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Despite the above, we will be making copies of essential technical information (circuit diagram, parts list, layout) freely available to all via our website from late 2004 onwards. This will be done to try and encourage and enable the maintenance of our remaining stock of vintage electronic equipment.

Guidance on using this electronic document

Acrobat Reader version

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Please get in touch with me at archivist@vmarsmanuals.co.uk.

Richard Hankins, VMARS Archivist, Summer 2004

WIRELESS SET C12

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 this equipment. Tels H 143 and H 144 deal with repairs.

Note: This Part 2, Issue 2, together with Part 1, Issue 2, supersedes Issue 1, Pages 1-8 and 1001-1023, dated 9 Dec 55.

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Table 2001 - W.S. C12 - components

Circuit ref	Value	Tolerance	Rating	Type	Location (Fig 2001)
RESISTORS - FIXED					
R1	560Ω	±10%	1/2W	ins comp gde 2	Q8
R2	470kΩ	±10%	1/2W	ins comp gde 2	E4
R3	470kΩ	±10%	1/2W	ins comp gde 2	E4
R4	2.2kΩ	±10%	3/4W	ins comp gde 2	E2
R5	220Ω	±10%	1/2W	ins comp gde 2	F1
R6	1.2MΩ	+5%	3/4W	ins comp gde 2	F1
R7	100kΩ	±10%	1/2W	ins comp gde 2	G4
R8	1kΩ	±10%	1/2W	ins comp gde 2	G2
R9	220Ω	±10%	1/2W	ins comp gde 2	H4
R10	100kΩ	±10%	1/2W	ins comp gde 2	H2
R11	2200Ω	±10%	1/2W	ins comp gde 2	H3
R12	47kΩ	±10%	1/2W	ins comp gde 2	J2
R13	10kΩ	+5%	3/4W	ins comp gde 2	G1
R14	15kΩ	±10%	3/4W	ins comp gde 2	H1
R15	390Ω	±10%	1/2W	ins comp gde 2	K2
R16	82Ω	±10%	1/2W	ins comp gde 2	L2
R17	33kΩ	+5%	4.1/2W	wirewound	M2
R18	33kΩ	±10%	3/4W	ins comp gde 2	M2
R19	33kΩ	±10%	3/4W	ins comp gde 2	M4
R20	15Ω	±10%	1/2W	ins comp gde 2	N3
R21	180Ω	±10%	1/2W	ins comp gde 2	N3
R22	47Ω	±10%	1/2W	ins comp gde 2	N3
R23	1kΩ	±10%	3/4W	ins comp gde 2	N4
R24	2.2kΩ	±10%	1/2W	ins comp gde 2	N2
R25	100kΩ	±10%	1/2W	ins comp gde 2	N3
R26	22kΩ	±10%	1/2W	ins comp gde 2	P3
R27	22Ω	±10%	1/2W	ins comp gde 2	P4
R28	2.2kΩ	±10%	1/2W	ins comp gde 2	P1
R29	100Ω	±10%	1/2W	ins comp gde 2	P4
R30	220kΩ	±10%	1/2W	ins comp gde 2	Q2
R31	470kΩ	±10%	1/2W	ins comp gde 2	Q3
R32	20kΩ	+5%	4.1/2W	wirewound	R1
R33	2.2MΩ	±10%	1/2W	ins comp gde 2	Q3
R34	1kΩ	±10%	1/2W	ins comp gde 2	Q4
R35	47kΩ	±10%	3/4W	ins comp gde 2	Q1
R36	470kΩ	±10%	1/2W	ins comp gde 2	Q3
R37	1MΩ	±10%	1/2W	ins comp gde 2	R3
R38	47kΩ	±10%	1/2W	ins comp gde 2	R3
R39	1.2MΩ	±10%	1/2W	ins comp gde 2	R2
R40	100kΩ	±10%	1/2W	ins comp gde 2	R3
R41	100kΩ	±10%	1/2W	ins comp gde 2	S3
R42	470kΩ	±10%	1/2W	ins comp gde 2	B5
R43	22Ω	±10%	1/2W	ins comp gde 2	C4
R44	220Ω	+5%	4.1/2W	wirewound	C5
R45	22Ω	±10%	1/2W	ins comp gde 2	C6
R46	470kΩ	±10%	1/2W	ins comp gde 2	B6
R47	100kΩ	±10%	1/2W	ins comp gde 2	B5
R48	2.2kΩ	±10%	3/4W	ins comp gde 2	B5

Table 2001 - (cont)

Circuit ref	Value	Tolerance	Rating	Type	Location (Fig 2001)
RESISTORS - FIXED - (cont)					
R49	100kΩ	±10%	1/2W	ins comp gde 2	B6
R50	220kΩ	±10%	1/2W	ins comp gde 2	A5
R51	10kΩ	±5%	4.1/2W	wirewound	E6
R52	500Ω	±5%	4.1/2W	wirewound	E8
R53	22Ω	±10%	1/2W	ins comp gde 2	E6
R54	47kΩ	±10%	1/2W	ins comp gde 2	E8
R55	47Ω	±10%	1/2W	ins comp gde 2	E7
R56	100kΩ	±10%	1/2W	ins comp gde 2	E7
R57	100Ω	±10%	1/2W	ins comp gde 2	E8
R58	2.2kΩ	±10%	3/4W	ins comp gde 2	F6
R59	1kΩ	±10%	1/2W	ins comp gde 2	G5
R60	47kΩ	±10%	1/2W	ins comp gde 2	H7
R61	470kΩ	±10%	1/2W	ins comp gde 2	J5
R62	1.2kΩ	±10%	1/2W	ins comp gde 2	K5
R63	2.2kΩ	±10%	3/4W	ins comp gde 2	K5
R64	33kΩ	±10%	3/4W	ins comp gde 2	K6
R65	33kΩ	±10%	3/4W	ins comp gde 2	K7
R66	56kΩ	±10%	1/2W	ins comp gde 2	L5
R67	33kΩ	±10%	3/4W	ins comp gde 2	L6
R68	2.2kΩ	±10%	1/2W	ins comp gde 2	L7
R69	47kΩ	±10%	1/2W	ins comp gde 2	L8
R70	470kΩ	±10%	3/4W	ins comp gde 2	A8
R71	1kΩ	±10%	1/2W	ins comp gde 2	C8
R72	47kΩ	±10%	1/2W	ins comp gde 2	C7
R73	470kΩ	±10%	1/2W	ins comp gde 2	C8
R74	470Ω	±10%	1/2W	ins comp gde 2	C8
R75	120kΩ	±10%	1/2W	ins comp gde 2	C7
R76	10kΩ	±10%	1/2W	ins comp gde 2	C7
R77	47kΩ	±10%	1/2W	ins comp gde 2	Q6
R78	1.2MΩ	±10%	3/4W	non-ins comp gde 2	Q7
R79	1.2MΩ	±5%	3/4W	ins comp gde 2	Q7
R80	30kΩ	±1%	3/4W	non-ins comp gde 1	Q7
R81	220kΩ	±10%	1/2W	ins comp gde 2	A6
R82	33kΩ	±10%	3/4W	ins comp gde 2	E6

RESISTORS - VARIABLE

RV1	1MΩ	-	-	carbon	N4
RV2	20Ω	-	-	wirewound	M7

Table 2001 - (cont)

Circuit ref	Value	Tolerance	Rating	Type	Location (Fig 2001)
CAPACITORS					
C1	100pF	+5%	750V	silver mica	D3
C2	0.01 μ F	+80%-20%	350V	ceramic disc	E3
C3	0.01 μ F	+80%-20%	350V	ceramic disc	D1
C4	0.01 μ F	+80%-20%	350V	ceramic disc	E4
C5	0.1 μ F	+20%	500V	paper	E4
C6	3-30pF	-	-	air, trimmer	F3
C7	532pF	-	-	(Part of B gang)	F4
C8	3-30pF	-	-	air, trimmer	F4
C9	10pF	+10%	500V	ceramic tube	F3
C10	532pF	-	-	(Part of A gang)	G4
C11	3-30pF	-	-	air trimmer	G4
C12	100pF	+10%	750V	ceramic tube	G3
C13	0.01 μ F	+80%-20%	350V	ceramic disc	G2
C14	0.1 μ F	+20%	500V	paper	G2
C15	0.1 μ F	+80%-20%	350V	ceramic disc	H4
C16	250pF	+2%	750V	silver mica	H2
C17	0.1 μ F	+10%	350V	paper	H4
C18	250pF	+2%	750V	silver mica	H2
C19	100pF	+10%	750V	ceramic tube	J3
C20	4.7pF	+10%	750V	ceramic tube	J3
C21	15pF	+5%	500V	ceramic tube	J4
C22	3-30pF	-	-	air, trimmer	K4
C23	1700pF	+2%	750V	silver mica	K4
C24	532pF	-	-	(Part of B gang)	K4
C25	3-30pF	-	-	air, trimmer	L4
C26	3500pF	+2%	750V	silver mica	L4
C27	3-30pF	-	-	(Part of A gang)	L4
C28	3-30pF	-	-	air, trimmer	M4
C29	0.1 μ F	+10%	350V	paper	M4
C30	0.1 μ F	+20%	500V	paper	M2
C31	25 μ F	+100%-20%	25V	electrolytic	M4
C32	250pF	+2%	750V	silver mica	M2
C33	0.1 μ F	+10%	350V	paper	N2
C34	250pF	+2%	750V	silver mica	N2
C35	0.25 μ F	+10%	350V	paper	F1
C36	0.1 μ F	+20%	500V	paper	P1
C37	0.1 μ F	+10%	350V	paper	P3
C38	410pF	+2%	750V	silver mica	P2
C39	4.7pF	+10%	750V	ceramic tube	P2
C40	500pF	+20%	350V	ceramic tube	P2
C41	410pF	+2%	750V	silver mica	Q2
C42	500pF	+20%	350V	ceramic tube	Q3
C43	22pF	+10%	500V	ceramic tube	P2
C44	0.002 μ F	min	500V	ceramic disc	N3
C45	0.1 μ F	+10%	350V	paper	Q3
C46	25 μ F	+100%-20%	25V	electrolytic	Q4

Table 2001 - (cont)

Circuit ref	Value	Tolerance	Rating	Type	Location (Fig 2001)
CAPACITORS					
C47	0.002 μ F	min	500V	ceramic disc	P3
C48	0.01 μ F	+80%-20%	350V	ceramic disc	Q4
C49	0.01 μ F	+80%-20%	350V	ceramic disc	R2
C50	500pF	\pm 20%	350V	ceramic tube	R4
C51	0.002 μ F	min	500V	ceramic disc	R4
C52	100pF	\pm 10%	750V	ceramic tube	R3
C53	1000pF	min	500V	ceramic disc	R2
C54	0.01 μ F	+80%-20%	350V	ceramic disc	S4 and D8
C55	0.01 μ F	+80%-20%	350V	ceramic disc	B5
C56	25 μ F	+100%-20%	50V	electrolytic	C5
C57	0.01 μ F	+80%-20%	350V	ceramic disc	B6
C58	0.002 μ F	min	500V	ceramic disc	D6
C59	443pF	-	-	(AE coupling A)	D8
C60	3900pF	\pm 5%	750V	silver mica	D6
C61	443pF	-	-	(AE coupling B)	D8
C62	0.01 μ F	+80%-20%	350V	ceramic disc	E6
C63	0.01 μ F	+80%-20%	350V	ceramic disc	E8
C64	0.05 μ F	\pm 20%	350V	paper	M6
C65	500pF	\pm 20%	350V	ceramic tube	E7
C66	532pF	-	-	(Part of B gang)	F8
C67	3-30pF	-	-	air, trimmer	F8
C68	532pF	-	-	(Part of A gang)	F8
C69	3-30pF	-	-	air, trimmer	F8
C70	0.1 μ F	\pm 10%	350V	paper	G6
C71	3-30pF	-	-	air trimmer	G8
C72	0.01 μ F	+80%-20%	350V	ceramic disc	G6
C73	100pF	\pm 10%	750V	ceramic tube	J6
C74	532pF	-	-	(Part of B gang)	H8
C75	3-30pF	-	-	air trimmer	J8
C76	532pF	-	-	(Part of A gang)	J8
C77	3-30pF	-	-	air trimmer	J8
C78	3-30pF	-	-	air trimmer	J8
C79	4.7pF	\pm 10%	750V	ceramic tube	K5
C80	33pF	\pm 10%	500V	ceramic tube	K7
C81	0.01 μ F	+80%-20%	350V	ceramic disc	K5
C82	0.1 μ F	\pm 10%	350V	paper	K6
C83	0.01 μ F	+80%-20%	350V	ceramic disc	L5
C84	0.1 μ F	\pm 10%	350V	paper	L6
C85	22pF	\pm 10%	750V	ceramic tube	L8
C86	100pF	\pm 5%	750V	silver mica	M7
C87	820pF	\pm 2%	350V	silver mica	L8
C88	0.05 μ F	\pm 20%	350V	paper	N7
C89	100pF	\pm 5%	750V	silver mica	M7
C90	0.01 μ F	+80%-20%	350V	ceramic disc	C7
C91	10pF	\pm 10%	500V	ceramic tube	G3
C92	500pF	\pm 20%	500V	ceramic tube	B8

Table 2001 - (cont)

Circuit ref	Description or function	Location (Fig 2001)
INDUCTORS		
L1	filter coil	D3
L2	choke	D3
L3	low frequency r.f. coil	F3
L4	compensating coil	G3
L5	high frequency r.f. coil	G3
L6	low frequency oscillator coil	K4
L7	high frequency oscillator coil	L4
L8	compensating coil	L3
L9	power amplifier coupling choke	E6
L10	compensating coil	F7
L11	low frequency drive amplifier coil	G8
L12	high frequency drive amplifier coil	G8
L13	compensating coil	J7
L14	low frequency mixer anode coil	K8
L15	high frequency mixer anode coil	K8
L16	b.f.o. choke	M7
L17	b.f.o. coil	M8
VALVES		
V1	CV 131 r.f. amplifier	E3
V2	CV 2128 frequency changer	H3
V3	CV 131 i.f. amplifier	M3
V4	CV 131 i.f. amplifier	P3
V5	CV 452 demodulator, a.g.c. and a.f. amplifier	Q3
V6	CV 136 a.f. output	S3
V7	CV 2128 sender mixer	L6
V8	CV 138 drive amplifier	H6
V9	CV 138 drive amplifier	H7
V10	CV 428 r.f. output	E7
V11	CV 492 modulator voltage amplifier	B5 and 6
V12	CV 428 modulator output	C5
V13	CV 428 modulator output	C6
V14	CV 131 intercomm amplifier	C8
V15	CV 136 intercomm output	C8
V16	CV 287 voltage stabilizer	G2
V17	CV 2293 barretter	Q5

Table 2001 - (cont)

Circuit ref	Description or function	Location (Fig 2001)
TRANSFORMERS		
T1	i.f. transformer	H2
T2	i.f. transformer	N2
T3	i.f. transformer	P2
T4	a.f. output transformer	S1
T5	modulator output transformer	C5
T6	modulator input transformer	A5
T7	intercomm input transformer	A8
T8	intercomm output transformer	D7
SWITCHES		
SAa) b) d) e) f) g) h) i) j) k) l)	frequency selector switch	(J3 (J2 (F6 (F6 (G3 (F2 (J6 (J6 (L3 (L2 (L2
SBa&b	Master oscillator/crystal switch (NOT IN USE)	J3 and 2
SCba) bb) bc) da) db) dc) ec) fa) fb) fc)	system switch	(D5 (M/N6 (R/S7 (N3 (M6 (L5 (B7 (N3 (M3 (N4
SD	meter switch	P6
SE	standby switch	S5/6
MISCELLANEOUS		
RLC	send/receive relay	S7
RLD/1	aerial coupling changeover relay	Q/R8
MR1	rectifier, type MQ1/1	Q3
M1	meter, 0-500µA	P6
PLD	aerial plug	C3
PLB	d.c. control plug	R7
XL1) XL2)	crystal (NOT IN USE)	(J2 (K2
ILP2	dial lamp, 12/14V 0.75W	Q8
ILP3	dial lamp, 12/14V 0.75W	Q8

Table 2002(a) - 12V p.s.u. - components

Circuit ref	Value	Tolerance	Rating	Type	Location (Fig 2006)
RESISTORS					
*R1	33Ω	±10%	1/2W	wirewound	B1
R2	10Ω	±5%	4.1/2W	wirewound	B2
R3	33Ω	±10%	1/2W	ins comp gde 2	B2
R4	0.3Ω	±20%	6W	wirewound	B3
R6	1.5Ω	±20%	4.1/2W	wirewound	B1
ØR7	0.3Ω	±20%	6W	wirewound	-
R8	22Ω	±10%	1/2W	ins comp gde 2	G3
R9	0.75Ω	±20%	4.1/2W	wirewound	F2
R11	33kΩ	±10%	1/4W	ins comp gde 2	G3
ØR13	0.43Ω	±20%	6W	wirewound	-
* Note: R1 is insulated composition grade 2 type on some early models.					
Ø Note: On some early models R7 and R13 are wired in parallel and connected in series with the supply side of RLB1. They are shunted by RLA3.					
CAPACITORS					
C1	0.01 μF	+80%-20%	350V	ceramic disc	A2
*C2	0.01 μF	+80%-20%	350V	ceramic disc	-
C3	25 μF	+100%-20%	50V	electrolytic	C2
C4	0.5 μF	±25%	75V	paper	B3
C5	0.01 μF	+80%-20%	350V	ceramic disc	C3
C6	25 μF	+100%-20%	50V	electrolytic	C3
C7	0.5 μF	±25%	75V	paper	C3
*C8	0.01 μF	+80%-20%	350V	ceramic disc	-
C9	0.01 μF	+80%-20%	350V	ceramic disc	C4
C10	0.01 μF	+80%-20%	350V	ceramic disc	D4
*C11	0.01 μF	+80%-20%	350V	ceramic disc	D2
C11	25 μF	+100%-20%	50V	electrolytic	D2
C12	0.01 μF	+80%-20%	350V	ceramic disc	E2
C13	0.06 μF	±20%	1000V	paper	E3
C14	0.01 μF	+80%-20%	350V	ceramic disc	E2
C15	0.5 μF	±20%	350V	paper	F2
C16	32 μF	+50%-20%	450V	electrolytic	E3
C17	0.01 μF	+80%-20%	350V	ceramic disc	E3
C18	0.01 μF	+80%-20%	350V	ceramic disc	E3
C19	0.01 μF	+80%-20%	350V	ceramic disc	F3
C20	0.01 μF	+80%-20%	350V	ceramic disc	F3
C21, 22	32 μF 32 μF	+50%-20%	450V	electrolytic	F/G3
C23	0.1 μF	±25%	300V	paper	G3
C24	25 μF	+100%-20%	50V	electrolytic	F3

Table 2002(a) - (cont)

Circuit ref	Value	Tolerance	Rating	Type	Location (Fig 2006)
<u>CAPACITORS</u>					
C25	0.5 μ F	$\pm 25\%$	75V	paper	G3
C26	0.1 μ F	$\pm 25\%$	300V	paper	A2
C27	0.01 μ F	+80%-20%	350V	ceramic disc	E3
* Note:	These components may be found on earlier sets C2 is connected to earth from the junction of R4 and L1 C8 is connected to earth from the junction of RL1 and L3				
Circuit ref	Description or function				Location (Fig 2006)
<u>INDUCTORS</u>					
L1	l.t. filter choke				B3
L2	l.t. filter choke				C3
L3	l.t. filter choke				C1
L4	h.t. filter choke				E1
L5	r.f. choke				E2
L6	r.f. choke				E3
L7	h.t. filter choke				E2
L8	h.t. filter choke				E3
L9	smoothing choke				F2
<u>VALVES</u>					
V18	CV 493 half-wave rectifier				F3
V19	CV 493 half-wave rectifier				F2
<u>FUSES</u>					
FS1	5A l.t. fuse				A3
FS2	250mA HT2 fuse				F1
FS3	250mA HT1 fuse				G2
<u>MISCELLANEOUS</u>					
T1	vibrator transformer (can be used for either 12V or 24V input by alteration of tapping points)				D3
V1	vibrator, non-synchronous, 12V input				D3
X1	Rotary converter, 12V input				D & F2
SA	OFF/START/ON switch				A2
RLA/4	voltage control relay				A2 & A4
RLB/1	send/receive relay				F1
ILP1	pilot lamp, 12V, 2.2W				B2

R E S T R I C T E D

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Table 2002(b) - 24V p.s.u. - components

The components of the 24V p.s.u. are the same as the 12V p.s.u. except as shown in this table.

Circuit ref	Value	Tolerance	Rating	Type	Location (Fig 2009)
RESISTORS					
Ø R1	200Ω	±5%	1/2W	wirewound	C2
XR3					
*R5	9.9Ω	-	-	wirewound	A1
*R10	5.5Ω	-	-	wirewound	G2
*R12	100Ω	±5%	1/2W	wirewound	G1
*R13	200Ω	±5%	1/2W	wirewound	B1
CAPACITORS					
*C27	0.01μF	+80%-20%	350V	ceramic disc	E3
*C28	0.01μF	+80%-20%	350V	ceramic disc	C2
*C29	0.01μF	+80%-20%	350V	ceramic disc	A2
*C30	0.01μF	+80%-20%	350V	ceramic disc	A1
Circuit ref	Description or function				Location (Fig 2012)
MISCELLANEOUS					
Ø FS1	Fuse, LT3A				B3
Ø L10	fan filter choke				C1/2
Ø SB	fan microswitch				B2
Ø ILP1	pilot lamp, 12/14V, 0.75W				C2
Ø ILP2	pilot lamp, 12/14V, 0.75W				B1
Ø X1	rotary convertor, 24V input				D2,E2
Ø X2	fan				C2
Ø VB1	vibrator, non-synchronous, 24V input				D3
Ø RLA/4	voltage control relay				A2
<p>Notes: Ø changed in value or location X deleted * added</p>					

Table 2002(c) - 24V (yellow band) p.s.u. - components

The components of the 24V (yellow band) p.s.u. are the same as the 12V p.s.u. except as shown in this table

Circuit ref	Value	Tolerance	Rating	type	Location (Fig 2009)
RESISTORS					
ØR1	200Ω	±5%	1/2W	wirewound	C2
XR3	-	-	-	-	-
*R5	12Ω	-	-	wirewound	A1
*R10	6Ω	-	-	wirewound	G2
Circuit ref	Description or function				Location (Fig 2009)
MISCELLANEOUS					
ØX1	rotary converter, 24V input				D3
ØVB1	vibrator, non-synchronous, 24V input				A2
Notes: Ø changes in value or location X deleted * added					

Table 2003 - A.T.U. -components

Circuit ref	Description or function	Location (Fig 2009)
*R1	resistor, 22Ω ± 10% 1/4W composition	B2
*R2	resistor, 6.8kΩ ±10% 1/2W composition	C2
*C1	capacitor, 0.01μF +80%-20% 350V ceramic disc	C2
*C2	capacitor, 0.01μF +80%-20% 350V ceramic disc	E2
*V1	valve, crystal, CG 12-E	C2
*V2	valve, crystal, CV448	D2
RLF/2	A aerial relay	G5
RLE/2	B aerial relay	E5
ILP4	dial lamp, 12/14V, 0.75W	G5
ILP5	dial lamp, 12/14V, 0.75W	D5
L1	A aerial coil	A4
L2	B aerial coil	B4
T1	aerial current transformer	B2
PLD	r.f. input plug	B6
PLB	d.c. control plug	F4

* Note: These components are not separately provisioned as spares.
In case of failure the entire transformer assembly must be changed.

Table 2004 - Workshop out-test figures

Test	Results	
Maximum consumption	REC ONLY: 5A at 12V, 3.2A at 24V REC, TRANSMIT & I/C: 7.2A at 12V, 6A at 24V As above but on 'Send' 17.2A at 12V, 10.5A at 24V	
HT1 limits HT2 limits Bias supply limits Receiver heater limits Sender heater limits	12V, 205 - 235V; 24V, 210 - 245V 12V, 370 - 410V; 24V, 370 - 395V 1.5 - 2.0V 12V, 11.6 - 12V; 24V, 12 - 14V 12V, 11.5 - 12V; 24V, 12 - 14V	
R.F. sensitivity	Not less than 50mW output for 2.5µV input modulated 30% at 400c/s	
I.F. bandwidth	5-8kc/s at 3dB points. Not more than 30kc/s at 30dB points	
H.F. band, calibration error	Frequency	Limits of error
	4Mc/s	±20kc/s
	5Mc/s	±25kc/s
	6Mc/s	±30kc/s
	7Mc/s	±35kc/s
	8Mc/s	±40kc/s
	9Mc/s	±90kc/s
	10Mc/s	±100kc/s
L.F. band, calibration error	Frequency	Limits of error
	1.6Mc/s	±8kc/s
	2.0Mc/s	±10kc/s
	2.5Mc/s	±12.5kc/s
	3.0Mc/s	±15.0kc/s
	3.5Mc/s	±17.5kc/s
	4.0Mc/s	±20.0kc/s
Image rejection ratio	Frequency	Image rejection
	L.F. band (2Mc/s	66dB
	(3Mc/s	60dB
	(4Mc/s	55dB
	H.F. band (4Mc/s	55dB
	(6Mc/s	45dB
	(8Mc/s	35dB
	(10Mc/s	25dB

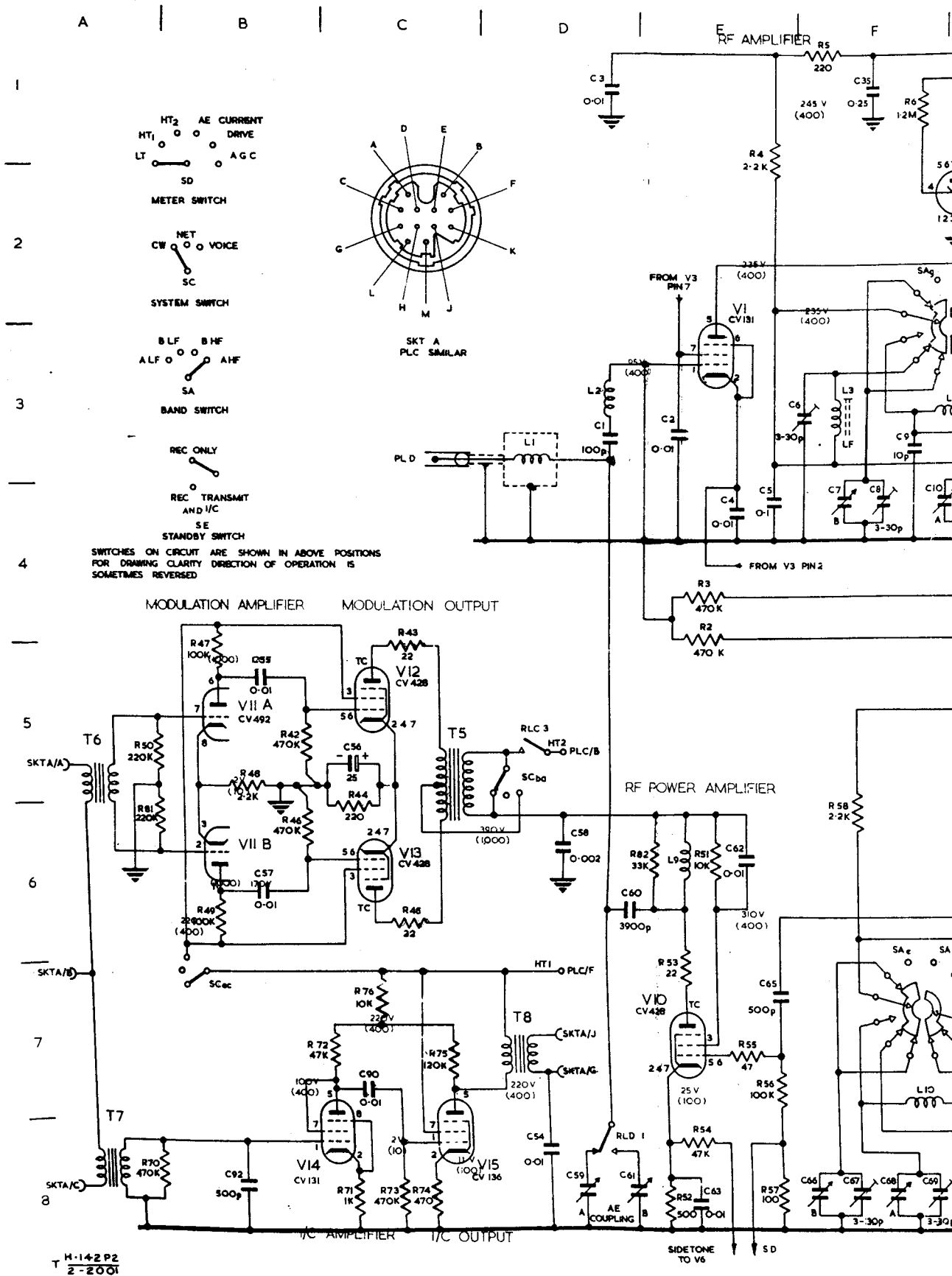
Table 2004 - (cont)

Test	Results	
I.F. rejection ratio	Frequency	I.F. rejection
	L.F. band { { { H.F. band { { { {	2Mc/s 3Mc/s 4Mc/s 4Mc/s 6Mc/s 8Mc/s 10Mc/s
C.W. performance	With set adjusted to give 200mW a.f. for an r.f. input at 3Mc/s modulated 30% at 400c/s the a.f. output at a frequency not exceeding 1kc/s must be at least 66mW when the modulation is removed from the input and the set is switched to CW.	
A.G.C. characteristic	An increase of r.f. input from 500μV to 50mV must not cause a change in receiver a.f. output of more than 15 times (+12dB). A reduction of input from 500μV to 5μV must not cause a change in a.f. output of more than 5 times (-7dB).	
Signal/noise ratio	Frequency	R.F. input for 20dB signal/noise ratio
	L.F. band { { { H.F. band { { { {	2Mc/s 3Mc/s 4Mc/s 4Mc/s 6Mc/s 8Mc/s 10Mc/s
R.F. power output	Not less than 4.1W at 4Mc/s (H.F. and l.f. band) Not less than 2.7W at 2Mc/s and 3.0W at 10Mc/s.	
Netting error	Not more than 1kc/s at 10Mc/s.	
Modulator sensitivity	100% modulation must be obtained with not more than 15mW input at 1kc/s.	

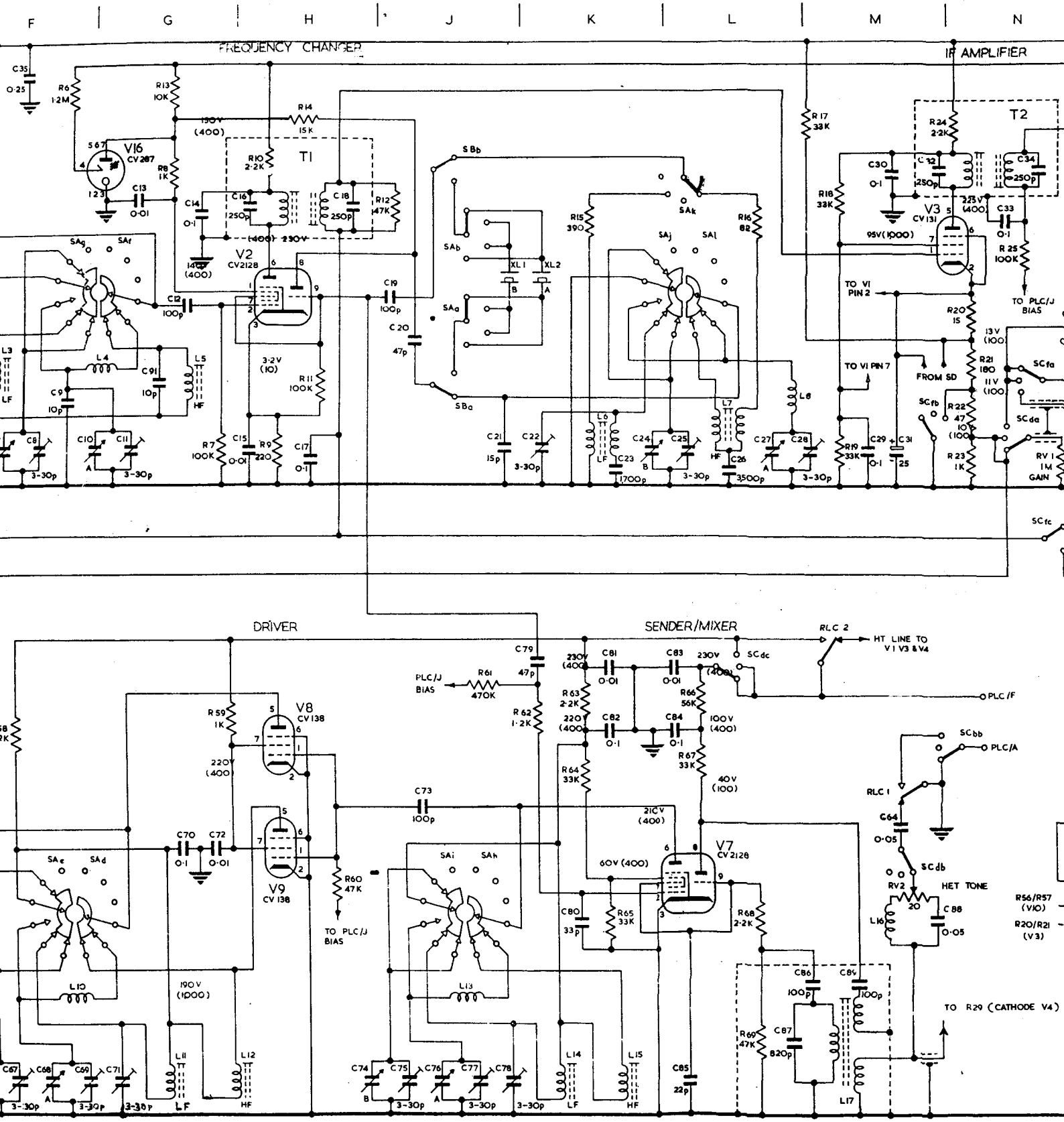
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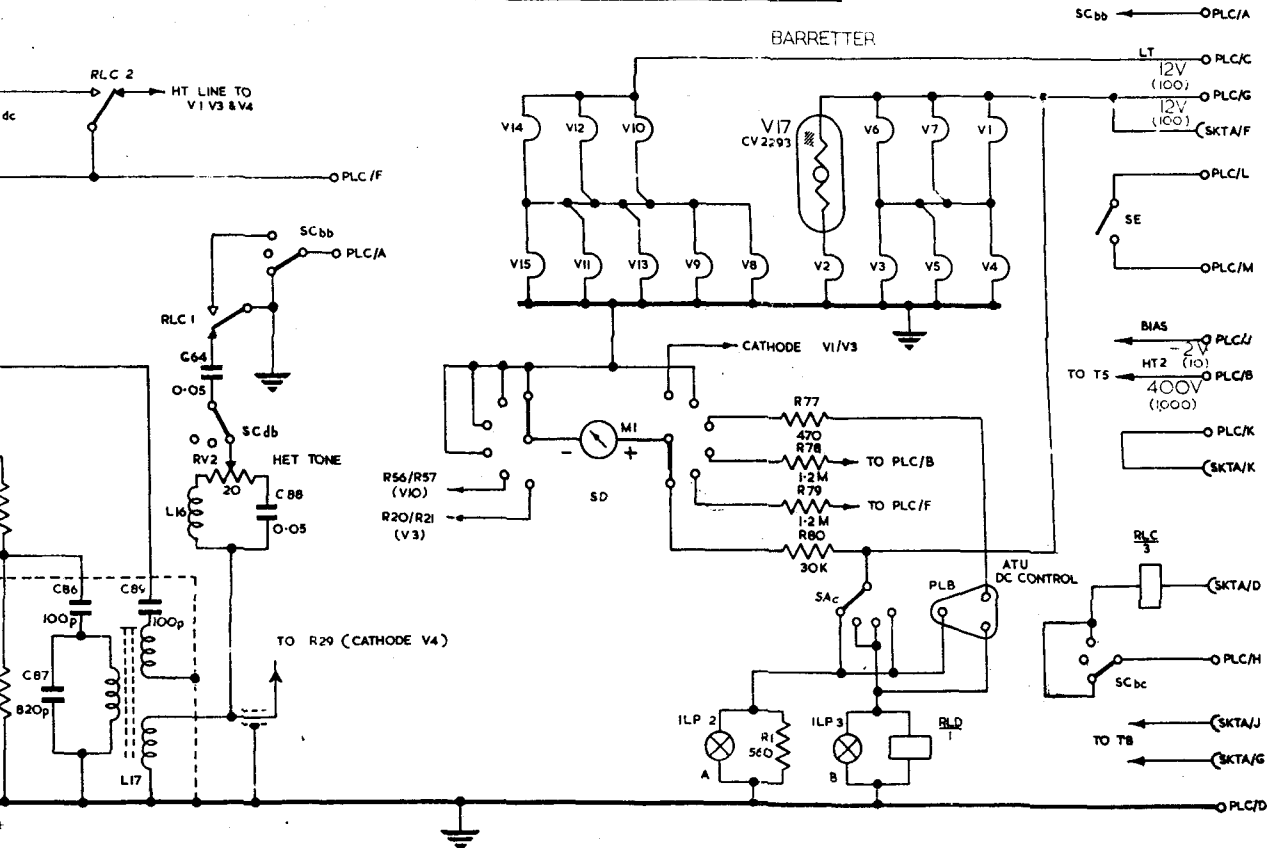
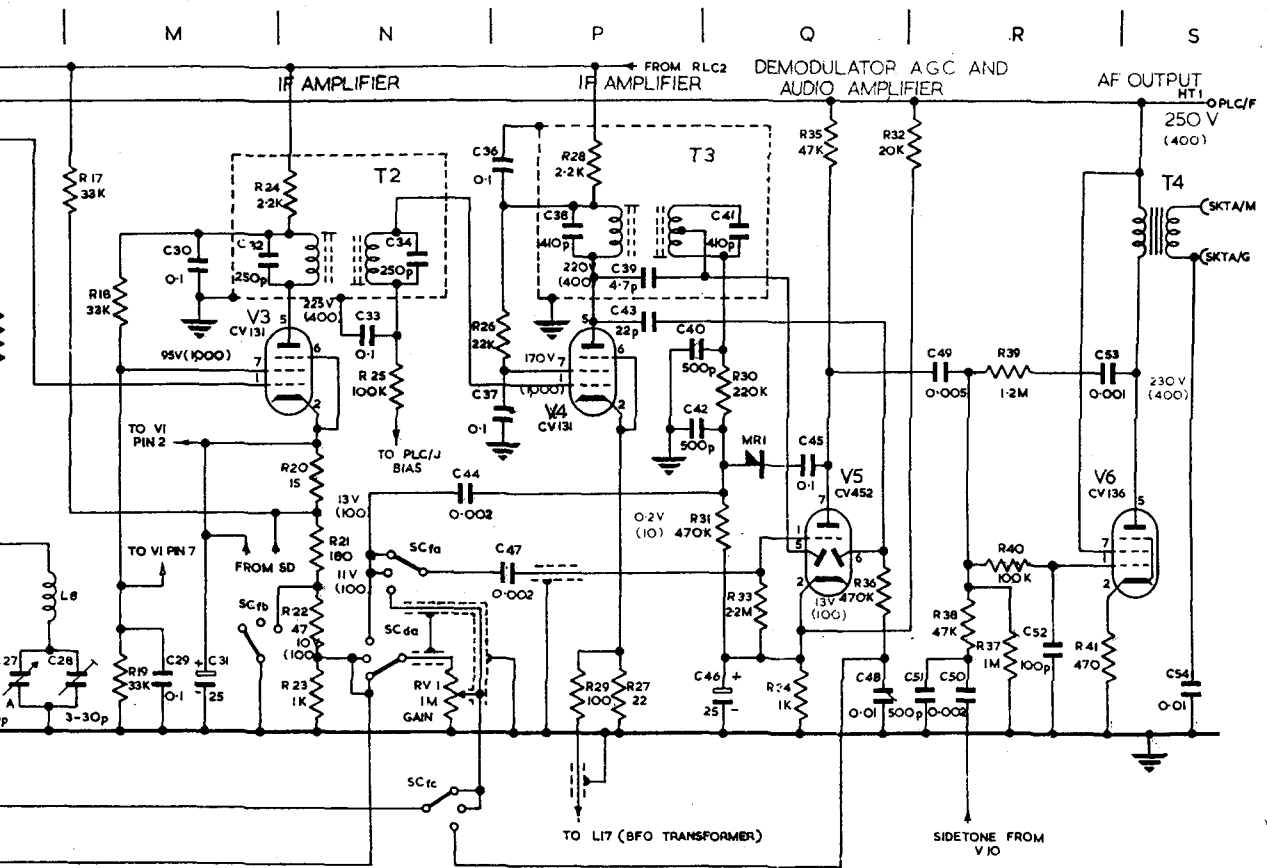
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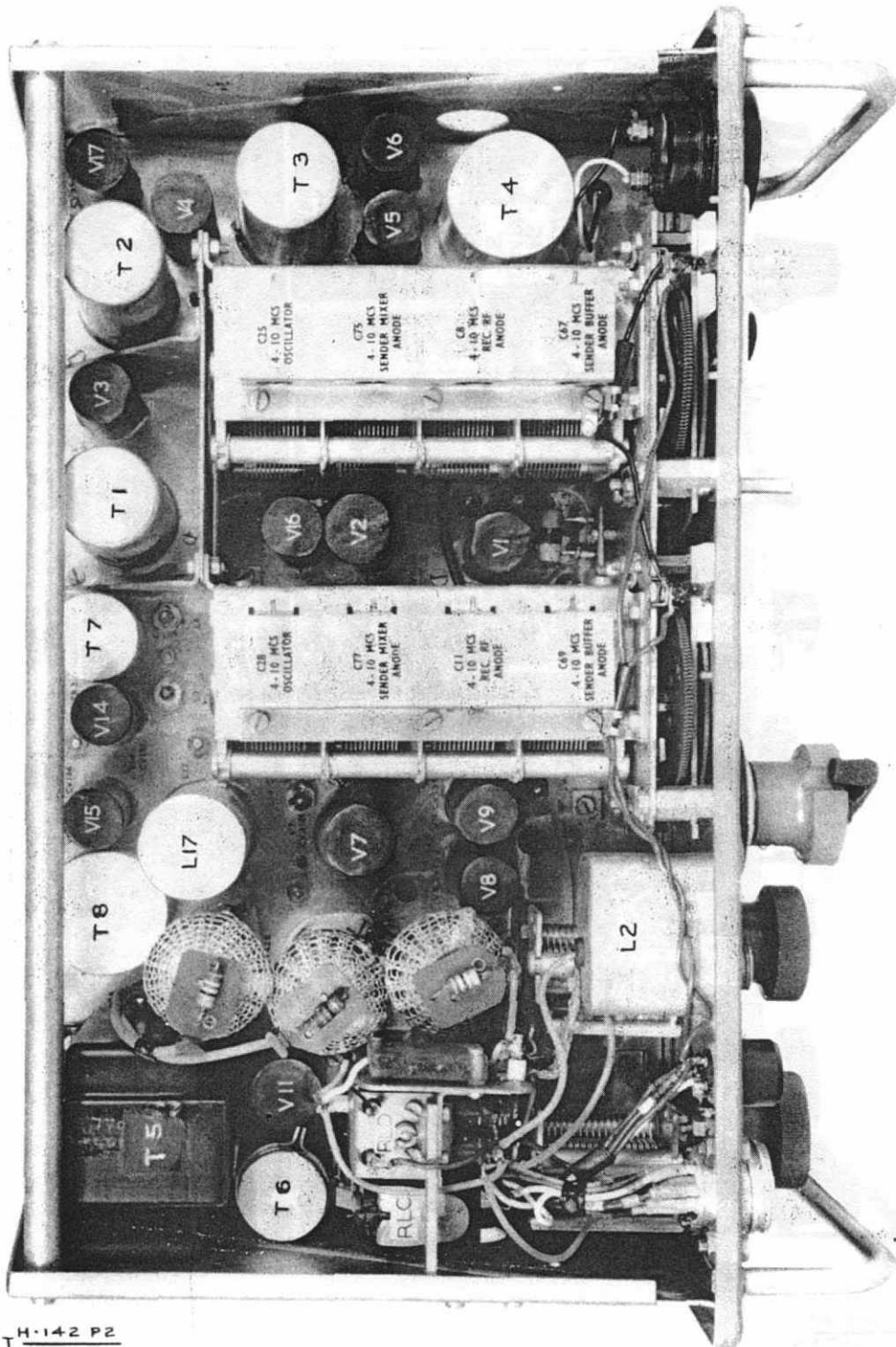


ALL VOLTAGES MEASURED WITH AVOMETER 7

BRACKETED FIGURES INDICATE METER VOLTAGE RANGE

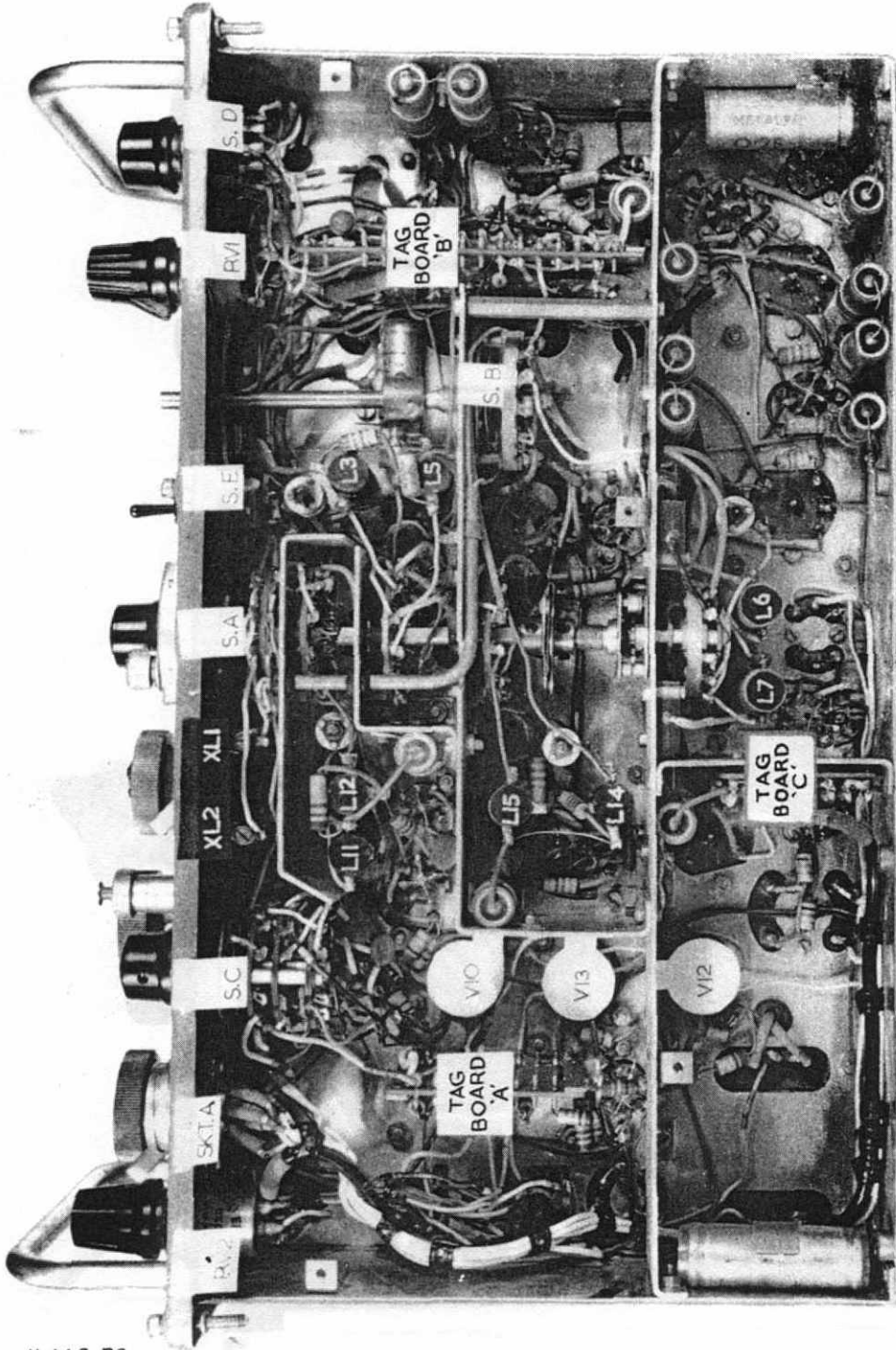
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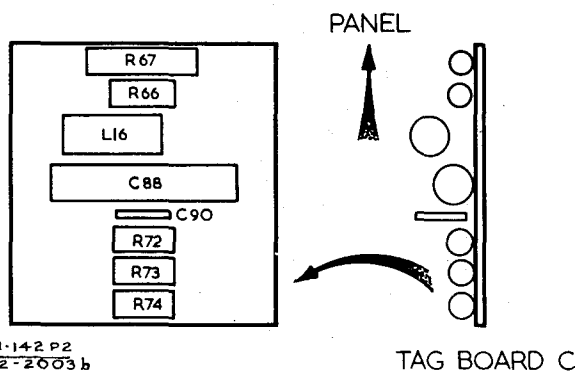
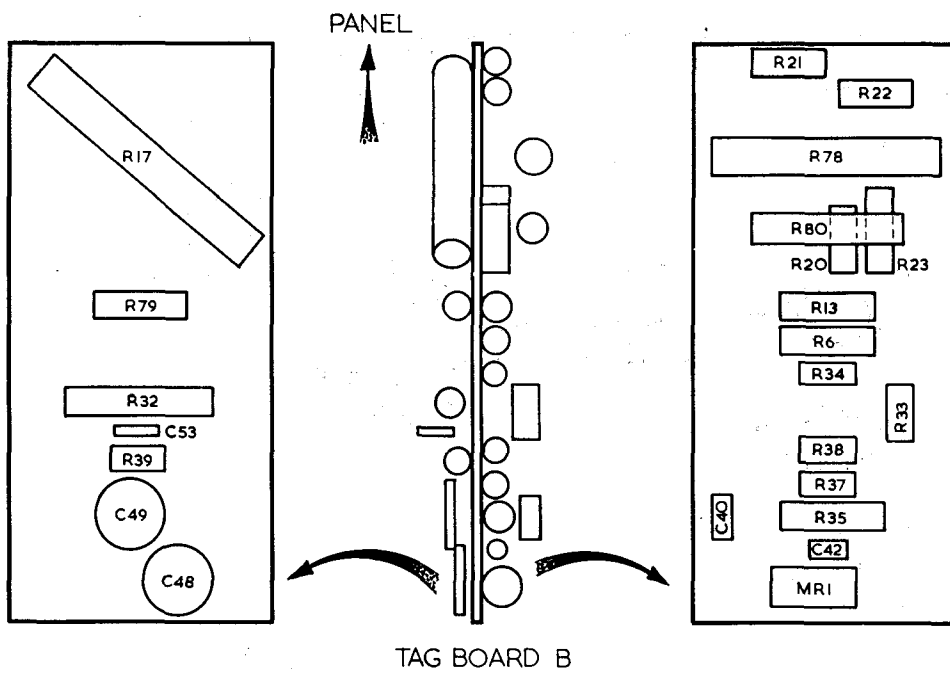
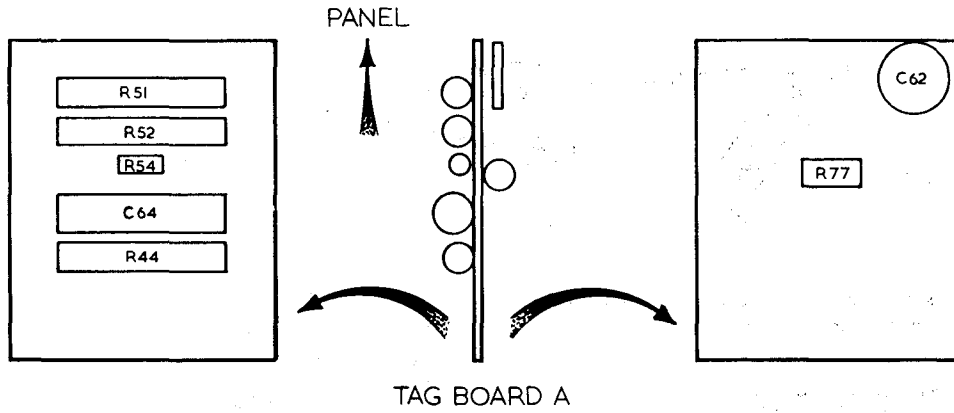
T H-142 P2
2-2002

Fig 2002 - W.S. C12 - component layout above chassis



T H-142 P2
2-2003a

Fig 2003(a) - W.S. C12 - component layout below chassis



H-142 P2
2-2603b

Fig 2003(b) - W.S. C12 - Tag board details

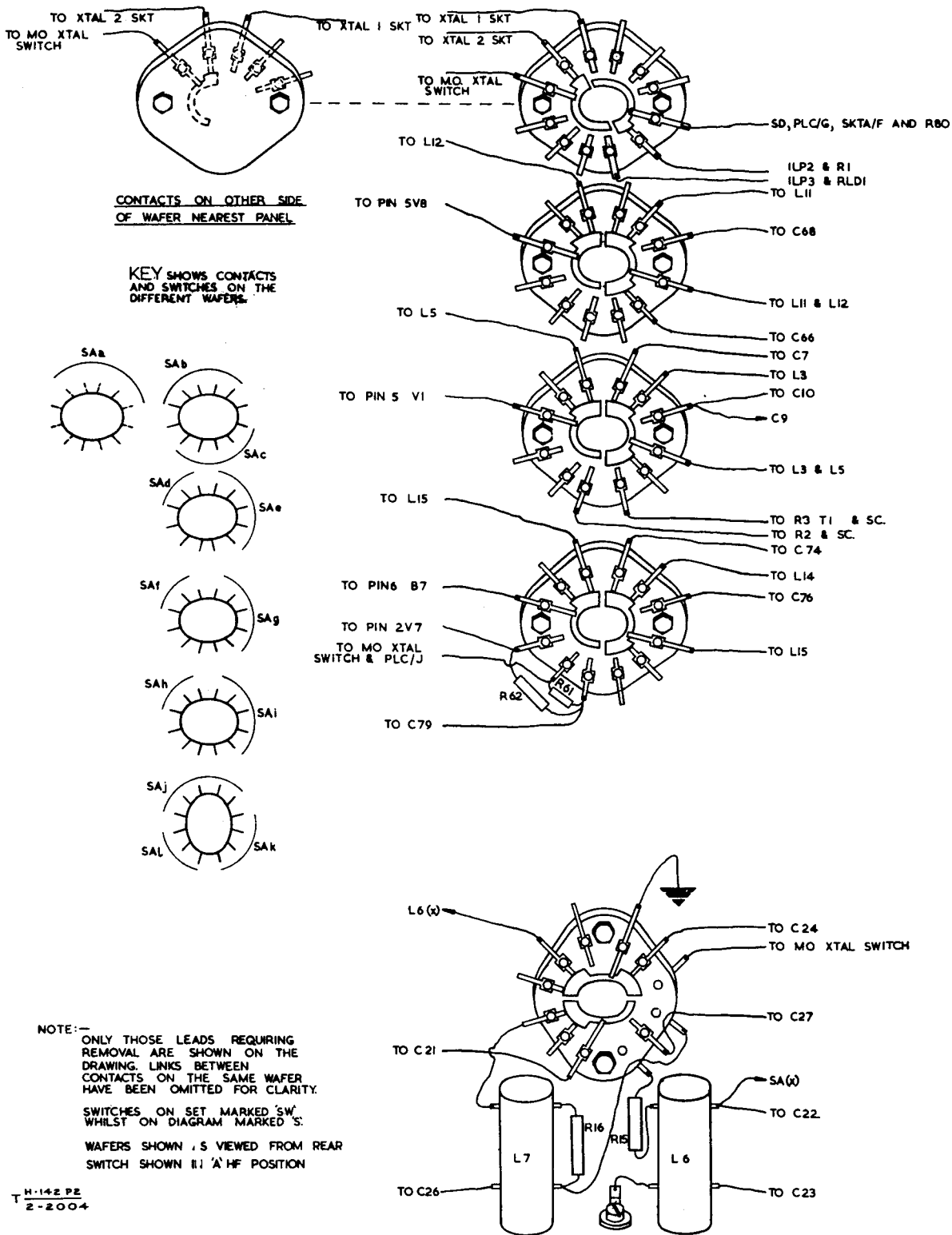


Fig 2004 - W.S. C12 - Frequency band switch (SA) - layout

NOTE : SWITCHES ON SET MARKED -SW
WHILST ON DIAGRAM MARKED -S

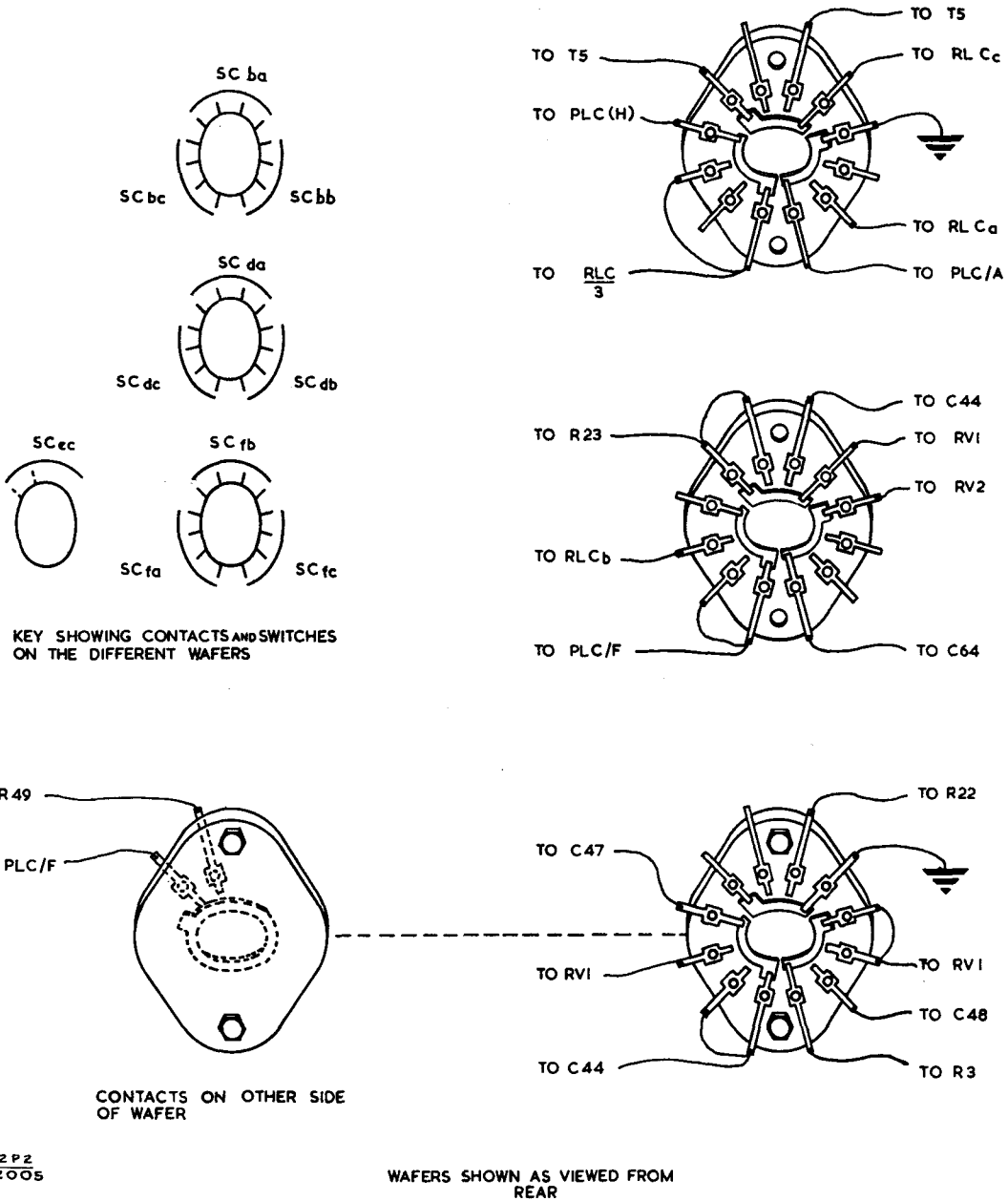


Fig 2005 - W.S. C12 - System switch (SC) - layout

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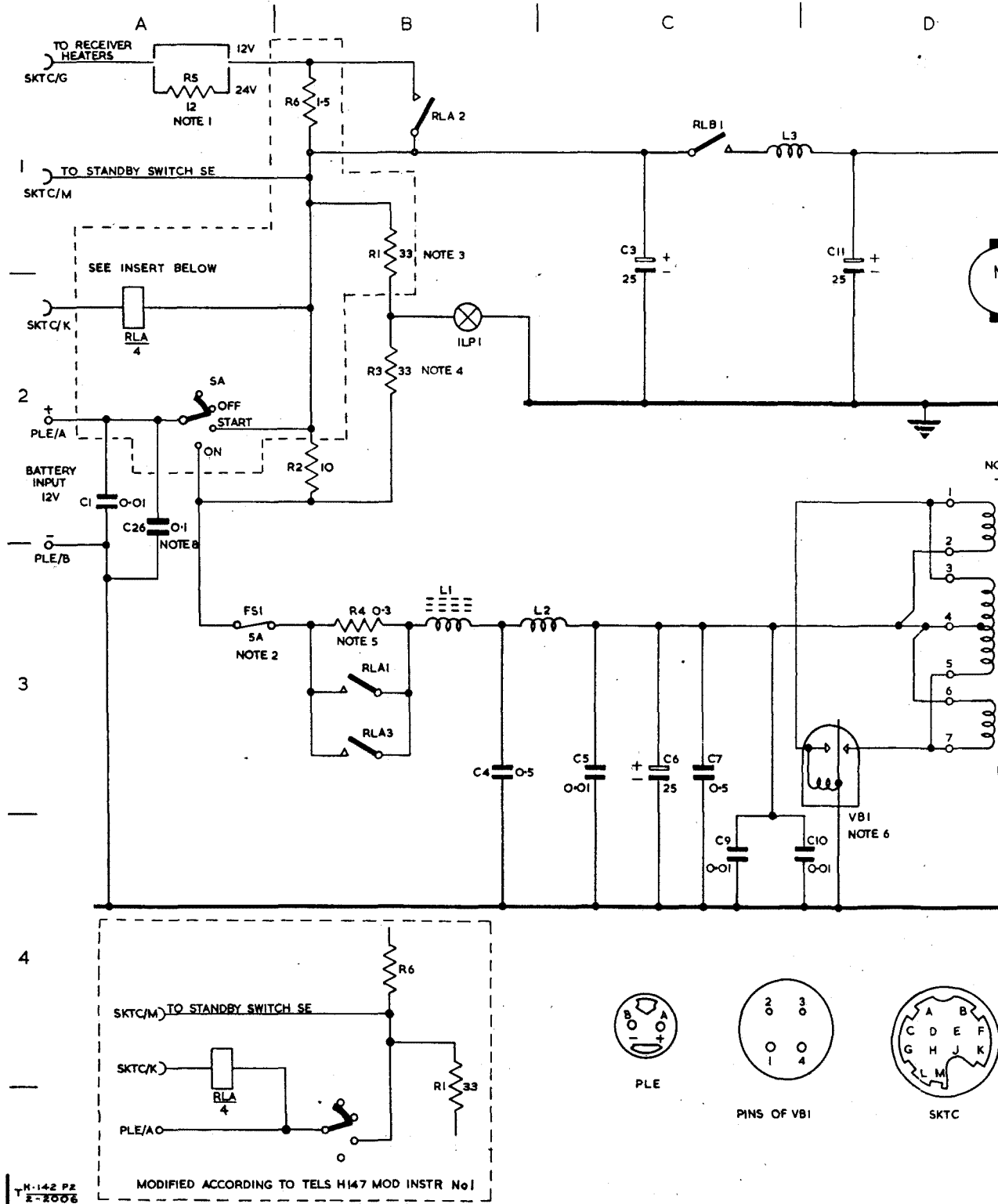
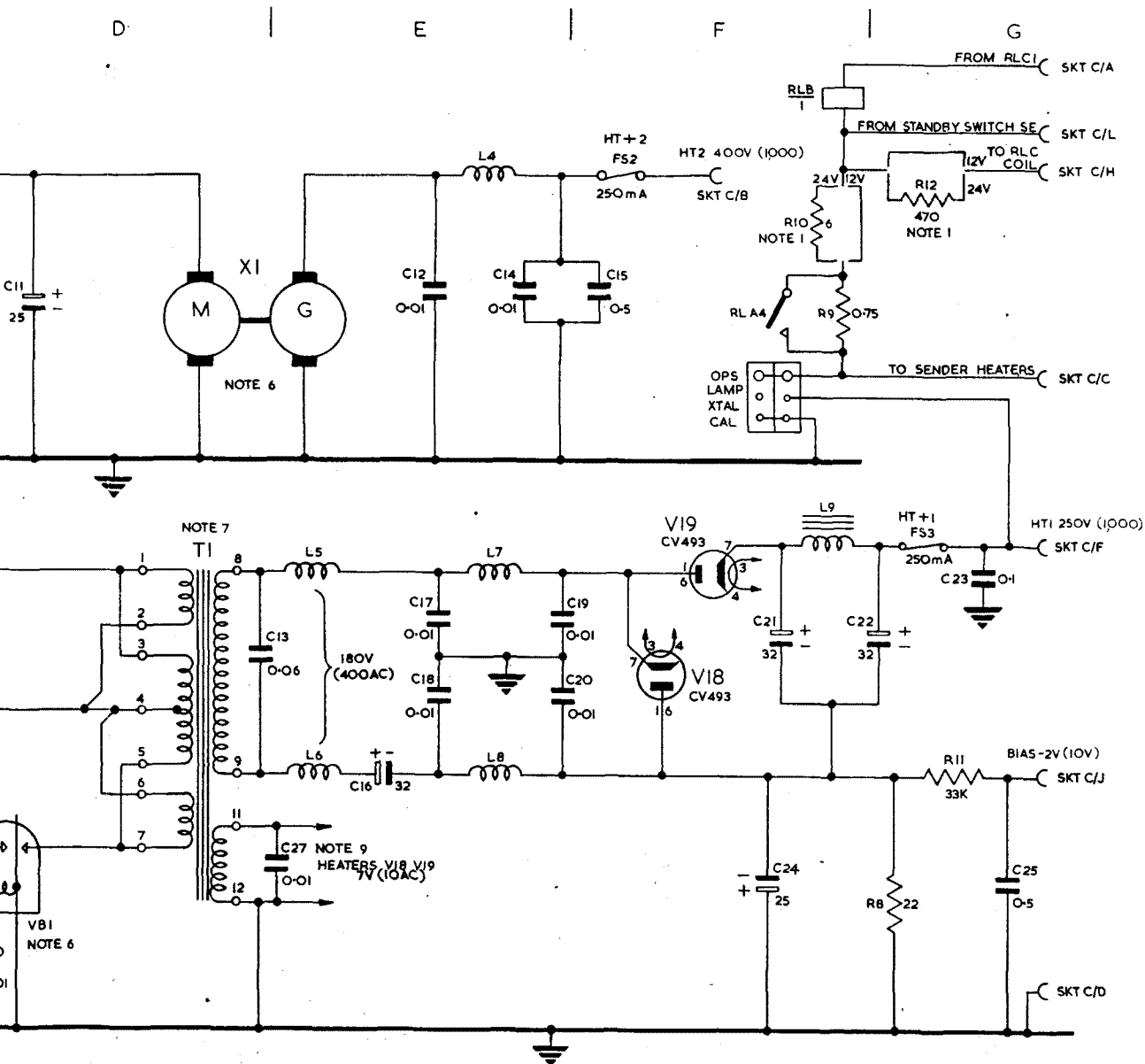
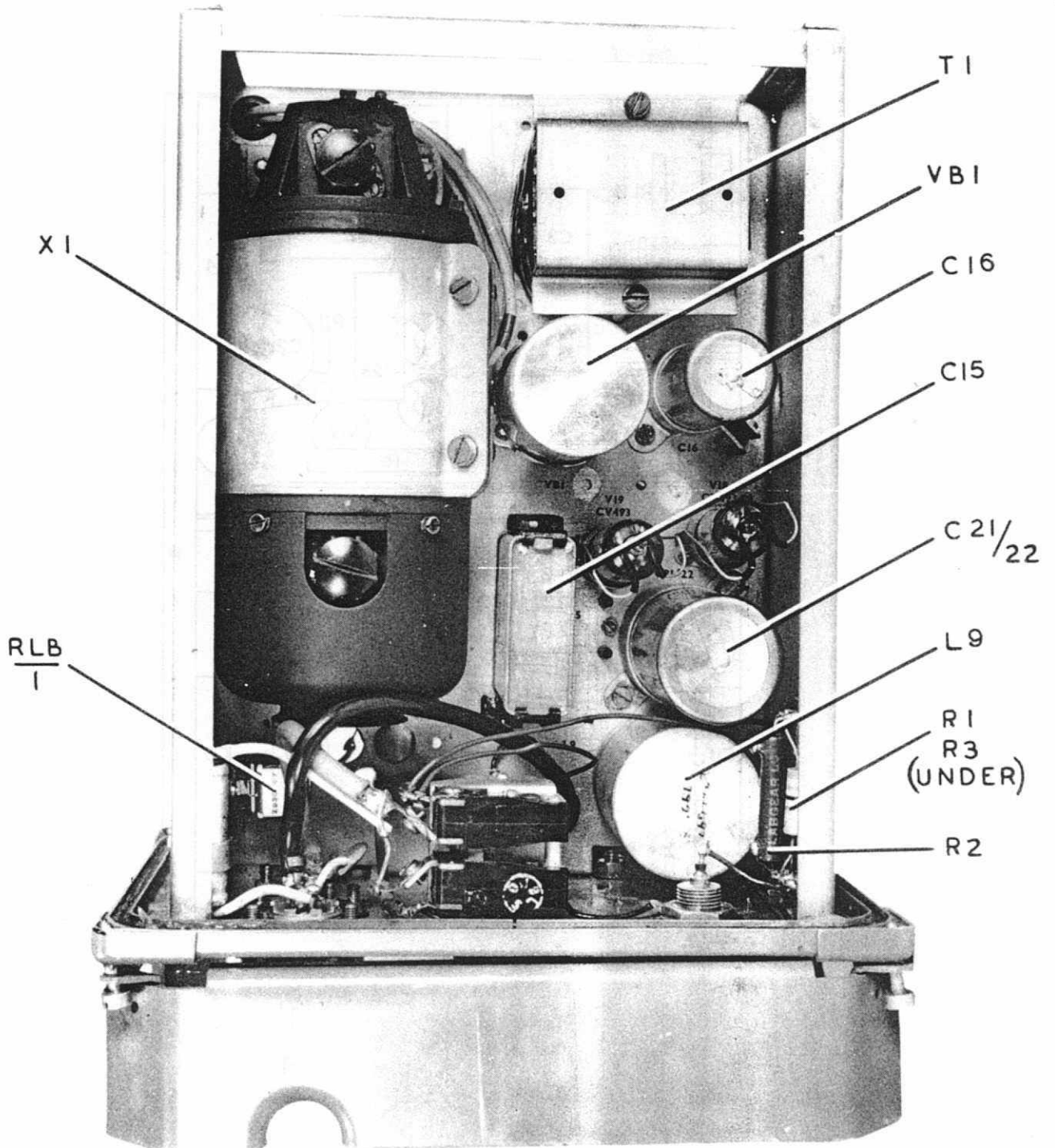


Fig 2006 - 12V p.s.u. - c



- YELLOW BAND (24V) DIFFERENCES IN CIRCUIT
- NOTE 1 - RESISTOR INSERTED IN PLACE OF S/C
 - NOTE 2 - FS1 IS 3A
 - NOTE 3 - R1 IS 100Ω
 - NOTE 4 - R3 IS OMITTED
 - NOTE 5 - R4 IS 0.43Ω
 - NOTE 6 - XI AND VBI ARE 24V TYPES
 - NOTE 7 - TRANSFORMER LINKS ARE 2-3 AND 5-6
 - NOTE 8 - C26 NOT FITTED
 - NOTE 9 - THIS IS C26

12V p.s.u. - circuit diagram



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2-2007

Fig 2007 - 12V p.s.u. - component layout above chassis

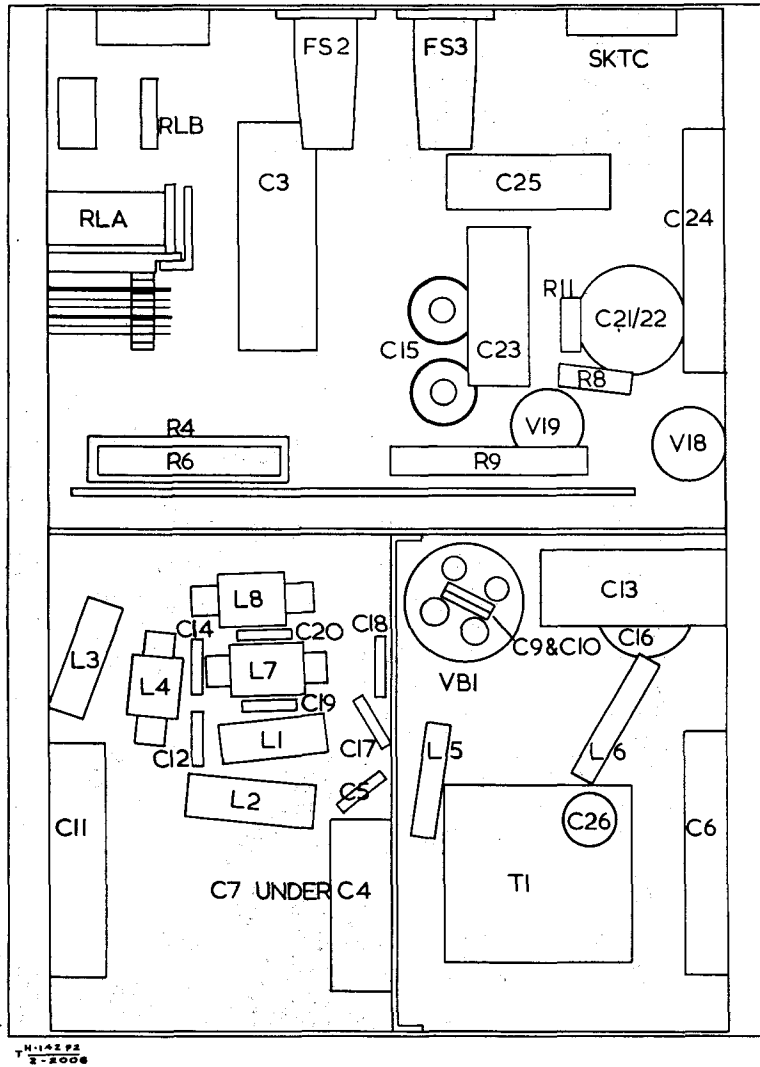
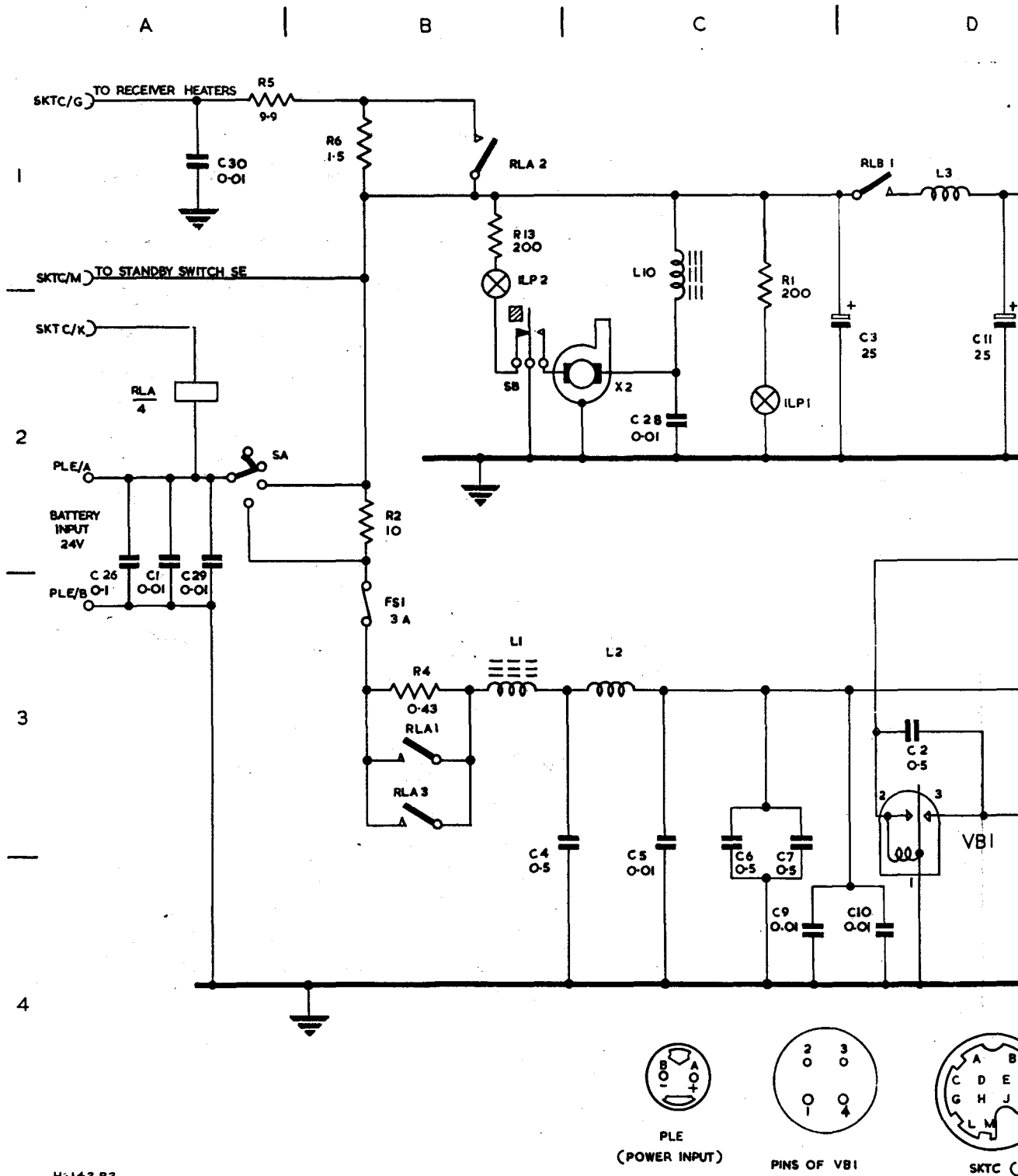


Fig 2008 - 12V p.s.u. - component layout below chassis

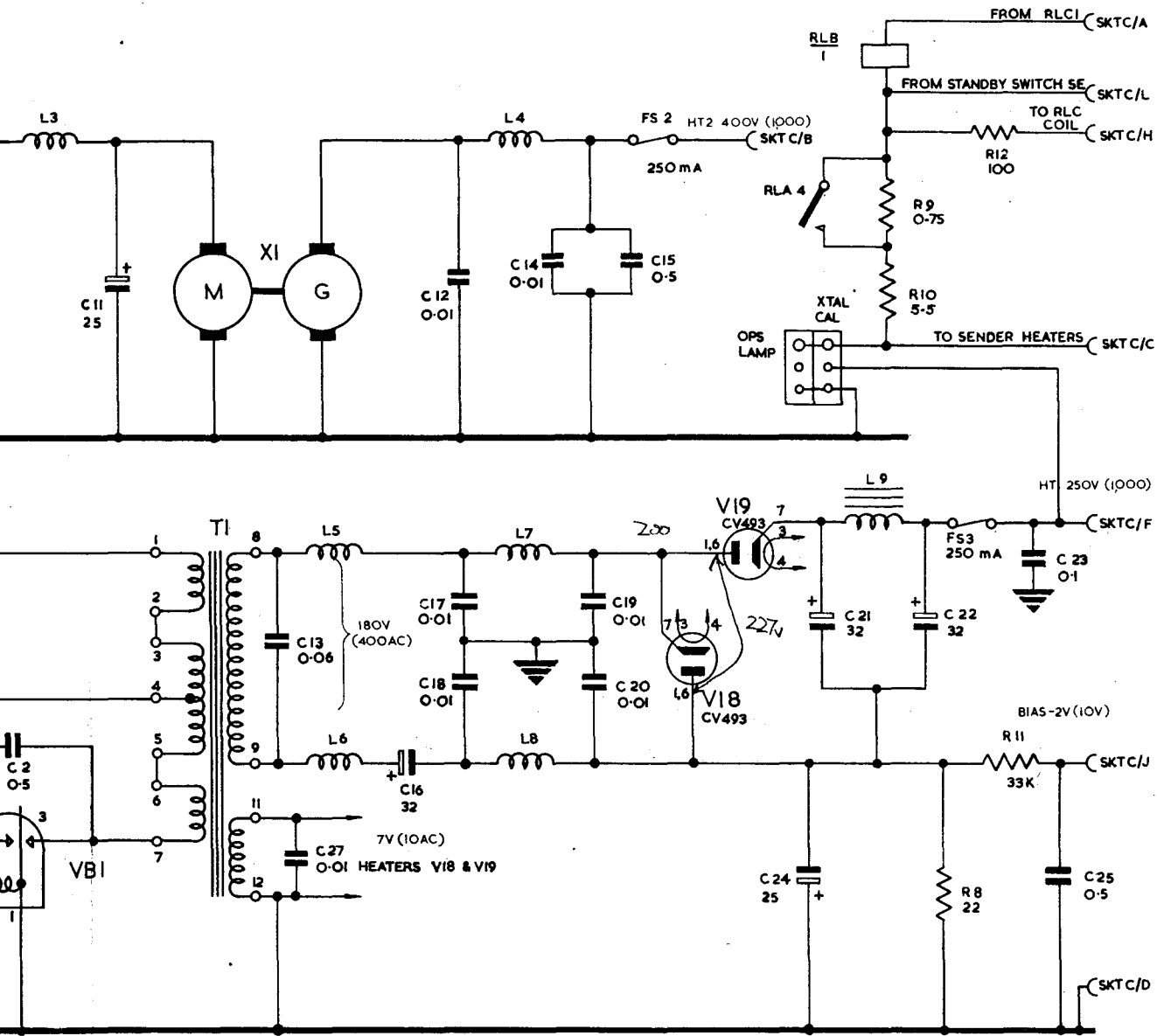
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H-142 P2
Z-2009

Fig 2009 - 24V p.s.u.

D | E | F | G



SB SHOWN WITH LID OF FAN IN CLOSED POSITION



SKTC (POWER OUTPUT)

4V p.s.u. - circuit diagram

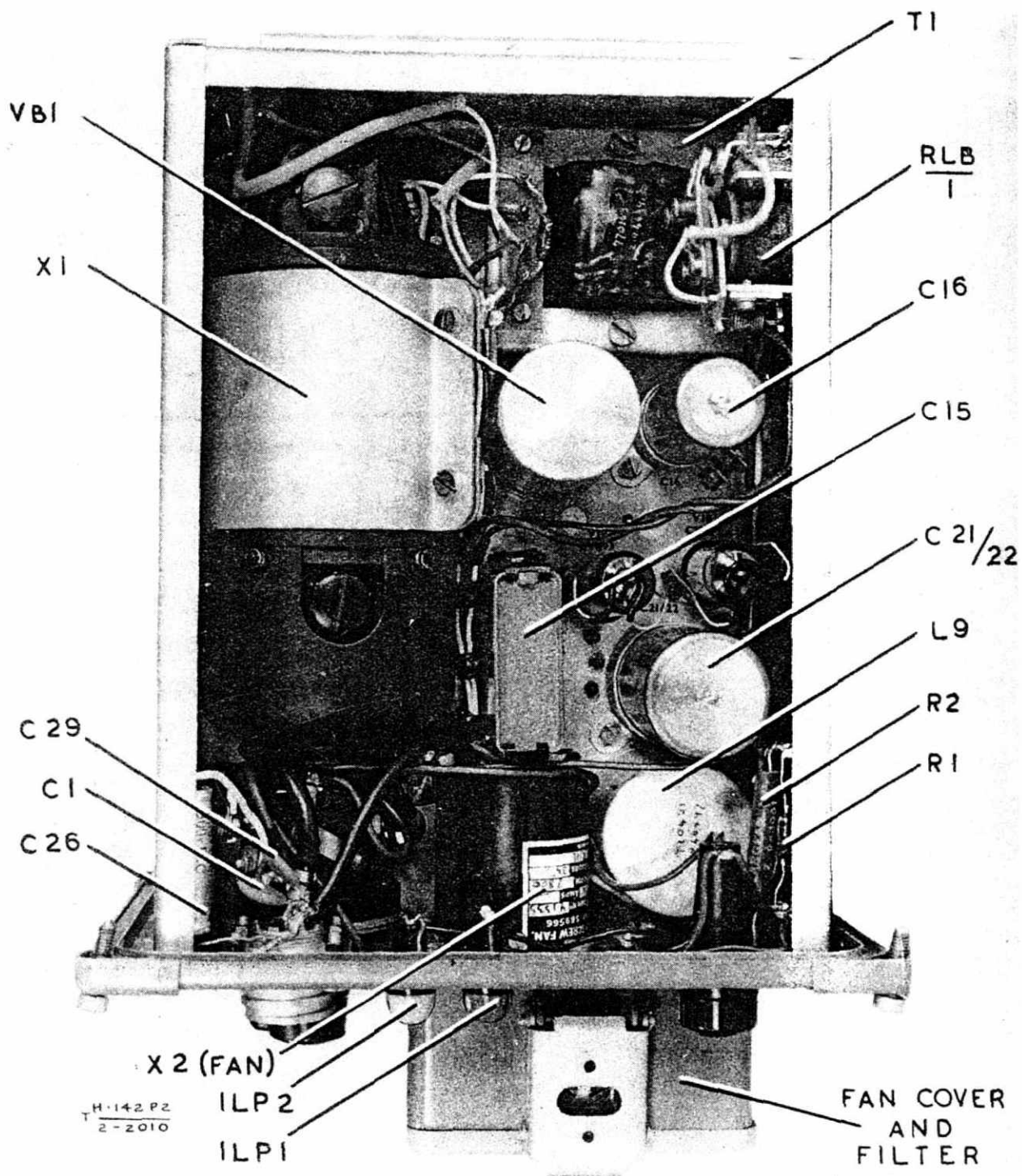


Fig 2010 - 24V p.s.u. - component layout above chassis

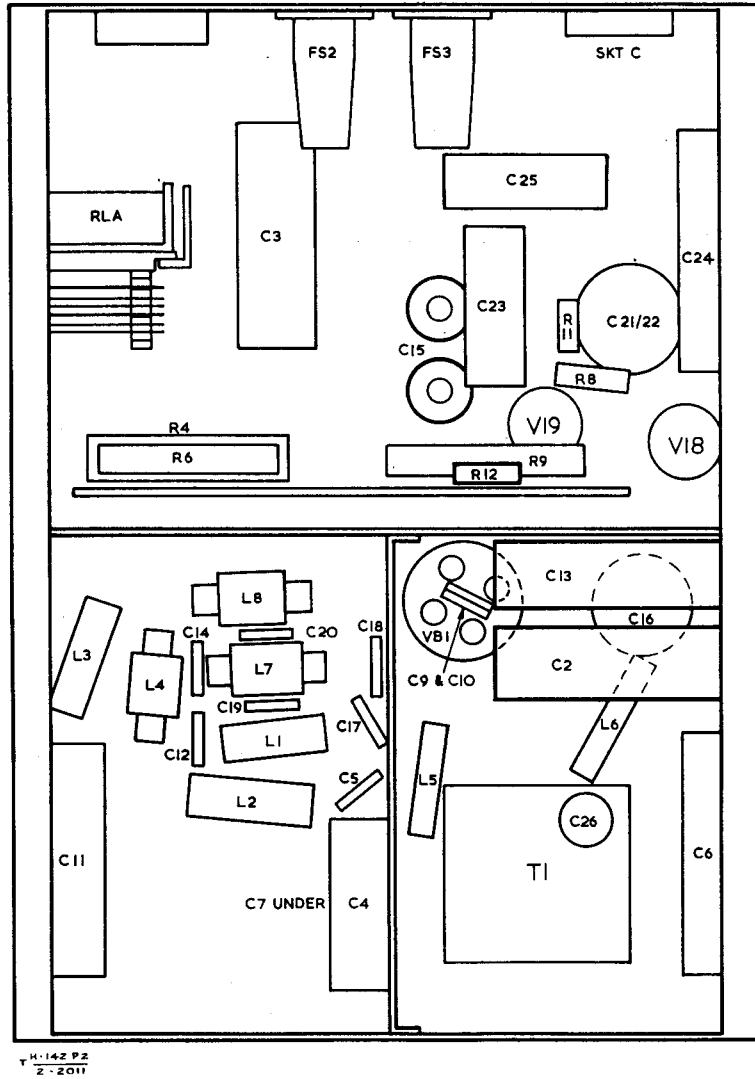


Fig 2011 - 24V p.s.u. - component layout below chassis

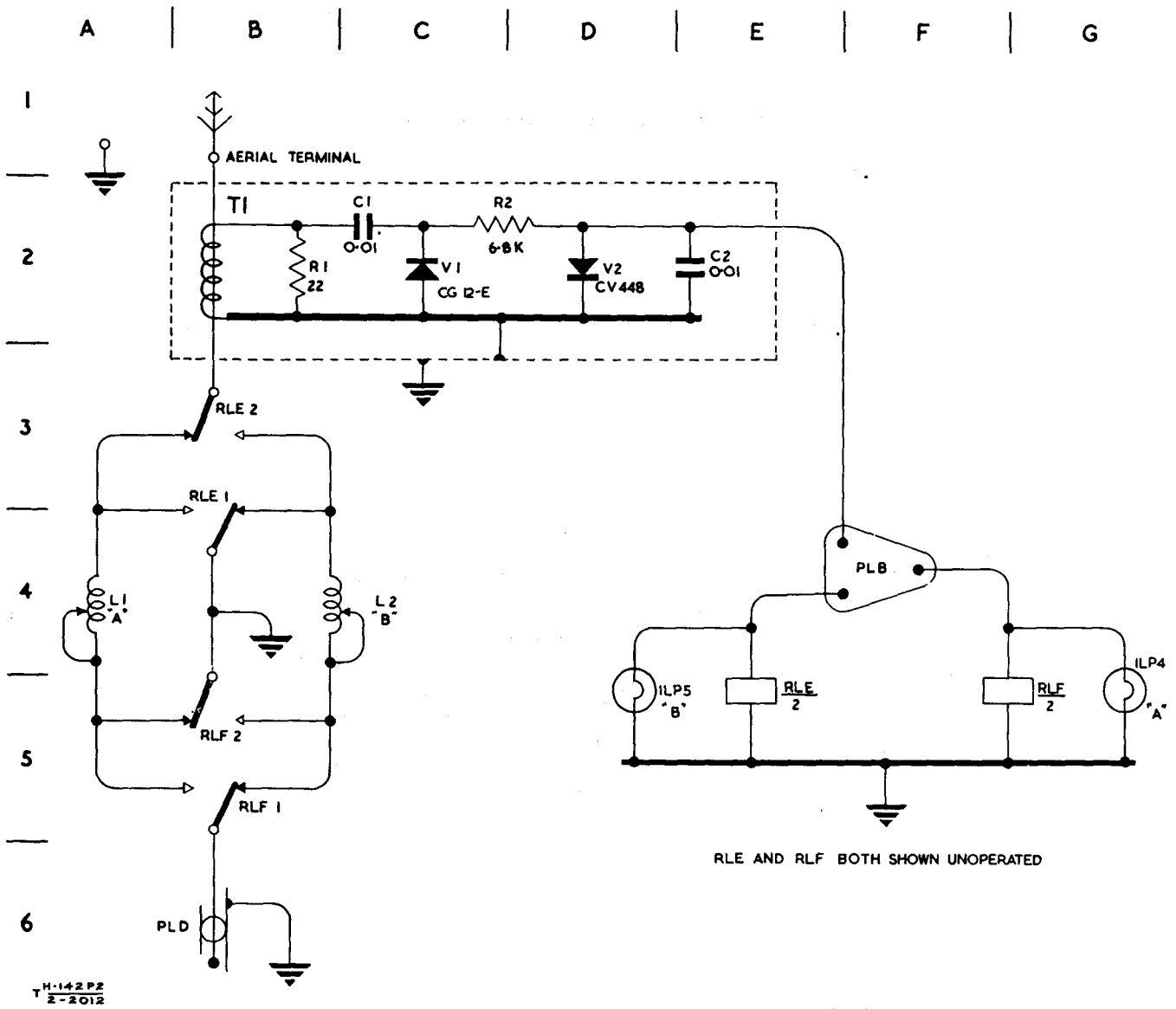
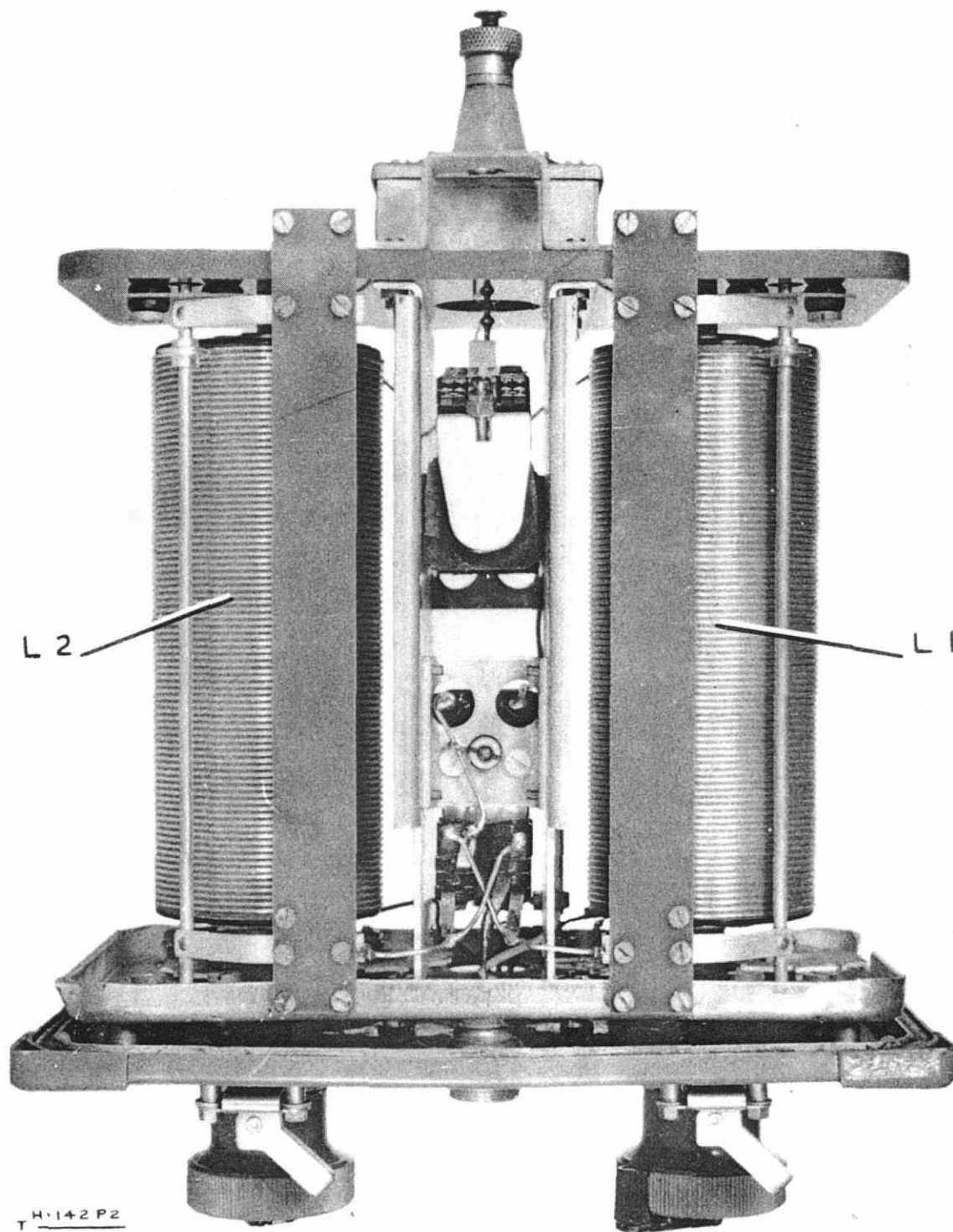
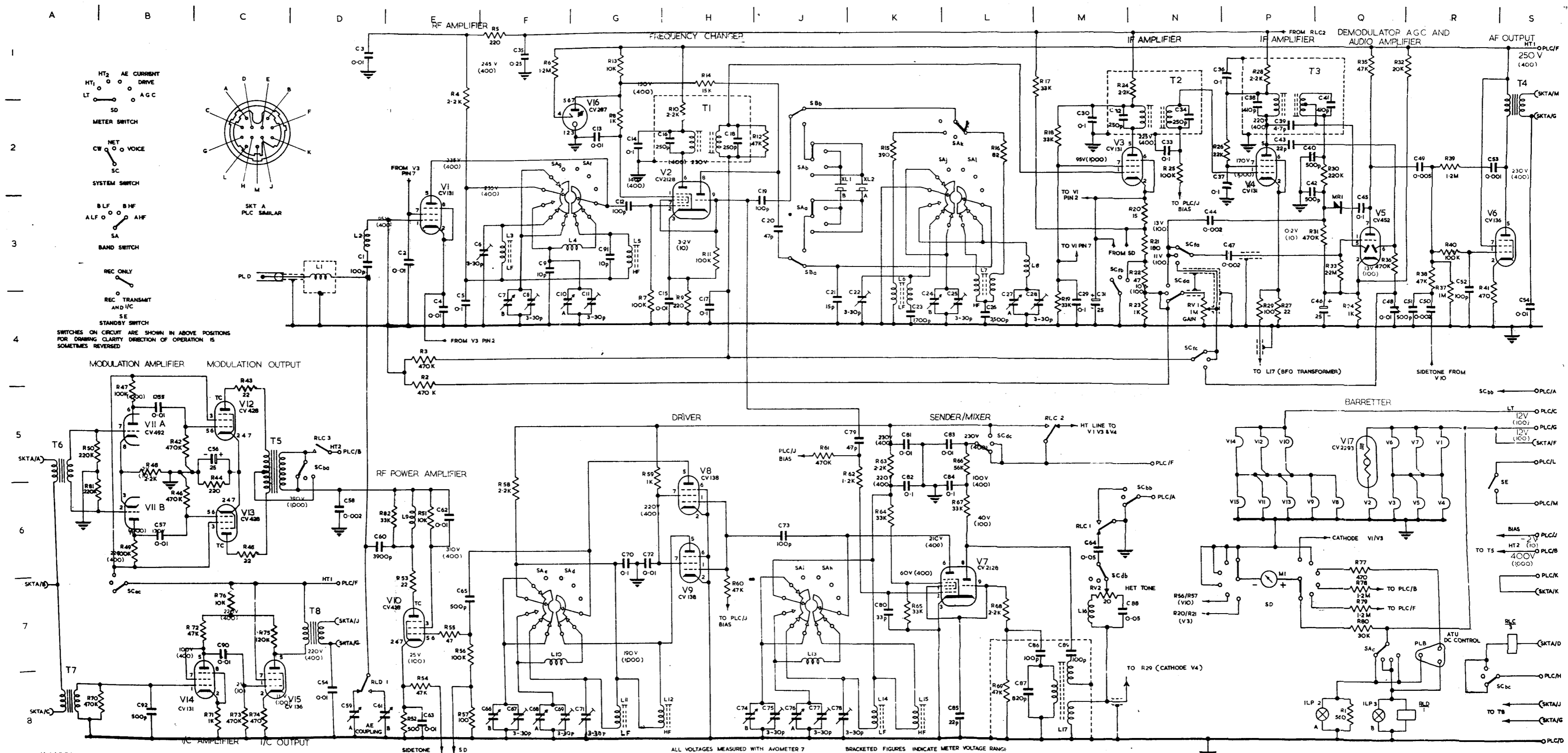


Fig 2012 - A.T.U. - circuit diagram



H.142 P2
T 2-2013

Fig 2013 - A.T.U. - component layout



SWITCHES ON CIRCUIT ARE SHOWN IN ABOVE POSITIONS FOR DRAWING CLARITY DIRECTION OF OPERATION IS SOMETIMES REVERSED

MODULATION AMPLIFIER MODULATION OUTPUT

DRIVER

SENDER/MIXER

RF POWER AMPLIFIER

I/C AMPLIFIER I/C OUTPUT

ALL VOLTAGES MEASURED WITH AVOMETER 7 BRACKETED FIGURES INDICATE METER VOLTAGE RANGE

H-142 P2
2-2001

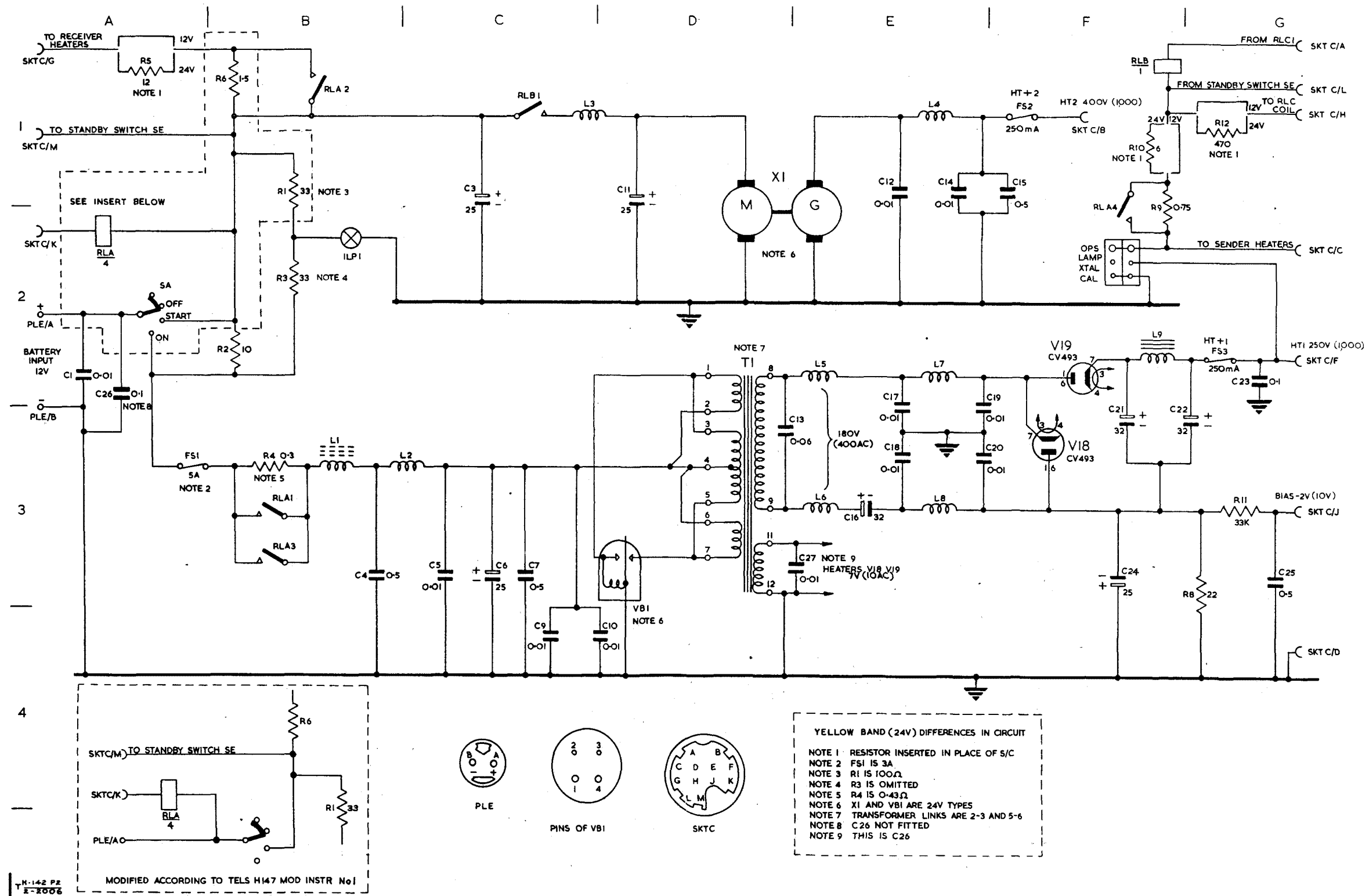


Fig 2006 - 12V p.s.u. - circuit diagram

