OSCILLATOR, TEST, NO.2

TECHNICAL HANDBOOK - TECHNICAL DESCRIPTION

INTRODUCTION

1. The Oscillator, test, No 2 is a signal generator for the alignment and performance testing of Service wireless receivers. It covers the same frequency range (20-80Mc/s in two bands, 20-40Mc/s and 40-80Mc/s) as the Signal generator No 13 and was designed as a forward area version of the latter equipment. Its output accuracy is lower than the Signal generator No 13 by a factor of 4 but this is offset by its lightness and compactness. The output may be C.W., A.M. or F.M. and can be varied in 2dB steps from 1µV to 100mV. The A.M. depth is fixed at approximately 30% at 1kc/s and the F.M. deviation may be varied up to 40kc/s. The 1kc/s modulation tone is available at separate terminals for checking A.F. circuits. The oscillator can be operated from a.c. mains or a 12V battery.

BRIEF DESCRIPTION

2. The block diagram (Fig 1) shows the principle of operation. The master oscillator produces a signal in the 20-40Mc/s band and feeds a stage which operates as an amplifier or frequency doubler dependent upon the output frequency range. The output stage is tuned to the output frequency and feeds the attenuators, from which the output is taken to a terminating unit, providing output impedances of 75Ω and 7.5Ω.

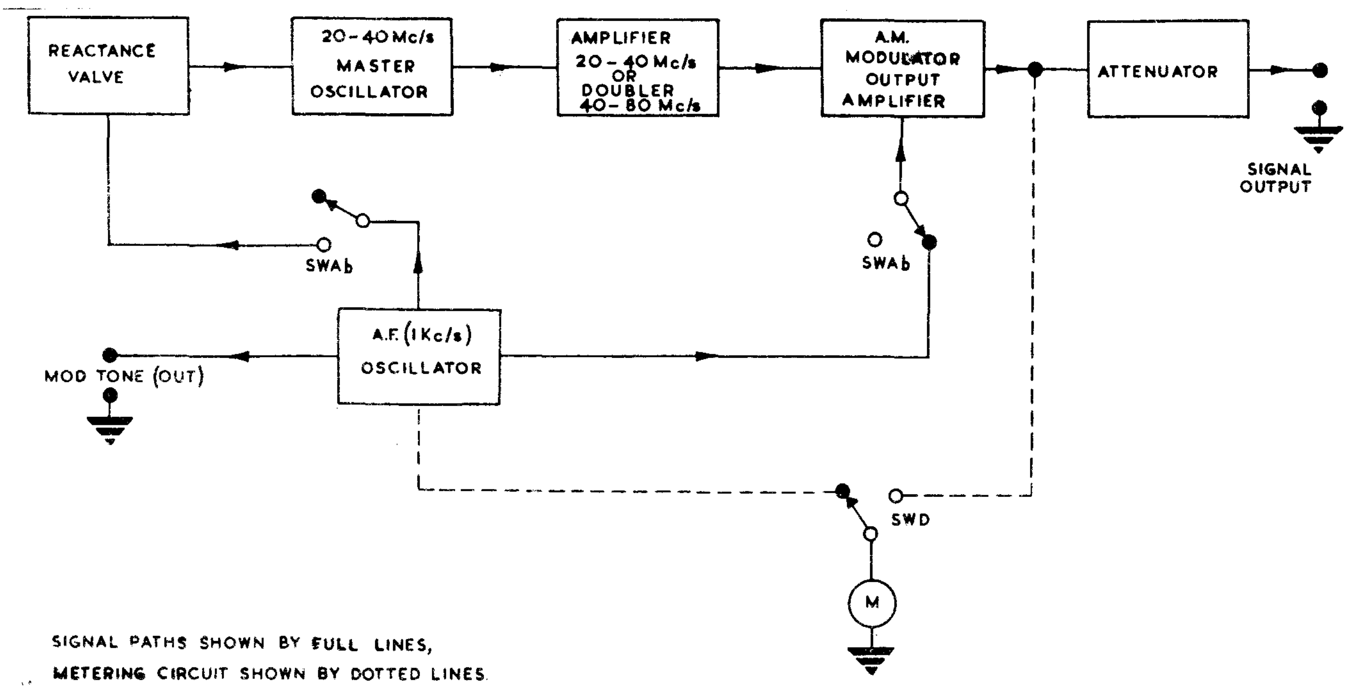

Fig 1 - Block schematic

Distribution - Class 930. Code No.5

3. The A.F. oscillator supplies either the screen of the output valve (A.M. operation) or the screen of the reactance valve (F.M. operation) with a 1kc/s tone, the reactance valve being in parallel with the tuned circuit of the master oscillator.

MECHANICAL CONSTRUCTION

4. The test oscillator is a completely self-contained instrument housed in a hermetically sealed case. It consists of an R.F. unit, in a screened box, with cabled connections to the power supply and panel controls. The entire assembly is mounted on the panel and can be withdrawn from the case when the sealing is broken and the panel lifted.

5. The case and panel are of diecast aluminium. All controls, power and output plugs are on the front panel and are protected by a flange cast integrally with the panel. The lid is held in position during transit by quick-release catches.

6. Connecting leads and spare fuses are stored in a compartment in the lid and a webbing strap is provided for carrying the equipment. The over-all size of the instrument, complete with lid, is 8.3/4 inches x 12.1/2 inches x 10.3/4 inches and it weighs 30lb.

POWER SUPPLIES

7. The equipment is operated from a 12V battery or a.c. mains at 110, 115, 120, 220, 230 or 240V, 45-66c/s. To adjust the transformer tap or change a fuse the instrument must be removed from its case. The power consumption is approximately 42W for battery operation and 50VA for mains.

CONTROLS

8. The front panel layout is shown in Fig 2. The controls for the set are as follows:-

(a) System switch (SWA) marked OFF: AM: C.W.: HT. OFF and F.M. Selects required facility.

(b) Deviation control (RV4) marked DEVIATION kc/s. For adjustment of deviation frequency.

(c) Meter selector switch (SWD) marked MOD: CAR. Switches meter to indicate modulation depth or carrier level.

(d) Modulation control (RV3) marked SET MOD. Controls modulation depth.

(e) Carrier level control (RV2) marked SET CAR. Controls carrier level.

(f) Range switch (SWC) marked 20-40Mc/s; 40-80Mc/s. Selects frequency band for output signal

(g) Signal frequency control (C32; RV1) marked TUNING. Controls the frequency of the output signal.

(h) Coarse attenuator switch (SWE) marked x1, x10, x100, etc. To increase or decrease the signal output in 20dB steps.

(j) Fine attenuator switch (SWB) marked 1, 1.25, 1.6, 2, etc µV. To increase or decrease the signal output in 2dB steps.

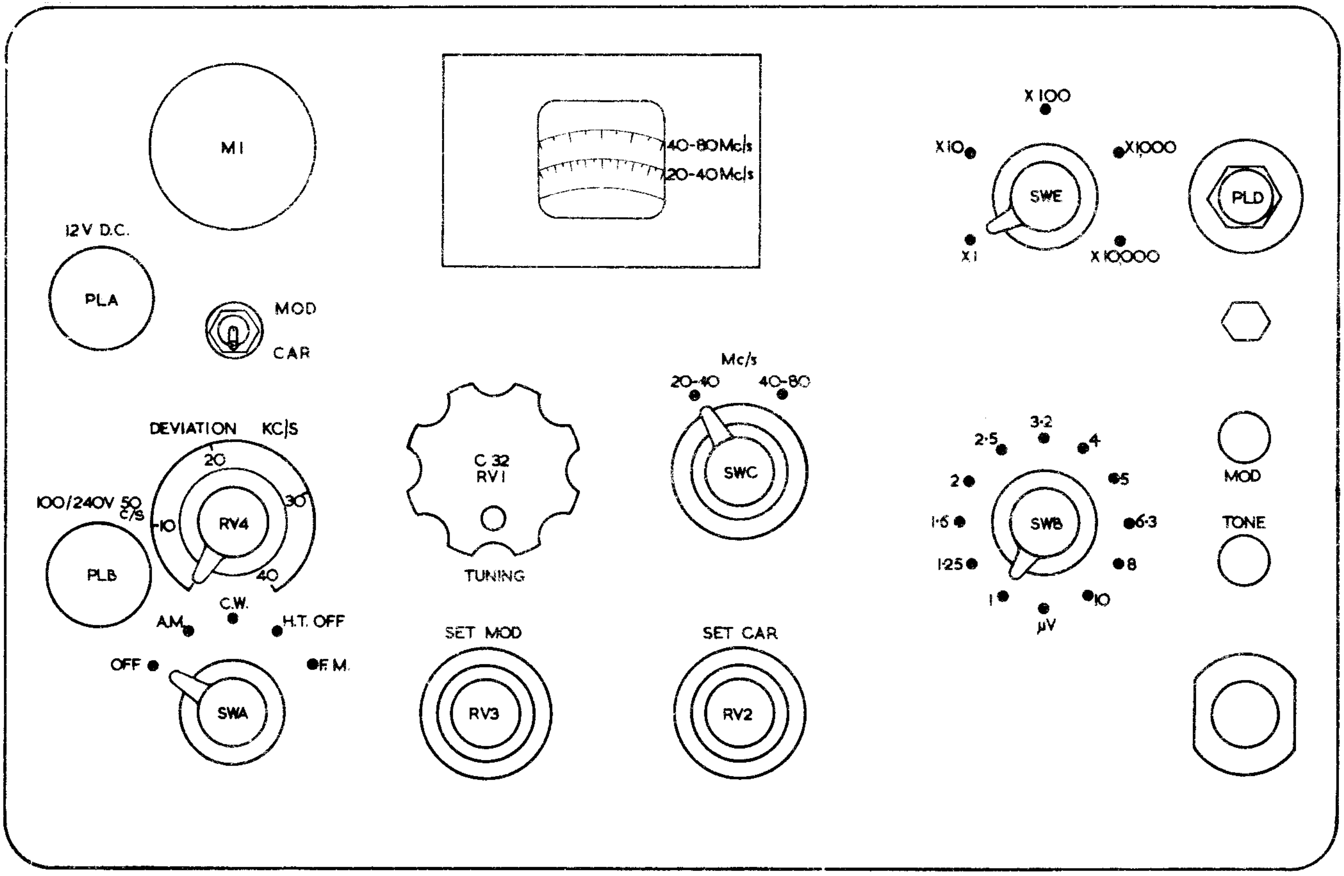

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Fig 2 - Front panel layout

TECHNICAL DESCRIPTION

M.O. and signal circuits.

9. The complete circuit diagram is shown in Fig 1001. A Hartley oscillator, V2, with C32a, C44 and L1 forming the tuned circuit, produces an R.F. signal in the range 20-40Mc/s. This circuit is coupled by C30, R16 to V3, which has an anode series - tuned circuit composed of C32b and L4, or L4 and L2. With L4 only in circuit the output from V3 is double the M.O. frequency; with L4 and L2 in circuit the output is the same as the M.O. frequency. This output is fed via C31, R17 to amplifier V4 having a similar output circuit to V3, composed of C32c and L5, or L5 and L3. The range switch, SWC, controls both L2 and L3 and thus V3 and V4 operate in the same frequency band. The actual frequency setting of V2, V3 and V4, is controlled by C32 which is a three-section ganged capacitor with one section in each of the three circuits. The amplitude of the output signal depends upon the screen voltage of V4 which may be varied by the SET CAR control, RV2. R20 and RV2 form

a potentiometer across the H.T. supply in positions of SWA other than OFF and A.M. In the latter position the potentiometer is formed by R24, part of L7 and RV2.

Amplitude modulation

10. An A.F. oscillator V5, with the oscillatory circuit L7, C24 between grid and anode, produces a fixed-frequency signal of 1kc/s. The amplitude of the signal is determined by the voltage on V5 screen, which is controlled by the SET MOD control, RV3. With SWA in the position A.M. the voltage on the screen of V4 is varied at 1kc/s due to the oscillatory current in the part of L7 included in the potentiometer R24, L7 and RV2. The A.F. output is also fed via C33 to the MOD TONE terminals for direct application when required for A.F. tests.

Frequency modulation

11. For frequency modulation, the A.F. from V5 is fed via SWCa, R8, C22, RV1, RV4, SWAa and C21 to the screen of V1. This valve behaves as a variable reactance (see Tels A 013) since its anode and signal grid are connected via C29, R13 and C35 to give approximately 90 degrees phase displacement between anode current and grid volts. Being connected across the M.O. tuned circuit, C32a, L1, its frequency modulates the M.O. output. The deviation depends upon the amplitude of the A.F. signal applied to V1 grid. This amplitude may be varied by RV4 which gives a corresponding variation in deviation up to 40kc/s.

12. The ratio of the apparent reactance of V1 to that of the similar reactances in the M.O. circuit varies with the frequency setting of the M.O. circuit. In order to maintain the deviation constant over the complete frequency band of the M.O. for any particular setting of RV4, an additional control, RV1, is included. This control is ganged to the main tuning capacitor, C32 and varies the amplitude of the A.F. signal applied to V1 as the frequency setting of the M.O. is varied.

Attenuators and metering

13. The R.F. output from V4 is fed directly to the fine attenuator network R27 - R46. This provides a range of attenuation in 2dB steps from 0 to 20dB depending upon the setting of SWB. The tapping of the fine attenuator is connected to the coarse attenuator network R48 - R55 which provides steps of 20dB up to 80dB. Thus the complete range of the two attenuators is 100dB. The output is taken via a 75 ohm cable having a terminating unit whose terminals allow the selection of an output impedance of 75 ohms or 7.5 ohms. In the latter condition the output signal voltage is one-tenth of the indicated output. The maximum output voltage across the 75 ohms termination is 100mV.

14. The meter, M1, is included so that the instrument can be adjusted to provide the correct indicated output. The MOD CAR switch, SWD, switches the meter either to the A.F. circuit or to the final R.F. circuit. For the output to be correct the meter must indicate at the CAL mark for each setting of SWD.

15. Part of the AF output is fed via C20 to rectifiers MR1, MR3. When SWA is set to A.M. the load for MR1, MR3 is R25 and RV6; when SWA is set to F.M. the load is R25 and RV5. The meter is put across either RV6 or RV5 when SWD is at MOD and therefore measures the rectified voltage appearing across either RV6 or RV5. For checking the R.F. output, part of the signal is rectified by MR2 which has R26 and RV7 as load. With SWD at CAR the meter measures the rectified voltage across RV7.

The choke L12 and capacitors C42, C43 are included to keep out R.F. from the meter in this condition of measurement.

POWER SUPPLIES

Input

16. Two separate sockets are provided on the front panel into which the appropriate supply lead for either a.c. mains or 12V battery is plugged. The mains supply is filtered and feeds the mains transformer, TR1, at the appropriate tapping point. Mains fuses are provided in each leg. For battery operation the battery supplies a vibrator, VB1, which feeds an additional primary winding on TR1. Both the input and the output of the vibrator are filtered and suppressed to reduce hash and remove it from the operational frequency band of the instrument. Fuses are provided in each leg of the battery supply.

Output

17. The mains transformer, TR1, has two secondaries, one for the H.T. supply and the other, a 6 volt winding, for valve heater supply. The dial lamp, LP1, is connected across the 6 volt winding. The H.T. secondary winding output is rectified by the full-wave rectifier, V7 and smoothed and filtered by L13, R66, C52 and C51. The H.T. supplies to the reactor, V1, and the master oscillator, V2, are stabilised by V6. All supplies fed into the screened R.F. box are filtered at the point of entry.

Note: The next page is Page 1001

The location of any components may readily be found by referring to the last two columns of Table 1001 which give the figure number and grid reference of the component on both circuit and layout diagrams. The last number of relevant drawing is shown before the oblique stroke.

Table 1001 - Components

Circuit ref	Value	Tolerance and rating		Type	Location Circuit	Location Layout
				RESISTORS		
R1	5.6kΩ	5%	4.1/2W	wire-wound	1/A1	2/E2
R2	6.8kΩ	10%	3/4W	carbon	1/F1	2/B5
R3	2.2kΩ	10%	3/4W	carbon	1/G1	2/B6
R4	220kΩ	10%	1/2W	carbon	1/B1	2/E2
R5	33kΩ	10%	1/2W	carbon	1/C1	2/A7
R6	22kΩ	10%	1/2W	carbon	1/A6	2/H3
R7	2.2kΩ	10%	1/2W	carbon	1/A6	2/H4
R8	10kΩ	5%	1/8W	carbon	1/A5	3/C4
R9	4.7kΩ	5%	1/8W	carbon	1/A4	3/C4
R10	4.7kΩ	5%	1/8W	carbon	1/B5	3/C5
R11	1kΩ	10%	1/2W	carbon	1/B3	2/D2
R12	1kΩ	10%	1/2W	carbon	1/F4	2/D2
R13	10kΩ	5%	1/8W	carbon	1/D2	2/C7
R14	2.2MΩ	10%	1/2W	carbon	1/D3	2/D8
R15	47kΩ	10%	1/2W	carbon	1/E4	2/C6
R16	220kΩ	10%	1/2W	carbon	1/F3	2/D6
R17	680 Ω	10%	1/2W	carbon	1/G3	2/D6
R18	150 Ω	10%	1/2W	carbon	1/G3	2/D6
R19	100kΩ	10%	1/2W	carbon	1/F2	2/B5
R20	10kΩ	10%	3/4W	carbon	1/D5	3/F7
R21	100kΩ	10%	1/2W	carbon	1/C6	2/E3
R22	1kΩ	10%	1/2W	carbon	1/C6	2/E3
R23	330Ω	10%	1/2W	carbon	1/B6	2/E2
R24	3.3kΩ	5%	3W	wire-wound	1/B4	2/E2
R25	33Ω	5%	1/8W	carbon	1/C5	2/E2
R26	470Ω	5%	1/8W	carbon	1/J2	3/C5
R27	39Ω	5%	1/8W	carbon	1/J2	3/B4
R28	39Ω	5%	1/8W	carbon	1/J2	3/B4
R29	39Ω	5%	1/8W	carbon	1/J1	3/B4
R30	39Ω	5%	1/8W	carbon	1/J1	3/B4
R31	39Ω	5%	1/8W	carbon	1/J1	3/B4
R32	39Ω	5%	1/8W	carbon	1/J1	3/C4
R33	39Ω	5%	1/8W	carbon	1/K1	3/C4
R34	39Ω	5%	1/8W	carbon	1/K2	3/C4
R35	39Ω	5%	1/8W	carbon	1/K2	3/C4
R36	39Ω	5%	1/8W	carbon	1/K2	3/C4
R37	720Ω	5%	1/8W	carbon	1/H2	3/B4
R38	720Ω	5%	1/8W	carbon	1/H2	3/B4
R39	720Ω	5%	1/8W	carbon	1/H1	3/B4
R40	720Ω	5%	1/8W	carbon	1/J1	3/B4

Table 1001 (contd)

Circuit ref	Value	Tolerance and rating	Type	Location Circuit	Location Layout
RESISTORS (contd)					
R41	720Ω	5% 1/8W	carbon	1/J1	3/B4
R42	720Ω	5% 1/8W	carbon	1/K1	1/C4
R43	720Ω	5% 1/8W	carbon	1/K1	3/C4
R44	720Ω	5% 1/8W	carbon	1/K2	3/C4
R45	720Ω	5% 1/8W	carbon	1/K2	3/C4
R46	150Ω	5% 1/8W	carbon	1/K2	3/C5
R47	150Ω	5% 1/8W	carbon	1/J2	3/B5
R48	740Ω	2% 1/8W	carbon	1/J3	3/B3
R49	740Ω	2% 1/8W	carbon	1/J3	3/B2
R50	740Ω	2% 1/8W	carbon	1/J4	3/C2
R51	740Ω	2% 1/8W	carbon	1/J4	3/C3
R52	92Ω	2% 1/8W	carbon	1/J3	3/B2
R53	92Ω	2% 1/8W	carbon	1/J3	3/B2
R54	92Ω	2% 1/8W	carbon	1/J4	3/C2
R55	83Ω	2% 1/8W	carbon	1/J4	3/C3
R56	220Ω	10% 1/2W	carbon	1/C5	2/E2
R57	680Ω	10% 1/2W	carbon	1/F2	2/B5
R58	10kΩ	5% 6W	wire-wound	1/E5	3/H2
R59	1kΩ	10% 1/2W	carbon	1/C3	2/B2
R60	47kΩ	10% 1/2W	carbon	1/C3	2/A7
R61	67.5Ω	2% 1/8W	carbon	1/K4	TERM UNIT
R62	37.5Ω	2% 1/8W	carbon	1/L3	TERM UNIT
R63	15Ω	2% 1/8W	carbon	1/L4	TERM UNIT
R64	15Ω	2% 1/8W	carbon	1/L4	TERM UNIT
R65	22kΩ	10% 3/4W	carbon	1/G5	3/K5
R66	1.5kΩ	5% 6W	wire-wound	1/F5	3/K5
R67	150Ω	10% 1/2W	carbon	1/E3	2/D7
R68	1kΩ	10% 1/2W	carbon	1/G4	2/C2
R69	10kΩ	10% 3/4W	carbon	1/B5	2/E2
R70	22kΩ	10% 3/4W	carbon	1/B6	3/D5
R71	82kΩ	10% 3/4W	carbon	1/B5	3/D4
VARIABLE RESISTORS					
RV1	25kΩ	20% 1/4W	carbon	1/A6	2/H3
RV2	100kΩ	10% 1W	wire-wound	1/D6	3/C5
RV3	25kΩ	10% 1W	wire-wound	1/B5	3/D5
RV4	25kΩ	10% 1W	carbon	1/A6	3/E4
RV5	500Ω	10% 1/2W	wire-wound	1/C6	2/H2
RV6	500Ω	10% 1/2W	wire-wound	1/C6	2/H2
RV7	5kΩ	10% 1/2W	wire-wound	1/E6	2/H2

Table 1001 (contd)

Circuit ref	Value	Tolerance and rating	Type	Location Circuit	Layout
		CAPACITORS			
C1	0.001µF	20%	ceramic feed-through	1/B1	2/D2
C2	0.001µF	20%	ceramic feed-through	1/B1	2/C2
C3	0.001µF	20%	ceramic feed-through	1/B1	2/D2
C4	0.001µF	20%	ceramic feed-through	1/B1	2/C2
C5	0.001µF	20%	ceramic feed-through	1/B2	2/D2
C6	0.001µF	20%	ceramic feed-through	1/B2	2/C2
C7	0.001µF	20%	ceramic feed-through	1/B3	2/D2
C8	0.001µF	20%	ceramic feed-through	1/B3	2/C2
C9	0.001µF	20%	ceramic feed-through	1/C1	2/B2
C10	0.001µF	20%	ceramic feed-through	1/C1	2/C2
C11	0.001µF	20%	ceramic feed-through	1/C2	1/B2
C12	0.001µF	20%	ceramic feed-through	1/C3	2/B2
C13	0.001µF	20%	ceramic feed-through	1/G4	2/C2
C15	0.001µF	20%	ceramic feed-through	1/F4	2/D2
C16	0.001µF	20%	ceramic feed-through	1/G4	2/C2
C17	0.001µF	20%	ceramic feed-through	1/H4	3/C5
C18	1µF	25% 250V	paper met tub	1/E1	2/A7
C19	1µF	25% 250V	paper met tub	1/B6	2/E3
C20	0.1µF	25% 250V	paper met tub	1/C5	2/E2
C21	0.1µF	25% 250V	paper met tub	1/C3	2/A7
C22	0.25µF	25% 250V	paper met tub	1/A5	2/G3
C23	0.01µF	20% 350V	paper met tub	1/C5	2/E2
C24	0.05µF	20% 350V	paper met tub	1/C4	2/E3
C25	8µF	+100%-20% 150V	electrolytic	1/D1	2/A7
C26	0.01µF	20% 350V	paper met tub	1/G1	2/C6
C27	0.01µF	20% 350V	paper met tub	1/H2	2/D5
C28	20µF	+50%-20% 12V	electrolytic	1/G3	2/D5
C29	470pF	20% 350V	ceramic insulated	1/D2	2/D7
C30	470pF	20% 350V	ceramic insulated	1/E3	2/D6
C31	470pF	20% 350V	ceramic insulated	1/F2	2/D6
C32a	130pF max		variable	1/D3	2/H6
C32b	105pF max		air dielectric	1/F3	2/H5
C32c	105pF max		air dielectric	1/H3	2/H5
C33	0.1µF	25% 250V	paper met tub	1/A4	3/B4
C34	100pF	20% 350V	ceramic tub	1/E3	2/C7
C35	22pF	20% 350V	ceramic tub	1/D2	2/C8
C36	0.003µF	20% 350V	moulded mica	1/D6	3/D5
C37	560pF	20%	ceramic insulated	1/E2	2/D6
C38	560pF	20%	ceramic insulated	1/G3	2/D5
C39	470pF	20% 350V	ceramic insulated	1/H3	3/B5
C40	1000pF	20% 350V	ceramic insulated	1/A5	3/B3
C41	470pF	20% 350V	ceramic insulated	1/A5	3/B4
C42	470pF	20% 350V	ceramic insulated	1/D6	3/E3
C43	470pF	20% 350V	ceramic insulated	1/D6	3/E2
C44	20pF max		air trimmer	1/D3	2/G5
C45	.0015µF	20% 350V	ceramic insulated	1/D1	2/D7
C46	.0015µF	20% 350V	ceramic insulated	1/E2	2/C5

Table 1001 (contd)

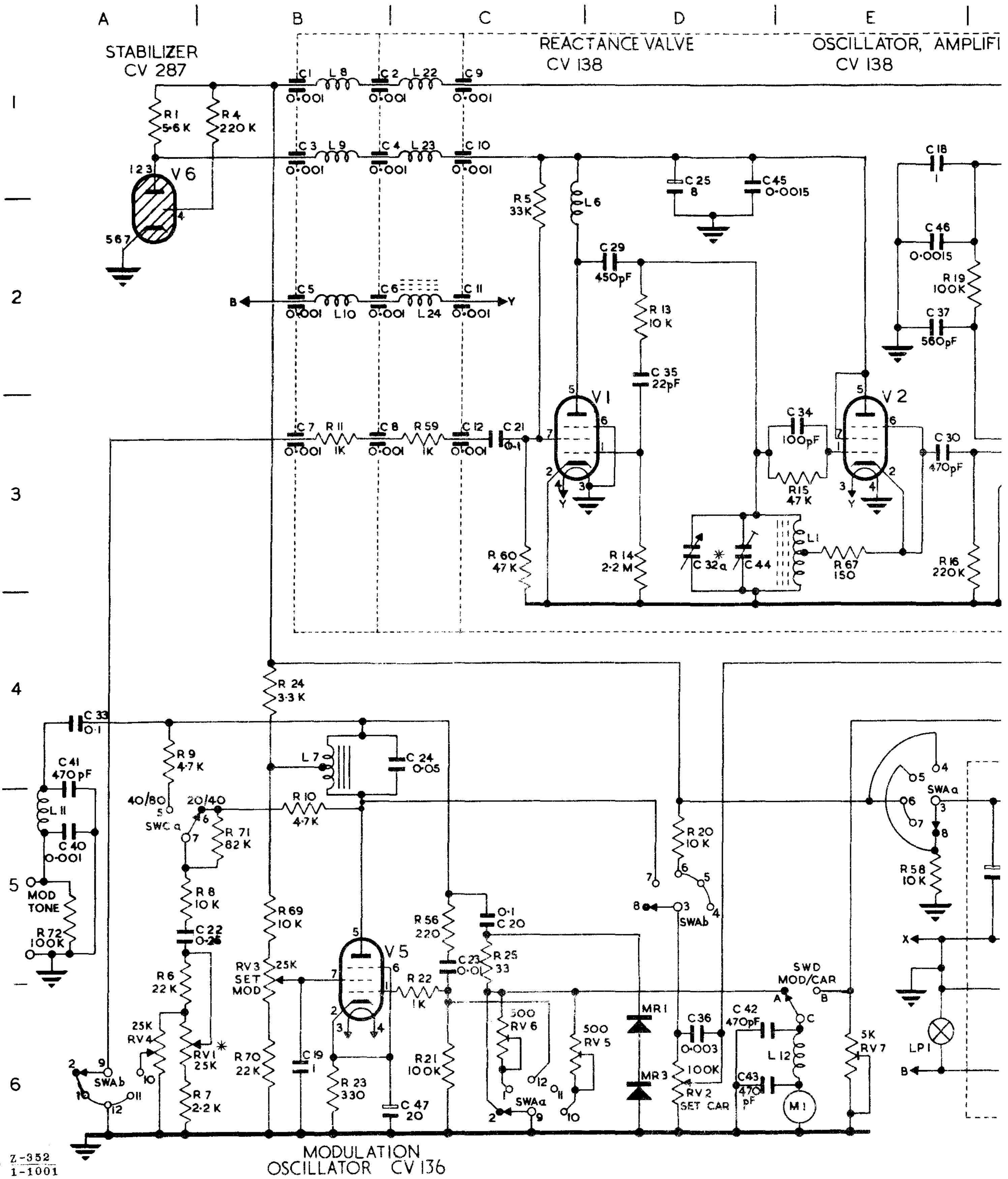
Circuit ref	Value	Tolerance and rating	Type	Location Circuit	Location Layout
			CAPACITORS (contd)		
C47	20µF	+50%-20% 12V	electrolytic	1/B6	2/D3
C48	220pF			1/K4	TERM UNIT
C49	0.02µF	20% 750V	paper met tub	1/G5	3/K5
C50	2µF	25% 150V	paper met tub	1/H6	3/L3
C51	8µF	+50%-20% 350V	electrolytic	1/F5	3/K2
C52	8µF	25% 150V	electrolytic	1/F5	3/K2
C53	0.1µF	25% 150V	paper met tub ins	1/H6	3/K3
C54	0.1µF	25% 150V	paper met tub ins	1/J6	3/K3
C55	0.1µF	25% 150V	paper met tub ins	1/H6	3/K3
C56	0.1µF	25% 150V	paper met tub ins	1/J6	3/K3
C57	0.1µF	25% 150V	paper met tub ins	1/K6	3/K3
C58	0.1µF	25% 150V	paper met tub ins	1/K6	3/K3
C59	0.1µF	25% 150V	paper met tub ins	1/J6	3/K3
C61	.0015µF	20% 350V	ceramic insulated	1/K6	3/K4
C62	.0015µF	20% 350V	ceramic insulated	1/J6	3/K4
C63	.0015µF	20% 350V	ceramic insulated	1/K6	3/K4
C64	.0015µF	20% 350V	ceramic insulated	1/J6	3/K4
C65	1000pF	20% 350V	ceramic insulated	1/L5	3/G5
C66	1000pF	20% 350V	ceramic insulated	1/L5	3/G5
C67	1000pF	20% 350V	ceramic insulated	1/L5	3/G4
C68	1000pF	20% 350V	ceramic insulated	1/L5	3/G4
C69	1000pF	20% 350V	ceramic insulated	1/L5	3/G4
C70	1000pF	20% 350V	ceramic insulated	1/L5	3/G4
C71	1000pF	20% 350V	ceramic insulated	1/L6	3/G4
C72	1000pF	20% 350V	ceramic insulated	1/L6	3/G4
C73	1µF	25% 250V	paper met tub	1/L6	3/F2
			INDUCTORS		
L1	0.5µH			1/E3	2/C7
L2	0.5µH			1/F2	2/A6
L3	0.5µH			1/G2	2/A5
L4	0.2µH			1/F2	2/B6
L5	0.2µH			1/G2	2/B5
L6	4.5µH			1/C2	2/D7
L7	0.5 H	5%		1/B4	2/E3
L8	35µH	20%		1/B1	2/D2
L9	35µH	20%		1/B1	2/D2
L10	1µH		dust-iron cored	1/B2	2/D2
L11	36µH	25%		1/A5	3/B4
L12	36µH	25%		1/E6	3/F3
L13	7 H	+20%-0% 50mA		1/F5	3/H5
L14	10µH	10%		1/H5	3/K3
L15				1/H5	3/K3
L16				1/K6	3/K3
L17	10µH	10%		1/J6	3/K3

Table 1001 (contd)

Circuit ref	Value	Tolerance and rating	Type	Location Circuit	Location Layout
			INDUCTORS (contd)		
L18	36μH	25%		1/L5	3/G5
L19	36μH	25%		1/L5	3/G4
L20	0.5μH			1/L5	3/G4
L21	0.5μH			1/L6	3/G3
L22	35μH	20%		1/C1	2/C2
L23	35μH	20%		1/C1	2/C2
L24	1μH		dust-iron cored	1/C2	2/C2
			TRANSFORMERS		
TR1				1/H5	3/H6
			VALVES		
V1			CV 138	1/C3	2/D8
V2			CV 138	1/E3	2/D7
V3			CV 138	1/F3	2/D6
V4			CV 138	1/G3	2/D5
V5			CV 136	1/B5	2/D3
V6			CV 287	1/G5	2/D3
V7			CV 493	1/A2	3/L3
			RECTIFIERS		
MR1			miniature sealed copper	1/D6	2/E2
MR2			CV 291	1/H3	3/B5
MR3			miniature sealed copper	1/D6	2/E2
			FUSES		
FS1		1A		1/K5	3/H3
FS2		1A		1/K5	3/H3
FS3		10A		1/K5	3/H3
FS4		10A		1/K6	3/H3
FS5		250mA		1/F5	3/H2
			MISCELLANEOUS		
LP1		6.3V 0.3A	M.E.S. cap	1/E6	2/H4
VB1		12V	Non-synch series driven	1/J6	3/K4
M1		100μA F.S.D.	sealed miniature	1/E6	3/E3

Table 1001 (contd)

Circuit ref	Description	Location Circuit	Location Layout
	SWITCHES		
SWAa(3)	4-pole, 5-way, Oak type	1/E5	3/E5
SWAa(9)	4-pole, 5-way, Oak type	1/C6	3/E5
SWAb(3)	4-pole, 5-way, Oak type	1/D3	3/E5
SWAb(9)	4-pole, 5-way, Oak type	1/A6	3/E5
SWAc(3)	4-pole, 5-way, Oak type	1/L5	3/E5
SWAc(4)	4-pole, 5-way, Oak type	1/L6	3/E5
SWB	1-pole, 11-way, Oak type	1/J2	3/B4
SWCa	2-pole, 3-way, Oak type	1/A5	3/C4
SWCb	2-pole, 3-way, Oak type	1/G2	2/B6
SWCc	2-pole, 3-way, Oak type	1/G2	2/B5
SWD	D.P.C.O. Cutler Hammer Q.M.Q.R.	1/E6	3/E3
SWE	Advance A37	1/K3	3/B3
	PLUGS AND SOCKETS		
PLA	3-pole, miniature, MK4	1/L5	3/F4
PLB	2-pole, miniature, MK4	1/L5-6	3/F3
PLD	Single-pole, C.P.4S	1/K3	3/D3
SKA	Single-pole, S351	1/K3	2/D4


STABILIZER
CV 287
REACTANCE VALVE
CV 138
OSCILLATOR, AMPLIFI
CV 138
MODULATION
OSCILLATOR CV 136
MOD
TONE
SET
MOD
SET CAR
SWD
MOD/CAR

T Z-352/1-1001

R E S T R I C T E D

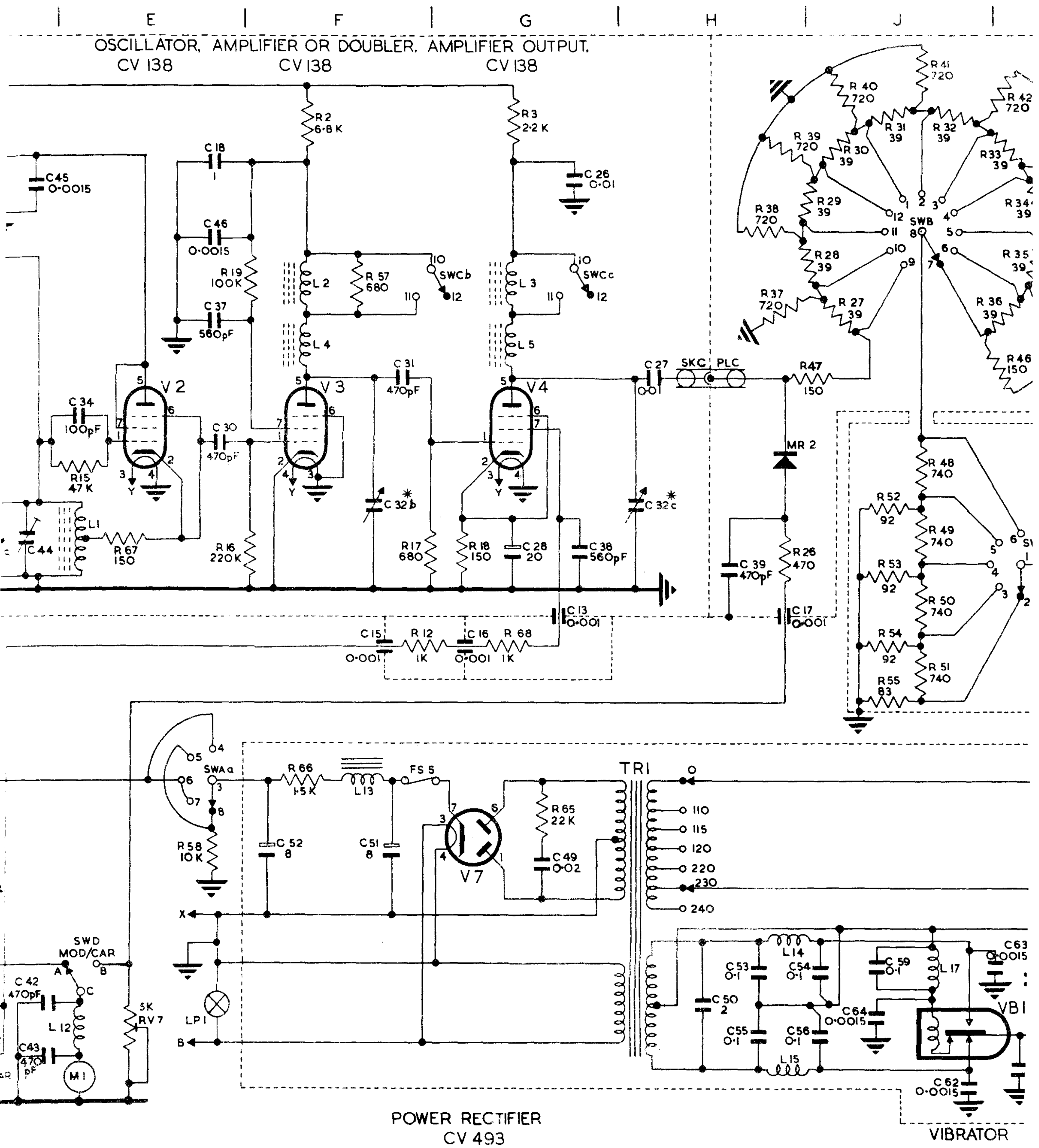
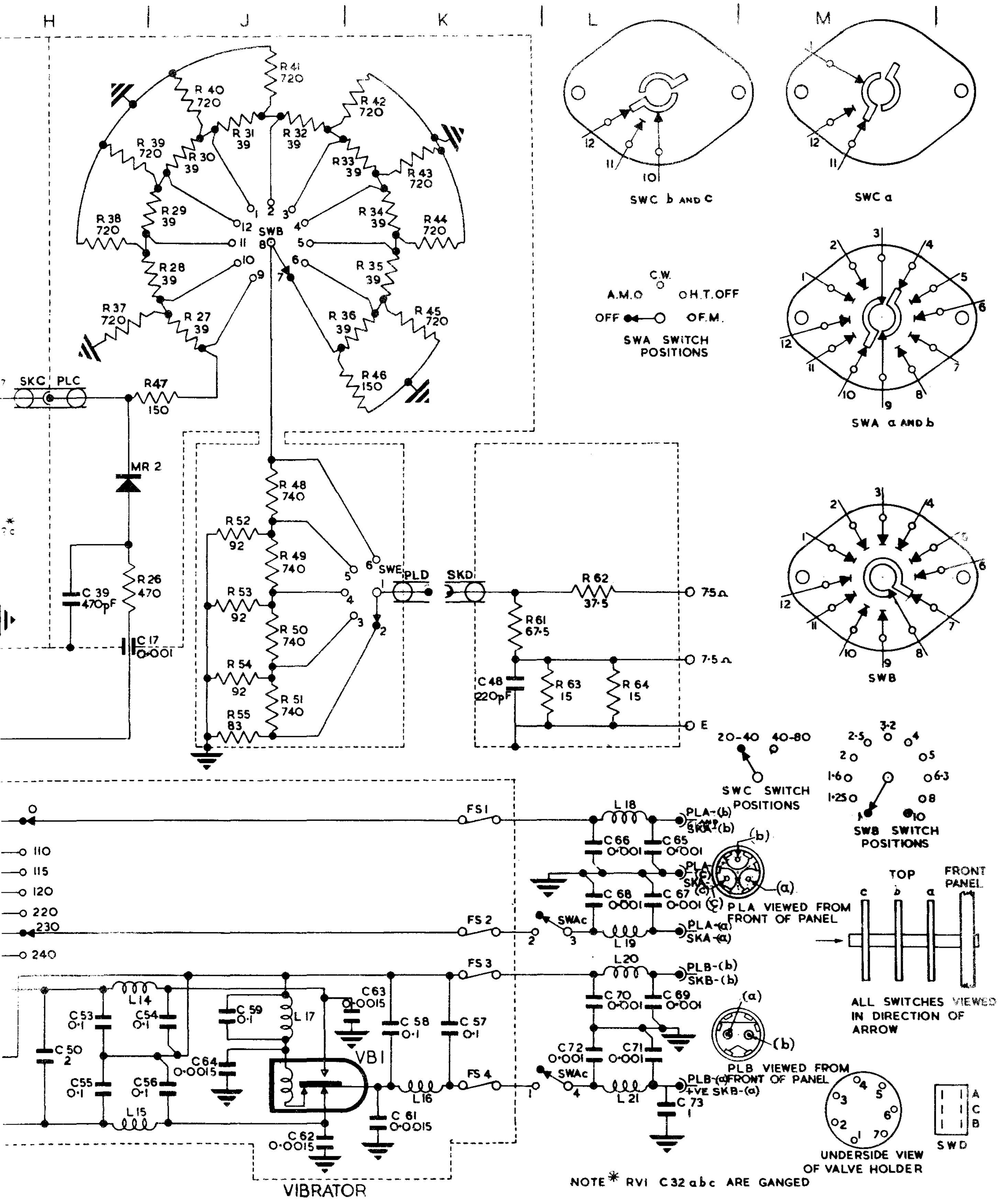
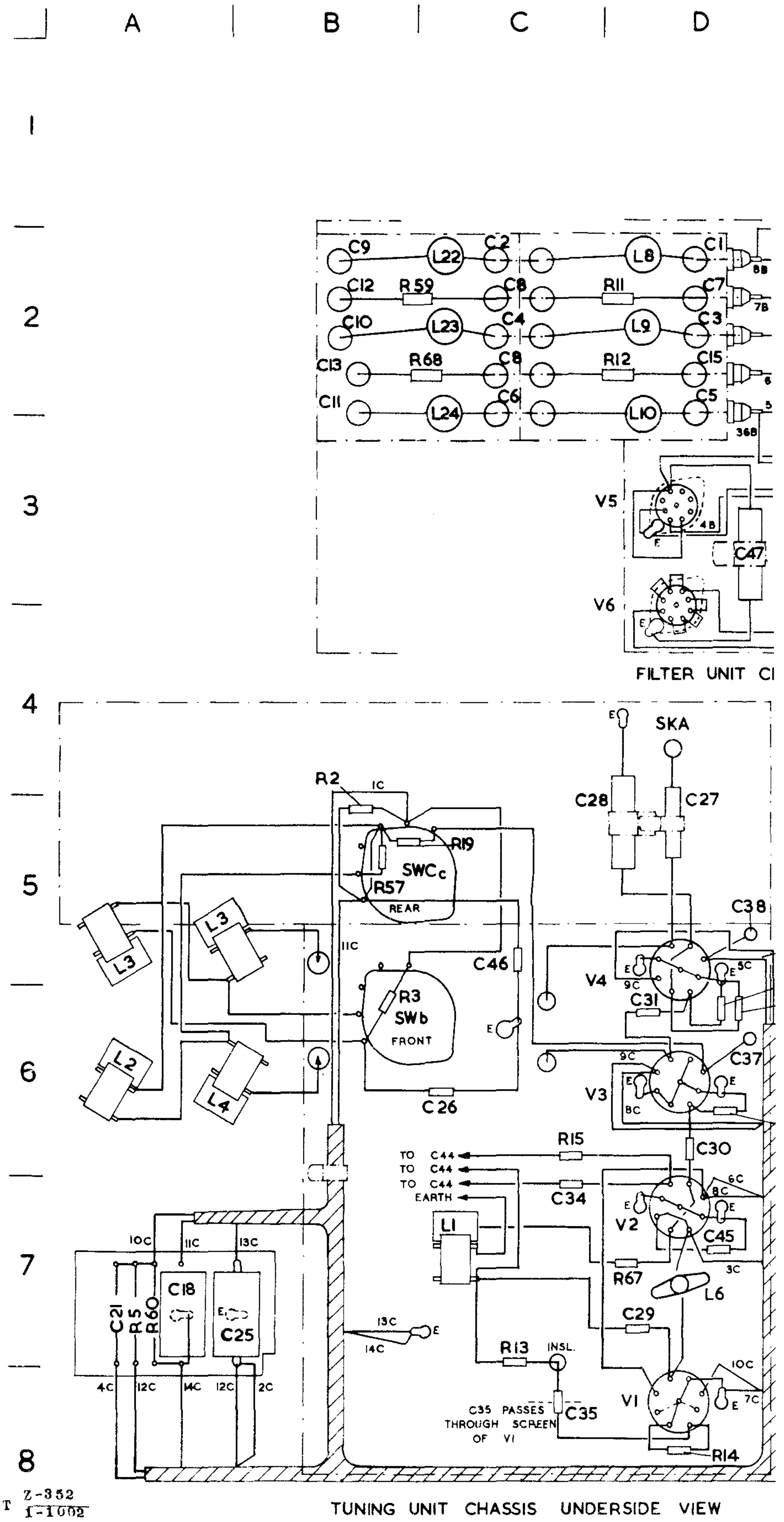


Fig 1001 - Circuit diagram

R E S T R I C T E D


H
J
K
L
M
R 41 720
R 40 720
R 42 720
R 39 720
R 31 39
R 32 39
R 30 39
R 33 39
R 43 720
R 38 720
R 29 39
R 34 39
R 44 720
SWB
R 28 39
R 35 39
R 37 720
R 27 39
R 36 39
R 45 720
R 46 150
SKC PLC
R47 150
MR 2
C 39 470pF
R 26 470
C 17 0·001
R 48 740
R 52 92
R 49 740
R 53 92
R 50 740
R 54 92
R 51 740
R55 83
SWE
PLD
SKD
R 62 37·5
R 61 67·5
C 48 220pF
R 63 15
R 64 15
75Ω
7·5Ω
E
SWC b AND C
SWC a
C.W.
A.M.O
O.H.T.OFF
OFF
OF.M.
SWA SWITCH POSITIONS
SWA a AND b
SWB
20-40
40-80
SWC SWITCH POSITIONS
2·5
3·2
4
2
5
1·6
6·3
1·25
8
1
10
SWB SWITCH POSITIONS
FS 1
110
115
120
220
230
240
FS 2
SWAc
L 18
PLA-(b) SKA-(b)
C 66 0·001
C 65 0·001
C 68 0·001
C 67 0·001
PLA VIEWED FROM FRONT OF PANEL
L 19
PLA-(a) SKA-(a)
TOP
FRONT PANEL
ALL SWITCHES VIEWED IN DIRECTION OF ARROW
FS 3
L 20
PLB-(b) SKB-(b)
C 70 0·001
C 69 0·001
C 72 0·001
C 71 0·001
PLB VIEWED FROM FRONT OF PANEL
FS 4
L 21
PLB-(a) +VE SKB-(a)
C 73 1
L 14
C 53 0·1
C 54 0·1
C 59 0·1
L 17
C 63 0·0015
C 58 0·1
C 57 0·1
C 50 2
C 64 0·0015
VB 1
C 55 0·1
C 56 0·1
L 15
L 16
C 61 0·0015
C 62 0·0015
VIBRATOR
UNDERSIDE VIEW OF VALVE HOLDER
SWD
NOTE * RV1 C32 a b c ARE GANGED

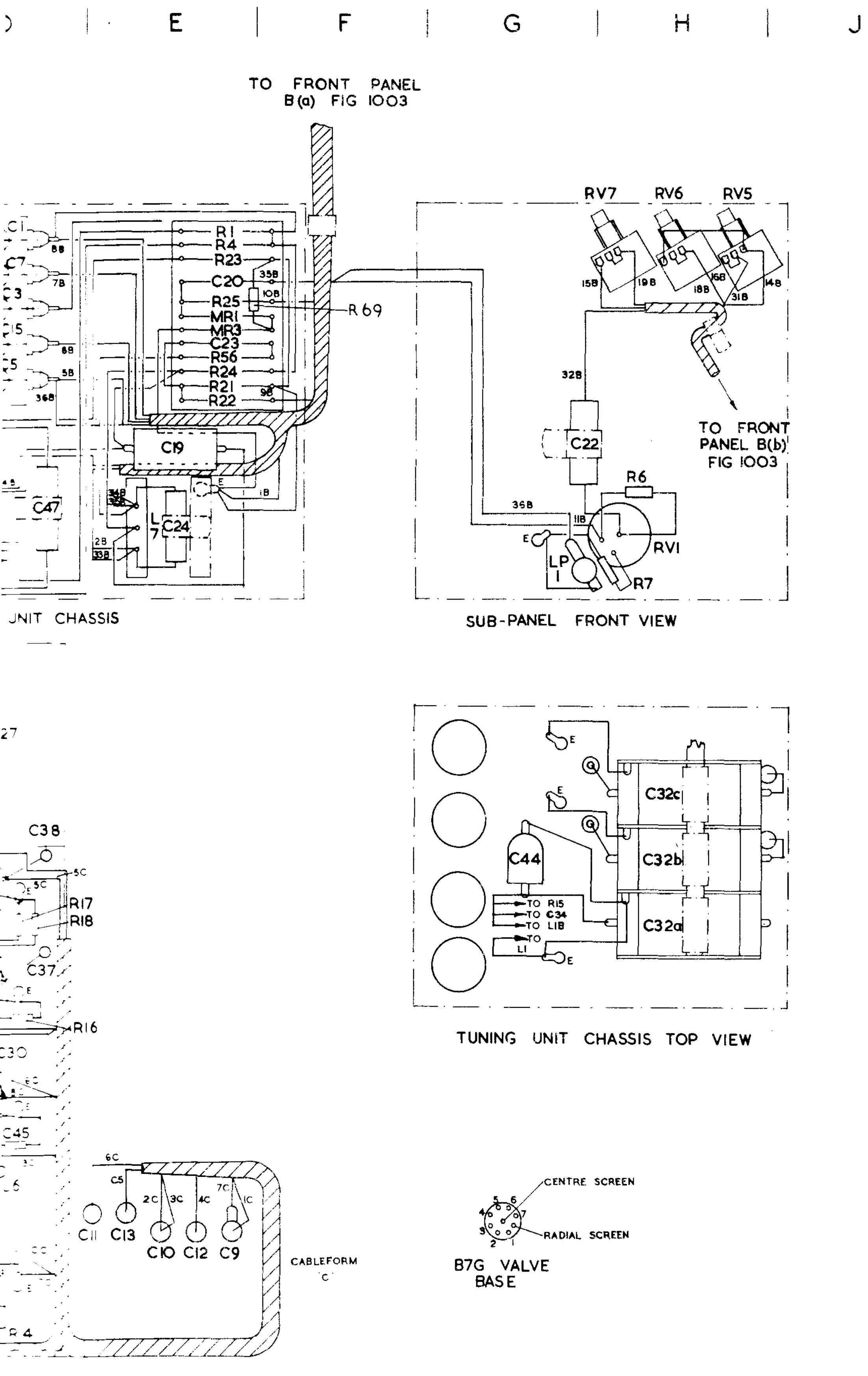
R E S T R I C T E D



T $\frac{Z\text{-}352}{1\text{-}1002}$

Fig 1002 - Tuning unit - wiring di

R E S T R I C T E D



... iagram and component layout

R E S T R I C T E D

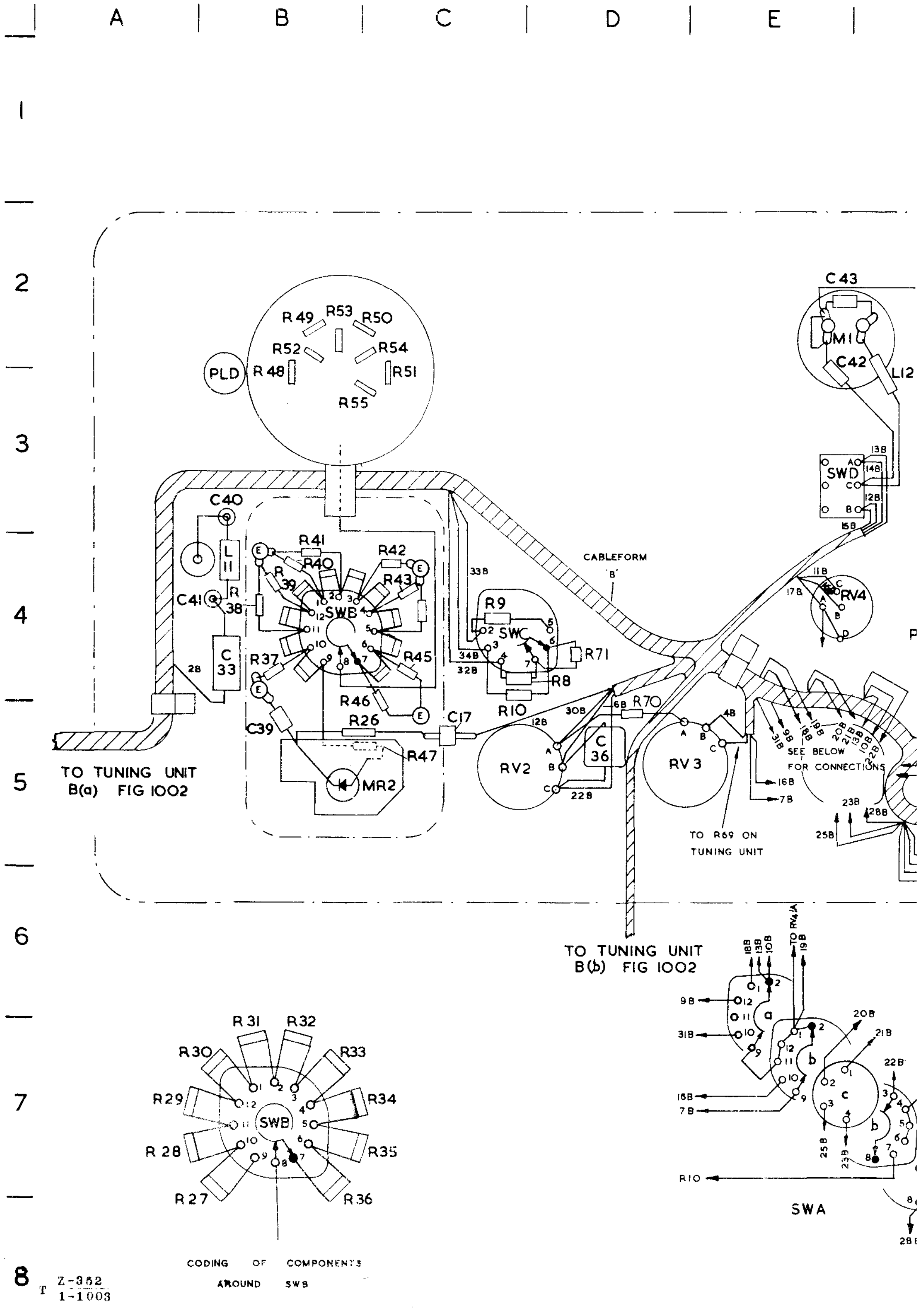
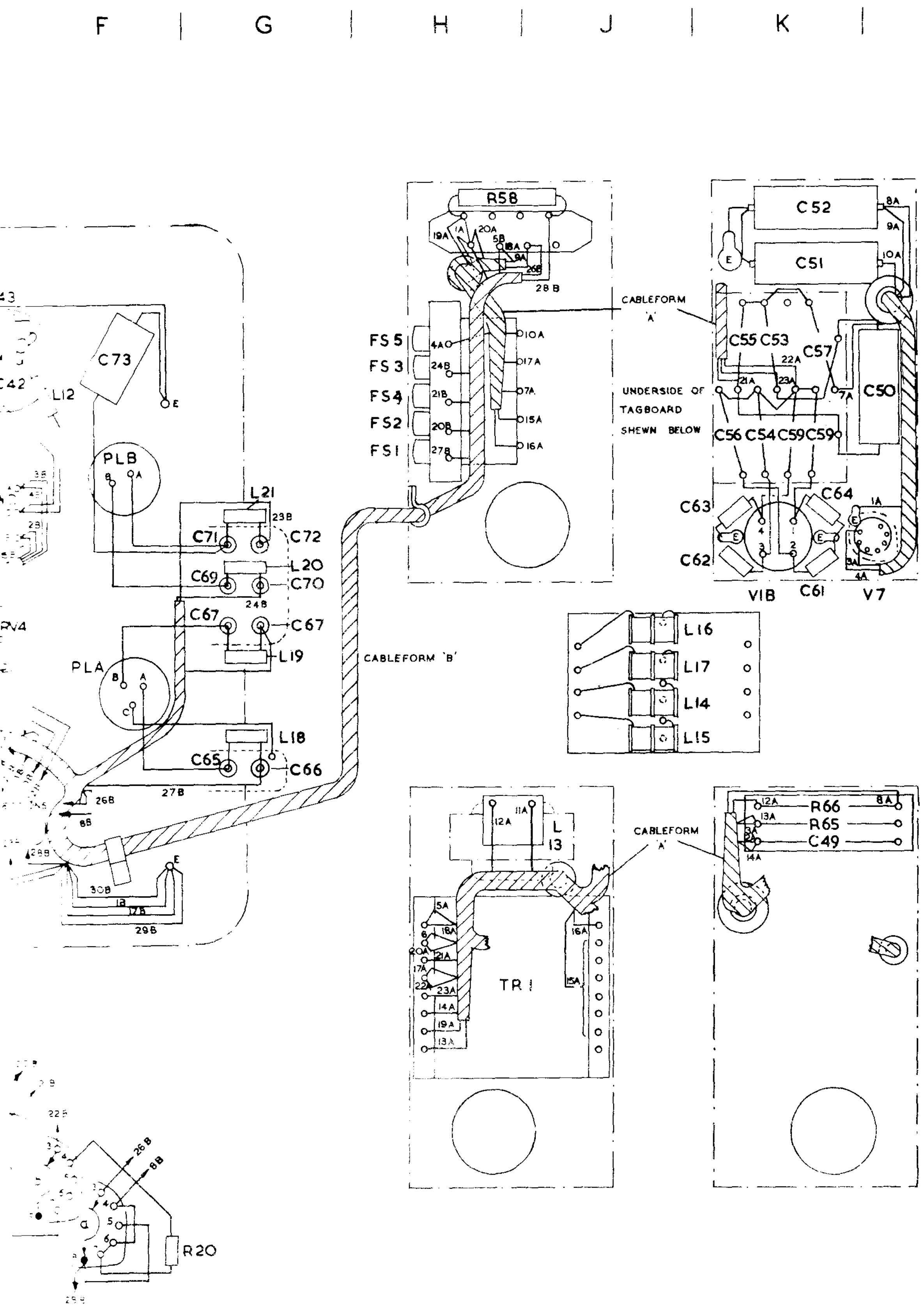


Fig 1003 - P.S.U. - wiring diagr

END

R E S T R I C T E D



..gram and component layout

R E S T R I C T E D