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STATION, RADIO, A14

TECHNICAL HANDBOOK - FAULT FINDING AND REPAIR DATA

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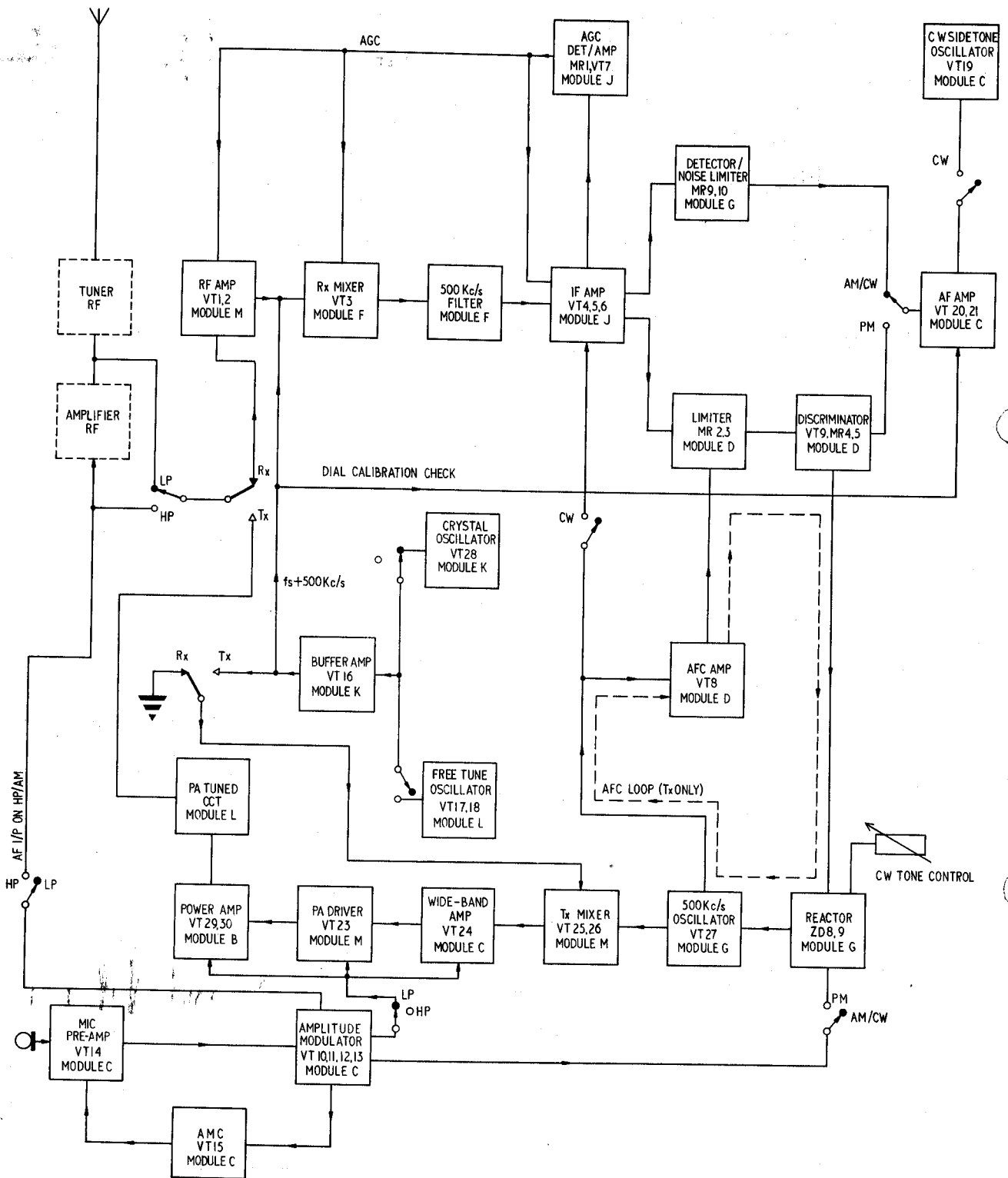
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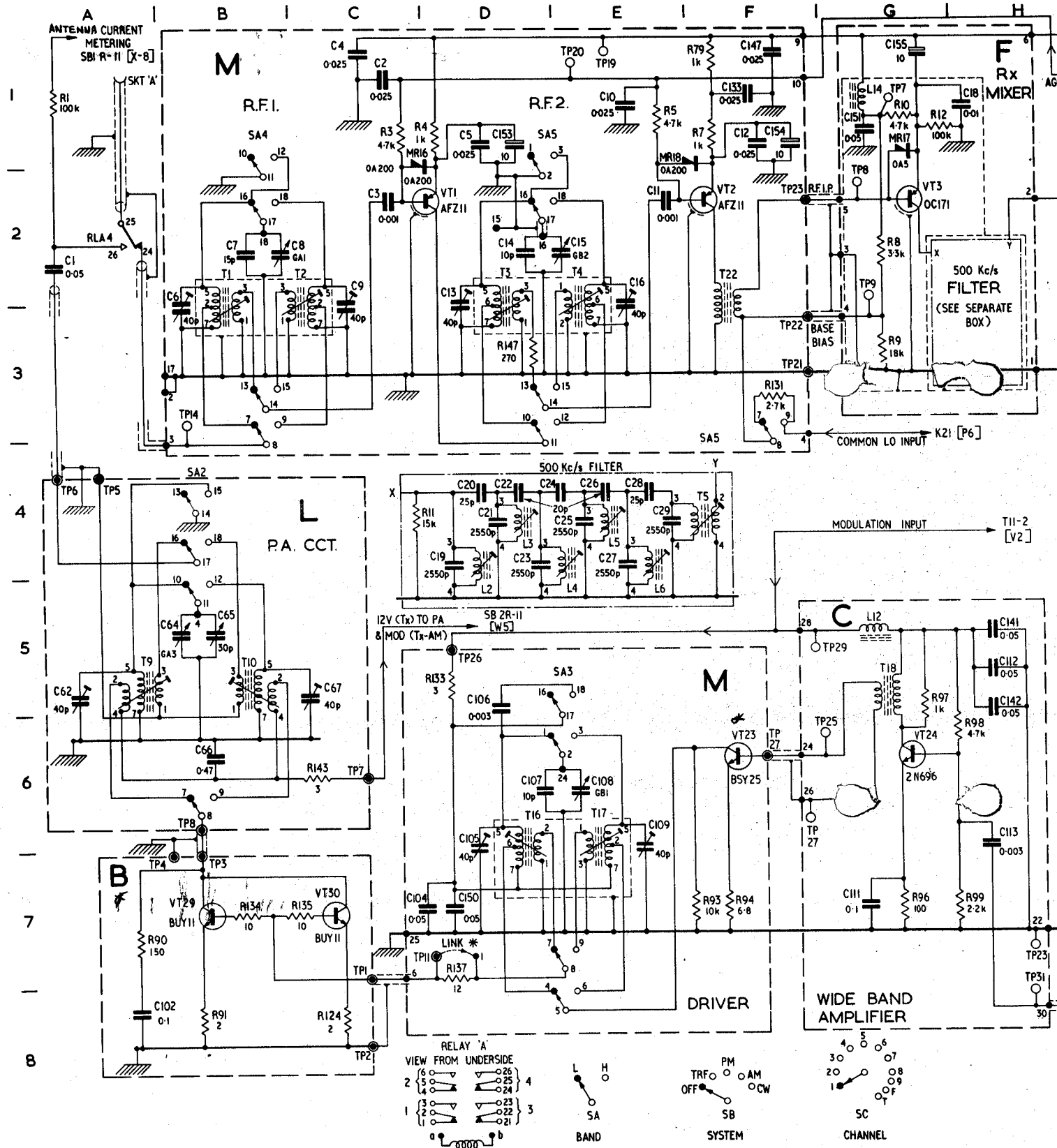
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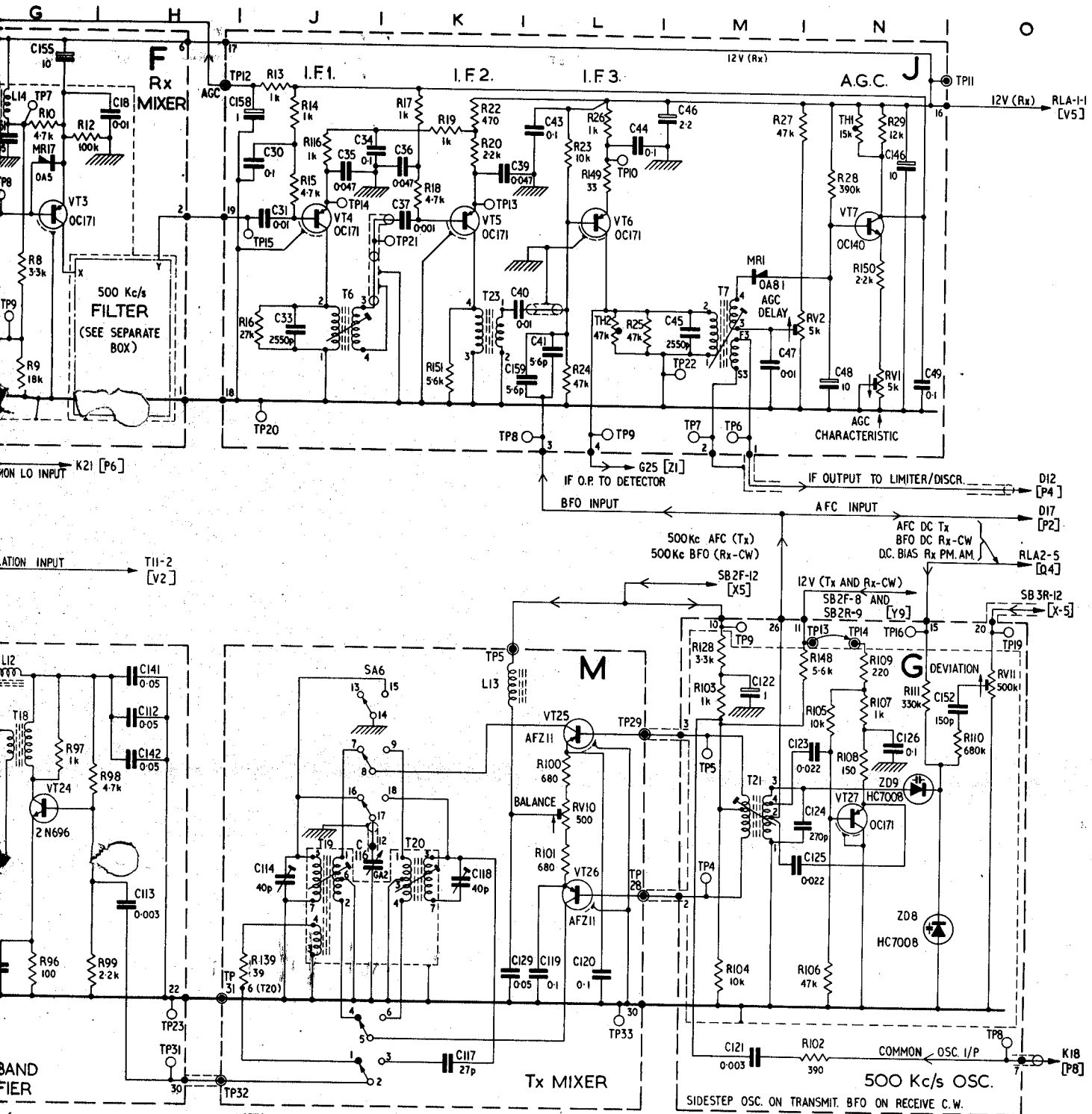
Fig 2501 - TRA14 block diagram



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* HF30 has 1 x BUY 11 only.
 * HF30 - 2N221QA or equiv.

Fig 2502 - TRA14 circuit diagram



- NOTES
- * R137 [D7] LINK TO BE CONNECTED IF REQUIRED IN MANUFACTURE.
 - + R144 [Z2] TO BE REMOVED IF NOT REQUIRED IN MANUFACTURE.
 - DIRECTION OF ARROW ON RV1-RV11 WIPER INDICATES CLOCKWISE ROTATION OF POTENTIOMETER DRIVE.
 - CONTAINS PRODUCTION MODIFICATIONS 1-9 INCLUSIVE.
 - REFERENCES IN SQUARE BRACKETS [] ARE GRID REFERENCES.

4 circuit diagram (part A)

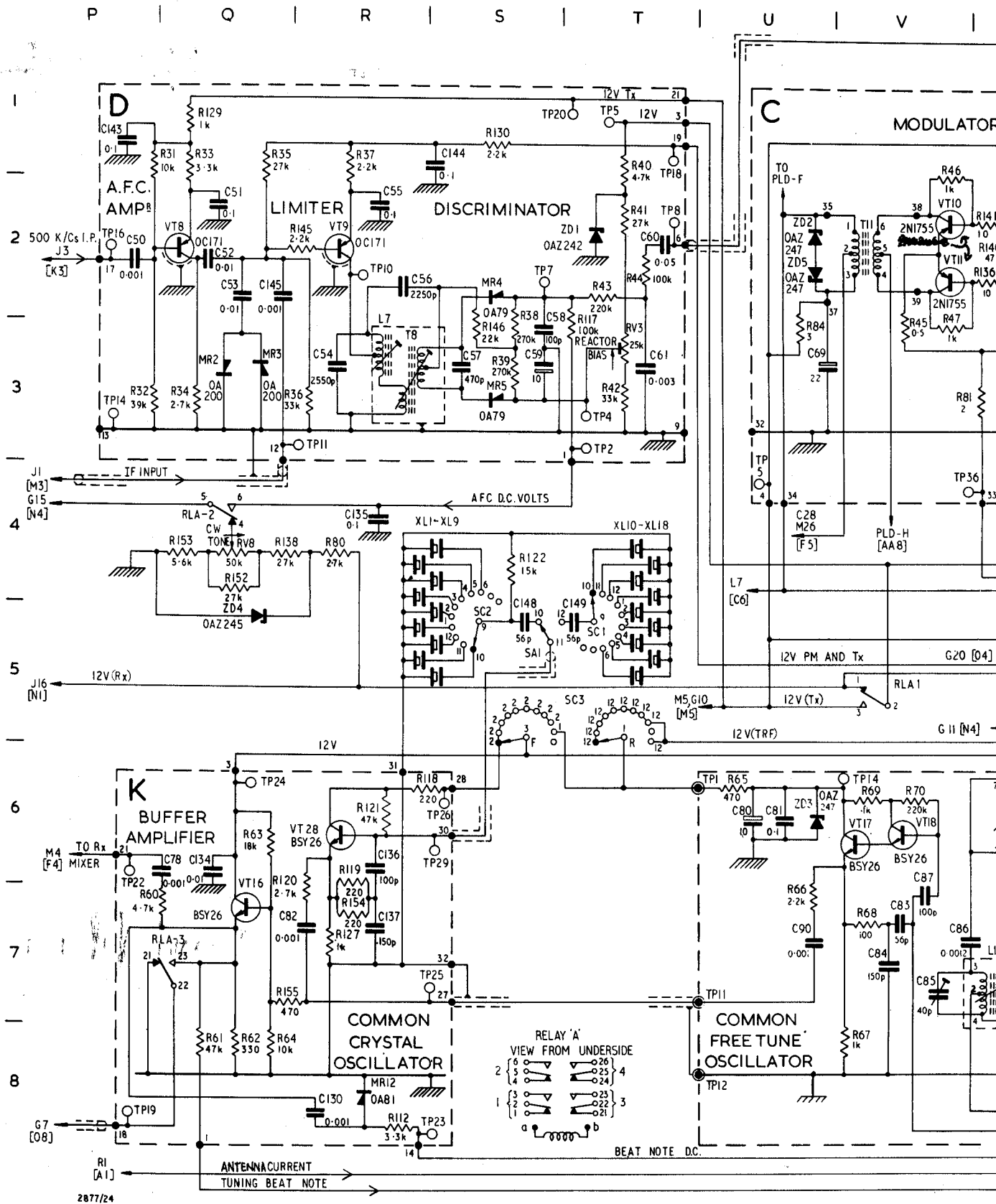
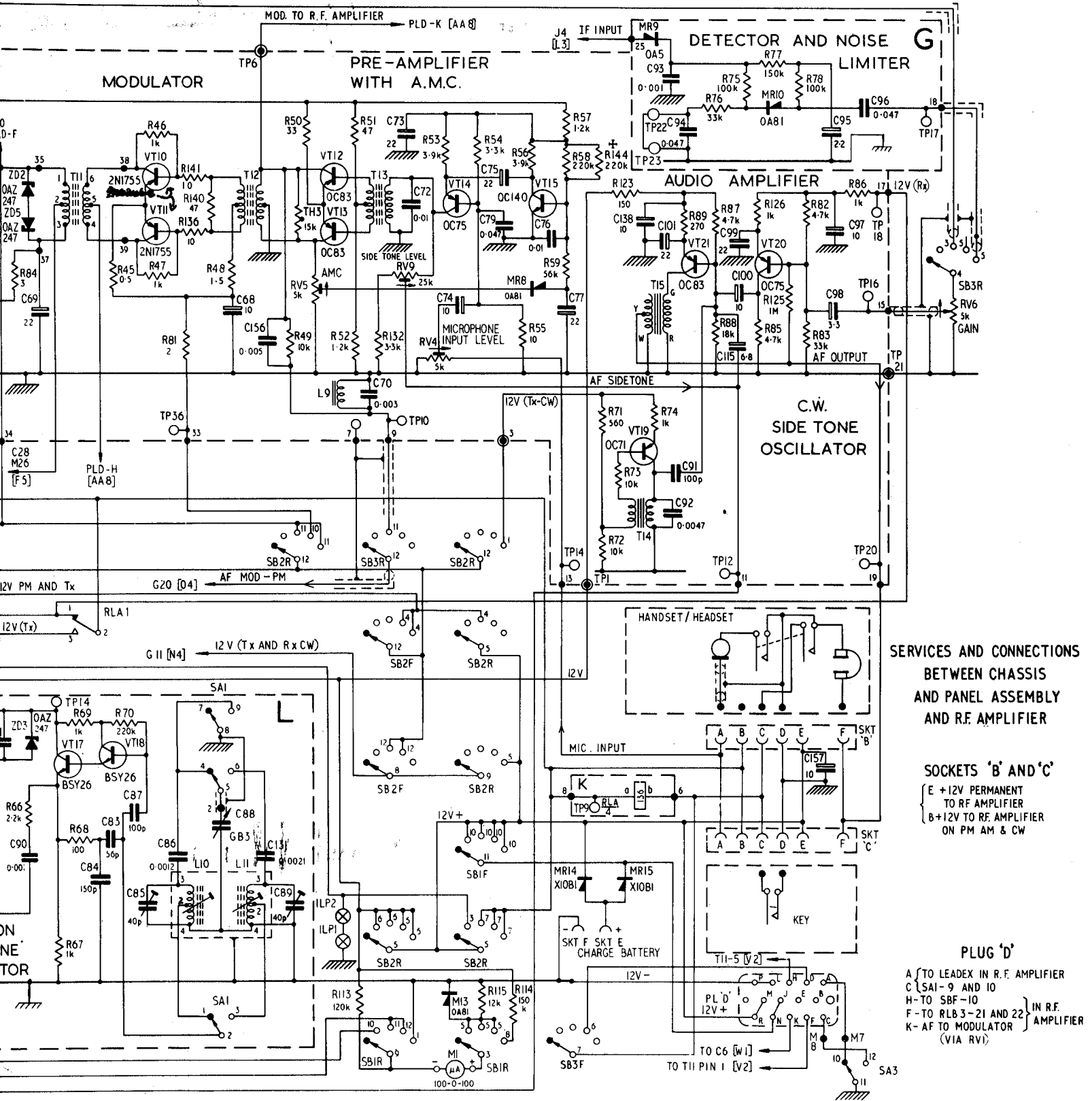


Fig 2503 - TRA14 circuit

V | W | X | Y | Z | AA | BB | CC



SERVICES AND CONNECTIONS BETWEEN CHASSIS AND PANEL ASSEMBLY AND R.F. AMPLIFIER

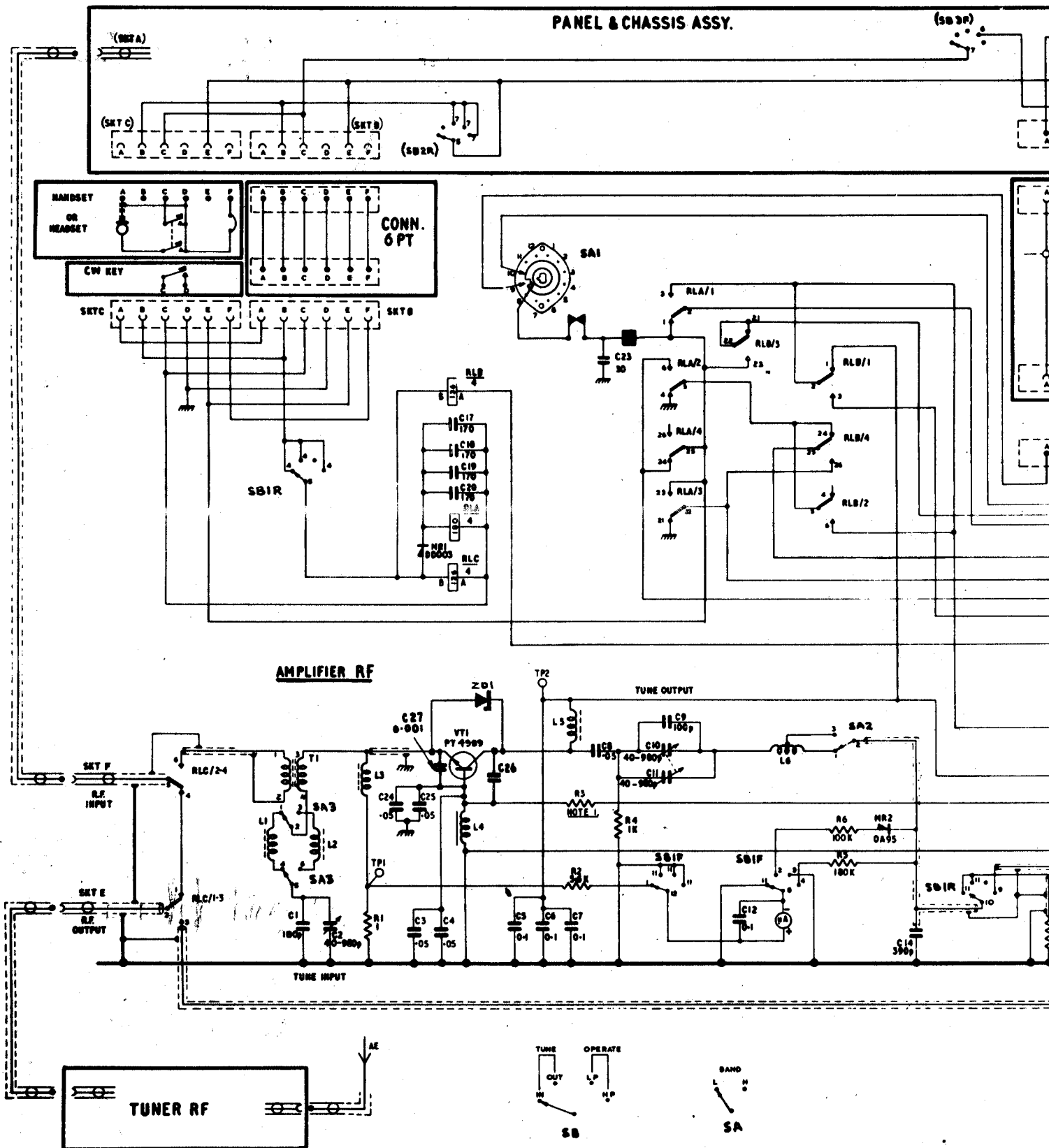
SOCKETS 'B' AND 'C'
 E + 12V PERMANENT TO R.F. AMPLIFIER
 B + 12V TO R.F. AMPLIFIER ON PM AM & CW

PLUG 'D'
 A - TO LEAD EX IN R.F. AMPLIFIER
 C - SA1-9 AND 10
 H - TO SBF-10
 F - TO RLB 3-21 AND 22 IN R.F. AMPLIFIER (VIA RV1)
 K - AF TO MODULATOR

03 - TRA14 circuit diagram (part B)

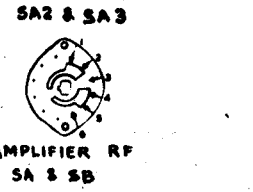
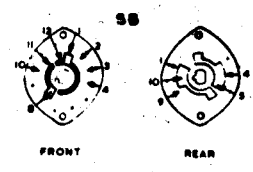
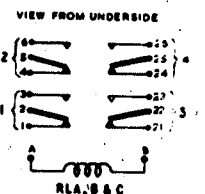
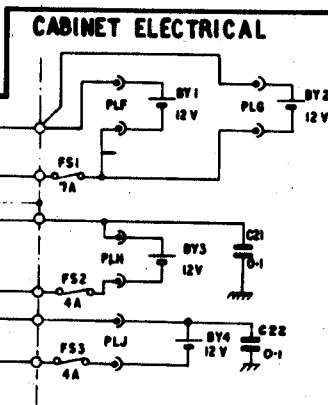
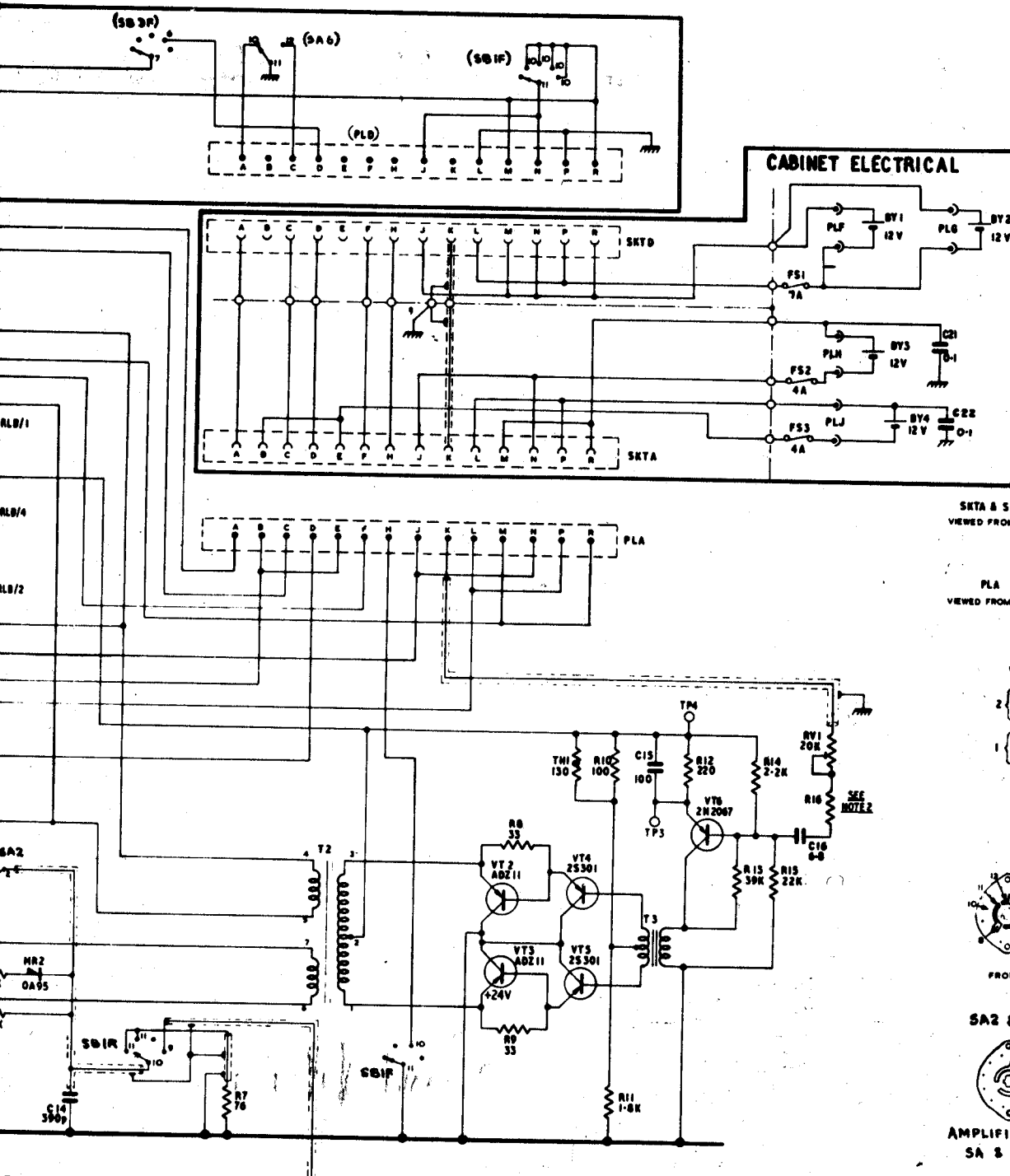
Table 2501 - TRA14 module identification and function

Module	Designation	Function
A	Front panel assembly	
B	P.A. transistor assembly	Power amplifier, (VT29, VT30)
C	Audio board assembly	Audio amplifier, (VT20, VT21), c.w. side-tone oscillator (VT19), modulator and pre-amplifier (VT10, VT11, VT12, VT13, VT14 and VT15), wideband amplifier (VT24)
D	Discriminator unit	A.F.C. amplifier (VT8), limiter discriminator (VT9, MR4, MR5)
F	Filter unit	I.F. filter, mixer (VT3)
G	Oscillator and detector unit	Detector/noise limiter (MR9, MR10), 500KHz oscillator (VT27)
J	I.F. unit	A.G.C. amplifier (VT7), i.f. amplifier (VT4, VT5, VT6)
K	Relay board	Buffer amplifier (VT16), Common crystal oscillator (VT28), relay RLA
L	Front r.f. assembly	Common free tune oscillator (VT17, VT18) Power amplifier circuit
M	Main r.f. assembly	Driver (VT23), R.F. amplifier 1 (VT1), R.F. amplifier 2 (VT2), Transmitter mixer (VT25, VT26)
N	Condenser cage assembly	Ganged tuning capacitors

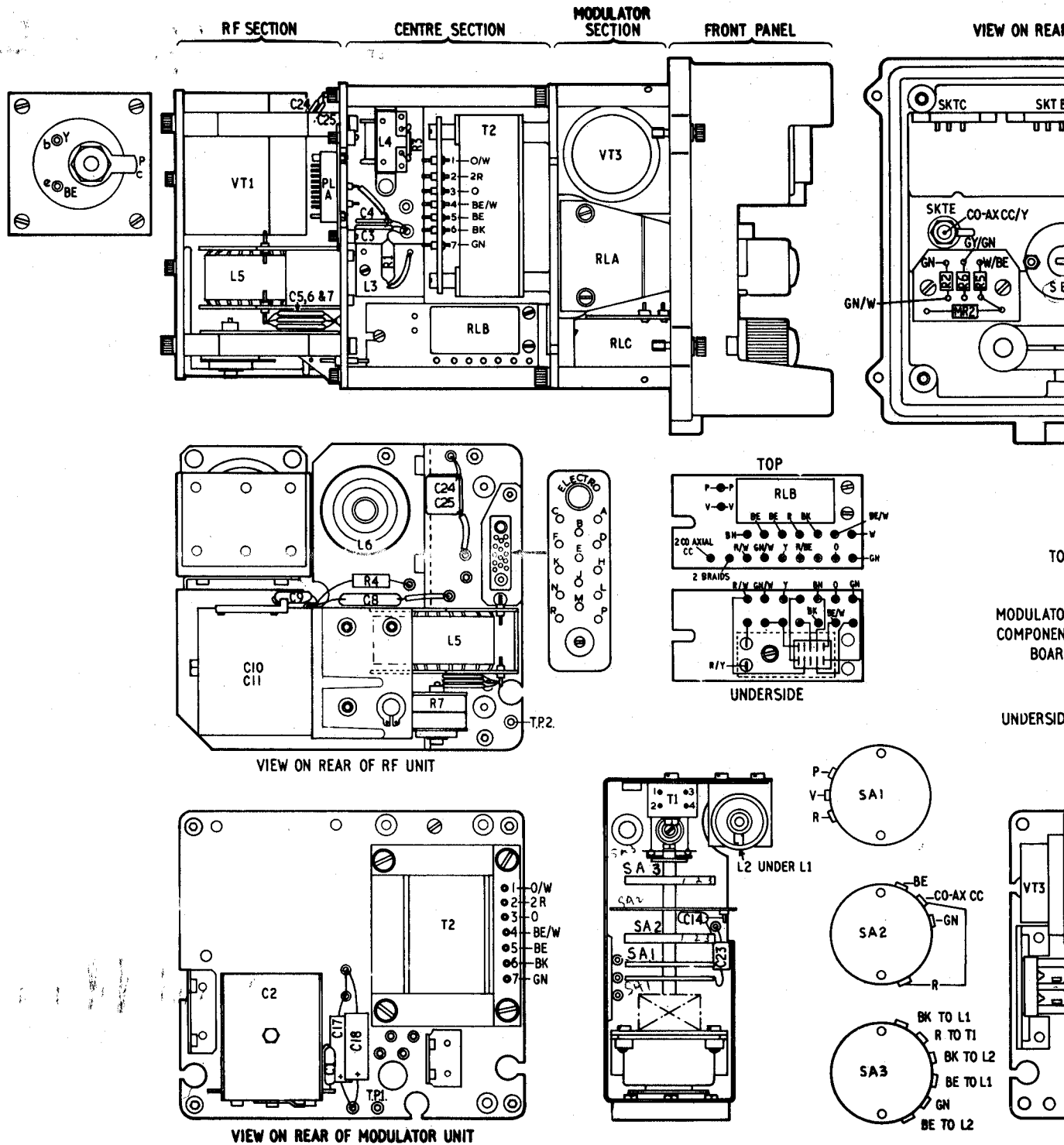


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Fig 2504 - Amplifier r.f. circuit diagram and su



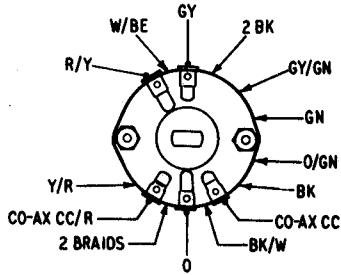
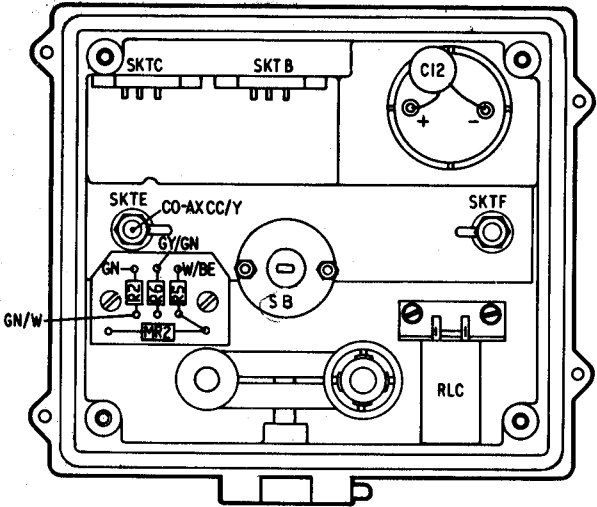
NOTES
 1- R3 - SELECT ON TEST 100 Ω, 220 Ω OR 560 Ω
 2- R16 - FIT 22K. ALTERNATIVES TO BE SELECTED ON TEST: 10K OR 27K.



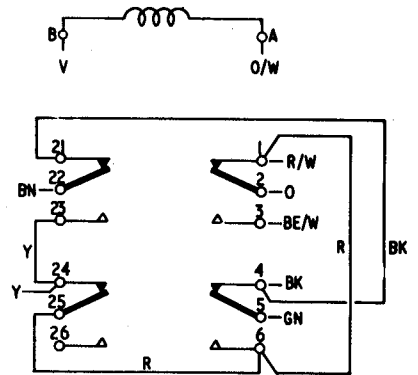
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Fig 2505 - Amplifier r.f.

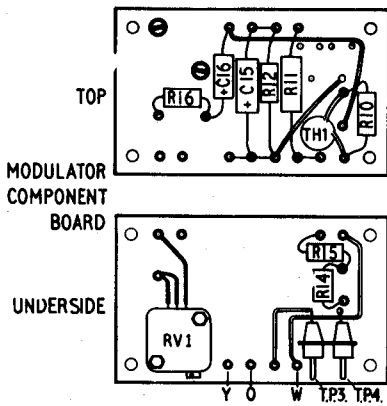
VIEW ON REAR OF FRONT PANEL



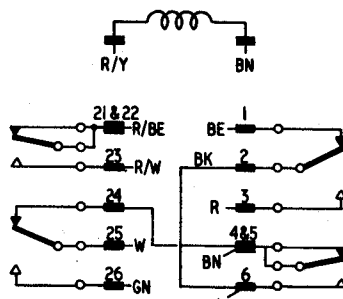
SB WIRING DETAILS



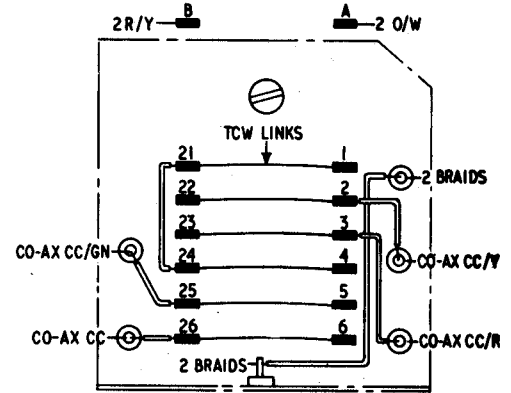
RELAY RLA



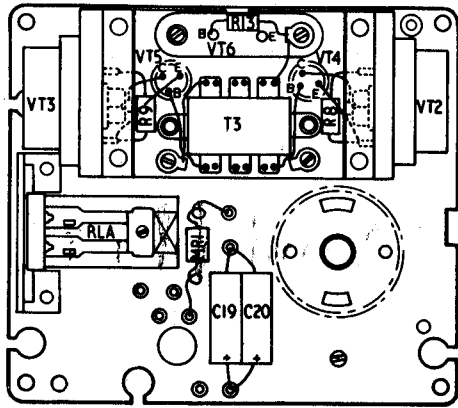
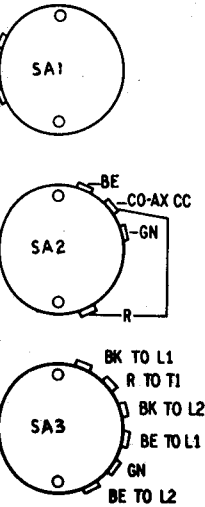
MODULATOR COMPONENT BOARD



RELAY RLB



RELAY RLC



VIEW ON FRONT OF MODULATOR UNIT



VT2 AND VT3

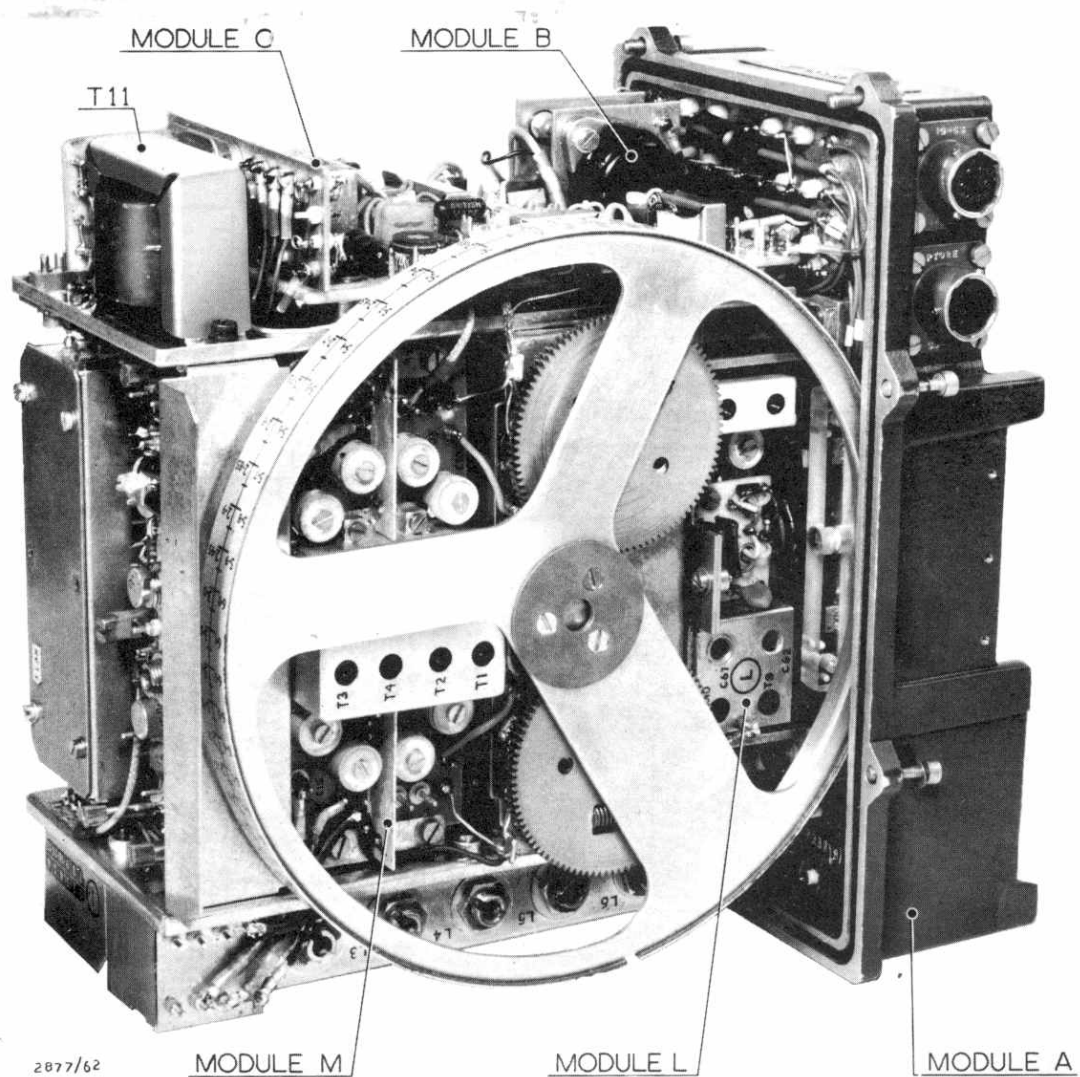
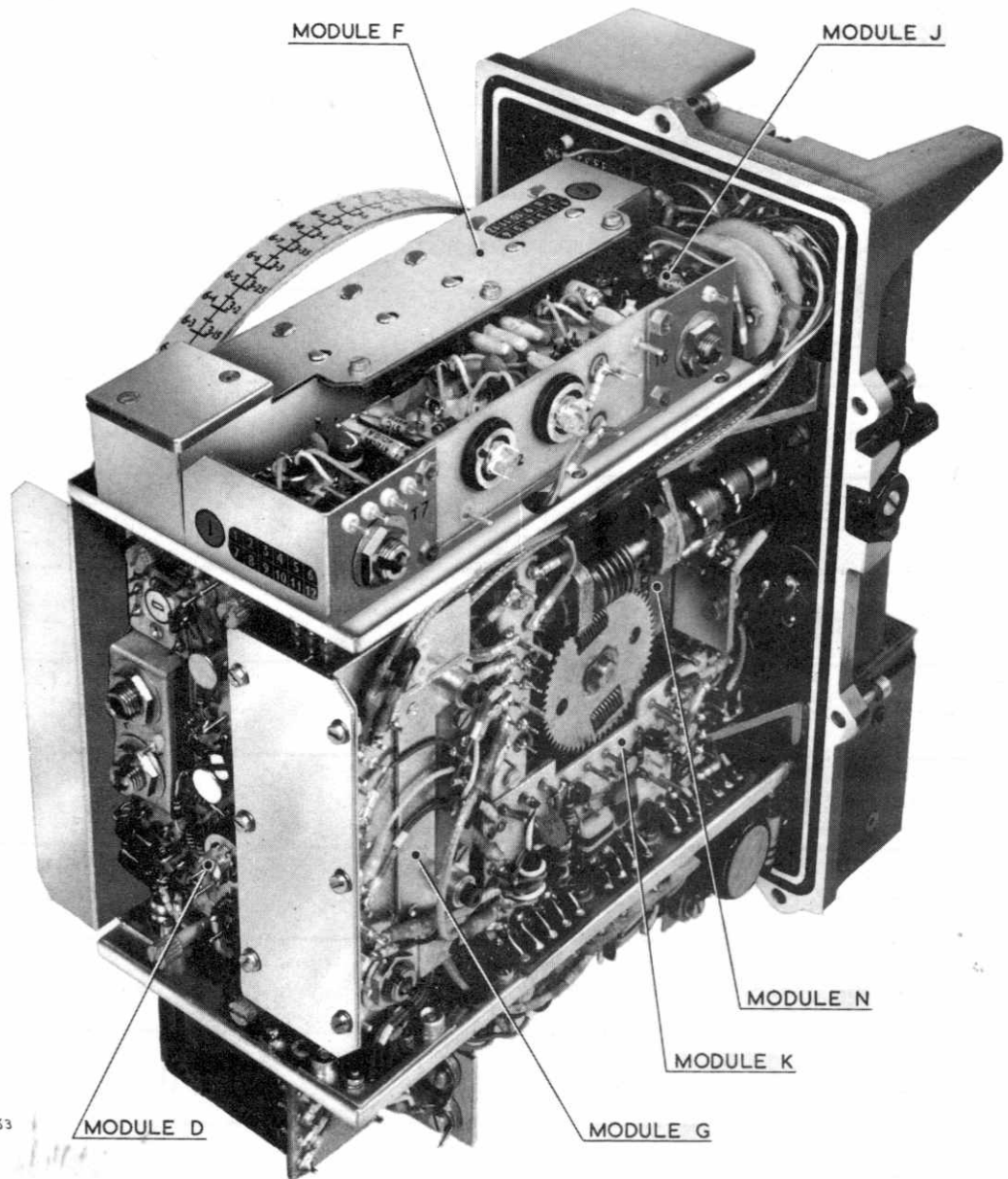


Fig 2506 - Panel and chassis assembly, module layout



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Fig 2507 - Panel and chassis assembly, module layout

Table 2502 - TRA14 spares schedule, field repairs

Catalogue No	Designation	Function and circuit ref
Z1/5960-99-108-1690	P.A. transistor assembly	Module B
Z1/5820-99-108-1691	Audio board assembly	Module C
Z1/5820-99-108-1692	Discriminator unit	Module D
Z1/5915-99-108-1693	Filter unit	Module F
Z1/5820-99-108-2864	Oscillator and detector unit	Module G
Z1/5820-99-108-2865	I.F. unit	Module J
Z1/5820-99-108-2866	Relay board assembly	Module K
Z1/5820-99-108-2867	Front r.f. assembly	Module L
Z1/5820-99-108-2862	Main r.f. assembly	Module M
Z1/5910-99-108-2863	Condenser cage assembly	Module N
Z1/5820-99-108-3280	Sealing screw	Seal testing
LV6/MT1/5330-99-942-8450	Washer, seal, flat	Used with sealing screw
Z1/5820-99-108-3335	Catylator assembly	Absorbs excessive gases in battery compartment
Z1/5820-99-108-3339	Moulded plug	Battery connectors
X2/5920-99-059-0170	Fuseholder	Houses fuses
X2/5920-99-911-4115	Fuse link, electrical, 4A cart.	FS3 and FS4

Table 2502 - (cont)

Catalogue No	Designation	Function and circuit ref
Z32/5920-99-999-1395	Fuse link, electrical, 7A cart.	FS1 and spare
Z1/5935-99-914-3101 SMREIAS *	Socket, electrical, 14 way	SKTA and SKTD - Cabinet electrical
Z37/5940-99-106-4279	Terminal, leadthrough	Press fit and PTFE ins. 11/16 in long
Z1/5910-99-108-3523	Capacitor, fixed, ceramic 0.1µf	C5, C6, C7, C21, C22 in r.f. amp
Z1/5305-99-108-3342	Screw	Secures battery cover
Z1/5820-99-108-3343	Gasket	Battery cover gasket
Z1/5820-99-108-3344	Pad, rubber	Mounted on battery cover
Z1/5935-99-913-6813	Socket, electrical	Style D crystal sockets
Z32/5935-99-108-3506	Socket electrical Jack tip, insulated ?	Style K crystal sockets
Y1/5935-99-914-7189	Socket, electrical, red	SKTE
Z/5935-99-012-4992	Socket, electrical, black	SKTF
Z37/5940-99-106-4280	Terminal, leadthrough	Press fit and PTFE ins. 39/64 in. long
Z1/6625-99-108-3376	Meter	M1
Z1/5910-99-108-3377	Capacitor, variable	C65 RF trim
Z1/5905-99-108-3378	Resistor, variable 5kΩ	RV6 Gain

Table 2502 - (cont)

Catalogue No	Designation	Function and circuit ref
Z1/5905-99-108-3380	Resistor, variable 50k Ω	RV8 CW tone
Z32/5935-99-106-4252	Socket, electrical, coax min	SKTA, SKTE, SKTF - r.f. amp
Z32/5935-99-106-5102	Socket, electrical, 6 pole	SKTB, SKTC
Z1/5330-99-972-4019	Gasket	Used on SKTB and SKTC
Z1/5905-99-946-4474	Resistor, fixed, comp ins 15k Ω	R122
Z1/5905-99-946-4467	Resistor, fixed, comp ins 27k Ω	R152
Z1/5910-99-940-9252	Capacitor, fixed, ceramic 56pF	C148, C149
Z1/5960-99-108-3511	Semi-conductor device X10B1	MR14, MR15
X5/6240-99-995-1189	Lamp, filament	1LP1, 1LP2
Z1/5905-99-954-6422	Resistor, fixed, comp ins 120k Ω	R113
Z1/5905-99-106-4012	Resistor, fixed, comp ins 150k Ω	R114
Z1/5905-99-946-4482	Resistor, fixed, comp ins 12k Ω	R115
Z1/5905-99-946-4550	Resistor, fixed, comp ins 5.6k Ω	R153, R2-R.F. amp
Z1/5960-99-108-2673	Rectifier OA81	MR13
Z1/5935-99-914-3102	Plug, electrical, 14 way	PLD
Z1/5820-99-108-3394	Crystal cover assembly	

Table 2502 - (cont)

Catalogue No	Designation	Function and circuit ref
Z1/5995-99-106-0432	Cable assembly r.f. 9.1/4 in. long	Coax T/R unit to Amp r.f.
Z1/5950-99-108-3398	Inductor	L4-R.F. amp
Z1/5950-99-108-3399	Inductor	L5-R.F. amp
Z1/5950-99-108-3401	Inductor	L6-R.F. amp
Z1/5950-99-108-3402	Inductor	L3
Z30/5905-99-106-4533	Resistor, fixed, comp non-ins 38 Ω	R7-R.F. amp (2 off)
Z1/5905-99-106-4020	Resistor, fixed, comp ins 1k Ω	R4-R.F. amp
Z31/5910-99-106-4086	Capacitor, fixed, ceramic 0.05 μ F	C8-R.F. amp
Z1/5910-99-970-6816	Capacitor, fixed, ceramic 0.05 μ F	C3, C4, C24-R.F. amp
Z1/5905-99-106-4011	Resistor, fixed, w.w. 1 Ω	R1-R.F. amp
Z1/5905-99-106-4017	Resistor, fixed, comp ins 100 Ω	R3, R10-R.F. amp
Z1/5905-99-106-4013	Resistor, fixed, comp ins 220 Ω	R12-R.F. amp
Z37/5940-99-106-4164	Terminal leadthrough 1/8 in. dia. 5/8 in. lg	Insulated PTFE white
Z37/5940-99-106-4166	Terminal post 1/8 in. dia. 29/64 in. lg	Insulated PTFE white

Table 2502 - (cont)

Catalogue No	Designation	Function and circuit ref
Z1/5950-99-108-3404	Transformer assembly	T1-R.F. amp
Z1/5950-99-108-3405	Coil	L1-R.F. amp
Z1/5950-99-108-3406	Coil	L2-R.F. amp
Z1/5930-99-108-3410	Switch, rotary wafer	SA/2, SA/3-R.F. amp
Z1/5910-99-911-6943	Capacitor, fixed, mica 390pF	C14
Z31/5910-99-106-4054	Capacitor, fixed, tant 30 μ F	C23
Z32/5930-99-106-4530	Switch, power operated	Ledex switch
Z1/5820-99-106-3361	Meter	M1-R.F. amp
Z1/5935-99-949-3145	Socket, electrical 6 pole	SKTB, SKTC-R.F. amp
Z1/5910-99-956-1631	Capacitor, fixed, ceramic 0.1 μ F	C12-R.F. amp
Z1/5950-99-108-3428	Transformer a.f.	T2-R.F. amp
Z31/5910-99-106-4159	Capacitor, fixed, tant 170 μ F	C17, C18, C19, C20-R.F. amp
Z1/5910-99-914-7968	Capacitor, fixed, mica 180pF	C1-R.F. amp
Z/5960-99-037-3323	Valve, electronic CV8121	MR1-R.F. amp
Z/5960-99-037-3906	Valve, electronic CV8636	MR2-R.F. amp
Z1/5905-99-970-6056	Resistor, thermal 130 Ω	TH1-R.F. amp

Table 2502 - (cont)

Catalogue No	Designation	Function and circuit ref
Z1/5960-99-108-3513	Transistor, matched pair ADZ11	VT2/VT3-R.F. amp
Z1/5961-99-197-3444	Transistor 2N2068	VT6-R.F. amp
Z1/5960-99-108-3515	Transistor, matched pair 2S301	VT4/VT5-R.F. amp
Z1/5905-99-106-4016	Resistor fixed comp ins 33 Ω	R8, R9-R.F. amp
Z1/5905-99-946-4549	Resistor fixed comp ins 39k Ω	R13-R.F. amp
Z1/5950-99-106-5204	Transformer a.f.	T3-R.F. amp
Z1/5905-99-946-4477	Resistor, fixed, comp, ins 100k Ω	R6-R.F. amp
Z1/5905-99-951-4715	Resistor, fixed, comp, ins 180k Ω	R5-R.F. amp
Z30/5905-99-106-4105	Resistor, variable 20k Ω	RV1-R.F. amp
Z1/5825-99-198-6067	Panel, electronic circuit	VT1 assembly-R.F. amp
Z32/5935-99-106-4057	Plug assembly, electrical	TP3/TP4-R.F. amp
Z1/5905-99-946-4464	Resistor, fixed, comp, ins 22k Ω	R15-R.F. amp
Z1/5905-99-946-4468	Resistor, fixed, comp, ins 2.2k Ω	R14-R.F. amp
Z1/5905-99-106-4014	Resistor, fixed, comp, ins 1.8k Ω	R11-R.F. amp
Z1/5905-99-946-4481	Resistor, fixed, comp ins 10k Ω	R16-R.F. amp
Z31/5910-99-106-4165	Capacitor, fixed, tant 100 μ F	C15-R.F. amp

Table 2502 - (cont)

Catalogue No	Designation	Function and circuit ref
Z1/5910-99-946-4297	Capacitor, fixed, tant 6.8 μ F	C16-R.F. amp
Z1/5995-99-106-0426	Cable assembly special purpose	6 way connector T/R unit to amplifier
Z1/5995-99-106-0431	Cable assembly r.f.	Coax connector amplifier to tuner r.f.
Z1/5910-99-102-9156	Capacitor, fixed mica 100pF	C9-R.F. amp
Z/5935-99-012-2841	Plug, electrical, 14 pole, fixed	PLA-R.F. amp, available wired (See later item)
Z1/5820-99-106-1753	Cover, battery box	Includes screws, pads and gasket
Z1/5820-99-108-3343	Gasket	Battery cover gasket
Z1/5330-99-949-0855	Ring, sealing, toroidal	Sealing rings used on battery cover securing screws
Z1/5820-99-911-0835	Circlip, external	Retain battery cover securing screws
Z1/5820-99-108-3373	Switch assembly	SB
Z1/5820-99-108-3375	Switch	SC
Z1/5820-99-108-3366	Locking knob assembly	
Z1/5950-99-108-3389	Transformer a.f.	T11

Table 2502 - (cont)

Catalogue No	Designation	Function and circuit ref
Z1/5910-99-108-3400	Capacitor, variable, assembly	C9, C10, C11 assy-R.F. amp
Z37/5940-99-106-4055	Terminal, leadthrough, red 0.131 in. dia. 0.415 in. long	Press fit and PTFE ins
Z1/5820-99-108-3412	Terminal board, wired	Metering circuit component board-R.F. amp
Z1/5820-99-108-3430	Relay board, assembly	RLB Assy-R.F. amp
Z1/5820-99-108-3431	Plug assembly	PLA with wiring-R.F. amp
Z1/5820-99-108-3310	Modulator board, assembly	Modulator component board
Z1/5820-99-108-3336	Clip, modified	Dessicator clip
Z1/5820-99-108-3337	Clamp, plate, assembly	FS2, FS3 fuseholder mounting plate
Z1/5820-99-108-3338	Clamp, plate, assembly	FS1 and spare fuseholder mounting plate
Z1/5820-99-108-3340	Spring	Catylator retaining clip
Z1/5820-99-108-3370	Window coded	Scale window
Z1/5820-99-108-3371	Gasket	Panel and chassis assy gasket
Z1/5820-99-108-3381	Screw and washer assembly	Retain equipment in case
Z1/5820-99-108-3382	Universal coupling	SA coupling

Table 2502 - (cont)

Catalogue No	Designation	Function and circuit ref
Z1/5820-99-108-3391	Terminal board assembly	CFTB 1
Z1/5820-99-108-3392	Terminal board assembly	CFTB 2
Z1/5820-99-108-3393	Terminal board assembly	CFTB 3
Z1/5820-99-108-3395	Knob assembly	Main tuning control knob assembly
Z1/5820-99-108-3396	Knob sub-assembly	Tuning knob only
Z1/5820-99-108-3397	Collett assembly	Secures knobs to shafts
Z1/5820-99-108-3347	Cap, screw	Knob screw cap
Z1/5820-99-108-3348	Knob assembly	Gain type knob complete
Z1/5820-99-108-3349	Body detail assembly	Knob only for above
Z1/5820-99-108-3350	Knob assembly	Channel type knob complete
Z1/5820-99-108-3351	Body detail assembly	Knob only for above
Z1/5340-99-108-3353	Escutcheon Plate	Panel and chassis assy front panel info plate
Z1/5820-99-108-3355	Gasket	Xtal cover gasket
Z1/5340-99-108-3358	Escutcheon plate	Amp r.f. front panel info plate
Z1/5820-99-108-3359	Gasket	Amp r.f. front panel gasket

Table 2502 - (cont)

Catalogue No	Designation	Function and circuit ref
Z1/5820-99-108-3360	System switch	SB complete-Amp r.f.
Z37/5945-99-106-4238	Relay armature	RLB, RLC-amp r.f. RLA-panel and chassis assy
Z/5945-99-012-3987	Relay armature	RLA-amp r.f.

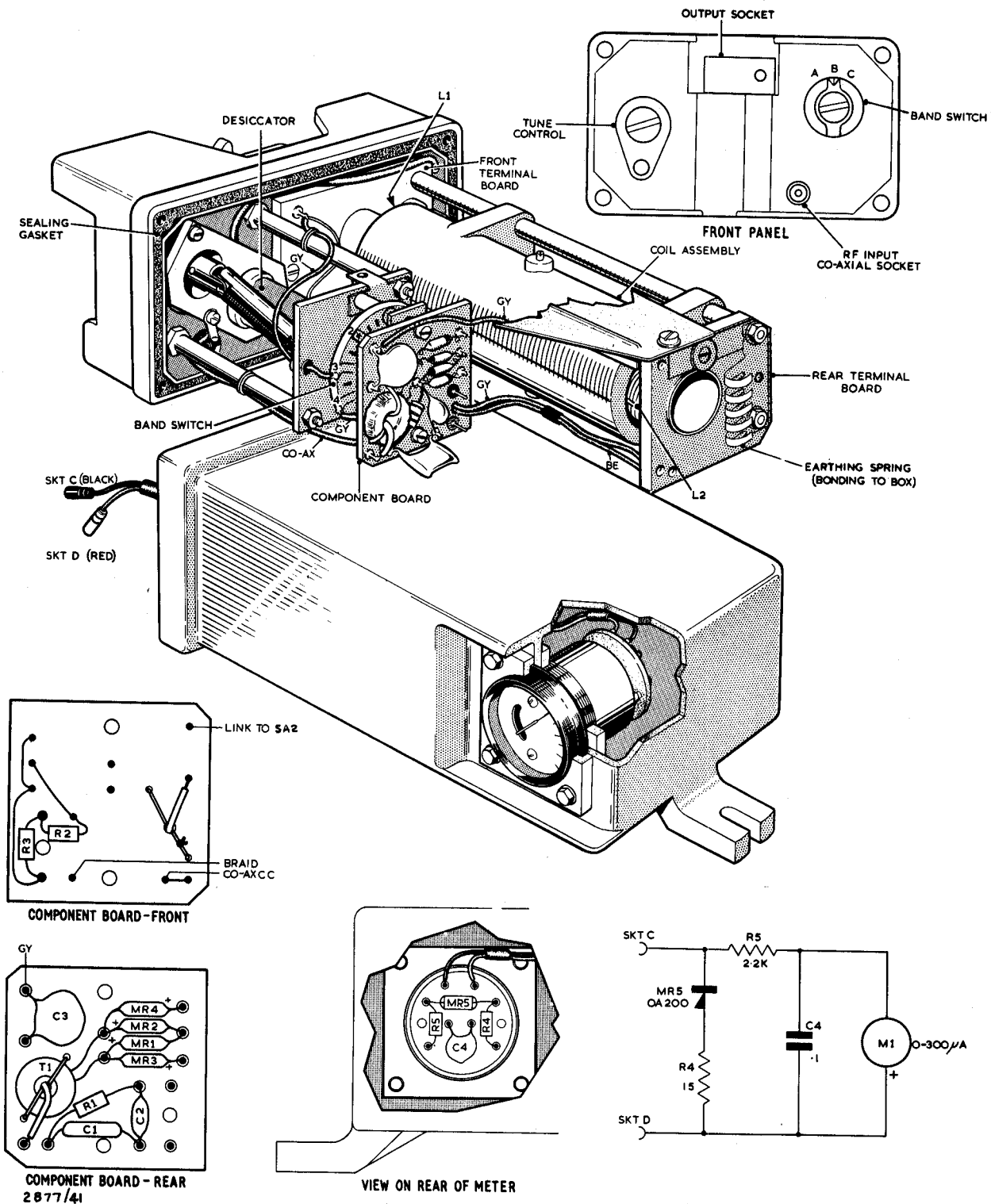
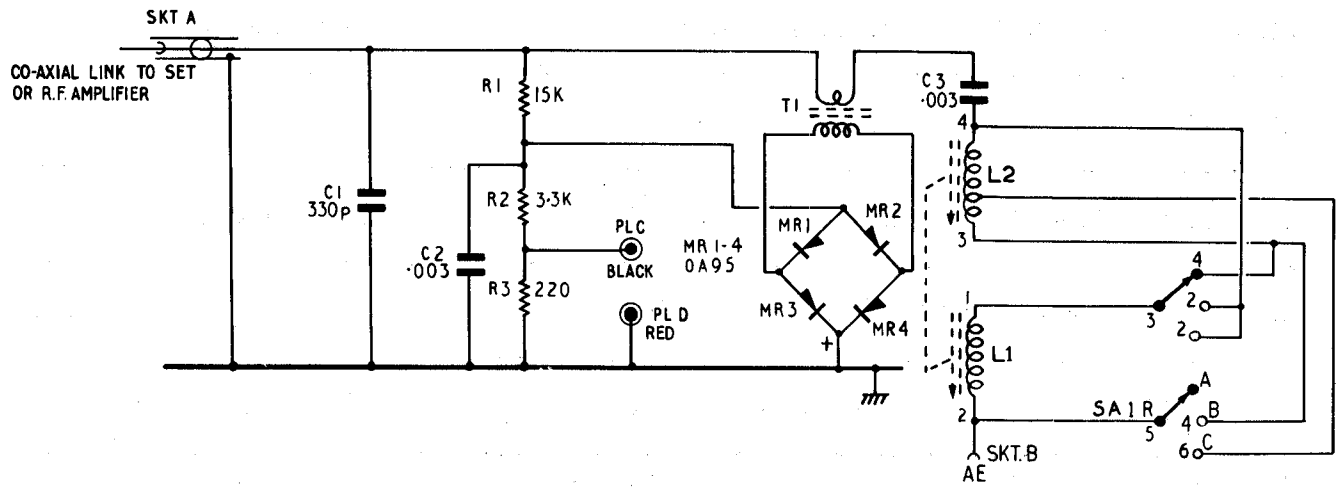


Fig 2508 - Tuner r.f., layout and meter circuit



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Fig 2509 - Tuner r.f., circuit diagram

Table 2503 - Tuner r.f. spares schedule, field repairs

Catalogue No	Designation	Function and circuit ref
Z1/5820-99-108-0906	Mounting plate	Meter mounting plate
Z1/5820-99-108-0907	Retaining plate	Meter retaining plate
Z1/6625-99-108-0908	Meter	M1
Z1/5820-99-108-0909	Sealing screw	Seal testing
LV6/MT1/5330-99-942-8450	Washer, seal, flat	Used with sealing screw
Z1/5820-99-108-0916	Component board assembly	Meter component board
Z1/5935-99-108-1492	Connector, printed circuit	Meter connector socket, red
Z1/5935-99-108-1542	Connector, printed circuit	Meter connector socket, black
Z1/5820-99-108-0915	Screw	Secure tuner to A14 case
Z1/5355-99-108-0918	Tuning knob	Tune control knob
Z1/5820-99-108-0919	Component board assembly	Main component board
Z1/5950-99-108-0922	Toroidal coil	T1
Z1/5355-99-108-0923	Knob assembly	SA knob (band switch) complete
Z1/5950-99-108-0932	Coil L1 and L2 assembly	L1 and L2, part of Tuning unit assembly
Z1/5905-99-946-4474	Resistor, fixed, comp, ins 15k Ω	R1
Z1/5905-99-946-4469	Resistor, fixed, comp, ins 3.3k Ω	R2
Z1/5905-99-946-4463	Resistor, fixed, comp, ins 220 Ω	R3

Table 2503 - (cont)

Catalogue No	Designation	Function and circuit ref
Z1/5910-99-911-6930	Capacitor, fixed mica 330pF	C1
Z1/5910-99-108-3206	Capacitor, ceramicon 0.003 μ F	C2
Z/5960-99-037-3906	Valve, electronic CV8636	MR1, MR2, MR3, MR4
	Capacitor, ceramicon 0.003 μ F	C3
Z1/4440-99-942-2061	Desiccant container, dehumidifier	Desiccator
Z1/5935-99-108-3203	Socket, electrical	SKTA
Z1/5905-99-103-4936	Resistor, fixed, comp, ins 15 Ω	R4
Z1/5905-99-946-4468	Resistor, fixed, comp, ins 2.2k Ω	R5
Z1/5910-99-108-3205	Capacitor, ceramicon 0.1 μ F	C4
Z/5960-99-037-4641	Valve, electronic CV9385	MR5
Z1/5820-99-108-0917	Front, panel assembly	Front panel and rod aerial socket, screw and nut
Z1/5820-99-108-0924	Body detail assembly	Knob body only for SA
Z1/5820-99-108-0925	Collett assembly	Collett only for SA knob
Z1/5820-99-108-0927	Tuning unit assembly	Complete tuning assembly
Z1/5820-99-108-0993	Switch mechanism assembly	SA mechanism and coupling
Z1/5305-99-108-1344	Screw	Main case securing screws
Z1/5330-99-108-1349	Gasket	Main gasket

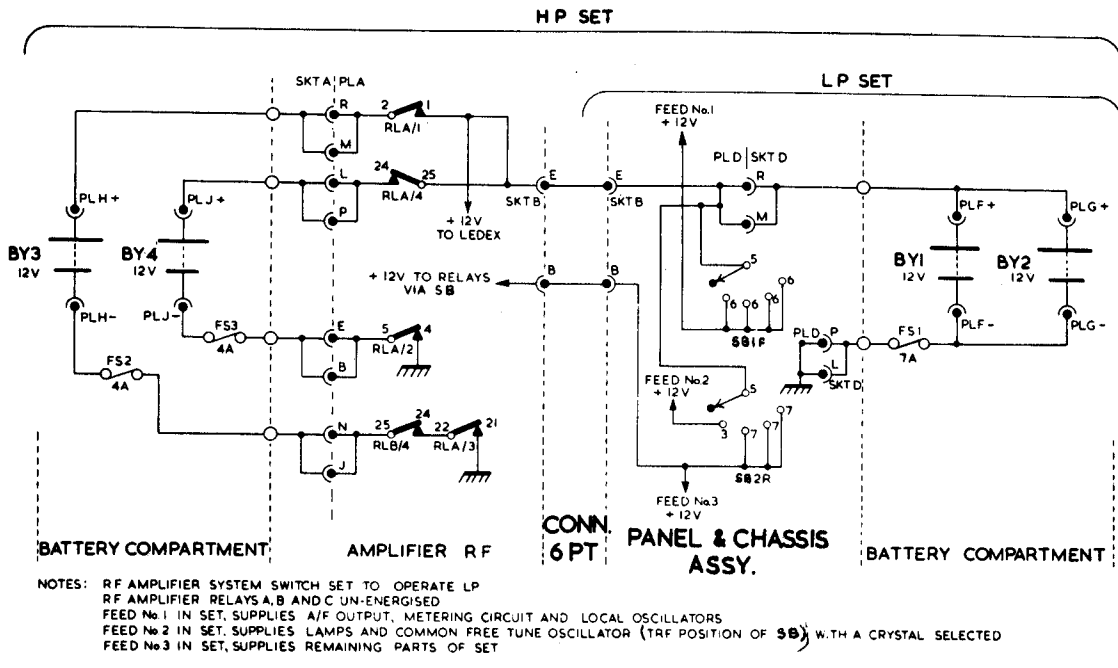


Fig 2510 - 12V d.c. supply circuit diagram

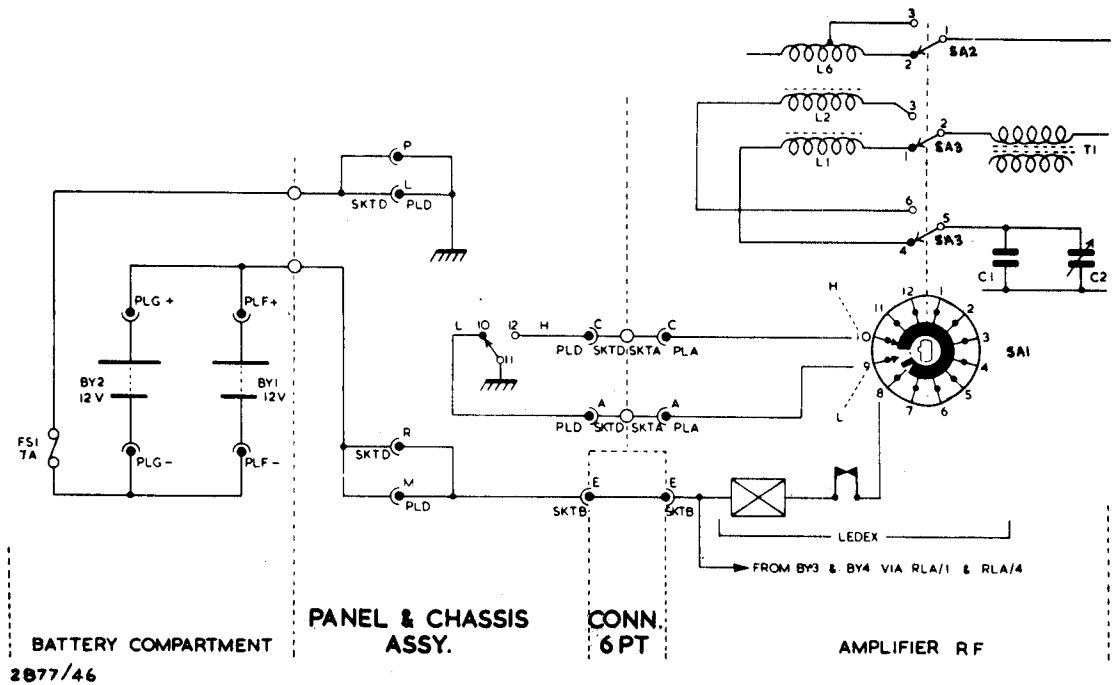


Fig 2511 - Ledex band switch in amplifier r.f., circuit diagram

SYSTEM SWITCHES	
SET	AMPLIFIER
PM	TUNE IN TUNE OUT OPERATE H.P.

NOTE: RELAY RLA IN AMPLIFIER R F IS
WHEN PRESSEL (PM) OR KEY (CW)

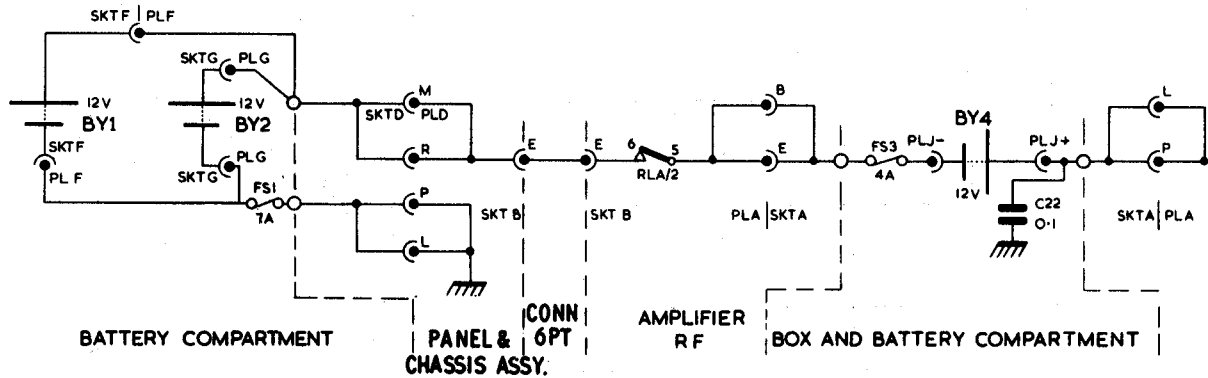


Fig 2512 - 24V d.c. power supply

SYSTEM SWITCHES	
SET	AMPLIFIER
AM	TUNE IN TUNE OUT OPERATE H.P.

NOTE: RELAYS A AND B IN AMPLIFIER R F ARE ENERGIZED
ON TRANSMIT WHEN PRESSEL IS OPERATED

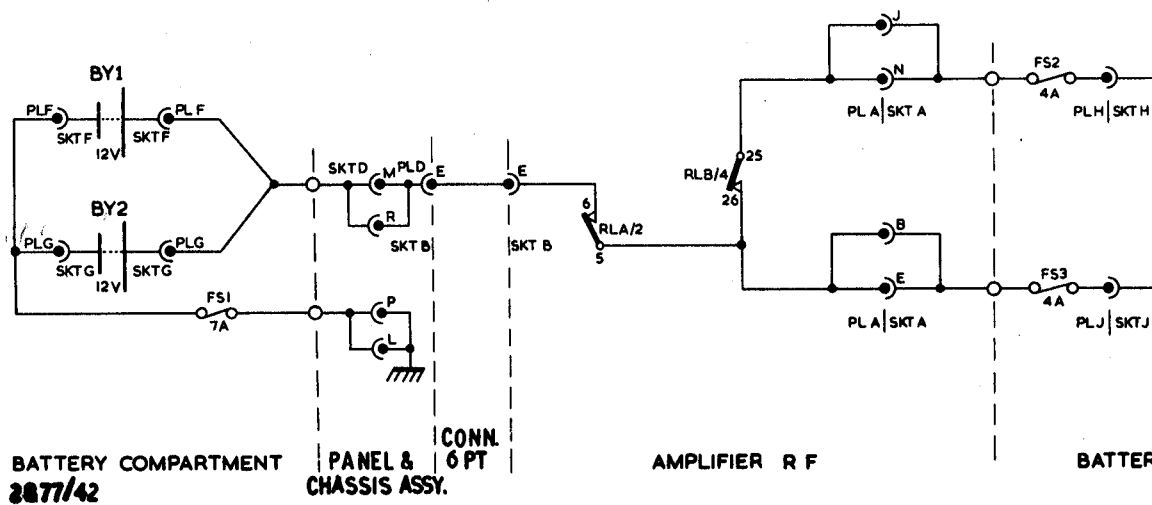
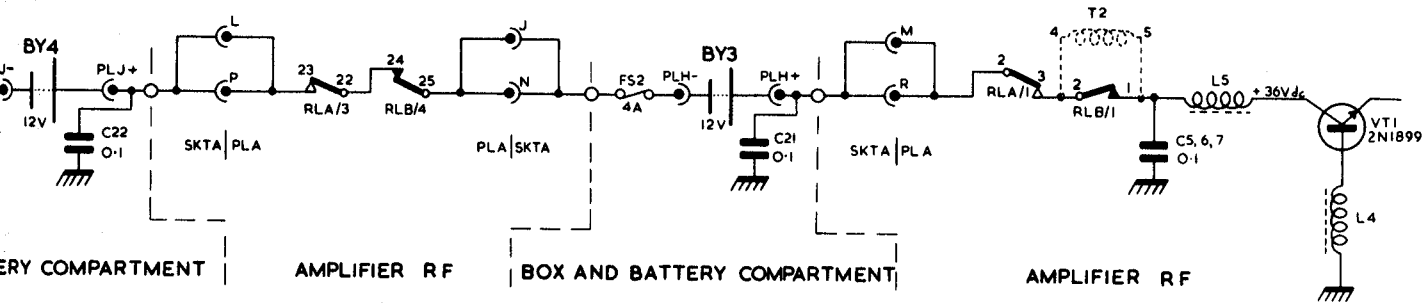


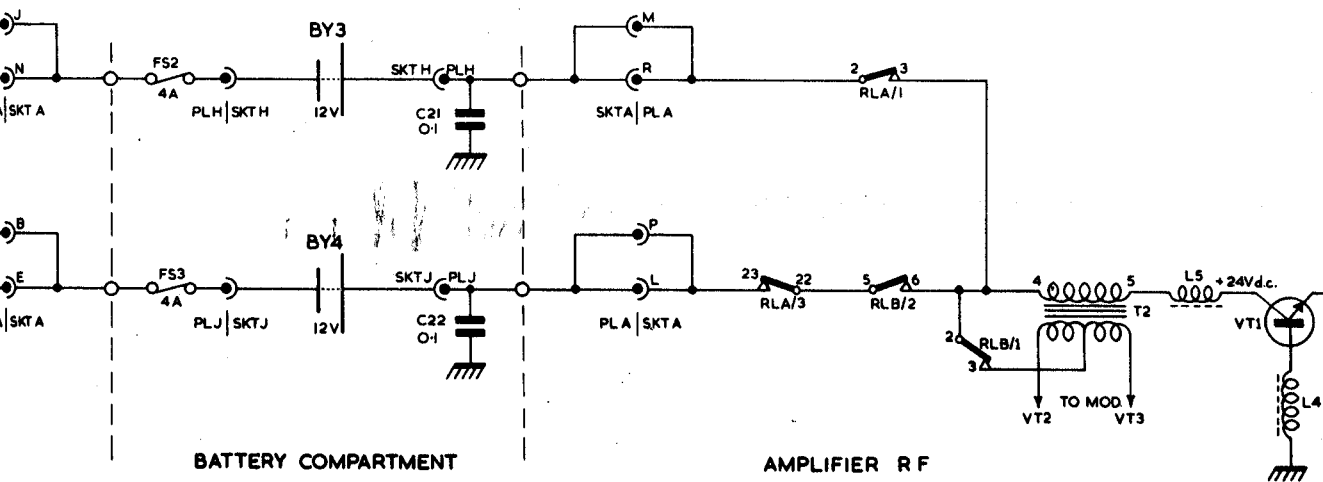
Fig 2513 - 36V d.c. power supply for

NOTE: RELAY RLA IN AMPLIFIER R F IS ENERGIZED ON TRANSMIT WHEN PRESSEL (P M) OR KEY (C W) IS OPERATED

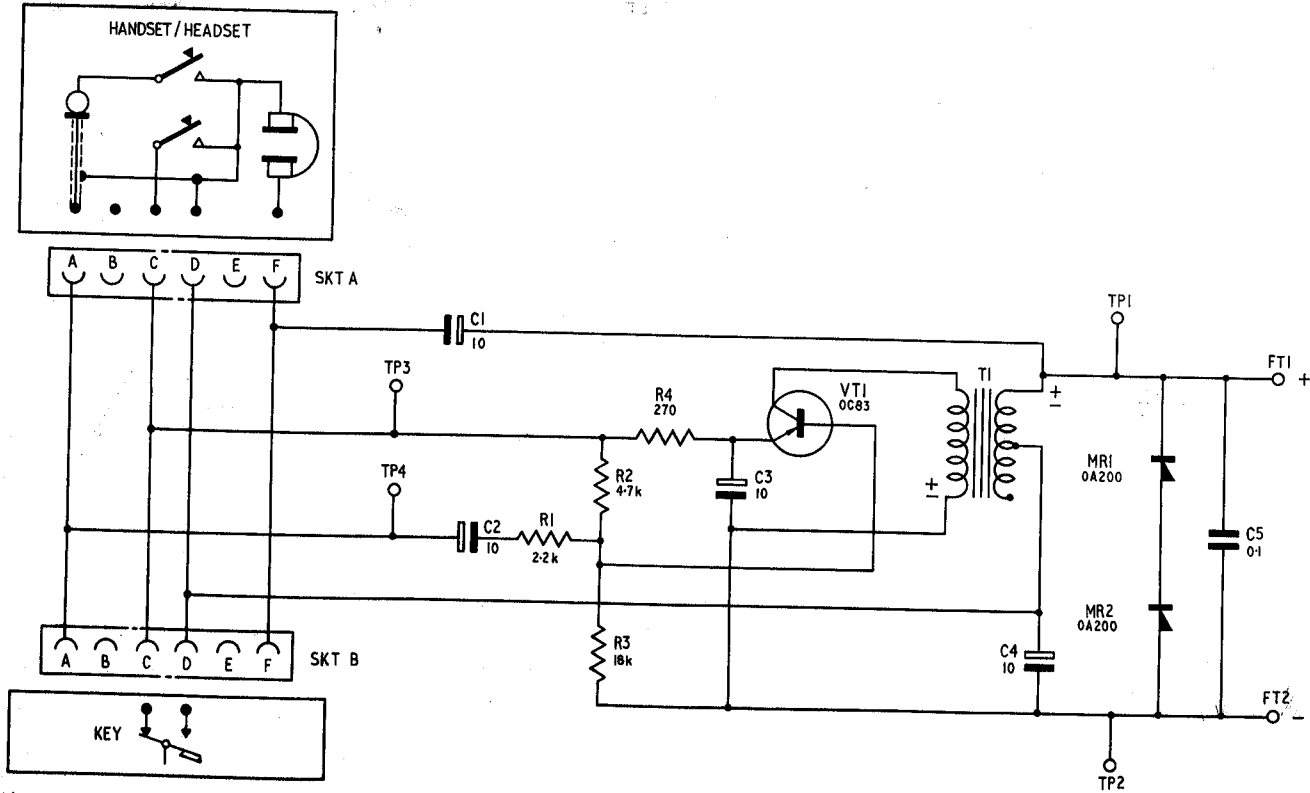


d.c. power supply for amplifier r.f. on AM

NOTE: RELAYS RLA AND B IN AMPLIFIER R F ARE ENERGIZED ON TRANSMIT WHEN PRESSEL IS OPERATED

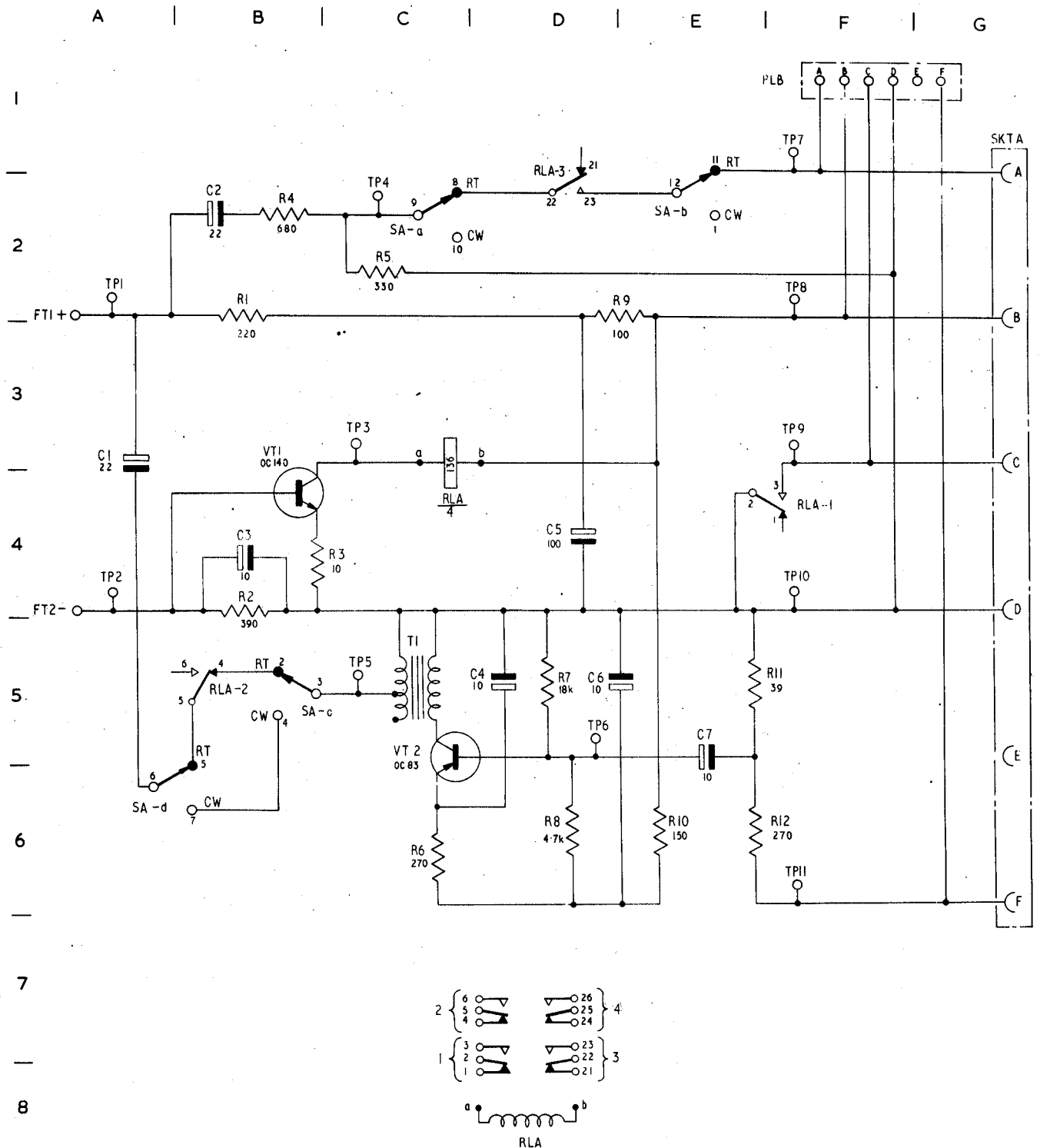


d.c. power supply for amplifier r.f. on PM and CW



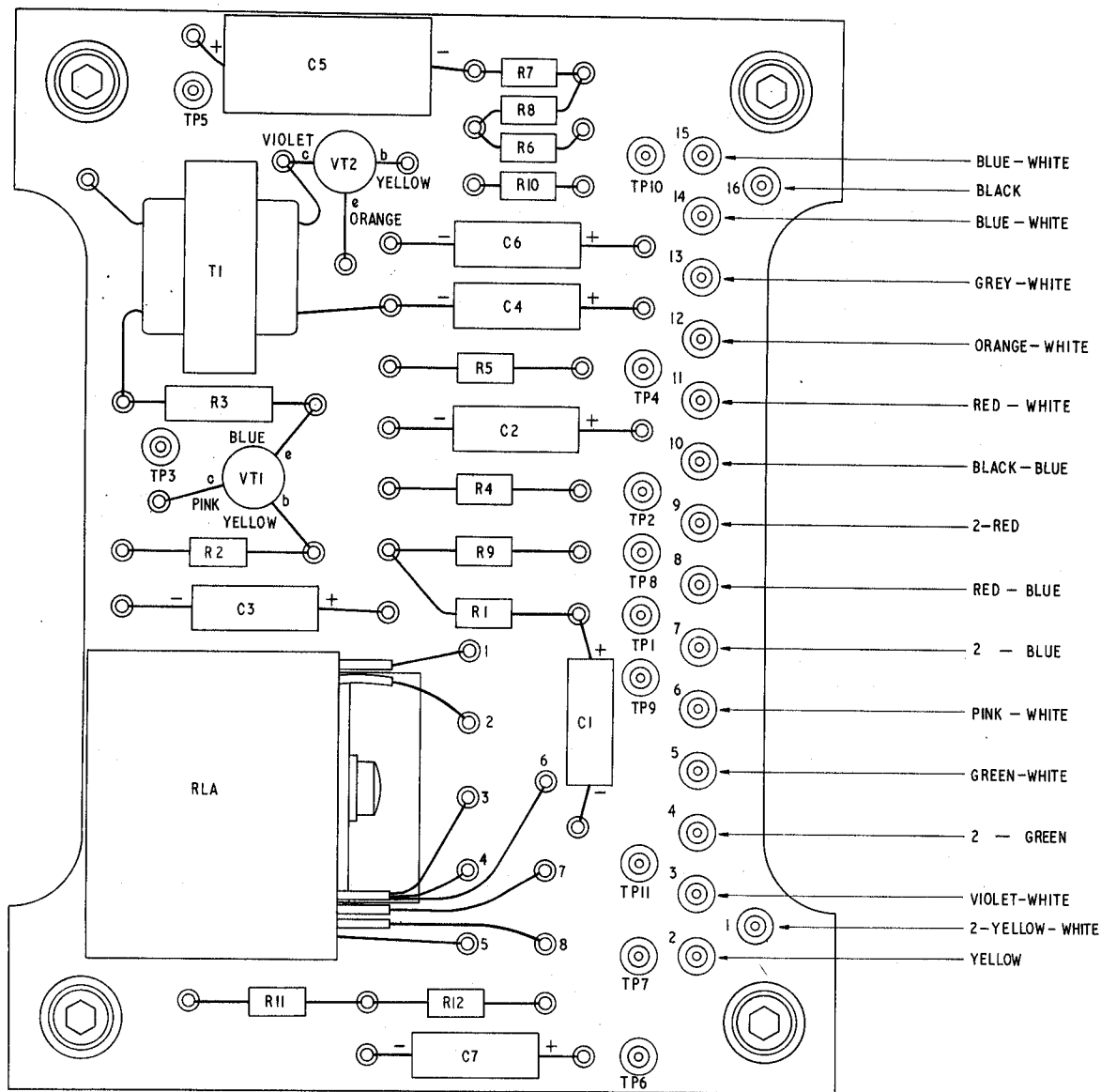
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Fig 2514 - Interconnecting box, remote control unit R



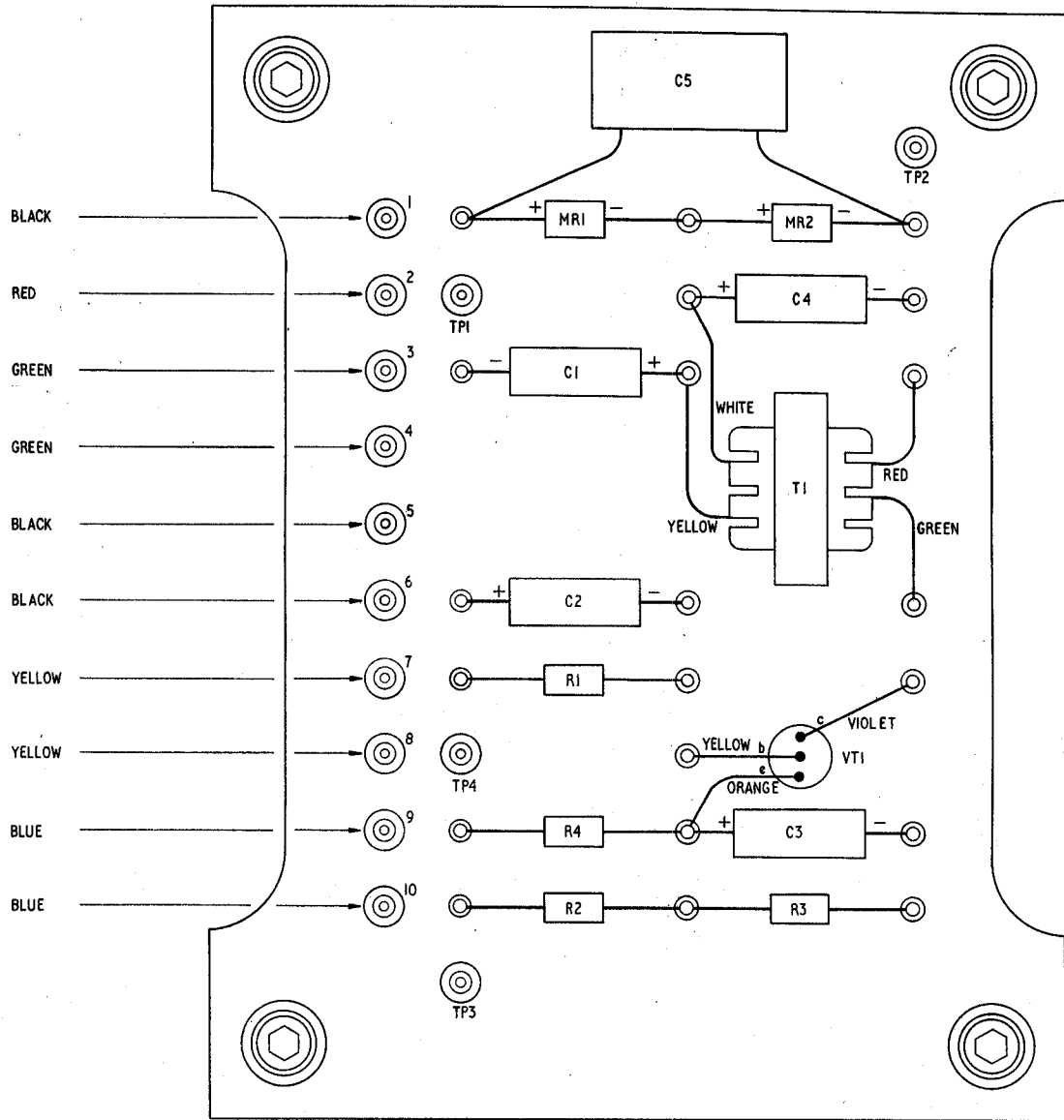
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Fig 2515 - Control radio set, remote control unit L



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Fig 2516 - Interconnecting box, remote control unit R, layout diagram



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Fig 2517 - Control radio set, remote control unit L, layout diagram

Table 2504 - Control radio set L spares schedule, field repairs

Catalogue No	Designation	Function and circuit ref
Z1/5820-99-108-3291	Component board assembly	
Z1/5820-99-108-3280	Sealing screw	Seal testing
LV6/MT1/5330-99-942-8450	Washer seal, flat	Used with sealing screw
Z1/5820-99-108-3290	Gasket	Main sealing gasket
Z1/4440-99-942-2061	Dessicant container, dehumidifier	Dessicator
Z/5940-99-012-0234	Terminal, screwed head	FT1, FT2
Z1/5935-99-103-6881	Socket, electrical, 6 pole	SKTA
Z1/5935-99-901-7436	Cover, electrical, plug/socket with chain	Cover for SKTA
Z2/5305-99-941-7921	Screw cap, 2BA 1/2 in. SKT hd	Base plate securing screws
Z2/5310-99-941-6689	Washer, 2BA, single coil, sq sect	Used with above screws
Z2/5305-99-941-8191	Screw cap, 6BA 1/2 in. SKT, hd	Retain component board
LV6/MT1/5330-99-101-1354	Ring, sealing, toroidal	Retain above screws
Z1/5340-99-910-5070	Clip, spring steel 1/2 in. dia, grip	Dessicator clip
Z/5330-99-097-1004	Washer, sealing, rubber	Gasket for SKTA
Z1/5820-99-108-3282	Knob assembly	Knob for SA
Z1/5820-99-108-3286	Cable assembly	PLB and lead

Table 2504 - (cont)

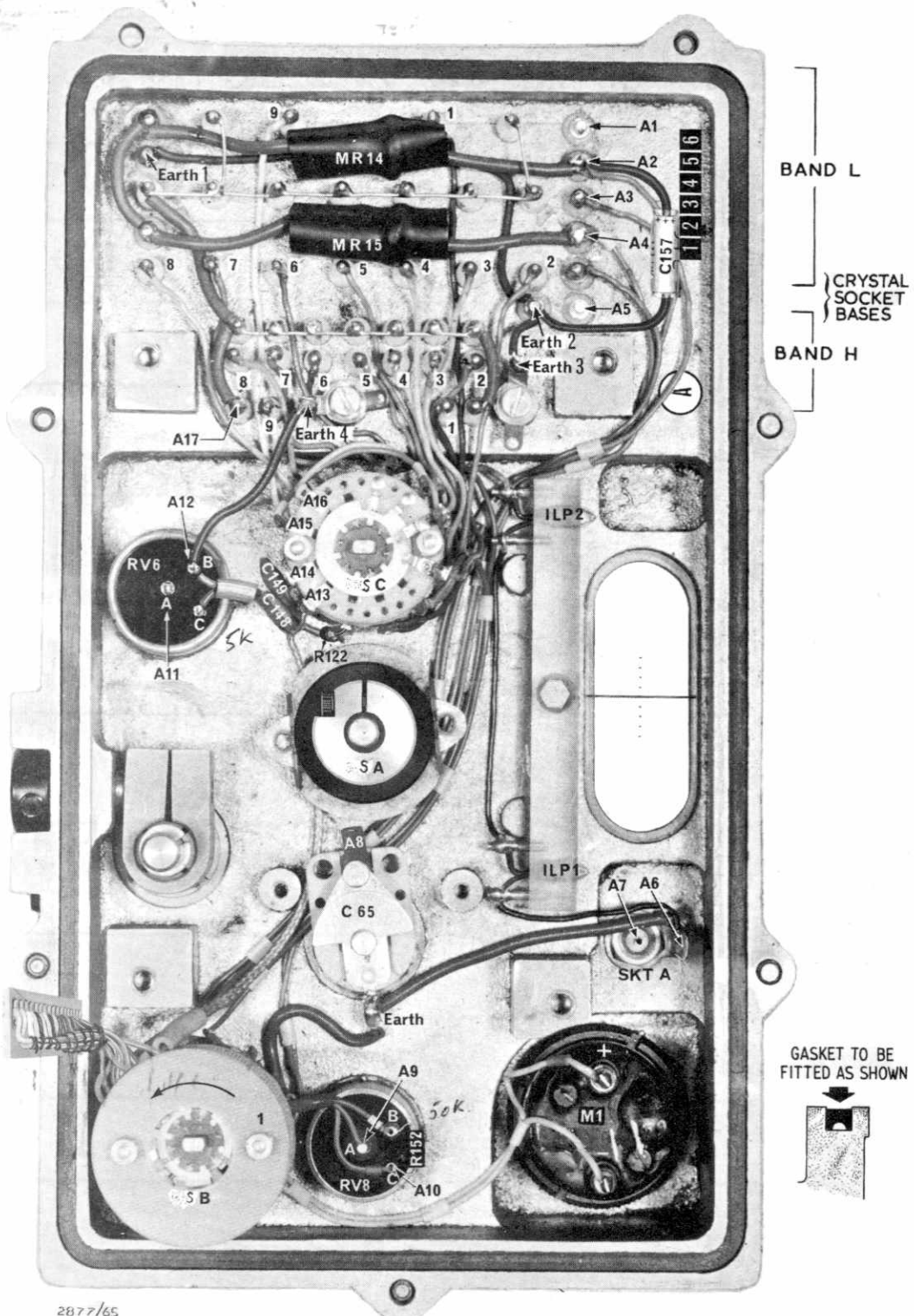
Catalogue No	Designation	Function and circuit ref
Z1/5820-99-108-3281	Pad, anti-vibration	Fitted under T1
Z1/5905-99-946-4463	Resistor, fixed comp, ins 220 Ω	R1
Z1/5905-99-947-3286	Resistor, fixed, comp, ins, 390 Ω	R2
Z1/5905-99-106-4007	Resistor, fixed, comp, 10 Ω	R3
Z1/5905-99-946-4551	Resistor, fixed, comp, ins, 680 Ω	R4
Z1/5905-99-946-4465	Resistor, fixed, comp, ins, 330 Ω	R5
Z1/5905-99-946-4452	Resistor, fixed, comp, ins, 270 Ω	R6, R12
Z1/5905-99-946-4472	Resistor, fixed, comp, ins, 18k Ω	R7
Z1/5905-99-946-4480	Resistor, fixed, comp, ins, 4.7k Ω	R8
Z1/5905-99-946-4450	Resistor, fixed, comp, ins, 100 Ω	R9
Z1/5905-99-946-4479	Resistor, fixed, comp, ins, 150 Ω	R10
Z1/5905-99-946-4557	Resistor, fixed, comp, ins 39 Ω	R11
Z1/5910-99-101-9219	Capacitor, fixed, elect, tant 22 μ F	C1, C2
Z1/5910-99-580-8142	Capacitor, fixed, elect, tant 10 μ F	C3, C4, C6, C7
Z1/5910-99-970-6834	Capacitor, fixed, elect, tant 100 μ F	C5
Z/5960-99-037-3538	Valve, electronic CV8345	VT1
Z/5960-99-037-3993	Valve, electronic CV8724	VT2
Z1/5950-99-108-3279	Transformer	T1

Table 2504 - (cont)

Catalogue No	Designation	Function and circuit ref
Z37/5945-99-106-4029	Relay armature	RLA
Z1/5930-99-108-3289	Switch	SA
Table 2505 - Interconnecting box R spares schedule, field repairs		
Catalogue No	Designation	Function and circuit ref
Z1/5820-99-108-3501	Component board assembly	
Z1/5820-99-108-3280	Sealing screw	Seal testing
LV6/MT1/5330-99-942-8450	Washer, seal, flat	Used with sealing screw
Z1/5820-99-108-3290	Gasket	Main sealing gasket
Z1/4440-99-942-2061	Dessicant container, dehumidifier	Dessicator
Z/5940-99-012-0234	Terminal, screwed head	FT1, FT2
Z32/5935-99-106-5102	Socket, electrical, 6 pole	SKTA, SKTB
Z1/5935-99-901-7436	Cover, electrical, plug/socket, with chain	Covers for SKTA and SKTB
Z2/5305-99-941-7921	Screw cap 2BA 1/2 in. SKT hd	Base plate securing screws
Z2/5310-99-941-6689	Washer 2BA single coil, sq seot	Used with above screws
Z2/5305-99-941-8191	Screw cap 6BA 1/2 in. SKT hd	Retain component board
LV6/MT1/5330-99-101-1354	Ring, sealing, toroidal	Retain above screws

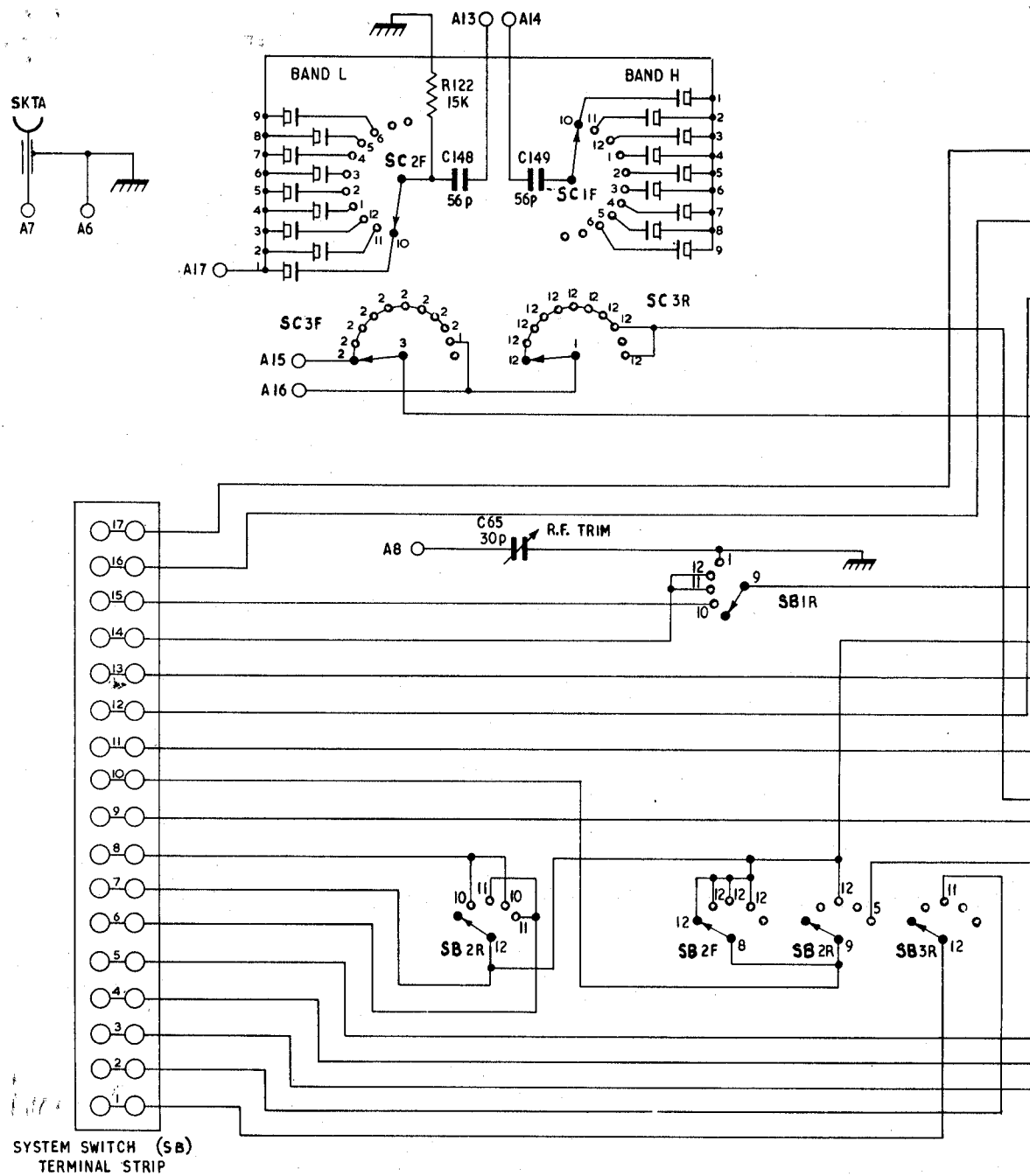
Table 2505 - (cont)

Catalogue No	Designation	Function and circuit ref
Z1/5340-99-910-5070	Clip, spring steel, 1/2 in. dia grip	Dessicator clip
Z/5330-99-097-1004	Washer, sealing, rubber	Gasket for SKTA and SKTB
Z1/5820-99-108-3281	Pad, anti-vibration	Fitted under T1
Z42/5950-99-106-4133	Transformer a.f.	T1
Z1/5905-99-946-4468	Resistor, fixed, comp, ins, 2.2k Ω	R1
Z1/5905-99-946-4480	Resistor, fixed, comp, ins, 4.7k Ω	R2
Z1/5905-99-946-4472	Resistor, fixed, comp, ins, 18k Ω	R3
Z1/5905-99-947-3285	Resistor, fixed, comp, ins, 270 Ω	R4
Z1/5910-99-580-8142	Capacitor, fixed, elect, tant, 10 μ F	C1, C2, C3, C4
Z1/5910-99-108-3471	Capacitor, fixed 0.1 μ F	C5
Z/5960-99-037-4641	Valve, electronic, CV9385	MR1, MR2
Z/5960-99-037-3993	Valve, electronic, CV8724	VT1



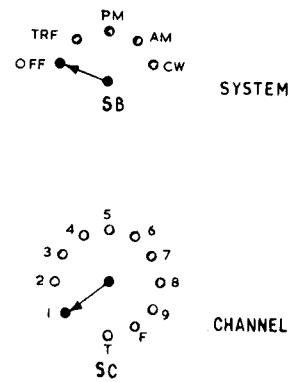
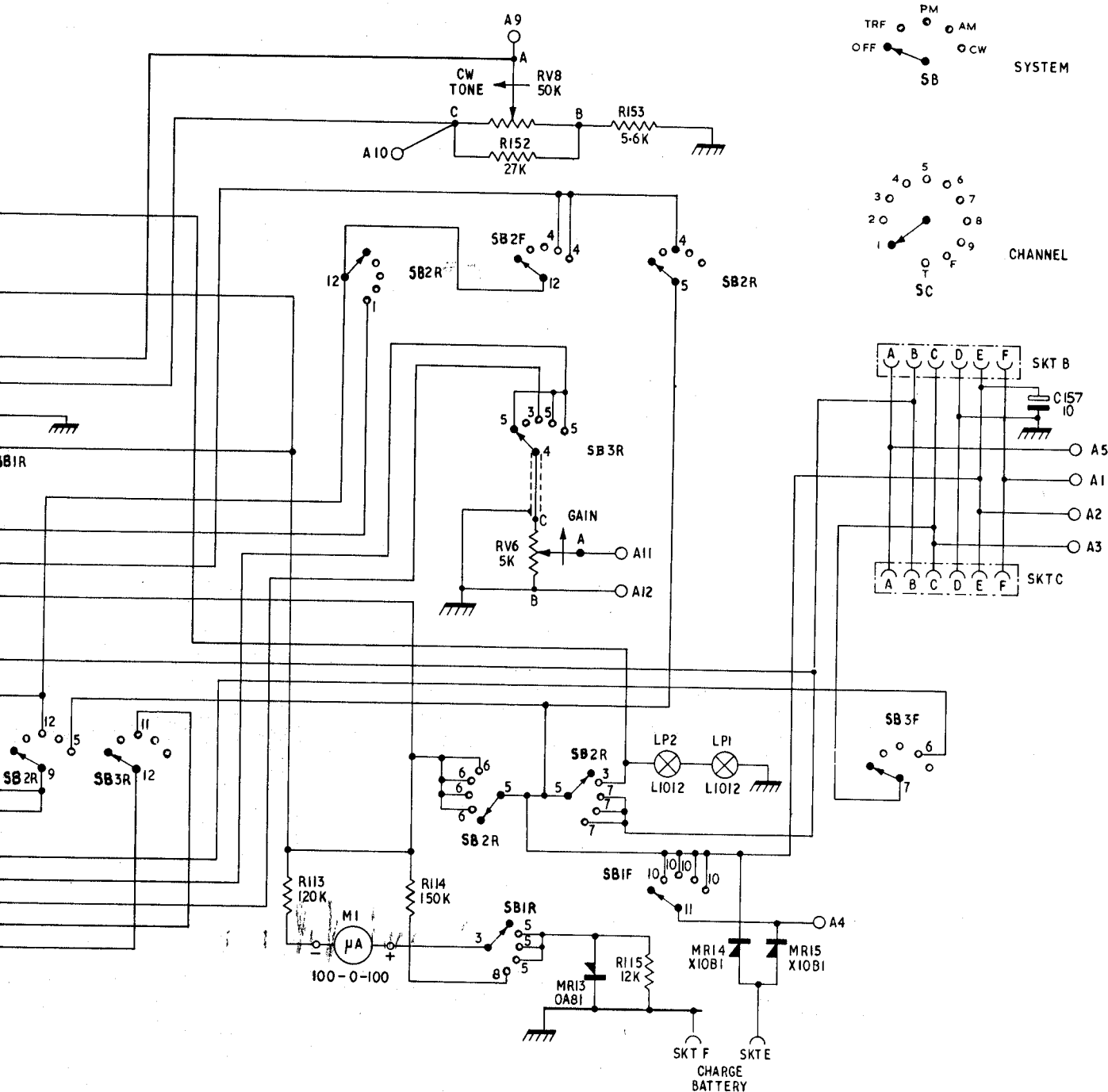
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Fig 2518 - Front panel layout, Module A

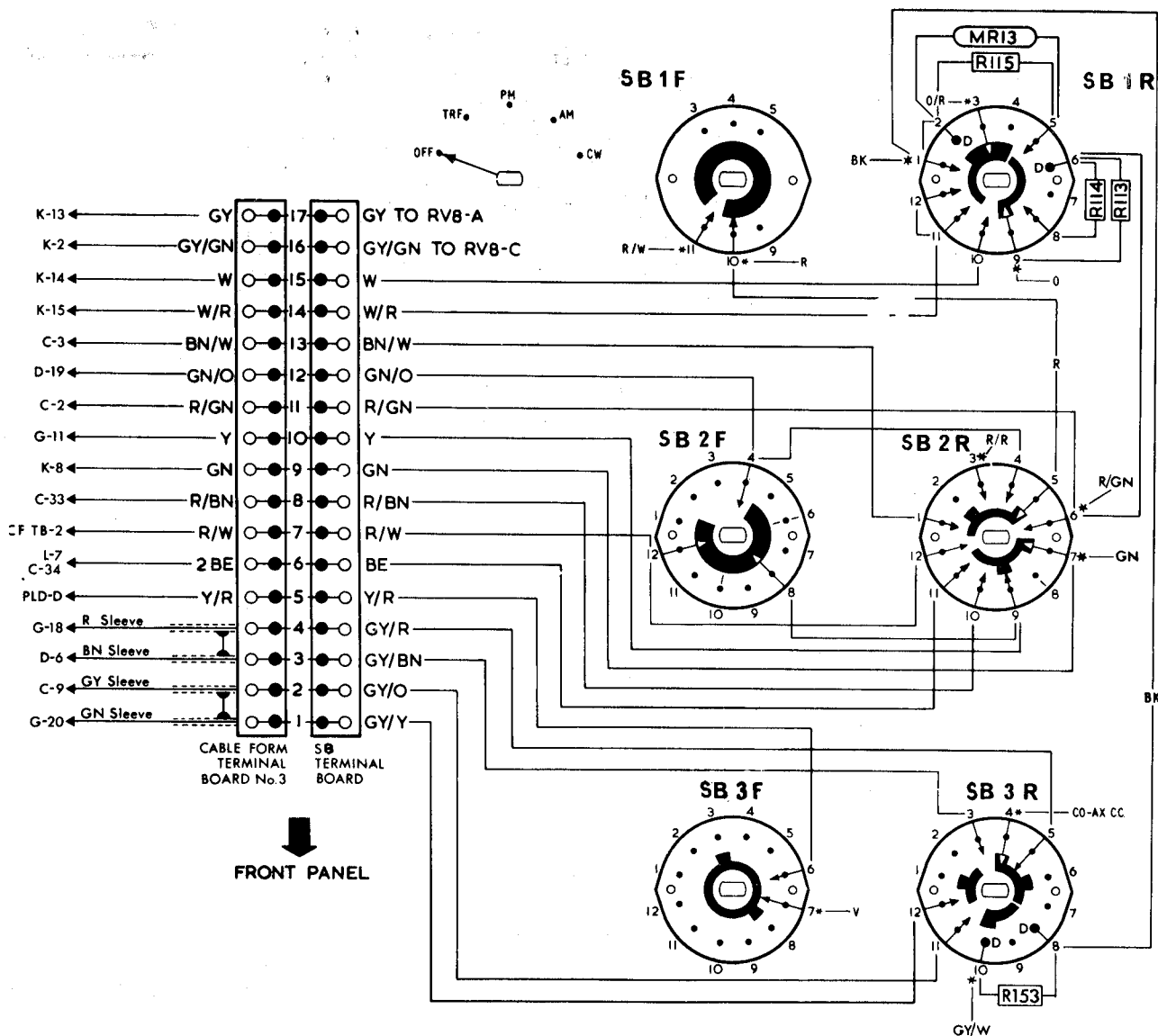


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Fig 2519 - Circuit di



2519 - Circuit diagram Module A



FRONT PANEL

* DENOTES WIRES FROM FRONT PANEL

SB TERMINATION	COLOUR OF WIRE	DESTINATION FRONT PANEL
1 FRONT 10	RED	A2
1 FRONT 11	RED/WHITE SLEEVE	A4
1 REAR 1	BLACK	C 65 EARTH
1 REAR 3	ORANGE/RED SLEEVE	M1+
1 REAR 9	ORANGE	M1-
2 REAR 3	RED/ RED SLEEVE	SC 3R-12
2 REAR 6	RED/GREEN SLEEVE	SC 3R-3
2 REAR 7	GREEN	SKTS B&C PINS B
3 FRONT 7	VIOLET	A3
3 REAR 4	CO AXIAL C.C.	RV6 - C
3 REAR 10	GREY/WHITE SLEEVE	RV8 - B

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Fig 2520 - System switch SB wiring details

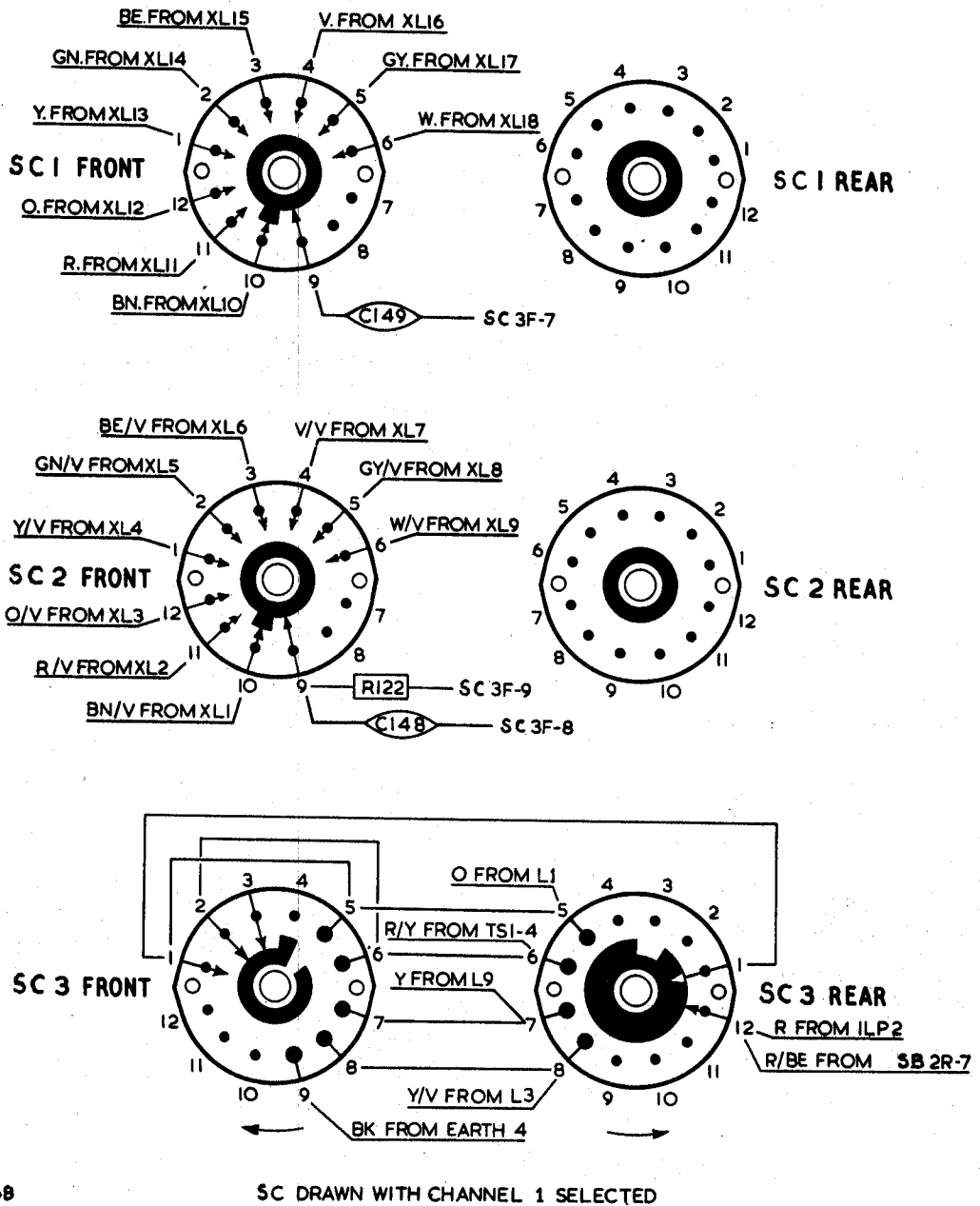
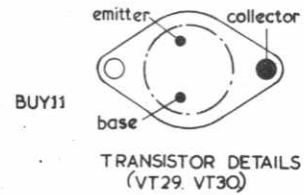
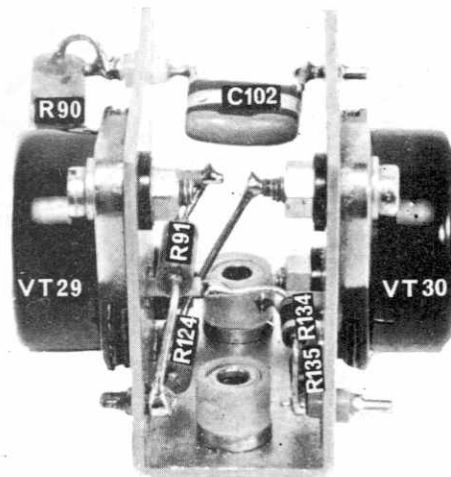


Fig 2521 - System switch SC, wiring details



d. c. READINGS TAKEN ON FREE TUNE
 PM - TRANSMIT WITH AVO B
 a. c. READINGS TAKEN ON FREE TUNE
 PM - TRANSMIT WITH
 VALVE VOLTMETER

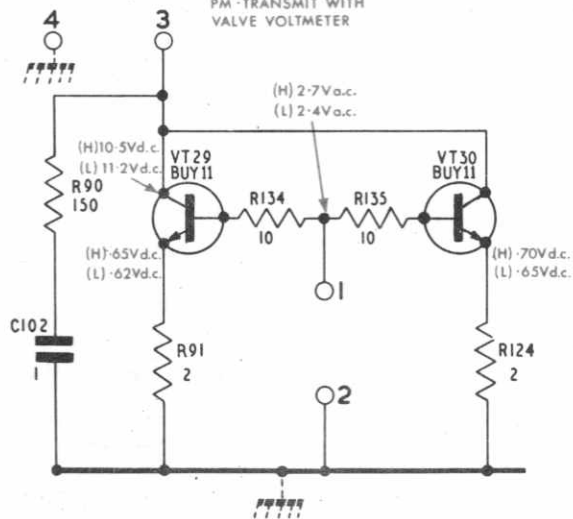
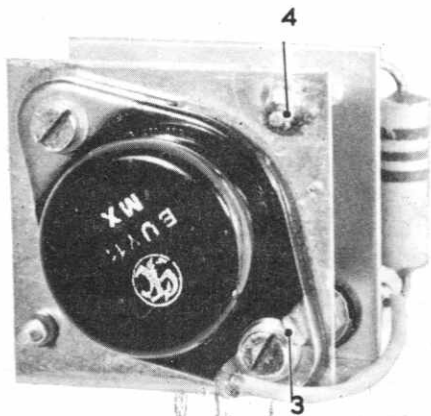
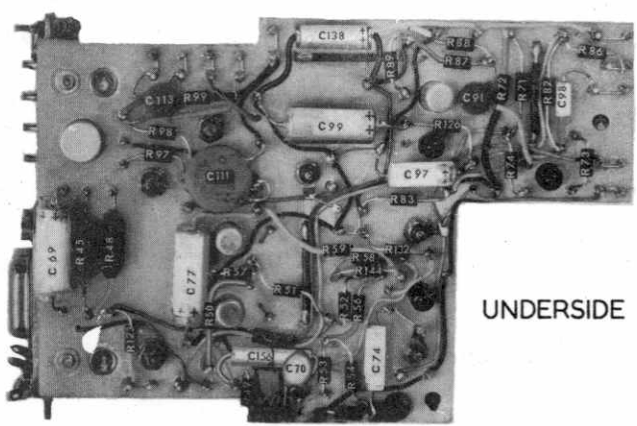
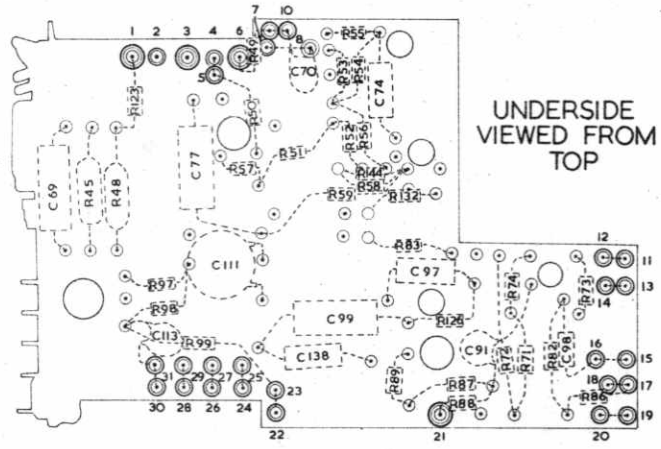
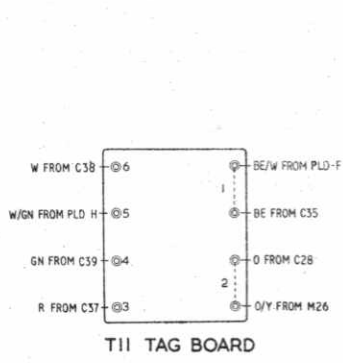
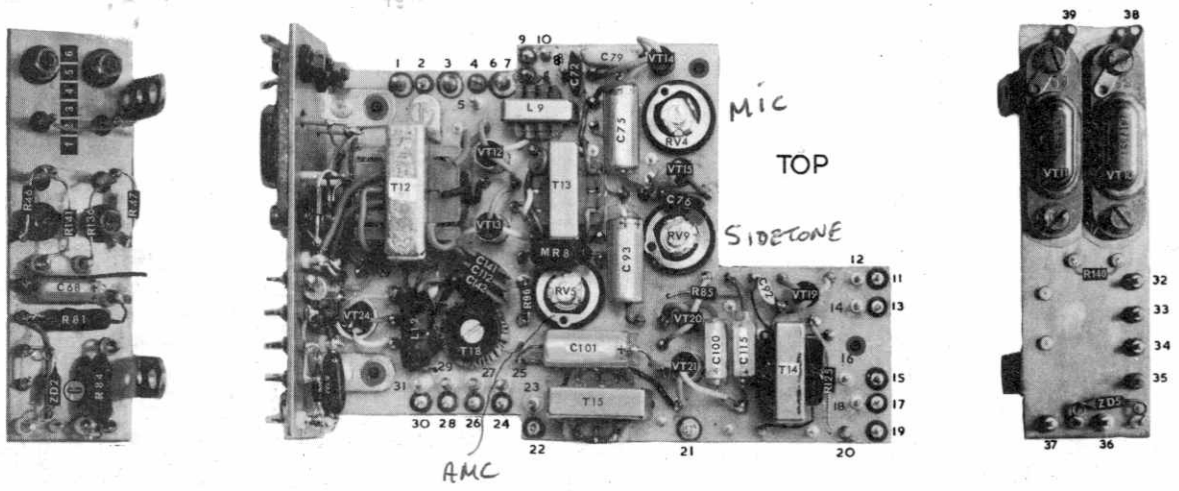


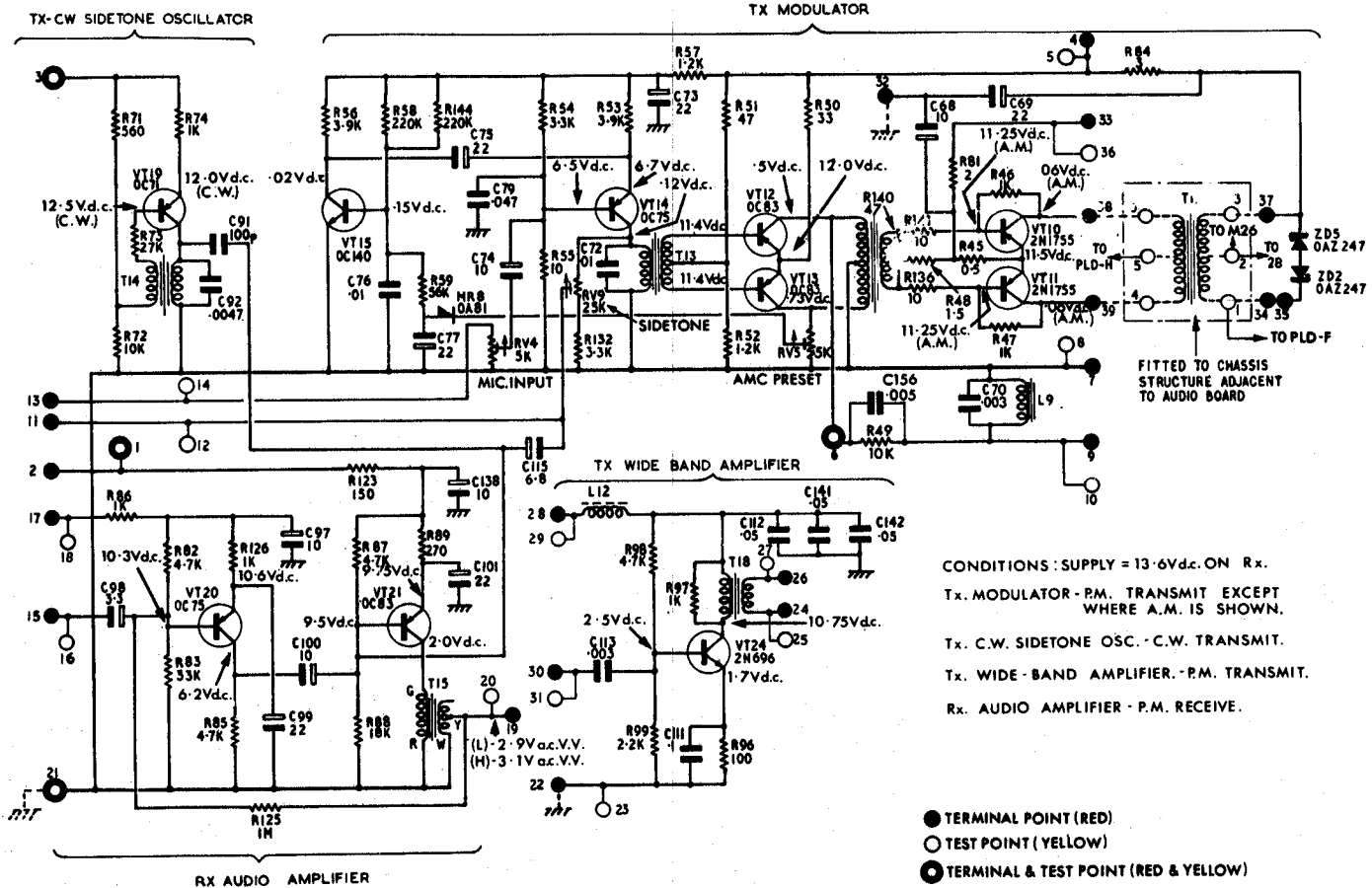
Fig 2522 - Module B circuit diagram and layout



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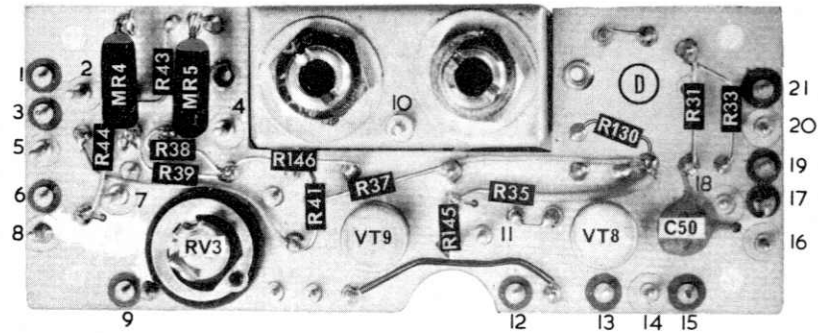
Fig 2523 - Module C component layout



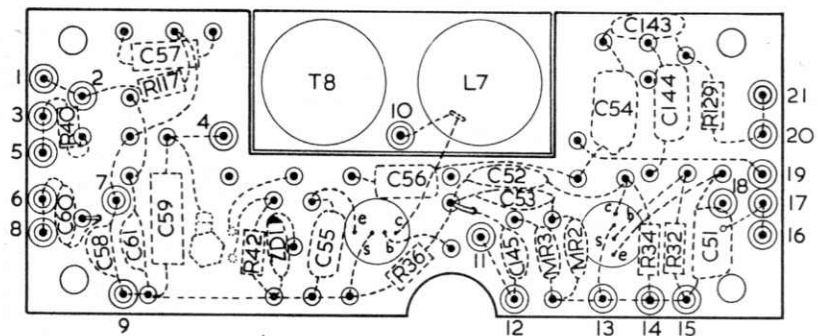
CONDITIONS: SUPPLY = 13.6Vd.c. ON Rx.
Tx. MODULATOR - P.M. TRANSMIT EXCEPT WHERE A.M. IS SHOWN.
Tx. C.W. SIDETONE OSC. - C.W. TRANSMIT.
Tx. WIDE - BAND AMPLIFIER - P.M. TRANSMIT.
Rx. AUDIO AMPLIFIER - P.M. RECEIVE.

Fig 2524 - Module C circuit diagram

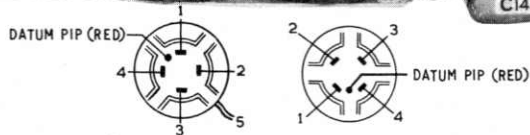
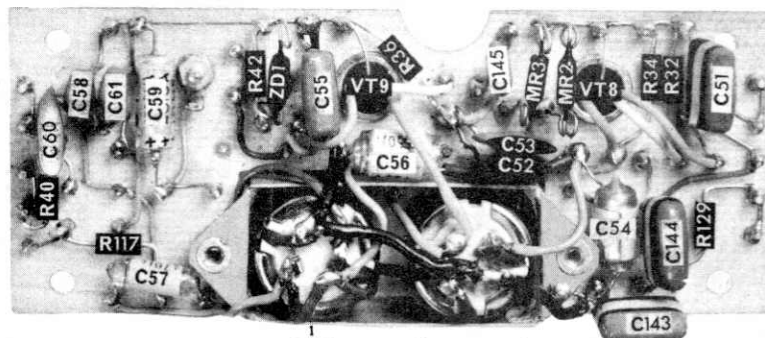
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TOP

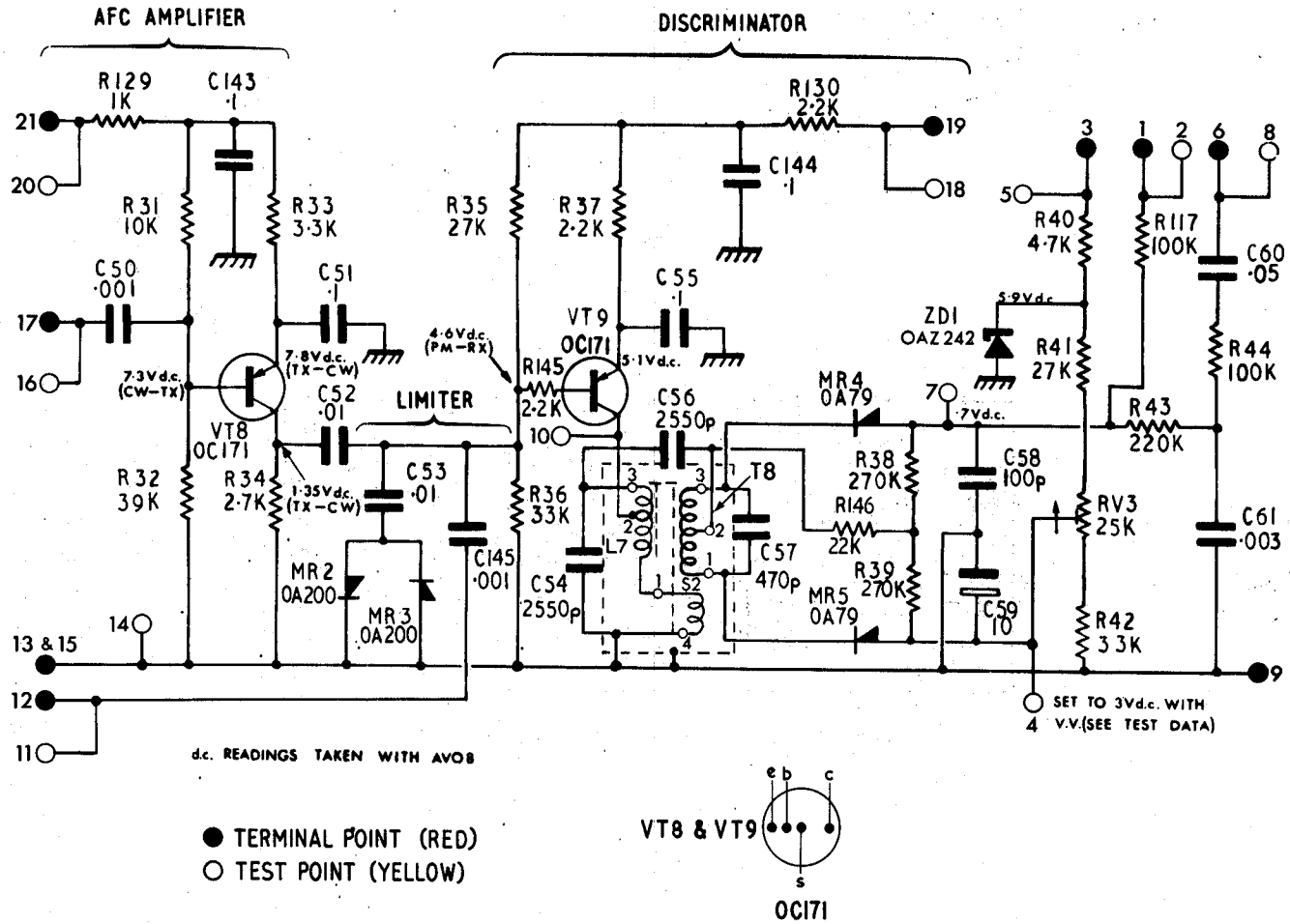


COMPONENTS ON UNDERSIDE AS VIEWED FROM TOP



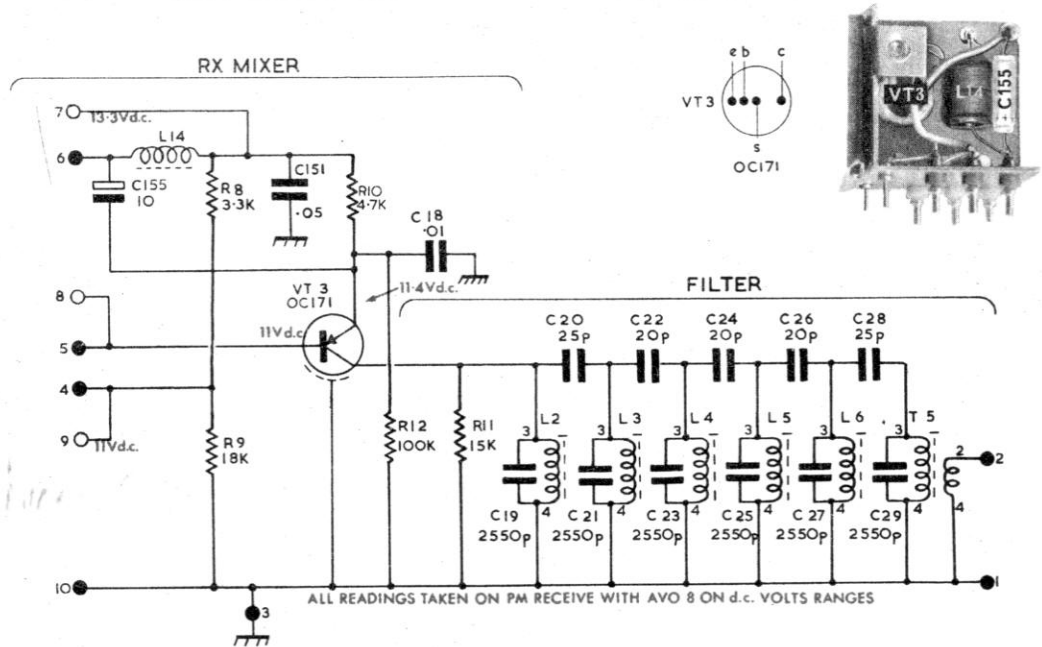
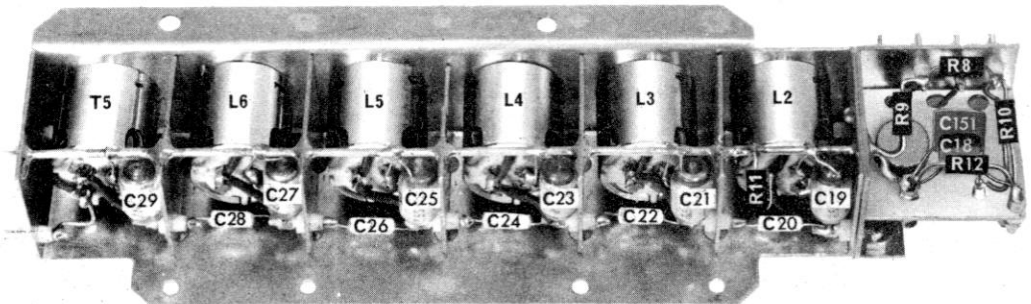
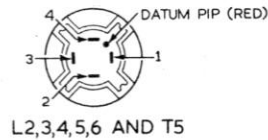
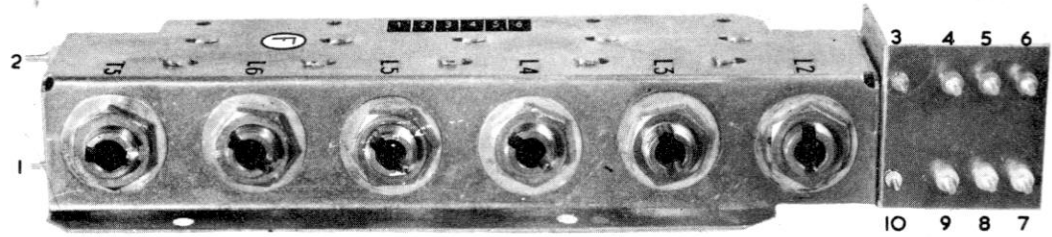
UNDERSIDE

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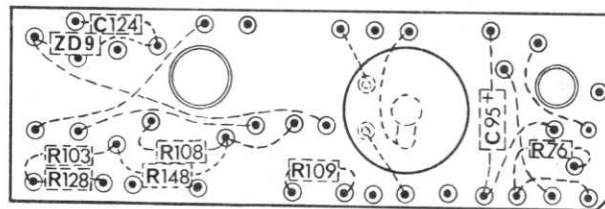
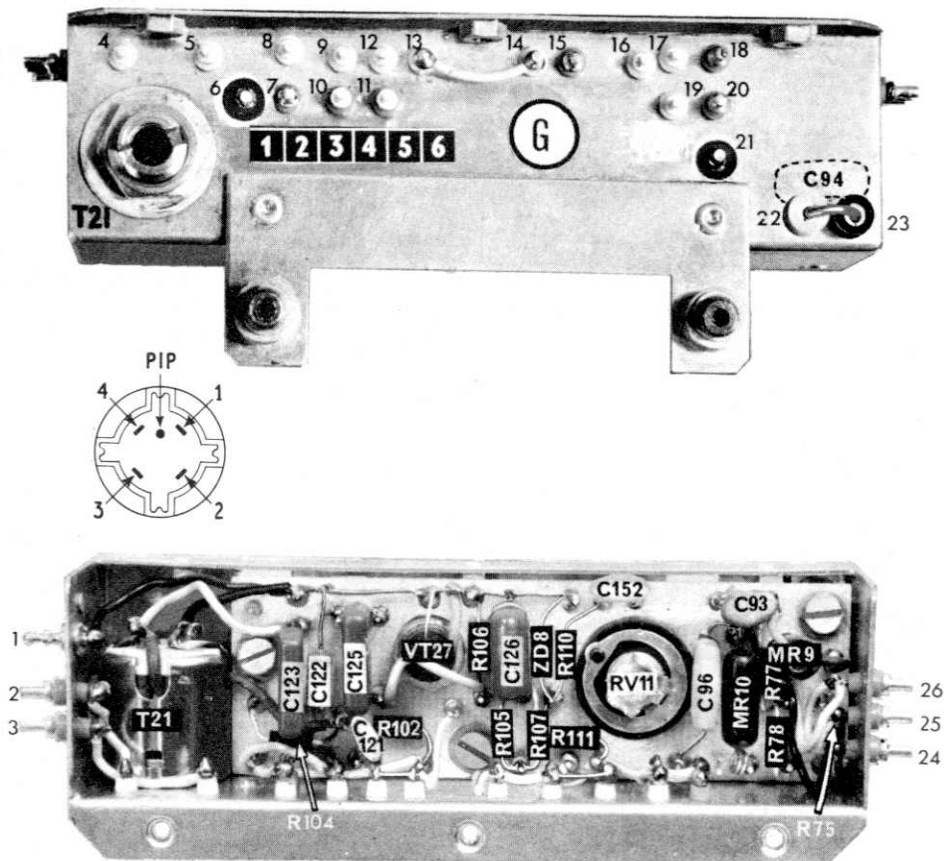
Fig 2526 - Module D circuit diagram



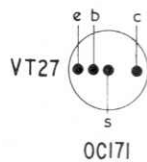
- TERMINAL POINT (RED)
- TEST POINT (YELLOW)

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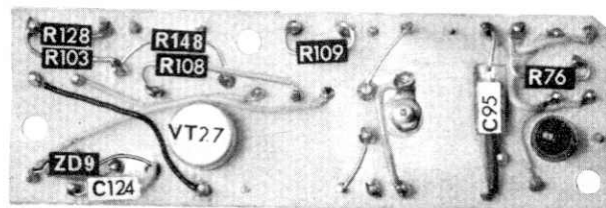
Fig 2527 - Module F layout and circuit diagram



UNDERSIDE OF COMPONENT BOARD AS VIEWED FROM TOP

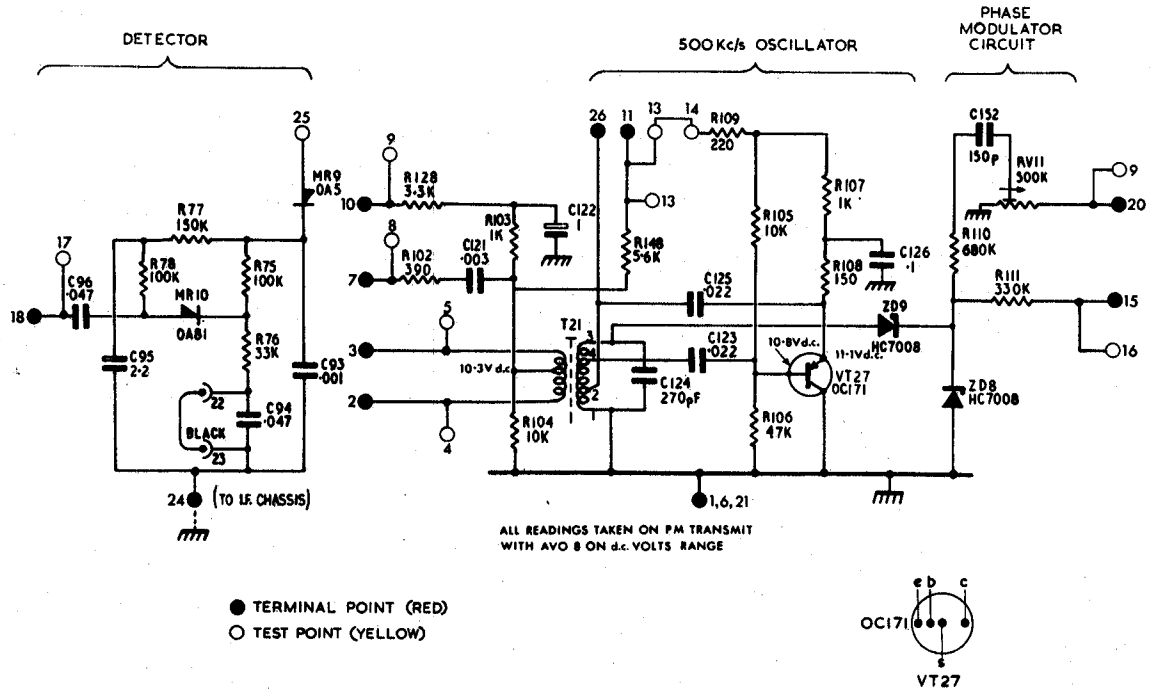


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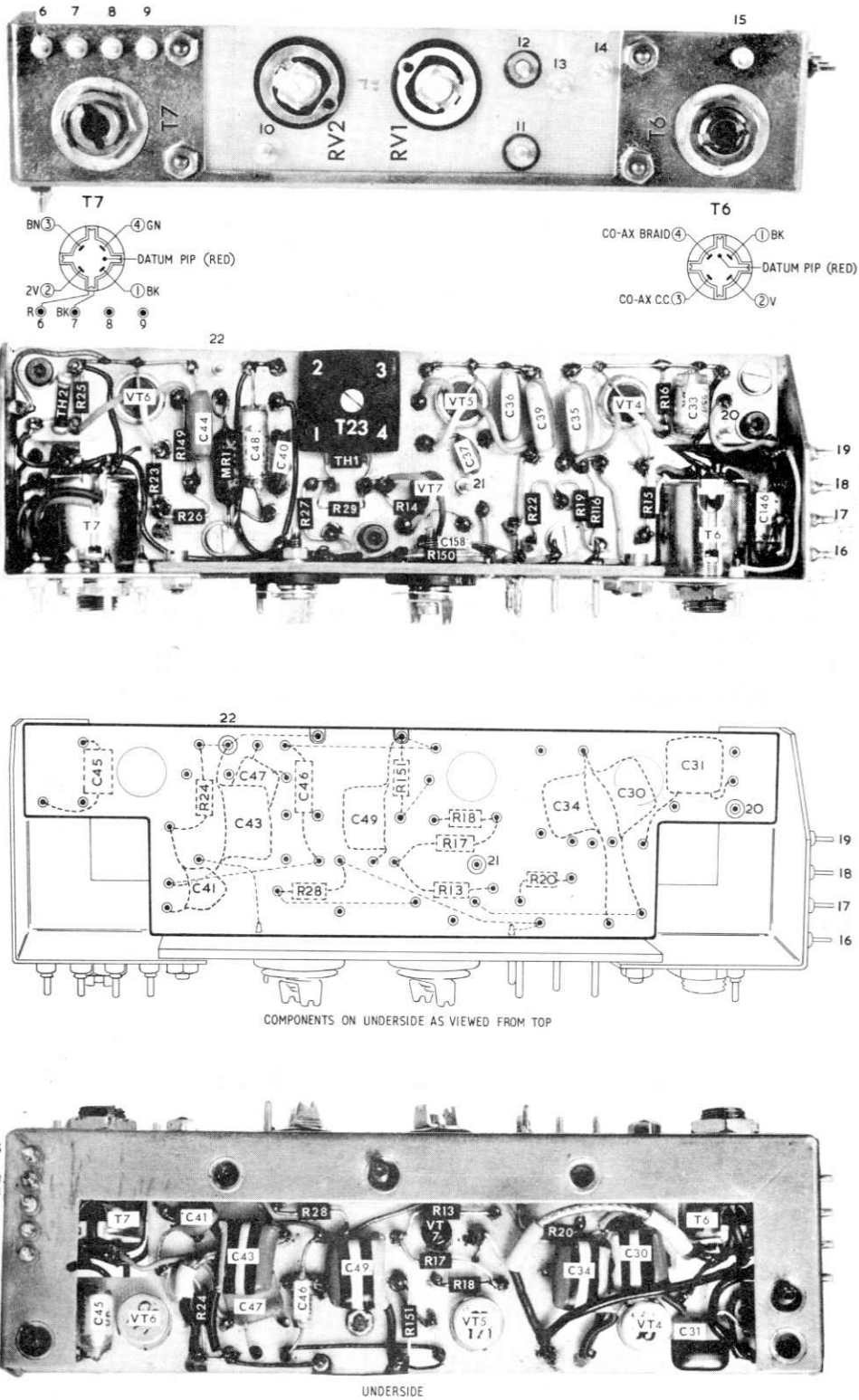
UNDERSIDE OF COMPONENT BOARD

Fig 2528 - Module G component layout



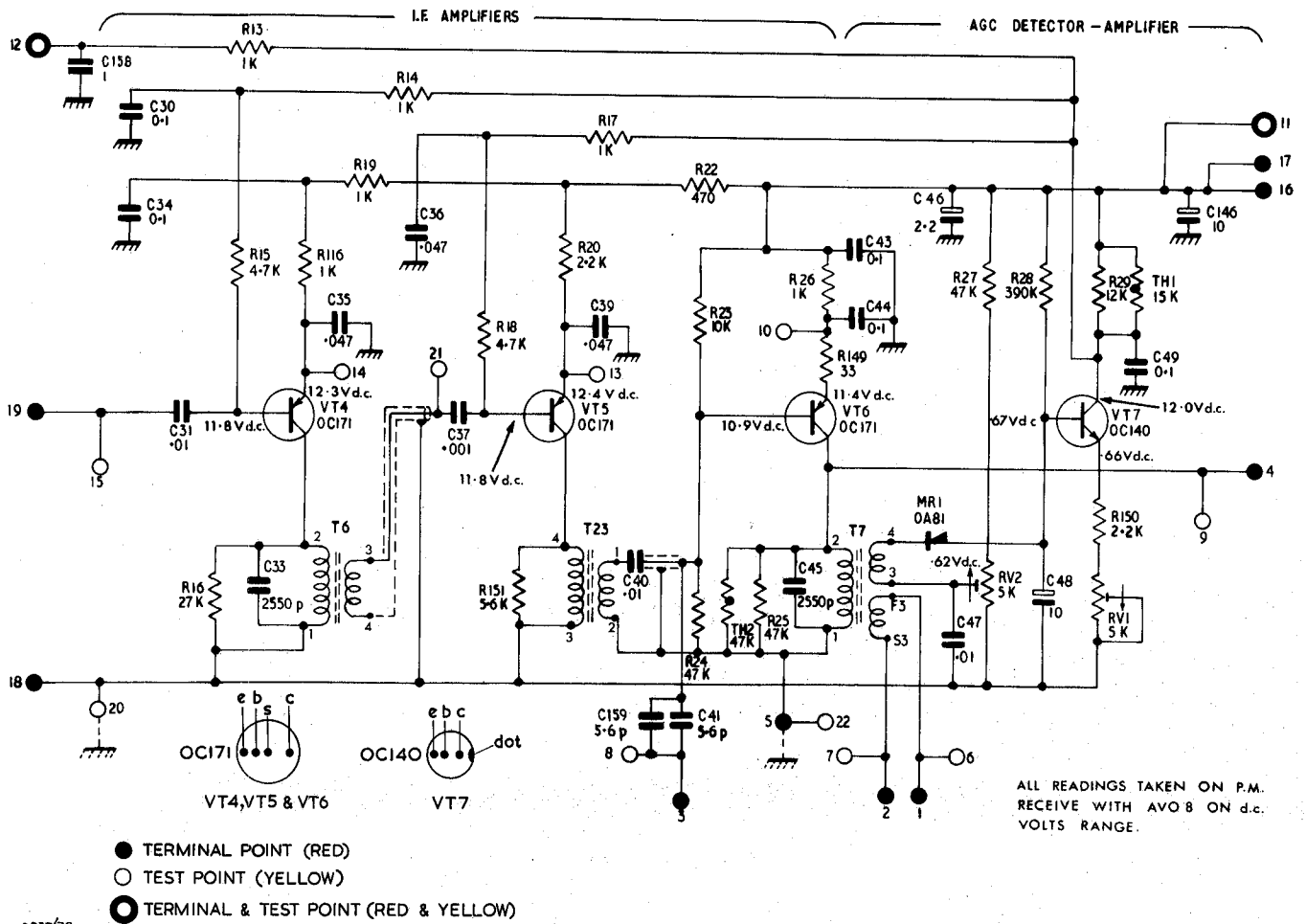
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Fig 2529 - Module G circuit diagram



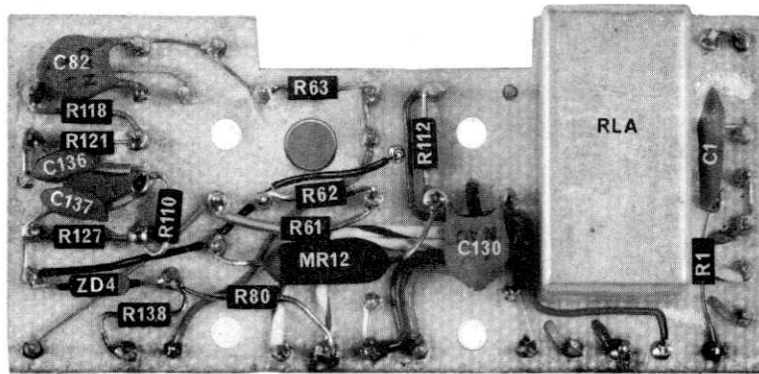
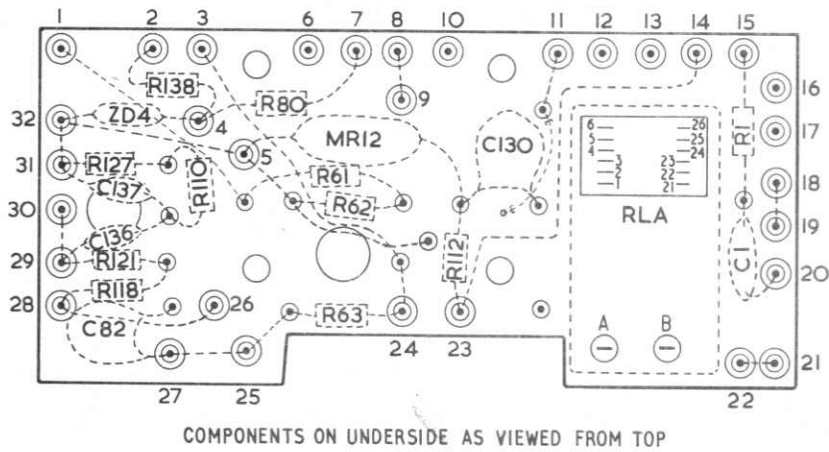
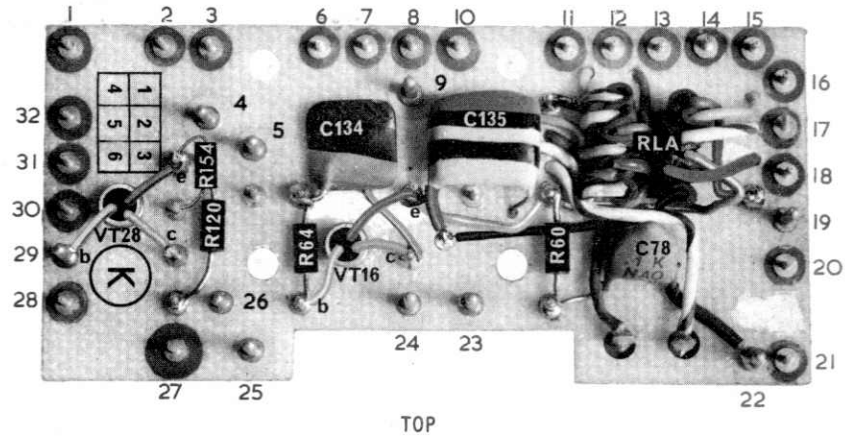
287177

Fig 2530 - Module J component layout



ALL READINGS TAKEN ON P.M.
RECEIVE WITH AVO 8 ON d.c.
VOLTS RANGE.

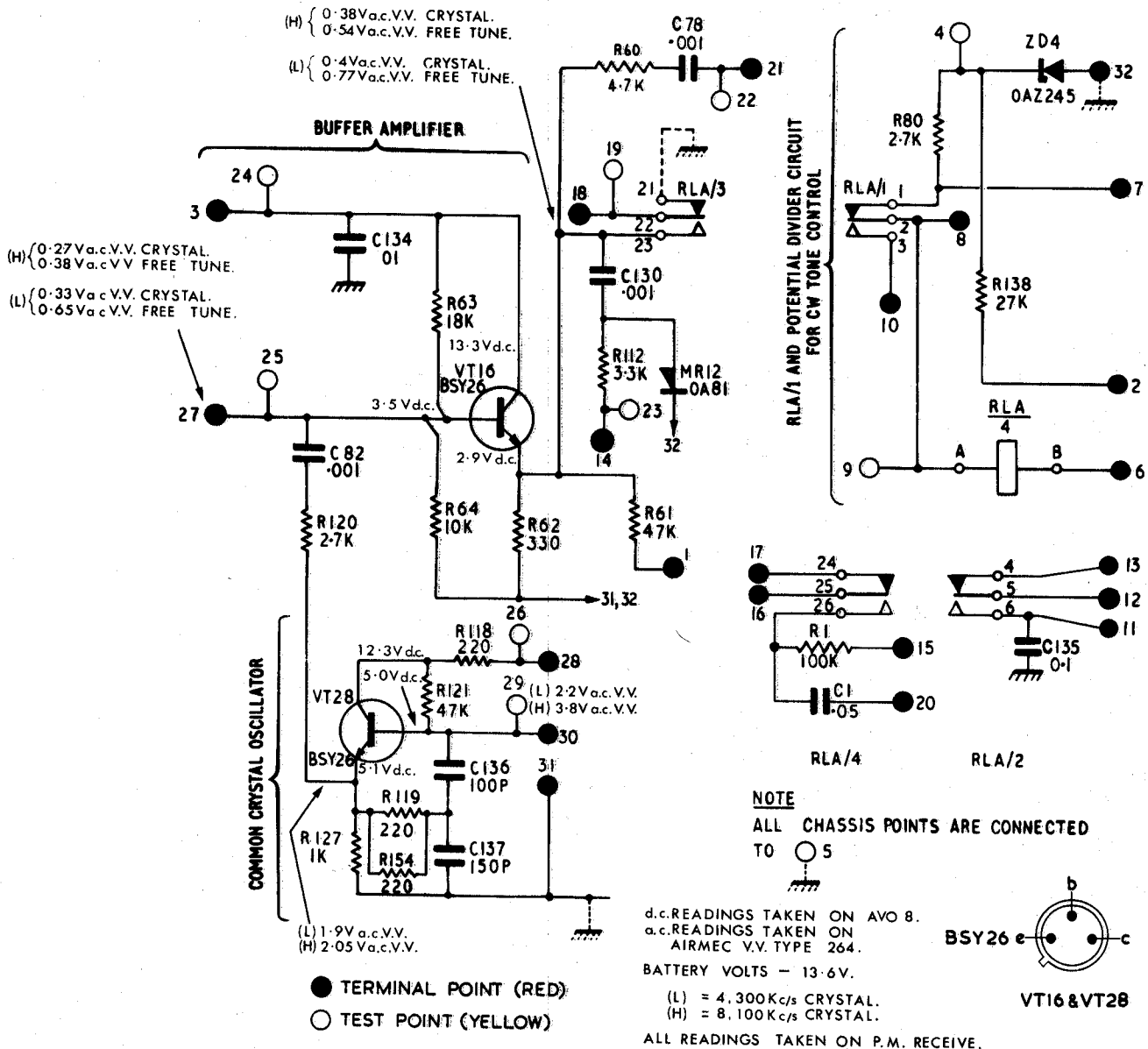
Fig 2531 - Module J circuit diagram



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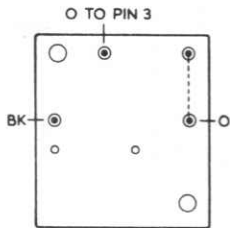
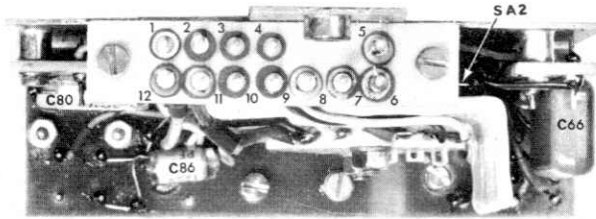
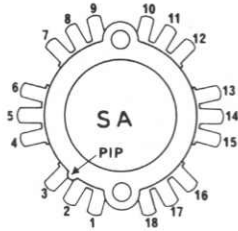
UNDERSIDE

Fig 2532 - Module K component layout

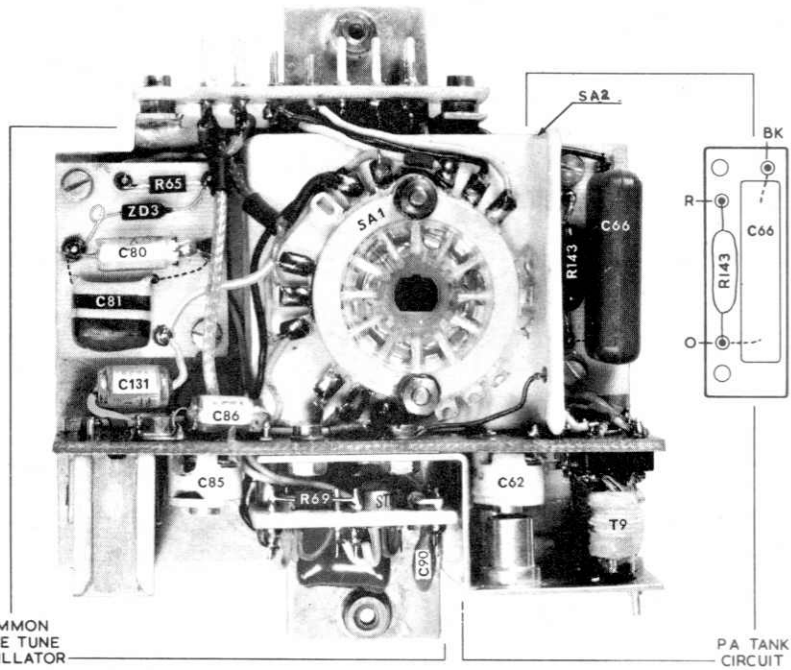


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Fig 2533 - Module K circuit diagram

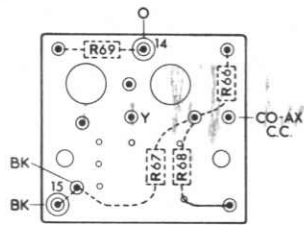


UNDERSIDE OF STABILIZER
 CIRCUIT BOARD SHOWING
 WIRING TERMINATIONS
 VIEWED FROM TOP

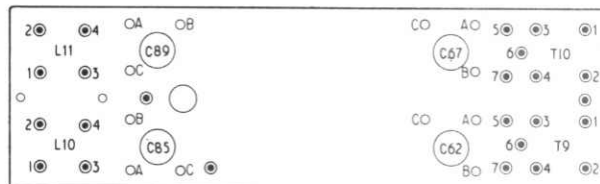
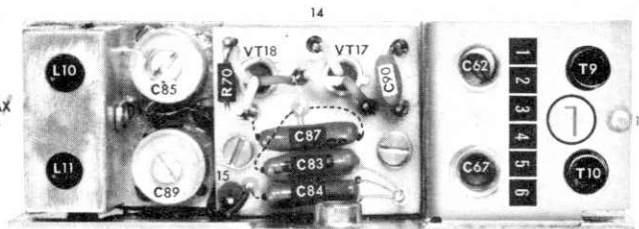


COMMON
 FREE TUNE
 OSCILLATOR

PA TANK
 CIRCUIT



UNDERSIDE OF FREE TUNE
 OSCILLATOR CIRCUIT BOARD
 VIEWED FROM TOP



UNDERSIDE VIEW OF TERMINAL BOARD

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Fig 2534 - Module L component layout

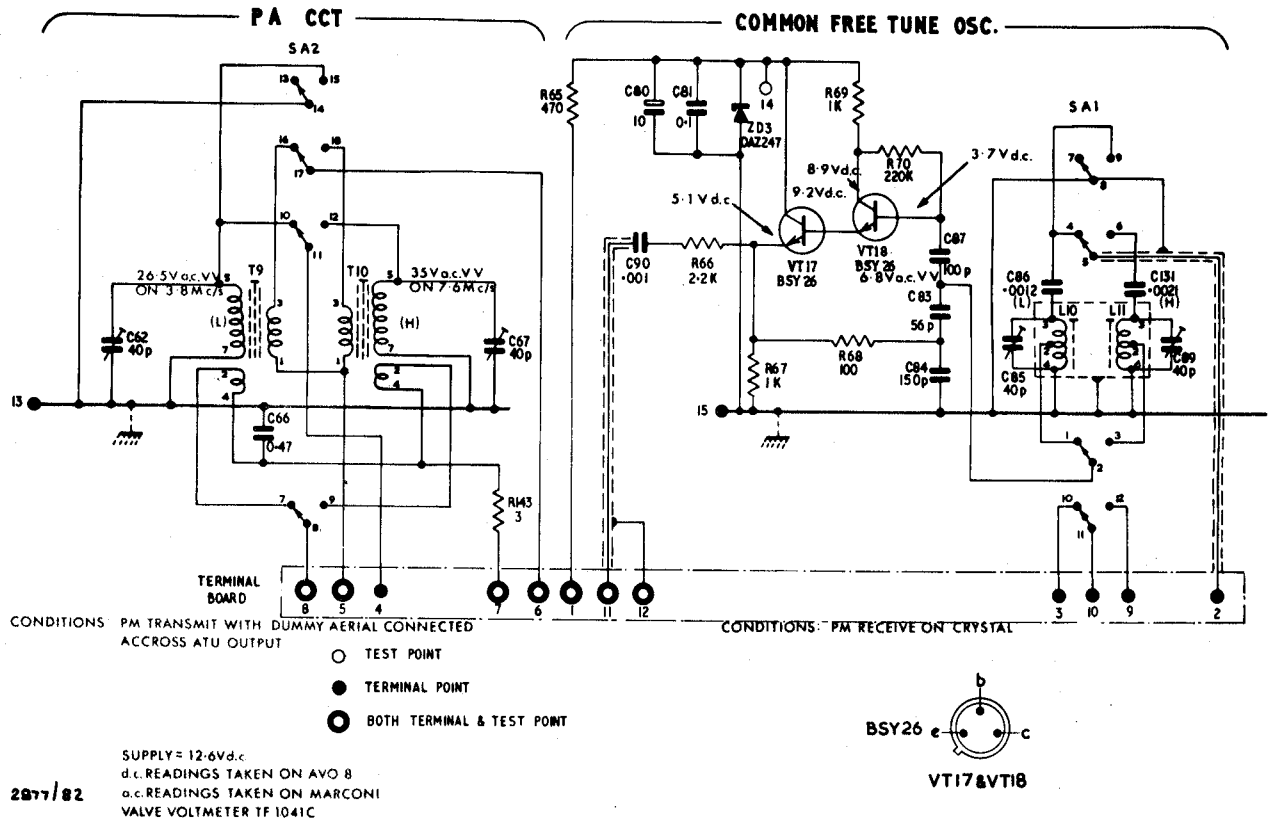
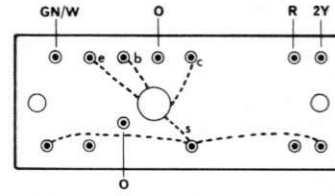
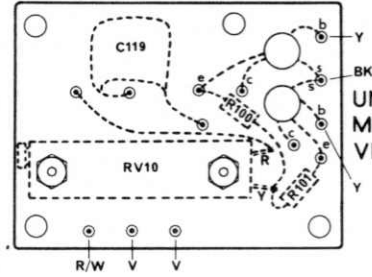


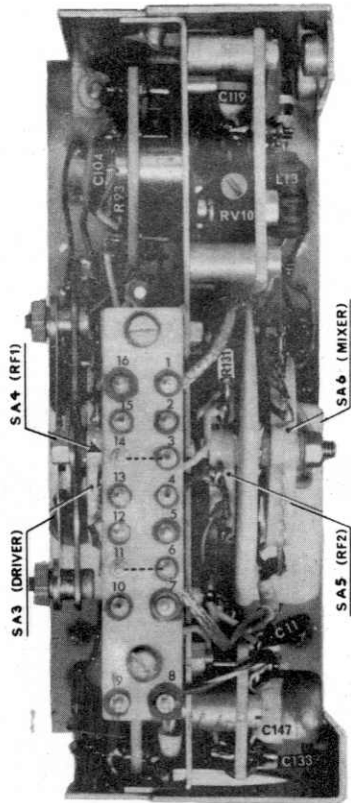
Fig 2535 - Module L circuit diagram



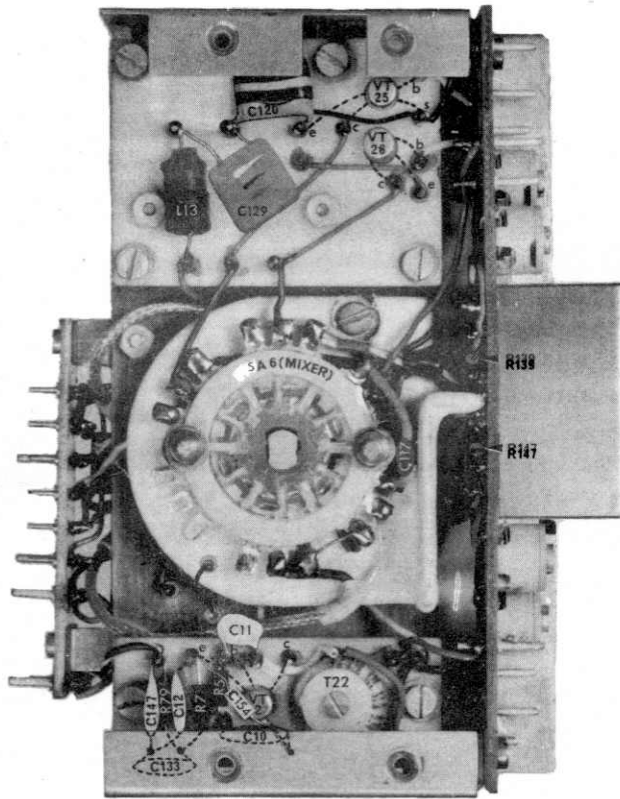
UNDERSIDE OF
 RF2 COMPONENT BOARD
 VIEWED FROM TOP



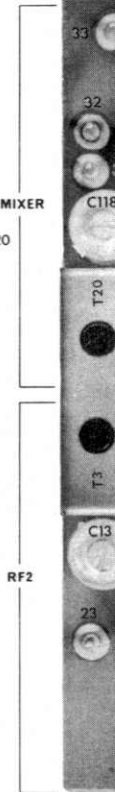
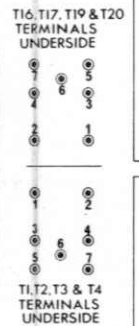
UNDERSIDE OF
 MIXER COMPONENT BOARD
 VIEWED FROM TOP



VIEW ON MODULE
 TERMINAL BOARD



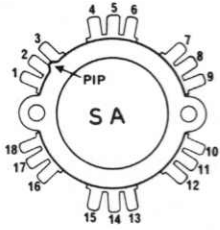
SA5 SA6
 MIXER AND RF2 COMPONENT BOARDS



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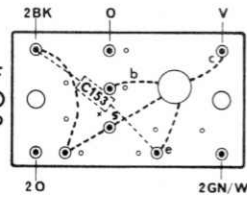
Fig 2536 - Module M component

VIEW OF
COMPONENT BOARD
VIEWED FROM TOP

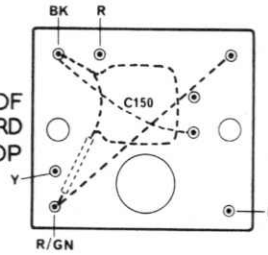


VIEW OF
COMPONENT BOARD
VIEWED FROM TOP

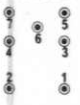
UNDERSIDE OF
RF1 COMPONENT BOARD
VIEWED FROM TOP



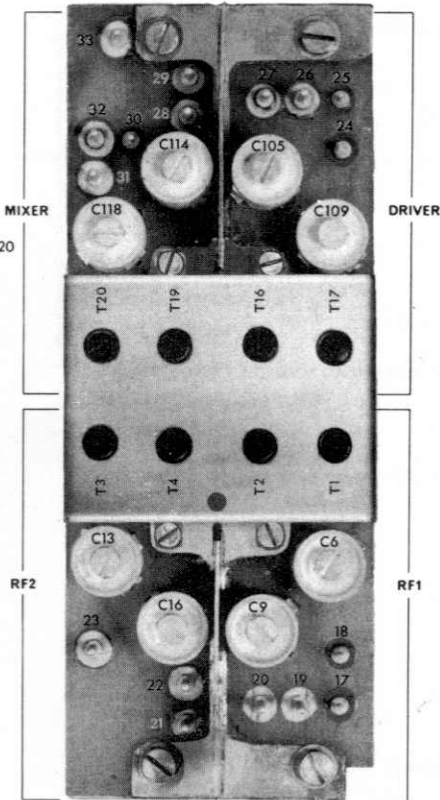
UNDERSIDE OF
DRIVER COMPONENT BOARD
VIEWED FROM TOP



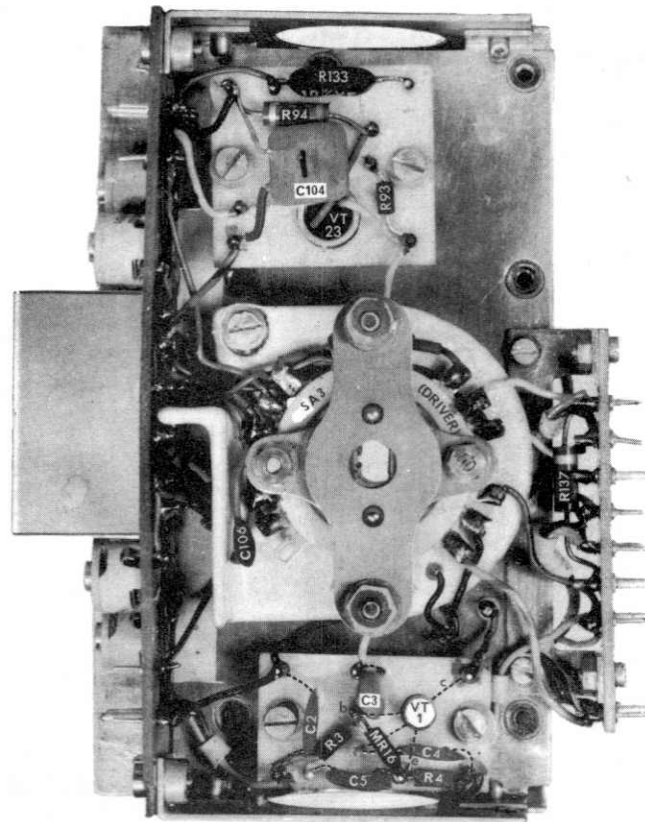
T16, T17, T19 & T20
TERMINALS
UNDERSIDE



T1, T2, T3 & T4
TERMINALS
UNDERSIDE



VIEW ON MODULE
RF ASSEMBLIES AND TERMINALS



SA3 SA4
DRIVER AND RF1 COMPONENT BOARDS

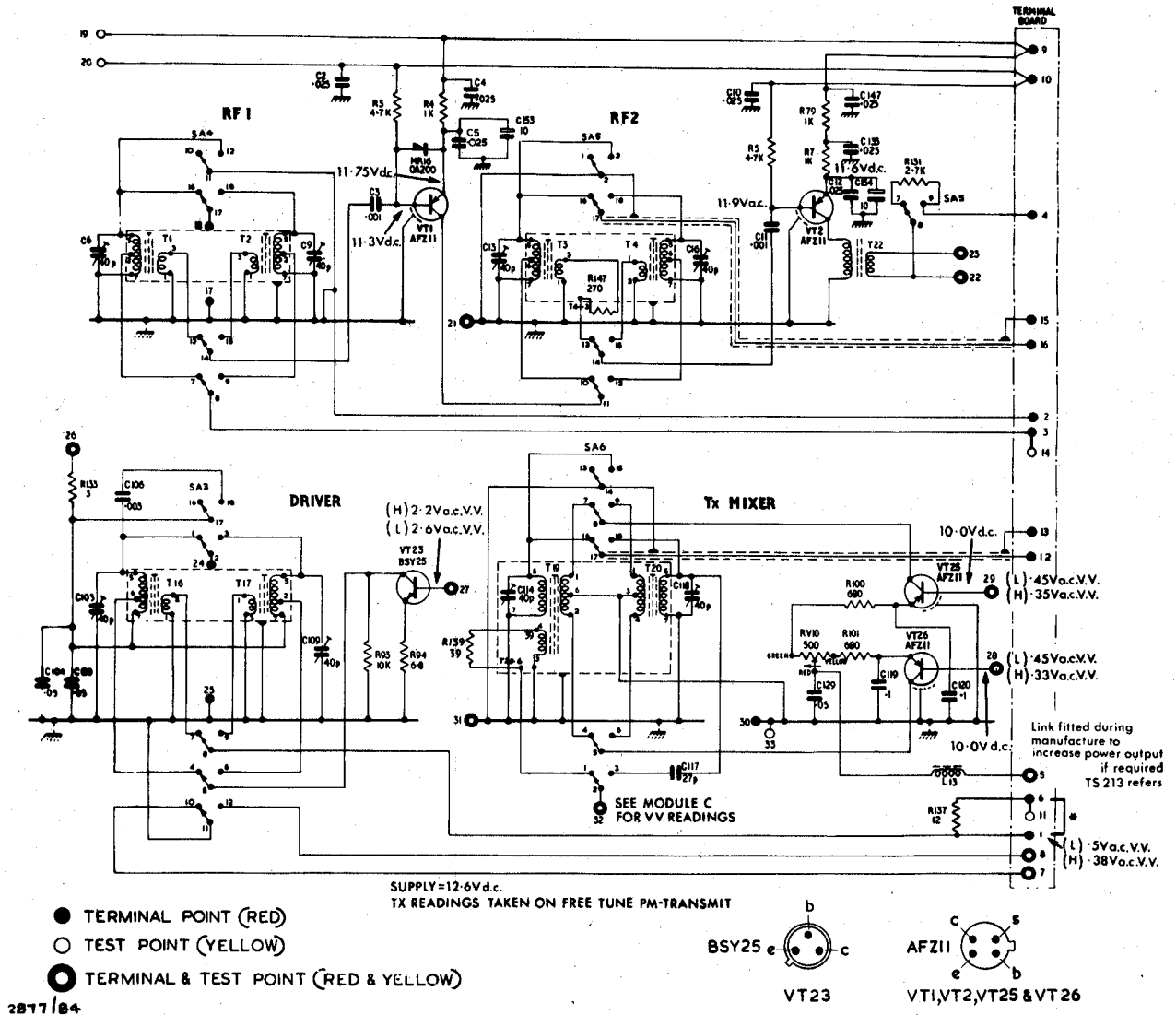
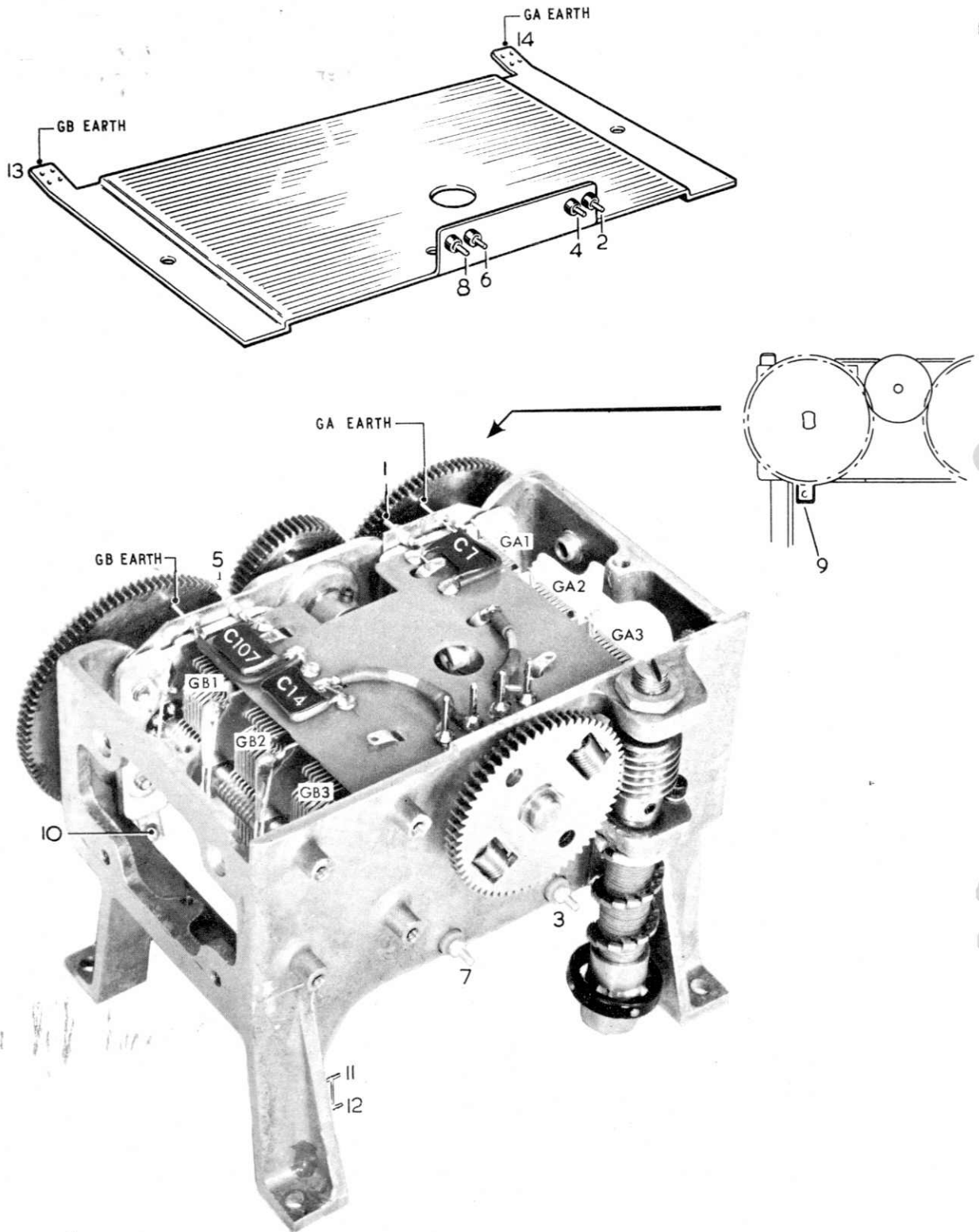
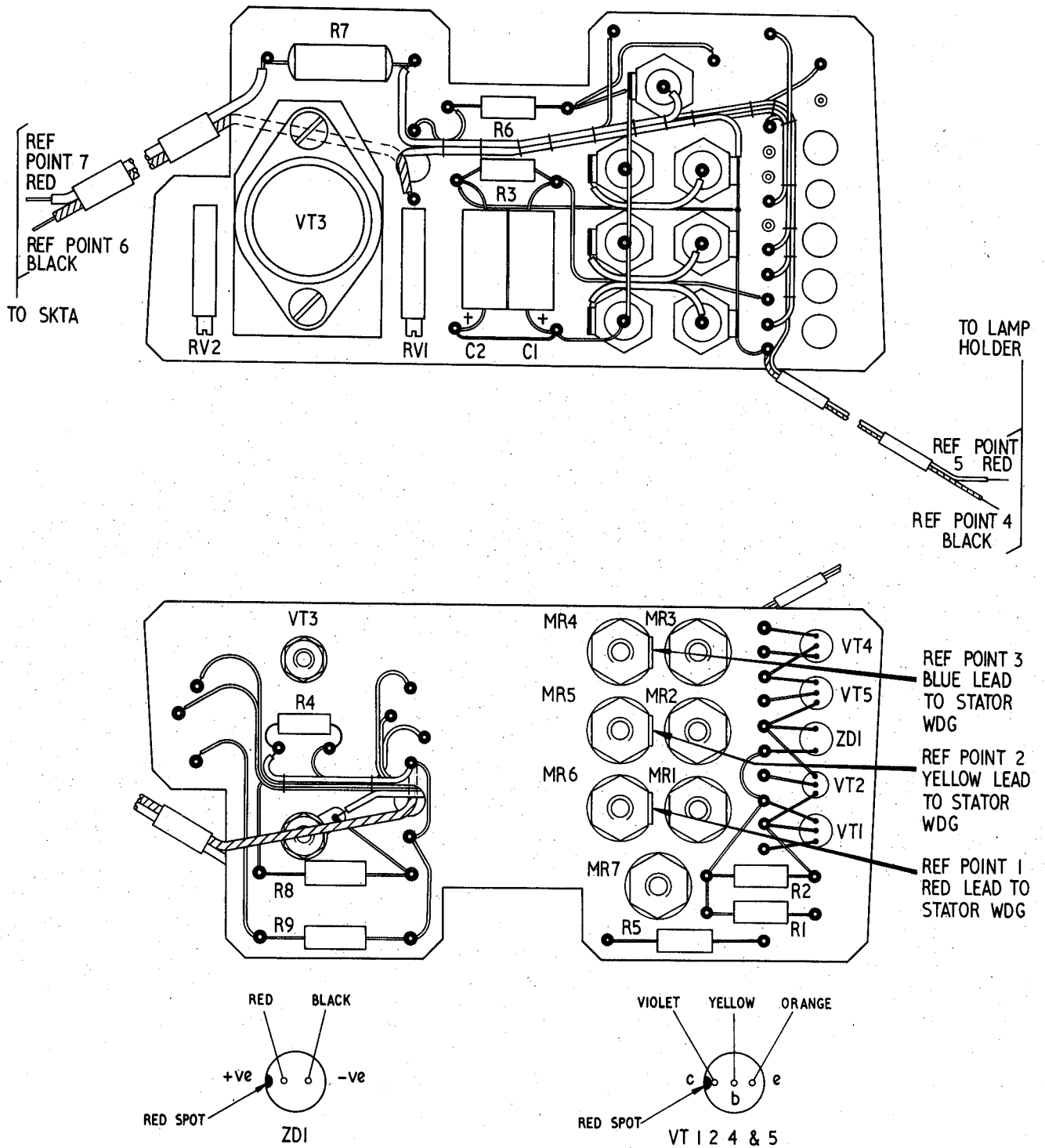


Fig 2537 - Module M circuit diagram



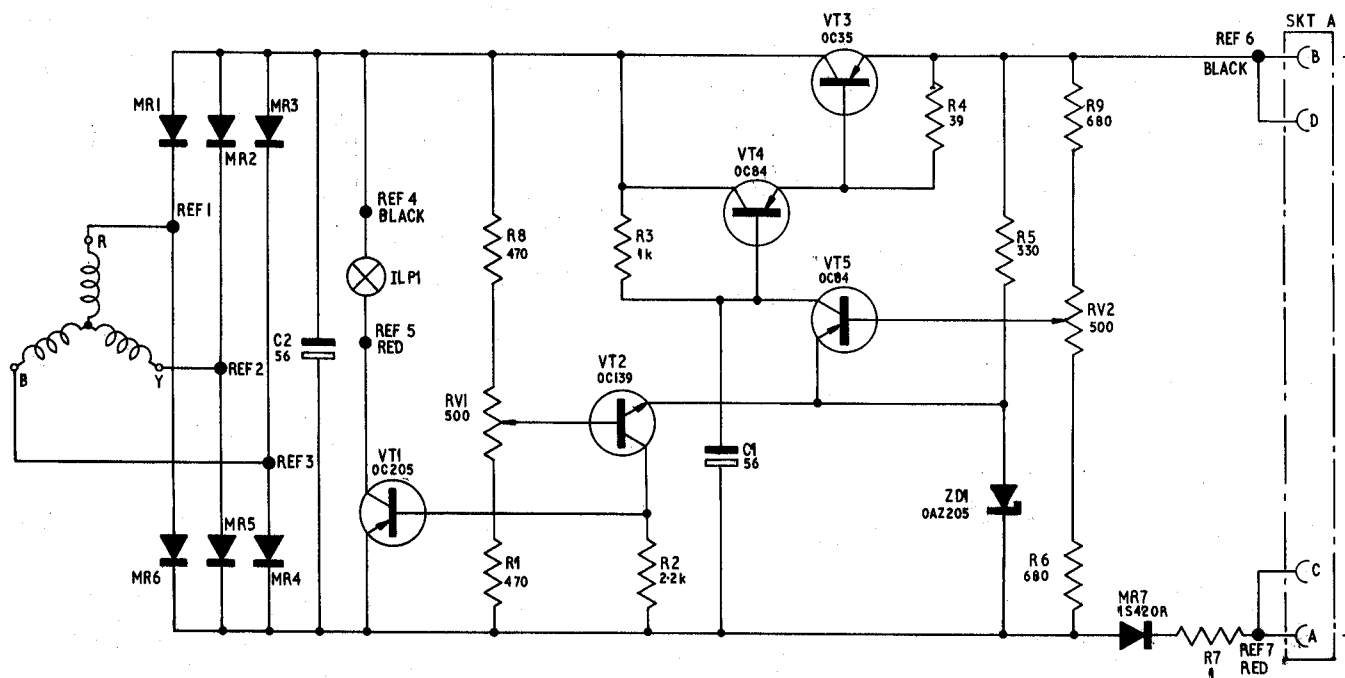
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Fig 2538 - Module N component layout



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Fig 2539 - Hand generator, regulator board component layout



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Fig 2540 - Hand generator circuit diagram

Table 2506 - Inter module

Wire and sleeve colour	Wire type	CFTB 1	CFTB 2	CFTB 3	SB T/B	SA	PLD	A	
	Tinned copper wire 22 s.w.g.		1 — 1						
	Tinned copper wire 22 s.w.g.		2 — 2						
	Tinned copper wire 22 s.w.g.		3 — 3						
	Tinned copper wire 22 s.w.g.		4 — 4						
	Tinned copper wire 22 s.w.g.		5 — 5						
	Tinned copper wire 22 s.w.g.		6 — 6						
	Tinned copper wire 22 s.w.g.		7 — 7						
	Tinned copper wire 22 s.w.g.		8 — 8						
	Tinned copper wire 22 s.w.g.		9 — 9						
	Tinned copper wire 22 s.w.g.		10 — 10						
	Tinned copper wire 22 s.w.g.		11 — 11						
	Tinned copper wire 22 s.w.g.		12 — 12						
	Tinned copper wire 22 s.w.g.		13 — 13						
	Tinned copper wire 22 s.w.g.		14 — 14						
	Tinned copper wire 22 s.w.g.		15 — 15						
	Tinned copper wire 22 s.w.g.		16 — 16						

2506 - Inter module wiring connections

SA	PLD	Module											Modulation Transformer T11	Chassis		
		A	B	'C'	D	E	F	G	J	K	'L'	M			N	

2506 - (cont)

D	Module											Modulation Transformer T11	Chassis			
	A	B	'C'	D	E	F	G	J	K	'L'	M			N		
												18	1			
													5			
									21				4			
												24	5			
													2			
	16													1		
																Earth tag nr T11
												13		9		
												15		10		
												4		3		
			22											13		
			21											13		
													25	13		
													31	13		
													17	14		
													21	14		
								12						10		
								11						9		

Table 2506 - (cont)

Wire and sleeve colour	Wire type	CFTB 1	CFTB 2	CFTB 3	SB T/B	SA	PLD			
								A	B	'C'
	Tinned copper wire 22 s.w.g.		17	17						
R	14/0076									
R/W	7/0076		8							
Y	7/0076									
R	14/0076									
	braid of coaxial M3									
O	7/0076							16		
BK	7/0076						P			
	Copper cord									
	Copper cord									
R	7/0076									
	Copper cord									22
BK	14/0076									21
BK	14/0076									
BK	14/0076									
BK	14/0076									
BK	14/0076									
O	7/0076									
GN	7/0076									
R/W	7/0076		1				N			
R	7/0076		2				R			

Table 2506 - (c)

Wire and sleeve colour	Wire type	CFTB 1	CFTB 2	CFTB 3	SB T/B	SA	PLD		
								A	I
V	7/0076	3							
	Tinned copper wire 24 s.w.g.	4							
		5							
GY/GN	7/0076	6		16					
R/GN	7/0076	7							
		8							
GN/W	7/0076	9							
GN	7/0076	10		9					
R/W	7/0076	11	1						
V	7/0076	12							
BE	7/0076	13	6						
GY	7/0076	14		17					
W	7/0076	15		15					
W/R	7/0076	16		14					
GN/W	7/0076	9							
GN	7/0076	10							
R/W	7/0076		2						
R/W	7/0076		3	7					
R/W	7/0076		4						
Y	7/0076		5	10					
Y/R	7/0076			5				D	
BE	7/0076			6					
R/BN	7/0076			8					
3R/GN	7/0076			11					

Table 2506 - (cont)

SA	PLD	Module											Modulation Transformer T11	Chassis		
		A	B	'C'	D	E	F	G	J	K	'L'	M			N	
				2												
				17												
					1											
									16							
					3											
				4												
						21										
	D:															
											7					
				33												
				1												

Table 2506 - (cont)

Wire and sleeve colour	Wire type	CFTB 1	CFTB 2	CFTB 3	SB T/B	SA	PLD			
								A	B	'C'
GN/O	7/0076			12						
BN/W	7/0076			13						3
BE	7/0076						A			
R/Y	7/0076						C			
BE/W	7/0076						F			
W/GN	7/0076						H			
BN/V	7/0076						K			6
	Tinned copper wire 24 s.w.g.						P-L			
	Tinned copper wire 24 s.w.g.						R-M			
	Tinned copper wire 24 s.w.g.						N-J			
	Coaxial C.C.								1	
O/Y	7/0076									
	Coaxial C.C.									24
	Coaxial C.C.									
	Coaxial C.C.									
	braids of Coaxial C.C. from M28 and M29									
	Coaxial C.C.									30
	braid of Coaxial 'C'30									22
	Coaxial C.C.								3	
	braid of Coaxial 'E'11									
	braid of Coaxial B3								4	
	braid of Coaxial B1								2	

le 2506 - (cont)

PLD	Module												Modulation Transformer T11	Chassis		
	A	B	'C'	D	E	F	G	J	K	'L'	M	N				
				19												
			3													
A														7		
C														8		
F															1	
H															5	
K			6													
L																
M																
J																
		1												6		
														26	2	
			24											27		
							2							28		
							3							29		
							1							30		
			30											32		
			22													
		3												8		
														12		
		4														
		2														

Table 2506 - (

Wire and sleeve colour	Wire type	CFTB 1	CFTB 2	CFTB 3	SB T/B	SA	PLD	A	
	braid of Coaxial 'C'9								
O	7/0076								
BK	14/0076								
BE	7/0076								
R	7/0076								
W	7/0076								
GN	7/0076								
BK	14/0076								
	Coaxial C.C.								
	braid of Coaxial D12								
GN	7/0076								
	braid of Coaxial G7								
	braids of Coaxial C.C. from G18 and G20								
P	7/0076								
P	7/0076								
P	7/0076								
R	7/0076								
R	14/0076								
R	14/0076								
BK	14/0076								
BK	14/0076								
BE	7/0076								A

Table 2506 - (cont)

SA	PLD	Module												Modulation Transformer T11	Chassis		
		A	B	'C'	D	E	F	G	J	K	'L'	M	N				
				7													
				28												2	
				32													Earth tag nr T11
				35												1	
				37												3	
				38												6	
				39												4	
				9													Earth tag nr T11
				12						1							
				13						2							
				17						26							
										6							
										21							
										24	5						
										25	4						
										26	3						
														2		7	
														12		2	
														16		8	
														15		6	
														13		4	
	A															7	

Table 2506 - (cont)

Wire and sleeve colour	Wire type	CFTB 1	CFTB 2	CFTB 3	SB T/B	SA	PLD			
								A	B	C
R/Y	7/0076						C			
	braid of Coaxial C.C. from M27									
BK	7/0076									
BE	7/0076									
	braids of Coaxial C.C. from F4 and F5									
	Coaxial C.C.									
	Coaxial C.C.									
GN/W	7/0076									
BK	14/0076									
GY/R	7/0076									11
	Tinned copper wire 22 s.w.g.	6								
	Tinned copper wire 22 s.w.g.	7								
	Tinned copper wire 22 s.w.g.	8								
	Tinned copper wire 22 s.w.g.	9								
	Tinned copper wire 22 s.w.g.	10								
	Tinned copper wire 22 s.w.g.	11								
	Tinned copper wire 22 s.w.g.	12								
	Tinned copper wire 22 s.w.g.	13								

2506 - (cont)

LD	Module											Modulation Transformer T11	Chassis		
	A	B	'C'	D	E	F	G	J	K	'L'	M			N	
C													8		
													25		
						1							18		
						2							19		
						3									
						4							22		
						5							23		
						6							17		
						10									Earth pin adj to F10
			11										1		
													2		
													3		
													6		
													7		
													8		
													10		
													11		
													12		

Table 2506 - (

Wire and sleeve colour	Wire type	CFTB 1	CFTB 2	CFTB 3	SB T/B	SA	PLD	A	
	Tinned copper wire 22 s.w.g.	14							
	Tinned copper wire 22 s.w.g.	15							
	Tinned copper wire 22 s.w.g.	16							
O/SLEEVE	Coaxial C.C.								7
Y/SLEEVE	Coaxial C.C.								
Y/SLEEVE	Coaxial C.C.								
BE/SLEEVE	Coaxial C.C.								
Y	7/0076								
	Coaxial C.C.								
R/Y	7/0076	5							
	Coaxial C.C.								
	braid of Coaxial K30								
BK	7/0076								
	braid of Coaxial A7								6
	braid of Coaxial 'L'6								
BN	7/0076								1
R	7/0076	2							2
V	7/0076	3							3

Table 2506 - (cont)

Wire and sleeve colour	Wire type	CFTB 1	CFTB 2	CFTB 3	SB T/B	SA	PLD	A	B	'C
R/W	7/0076	1						4		
GY	7/0076							5		13
R/W	7/0076							8		
GY	7/0076				17			9		
GY/GN	7/0076				16			10		
	Coaxial C.C.							11		15
	braid of Coaxial A11							12		
Y/V	7/0076							13		
Y	7/0076							14		
R/Y	7/0076	4						15		
O	7/0076							16		
BK	14/0076							17		
R/W	7/0076		7							
R/W	7/0076		8							
Y	7/0076		9							
BE	7/0076		10							
GN SLEEVE	Coaxial C.C.			1						
GY SLEEVE	Coaxial C.C.			2						9
BN SLEEVE	Coaxial C.C.			3						
R SLEEVE	Coaxial C.C.			4						
BE	7/0076			6						34
	braid of Coaxial 'C'24									26

Table 2506 - (cont)

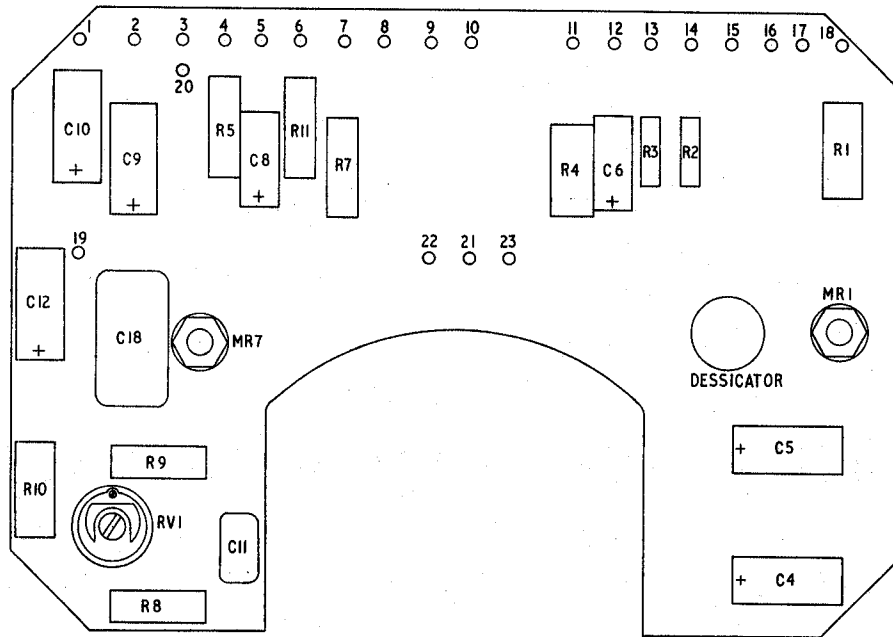
PLD	Module											Modulation Transformer T11	Chassis			
	A	B	'C'	D	E	F	G	J	K	'L'	M			N		
4																
5			13													
8														3		
9																
10																
11			15													
12																
13													3			
14													9			
15																
16													1			
17														12		
								10								
														5		
								11								
								15								
								20								
			9													
			6													
								18								
			34													
			26													

Table 2507 - Headset microphone spares schedule, field repairs

Catalogue No	Designation	Function and circuit ref
Y1/5965-99-100-1940	Neckband	Steel neckband
Y1/5965-99-949-2572	Cushion, rubber	Single cord entry
Y1/5965-99-100-1941	Cushion, rubber	Triple cord entry
Y1/5965-99-100-1942	Boom microphone	Boom complete with base plate and pivot nut
Y1/5965-99-901-1184	Microphone element	Mic insert
Y1/5965-99-940-2368	Earphone element	Earpiece insert
Y1/5965-99-100-1939	Headband	P.V.C. 5/8 in. headband
Y1/5965-99-100-1943	Shell microphone	Mic rubber housing
Z/42/5995-99-108-3329	Headband cord, rubber	Connects two earpieces
Y1/5996-99-108-3325	Cord assembly, electrical	Lead from junction box to plug, including plug
Z/42/5995-99-108-3326	Boom cord	Lead from Mic to headset
Y1/5965-99-102-0174	Junction box	Junction and pressel switch box
Y1/5965-99-102-0175	Plate, retaining, gasket	Retains pressel switch gasket
Z1/5930-99-900-9260	Switch, sensitive plunger type	Pressel switch
Y1/5965-99-102-0176	Push button	Used on pressel switch

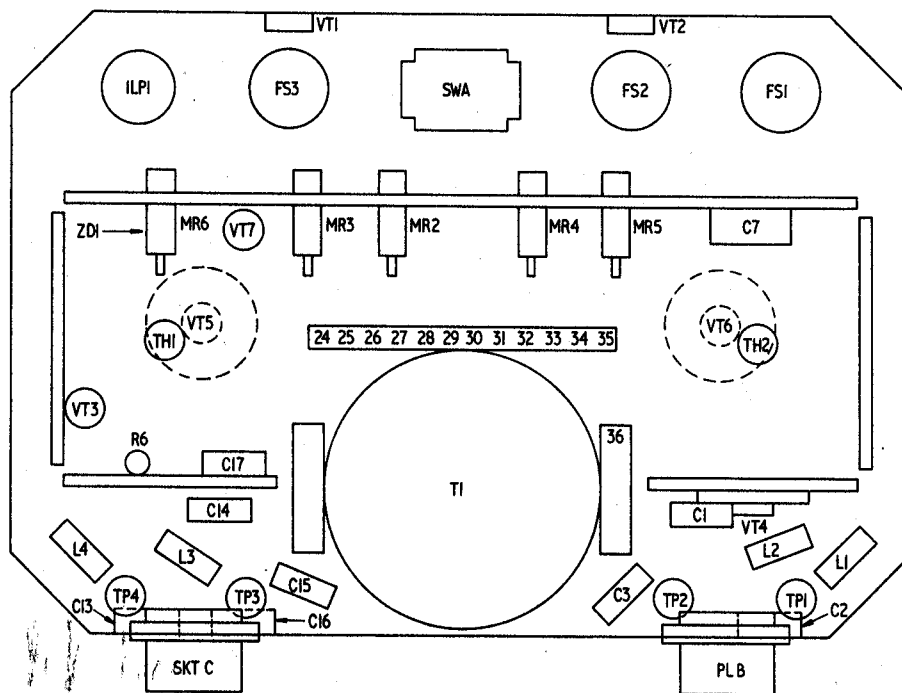
Table 2507 - (cont)

Catalogue No	Designation	Function and circuit ref
Y1/5940-99-949-2571	Cover, terminal box	Cover for junction box
Y1/5330-99-949-2593	Gasket 2 in. x 1.1/2 in.	Gasket for junction box
Z1/5935-99-102-2821	Plug, electrical, 6 pole	6 way plug only
Y1/5965-99-108-3330	Adaptor and clamp sleeve	Clamps cable to plug
Z42/5995-99-108-3328	Cord, electrical (without plug)	Connects junction box to 6 way plug
Y1/5325-99-108-3327	Grommet	Fits over cord and cable clamp
Y1/5965-99-108-3324	Clip	Lapel clip



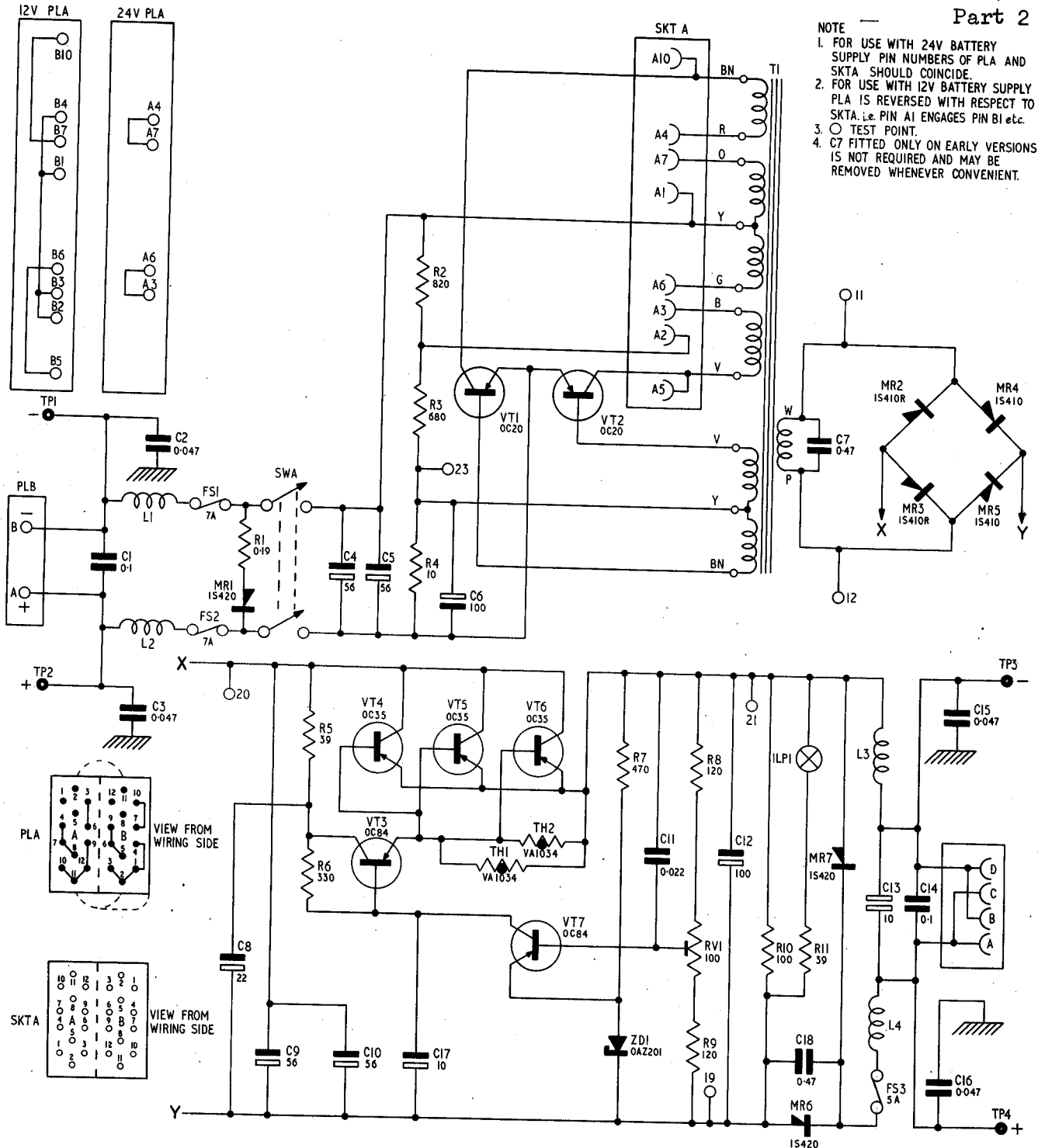
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Fig 2541 - D.C. battery charger 12/24V, component board layout



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Fig 2542 - D.C. battery charger 12/24V, component board removed



- NOTE
1. FOR USE WITH 24V BATTERY SUPPLY PIN NUMBERS OF PLA AND SKTA SHOULD COINCIDE.
 2. FOR USE WITH 12V BATTERY SUPPLY PLA IS REVERSED WITH RESPECT TO SKTA. i.e. PIN A1 ENGAGES PIN B1 etc.
 3. ○ TEST POINT.
 4. C7 FITTED ONLY ON EARLY VERSIONS IS NOT REQUIRED AND MAY BE REMOVED WHENEVER CONVENIENT.

* O/P VOLTAGE MEASURED AT TP 19-21
N.B. THESE ARE AVERAGE CIRCUIT VALUES,
AND ARE AN INDICATION OF THE FIGURE
EXPECTED.

TYPICAL CIRCUIT VOLTAGE READINGS				
I/P CONDITIONS 12-5V OR 25V - RVI SET FOR 14.4V. O/P *-NO LOAD APPLIED				
TRANS. VT1	VT2	VCE=12.5 OR 25.5V	VCB = 16.4V	VBE = 4V
VT3		VCE = 7.7	VCB = 7.5	VBE = 0.15
VT4	VT5	VCE = 9	VCB = 8.9	VBE = 0.2
VT6		VCE = 9	VCB = 8.8	VBE = 0.2
VT7		VCE = 9	VCB = 8.8	VBE = 0.2
TEST POINT READINGS				
11-12=25V a.c.	19-20 = 23.5	19-21=14.4V	21-22=8.6V	TP3 TP4=14.0

Fig 2543 - D.C. battery charger 12/24V, circuit diagram

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