WIRELESS SENDER C11

TECHNICAL HANDBOOK - FAULT FINDING AND REPAIR DATA

This Part 2 contains fault-finding and repair data in tabular and diagrammatic form. Part 1 and the regulations dealing with unit, field and base repairs describe how the various operations are to be carried out.

INDEX TO TABLES

INDEX TO FIGURES

Note: This Issue 2 supersedes Issue 1, dated 2 Jul 58. The Figures have been revised.

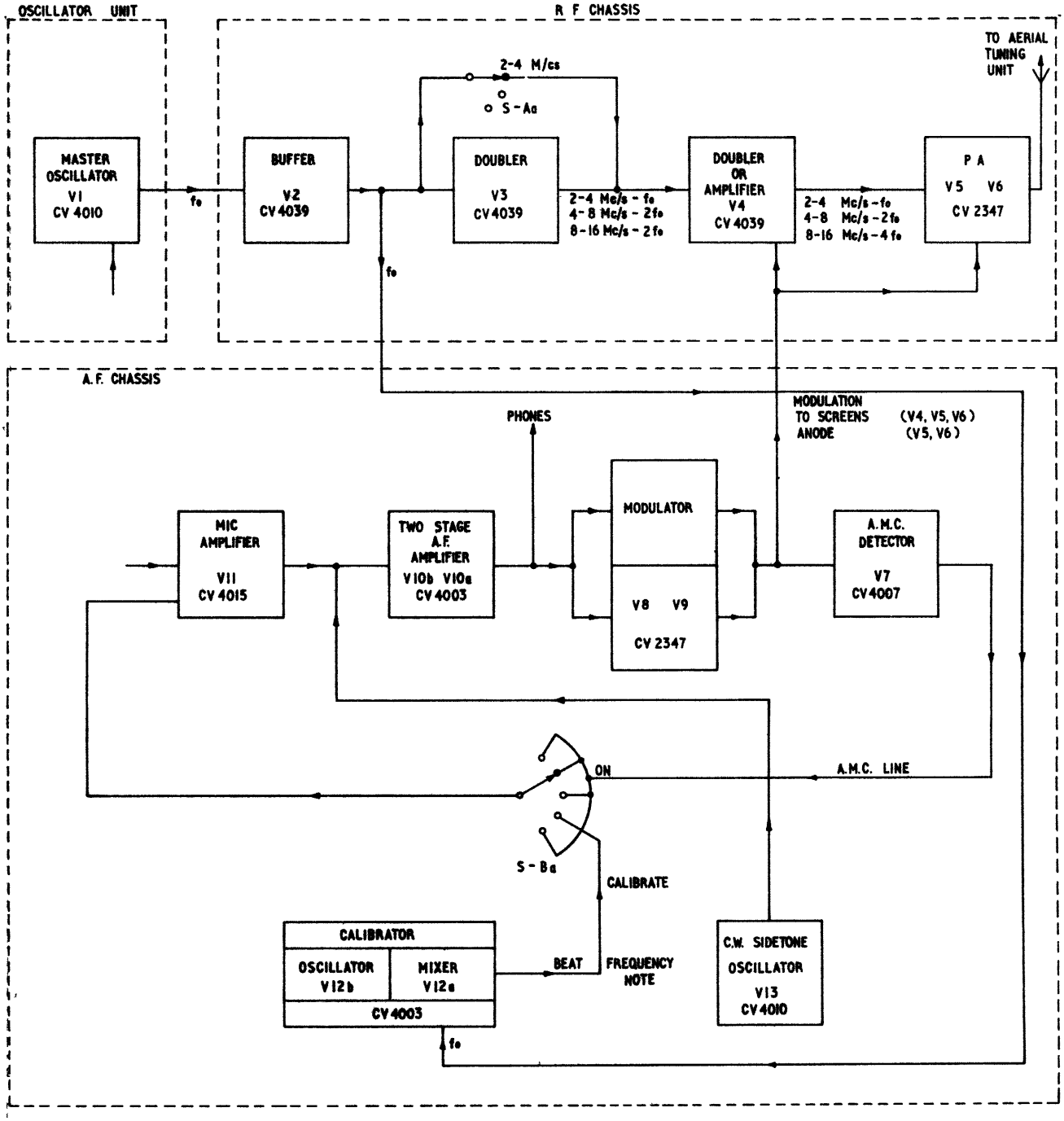

Fig 2001 - Block diagram

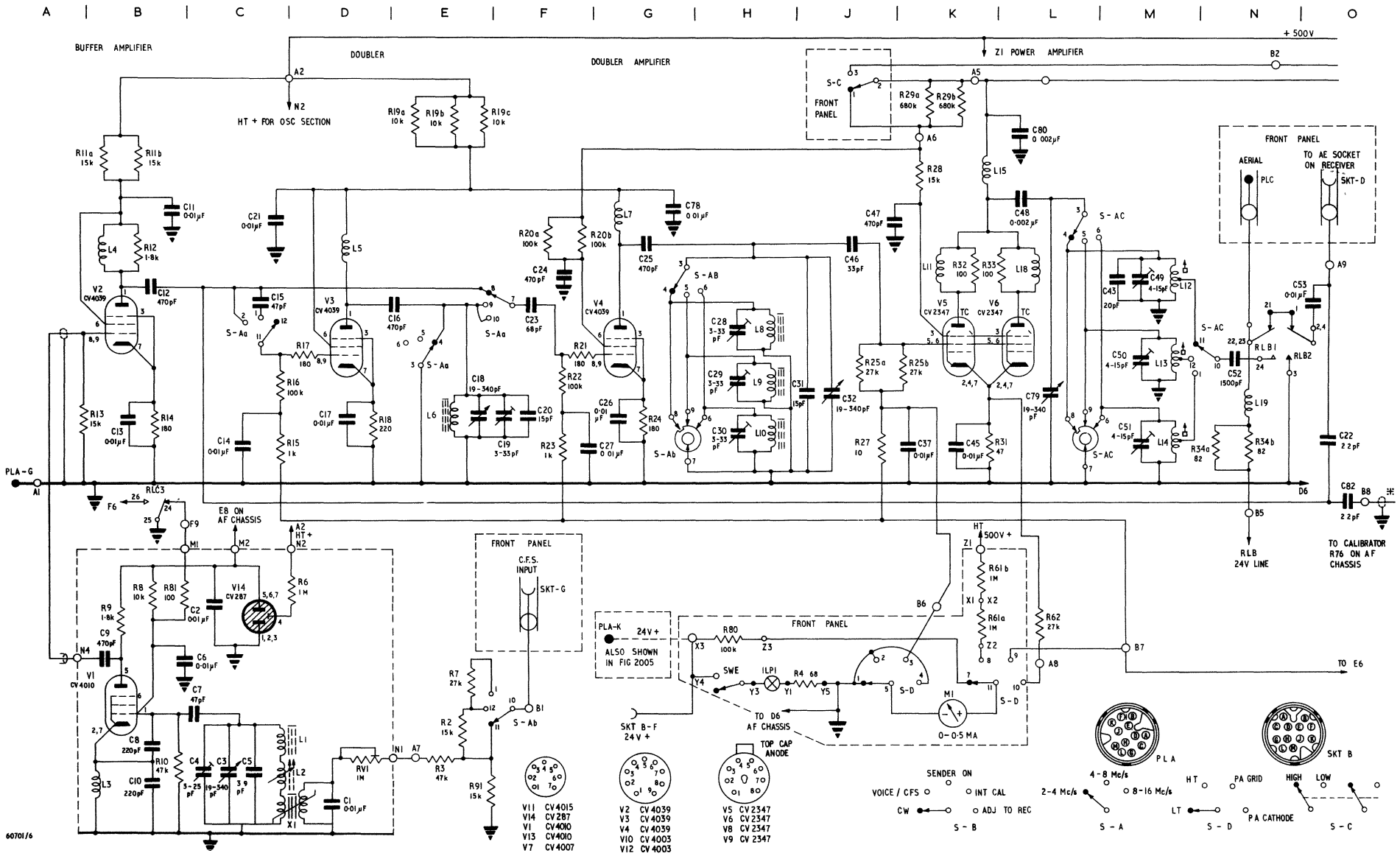

Fig 2002 - R.F. chassis, circuit diagram

Note: This Issue 2 supersedes Issue 1 dated 2 Jul 58. The Figures have been revised.

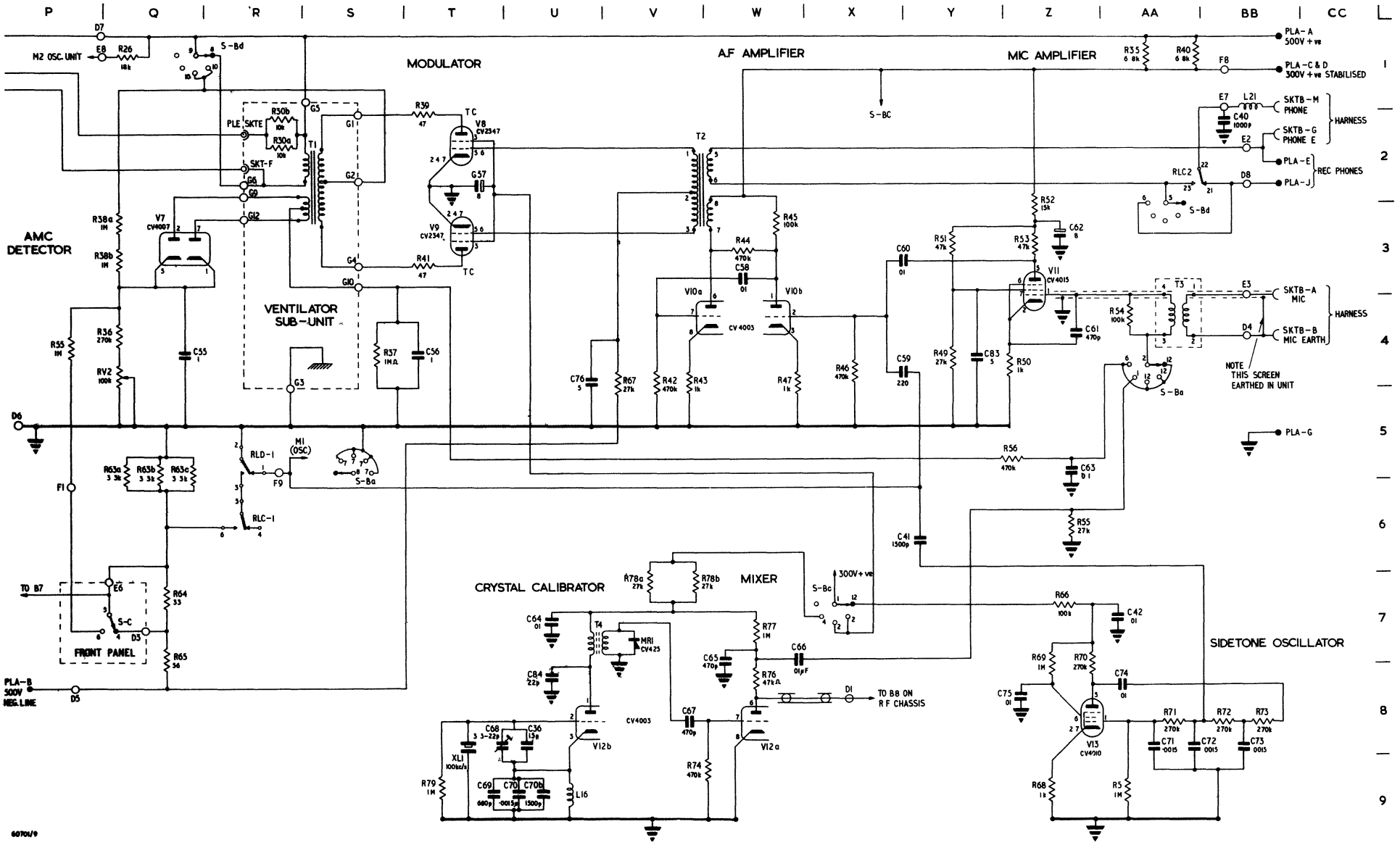

Fig 2003 - A.F. Chassis, circuit diagram

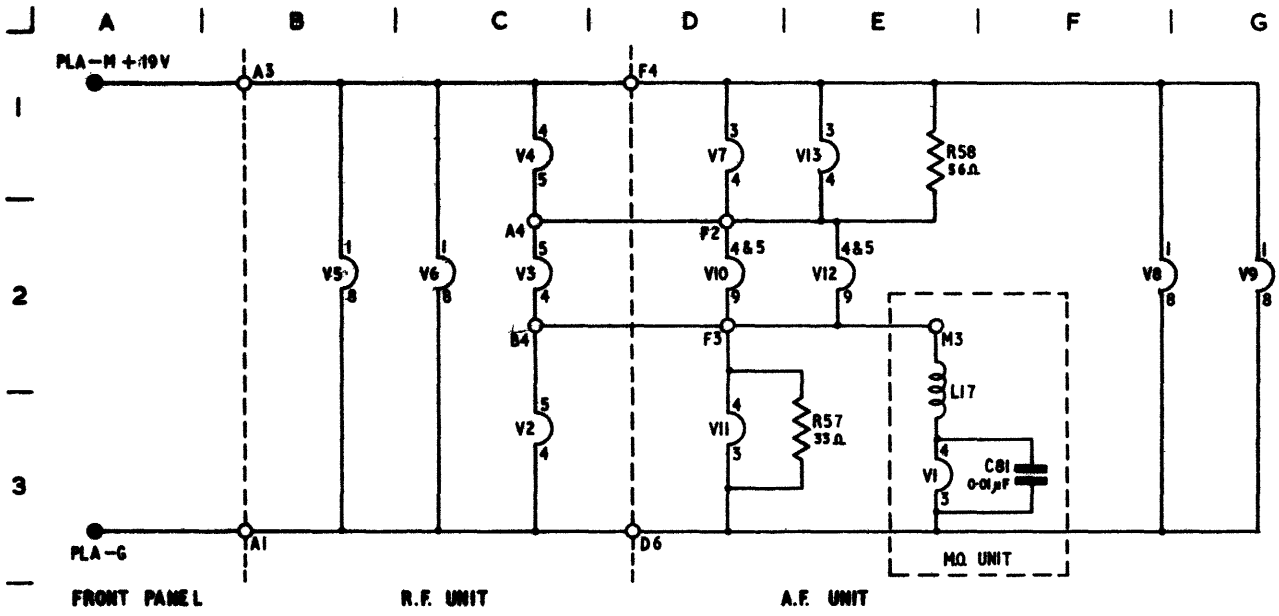

Fig 2004 Heater circuit diagram

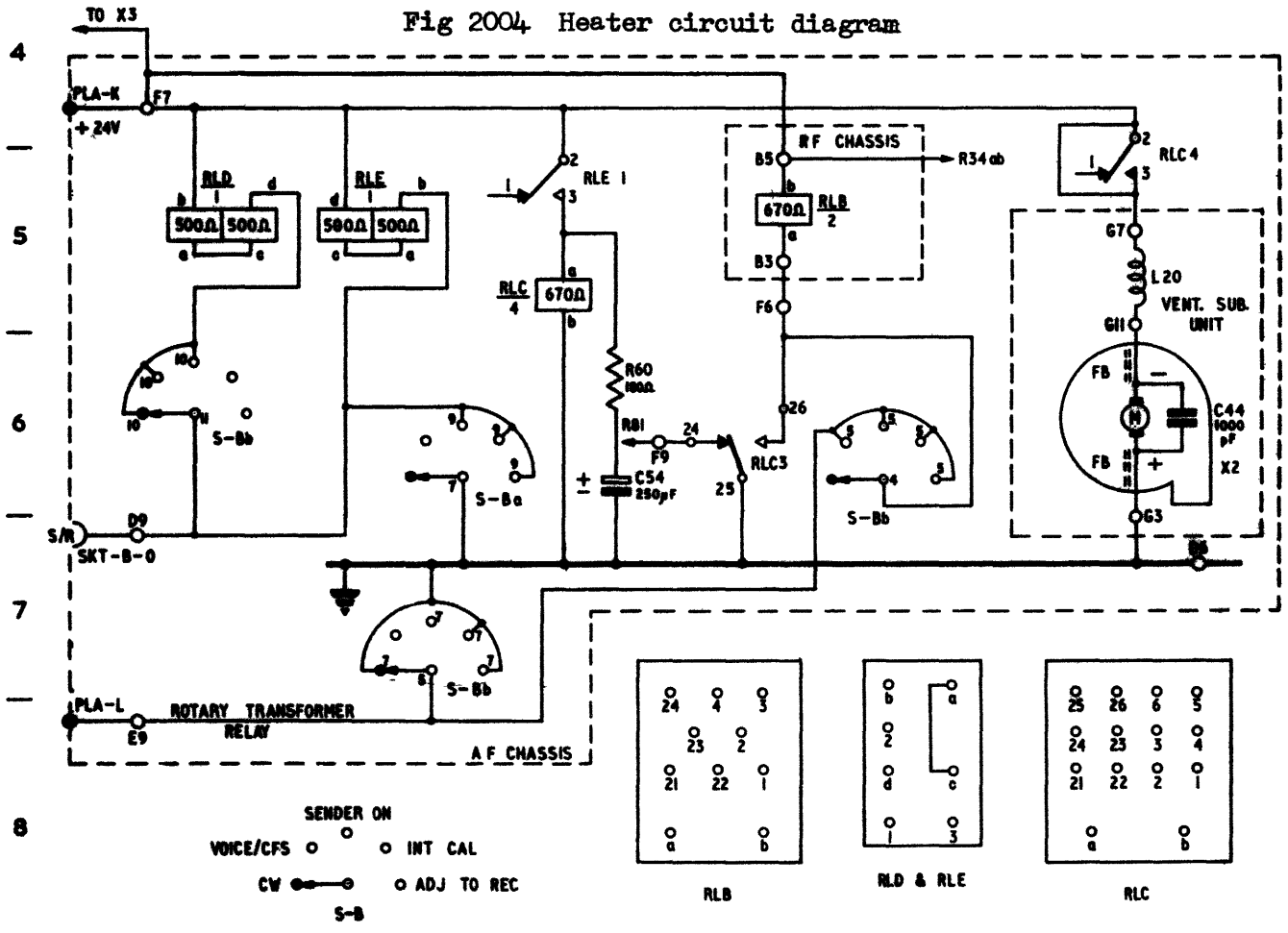

Fig 2005 - Relay and system switch, circuit diagram

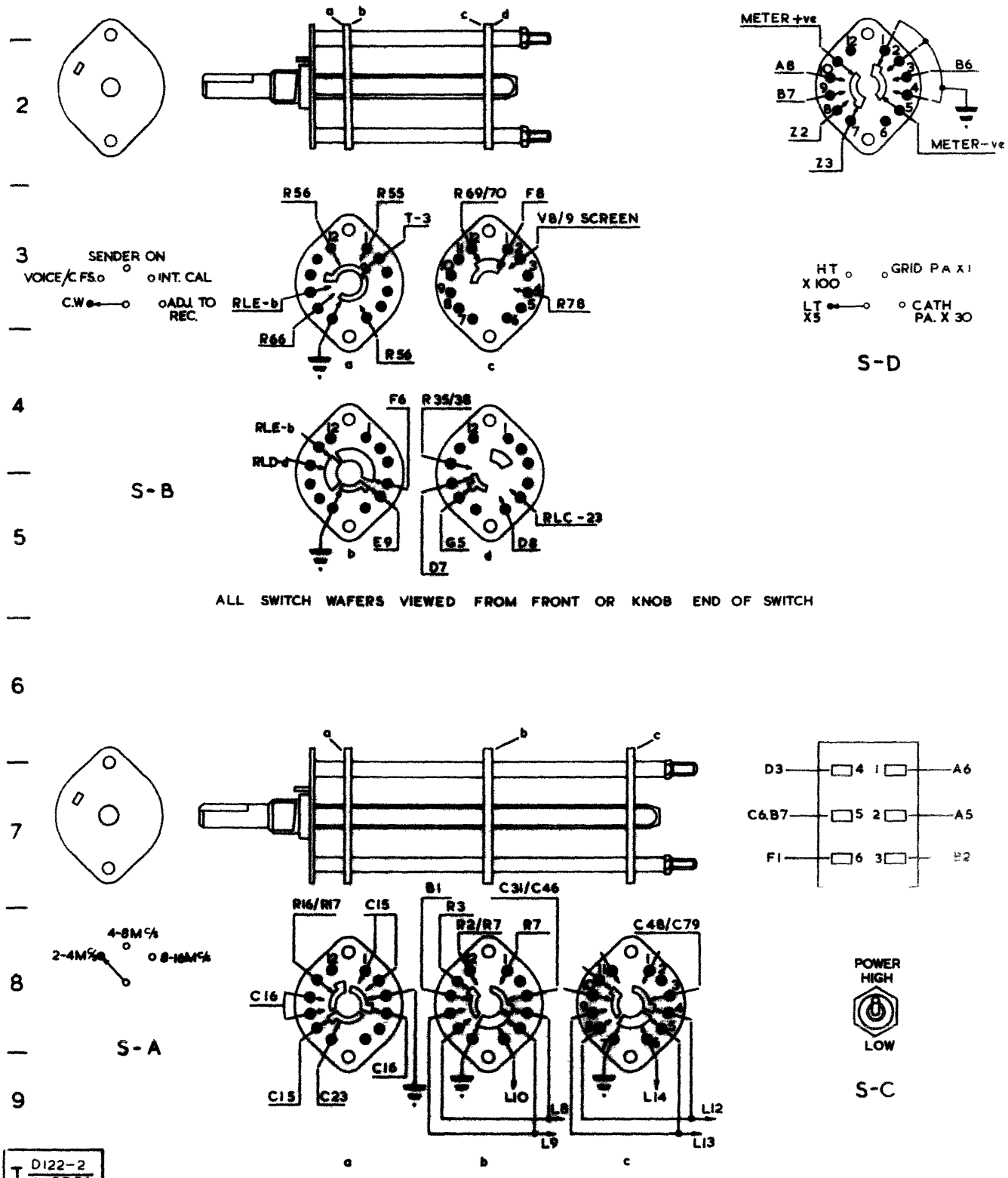

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Fig 2006 - Switch data

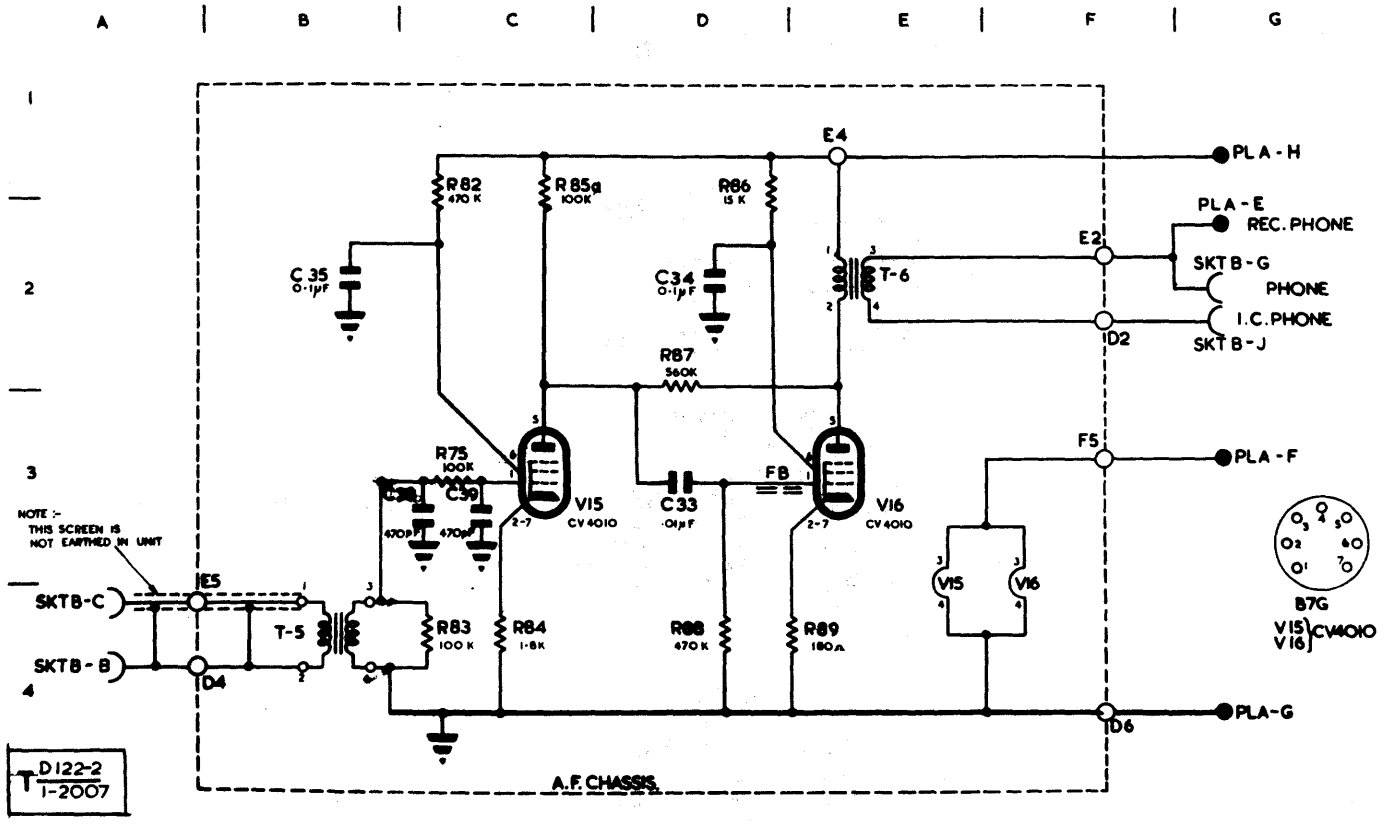

Fig 2007 - Intercomm amplifier, circuit diagram

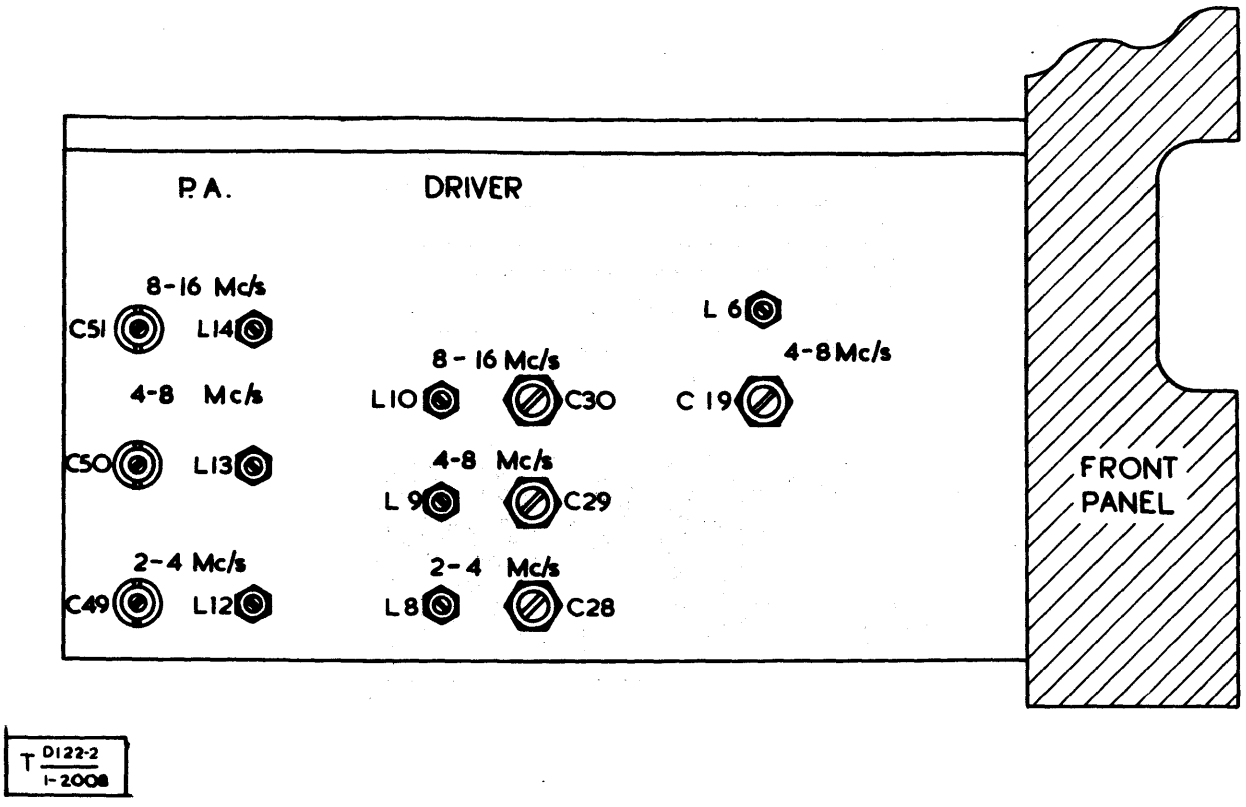

Fig 2008 - Trimmer layout, r.f. chassis

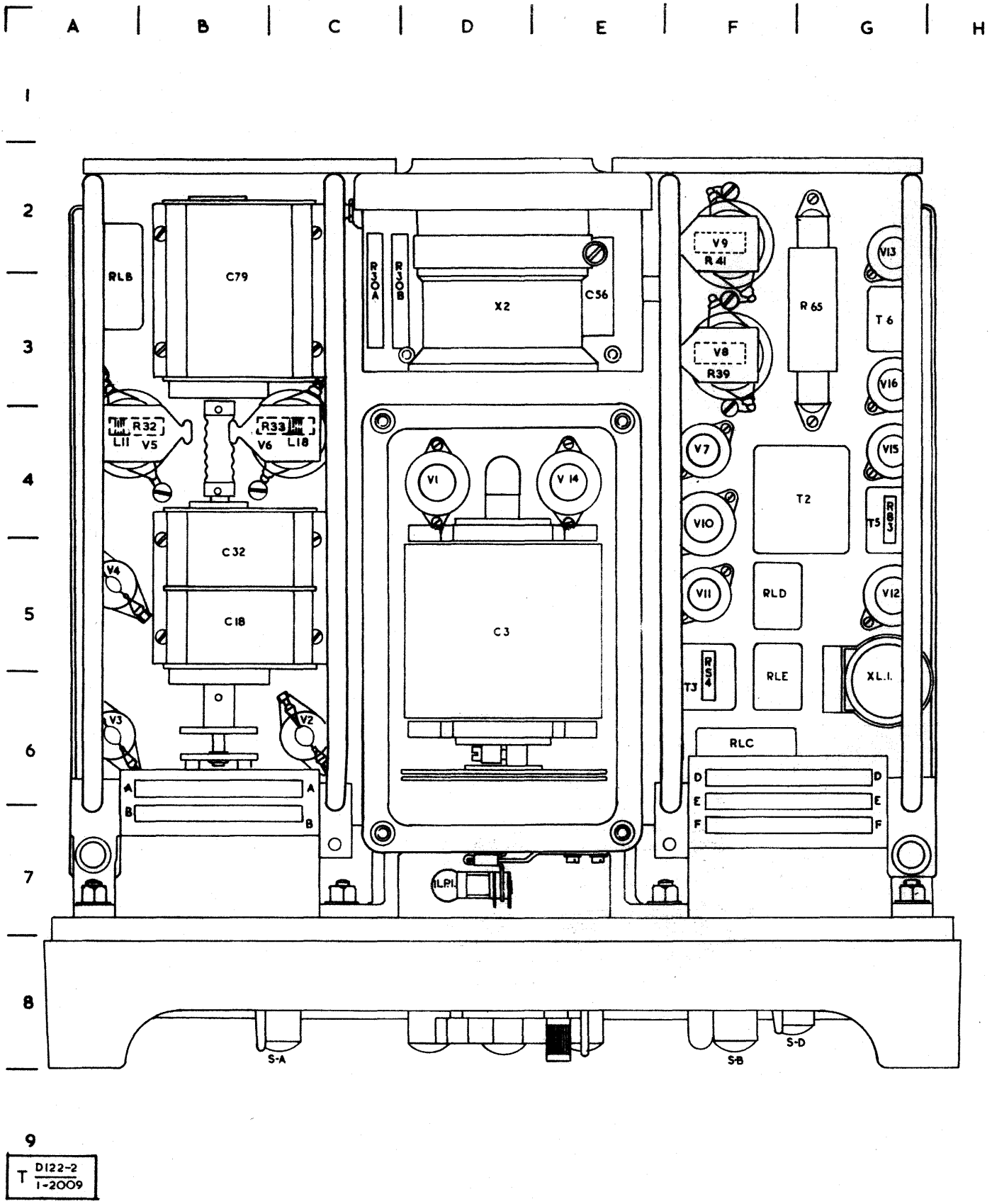

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Fig 2009 - General top view, component layout

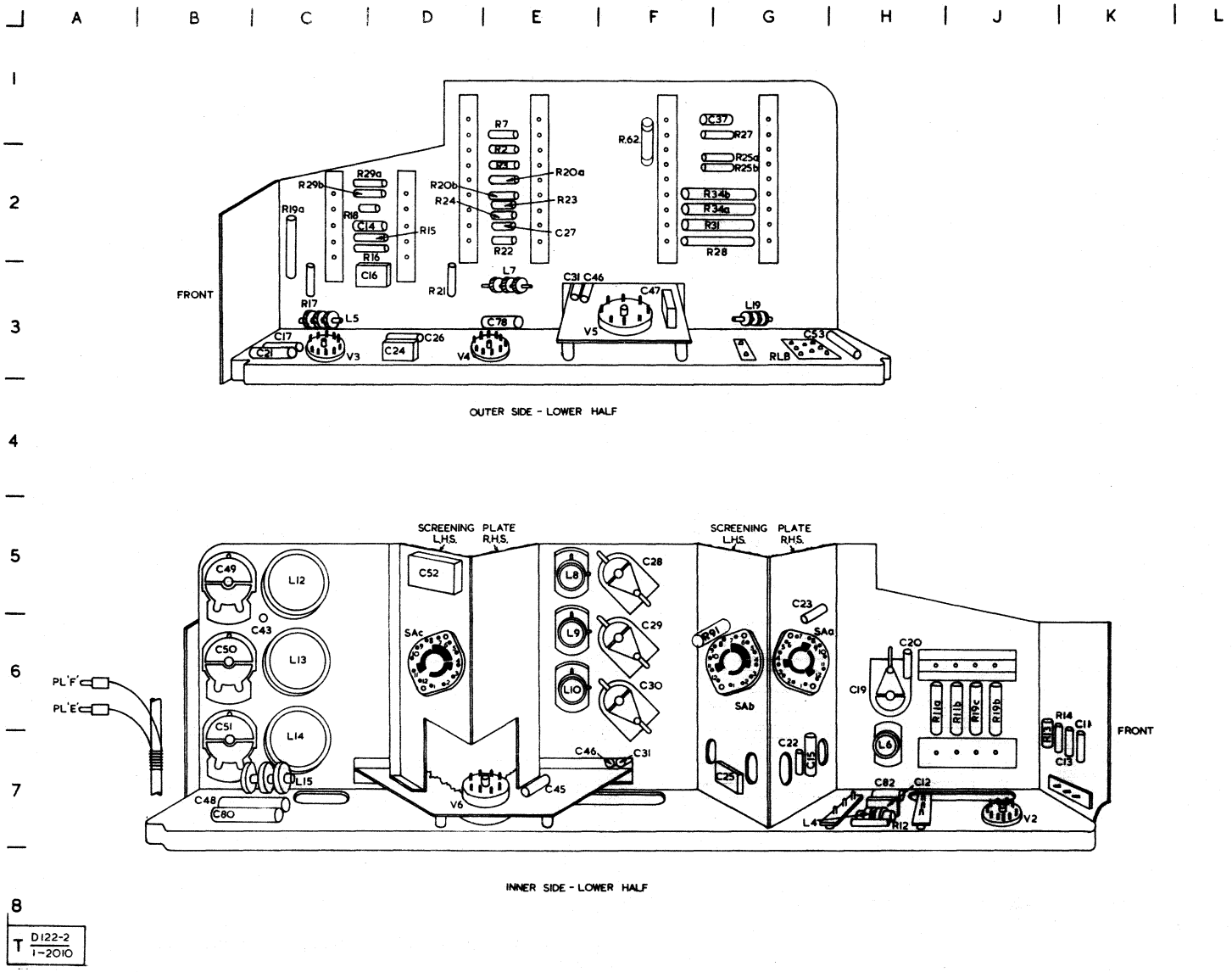

Fig 2010 - R.F. chassis, component layout

Table 2001 - R.F. chassis, component schedule

Circuit reference	Location of components: Circuit diagram Fig 2002	Component layout Fig 2010	Component layout Fig 2009	Value	Rating	Type and limit	
RESISTORS							
R2	E8	E2		15kΩ	3W	wire wound, vitreous	5%
R3	E8	E2		47kΩ	3/4W	carbon ins	10%
R7	E7	E1		27kΩ	3/4W	carbon grade 1	2%
R11a	B2	H6		15kΩ	6W	wire wound vitreous	5%
R11b	B2	J6		15kΩ	6W	wire wound vitreous	5%
R12	B3	H7		1.8kΩ	3/4W	carbon ins	10%
R13	B5	J7		15kΩ	3/4W	carbon ins	10%
R14	B5	J7		180Ω	1/2W	carbon ins	10%
R15	D5	C2		1kΩ	1/2W	carbon ins	10%
R16	D4	C2		100kΩ	1/2W	carbon ins	10%
R17	D4	C3		180Ω	1/2W	carbon ins	10%
R18	E5	C2		220Ω	1/2W	carbon ins	10%
R19a	E2	C2		10kΩ	6W	wire wound vitreous	5%
R19b	E2	J6		10kΩ	6W	wire wound vitreous	5%
R19c	F2	J6		10kΩ	6W	wire wound vitreous	5%
R20a	F3	E2		100kΩ	3/4W	carbon ins	10%
R20b	G3	E2		100kΩ	3/4W	carbon ins	10%
R21	G4	D3		180Ω	1/2W	carbon ins	10%
R22	F4	E2		100kΩ	1/2W	carbon ins	10%
R23	F5	E2		1kΩ	1/2W	carbon ins	10%
R24	G5	E2		180Ω	1/2W	carbon ins	10%
R25a	K4	G2		27kΩ	3/4W	carbon ins	10%
R25b	K4	G2		27kΩ	3/4W	carbon ins	10%
R27	K5	G1		10Ω	1/4W	carbon grade 1	5%
R28	K2	G2		15kΩ	4.1/2W	wire wound vitreous	5%
R29a	K1	D2		680kΩ	3/4W	carbon ins	10%
R29b	K1	D2		680kΩ	3/4W	carbon ins	10%
R31	L5	G2		47Ω	4.1/2W	wire wound vitreous	5%
R32	L3		B4	100Ω	3/4W	carbon ins	10%
R33	L3		C4	100Ω	3W	carbon ins	10%
R34a	N5	G2		82Ω	4.1/2W	wire wound vitreous	5%
R34b	N5	G2		82Ω	4.1/2W	wire wound vitreous	5%
R62	L7	F2		27kΩ	1/4W	carbon grade 1	2%
R91	E8	F6		15kΩ	3W	wire wound vitreous	5%
CAPACITORS							
C11	C3	K7		0.01μF	500V	paper tub met case	20%
C12	B3	H7		470pF	750V	mica metalised Araldite	10%
C13	B5	K7		0.01μF	200V	paper tub met case	20%
C14	C5	C2		0.01μF	200V	paper tub met case	20%
C15	D4	G7		47pF	500V	ceramic tub	10%
C16	E3	C3		470pF	750V	mica metalised Araldite	10%

Table 2001 - (cont)

Circuit reference	Location of components: Circuit diagram Fig 2002	Location of components: Component layout Fig 2010	Location of components: Component layout Fig 2009	Value	Rating	Type and limit
			CAPACITORS - (cont)			
C17	D5	C3		0.01μF	200V	paper tub met case 20%
C18	F5		B5	19-340pF		variable (ganged C32)
C19	F5	H6		3-33pF		trimmer air spaced
C20	F5	H6		15pF	500V	ceramic tub 10%
C21	D3	C3		0.01μF	500V	paper tub met case 10%
C22	O5	G7		2.2pF	500V	ceramic tub 0.5pF
C23	F3	G6		68pF	500V	ceramic tub 10%
C24	F3	D3		470pF	750V	mica metalised Araldite 10%
C25	G3	F7		470pF	750V	mica metalised Araldite 10%
C26	G5	D3		0.01μF	200V	paper tub met case 20%
C27	G5	E2		0.01μF	200V	paper tub met case 20%
C28	H4	F5		3-33pF		trimmer air spaced
C29	H4	F6		3-33pF		trimmer air spaced
C30	H5	F6		3-33pF		trimmer air spaced
C31	J4	E3 F7		15pF	500V	ceramic tub
C32	J4		B5	19-340pF		variable (ganged C18)
C37	K5	G1		0.01μF	200V	paper tub met case 20%
C43	M3	B6		20pF	500V	ceramic disc 20%
C45	L5	E7		0.01μF	200V	paper tub met case 20%
C46	J3	E3 F7		33pF	500V	ceramic tub 10%
C47	K2	F3		470pF	750V	mica metalised Araldite 10%
C48	L2	B7		0.002μF	1000V	paper tub met case 20%
C49	M3	B5		4-15pF		trimmer air spaced
C50	M4	B6		4-15pF		trimmer air spaced
C51	M5	B7		4-15pF		trimmer air spaced
C52	N4	D5		0.0015μF	750V	mica metalised Araldite 10%
C53	O4	H3		0.01μF	500V	paper tub met case 20%
C78	H3	E3		0.01μF	500V	paper tub met case 20%
C79	L4		B2	19-340pF		variable
C80	L2	B7		0.002μF	1000V	paper tub met case 20%
C82	O5	H7		2.2pF	500V	ceramic tub 0.5pF
			VALVES			
V2	B4	J7	C6			CV4039 (2129) *
V3	D4	C3	A6			CV4039 (2129) *
V4	G4	E3	A5			CV4039 (2129) *
V5	L4	F3	A4			CV2347
V6	L4	D7	C4			CV2347

Table 2001 - (cont)

Circuit reference	Location of components			Description
	Circuit diagram	Component layout		
	Fig 2002	Fig 2010	Fig 2009	
		INDUCTORS		
L4	B3	H7		Anode load inductor
L5	D3	C3		Anode choke
L6	E5	H7		Tuning inductor (4 - 8Mc/s)
L7	G3	E3		Anode choke
L8	H4	E5		Tuning inductor (2 - 4Mc/s)
L9	H4	E6		Tuning inductor (4 - 8Mc/s)
L10	H5	E6		Tuning inductor (8 - 16Mc/s)
L11	K3		A4	Parasitic suppression choke
L12	M3	C5		P.A. tuning inductor (2 - 4Mc/s)
L13	M4	C6		P.A. tuning inductor (4 - 8Mc/s)
L14	M5	C7		P.A. tuning inductor (8 - 16Mc/s)
L15	L2	B7		Anode choke
L18	L3		C4	Parasitic suppression choke
L19	N4	G3		R.F. choke
		MISCELLANEOUS		
RLB	E6 (Fig 2007)	G3	A2	Relay, heavy-duty, miniature, sealed (aerial changeover)
PLE	R2 (Fig 2003)	A6		Plug, 3 mm, single
PLF	R2	A6		Plug, 4 mm, single
SA	various			Switch, 3-bank, 3-way, rotary

* The CV number given is the reliable type. The original valve type CV number is shown in brackets.

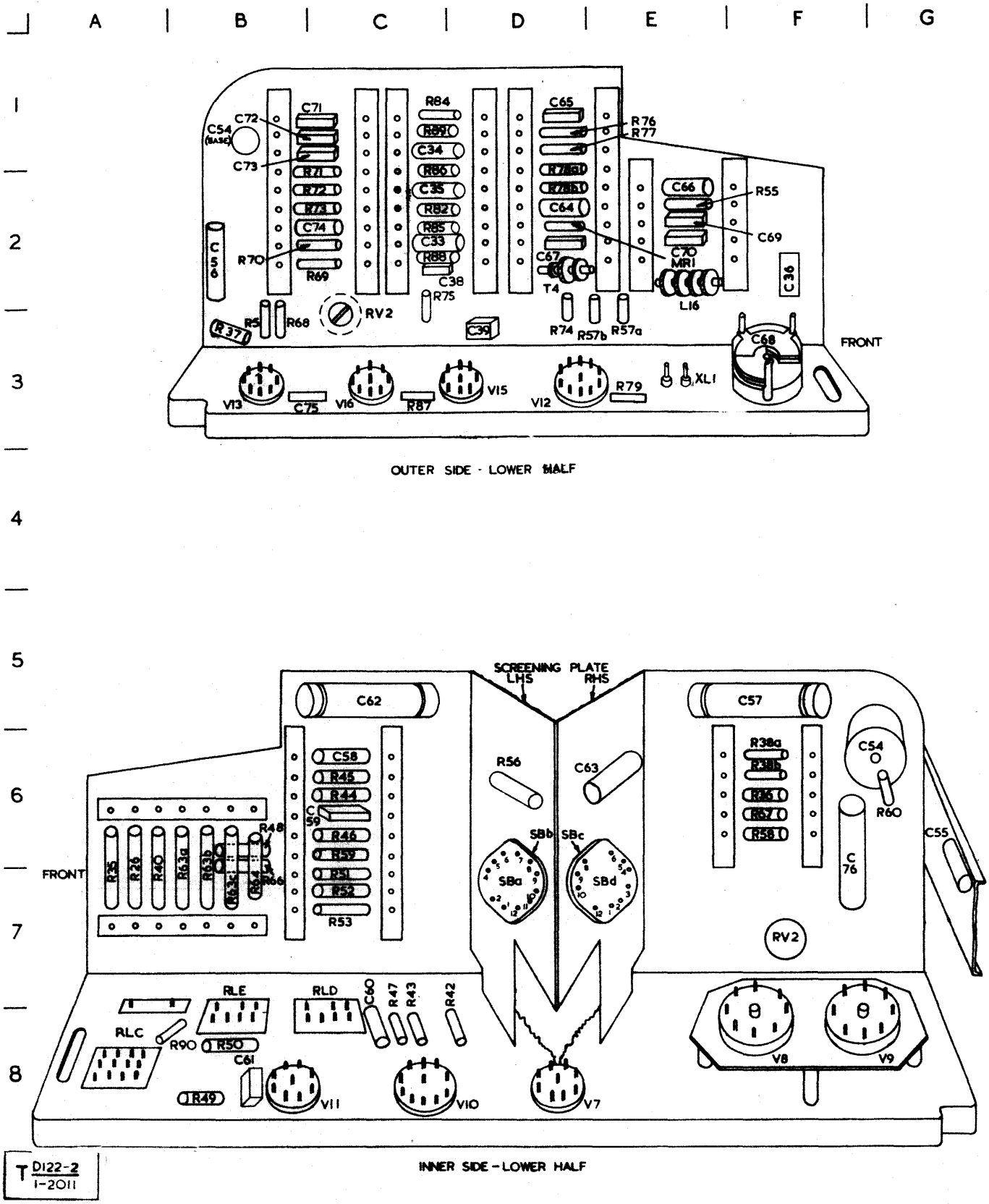

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Fig 2011 - A.F. chassis, component layout

Table 2002 - A.F. chassis, component schedule

Circuit reference	Location of components: Circuit diagram Fig 2003	Location of components: Component layout Fig 2011	Location of components: Component layout Fig 2009	Value	Rating	Type and limit	
			RESISTORS				
R5	Z9	B3		1MΩ	1/2W	carbon ins	10%
R26	Q1	A7		18kΩ	6W	wire wound vitreous	5%
R35	U2	A7		6.8kΩ	6W	wire wound vitreous	5%
R36	Q5	F6		270kΩ	1/2W	carbon grade 1	2%
R37	S5	B3		1MΩ	1/2W	carbon ins	10%
R38a	Q3	F6		1MΩ	1/2W	carbon grade 1	2%
R38b	Q4	F6		1MΩ	1/2W	carbon grade 1	2%
R39	T2		F3	47Ω	1/2W	carbon ins	10%
R40	BB1	A7		6.8kΩ	6W	wire wound vitreous	5%
R41	T4		F2	47Ω	1/2W	carbon ins	10%
R42	V5	D8		470kΩ	3/4W	carbon ins	10%
R43	V5	C8		1kΩ	1/2W	carbon ins	10%
R44	W3	C6		470kΩ	3/4W	carbon ins	10%
R45	X3	C6		100kΩ	3/4W	carbon ins	10%
R46	Y4	C6		470kΩ	3/4W	carbon ins	10%
R47	X5	C8		1kΩ	1/2W	carbon ins	10%
R48	Y5	B6		27kΩ	3/4W	carbon ins	10%
R49	Z5	B8		27kΩ	3/4W	carbon ins	10%
R50	Z5	B8		1kΩ	1/2W	carbon ins	10%
R51	Z3	C7		47kΩ	1/2W	carbon ins	10%
R52	AA3	C7		15kΩ	3/4W	carbon ins	10%
R53	AA3	C7		47kΩ	1/2W	carbon ins	10%
R54	AA4		F6	100kΩ	3/4W	carbon ins	10%
R55	AA6	E2		27kΩ	3/4W	carbon ins	10%
R56	Z6	D6		470kΩ	3/4W	carbon ins	10%
R57	E3 (Fig 2004)			33Ω	3W	wire wound vitreous	5%
R58	F2 (Fig 2004)	F6		56Ω	3/4W	carbon ins	10%
R59	P5	C6		1MΩ	1/2W	carbon grade 1	2%
R60	D7 (Fig 2005)	G6		180Ω	1/2W	carbon ins	10%
R63a	Q6	B7		3.3kΩ	6W	wire wound vitreous	5%
R63b	Q6	B7		3.3kΩ	6W	wire wound vitreous	5%
R63c	Q6	B7		3.3kΩ	6W	wire wound vitreous	5%
R64	Q7	B7		33Ω	4.1/2W	wire wound vitreous	5%
R65	Q8		G3	56Ω	15W	wire wound vitreous	10%
R66	S6	B7		27kΩ	3/4W	carbon ins	10%
R67	V5	F6		27kΩ	3/4W	carbon ins	10%
R68	Z9	B3		1kΩ	1/2W	carbon ins	10%
R69	Y7	C2		1MΩ	1/2W	carbon ins	10%
R70	Z7	C2		270kΩ	3/4W	carbon ins	10%

Table 2002 - (cont)

Circuit reference	Location of components: Circuit diagram Fig 2003	Location of components: Component layout Fig 2011	Location of components: Component layout Fig 2009	Value	Rating	Type and limit	
RESISTORS - (cont)							
R71	AA8	C2		270kΩ	3/4W	carbon ins	10%
R72	AA8	C2		270kΩ	3/4W	carbon ins	10%
R73	AA8	C2		270kΩ	3/4W	carbon ins	10%
R74	V9	D3		470kΩ	3/4W	carbon ins	10%
R75	C3	C2		100kΩ	3/4W	carbon ins	10%
R76	W8	D1		47kΩ	1/2W	carbon ins	10%
R77	W7	D1		1MΩ	1/2W	carbon ins	10%
R78a	V6	D2		27kΩ	3/4W	carbon ins	10%
R78b	V6	D2		27kΩ	3/4W	carbon ins	10%
R79	T9	E3		1MΩ	1/2W	carbon ins	10%
R82	C1 (Fig 2007)	C2		470kΩ	3/4W	carbon ins	10%
R83	C4 (Fig 2007)		G4	100kΩ	3/4W	carbon ins	10%
R84	C4 (Fig 2007)	C1		1.8kΩ	3/4W	carbon ins	10%
R85	C1 (Fig 2007)	C2		100kΩ	3/4W	carbon ins	10%
R86	D1 (Fig 2007)	C2		15kΩ	3/4W	carbon ins	10%
R87	D2 (Fig 2007)	C3		470kΩ	3/4W	carbon ins	10%
R88	D4 (Fig 2007)	C2		470kΩ	3/4W	carbon ins	10%
R89	E4 (Fig 2007)	C1		180Ω	1/2W	carbon ins	10%
R90	F6 (Fig 2005)	A8		150Ω	1.1/2W	wire wound vitreous	5%
RV2	Q5	F7		100kΩ	1/4W	composition variable	20%
CAPACITORS							
C33	D3 (Fig 2007)	C2		0.01μF	350V	paper tub met case	20%
C34	D2 (Fig 2007)	C1		0.1μF	200V	paper tub met case	25%
C35	B2 (Fig 2007)	C2		0.1μF	200V	paper tub met case	25%
C36	U9 (Fig 2007)	F2		15pF	500V	ceramic tub	10%
C38	B3 (Fig 2007)	C2		470pF	750V	mica metalised Araldite	10%
C39	C3 (Fig 2007)	D3		470pF	750V	mica metalised Araldite	10%
C54	D7 (Fig 2005)	B1 G6		250μF	750V	electrolytic	-20% +50%

Table 2002 - (cont)

Circuit reference	Location of components: Circuit diagram Fig 2003	Component layout Fig 2011	Component layout Fig 2009	Value	Rating	Type and limit
			CAPACITORS - (cont)			
C55	Q5	G6		0.1µF	150V	paper tub met case 25%
C56	T5	B2		1µF	150V	paper tub met case 25%
C57	T3	F5		8µF	350V	electrolylic -20% +50%
C58	W3	C6		0.01µF	500V	paper tub met case 20%
C59	Y4	C6		220pF	750V	mica metalised Araldite 10%
C60	Y4	C8		0.01µF	500V	paper tub met case 20%
C61	AA4	B8		470pF	750V	mica metalised Araldite 10%
C62	AA3	C5		8µF	350V	electrolylic -20% +50%
C63	AA6	E6		0.1µF	150V	paper tub met case 25%
C64	T7	D2		0.01µF	500V	paper tub met case 20%
C65	V8	D1		470pF	750V	mica metalised Araldite 10%
C66	W8	E2		0.01µF	500V	paper tub met case 20%
C67	V8	D2		470pF	750V	mica metalised Araldite 10%
C68	T8	F3		3.3-22pF		variable air spaced
C69	U9	E2		680pF	350V	mica metalised Araldite 5%
C70	U9	E2		0.0015µF	350V	mica metalised Araldite 10%
C71	AA8	C1		0.0015µF	350V	mica metalised Araldite 10%
C72	AA8	C1		0.0015µF	350V	mica metalised Araldite 10%
C73	AA8	C1		0.0015µF	350V	mica metalised Araldite 10%
C74	Z8	C2		0.01µF	500V	paper tub met case 20%
C75	Y8	B3		0.01µF	500V	paper tub met case 20%
C76	U5	F6		0.5µF	150V	paper tub met case 25%
			VALVES			
V7	Q3	D8	F4			CV4007 (140) *
V8	T2	F8	F3			CV2347
V9	T3	F8	F2			CV2347
V10	W4	C8	F4			CV4003 (491) *
V11	AA4	B8	F5			CV4015 (131) *
V12	U8 W8	D3	G5			CV4003 (491) *
V13	Z8	B3	G2			CV4010 (850) *
V15	C3 (Fig 2007)	D3	G4			CV4010 (850) *
V16	E3 (Fig 2007)	C3	G3			CV4010 (850) *
MR1	U7	D2				CV425

Table 2002 - (cont)

Circuit reference	Location of components: Circuit diagram Fig 2003	Location of components: Component layout Fig 2011	Location of components: Component layout Fig 2009	Description
		TRANSFORMERS AND INDUCTORS		
T2	W3		G4	Modulator driver transformer
T3	BB4		F6	Microphone transformer
T4	U7	D2		Crystal calibrator transformer
T5	B3 (Fig 2007)		G4	Intercomm Mic transformer
T6	E2 (Fig 2007)		G3	Intercomm output transformer
L16	U9	E2		Cal osc. cathode choke
		RELAYS		
RLC	D6 (Fig 2005)	A8	F6	Relay, normal duty, miniature, sealed
RLD	B6 (Fig 2005)	C8	F5	Relay, high speed, miniature, sealed
RLE	C6 (Fig 2005)	B8	F6	Relay, high speed, miniatute, sealed
		MISCELLANEOUS		
S-B		D7		Switch, 4-bank, 5-way, rotary
XL1	T8	E3	G6	Crystal, 100kc/s

* The CV number given is the reliable type. The original valve type CV number is shown in brackets.

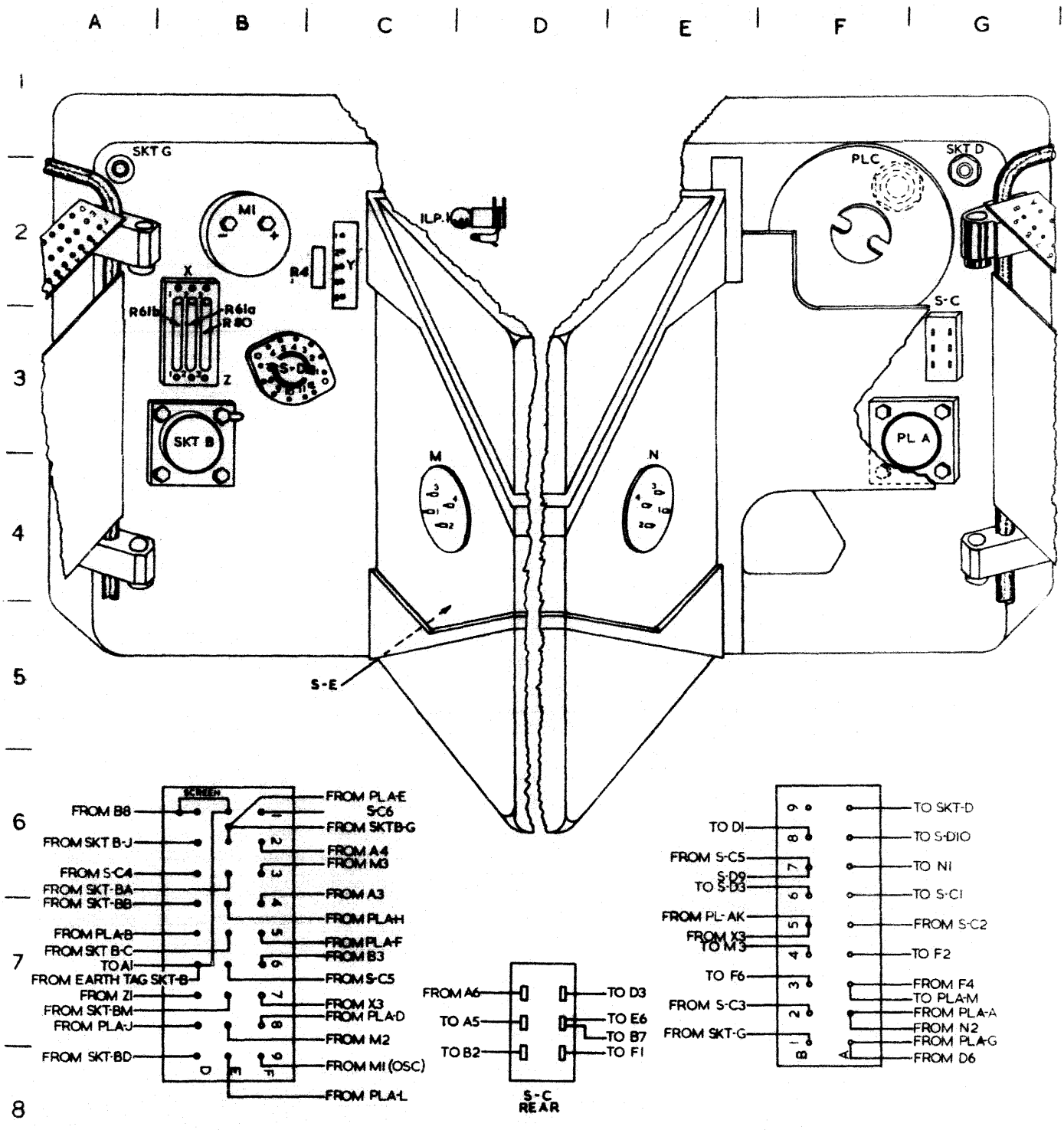

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Fig 2012 - Front panel, component layout and r.f. and a.f. chassis tag panel connections

Table 2003 - Front panel, component schedule

Circuit reference	Location of components: Circuit diagram Fig 2002	Location of components: Circuit diagram Fig 2003	Location of components: Component layout Fig 2012	Value	Rating	Type and limit
RESISTORS						
R4	J7		B3	68Ω	4.1/2W	wire wound vitreous 5%
R61a	L7		A4	1MΩ	1/2W	carbon grade 1 2%
R61b	L7		A4	1MΩ	1/2W	carbon grade 1 2%
R80	H7		B4	100kΩ	1/4W	carbon grade 1 2%

Circuit reference	Location of components: Circuit diagram Fig 2002	Location of components: Circuit diagram Fig 2003	Location of components: Component layout Fig 2012	Description
SWITCHES				
S-C	K2	P8	G4	Switch, toggle, d.p.d.t., 250V, 3A, (HIGH/LOW POWER)
S-D	K7	L7	B4	Switch, rotary, 2-pole, 4-position (METERING)
S-E	H7		C5	Switch, special (LOCK)
PLUGS AND SOCKETS				
SKT B			A4	Sockets, 12-way, Mk 4
SKT D	02		G3	Socket, fixed, coaxial, sealed, BNC (REC. AE)
SKT G	E7		A3	Socket, fixed, coaxial, sealed, BNC, (C.F.S.)
PLA			F4	Plug, 12-way, Mk 4
PLC	N2		F3	Plug, Burndept, pattern 4, coaxial, (AERIAL)
MISCELLANEOUS				
ILPI	H7		C3	Dial lamp, 12V, 3.6W
MI	K8		B3	Meter, sealed, 1.1/2 in., 0-500μA

Table 2004 - Interconnections between front panel and r.f. and a.f. chassis

Front panel connection	Use	Chassis connection	Lead colour code
SKTB - A	Sender microphone input	E3	Blue sleeve
- B	Microphone common earth	D4	Braiding A and C
- C	Intercomm amplifier microphone input	E5	Green sleeve
- D	Send/receive line	D9	Violet/slate
- E	Blank	-	
- F	+24V d.c.	X3, Y4	Brown/orange
- G	Phones common earth	E2	Violet/black
- H	Blank	-	
- J	Intercomm amplifier phones	D2	Violet/green
- K	Blank	-	
- L	Blank	-	
- M	Sender phones	E7	Violet/white
PLA - A	530V +ve	A2, D7	Red
- B	530V -ve	D5	Blue/white
- C)	+300V stabilised	F8	Red/blue
- D)			
- E	Phone, earth	E2	Blue/brown
- F	6.3V intercomm amplifier heaters	F5	Brown
- G	Earth	A1, D6	Black
- H	+175V intercomm amplifier h.t.	E4	Red/white
- J	Receiver phones	D8	Blue/violet
- K	+24V	F7	Brown/orange
- L	Rotary transformer starting relay	E9	Violet/brown
- M	19V sender heaters	A3, F4	Brown/white

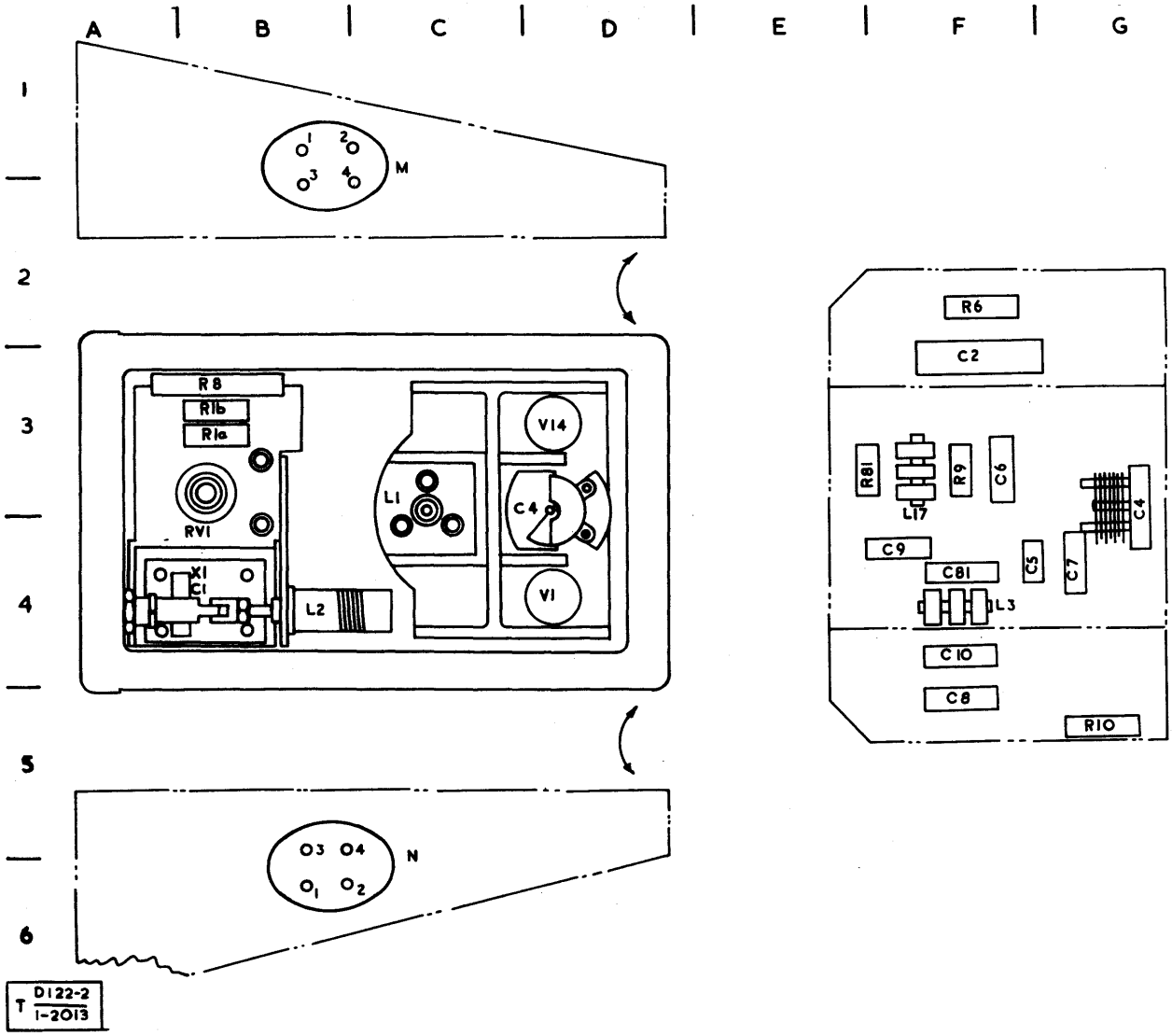

Fig 2013 - M.O. unit, component layout

Table 2005 - M.O. unit, component schedule

Circuit reference	Location of components: Circuit diagram	Location of components: Component layout		Value	Rating	Type and limit	
	Fig 2002	Fig 2013	Fig 2009				
RESISTORS							
R1a	D7	B3		100kΩ	3/4W	carbon ins	10%
R1b	D7	B3		100kΩ	3/4W	carbon ins	10%
R6	D6	F3		1MΩ	1/2W	carbon ins	10%
R8	B6	B3		10kΩ	4.1/2W	wire wound vitreous	5%

Table 2005 - (cont)

Circuit reference	Location of components: Circuit diagram Fig 2002	Location of components: Component layout Fig 2013	Location of components: Component layout Fig 2009	Value	Rating	Type and limit
RESISTORS - (cont)						
R9	B7	F3		1.8kΩ	3/4W	carbon ins 10%
R10	C8	G5		47kΩ	1/2W	carbon ins 10%
R81	C6	E3		100Ω	1/2W	carbon ins 10%
RV1	D9	B3		1MΩ	1/4W	composition variable 20%
CAPACITORS						
C1	D9	B4		0.01μF	200V	paper tub met case 20%
C2	C6	F2		0.01μF	500V	paper tub met case 20%
C3	C8		D5	19-340pF		variable precision Mullard VC102
C4	C8	D3		3-25pF		variable
C5	C8	F4		6.8pF		Erie type N750A ±0.5pF
C6	C7	F3		0.01μF	350V	paper tub met case 20%
C7	C8	G4		47pF		Leyland type N047 ±2pF
C8	B8	F5		220pF	750V	mica metalised 2%
C9	B7	F4		470pF	750V	mica metalised 10%
C10	B9	F4		220pF	750V	mica metalised 2%
C81	F3 (Fig 2004)	F4		0.01μF	200V	paper tub met case 20%

Circuit reference	Location of components: Circuit diagram Fig 2002	Location of components: Component layout Fig 2013	Location of components: Component layout Fig 2009	Description
INDUCTORS				
L1	C8	C3		M.O. tuning inductor
L2	C8	C4		CALIBRATE inductor
L3	B9	F4		Cathode choke
L17	F3 (Fig 2004)	F3		Heater choke
VALVES				
V1	B8	D4	D4	CV4010 (850)
V14	C7	D3	E4	CV287

Table 2005 - (cont)

Circuit reference	Location of components			Description
	Circuit diagram	Component layout		
	Fig 2002	Fig 2013	Fig 2009	
		MISCELLANEOUS		
X1	C8	B4		Ferrite reactor
M		B1		Panel, 4-pin
N		B6		Panel, 4-pin

Table 2006 - Ventilator unit, component schedule

Circuit reference	Location of components		Value	Rating	Type and limit
	Circuit diagram	Component layout			
	Fig 2003	Fig 2014			
		RESISTORS AND CAPACITORS			
R3Ca	R2	D3	10kΩ	6W	wire wound vitreous 5%
R30b	R2	D3	10kΩ	6W	wire wound vitreous 5%
C44	G7 (Fig 2005)	B8	0.001μF	500V	ceramic disc +100% - 0

Circuit reference	Location of components		Description
	Circuit diagram	Component layout	
	Fig 2003	Fig 2014	
	INDUCTORS AND TRANSFORMERS		
L20	G6 (Fig 2005)	E8	R.F. choke
T1	S3	F4	Modulation transformer
	MISCELLANEOUS		
SKTE	R2	B5	Socket, 3 mm, single
SKTF	R2	B5	Socket, 4 mm, single
X2	G7 (Fig 2005)	E2	Axial flow blower

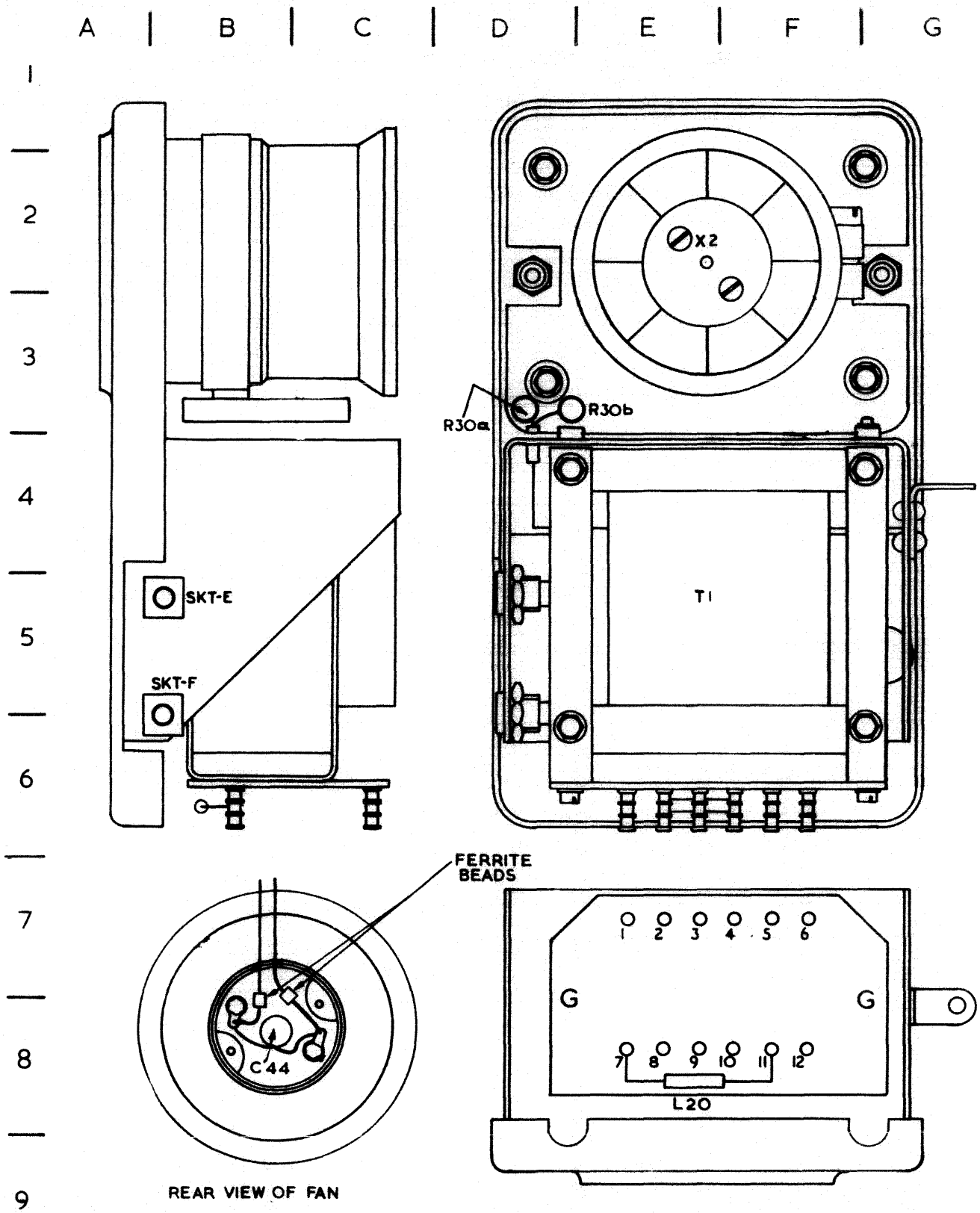

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Fig 2014 - Ventilator unit, component layout

Table 2007 - Voltage readings from tag panels

Note: All voltages measured to chassis using an Avo model 8 with the sender on high power, 8-16Mc/s, with input volts adjusted to give +500V h.t.

Tag	C.W. (key up) Volts	VOICE/CFS Volts	SENDER ON Volts	INT. CAL. Volts	ADJ. TO REC. Volts
A1	0	0	0	0	0
A2	500	0	500	500	500
A3	19	19	19	19	19
A4	12.6	12.6	12.6	12.6	12.6
A5	500	0	480	500	500
A6	500	0	480	500	500
A7	3	0	3	3	3
A8	0	0	8	0	0
A9	0	0	0	0	0
B1	0	0	0	0	0
B2	500	0	500	500	500
B3	25	25	0	0	0
B4	6.3	6.3	6.3	6.3	6.3
B5	25	25	25	25	25
B6	-100	0	0	-100	-100
B7	-100	0	0	-100	-100
B8	0	0	0	15.5	0
B9			unused		
D1	0	0	0	15.5	0
D2	0	0	0	0	0
D3	-100	0	0	-100	-100
D4	0	0	0	0	0
D5	-110	0	-30	-110	-110
D6	0	0	0	0	0
D7	500	0	500	500	500
D8	0	0	0	0	0
D9	25	25	0	0	0
E1	0	0	0	0	0
E2	0	0	0	0	0
E3	0	0	0	0	0
E4	175	175	175	175	175
E5	0	0	0	0	0
E6	-100	0	0	-100	-100
E7	0	0	0	0	0
E8	150	0	150	150	150
E9	0	25	0	0	0
F1	0	40	40	0	0
F2	12.6	12.6	12.6	12.6	12.6
F3	6.3	6.3	6.3	6.3	6.3
F4	19	19	19	19	19

Table 2007 - (cont)

Tag	C.W. (key up) Volts	VOICE/CFS Volts	SENDER ON Volts	INT. CAL. Volts	ADJ. TO REC. Volts
F5	6.3	6.3	6.3	6.3	6.3
F6	27	27	0	0	0
F7	27	27	25	25	25
F8	300	0	300	300	300
F9	0	0	127	127	127
G1	0	0	500	0	0
G2	0	0	500	0	0
G3	0	0	0	0	0
G4	0	0	500	0	0
G5	500	0	500	500	500
G6	500	0	480	500	500
G7	10	10	25	25	25
G8			unused		
G9	0	0	0	0	0
G10	0	0	0	0	0
G11	10	10	25	25	25
G12	0	0	0	0	0

Table 2008 - Resistance readings from tag panels

Note: All readings measured to chassis with the Sender on high power, 8-16Mc/s.

Tag	C.W.	VOICE/CFS	SENDER ON	INT. CAL.	ADJ. TO REC.
A1	0	0	0	0	0
A2	21kΩ	20kΩ	20kΩ	21kΩ	21kΩ
A3	1.4Ω	1.4Ω	1.4Ω	1.4Ω	1.4Ω
A4	1.2Ω	1.2Ω	1.2Ω	1.2Ω	1.2Ω
A5	21kΩ	20kΩ	20kΩ	21kΩ	21kΩ
A6	21kΩ	20kΩ	20kΩ	21kΩ	21kΩ
A7	30kΩ	30kΩ	30kΩ	30kΩ	30kΩ
A8	27kΩ	27kΩ	27kΩ	27kΩ	27kΩ
A9	∞	∞	∞	∞	∞
B1	53kΩ	53kΩ	53kΩ	53kΩ	53kΩ
B2	26kΩ	26kΩ	26kΩ	26kΩ	26kΩ
B3	750Ω	750Ω	750Ω	0	0
B4	0.7Ω	0.7Ω	0.7Ω	0.7Ω	0.7Ω
B5	54Ω	54Ω	48Ω	47Ω	47Ω
B6	1120Ω	1100Ω	1100Ω	1100Ω	1100Ω
B7	1120Ω	1100Ω	1100Ω	1100Ω	1100Ω
B8	∞	∞	∞	∞	∞
B9			unused		

Table 2008 - (cont)

Tag	C.W.	VOICE/CFS	SENDER ON	INT. CAL.	ADJ. TO REC.
D1	∞	∞	∞	∞	∞
D2	∞	∞	∞	∞	∞
D3	1120Ω	1100Ω	1100Ω	1100Ω	1100Ω
D4	∞	∞	∞	∞	∞
D5	1.2kΩ	1.18kΩ	1.18kΩ	1.18kΩ	1.18kΩ
D6	0	0	0	0	0
D7	21kΩ	20kΩ	20kΩ	21kΩ	21kΩ
D8	∞	∞	∞	∞	∞
D9	570Ω	570Ω	0	0	0
E1	0	0	0	0	0
E2	∞	∞	∞	∞	∞
E3	∞	∞	∞	∞	∞
E4	∞	∞	∞	∞	∞
E5	∞	∞	∞	∞	∞
E6	1120Ω	1100Ω	1100Ω	1100Ω	1100Ω
E7	∞	∞	∞	∞	∞
E8	7.2kΩ	7.2kΩ	7.2kΩ	7.2kΩ	7.2kΩ
E9	0	750Ω	750Ω	0	0
F1	1.3MΩ	1.3MΩ	1.3MΩ	1.3MΩ	1.3MΩ
F2	1.2Ω	1.2Ω	1.2Ω	1.2Ω	1.2Ω
F3	0.7Ω	0.7Ω	0.7Ω	0.7Ω	0.7Ω
F4	1.4Ω	1.4Ω	1.4Ω	1.4Ω	1.4Ω
F5	2.7Ω	2.7Ω	2.7Ω	2.7Ω	2.7Ω
F6	750Ω	750Ω	750Ω	0	0
F7	54Ω	54Ω	48Ω	47Ω	47Ω
F8	25kΩ	23kΩ	23kΩ	25kΩ	25kΩ
F9	0	0	0	0	0
G1	1MΩ	20kΩ	20kΩ	1MΩ	1MΩ
G2	1MΩ	20kΩ	20kΩ	1MΩ	1MΩ
G3	0	0	0	0	0
G4	1MΩ	20kΩ	20kΩ	1MΩ	1MΩ
G5	21kΩ	20kΩ	20kΩ	21kΩ	21kΩ
G6	21kΩ	20kΩ	20kΩ	21kΩ	21kΩ
G7	20Ω	20Ω	20Ω	20Ω	20Ω
G8			unused		
G9	1MΩ	1MΩ	1MΩ	1MΩ	1MΩ
G10	1MΩ	1MΩ	1MΩ	1MΩ	1MΩ
G11	21Ω	21Ω	21Ω	21Ω	21Ω
G12	1MΩ	1MΩ	1MΩ	1MΩ	1MΩ

Table 2009 - D.C. resistance readings of transformer windings

From	To	Resistance
Modulation transformer T1		
G1	G2	182Ω
G2	G4	182Ω
G5	G6	68Ω (0Ω on C.W.)
G9	G10	31Ω
G10	G12	31Ω
Driver transformer T2		
1	2	320Ω
2	3	320Ω
5	6	2.9Ω
7	8	900Ω
Microphone transformers T3 and T5		
1	2	30Ω
3	4	1250Ω
Intercomm phone output transformer		
1	2	750Ω
3	4	3Ω
Note: These resistance values have a tolerance of ±10%		

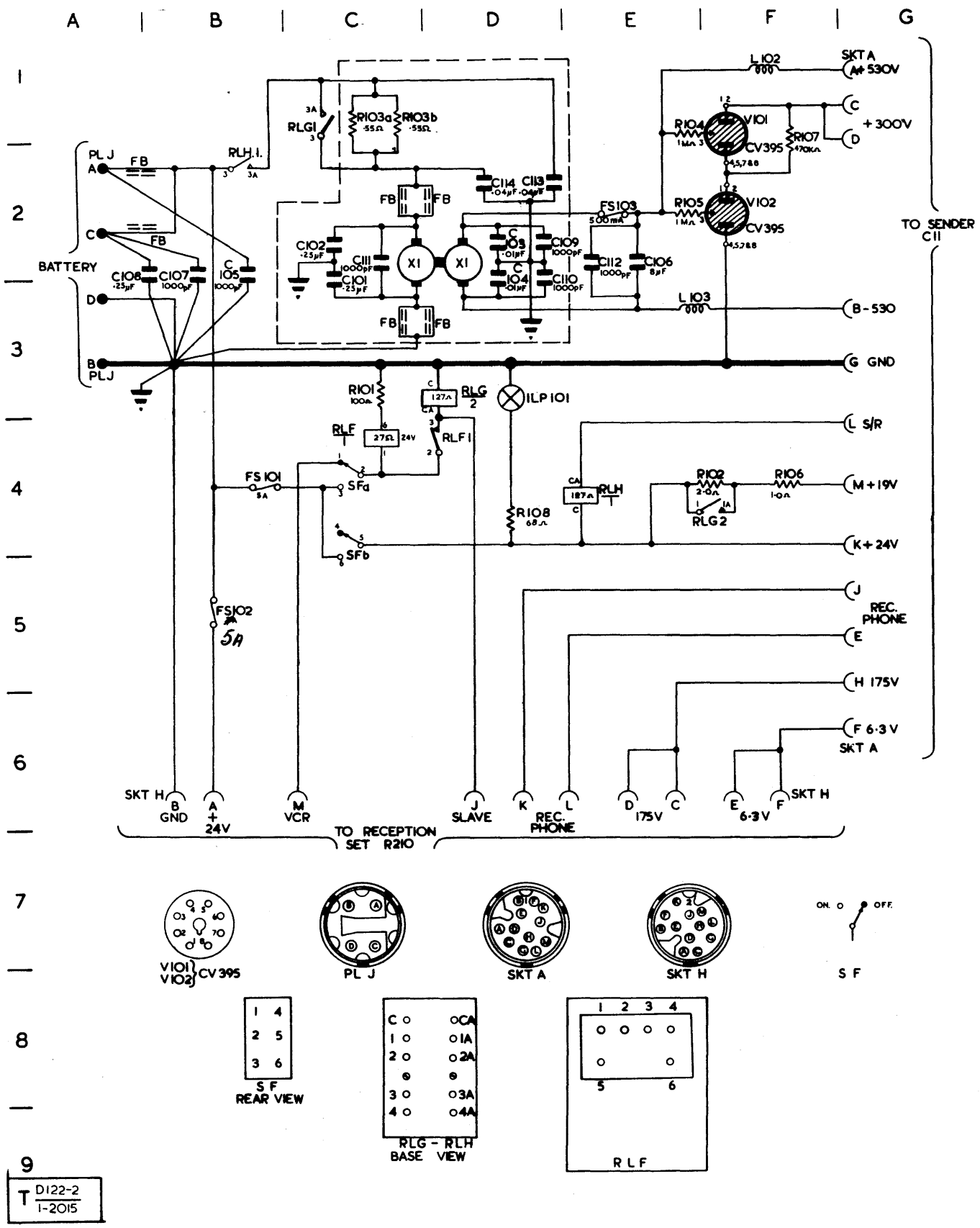

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Fig 2015 - Supply unit transformer, rotary 24V circuit diagram

Note: This Page 1030a, Issue 2 supersedes Page 1030a Issue 1 dated Aug 73.

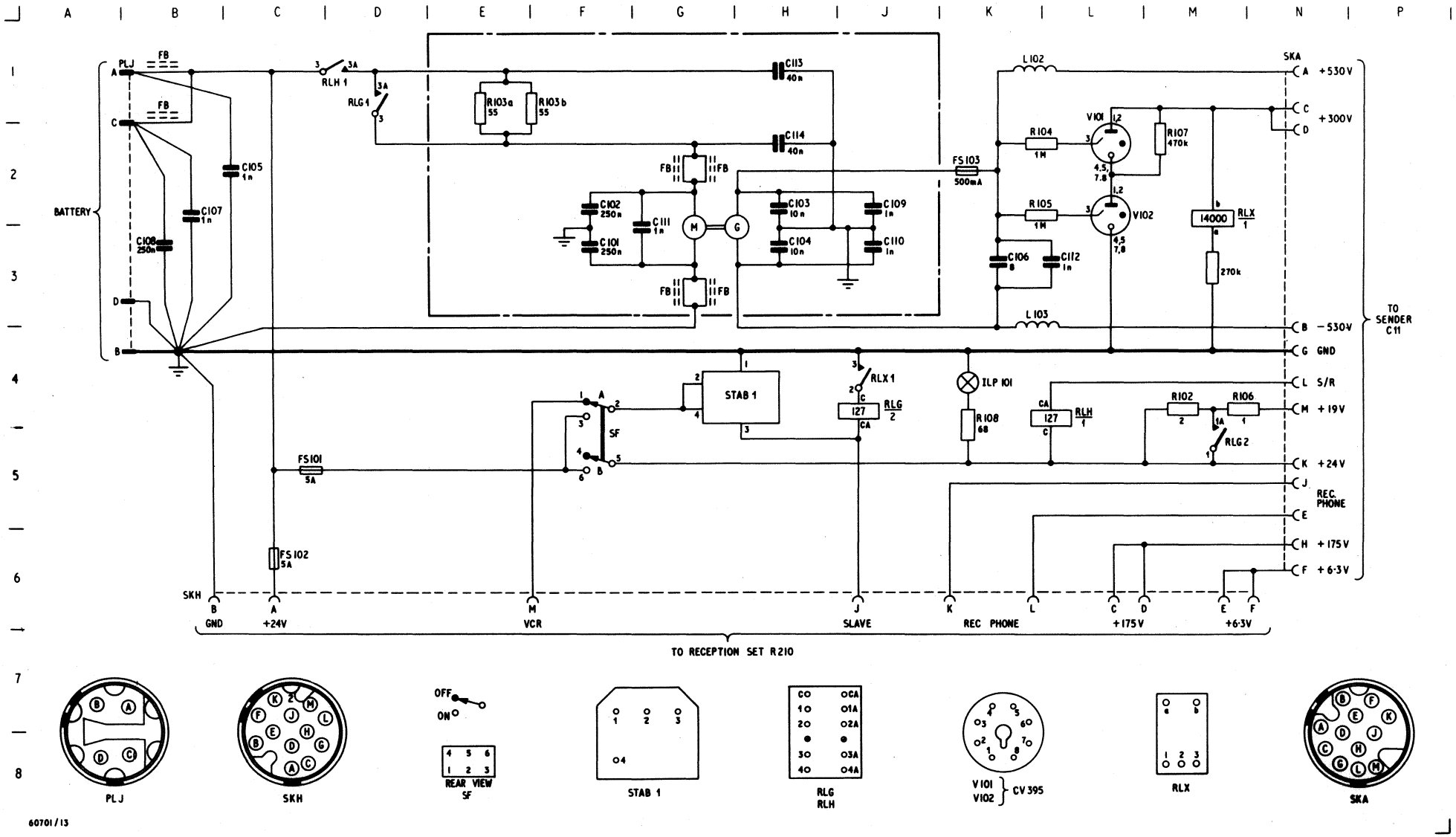


Fig 2015a - Supply unit, transformer, 24V, circuit diagram after embodiment of Mod Instr No 8 and No 16

Table 2010 - Supply unit, transformer, rotary, 24V component schedule

Circuit reference	Location of components: Circuit diagram Fig 2009	Location of components: Component layout Fig 2016	Value	Rating	Type and limit	
			RESISTORS			
R101	C3	D4	100Ω	4.1/2W	wire wound vitreous	5%
R102	F4	D2 D3	2Ω	15W	wire wound vitreous	10%
R103a	C2	M6	0.55Ω	64W	wire wound (special)	
R103b	D2	N6	0.55Ω	64W	wire wound (special)	
R104	E1	D1	1MΩ	1/2W	carbon ins	10%
R105	E2	E2	1MΩ	1/2W	carbon ins	10%
R106	F4	C2 C3	1Ω	15W	wire wound vitreous	
R107	F1	D1	470kΩ	3/4W	carbon ins	10%
R108	D4	F6	68Ω	4.1/2W	wire wound vitreous	5%
			CAPACITORS			
C101	C2	C7	0.25μF	150V	paper tub met case	20%
C102	C2	C7	0.25μF	150V	paper tub met case	20%
C103	D2	J7	0.01μF	2000V	ceramic disc	20%
C104	D2	J7	0.01μF	2000V	ceramic disc	20%
C105	B2	N3	1000pF	500V	silvered ceramic hi K disc	20%
C106	E2	G3	8μF	600V	paper rect met case	20%
C107	B2	N4	1000pF	500V	silvered ceramic hi K disc	20%
C108	A2	M4	0.25μF	150V	paper tub met case	20%
C109	D2	K7	1000pF	500V	silvered ceramic hi K disc	20%
C110	D2	K7	1000pF	500V	silvered ceramic hi K disc	20%
C111	C2	E7	1000pF	500V	silvered ceramic hi K disc	20%
C112	E2	G2	1000pF	500V	silvered ceramic hi K disc	20%
C113	D2	N7	0.04μF	150V	paper tub met case	20%
C114	D2	N6	0.04μF	150V	paper tub met case	20%

Circuit reference	Location of components: Circuit diagram Fig 2009	Location of components: Component layout Fig 2016	Description
		INDUCTORS	
L102	F1	B2	R.F. choke
L103	E3	C3	R.F. choke

Table 2010 - (cont)

Circuit reference	Location of components		Description
	Circuit diagram Fig 2015	Component layout Fig 2016	
		VALVES	
V101	F1	F8	CV395 stabiliser
V102	F2	H8	CV395 stabiliser
		MISCELLANEOUS	
FS101	B4	K2	Fuse, cartridge type, 5A
FS102	B5	L2	Fuse, cartridge type, 2A
FS103	E2	N2	Fuse, cartridge type, 500mA
RL F	C4	E4	Relay, sealed, No 1, voltage control
RL G	D4	J8	Relay, sealed, heavy duty
RL H	E4	E2 E3	Relay, sealed, heavy duty
SKT-A	G1-G6	L3	Socket, 12-way, Mk 4 (SENDER)
SKT-H	A6-G6	K3	Socket, 12-way, Mk 4 (RECEIVER)
PL-J	A2-A3	N3	Plug, 2-way, Mk 4 (BATTERY)
S-F	C4	L2	Switch, toggle, double pole, changeover, 250V, 3A
ILP101	D3	M2	Lamp, 12V, 3.6W
X1	D2	E7-K7	Transformer, rotary, input 24V, output 530V

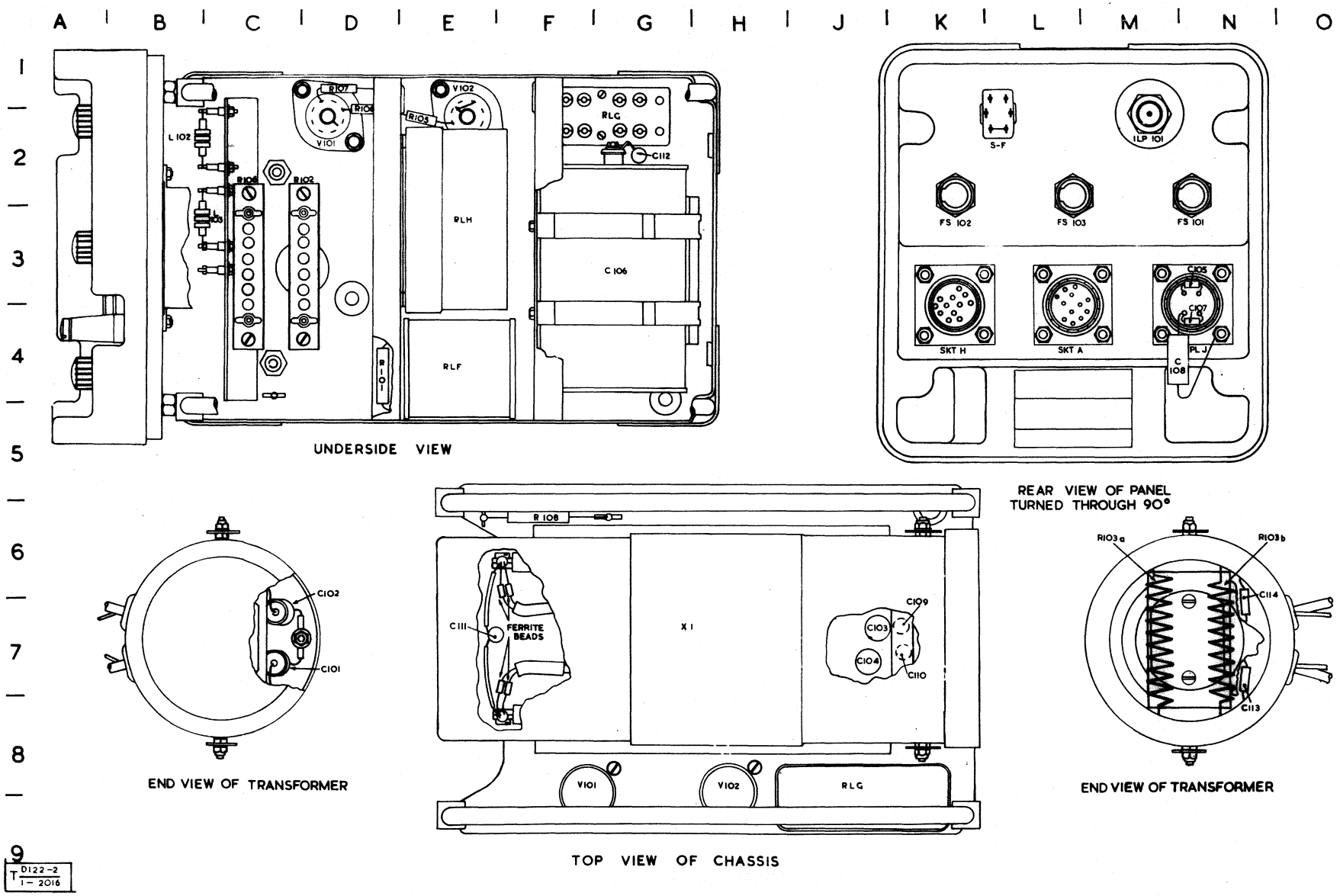
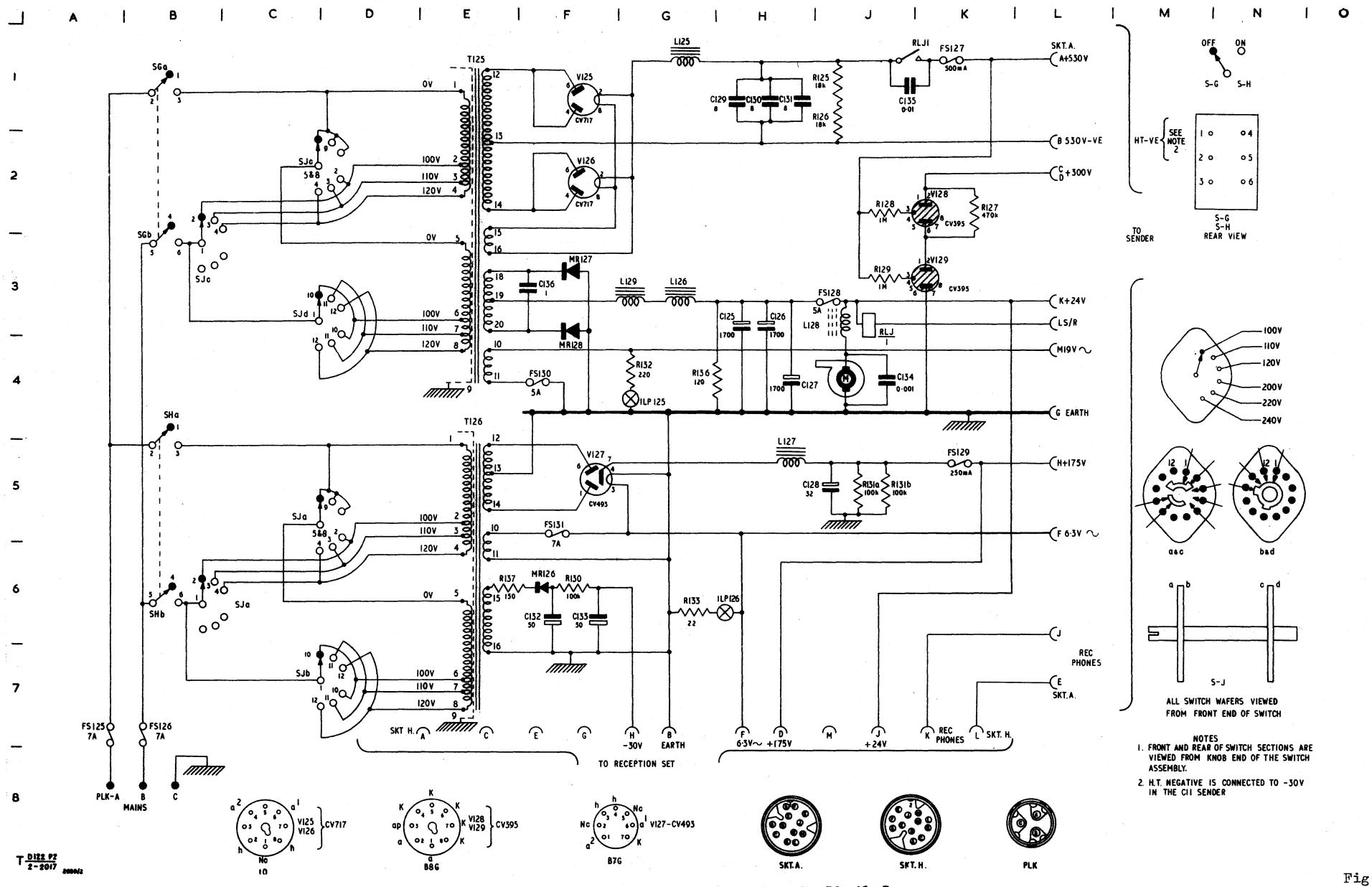


Fig 2016 - Supply unit, transformer, rotary, 24V, component layout

Note: These Pages 1034-1035, Issue 2, supersede Pages 1034-1035, Issue 1, Fig 2017 and Table 2011 now apply to the SUR No 30, Mk 3.



NOTES
1. FRONT AND REAR OF SWITCH SECTIONS ARE VIEWED FROM KNOB END OF THE SWITCH ASSEMBLY.
2. H.T. NEGATIVE IS CONNECTED TO -30V IN THE C11 SENDER

Fig 2017 - Supply unit, rectifier, No 30, Mk 3

Table 2011 - Supply unit, rectifier, No 30, Mk 3, component schedule

Cct. ref.	Component location: Cct. diag. Fig 2017	Component location: Component layout Fig 2018	Value (Ω)	Tol. (±%)	Rating (W)	Type	Part No
			RESISTORS				
R 125	J1	B3	18k	5	6	w.w. vit.	5905-99-011-3427
R 126	J2	B3	18k	5	6	w.w. vit.	5905-99-011-3427
R 127	K2	L4	470k	10	0.5	carbon ins.	5905-99-022-3123
R 128	J2	L5	1M	10	0.25	carbon ins.	5905-99-022-3164
R 129	J3	L5	1M	10	0.25	carbon ins.	5905-99-022-3164
R 130	F6	C2	100k	10	0.5	carbon ins.	5905-99-022-3039
R 131a	J5	B3	100k	10	0.5	carbon ins.	5905-99-022-3039
R 131b	J5	B3	100k	10	0.5	carbon ins.	5905-99-022-3039
R 132	G4	B3	220	5	4.5	w.w. vit.	5905-99-011-3471
R 133	G6	J1	22	10	0.25	carbon	5905-99-022-1026
R 136	H4	N3	120	5	12	w.w.	5905-99-011-3375
R 137	E6	F2	150	10	0.25	carbon	5905-99-022-1131
Cct. ref.	Component location: Cct. diag Fig 2017	Component location: Component layout Fig 2018	Value (µF)	Tol. (%)	Rating (V)	Type	Part No
			CAPACITORS				
C 125	H3	E3	1700	-20 +100	50	elect. AL	Z1/5910-99-103-7829
C 126	H3	D3	1700	-20 +100	50	elect. AL	Z1/5910-99-103-7829
C 127	H4	E3	1700	-20 +100	50	elect. AL	Z1/5910-99-103-7829
C 128	J5	C4	32	-20 +50	450	elect. AL	5910-99-014-5511
C 129	H1	C6	8	±20	800	paper	5910-99-011-2629
C 130	H1	D6	8	±20	800	paper	5910-99-011-2629
C 131	H1	F6	8	±20	800	paper	5910-99-011-2629
C 132	F6	F3	50		50	elect. AL	5910-99-012-4907
C 133	F6	C3	50		50	elect. AL	5910-99-012-4907
C 134	J4	L6	0.001	±100 -0	500	ceramic	Z1/5910-99-900-5202
C 135	J1	B4	0.01	±20	500	paper	5910-99-011-5546
C 136	F3	F4	1		150	paper	5910-99-011-5569

Note: These Pages 1036-1037, Issue 2, supersede Pages 1036-1037, Issue 1. Fig 2017a is additional and Table 2011 (cont) and Fig 2018 now apply to the SUR No 30, Mk 3.

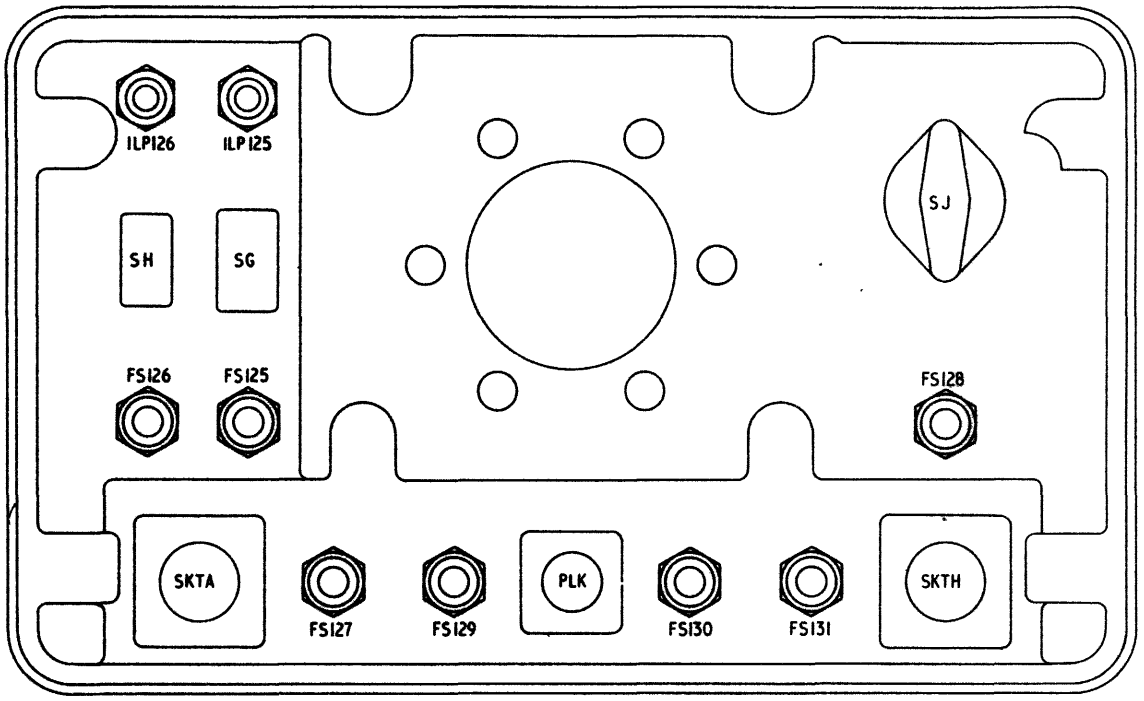


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Fig 2017a - Supply unit, rectifier, No 3, Mk 3, front panel layout

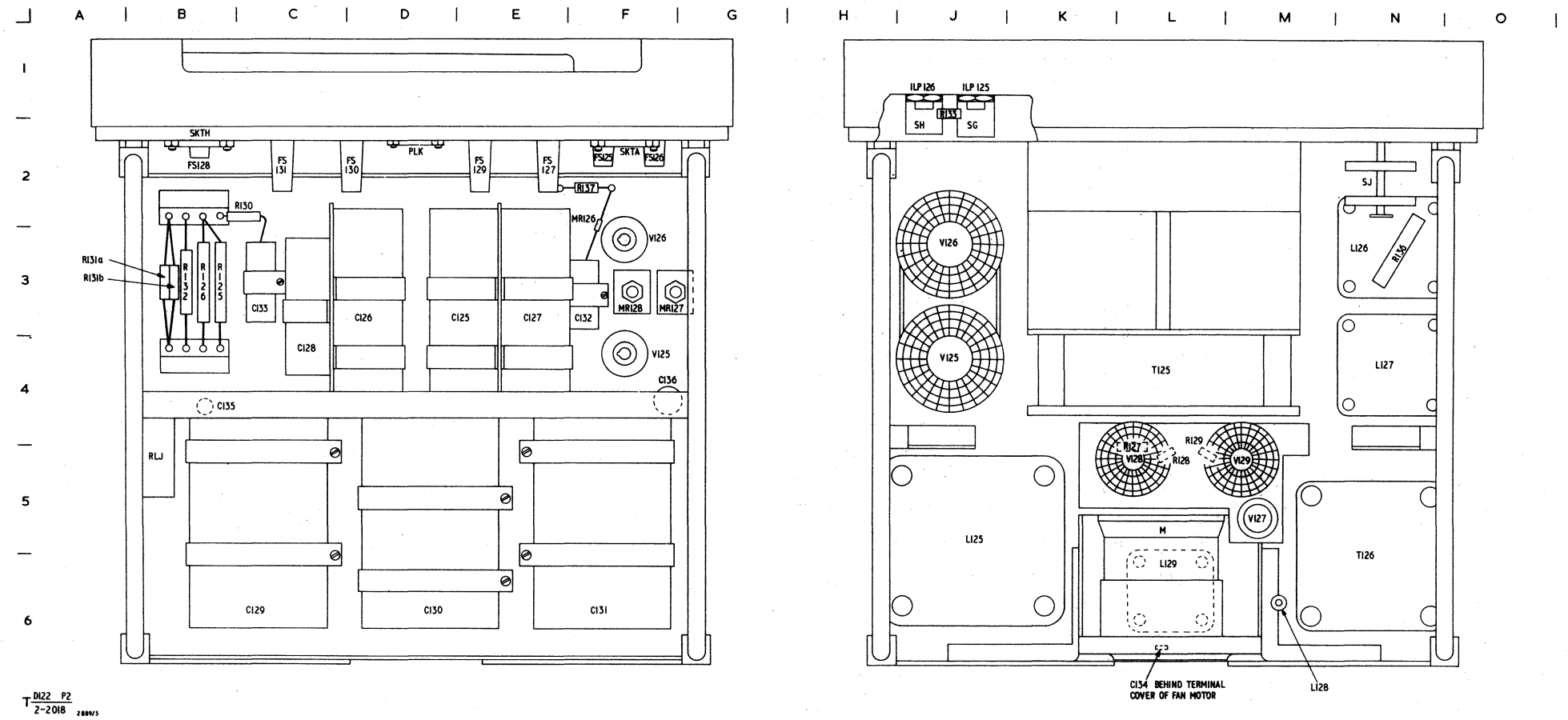

Fig 2018 - Supply unit, rectifier, No 30, Mk 3, component layout

Table 2011 - (cont)

Cct. ref.	Component location: Cct. diag. Fig 2017	Component location: Component layout Fig 2018	Description	Part No
			TRANSFORMERS AND INDUCTORS	
T125	E1-4	L4	Transformer, power	5950-99-103-4147
T126	E5-7	N6	Transformer, power	5950-99-949-3677
L125	G1	J5	Inductor, audio frequency	5950-99-949-3688
L126	G3	N3	Inductor, audio frequency	5950-99-103-4148
L127	H5	N4	Inductor, audio frequency	5950-99-949-3684
L128	J3	M6	Inductor, audio frequency	5950-99-949-3690
L129	G3	L6	Inductor, audio frequency	5950-99-103-4148
			VALVES	
V125	F1	J4	Valve, electronic CV717	Z/5960-99-000-0717
V126	F2	J3	Valve, electronic CV717	Z/5960-99-000-0717
V127	F5	M5	Valve, electronic CV493	Z/5960-99-000-0493
V128	K2	L5	Valve, electronic CV395	Z/5960-99-000-0395
V129	K3	M5	Valve, electronic CV395	Z/5960-99-000-0395
			SEMI-CONDUCTORS	
MR126	F6	F2	Valve, electronic CV7040	Z/5960-99-037-2016
MR127	F3	G3	Valve, electronic CV8553	Z/5960-99-037-3783
MR128	F3	F3	Valve, electronic CV8553	Z/5960-99-037-3783
			MISCELLANEOUS	
ILP125	G4	J1	Lamp, m.e.s., 6V, 0.35W	X5/6240-99-995-1112
ILP126	G6	J1	Lamp, m.e.s., 6V, 0.35W	X5/6240-99-995-1112
RLJ	J3	B5	Relay, sealed, type SM5A-H19	5945-99-011-9886
SG	B1-3	J2	Switch, toggle, d.p.d.t 250V, 3A	5930-99-051-0554
SH	B4-6	J2	Switch, toggle, d.p.d.t 250V, 3A	5930-99-051-0554
SJ	D2-7	N2	Switch, rotary, 6 position	Z1/5820-99-949-3669
PLK	A8-B8	D2	Plug, elect. fixed, 3-pole	5935-99-940-8978
SKTA	L1-L7	F2	Socket, elect. fixed, 12-pole	5935-99-900-2959
SKTH	E7-K7	B2	Socket, elect. fixed, 12-pole	Z1/5935-99-940-9968
M	J4	L5	Motor, blower, 24V	Z1/6105-99-949-3701
FS125	A7	F2	Fuse link, 7A	X2/5920-99-059-0113
FS126	B7	F2	Fuse link, 7A	X2/5920-99-059-0113
FS127	K1	E2	Fuse link, 500mA	X2/5920-99-059-0108
FS128	J3	B2	Fuse link, 5A	X2/5920-99-059-0112
FS129	K5	E2	Fuse link, 250mA	X2/5920-99-059-0107
FS130	F4	D2	Fuse link, 5A	X2/5920-99-059-0112
FS131	F5	C2	Fuse link, 7A	X2/5920-99-059-0113

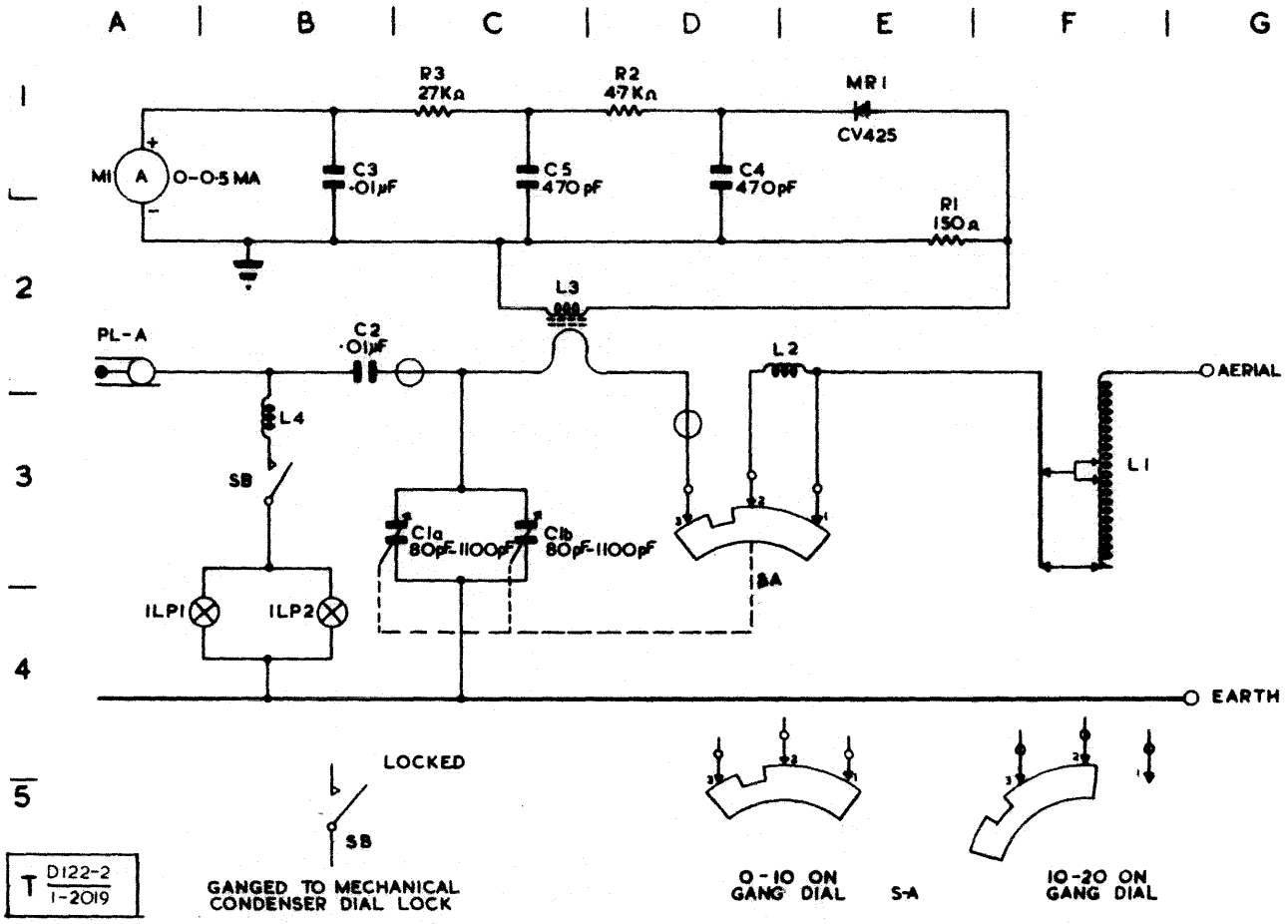

Fig 2019 - Aerial tuning unit No 7, circuit diagram

Table 2012 - Aerial tuning unit No 7, component schedule

Circuit reference	Location of components: Circuit diagram Fig 2019	Location of components: Component layout Fig 2020	Value	Rating	Type and limit	
			RESISTORS			
R1	E2	C3	150Ω	3/4W	carbon ins	10%
R2	D1	D3	4.7kΩ	3/4W	carbon ins	10%
R3	C1	D3	27kΩ	3/4W	carbon ins	10%
			CAPACITORS			
C1	C3	D3-4	80-1100pF		twin ganged variable	
C2	B2	B3	0.01μF	500V	paper tub met case	20%
C3	B1	D2	0.01μF	200V	paper tub met case	20%
C4	D1	D3	470pF	750V	mica metalised	10%
C5	C1	D3	470pF	750V	mica metalised	10%

Table 2012 - (cont)

Circuit reference	Location of components		Description
	Circuit diagram Fig 2019	Component layout Fig 2020	
		INDUCTORS	
L1	F3	B3 B4	Variable, 126μH, max, 0.36Ω
L2	E2	D4	Fixed, 50μH, 0.7Ω
L3	C2	C3	Torroidal, 10.5μH, 0.08Ω
L4	B3	B2	R.F. choke
		MISCELLANEOUS	
MR1	E1	D3	Germanium diode CV425
ILP1	A4	B2	Lamp, 12V, 3.6W
ILP2	B4	D7	Lamp, 12V, 3.6W
SA	D3-E3	D5, G4	Switch, coil (special)
SB	B3	B8	Switch, dial light (special)
PLA	A2	B8	Plug coaxial, Burndept type 4
M1	A1	D7	Meter, 0-500μA, sealed

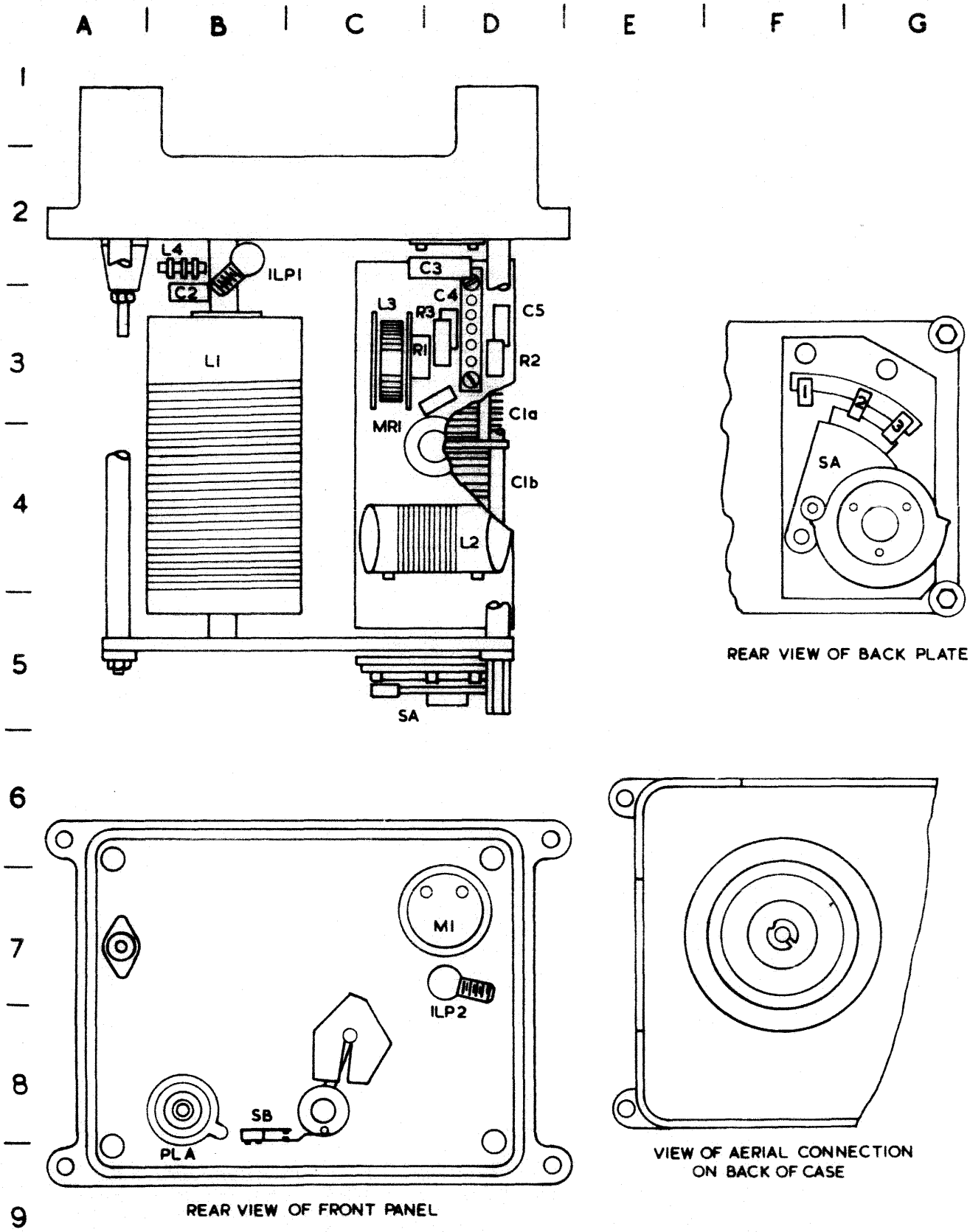

Fig 2020 - Aerial tuning unit No 7, component layout

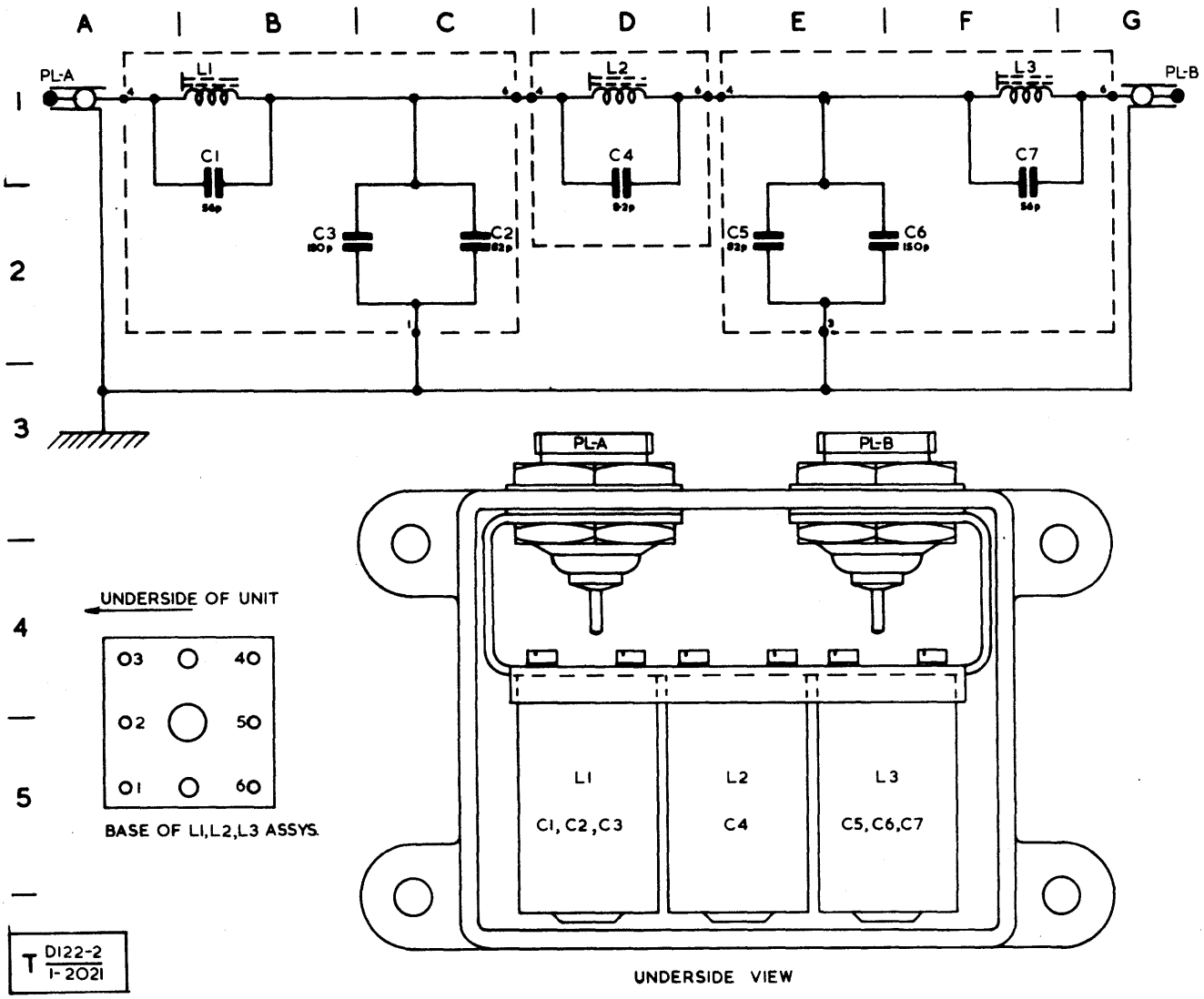

Fig 2021 - Filter unit, r.f., No 15, circuit and layout

Table 2013 - Filter unit, r.f., No 15, component schedule

Circuit reference	Location of component: Circuit diagram Fig 2021	Location of component: Component layout Fig 2021	Value	Rating	Type and limit	
			CAPACITORS			
C1	B1	D5	56pF	350V	silvered mica ins	±2%
C2	C2	D5	82pF	350V	silvered mica ins	±2%
C3	C2	D5	150pF	350V	silvered mica ins	±2%
C4	D1	E5	8.2pF	350V	ceramic tub N750	±5%
C5	E2	F5	82pF	350V	silvered mica ins	±2%
C6	E2	F5	150pF	350V	silvered mica ins	±2%
C7	F1	F5	56pF	350V	silvered mica ins	±2%

Fig 2021 - (cont)

Circuit reference	Location of components		Description
	Circuit diagram Fig 2021	Component layout Fig 2021	
		INDUCTORS	
L1	B1	D5	Adjustable, 0.5μH max
L2	D1	E5	Adjustable, 1.0μH max
L3	F1	F5	Adjustable, 0.5μH max
		PLUGS	
PLA	A1	D3	Coaxial, Burndept pattern 4
PLB	G1	E3	Coaxial, Burndept pattern 4

Table 2014 - Test equipment schedule field and base repairs

Preferred instrument	Suitable alternative
Wattmeter, h.f., high power, No 2	75Ω dummy load and valve voltmeter
Calibrator, crystal, high accuracy (to be developed)	
Wavemeter, standard, No 2, Mk 1	A crystal calibrator capable of checking 10kc/s points between 2 and 4Mc/s; accuracy ±440c/s.
Voltmeter, valve, No 3	Voltmeter, valve, No 2, Mk 1
Signal generator, video frequency, No 1	Oscillator, beat frequency, No 5 or No 8
Oscilloscope type 13A	Oscilloscope, No 1, Mk 2
Wattmeter, absorption, a.f., No 1	Meter, output power, No 3, Mk 2
Instrument, testing Avometer, universal) 50-range) Shunt, d.c., 100A, No 1)	Instrument, testing, electronic, multirange, No 1
Apparatus, seal testing	-
Ancillary test kit (vehicle and manpack) see Tels M152	
Power supply set, rectifier type, output 24V/40A (to be developed)	Power supply set, rectifier type, No 1, Mk 1, or No 2, Mk 1 output 12/24V 20/10A (2 units in parallel see Tels K 561 or K 571)
Supply unit, rectifier, No 7	80-0-80V d.c. supply

Table 2015 - Specification tests

1. SENDER C11

(a) General Conditions

Input volts at PLA-A to PLA-B 530V ±5V d.c. on HIGH POWER
560V ±5V d.c. on LOW POWER
PLA-M to chassis +19V ±0.5V d.c.
PLA-K to chassis +23V ±0.5V d.c.

Tests to be carried out after 15 minutes warming up.
Crystal calibrator to be adjusted to 100kc/s ±1c/s for frequency tests.

(b) Power output

Band	Frequency	Power output	
		HIGH	LOW
1	2, 3 and 4Mc/s	Not less than 45W	3-10W
2	4, 6 and 8Mc/s	Not less than 45W	
3	8Mc/s	Not less than 38W	
3	12 and 16Mc/s	Not less than 45W	

(c) Frequency setting accuracy

Set to any 10kc/s point on the scale in Band 1 (crystal calibrated at nearest calibration point) within ±440c/s of nominal frequency.

(d) Frequency shift with input voltage change

At 4Mc/s on Band 1, when 530V d.c. and 19V d.c. is varied by ±10% the frequency must not change by more than ±70c/s.

(e) Frequency shift keying

With a c.f.s. input of 80-0-80V d.c. at 2, 4 and 8Mc/s on Bands 1, 2 and 3 respectively, frequency shift at output to be between 750 and 1000c/s.

(f) Modulation characteristics

General. Input levels quoted are open-circuit voltages.
Inputs are derived from a 300Ω source.
Limits apply on HIGH and LOW power
Sidetone output terminated in 50Ω load

(g) Sensitivity

With an input of 6mV at 1kc/s depth of modulation to be as follows:-

High power - greater than 70%
Low power - greater than 50%

Table 2015 - (cont)

(h) Automatic modulation control

With an input of 60mV at 1kc/s, depth of modulation on high or low power to be less than 98%.

(j) Noise and hum

The modulation depth due to noise and hum shall be more than 35dB below that produced with input as in 1(h).

(k) Harmonic distortion

The total harmonic distortion for any input between 6mV and 60mV at 1kc/s to be less than 10%

(l) Sidetone

(i) R.T. Input of 60mV at 1kc/s to give not less than 27mW sidetone output.

(ii) C.W. With key depressed the sidetone output to be between 10 and 35mW.

(m) Frequency response

With a.m.c. removed at 3Mc/s the input required to give a constant 50% modulation shall be checked to the following table

Freq	300c/s	500c/s	1kc/s	2kc/s	3kc/s
Tolerance	+1dB -3dB	+1dB -3dB	0	+1dB -3dB	+1dB -3dB

(n) Seal testing (M.O. unit only)

Initial pressure 10 lb/sq in.
Leakage rate 22 c.c./hr
Time constant 60 hr

2. INTERCOMMUNICATION AMPLIFIER

(a) General conditions

PLA-H to earth to be supplied with +175V ±3V d.c.
PLA-F to earth to be supplied with 6.3V ±0.3V a.c.
Input levels quoted are open-circuit voltages
Inputs obtained from 300Ω source
Output terminated in 30Ω

(b) Gain and distortion

Input required to give 200mW at 1kc/s shall not exceed 70mV

Total distortion on the output to be less than 10%

(c) Output regulation

With input set to give 200mW at 1kc/s into 30Ω the output into 15Ω shall be less than 110mW.

(d) Oscillation test

With SKTB pins B and G connected to earth and SKTB-J connected, via a 0.5μF capacitor, to SKTB-C the a.f. output from SKTB-J and earth shall be greater than 100mW and of frequency between 500c/s and 2.5kc/s

3. SUPPLY UNIT, TRANSFORMER, ROTARY, 24V

(a) General conditions

Battery input measured at PLJ pins
Outputs measured from SKTA pins to earth (SKTA-G)
Load to be a Wireless sender C11.

(b) Output voltages

Test point	Output Voltage		Remarks
	Minimum	Maximum	
SKTA pin A	+440V	+480V	with input of 22V
C	+290V	+310V	
B	-30V	-36V	
M	+18V	+19V	
K	+21.5V	+22V	
SKTA pin A	+460V	+500V	with input of 28V
M	+18.2V	+20V	

(c) Ripple voltage

With input of 28V the ripple voltage at SKTA-A shall be less than 10V r.m.s.

(d) Input current

With input of 28V the input current shall be less than 23.5A.

4. SUPPLY UNIT, RECTIFIER, NO 30 MK3

(a) General conditions

Input voltages measured at input plug pins
Output voltages measured to earth at output plug pins
Sender C11 used as load.

Table 2015 - (cont)

(b) Output voltages

With an input of within ±1% of nominal value in each position of SJ (ie 100, 110, 120, 200, 220 and 240V)

Test point	Voltage limits	
	Minimum	Maximum
SKTH pin F	6.6V a.c.	6.6V a.c.
pin H	-27V	-33V
pin D	+163V	+177V
SKTA pin A	+470V	+530V
pin B	-30V	-36V
pin C	+290V	+310V
pin K	+23V	+25V
pin M	17.5V a.c.	20.3V a.c.
pin H	+163V	+177V
pin F	6.5V a.c.	6.6V a.c.

SEE PAGE 03

(c) Ripple voltage

The ripple voltage at SKTH-D shall be less than 1V r.m.s.
and at SKTA-A shall be less than 10V r.m.s.

(d) Power input

~~(i) With SENDER (SG) switch only to ON power input not greater than 500VA~~

~~(ii) With RECEIVE (SH) switch only to ON power input not greater than 50VA~~

WITH AN INPUT OF 240V. THE SUPPLY CURRENT SHOULD BE NOT GREATER THAN:-
(1) 2.5A WITH SENDER (SG) SWITCH ONLY TO ON.
(2) 0.24A WITH RECEIVER (SH) SWITCH ONLY TO ON.

5. AERIAL TUNING UNIT NO 7

(a) Efficiency

With A.T.U. No 7 terminated in dummy aerial of 40pF in series with 10Ω the efficiency will be $\frac{\text{Power in the 10Ω resistor x 100}}{\text{Power in a 72Ω load across the sender C11 output}}$ %

At 3Mc/s this shall be greater than 27%
at 10Mc/s this shall be greater than 43%

(b) Meter sensitivity

At the two frequencies quoted in 5(a) with an input of 55W across 72Ω from the sender C11 the meter shall read less than full scale.

With an input of 40W across 72Ω from the sender C11 the meter shall read greater than one fifth full scale.

Table 2015 - (cont)

(c) Seal test

Initial pressure	10lb/sq.in.
Leakage rate	40 c.c./hr
Time constant	100 hr

6. FILTER UNIT, R.F., NO 15

(a) Insertion loss

With 80Ω input and output the insertion loss at 16Mc/s shall not be greater than 3dB. Above 16Mc/s the loss shall be as follows:-

Frequency	Attenuation
23Mc/s	26dB
30Mc/s	70dB
40Mc/s	60dB
50Mc/s	60dB
60Mc/s	60dB

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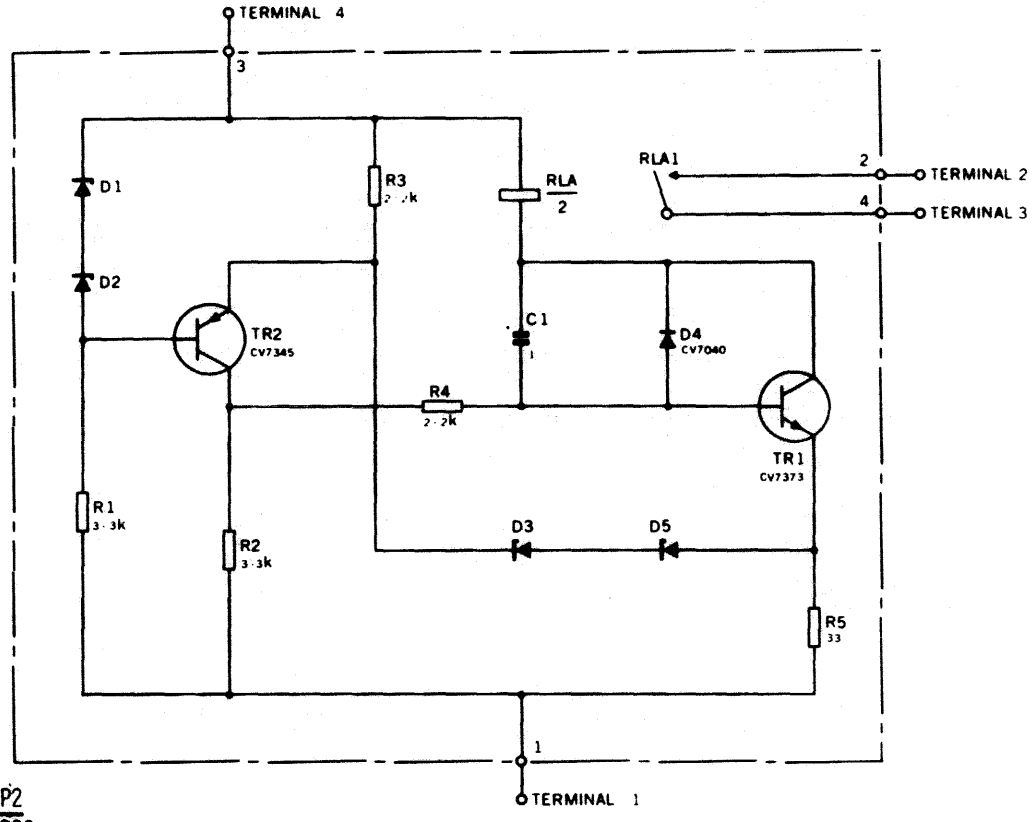
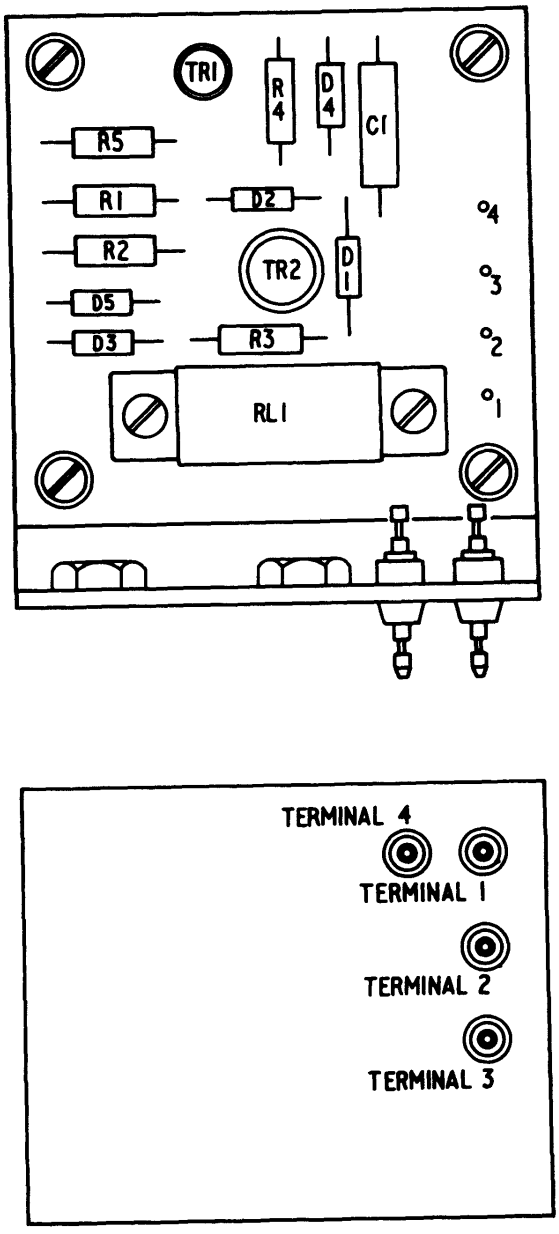
END

Note: These Pages 1048 - 1049, Issue 1, are to be filed immediately after Page 1047, Issue 1, dated 2 Jul 58. They contain additional information.



T D122 P2
1 - 2022

Fig 2022 - Transistorised voltage switching unit, circuit diagram



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1 - 2023

Fig 2023 - Transistorised voltage switching unit, component layout

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END