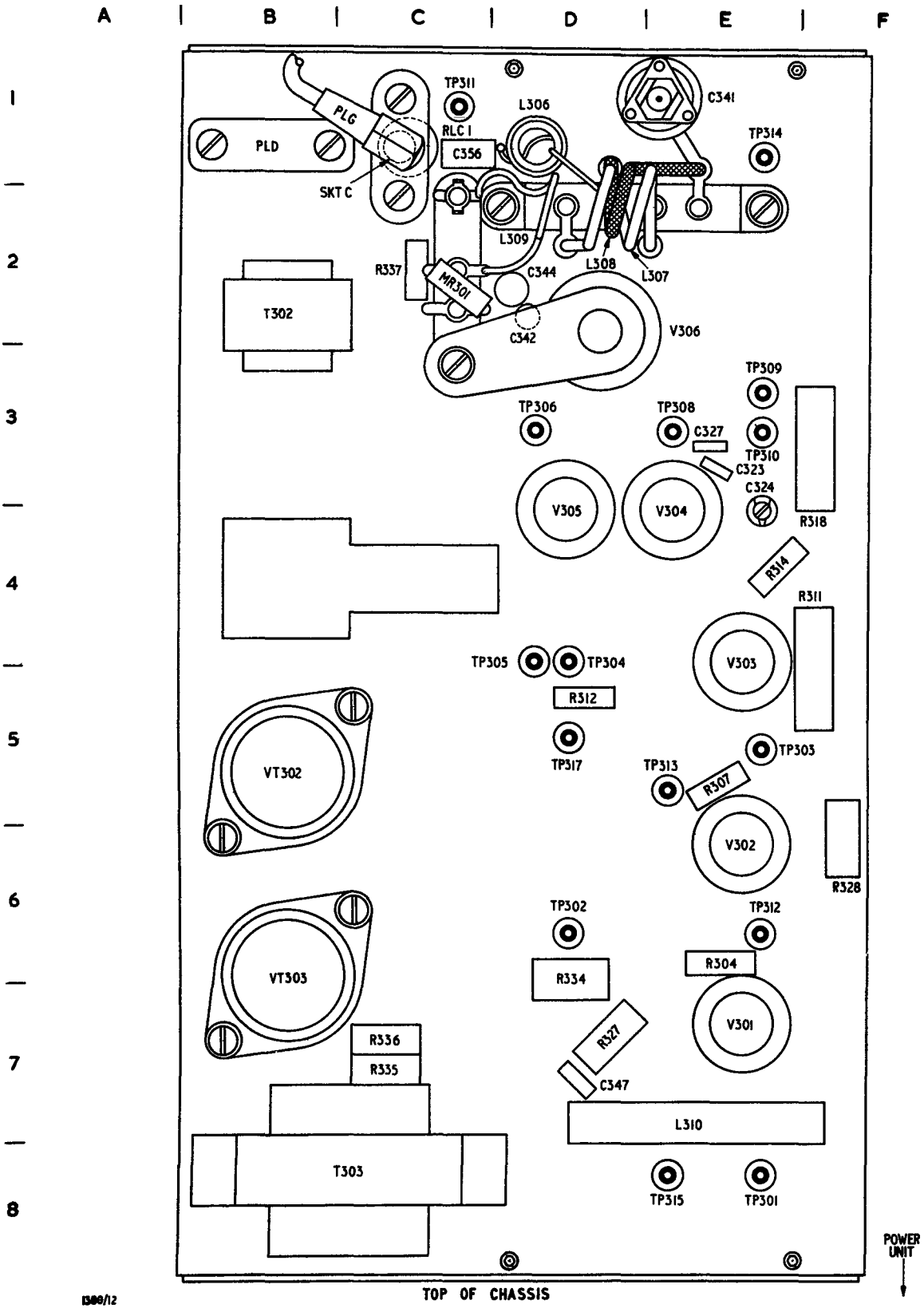




1380/97

Fig 2527 - A43R Mk 2 - Chassis sideview

**NOTE:** These Pages 1063 to 1072, Issue 2, dated 6 Jun 67 contain additional information. Delete 'END' from bottom of Page 1062 Issue 1, dated 24 Sep 64.



1389/12

Fig 2528 - Transmitter layout, above chassis

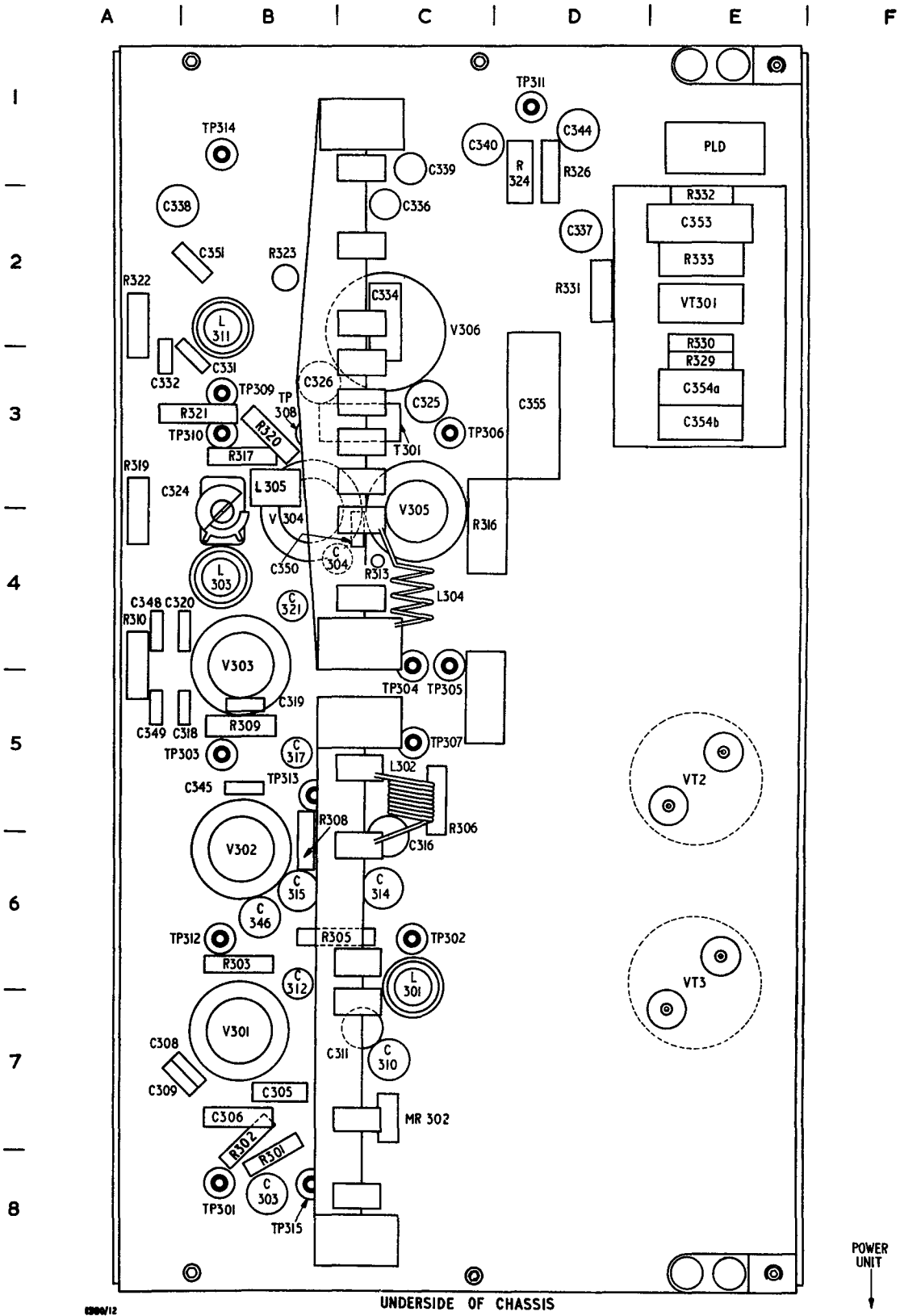
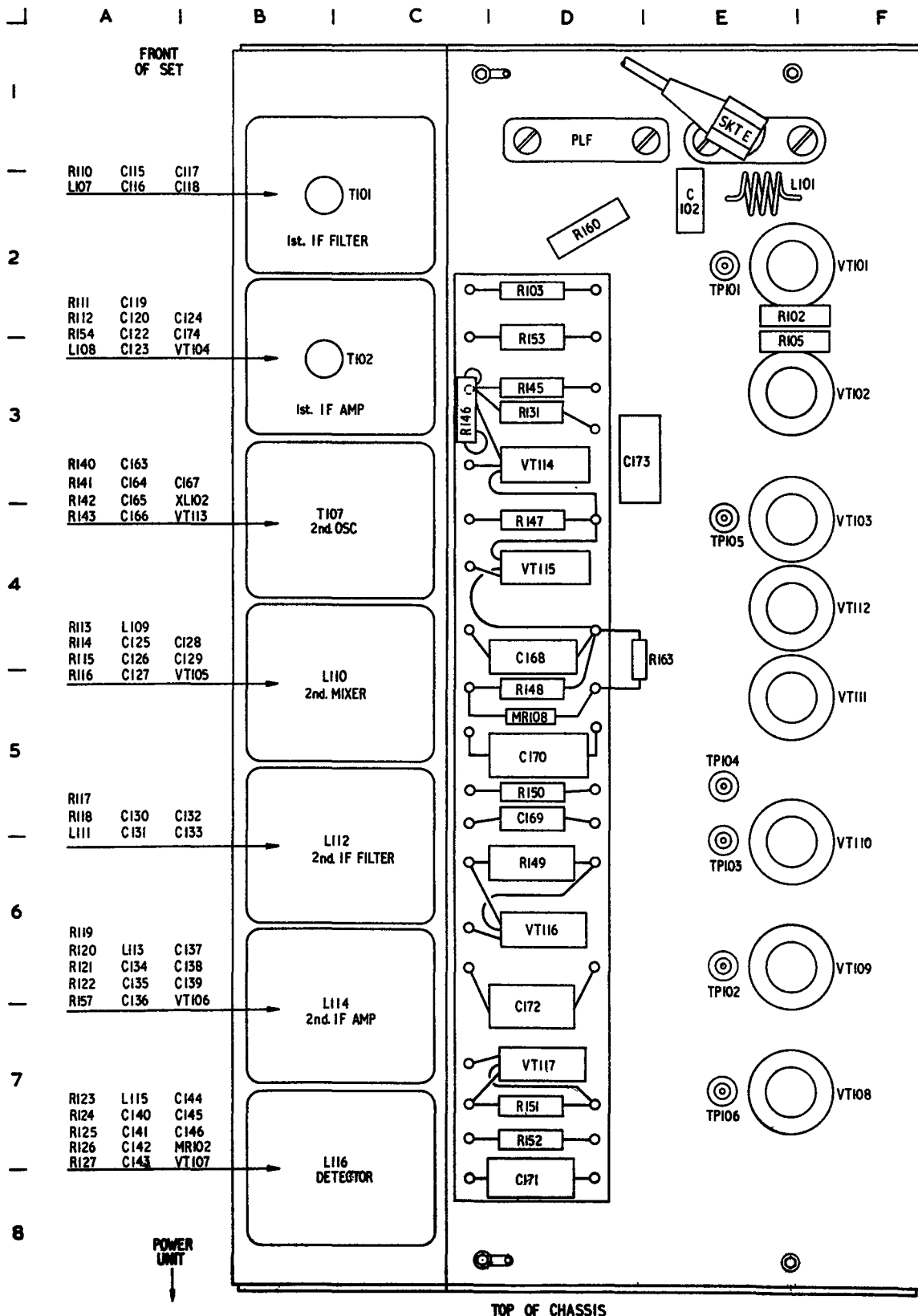


Fig 2529 - Transmitter layout, below chassis

**NOTE:** These Pages 1063 to 1072, Issue 2, dated 6 Jun 67 contain additional information. Delete 'END' from bottom of Page 1062 Issue 1, dated 24 Sep 64.



1380/101

Fig 2530 - Receiver layout above chassis

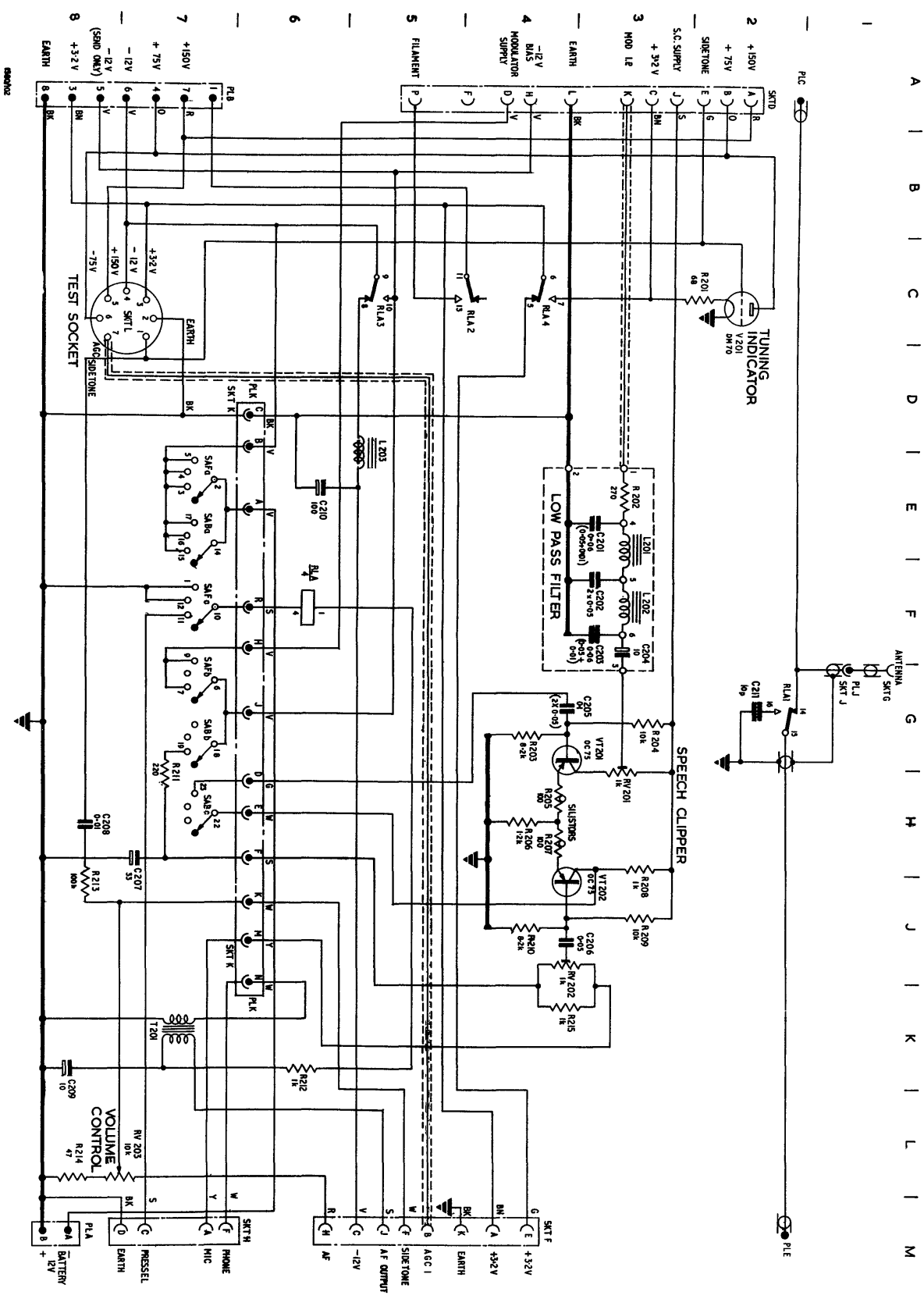
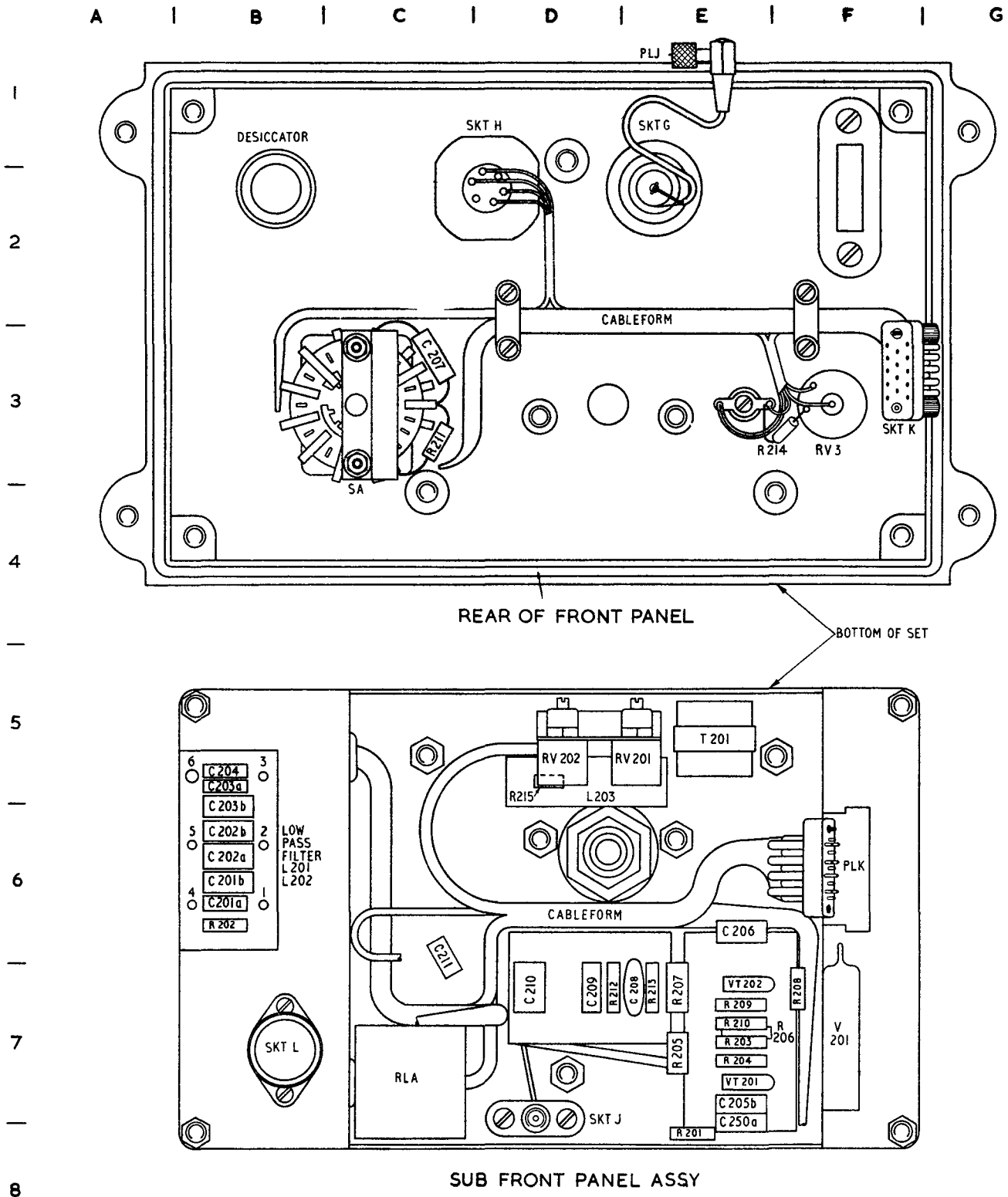


Fig 2531 - Front panel circuit diagram

**NOTE:** These Pages 1063 to 1072, Issue 2, dated 6 Jun 67 contain additional information. Delete 'END' from bottom of Page 1062 Issue 1, dated 24 Sep 64.



1500/66 Fig 2532 - Rear of front panel and sub-front panel assembly layout

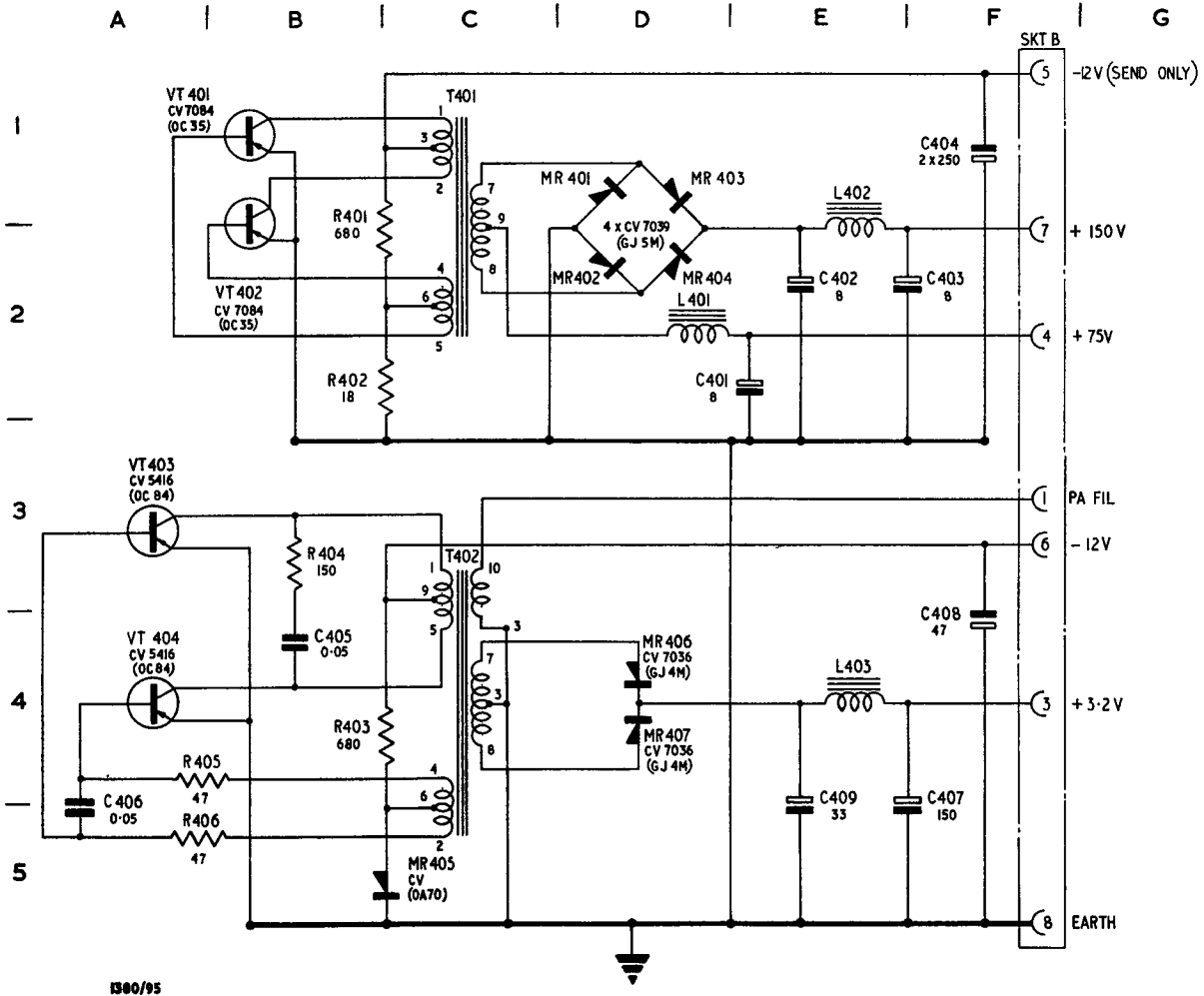


Fig 2533 - P.S.U. circuit diagram

**NOTE:** These Pages 1063 to 1072, Issue 2, dated 6 Jun 67 contain additional information. Delete 'END' from bottom of Page 1062 Issue 1, dated 24 Sep 64.

Table 2527 - Specification tests (later models)

POWER SUPPLY UNIT (Transmitter/Receiver)

The tests are as detailed in Table 2518 with the exception of item 4 'Output voltages', these are now:-

- Output voltages:
- (i) Transmitter main HT +150V
  - (ii) Transmitter 2nd HT +75V
  - (iii) Transmitter filament and receiver bias +3.2V
  - (iv) Transmitter p.a. filament 2.2V a.c.

Table 2528 - Transmitter p.a. typical test readings (later models)

Valve	Pin number/electrode/multimeter range								
	1	2	3	4	5	6	7	8	9
V306	G'a	Ha	Hb	Ab	G'b	Aa	Hb	Ha	G'b
	10V	-	3AC	300	300	300	3AC	-	10
PHONE TX	-8.4	0	1.45	150	145	152	1.45	0	-9
BEACON TONE	-6.6	0	1.2	125	122	125	1.2	0	-7

EME8c/1380/Tels

END



R E S T R I C T E D

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS  
(By Command of the Defence Council)

TELECOMMUNICATIONS  
F 532  
Part 2

STATION, RADIO, A43R, MK 2, MANPACK/GROUND

FORWARD CODING

Note: The following list of Assembly Codes must be used in conjunction with EMER Mgmt J 021 Part 4.

Assembly code	Designation
0001	Transmitter/receiver
0002	Front panel assembly
0003	Main chassis
0004	Power unit
0005	Transmitter assembly
0006	Receiver assembly
0010	Tuner, r.f.
0020	Microphone and receiver headgear assembly

R E S T R I C T E D

TELECOMMUNICATIONS  
F 532  
Part 2

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS

Assembly code	Designation
0021	Handset
0030	Whip antenna
0031	Elevated antenna assembly
0040	Battery charger
0041	Battery adapter and cable assembly
0050	Cases carrying
0099	Miscellaneous cables and adapters

6-502 (Data Centre)

END