STATION, RADIO, A13

TECHNICAL HANDBOOK - TECHNICAL DESCRIPTION

Errata

Note: This Page 0, Issue 1 must be filed immediately in front of page 1001, Issue 4 dated 7/71.

1. The following amendments must be made to the regulation.

2. Page 1037, Fig 2523

   Values of C20, C21, C22, C23, C24 and C25

   Delete: 60p
   Insert: 46.5p

3. Page 1042, Fig 2537

   Values of C6, C16 and C24

   Delete: 61.5-1.5p
   Insert: 46.5p

4. Page 1044, Fig 2539

   Values of C6, C16 and C24

   Delete: 60p
   Insert: 46.5p

5. Page 1046, Fig 2542

   Values of C3 and C4

   Delete: 1.5-61.5p
   Insert: 46.5p

6. Page 1061, Fig 2559

   Values of 18C5

   Delete: 1.5-60p
   Insert: 46.5p

7. Page 1063, Fig 2561

   Values of C8 and C10

   Delete: 60p
   Insert: 46.5p

8. Page 1068, Fig 2567
   Adjacent to C2 add: 46.5p

T/61136/D & M
EME/8c/2185/Tels

Errata

Note: This Page 01 is to be filed immediately in front of Page 1001, Issue 4 dated 7/71.

(The following amendments must be made to the regulation)

9. Page 1076, para 7, Transmitter, sidetone levels. Line 3 'C.W.'

   Delete: '70µW and 105mV'

   Insert: '100µW and 120mV' respectively.

10. Page 1079, Test No 26, Column 10

   Delete: 'Tx 10mV MOD'

   Insert: 'Tx 100mV MOD'

T/8/2185/Tels

Errata

Note: This Page 02 Issue 1 must be filed immediately in front of Page 1001, Issue 4, dated 7/71.

(The following amendments are to be made to the regulation).

11. Page 1143, Fig 2612, scrap view on arrow 'A'.

Insert rectangle, annotated D1, between pin 3 and pin C of TR1. Cathode to pin 3, anode to TR1 pin C.

12. Page 1144, Fig 2613, circuit diagram.

Insert a diode symbol across relay RLA, cathode connected to pin b, anode connected to pin a, and annotate it D1.

13. Page 1145, Table 2521.

After last entry, add:

'Z42/5960-99-037-4072 Valve electronic CV8805 D1'

T/8/2185/Tels

STATION, RADIO, A13

TECHNICAL HANDBOOK - FAULT FINDING AND REPAIR DATA

This Part 2 contains fault-finding and repair data in tabular and diagrammatic form. Part 1 of this EMER contains a general description of the equipment. Tels F 143 and F 144 deal with repairs.

Note: This Issue 4, Pages 1001-1145, supersedes all issues and pages issued prior to this date. The regulation has been revised throughout.

General notes on the use of this regulation

1. The main circuit diagrams do not include the circuitry of the printed boards, but are adequate to diagnose a fault to a board. Full circuit details of the boards are included as individual diagrams.

2. The main circuit diagrams differ from previous convention: for instance earth lines are now drawn thin and the main signal paths thick. Fig 2501 shows the legend which has been used in preparing the diagrams.

3. All catalogue numbers given are in VAOS section Z1 unless otherwise stated.

4. The components listed in Tables 2504-2521 inclusive, are those which have been provided for replacement in Field Workshops. The individual components used on printed boards are only provided to those workshops which are authorized to repair printed boards.

5. It should be noted that all slot-headed screws used in the SRA13 are unified; no BA types are included.

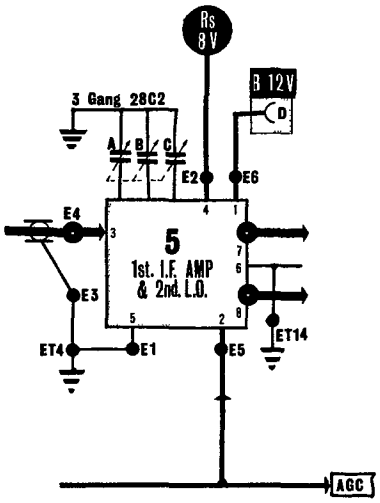
6. An asterisk followed by a modification instruction number indicates that the feature so marked is to be found only in equipments which incorporate the modification.

LIST OF FIGURES

LIST OF FIGURES - (cont)

LIST OF FIGURES - (cont)

LIST OF TABLES



LEGEND

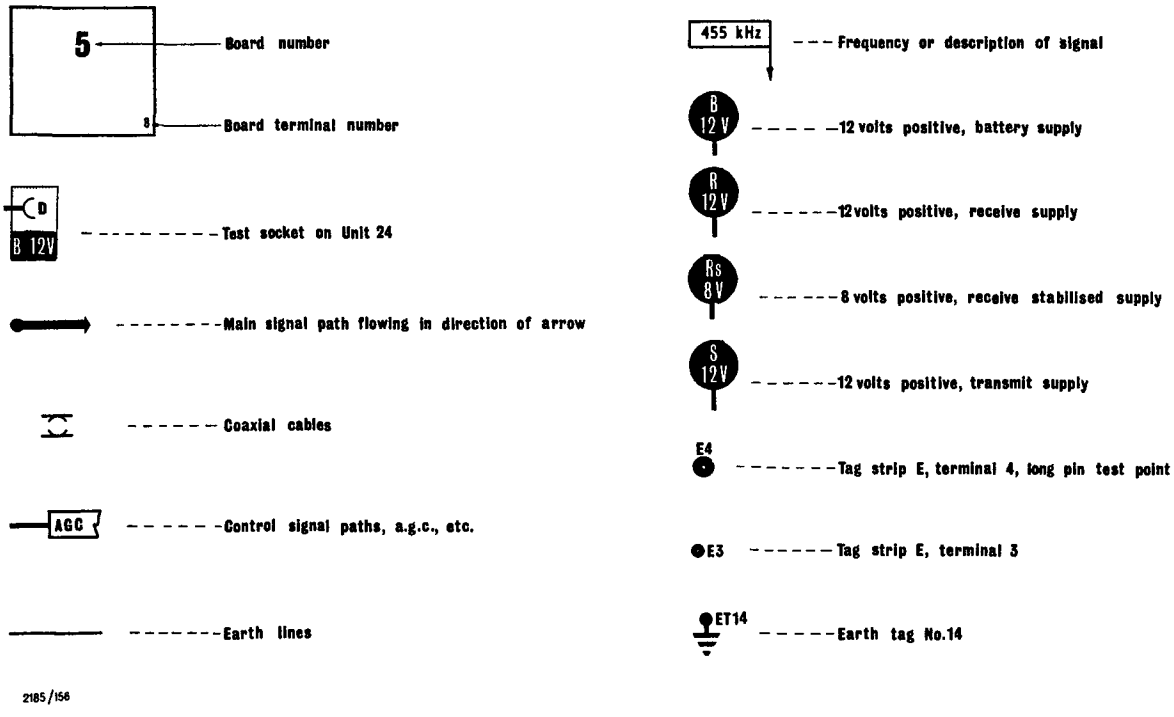


Fig 2501 - Legend to circuit diagrams

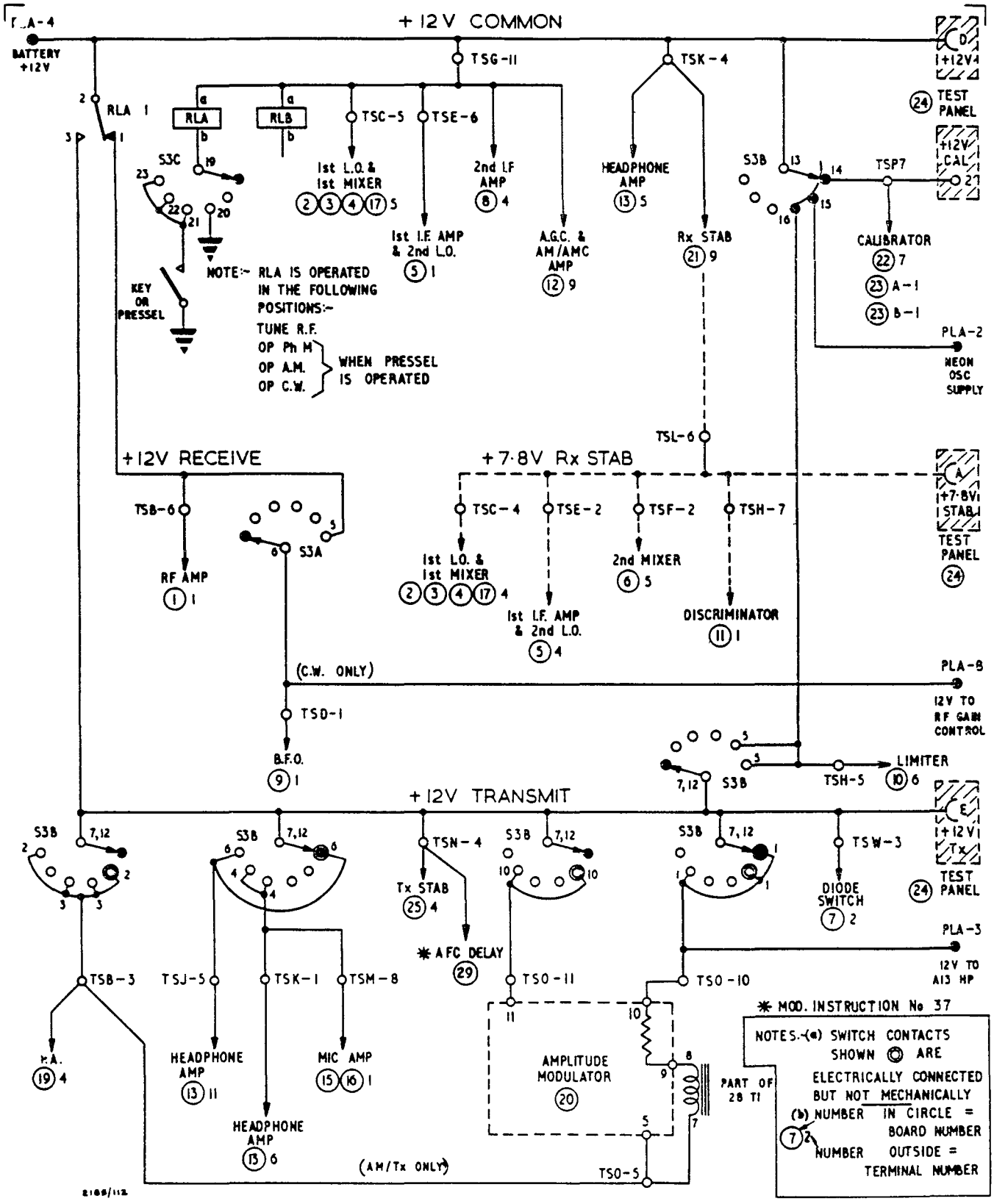


Fig 2502 - TRA13, supply circuit

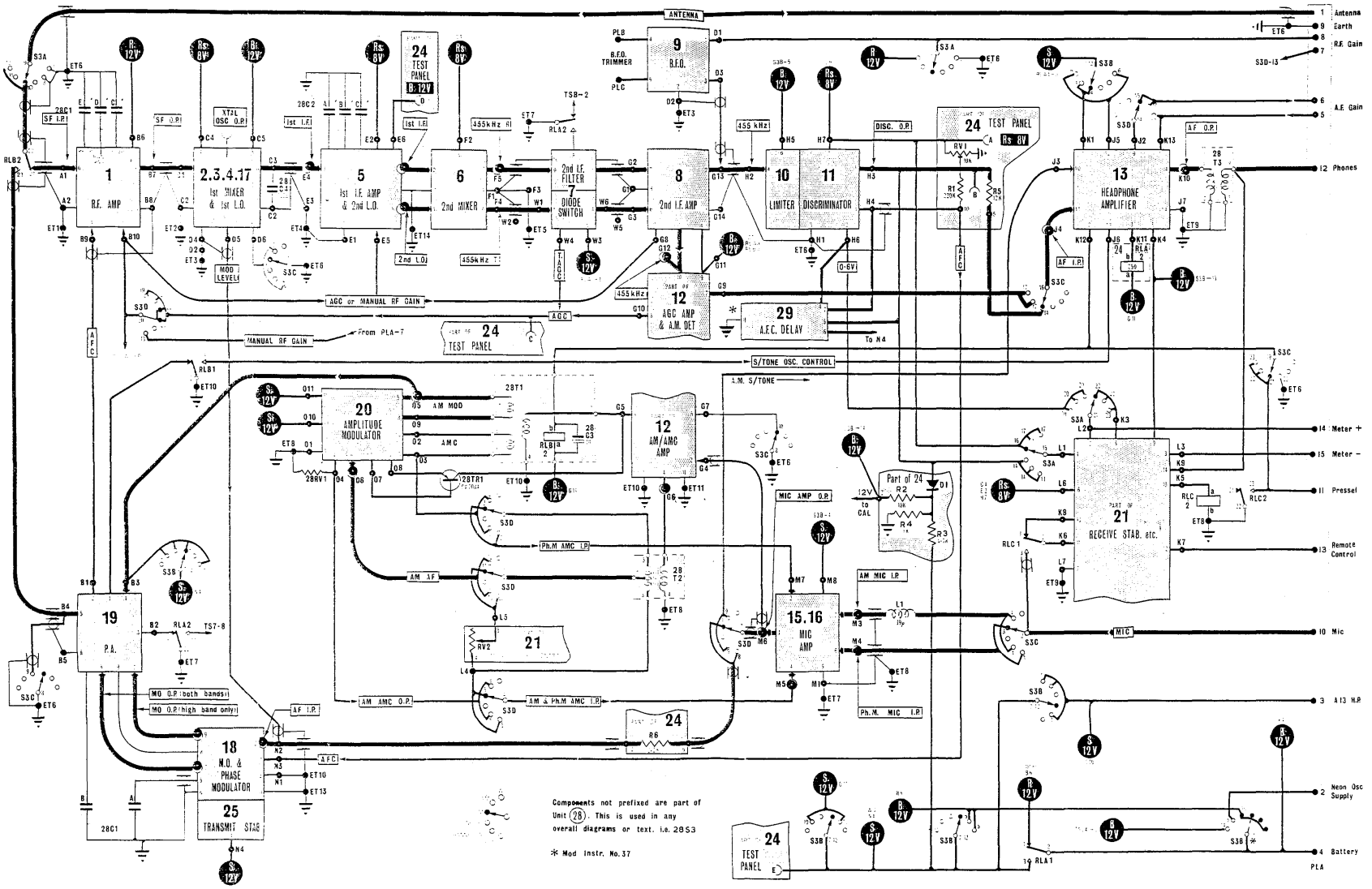


Fig 2503 - TRA13, film scale unit circuit

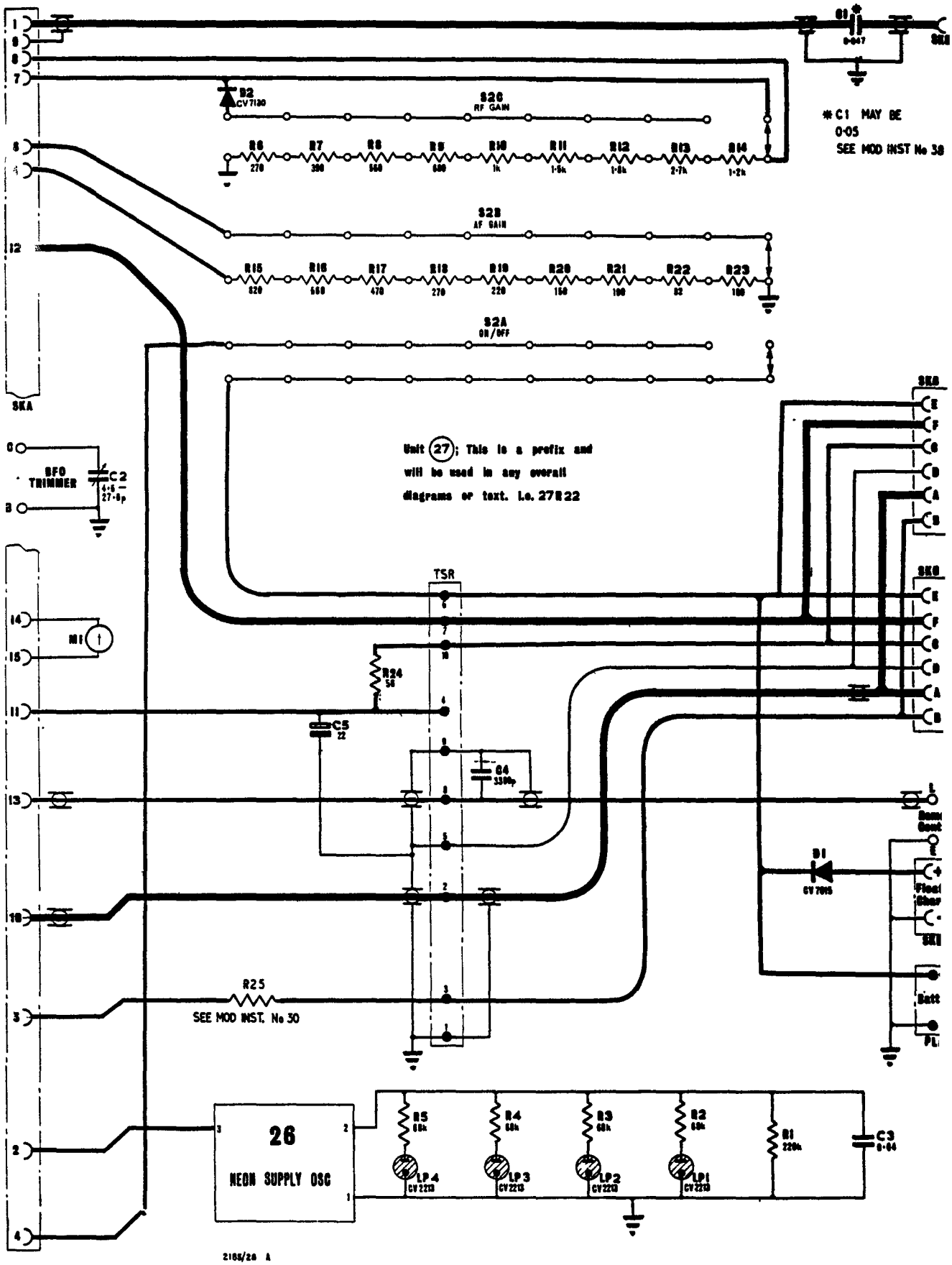


Fig 2504 - TRA13, front panel circuit

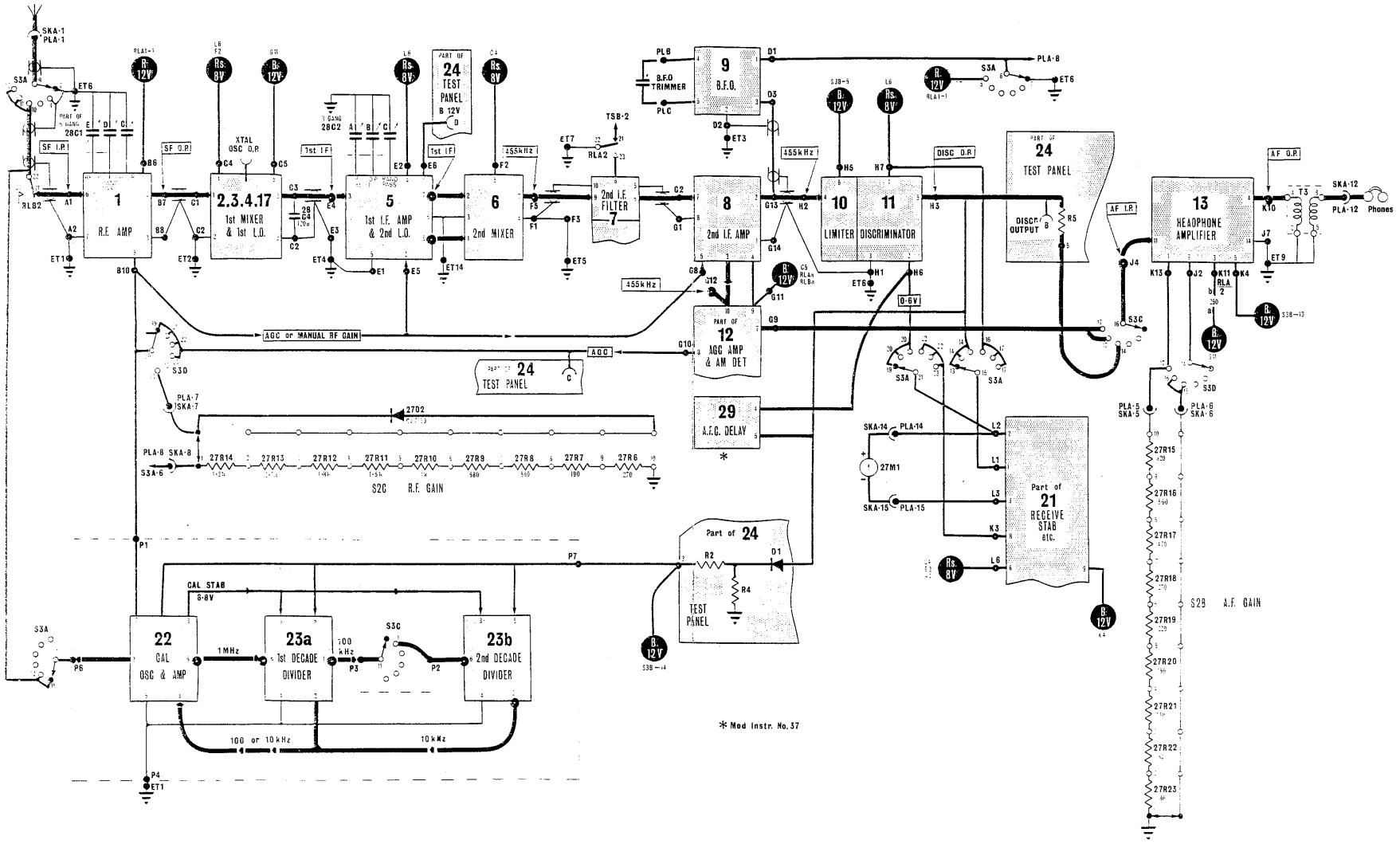


Fig 2505 - TRA13, calibrate and receiver simplified circuit

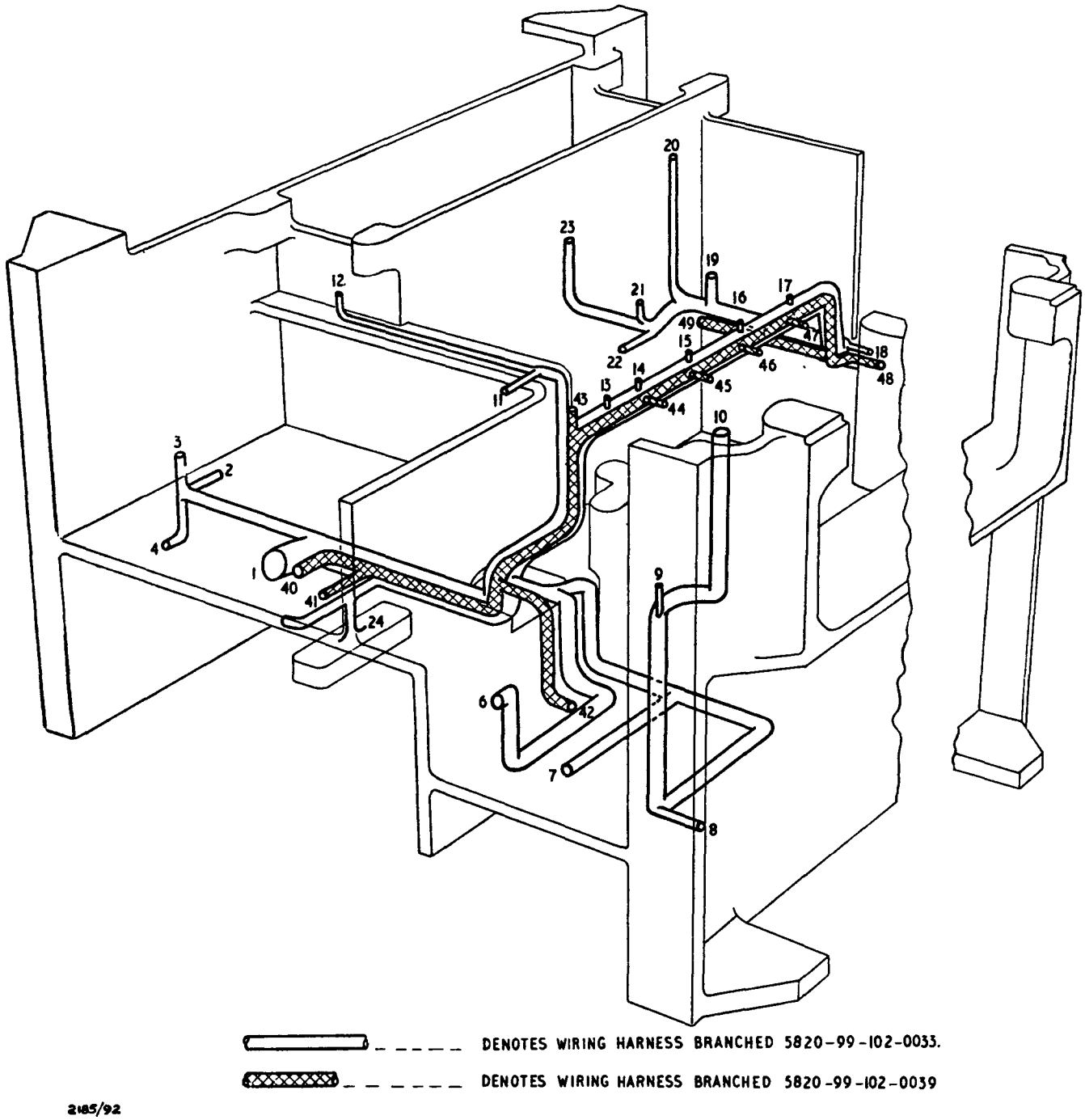


Fig 2506 - TRA13, film scale unit cableform layout

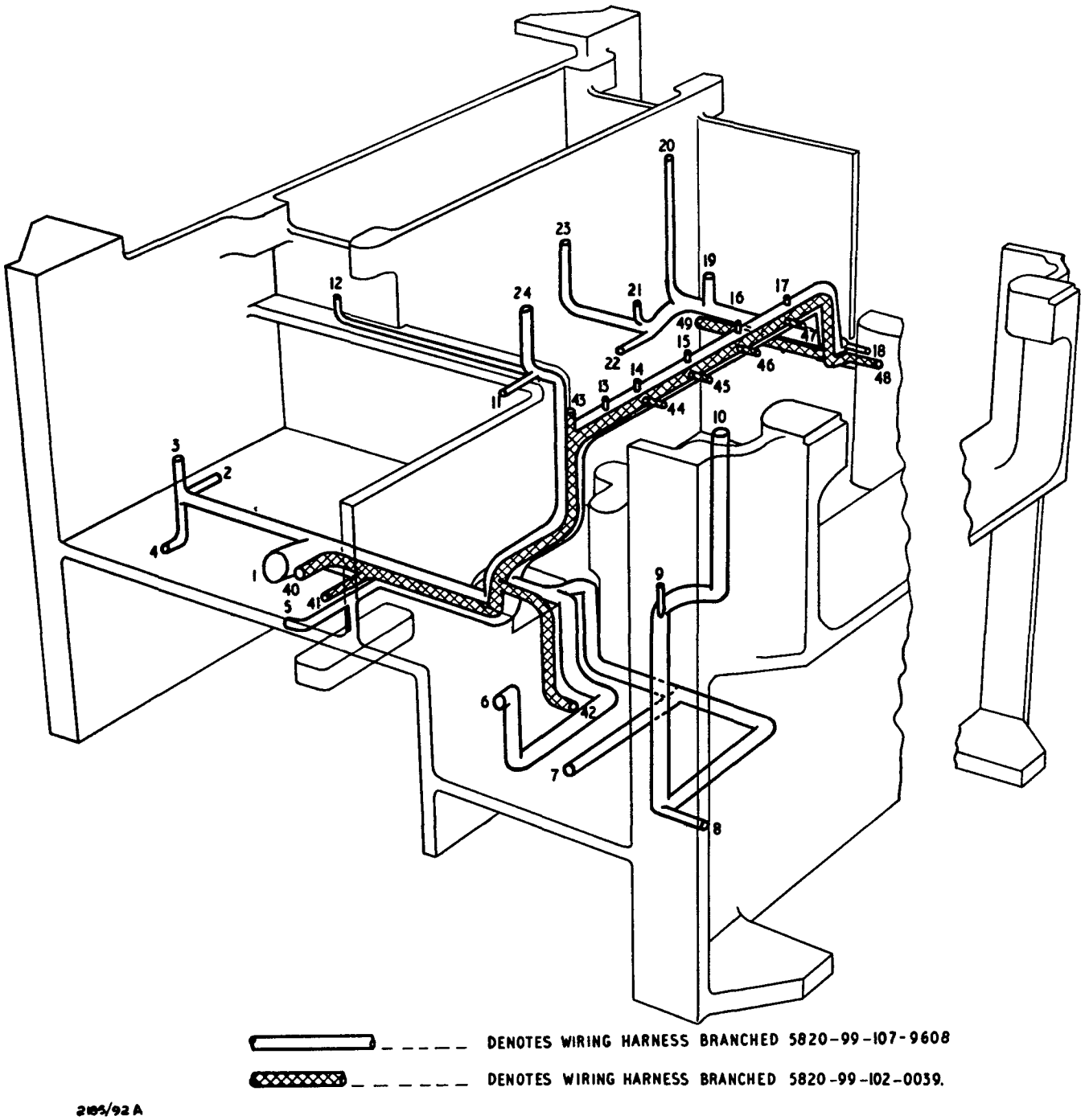
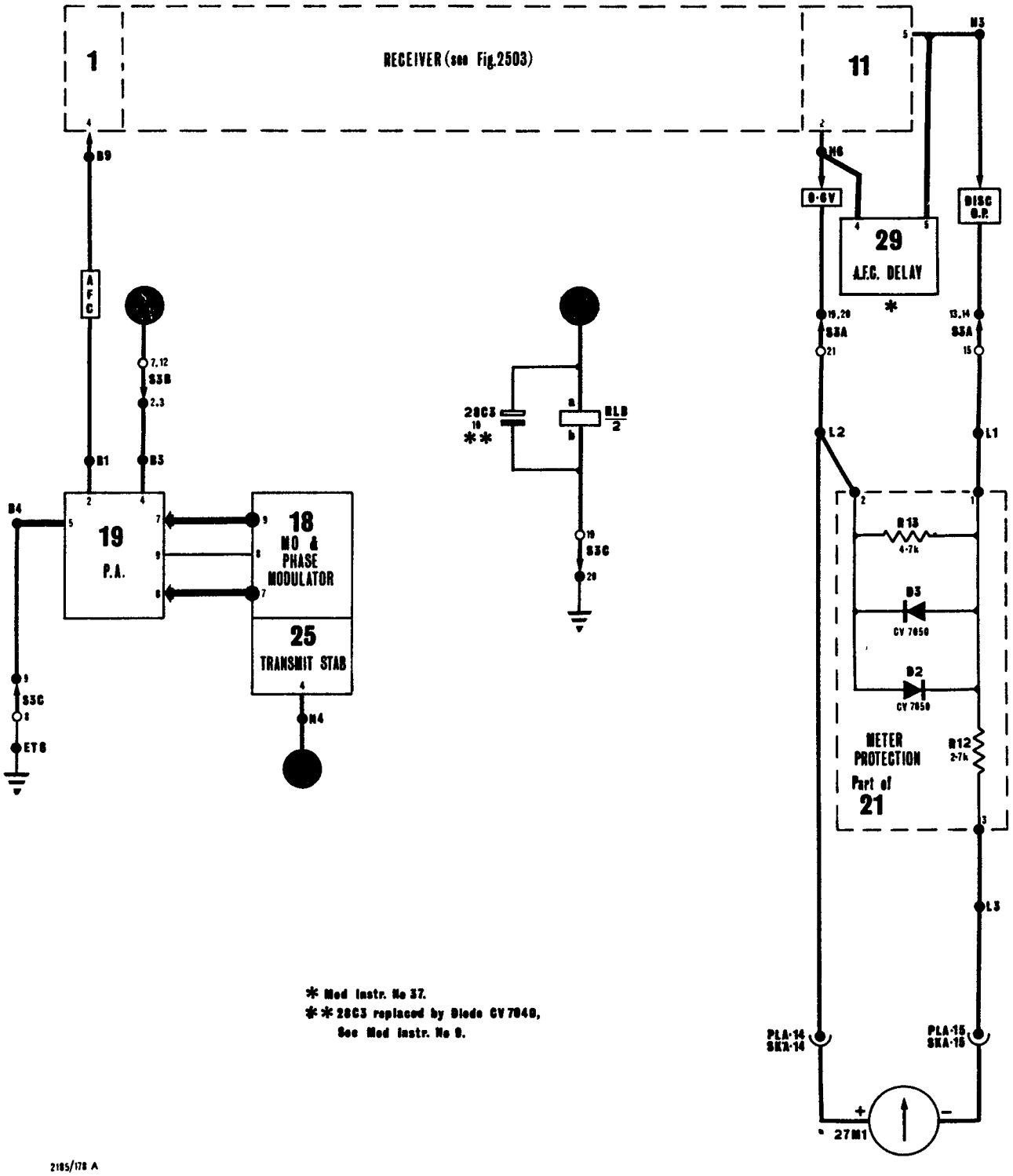


Fig 2507 - TRA13, film scale unit cableform layout (modified)
(Embodying Tels F 147 Mod Instr No 37)



* Mod Instr. No 37.
** 28C3 replaced by Diode CV 7048, See Mod Instr. No 9.

Fig 2508 - TRA13, tune r.f. simplified circuit

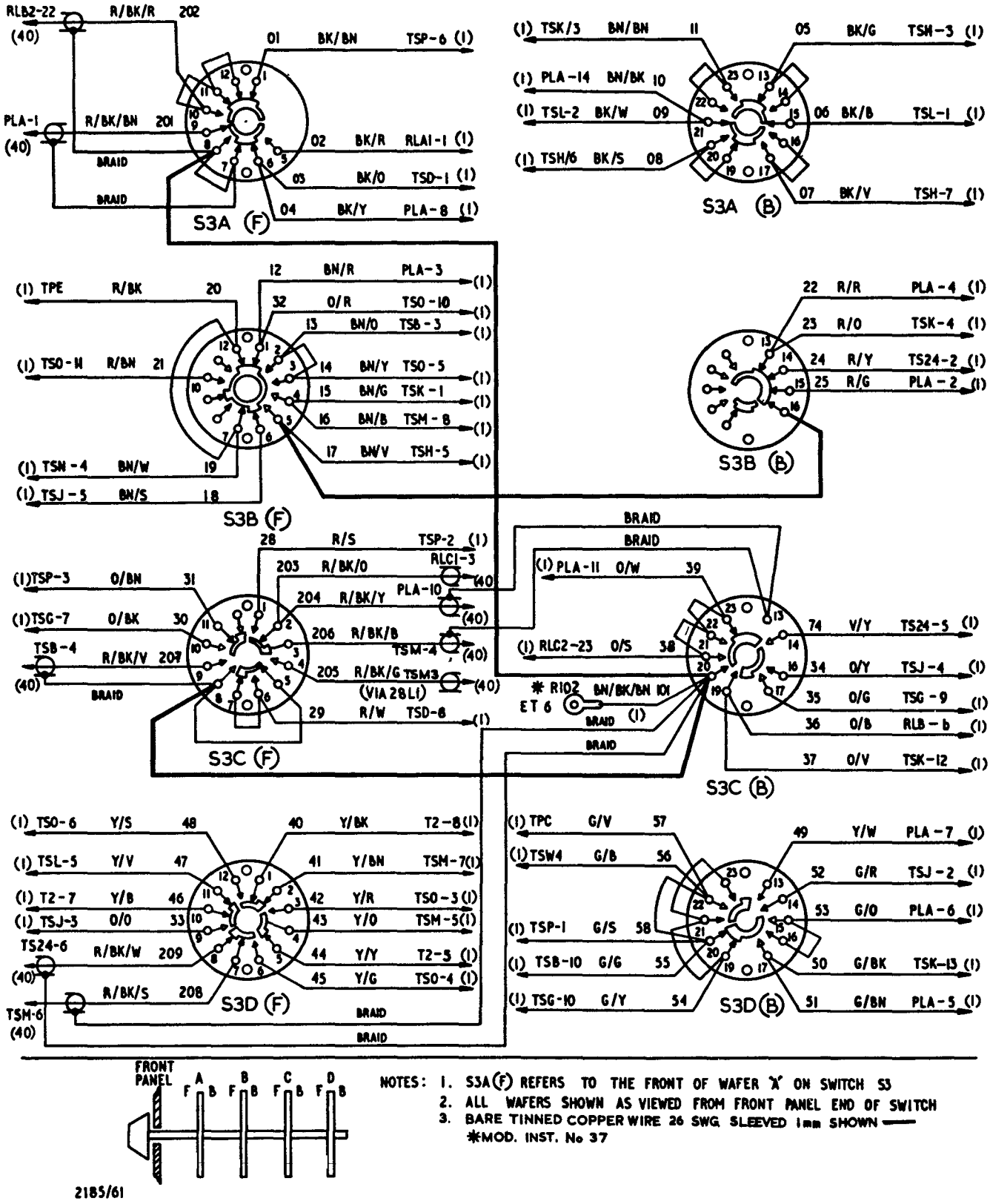


Fig 2509 - TRA13, system switch layout and wiring

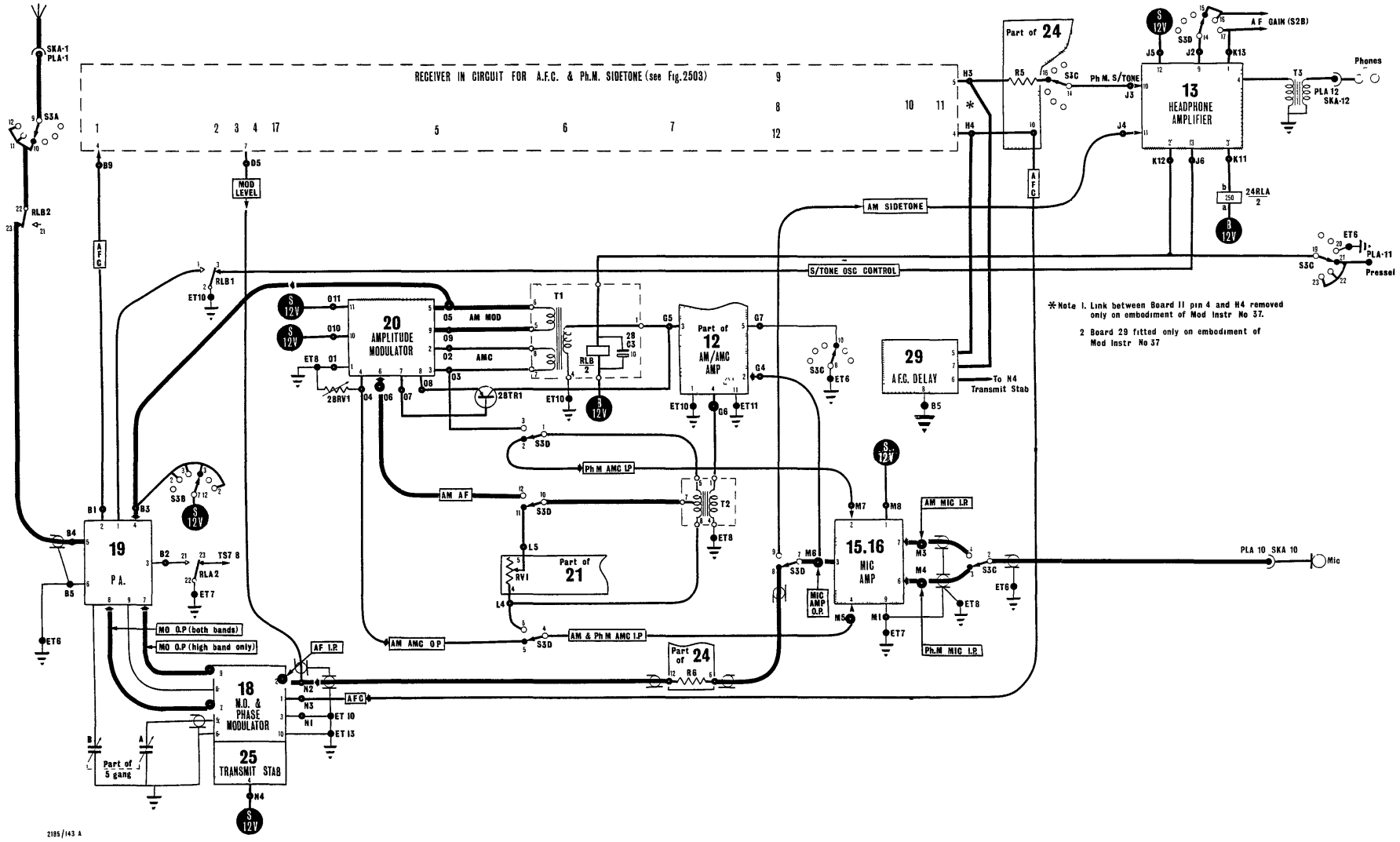


Fig 2510 - TRA13, transmitter simplified circuit

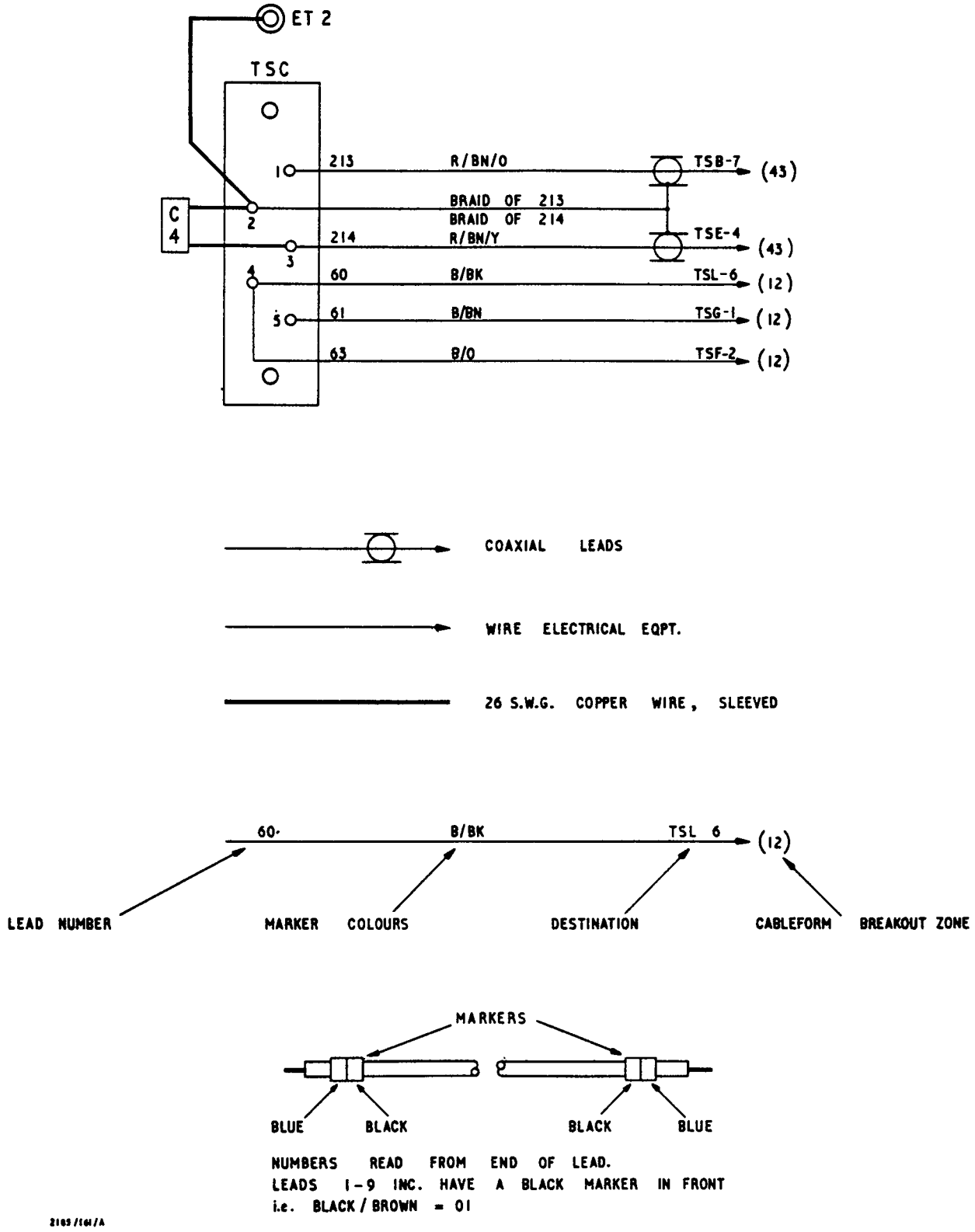


Fig 2511 - TRA13, legend of wiring diagrams

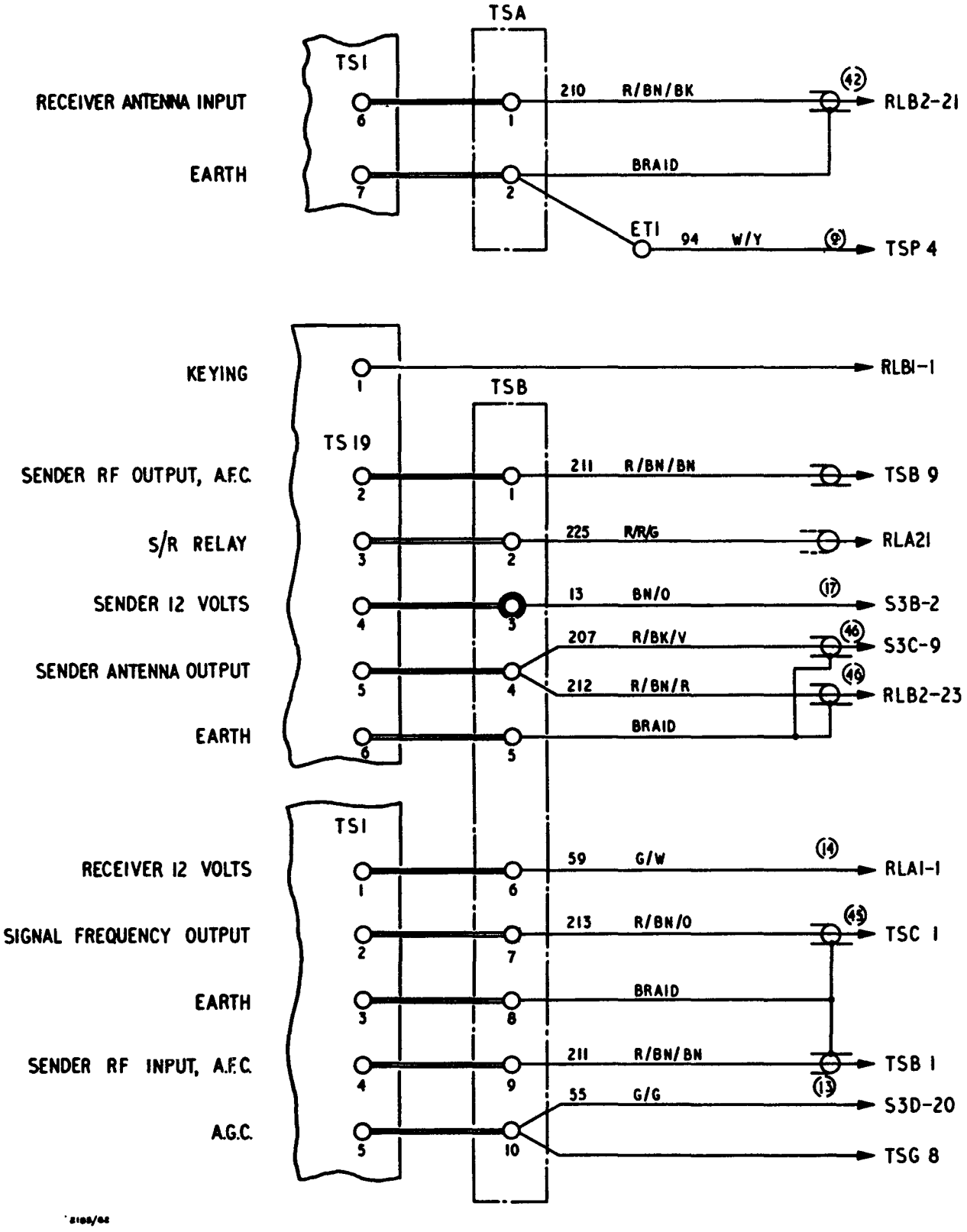


Fig 2512 - TRA13, terminal strips TSA and TSB connections

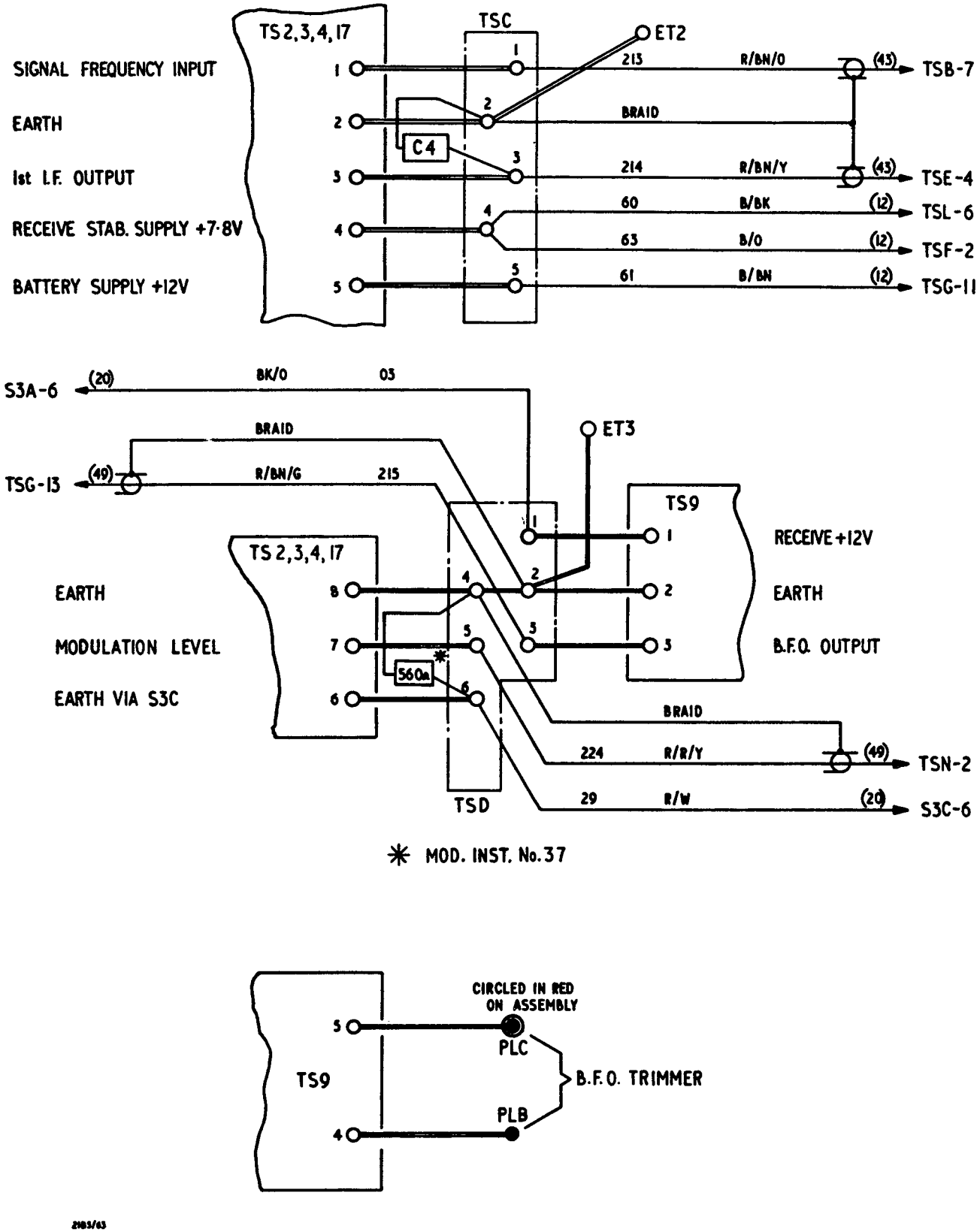


Fig 2513 - TRA13, terminal strips TSC and TSD connections

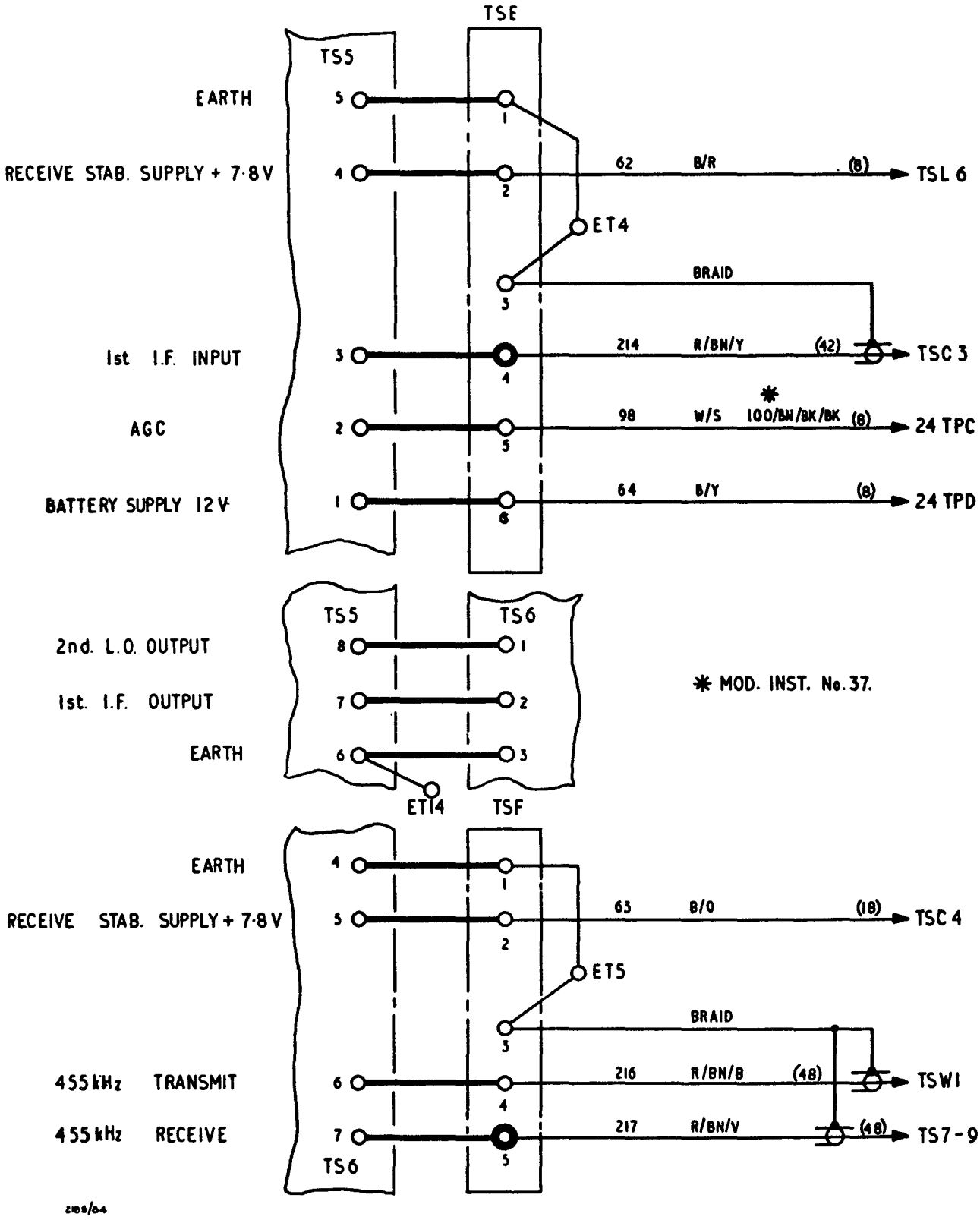


Fig 2514 - TRA13, terminal strips TSE and TSF connections

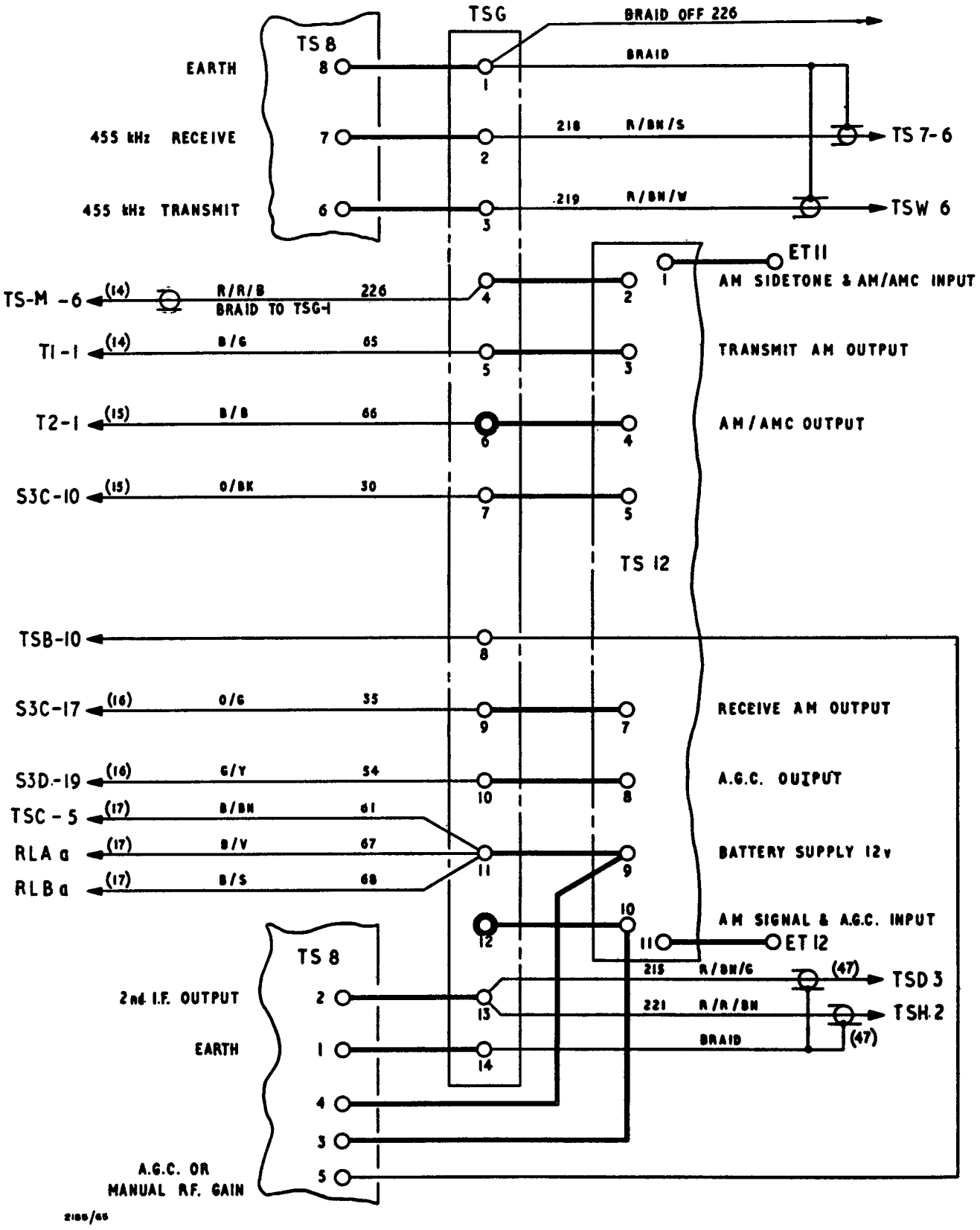


Fig 2515 - TRA13, terminal strip TSG connections

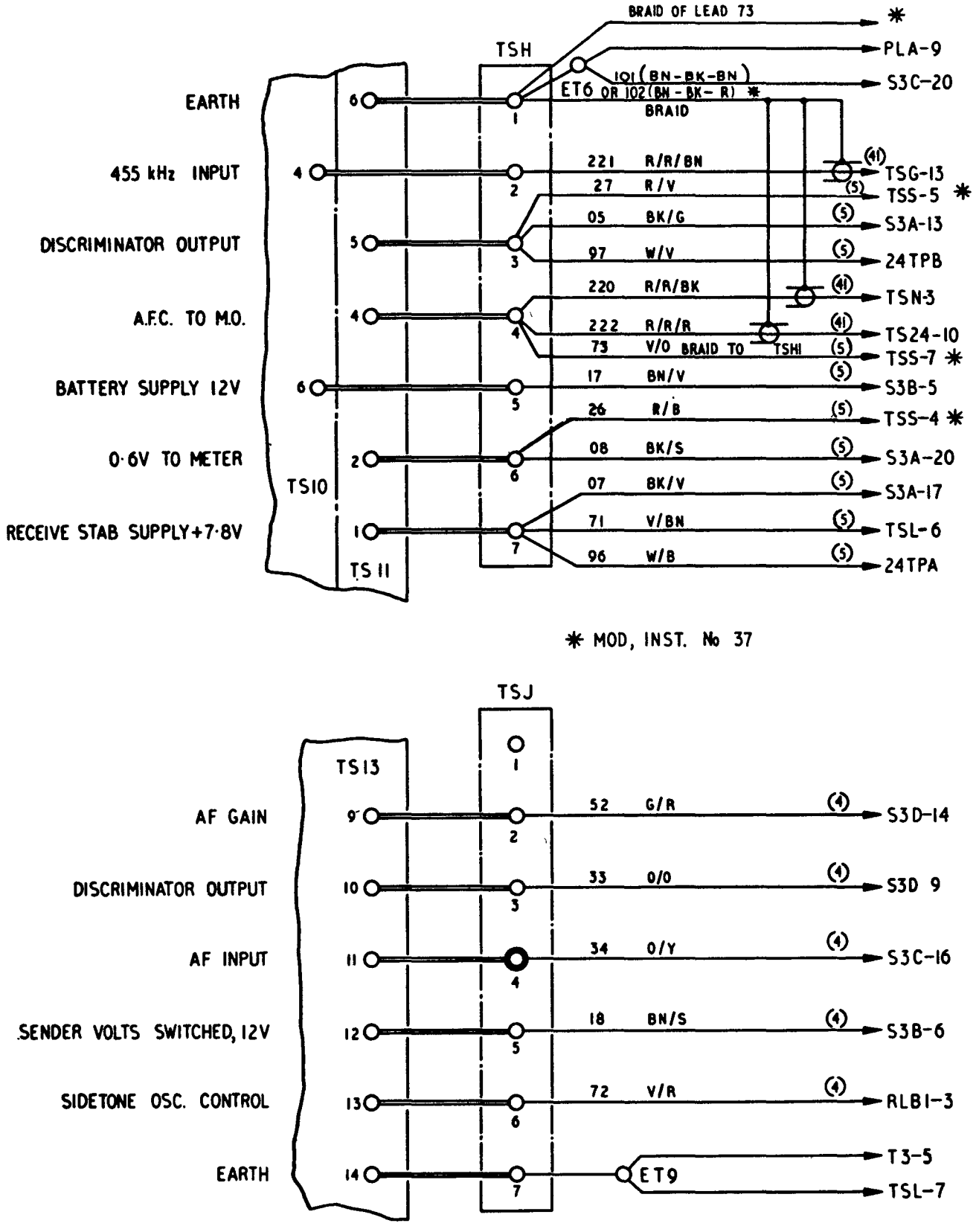


Fig 2516 - TRA13, terminal strips TSH and TSJ connections

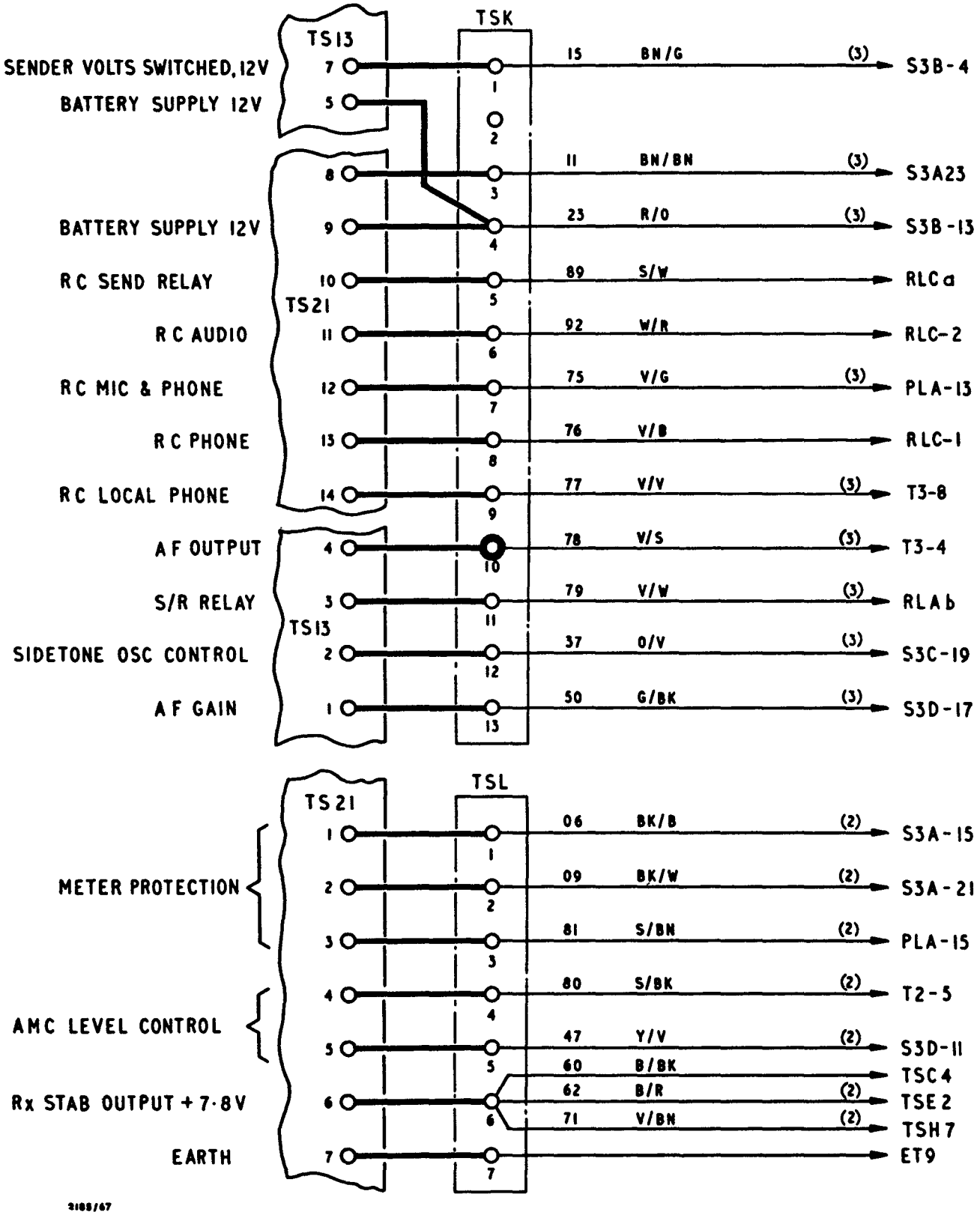


Fig 2517 - TRA13, terminal strips TSK and TSL connections

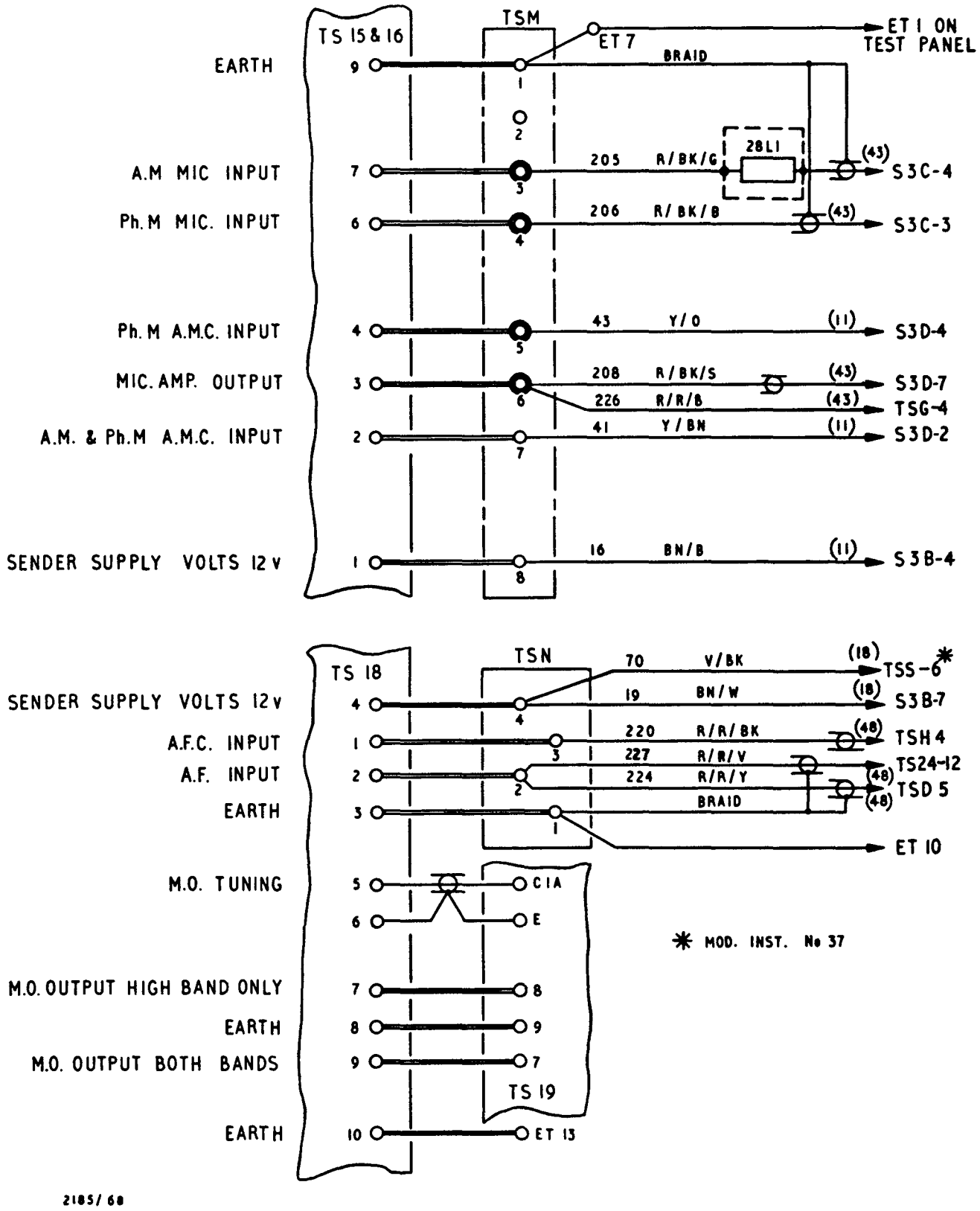


Fig 2518 - TRA13, terminal strips TSM and TSN connections

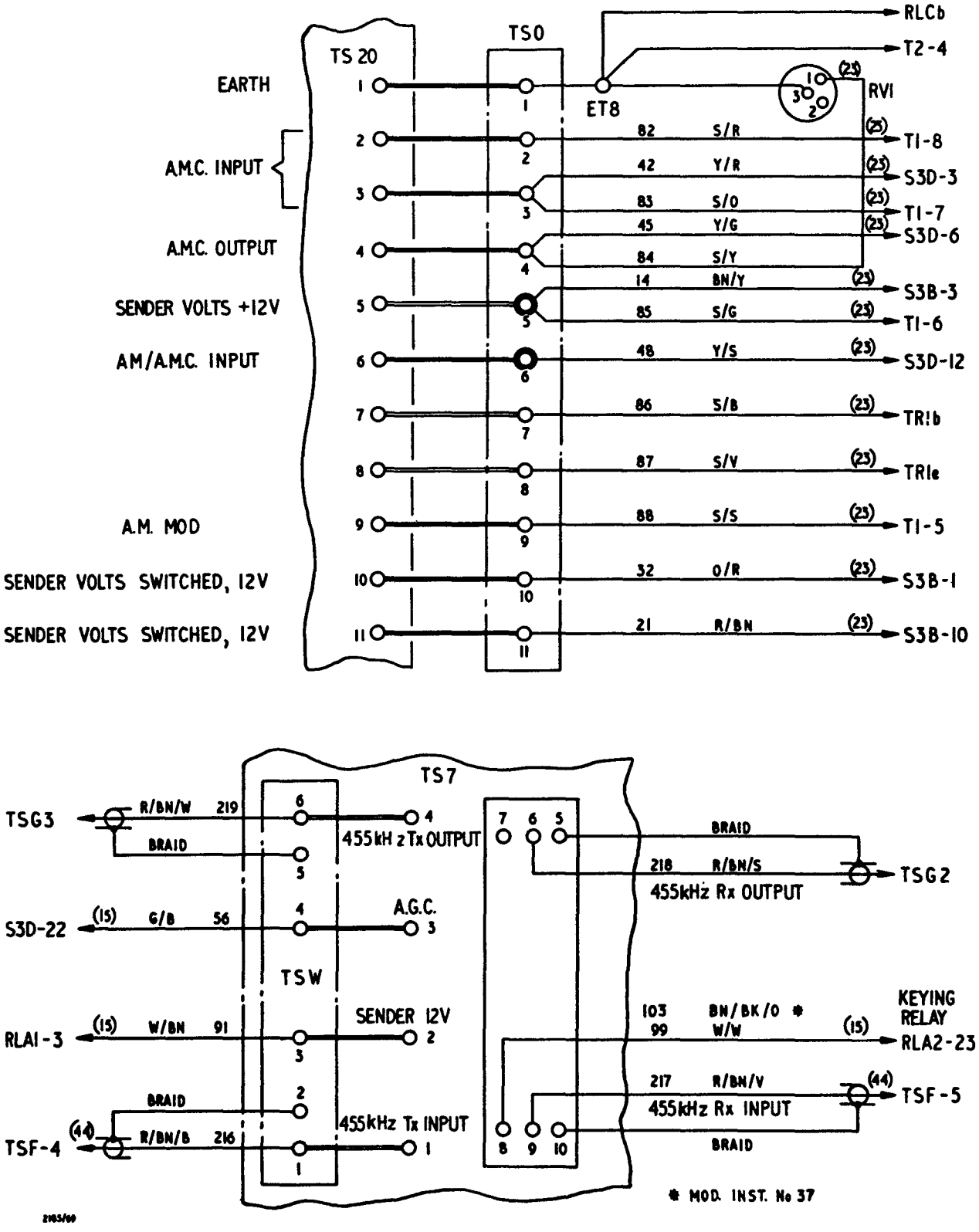


Fig 2519 - TRA13, terminal strips TSO and TSW connections

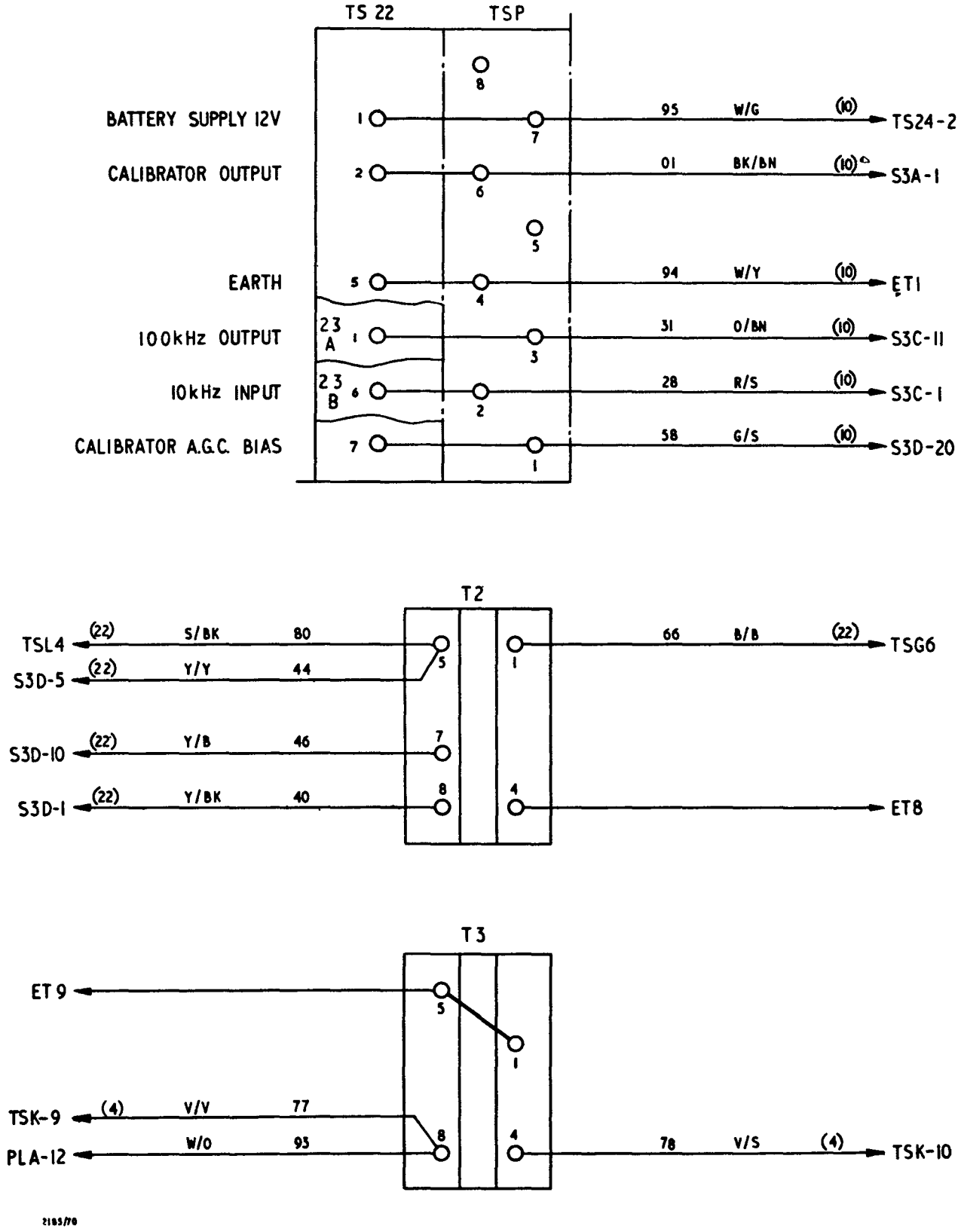
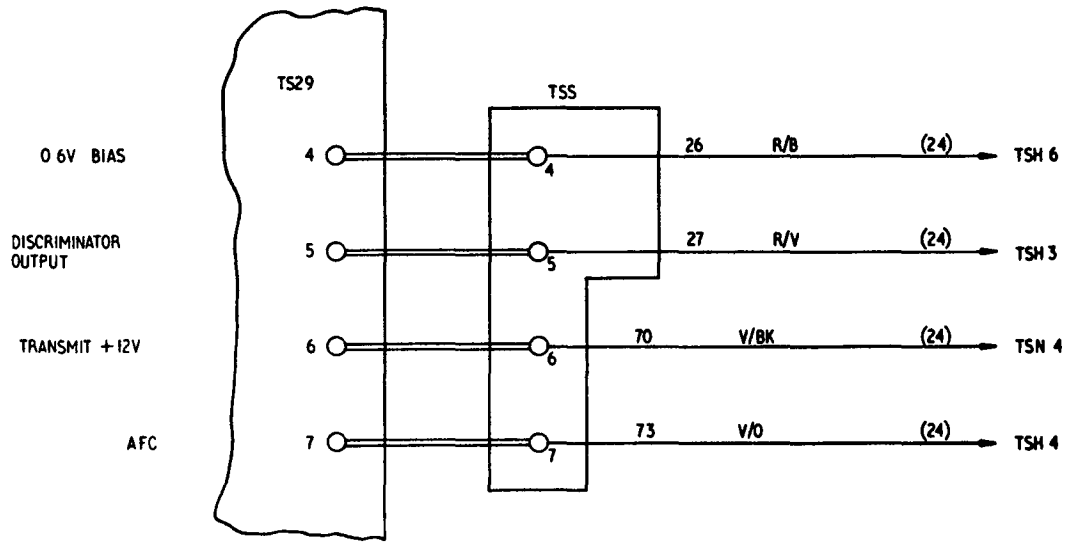


Fig 2520 - TRA13, terminal strip TSP and transformers 28T2 and 28T3 connections



6(136/19

Fig 2521 - TRA13, terminal strip TSS connections

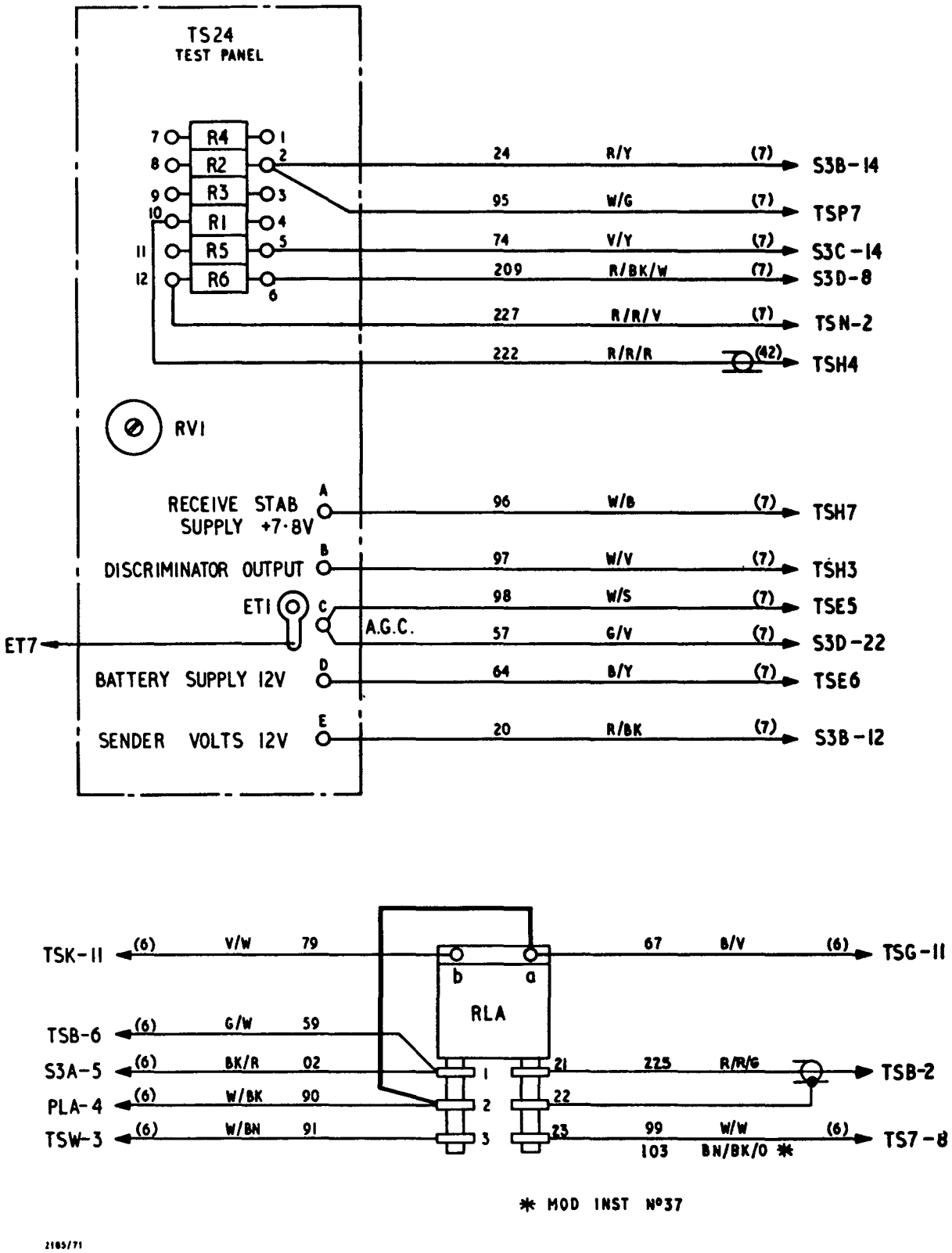


Fig 2522 - TRA13, test panel 24 and RLA connections

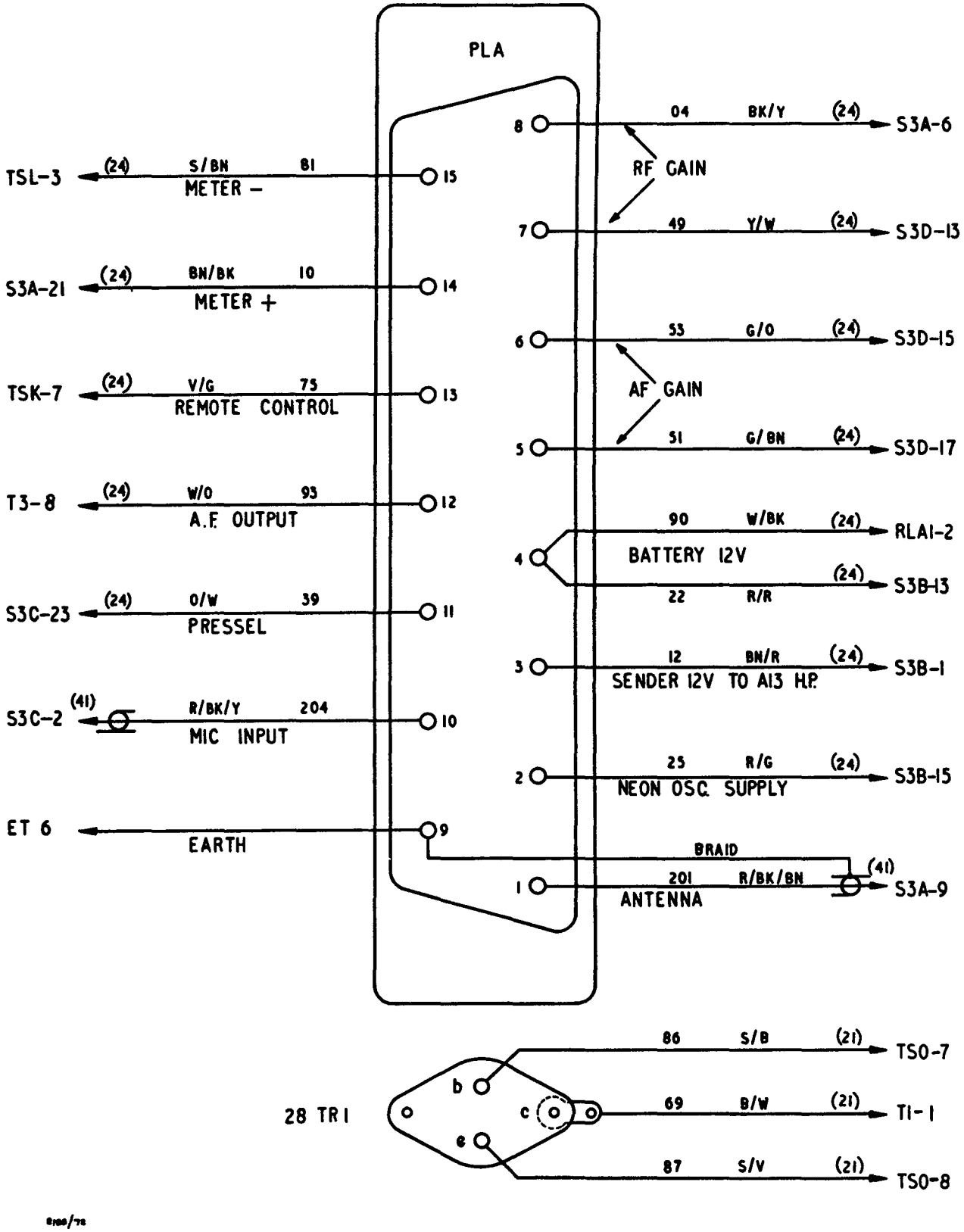


Fig 2523 - TRA13, plug PLA and transistor 28TR1 connections

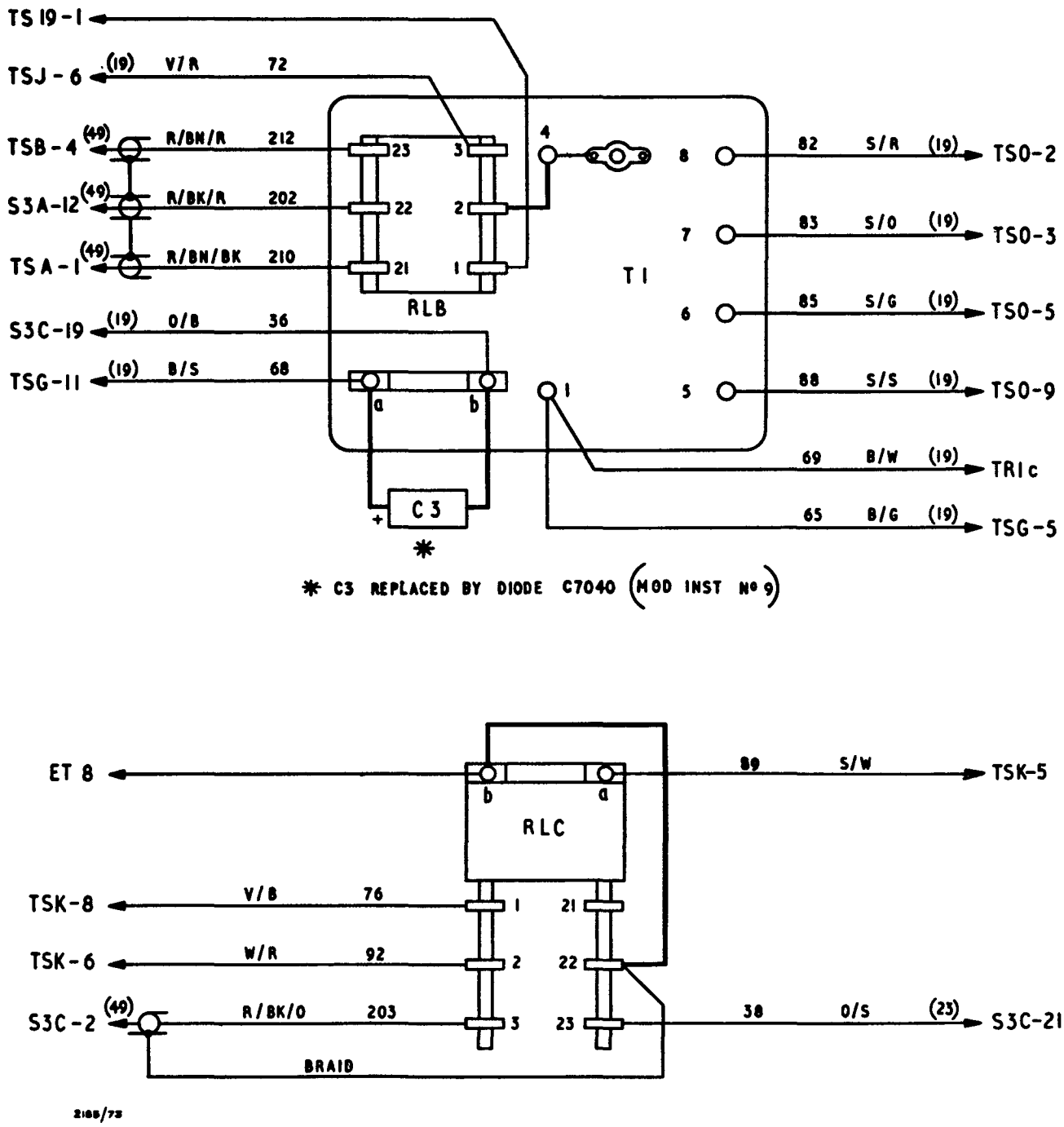


Fig 2524 - TRA13, relays RLB, RLC and transformer 28T1 connections

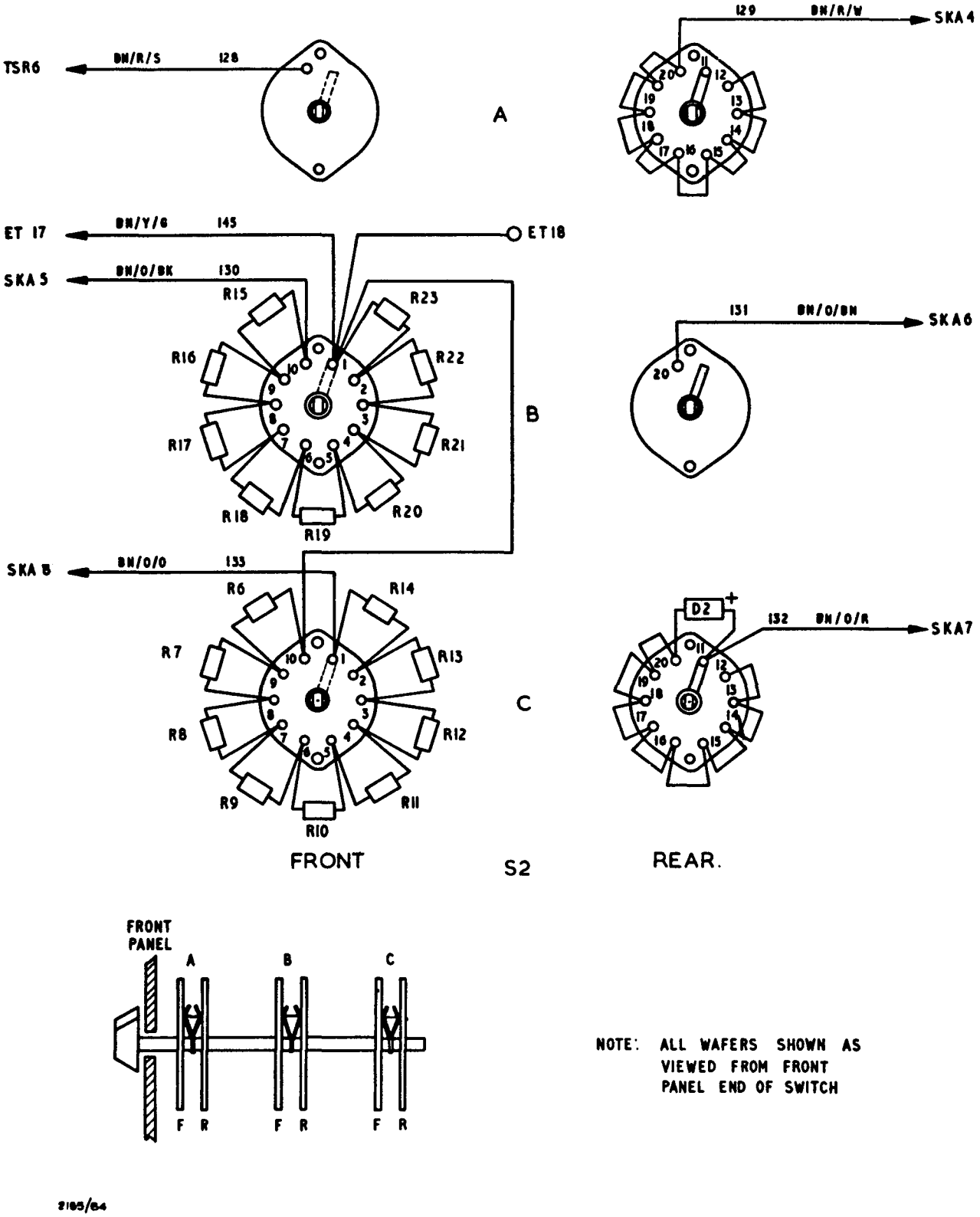
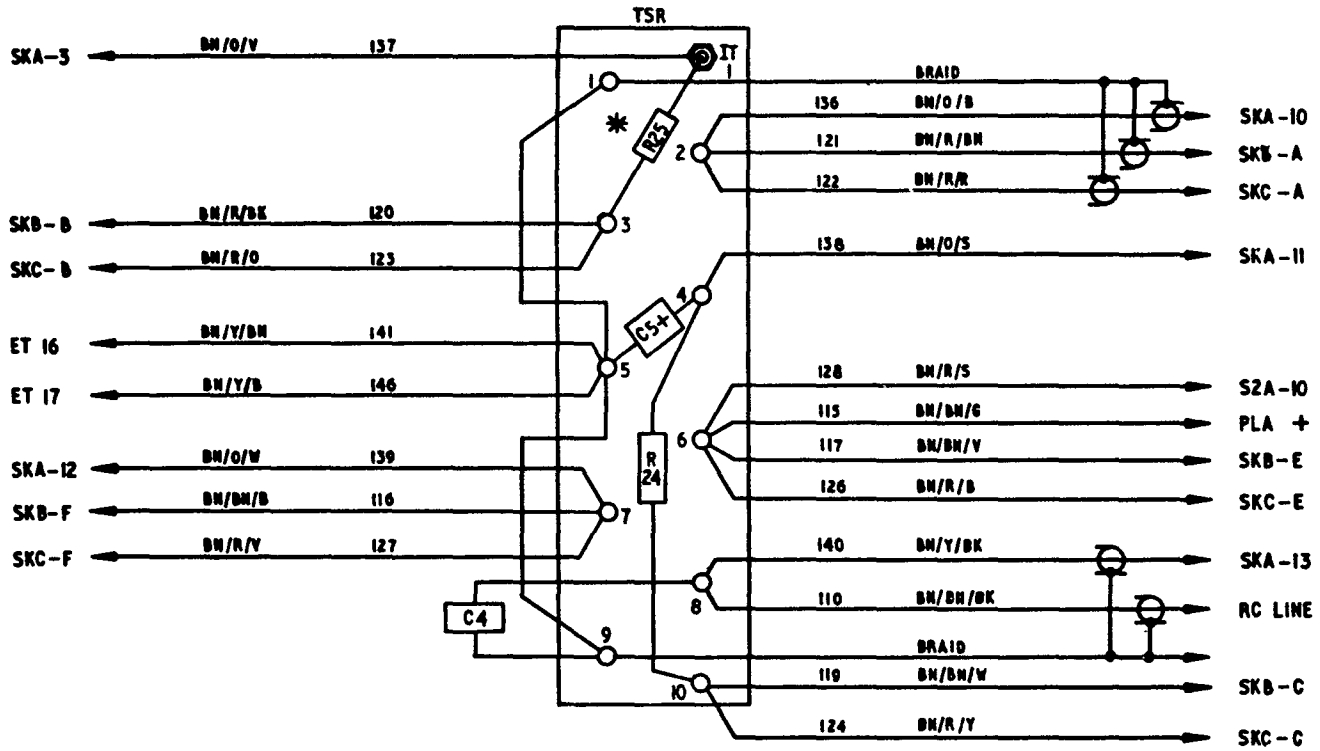
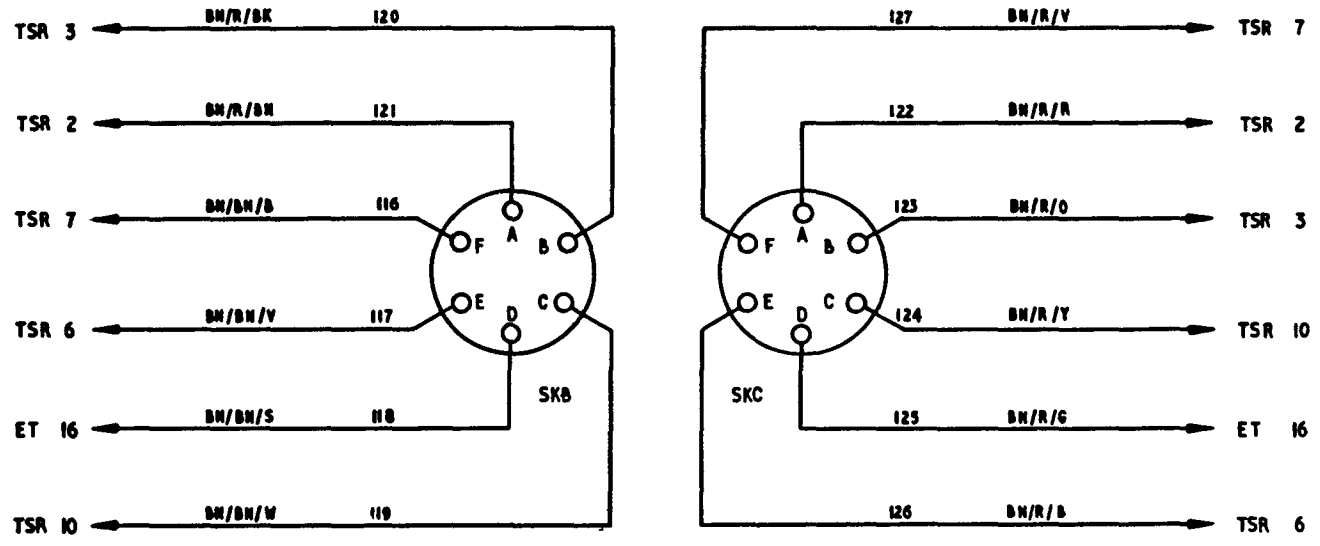


Fig 2525 - TRA13, gain control switch wiring



TSR10 IS NOT A PHYSICAL TERMINAL ON THE TAG STRIP, BUT INDICATES A FLOATING INSULATED SOLDERED JOINT IN CLOSE PROXIMITY TO R24.



*MOD INST N°30

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Fig 2526 - TRA13, front panel wiring

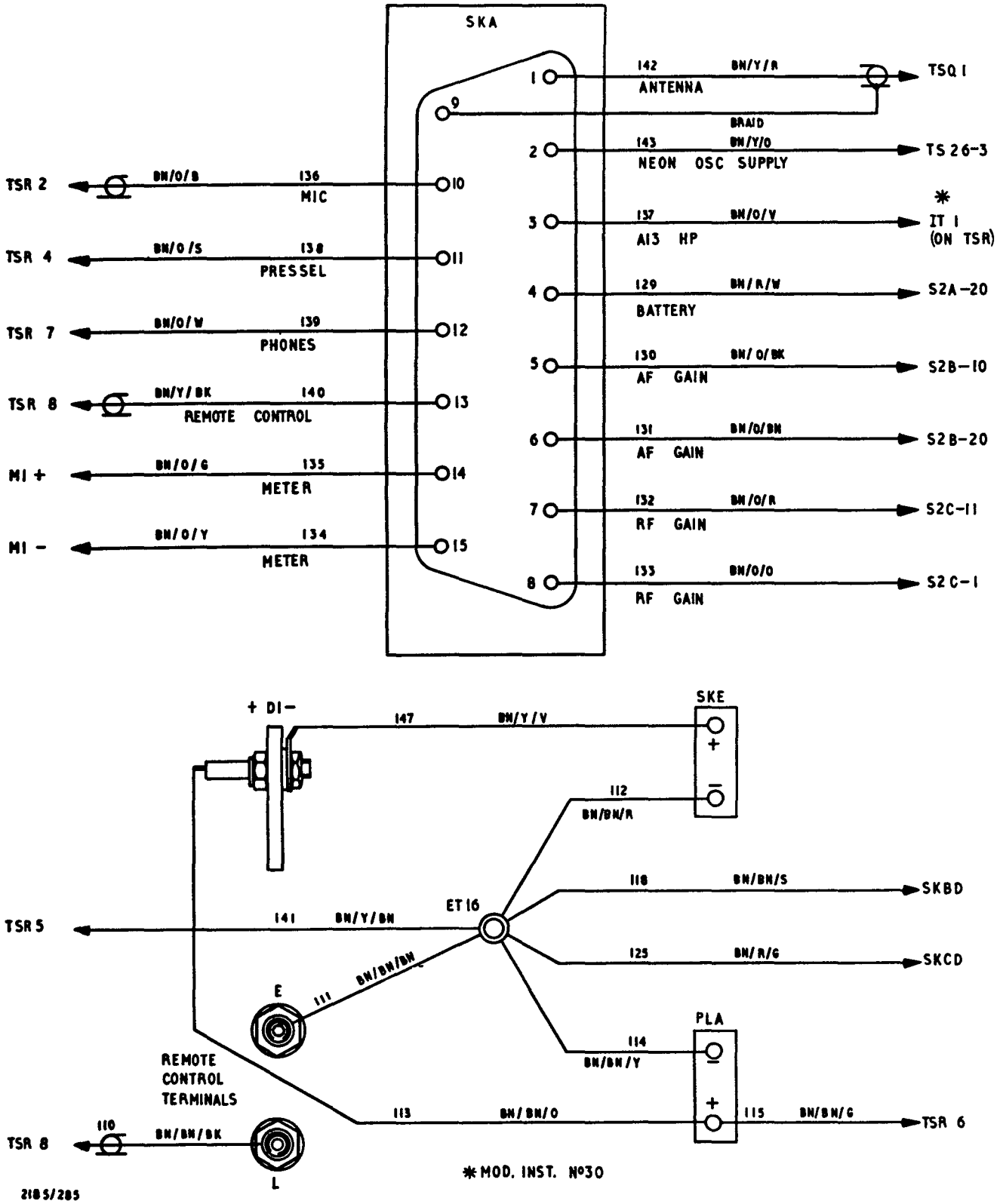


Fig 2527 - TRA13, front panel wiring

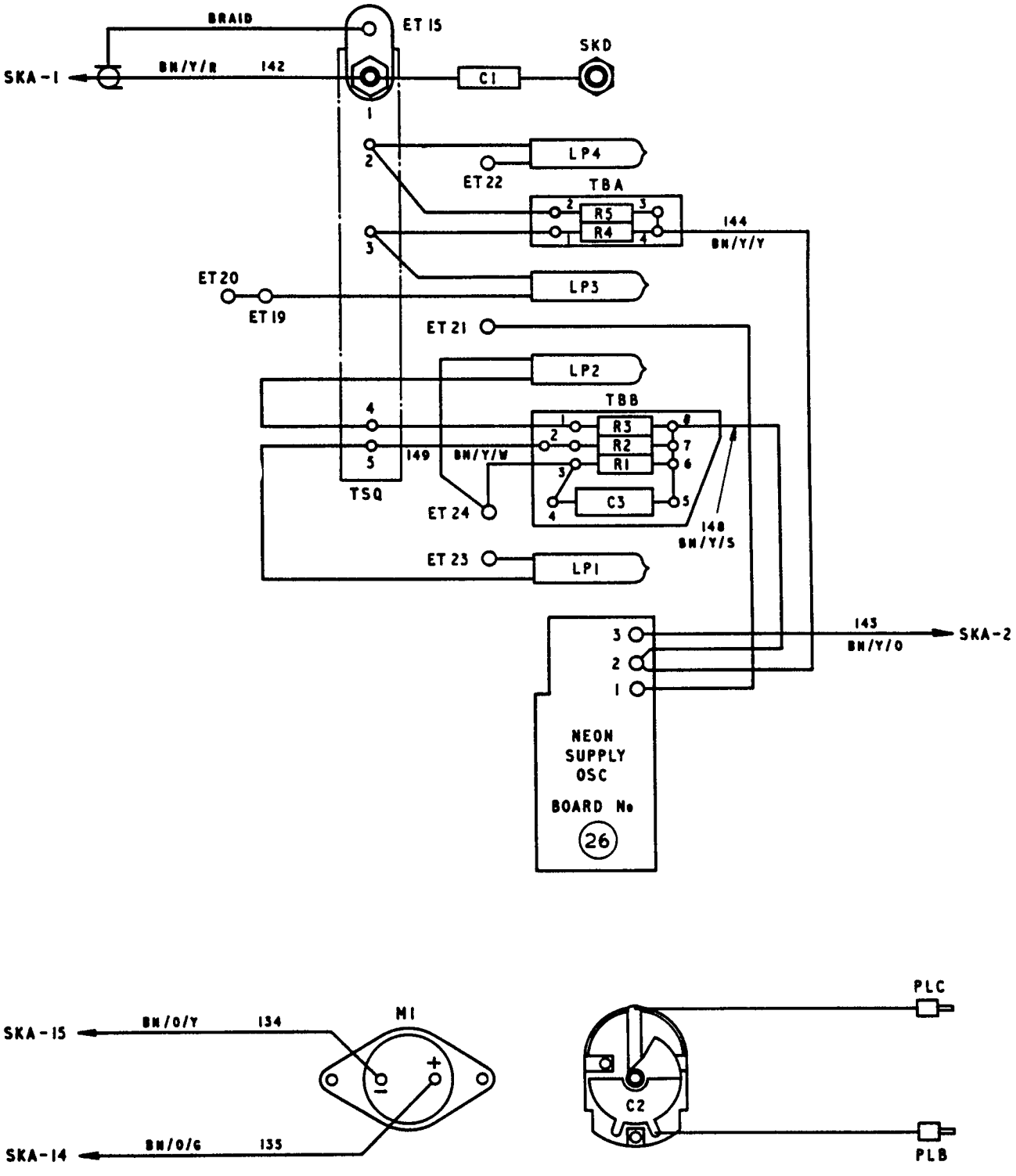
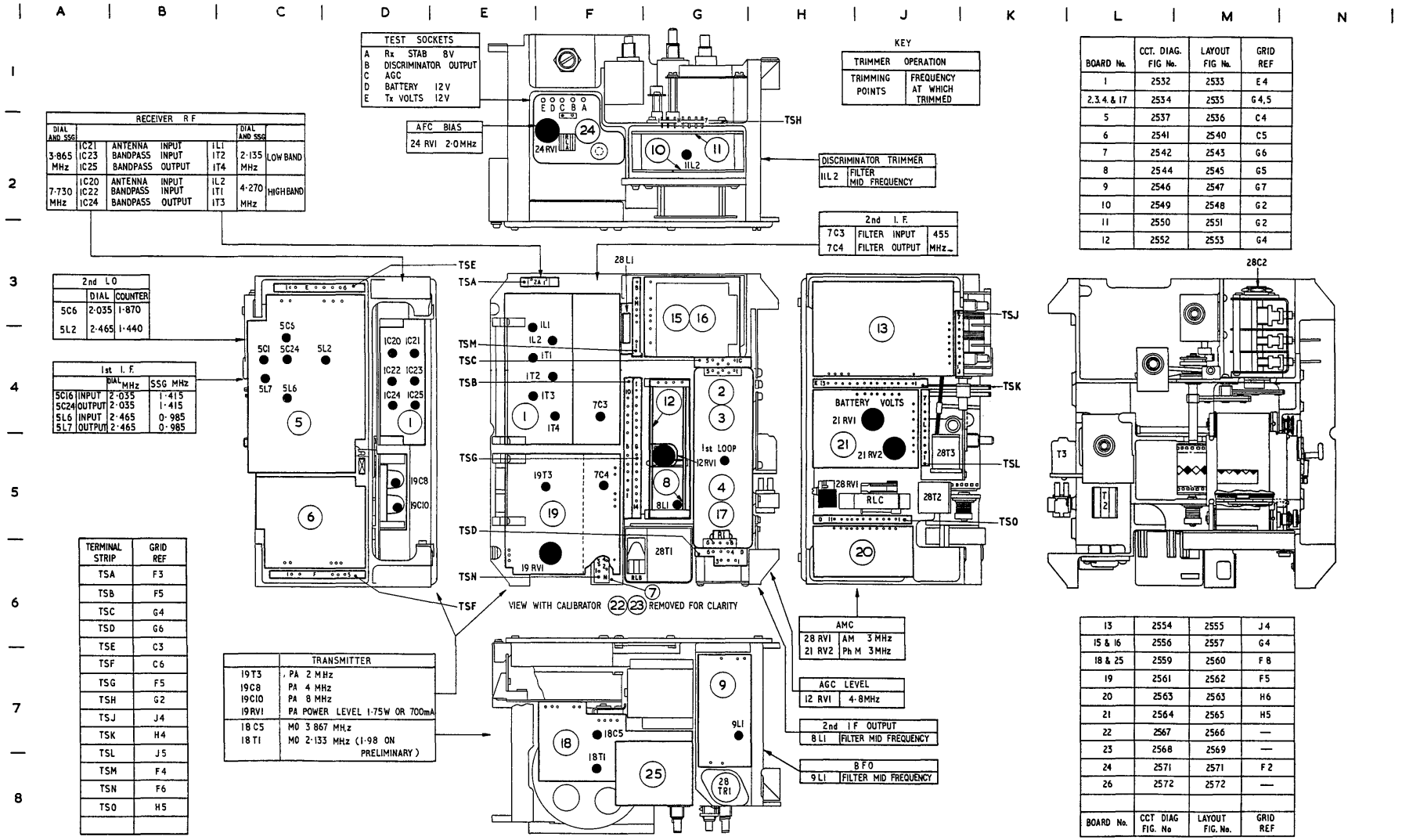


Fig 2528 - TRA13, front panel wiring



TERMINAL STRIP	GRID REF
TSA	F3
TSB	F5
TSC	G4
TSD	G6
TSE	C3
TSF	C6
TSG	F5
TSH	G2
TSJ	J4
TSK	H4
TSL	J5
TSM	F4
TSN	F6
TSO	H5

BOARD No.	CCT. DIAG. FIG No.	LAYOUT FIG No.	GRID REF
1	2532	2533	E4
2.3.4.& 17	2534	2535	G4,5
5	2537	2536	C4
6	2541	2540	C5
7	2542	2543	G6
8	2544	2545	G5
9	2546	2547	G7
10	2549	2548	G2
11	2550	2551	G2
12	2552	2553	G4
13	2554	2555	J4
15 & 16	2556	2557	G4
18 & 25	2559	2560	F8
19	2561	2562	F5
20	2563	2563	H6
21	2564	2565	H5
22	2567	2566	—
23	2568	2569	—
24	2571	2571	F2
26	2572	2572	—
BOARD No.	CCT DIAG FIG No	LAYOUT FIG. No.	GRID REF

Fig 2529 - Film scale unit, layout and trimming points

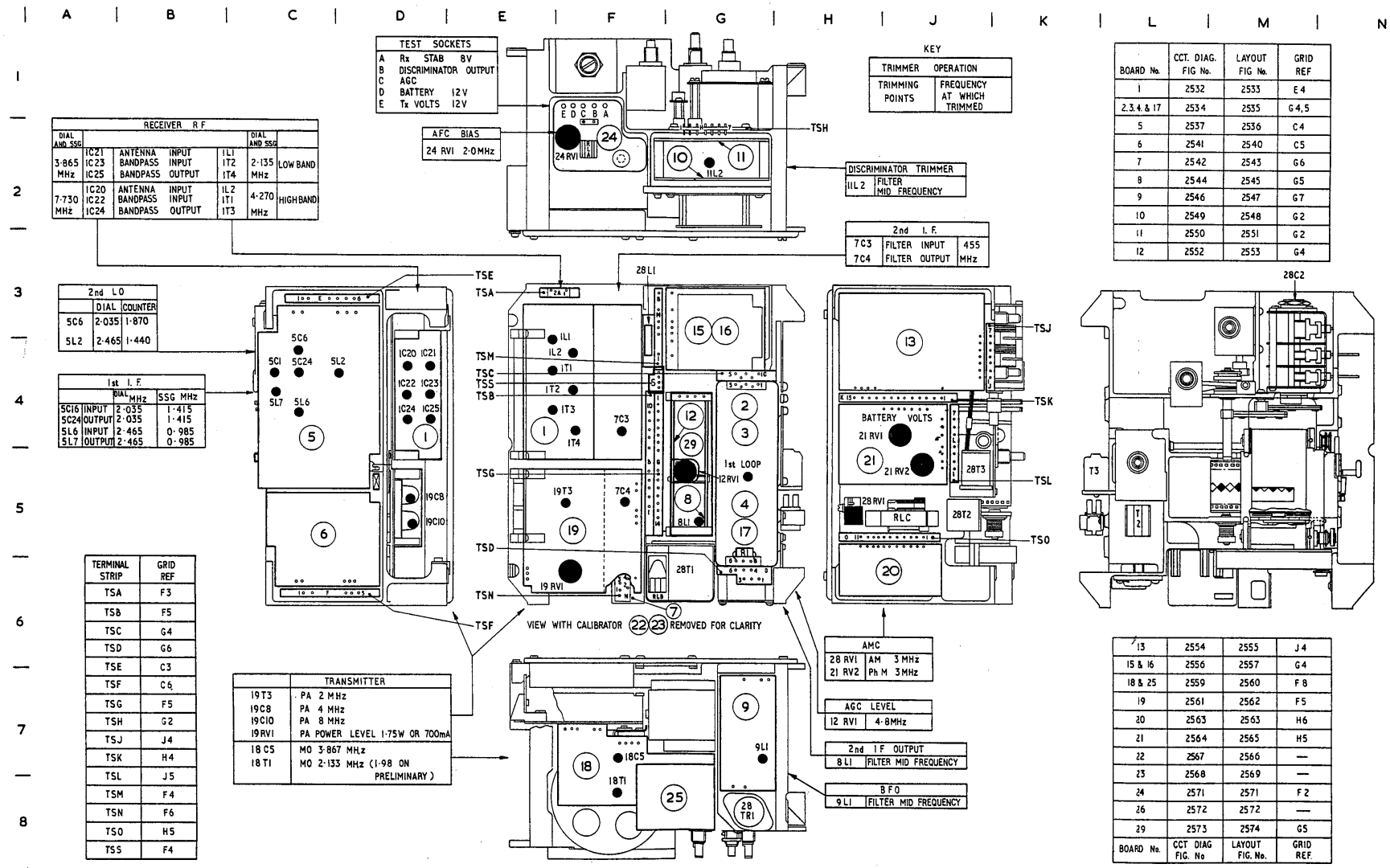


Fig 2530 - Film scale unit, layout and trimming points (modified)
(Embodying Tels F 147 Mod Instr No 37)

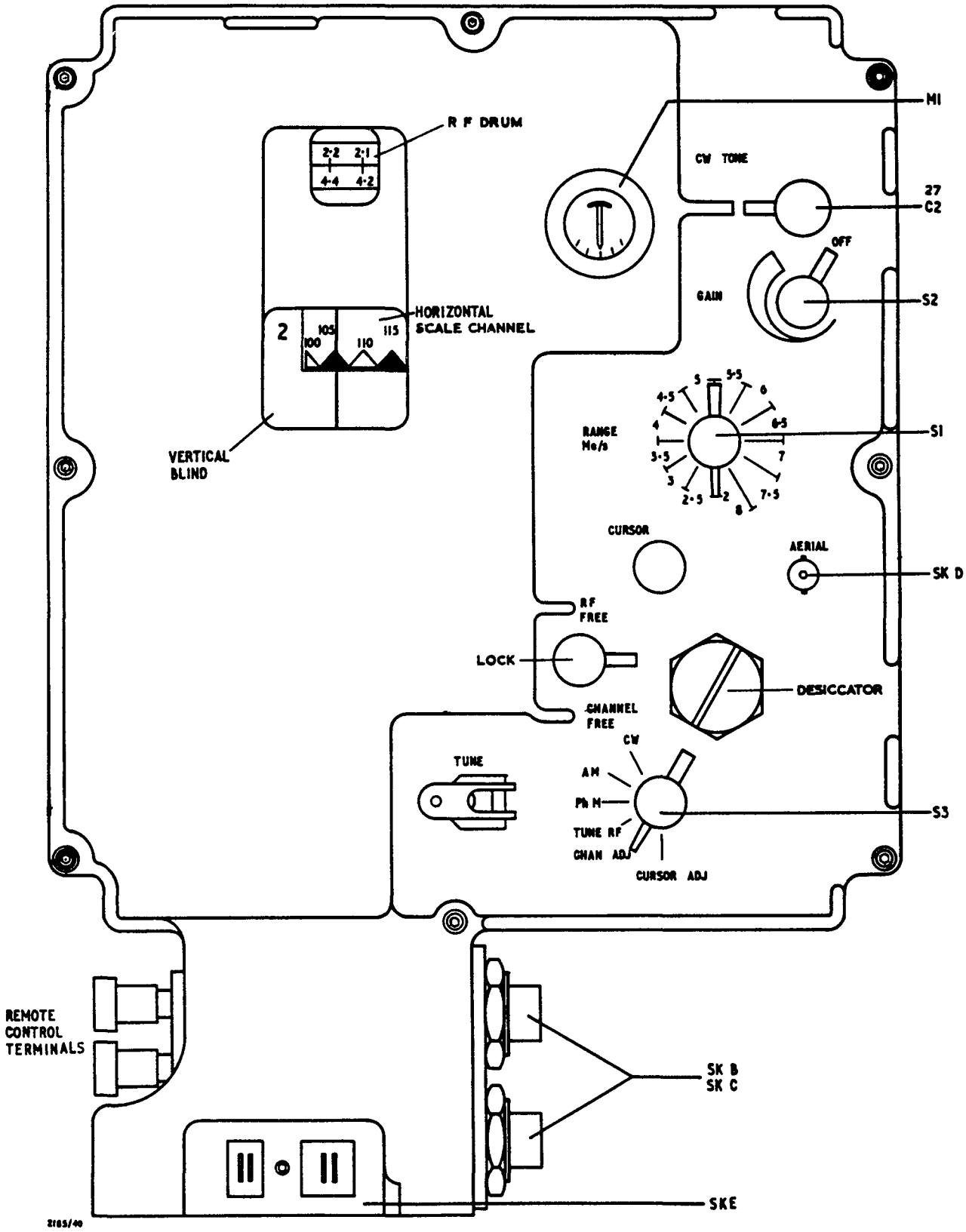


Fig 2531 - TRA13, front panel layout

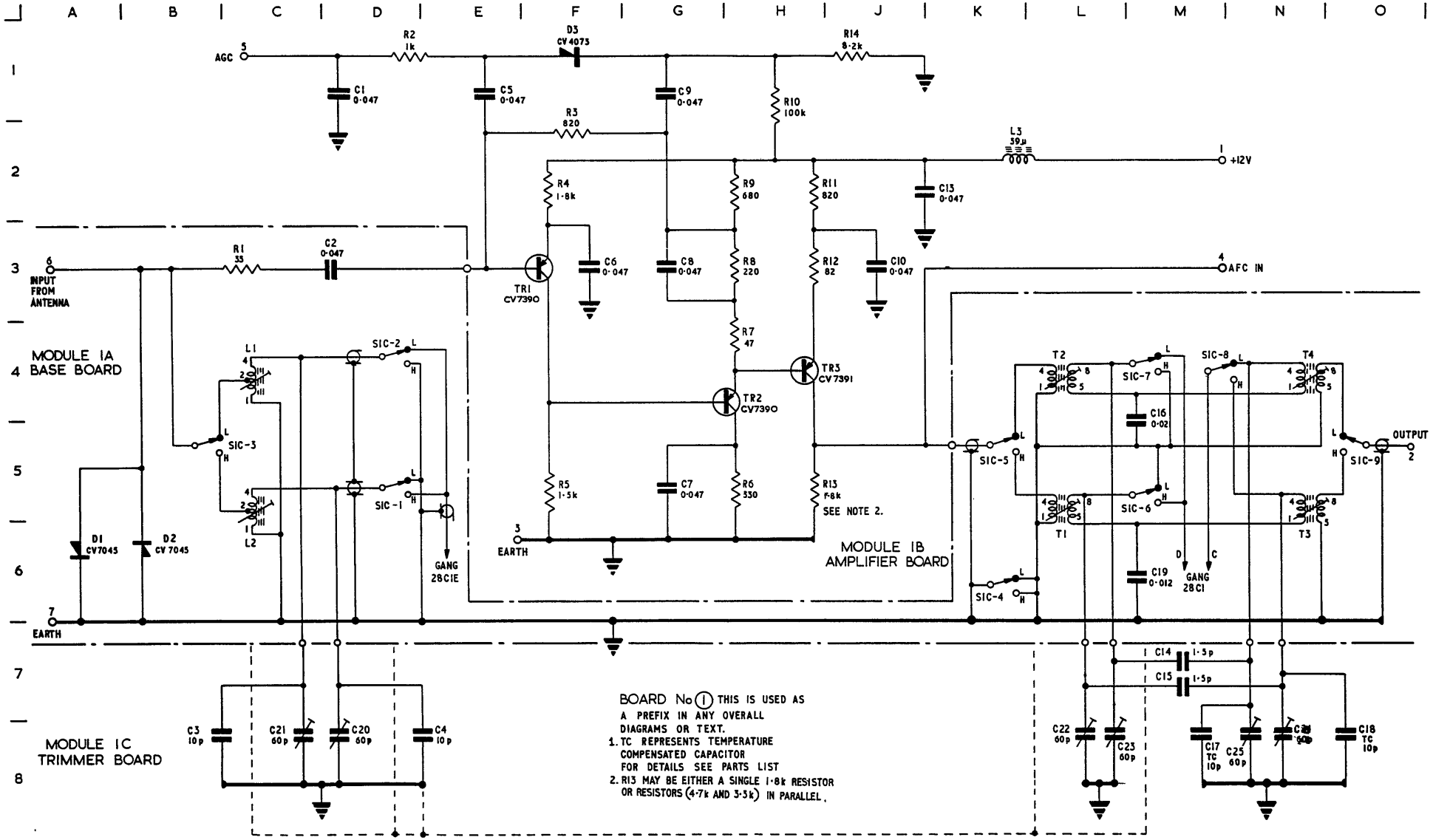


Fig 2532 - TRA13, board 1 circuit

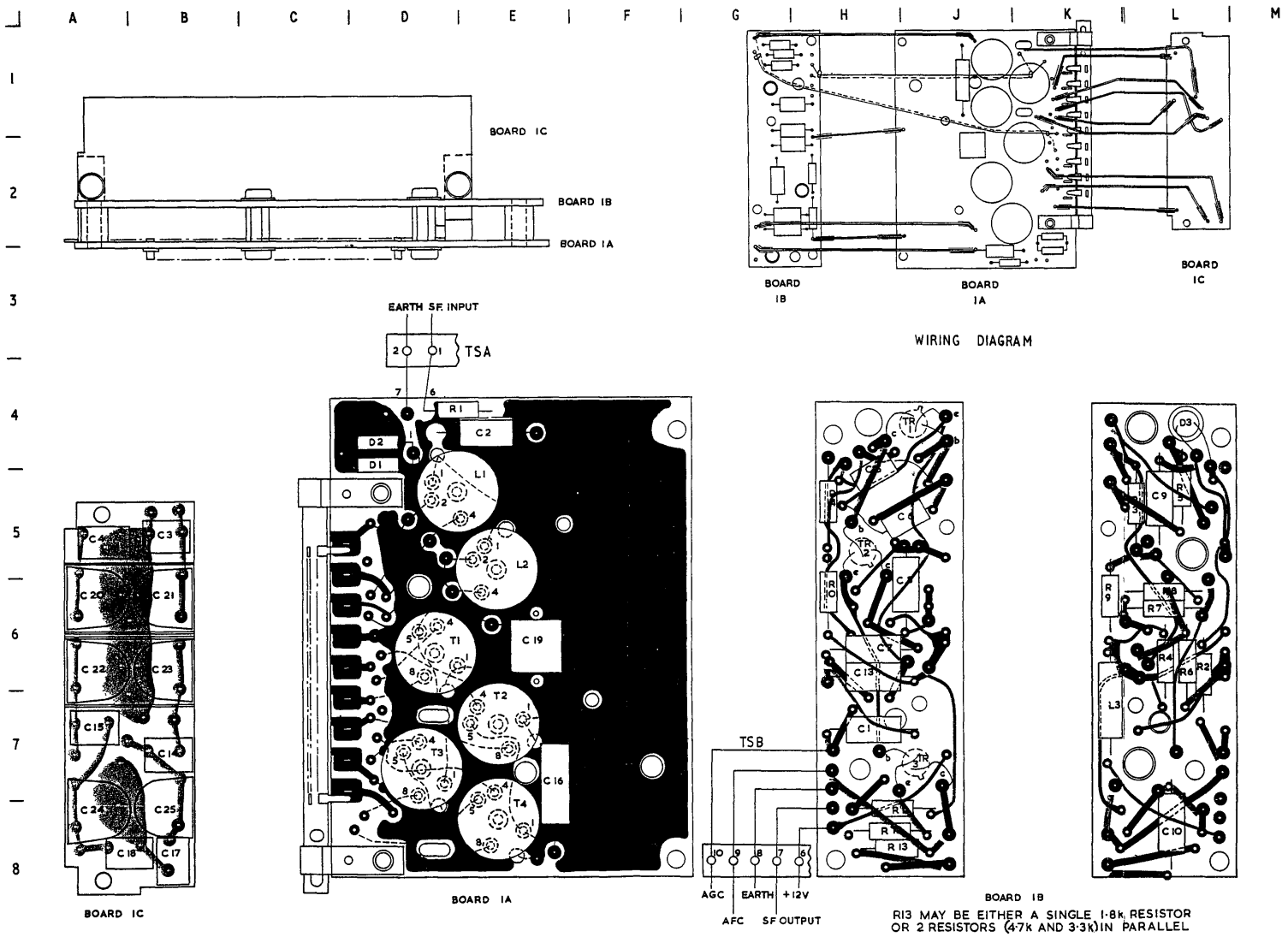


Fig 2533 - TRA13, board 1 layout

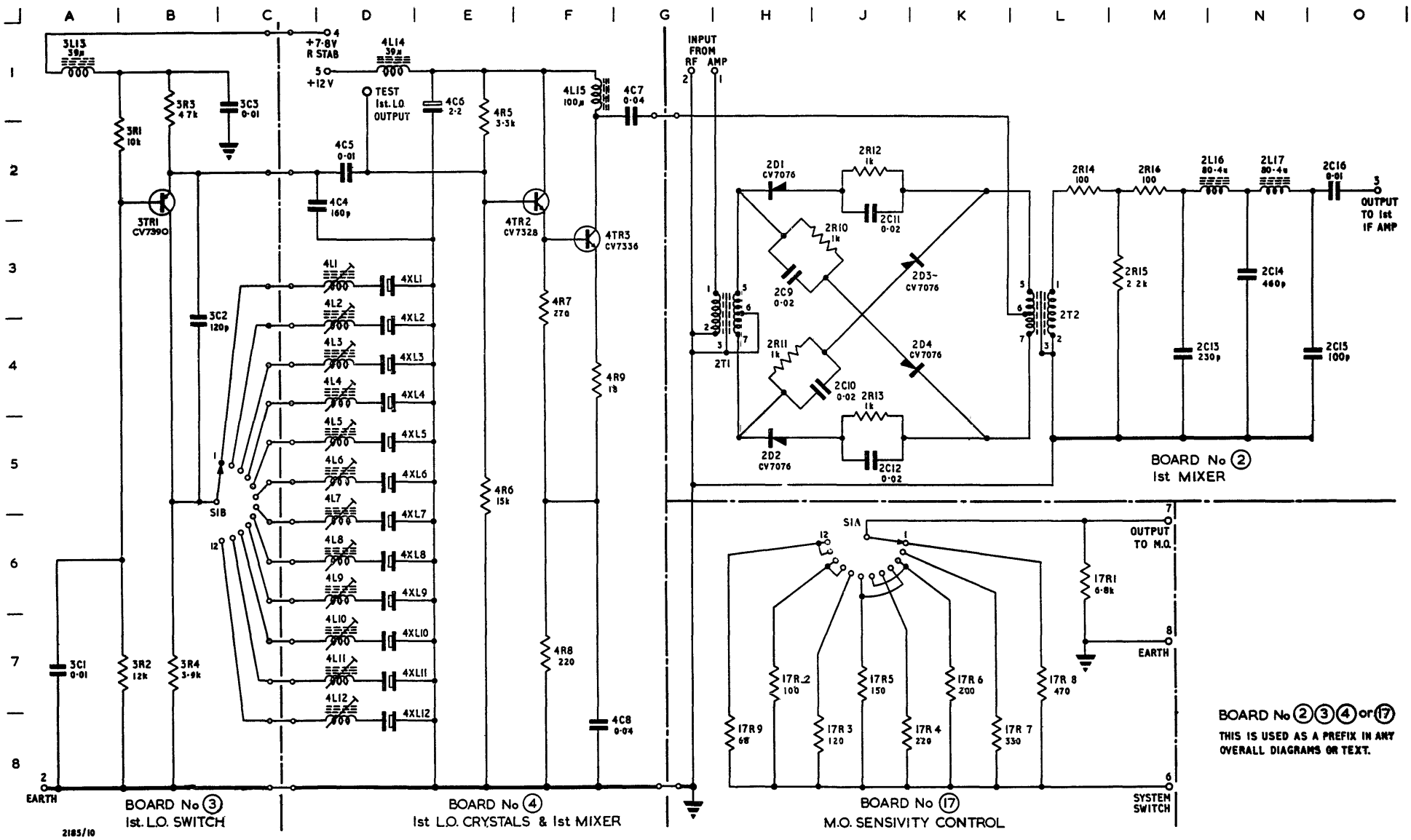


Fig 2534 - TRA13, boards 2, 3, 4 and 17 circuit

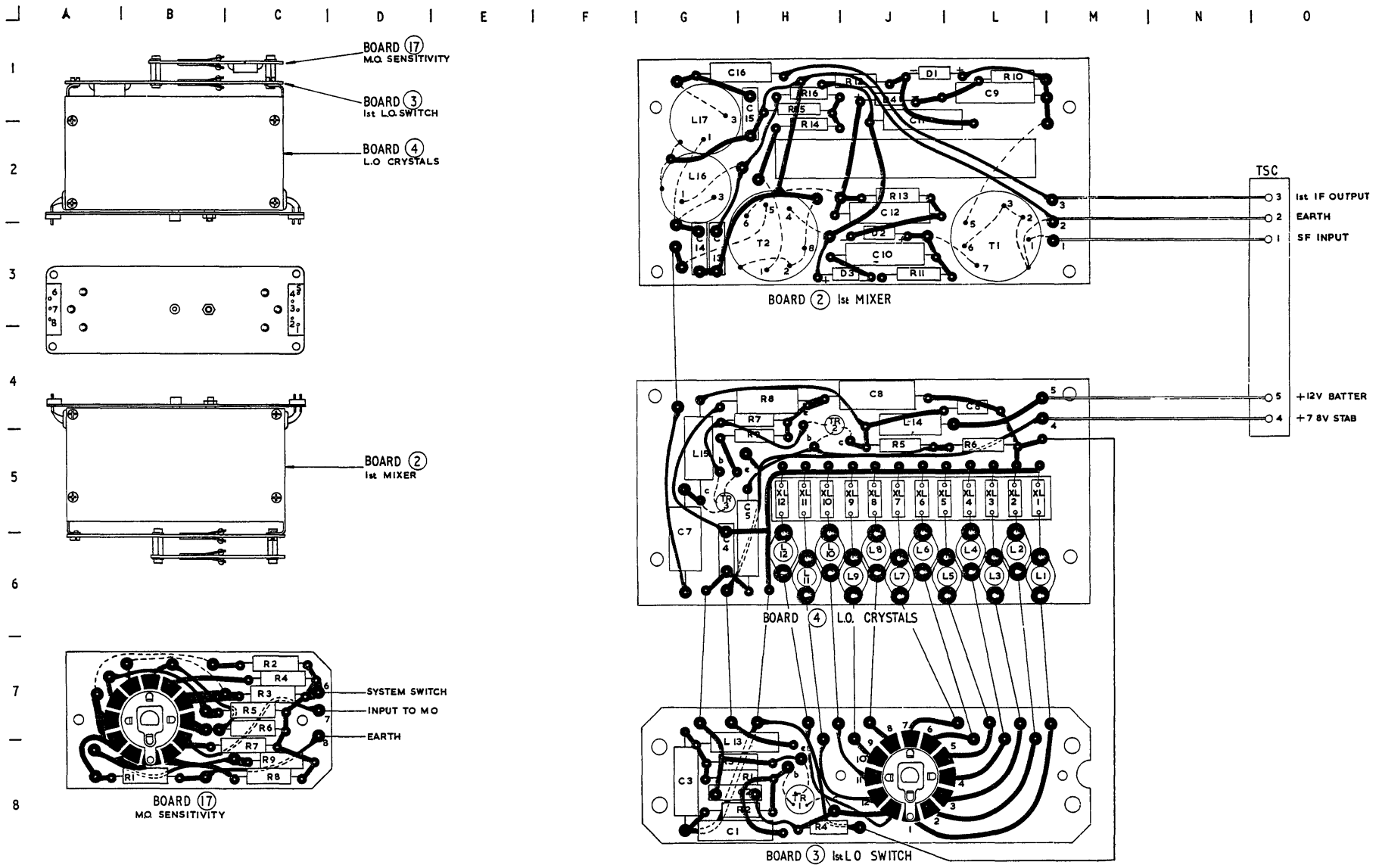


Fig 2535 - TRA13, boards 2, 3, 4 and 17 layout

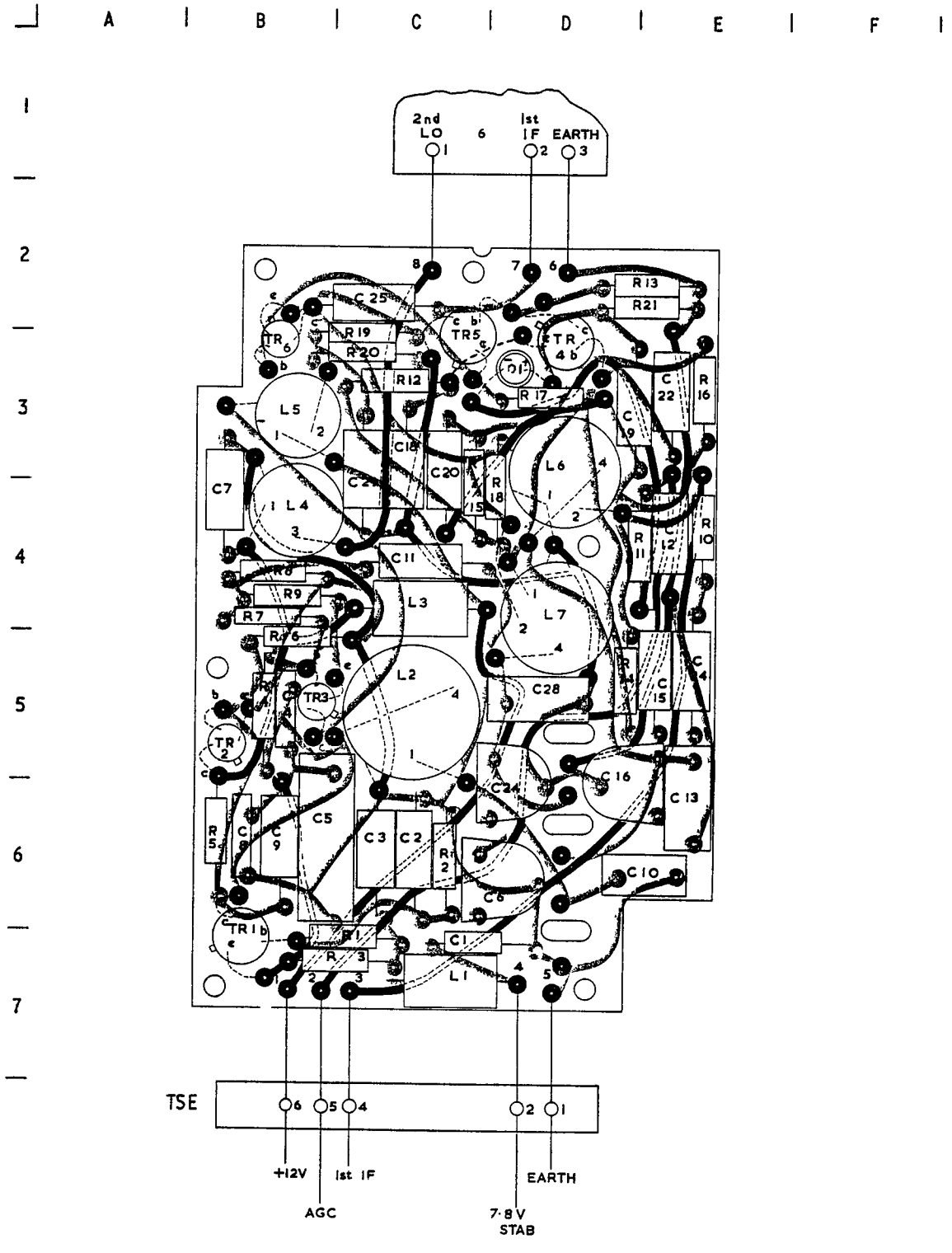


Fig 2536 - TRA13, board 5 layout

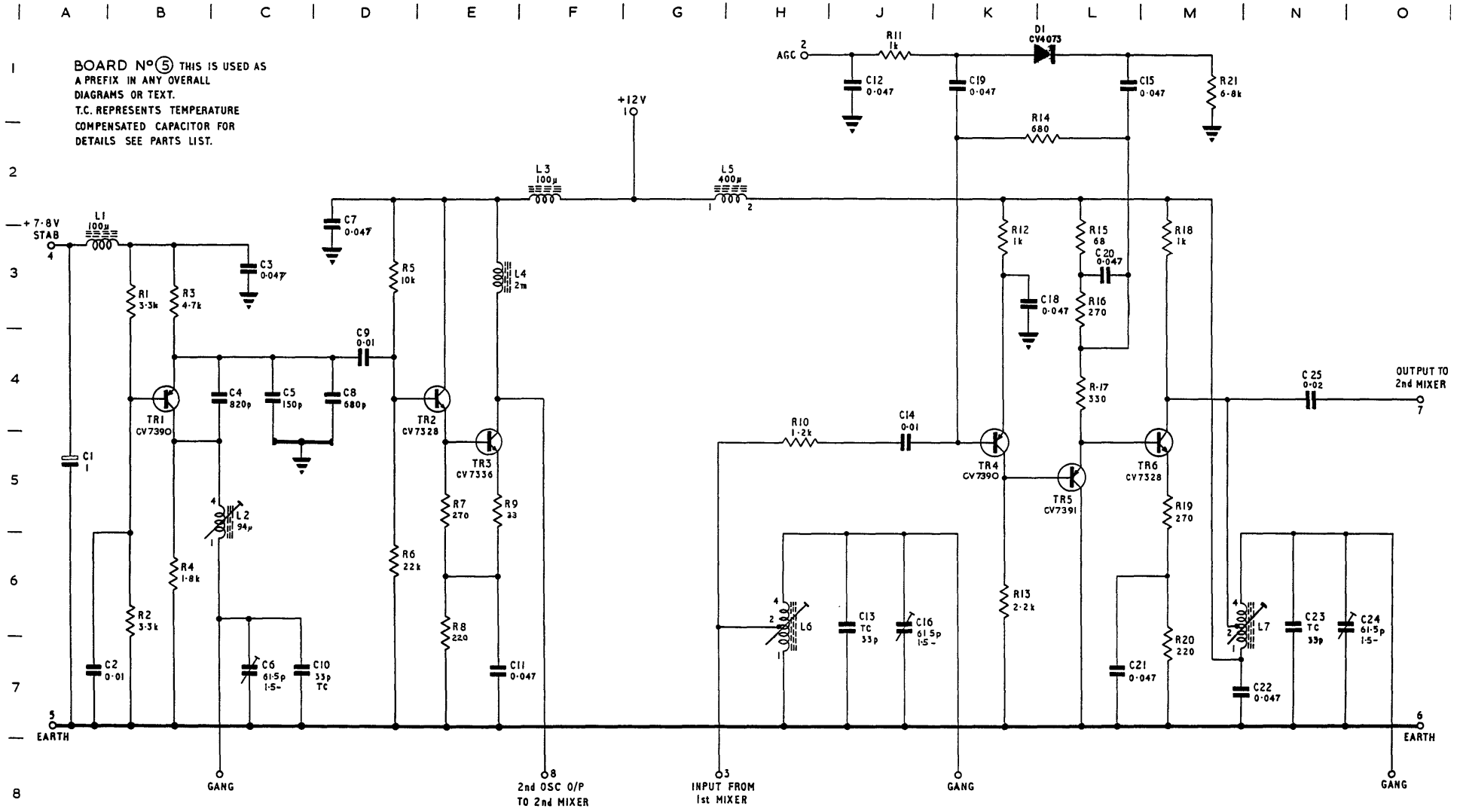


Fig 2537 - TRA13, board 5 circuit

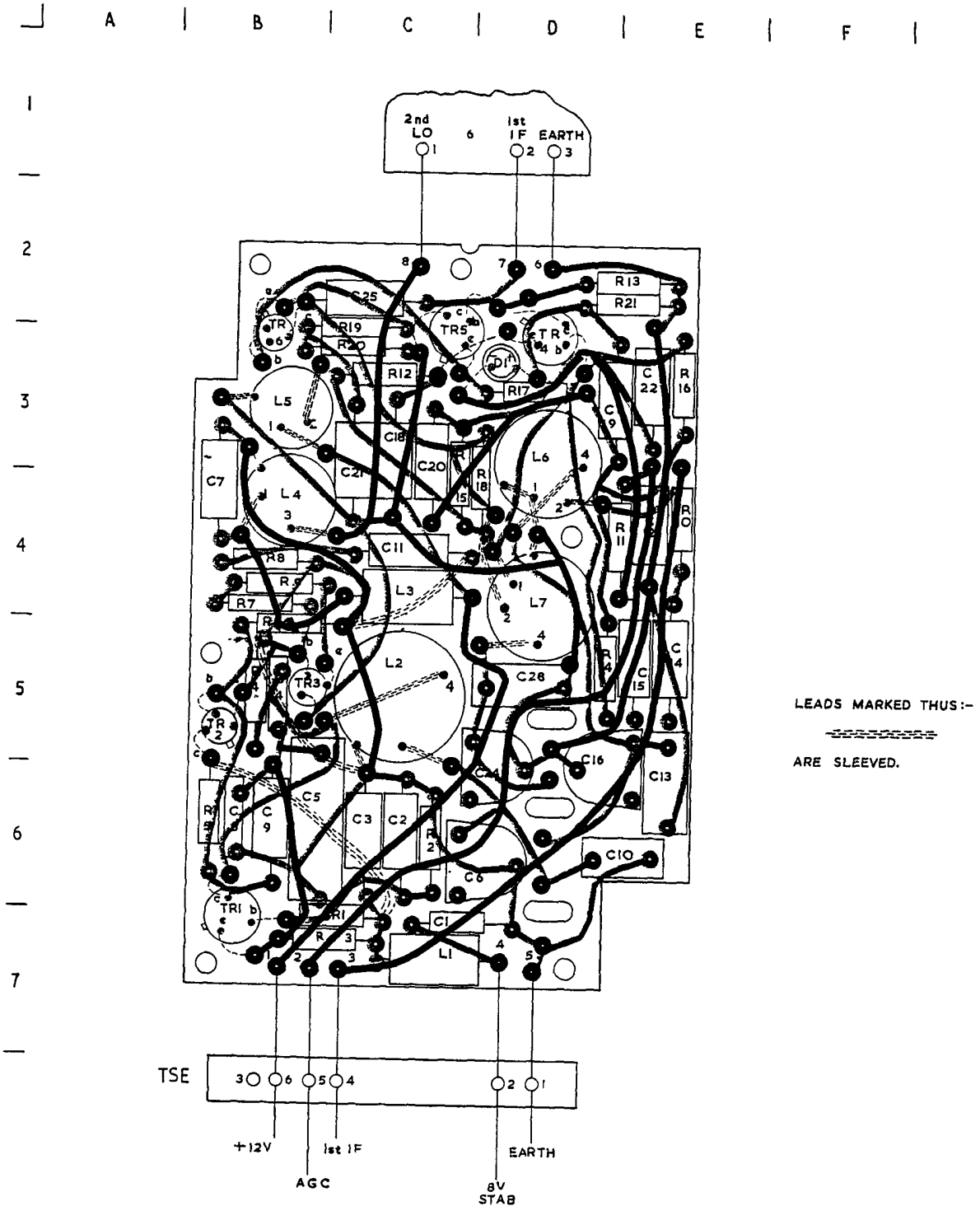


Fig 2538 - TRA13, board 5 layout after modification
(Tels F 147 Mod Instr No 3 refers)

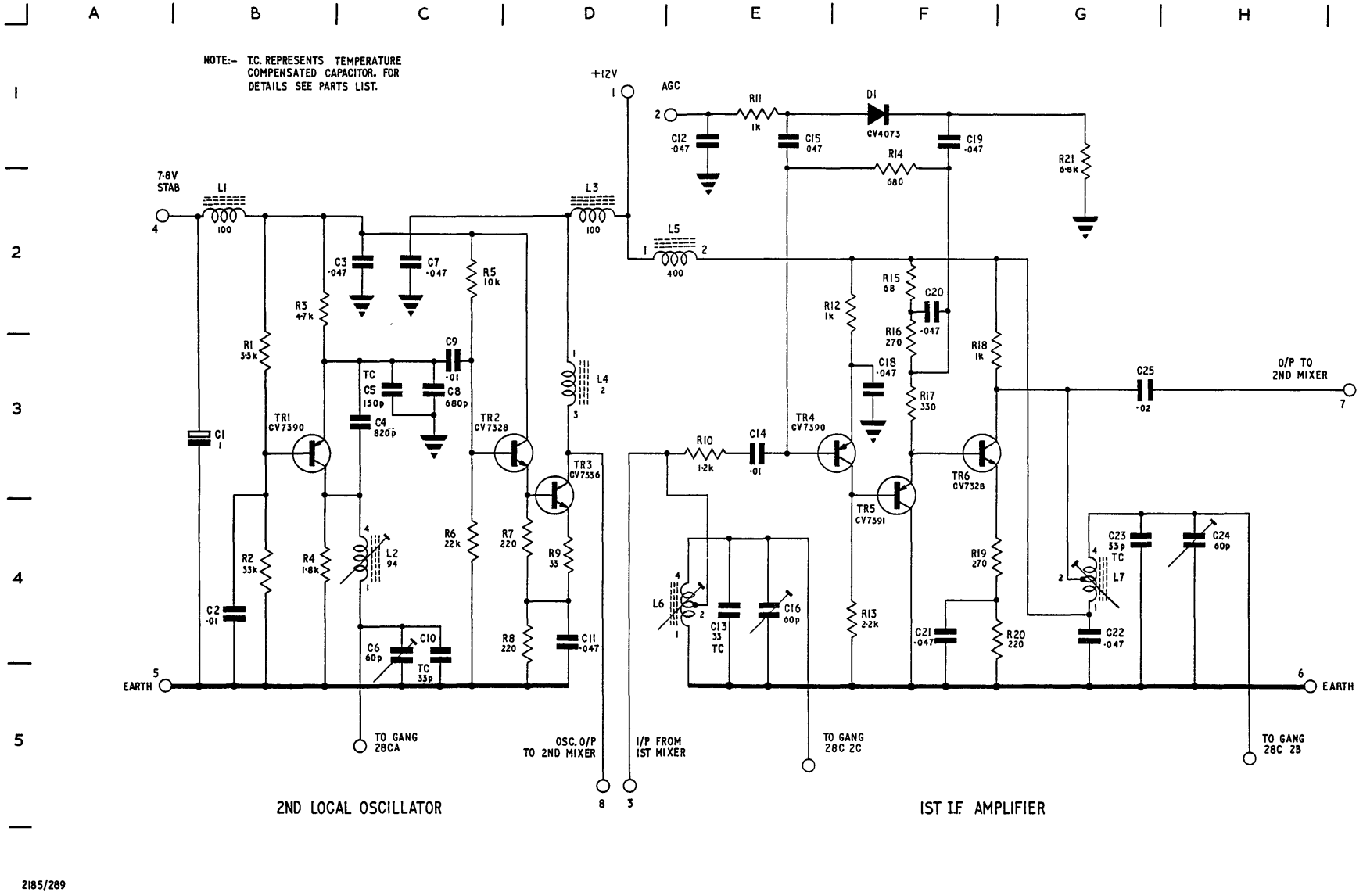


Fig 2539 - TRA13, board 5 circuit after modification
(Tels F 147 Mod Instr No 3 refers)

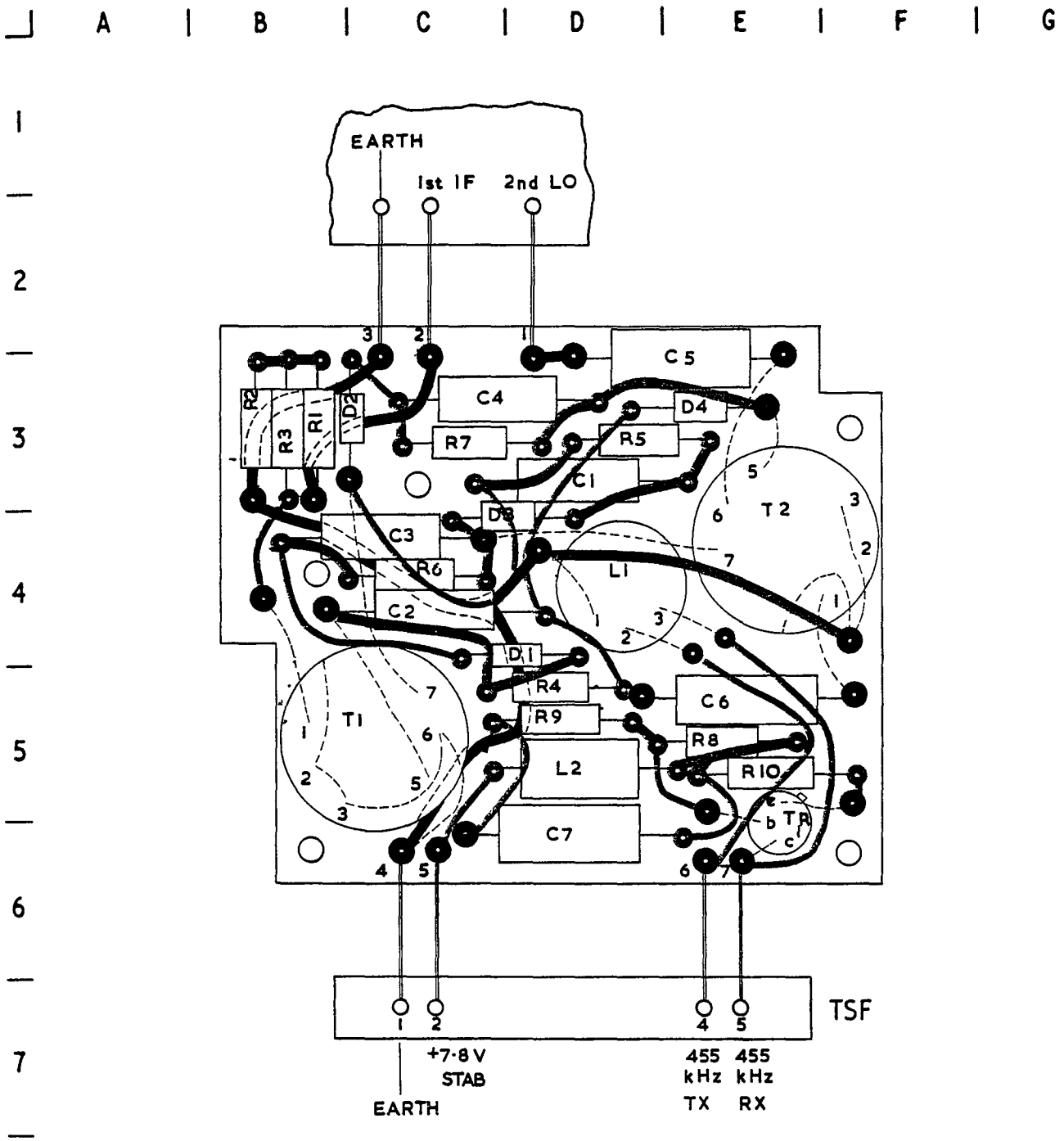


Fig 2540 - TRA13, board 6 layout

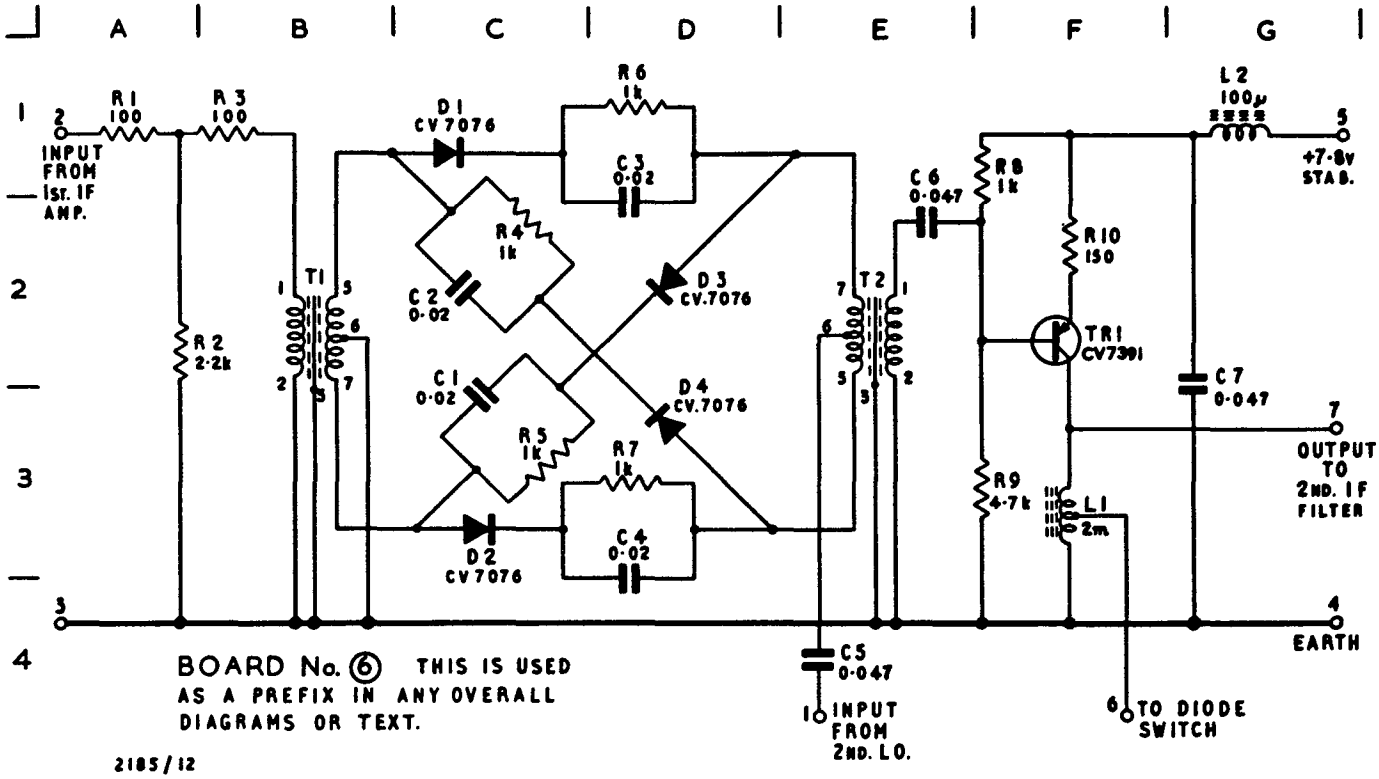


Fig 2541 - TRA13, board 6 circuit

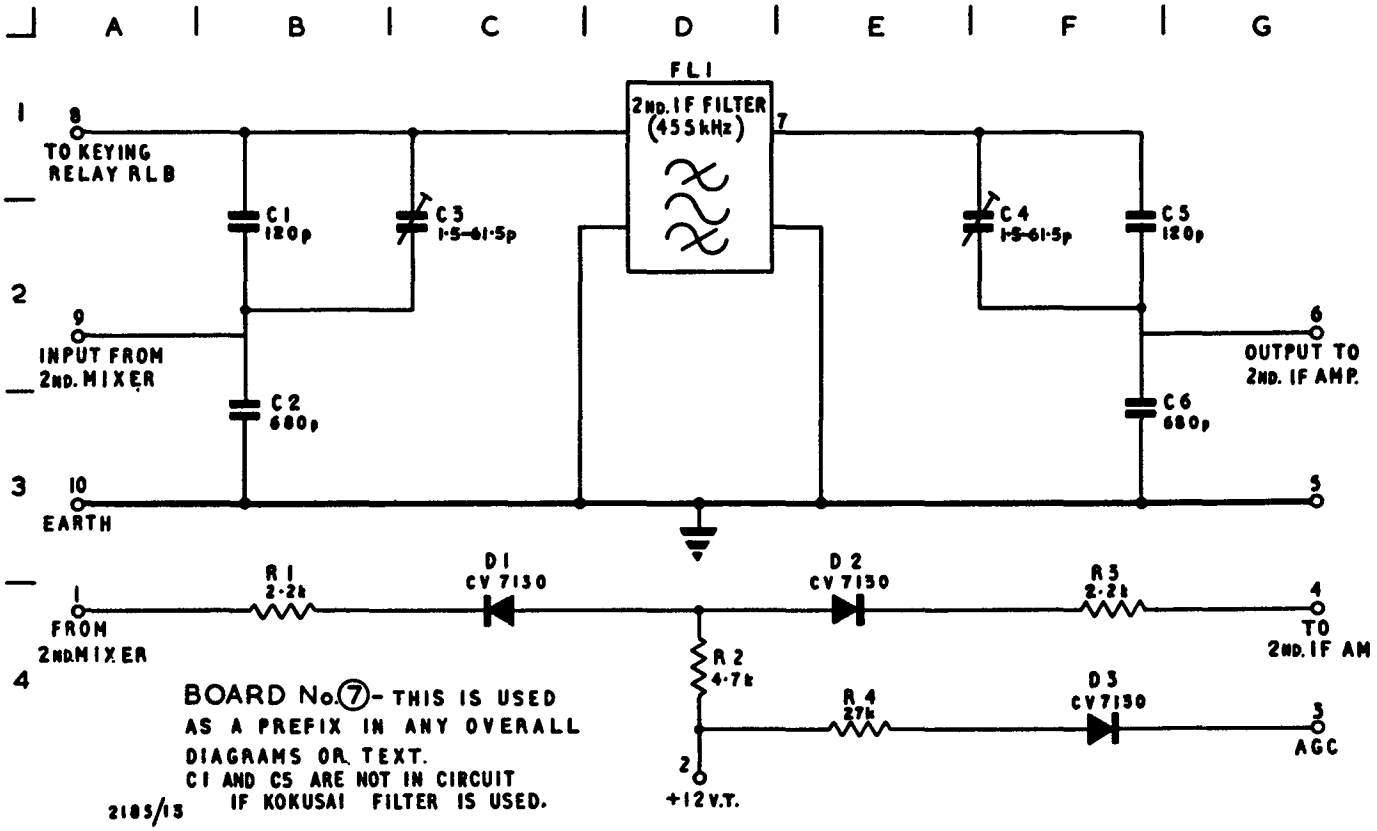


Fig 2542 - TRA13, board 7 circuit

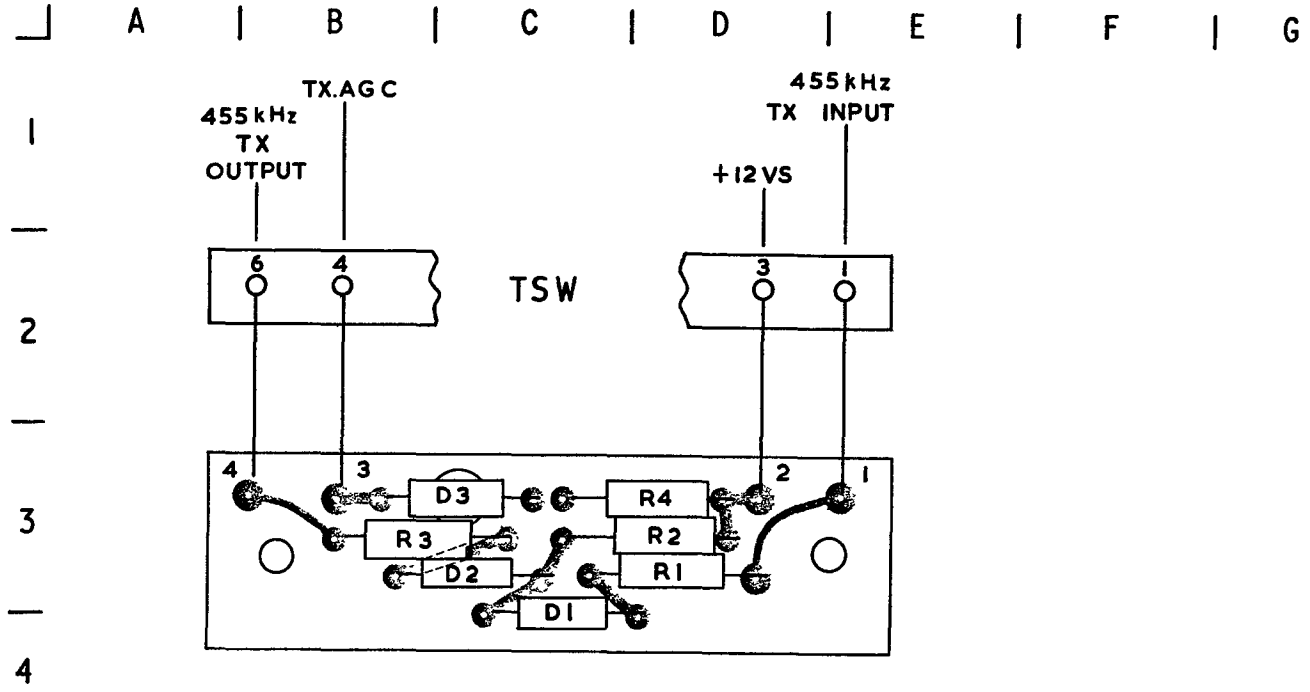


Fig 2543 - TRA13, board 7 layout

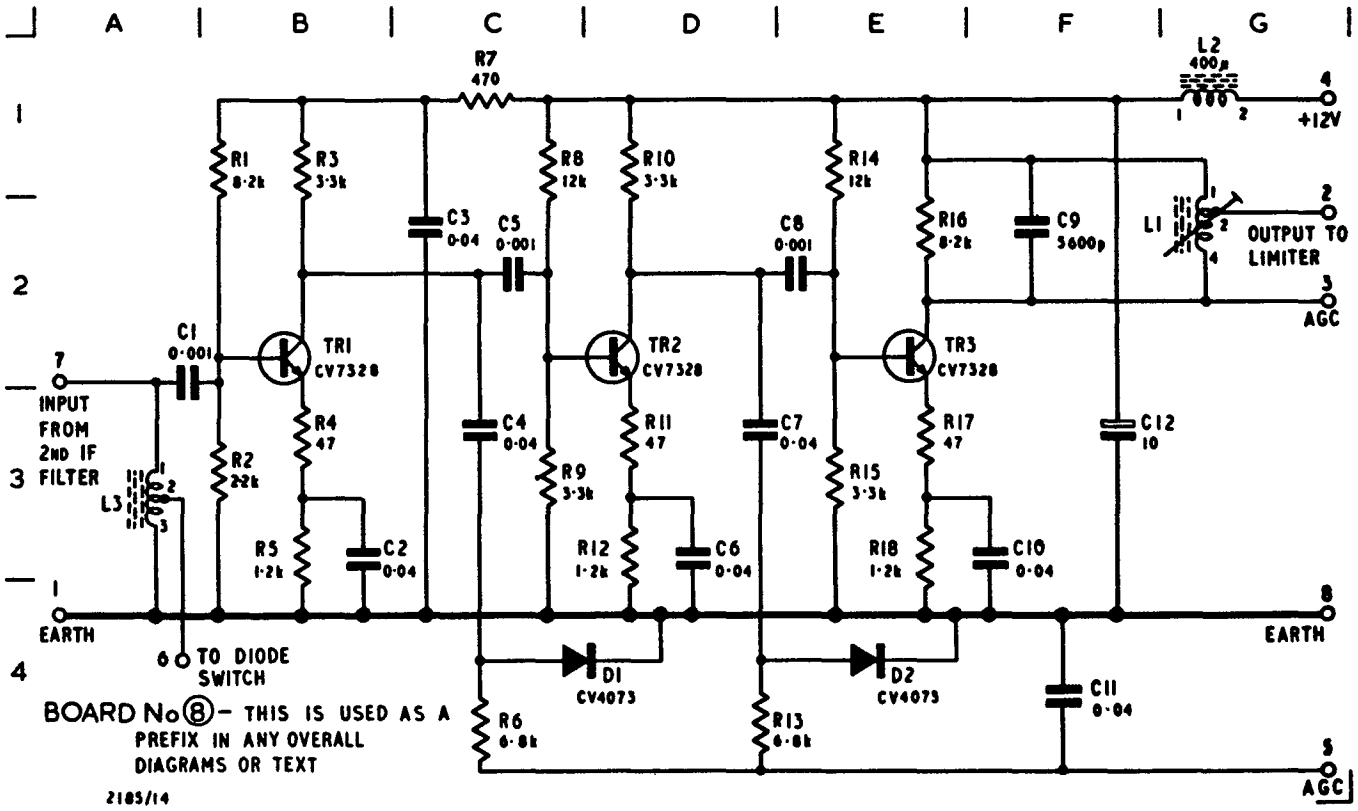


Fig 2544 - TRA13, board 8 circuit

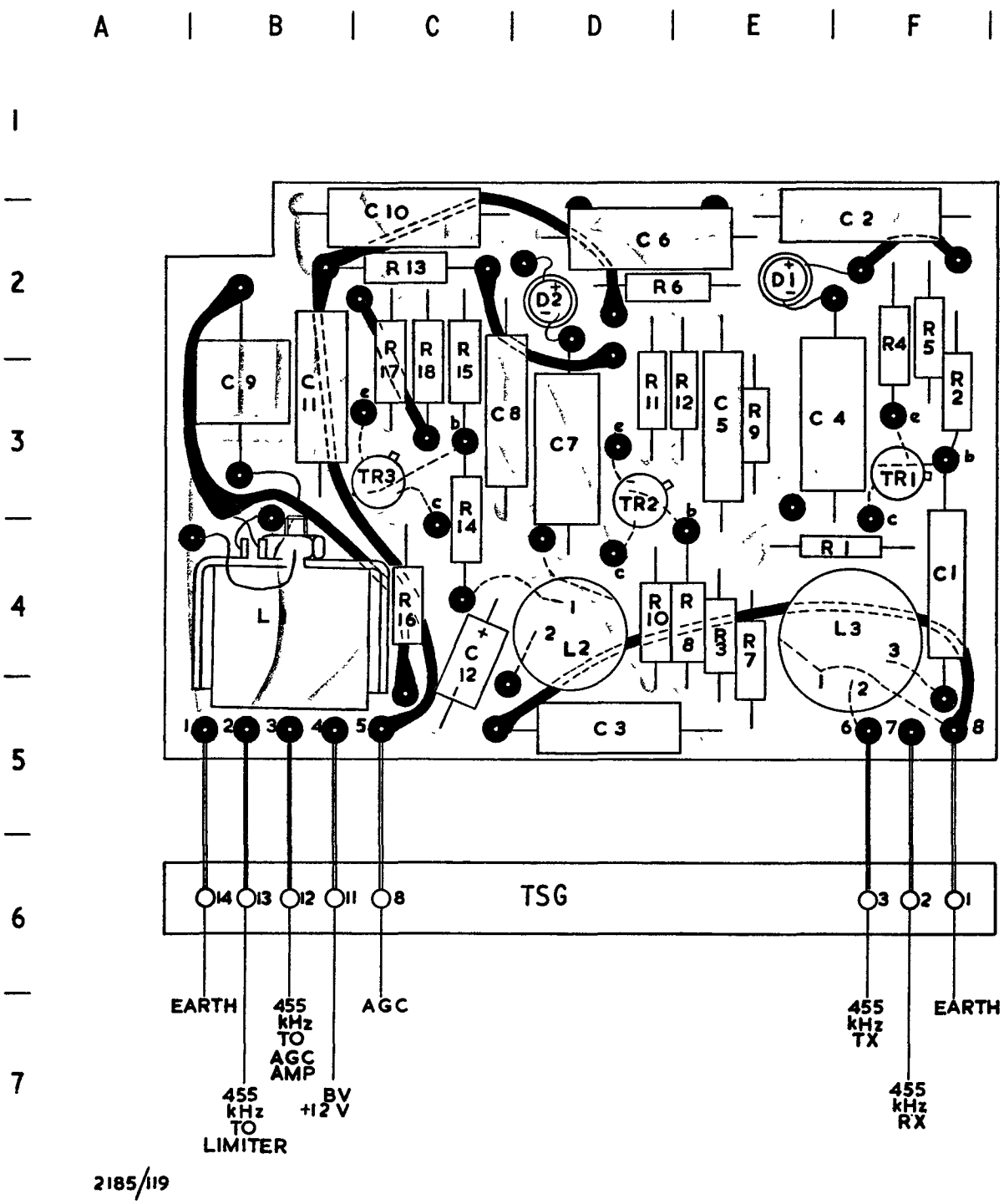
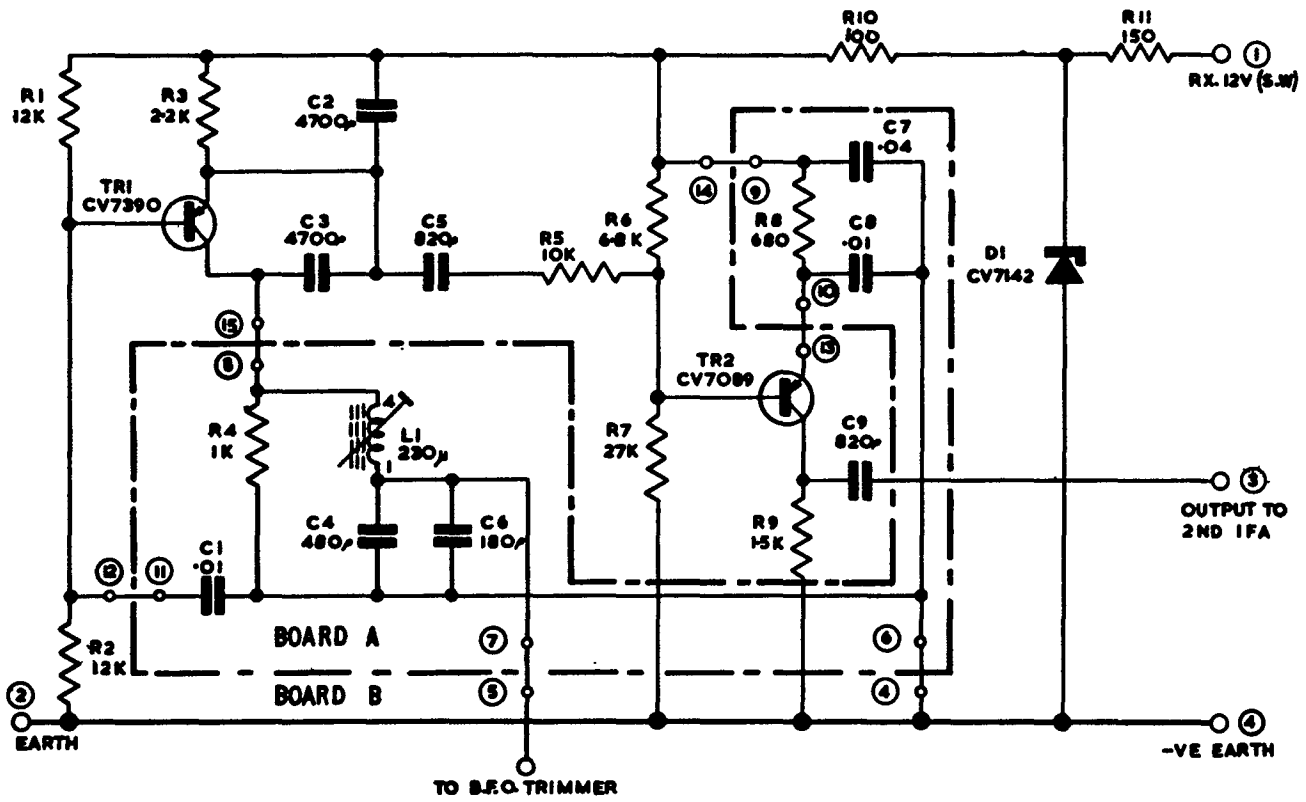
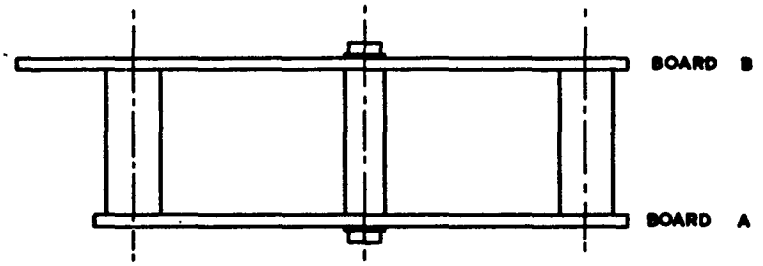


Fig 2545 - TRA13, board 8 layout

J A | B | C | D | E | F | G |





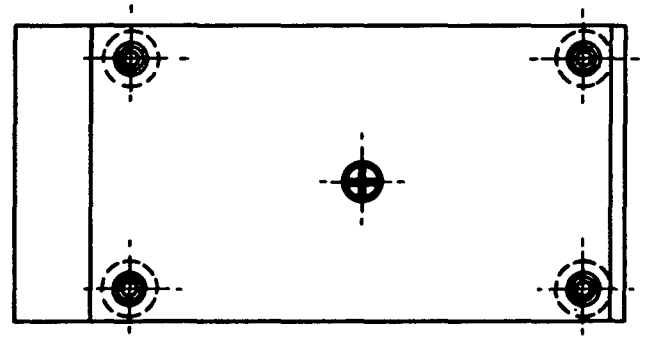


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Fig 2546 - TRA13, board 9 circuit and assembly detail

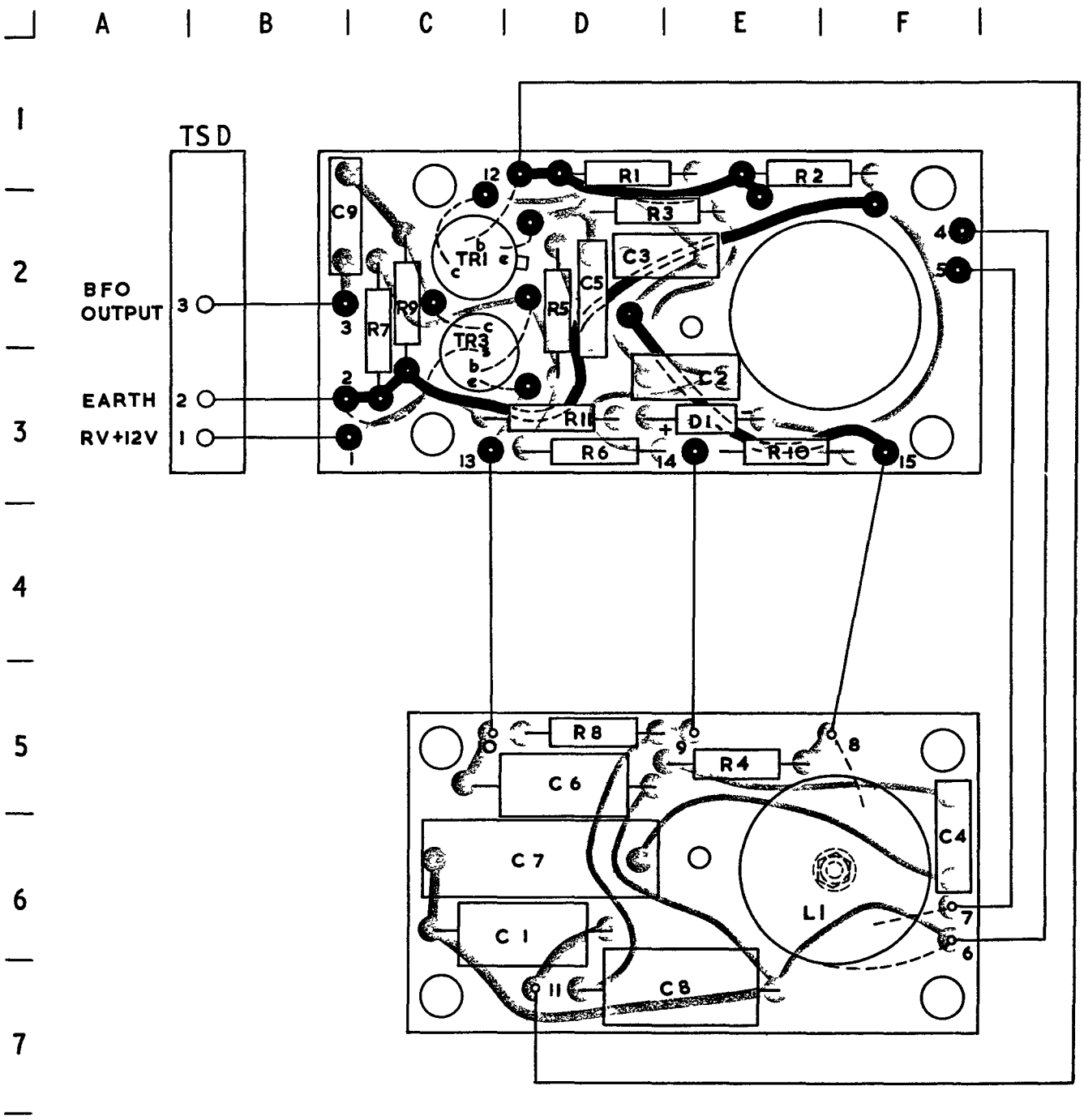

Fig 2547 - TRA13, board 9 layout

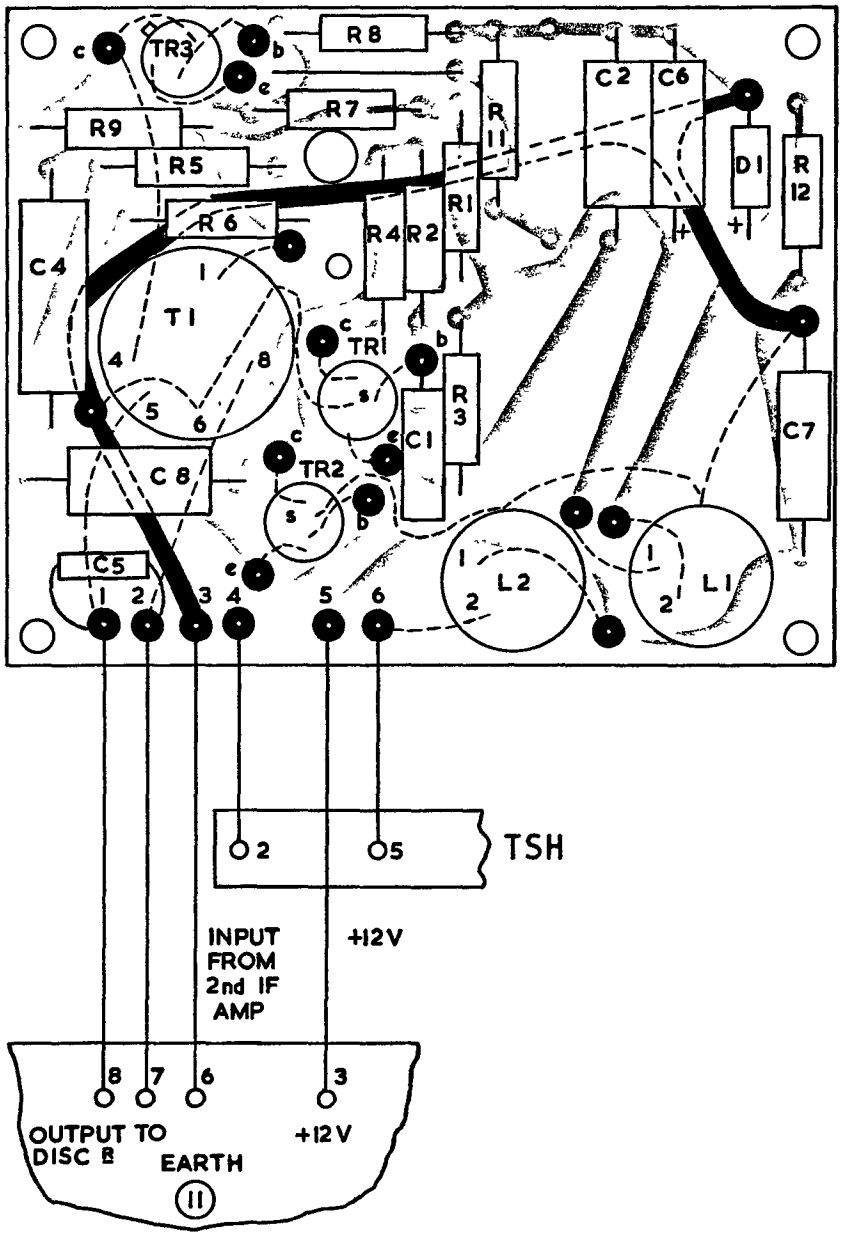

Fig 2548 - TRA13, board 10 layout

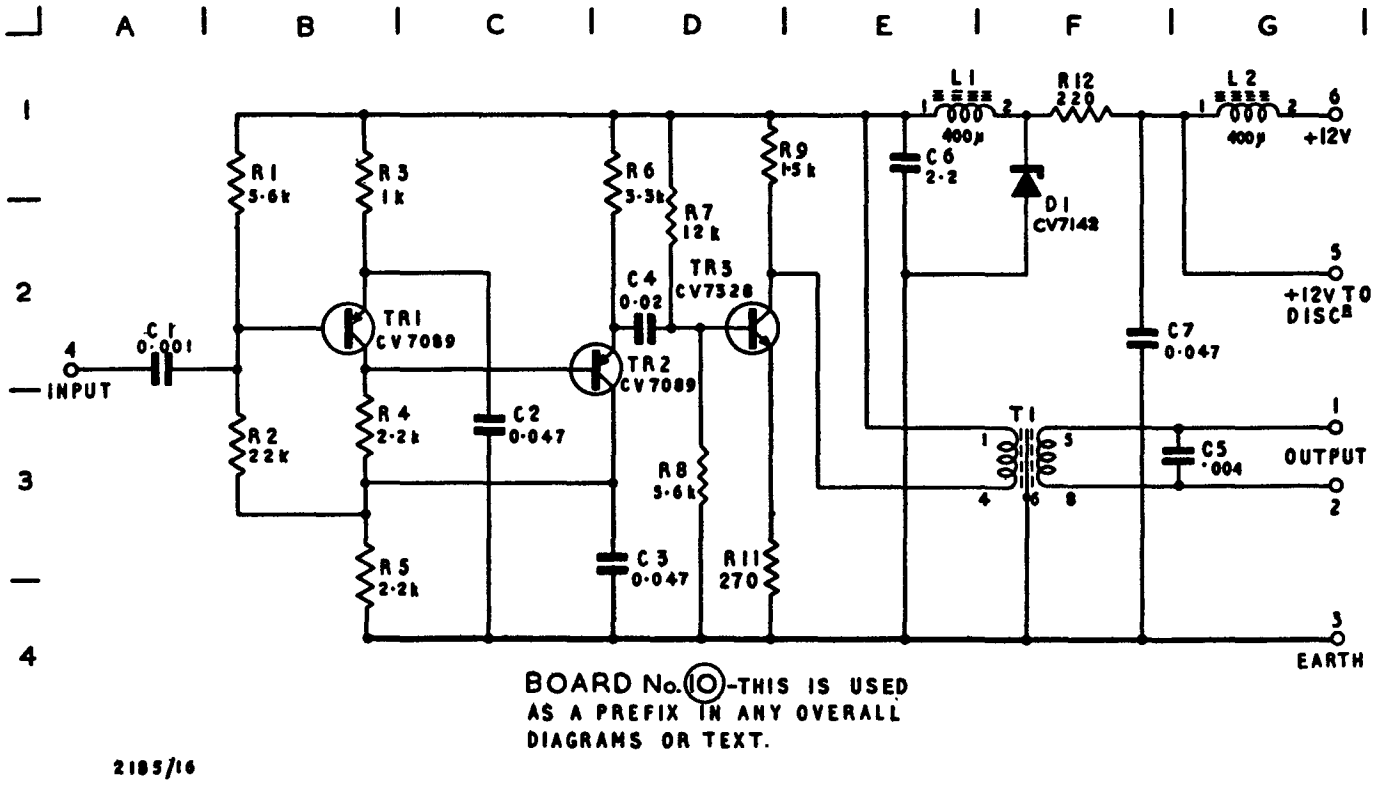

Fig 2549 - TRA13, board 10 circuit

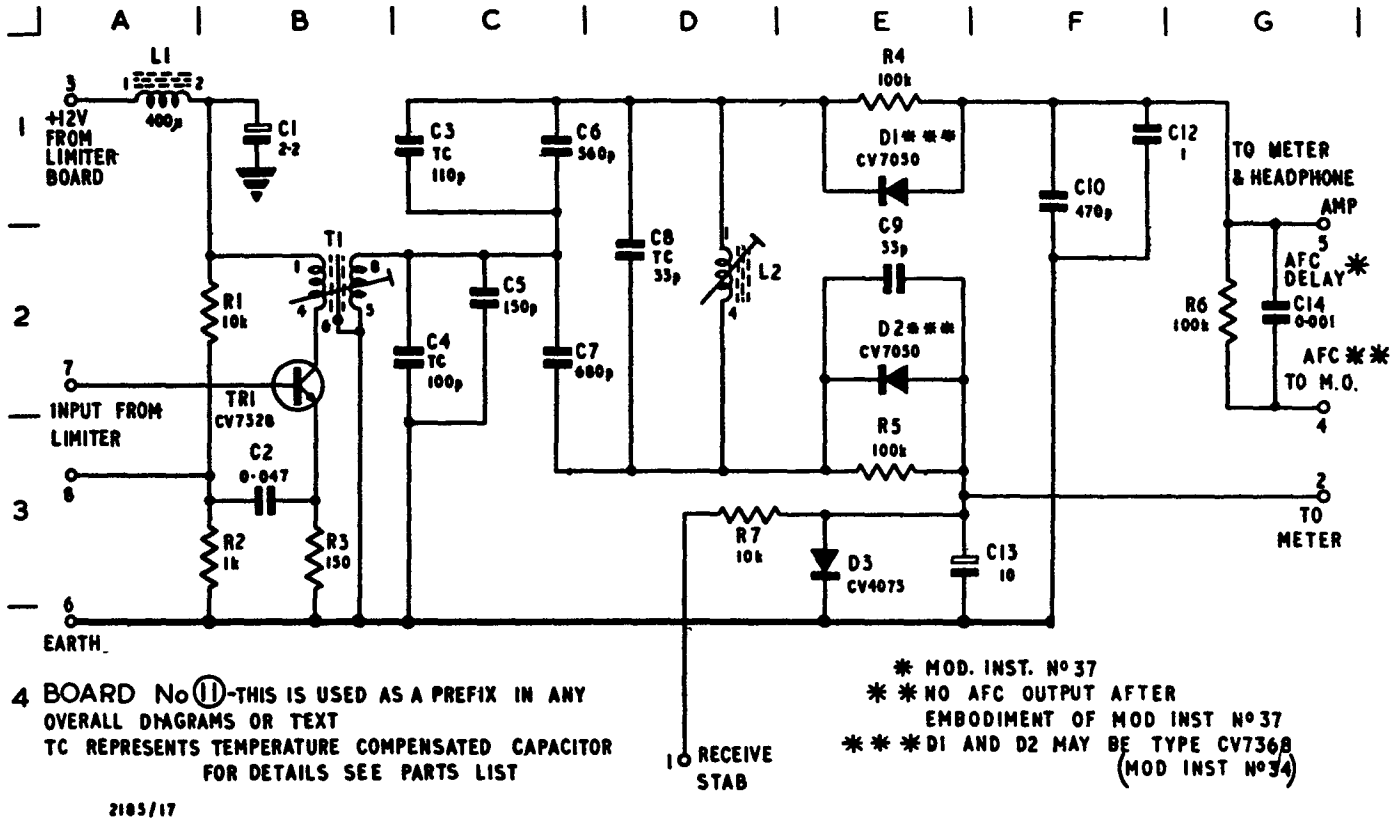

Fig 2550 - TRA13, board 11 circuit

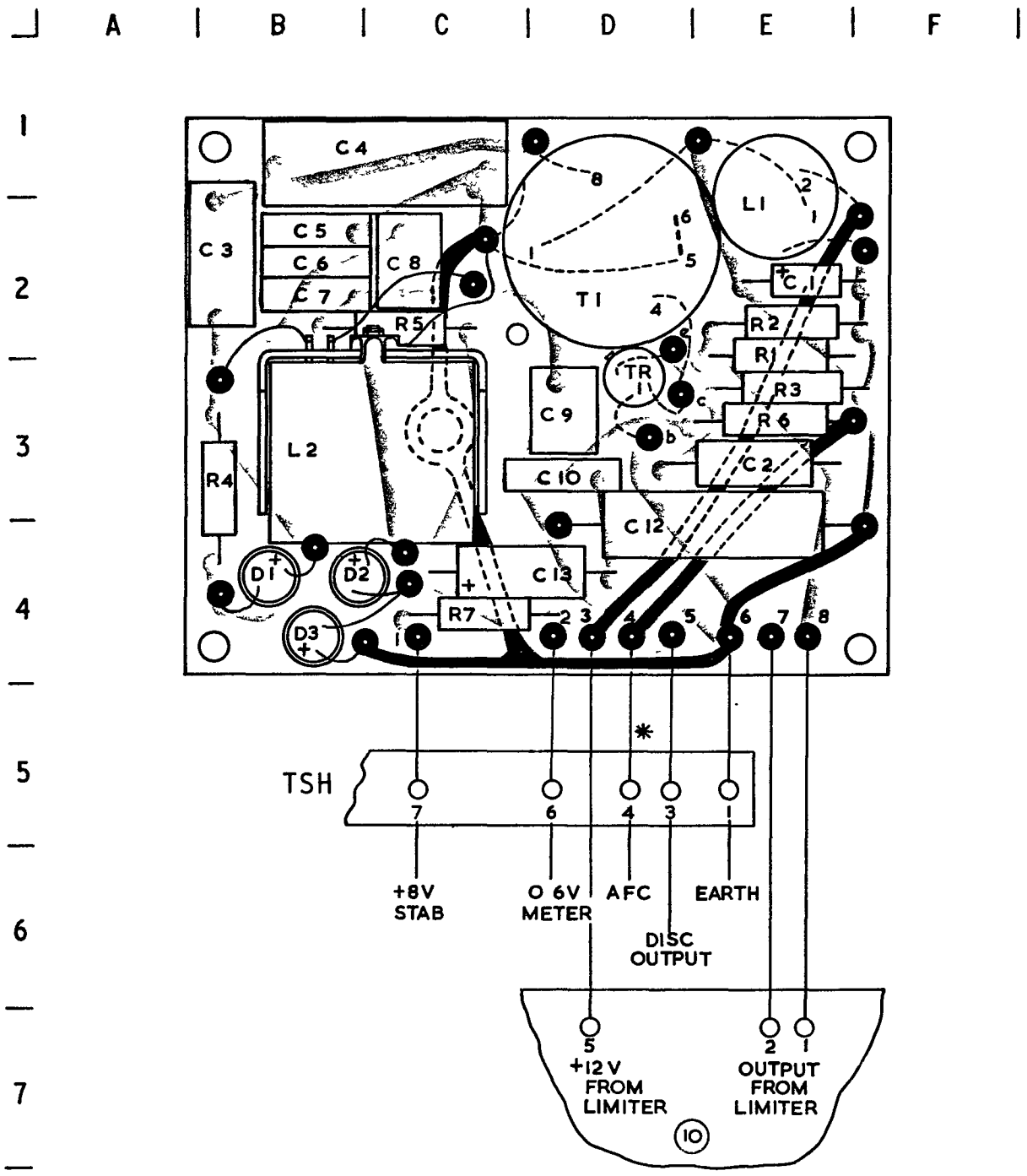

Fig 2551 - TRA13, board 11 layout

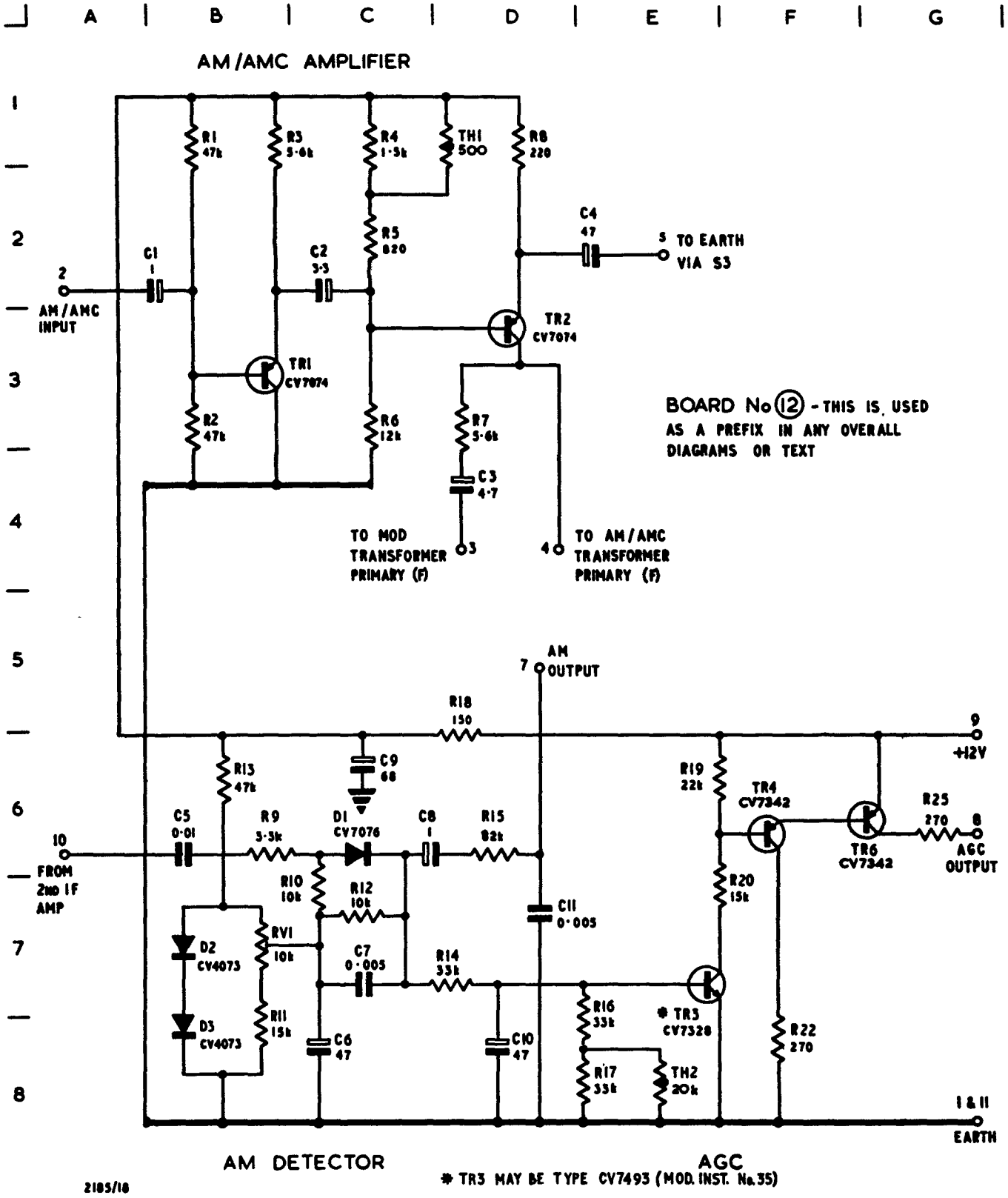

Fig 2552 - TRA13, board 12 circuit

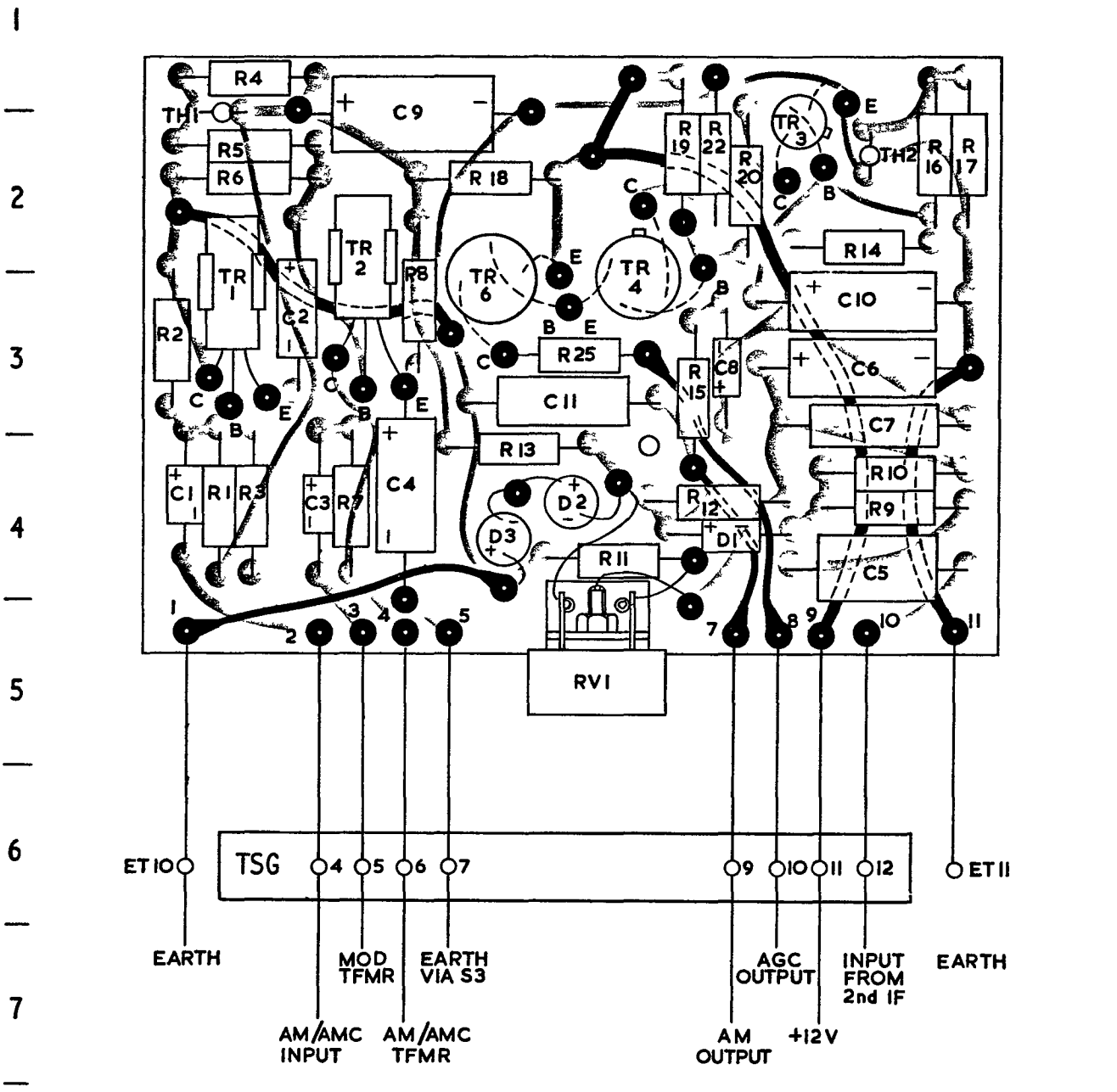

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Fig 2553 - TRA13, board 12 layout

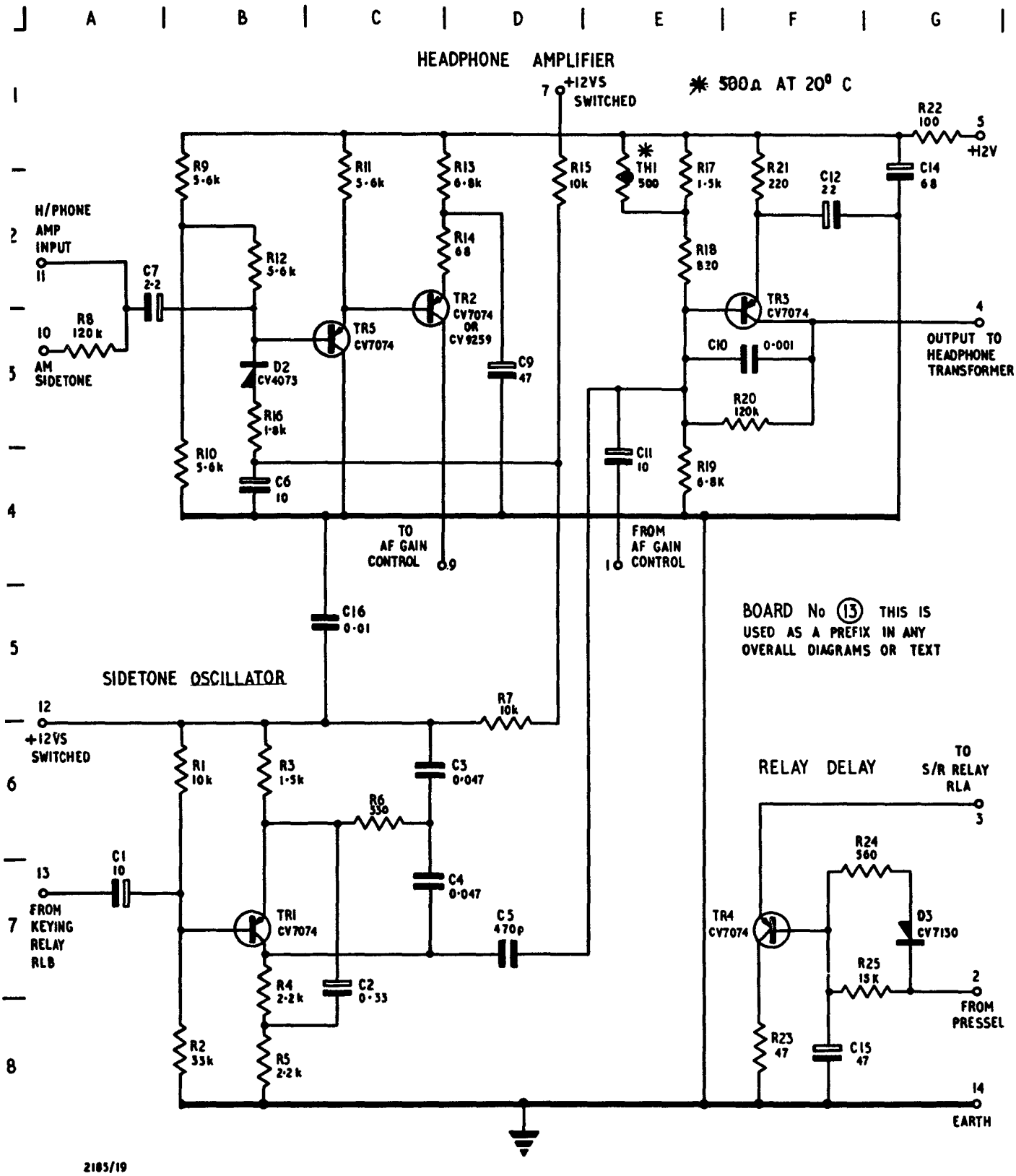

Fig 2554 - TRA13, board 13 circuit

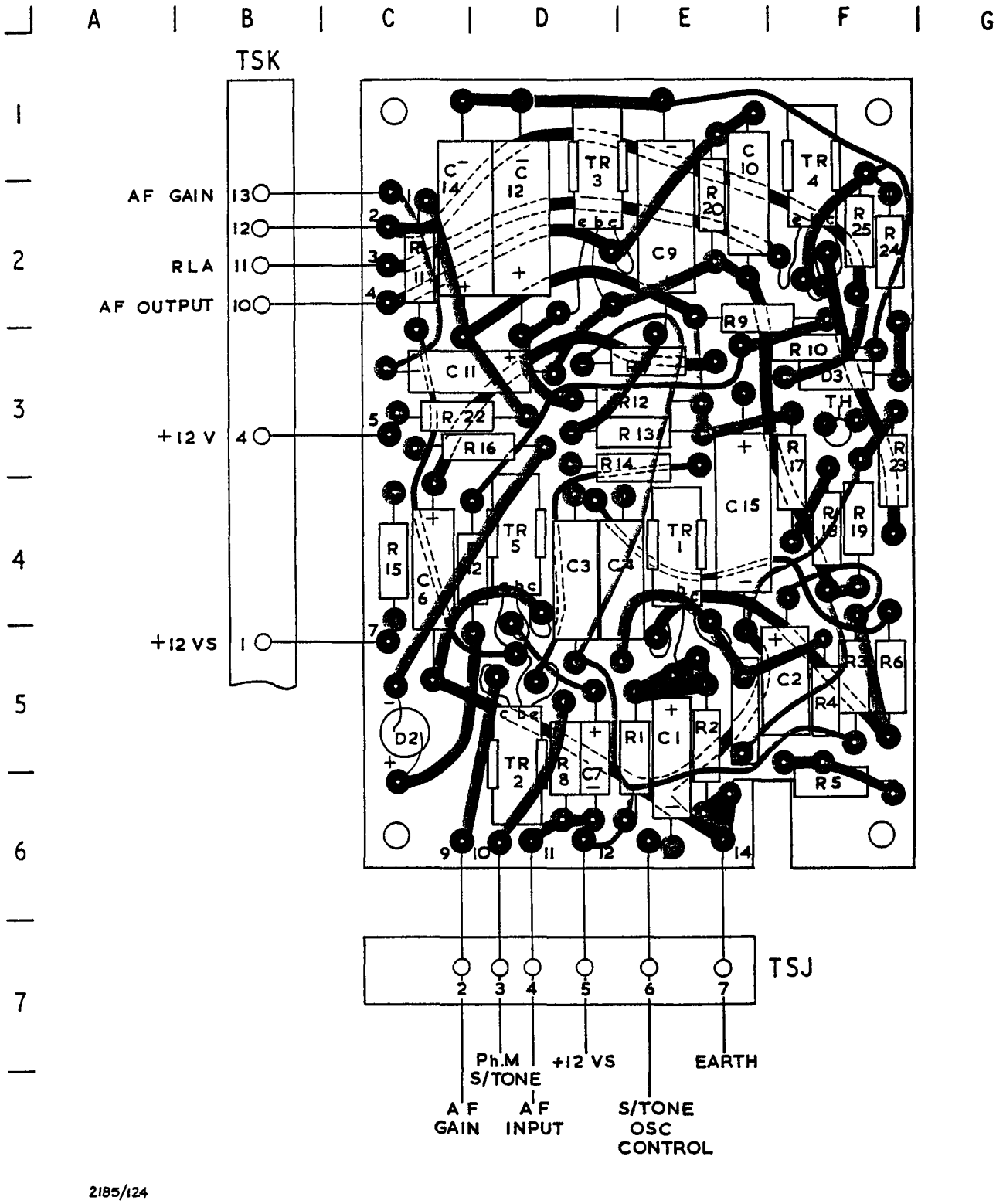

Fig 2555 - TRA13, board 13 layout

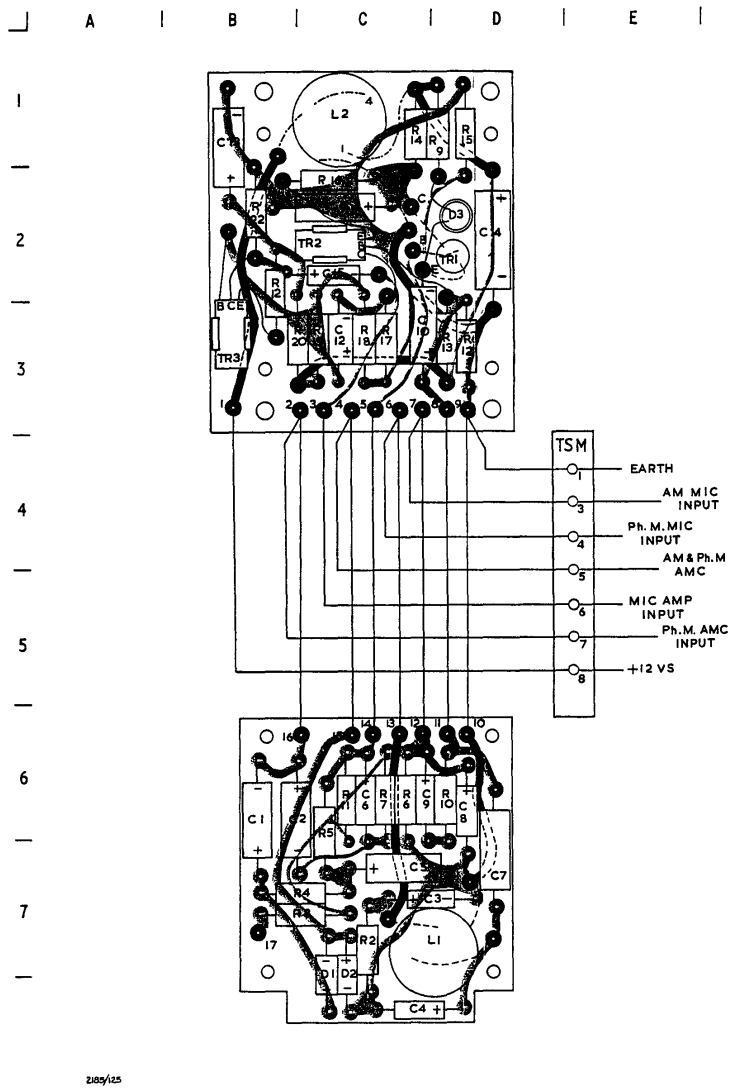

Fig 2557 - TRA13, boards 15 and 16 layout

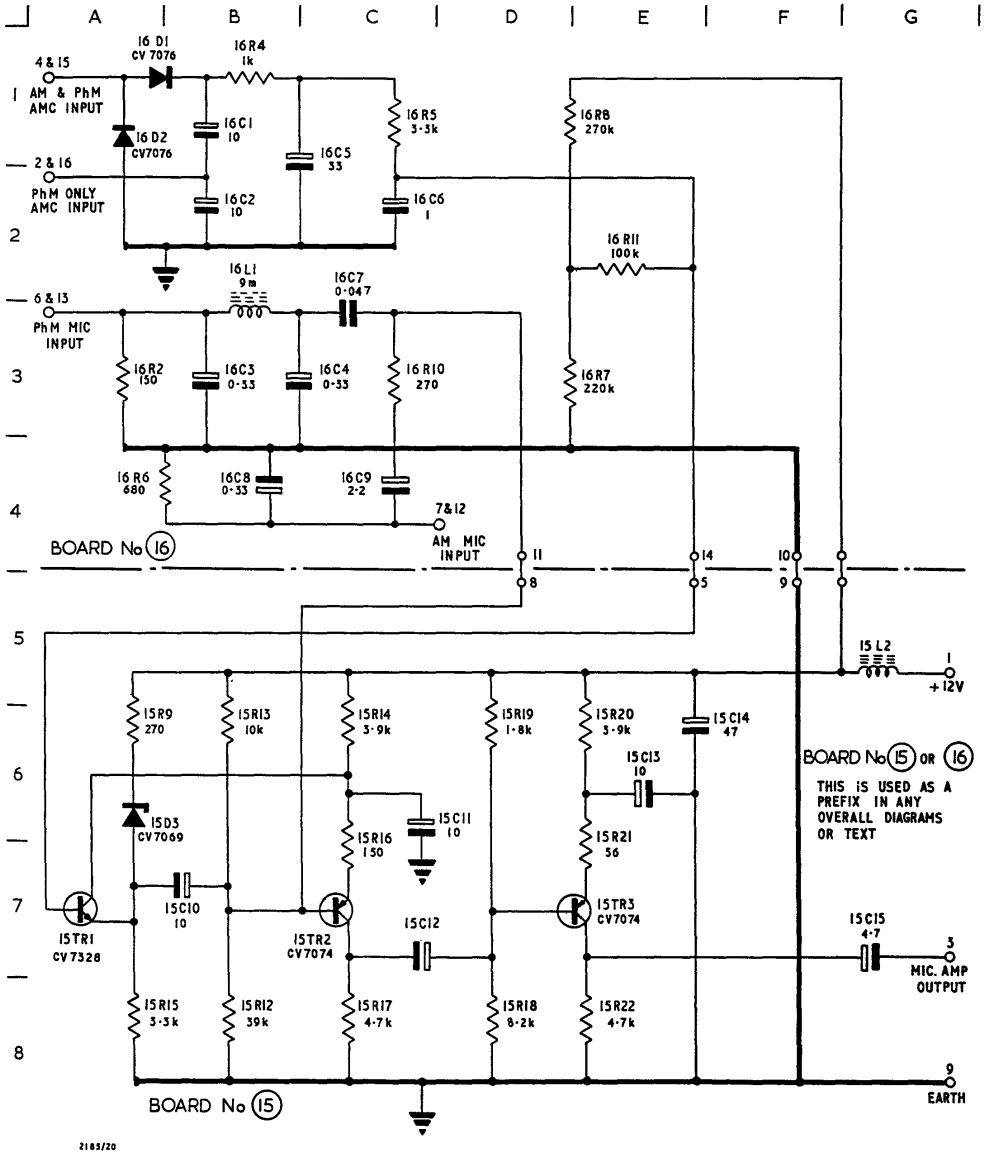

Fig 2556 - TRA13, boards 15 and 16 circuit

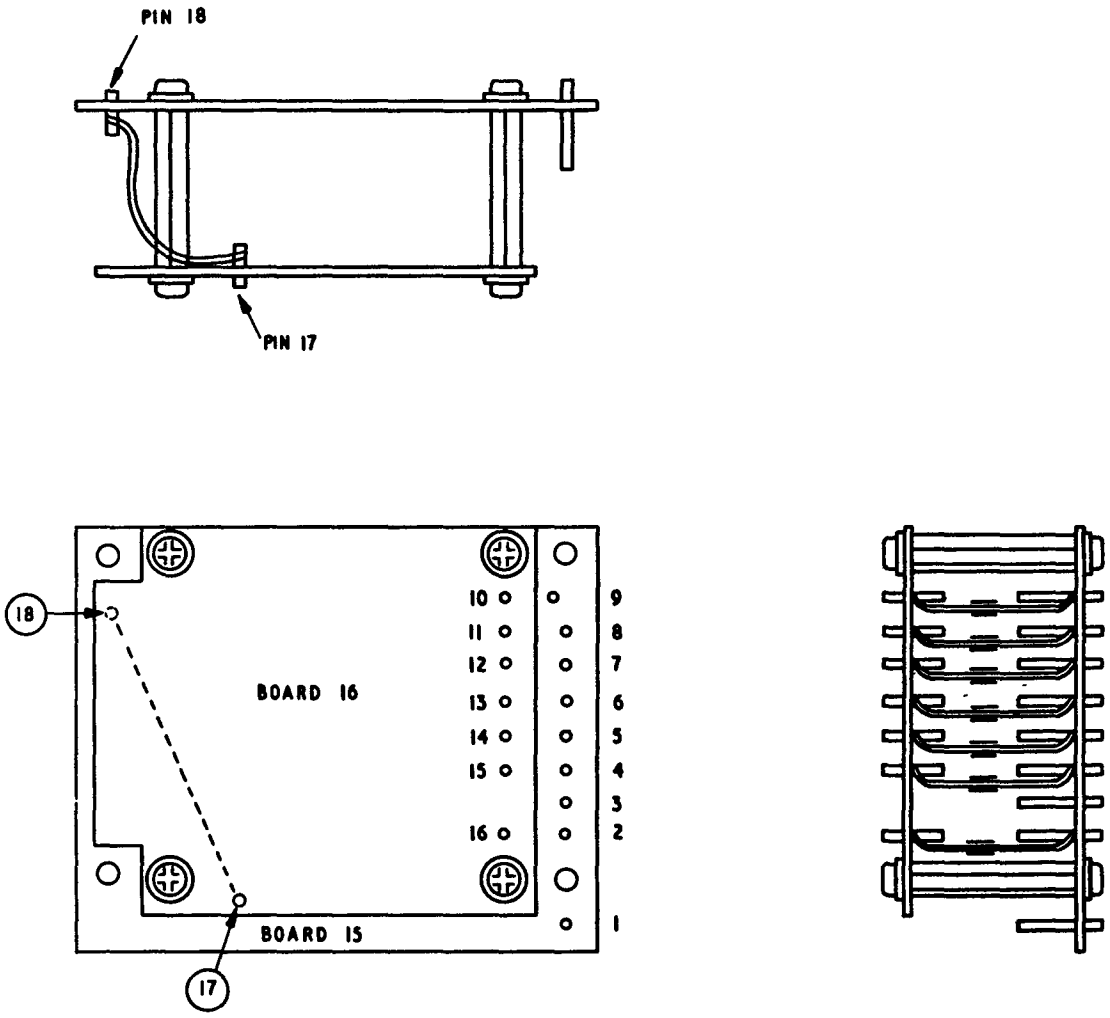

Fig 2558 - TRA13, boards 15 and 16 assembly

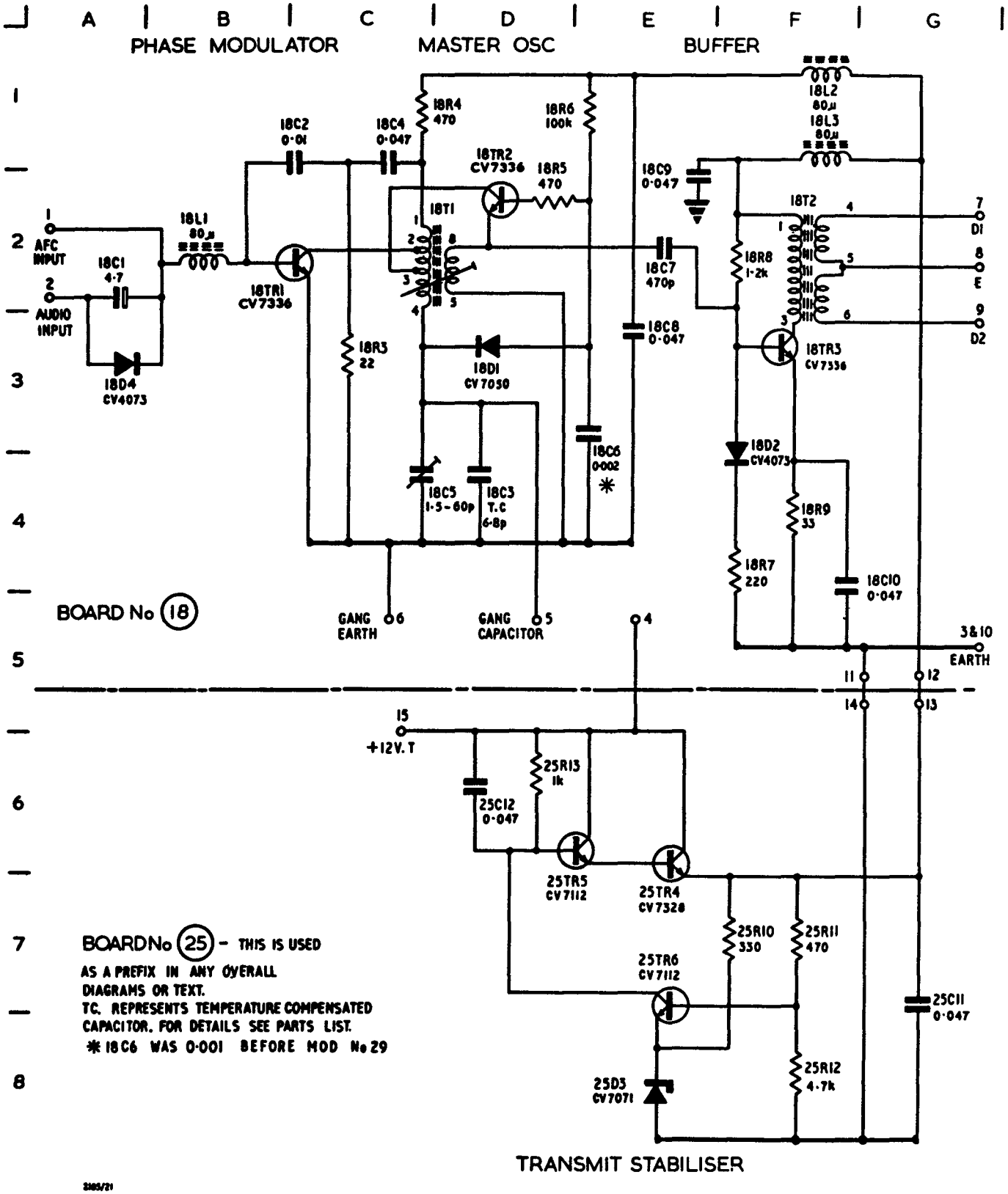

Fig 2559 - TRA13, boards 18 and 25 circuit

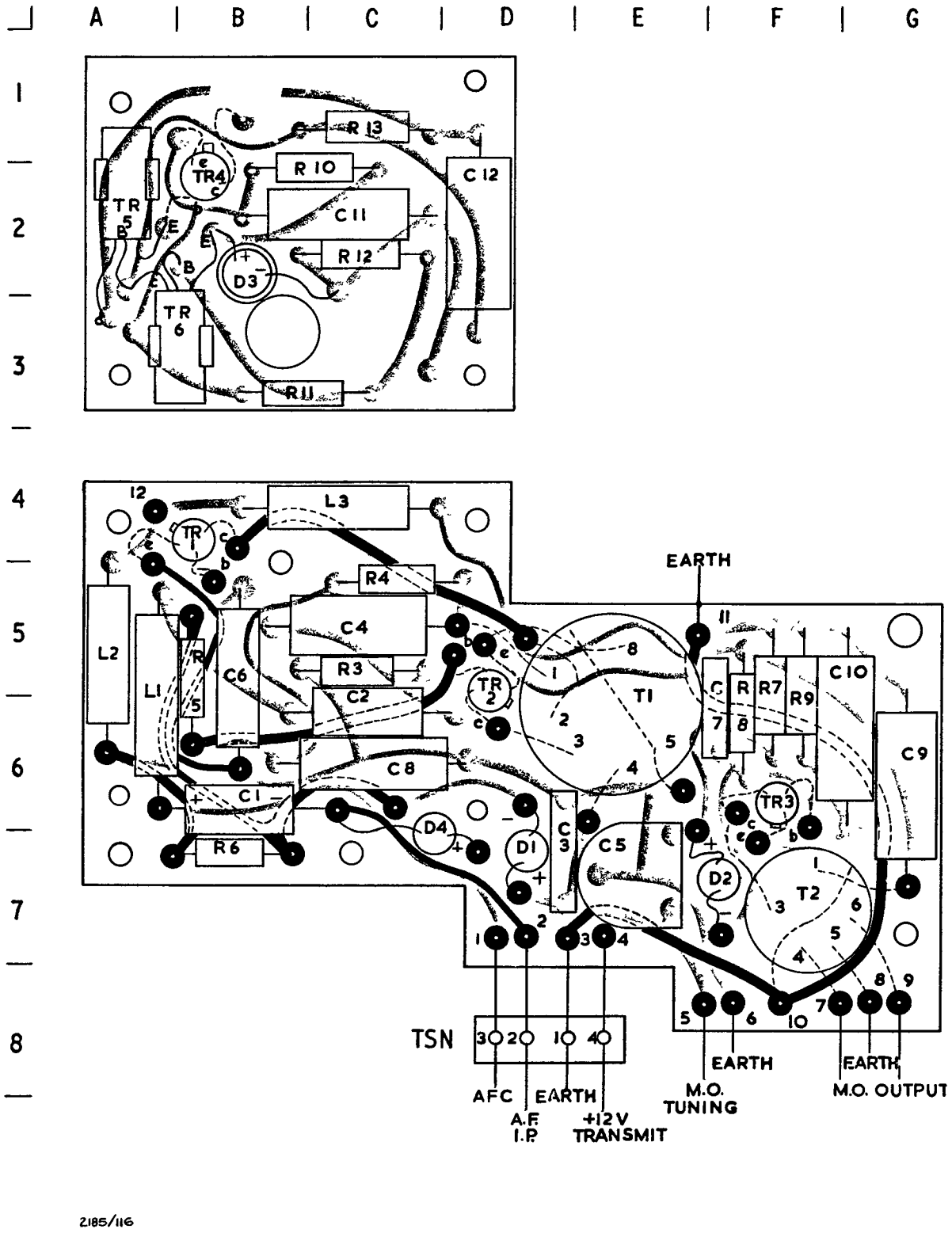

Fig 2560 - TRA13, boards 18 and 25 layout

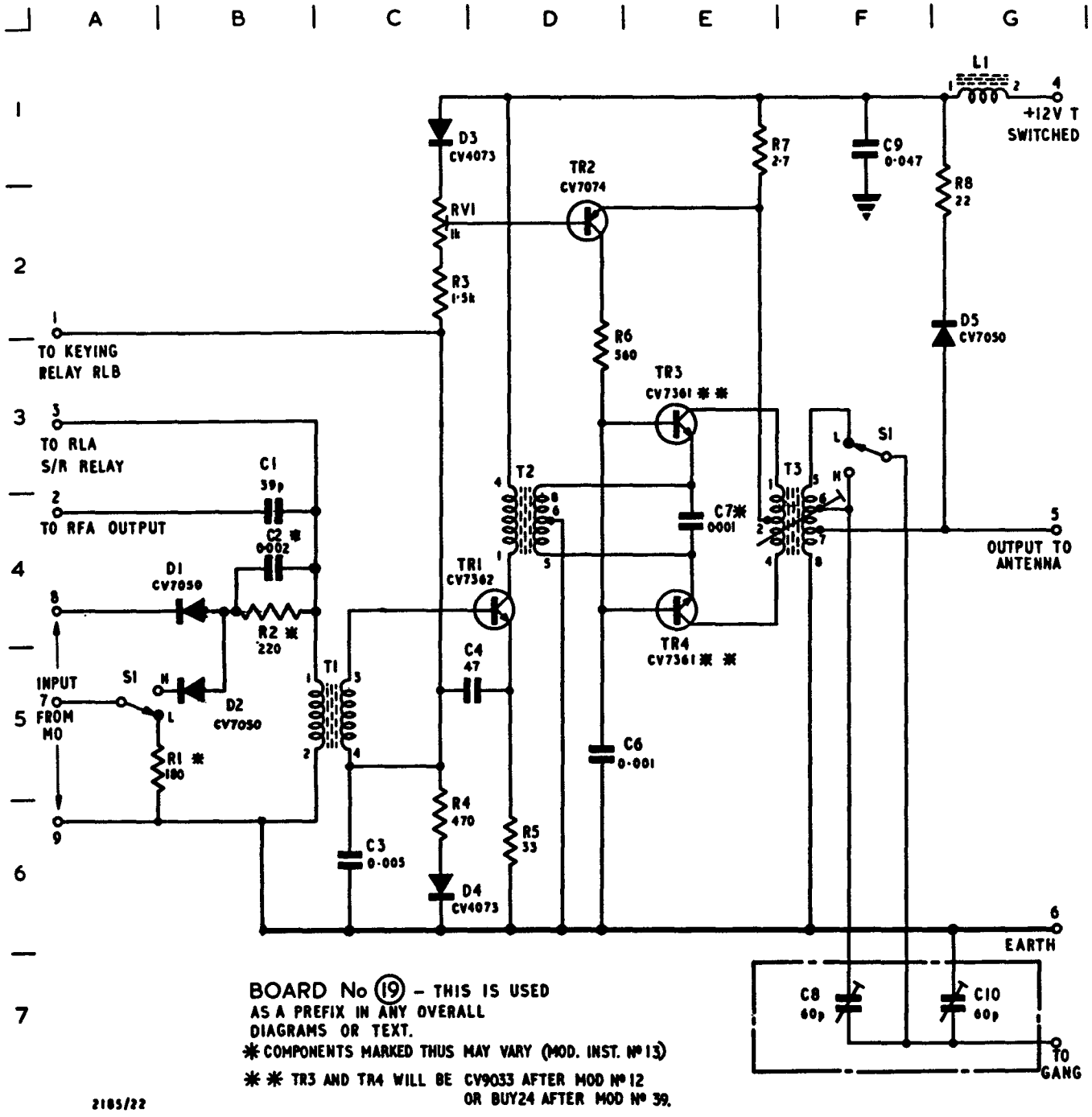

Fig 2561 - TRA13, board 19 circuit

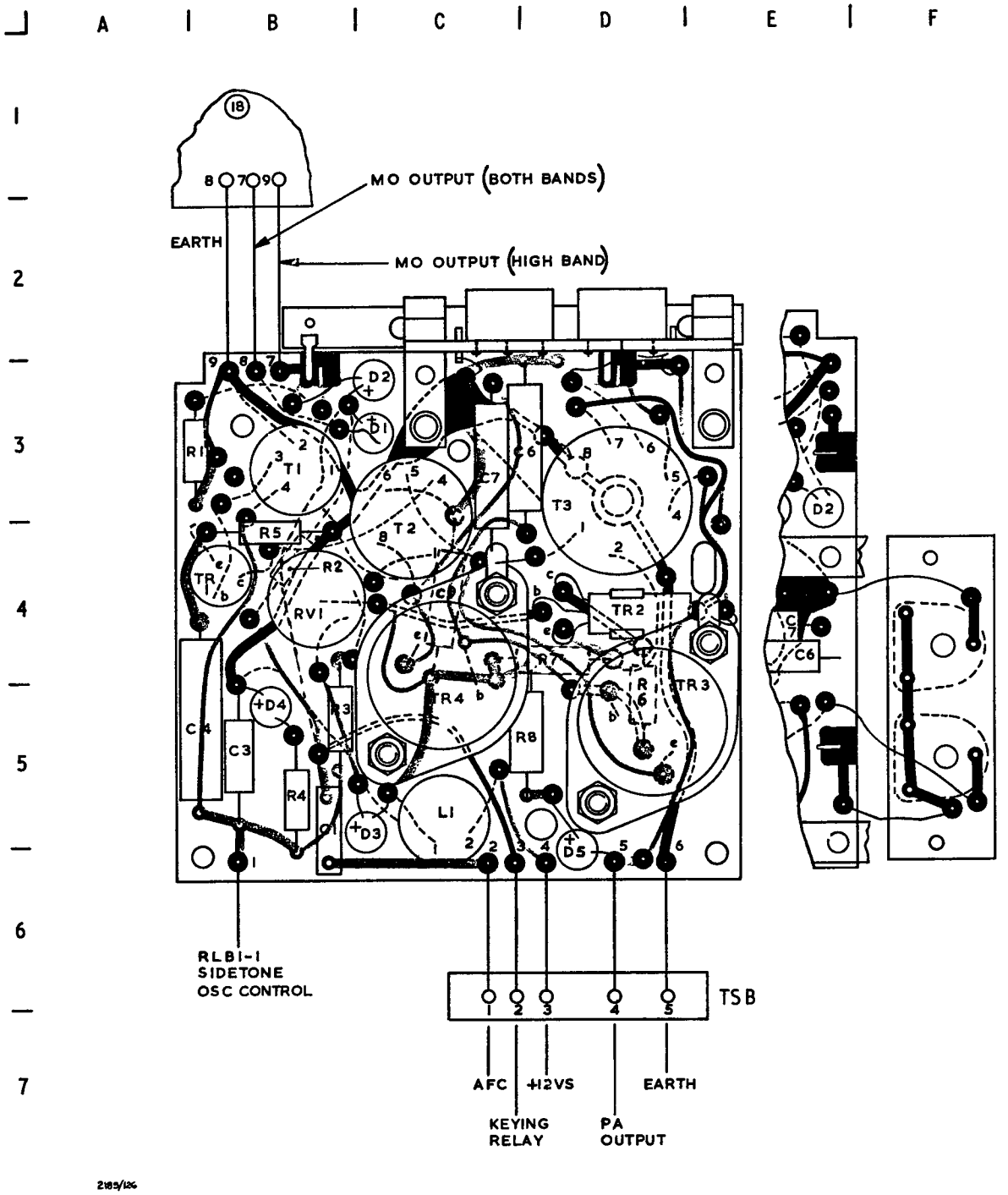

Fig 2562 - TRA13, board 19 layout

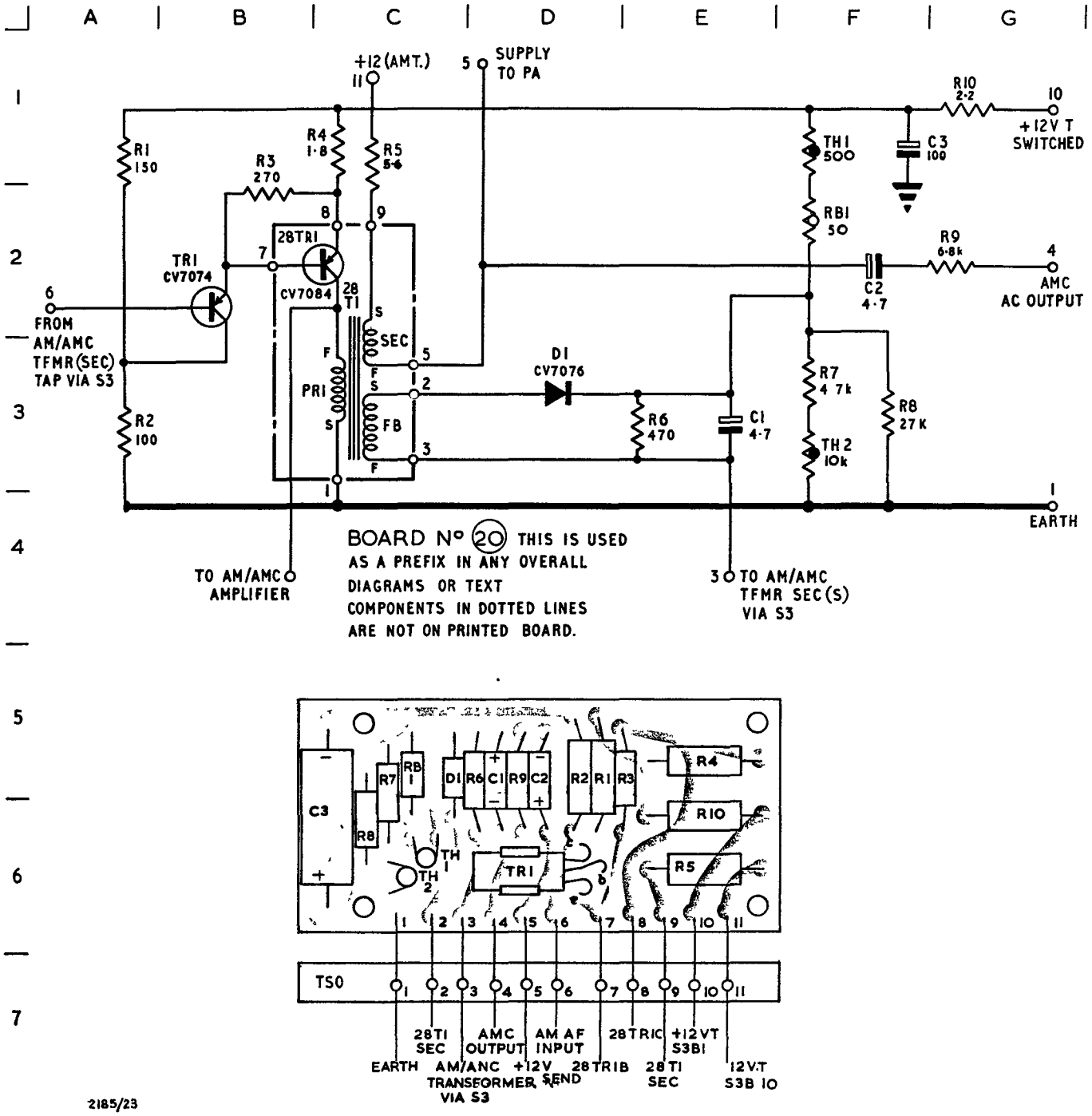

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Fig 2563 - TRA13, board 20 circuit and layout

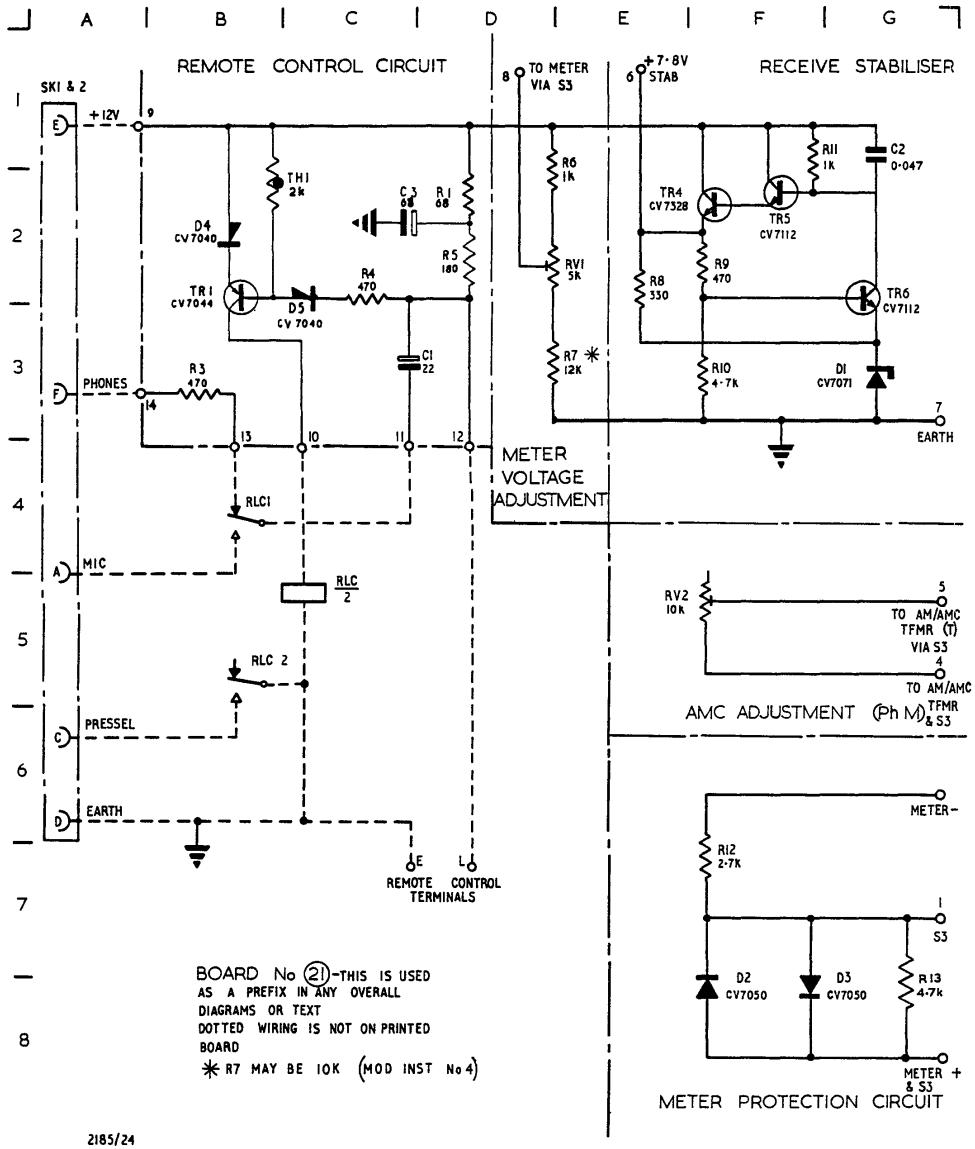


Fig 2564 - TRA13, board 21 circuit

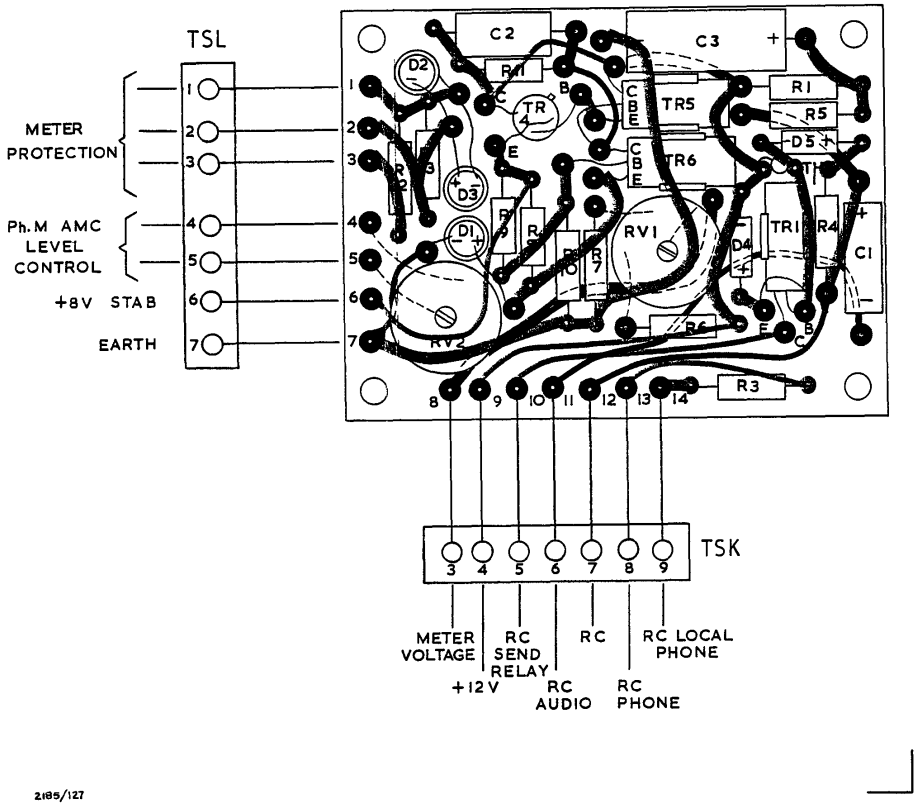


Fig 2565 - TRA13, board 21 layout

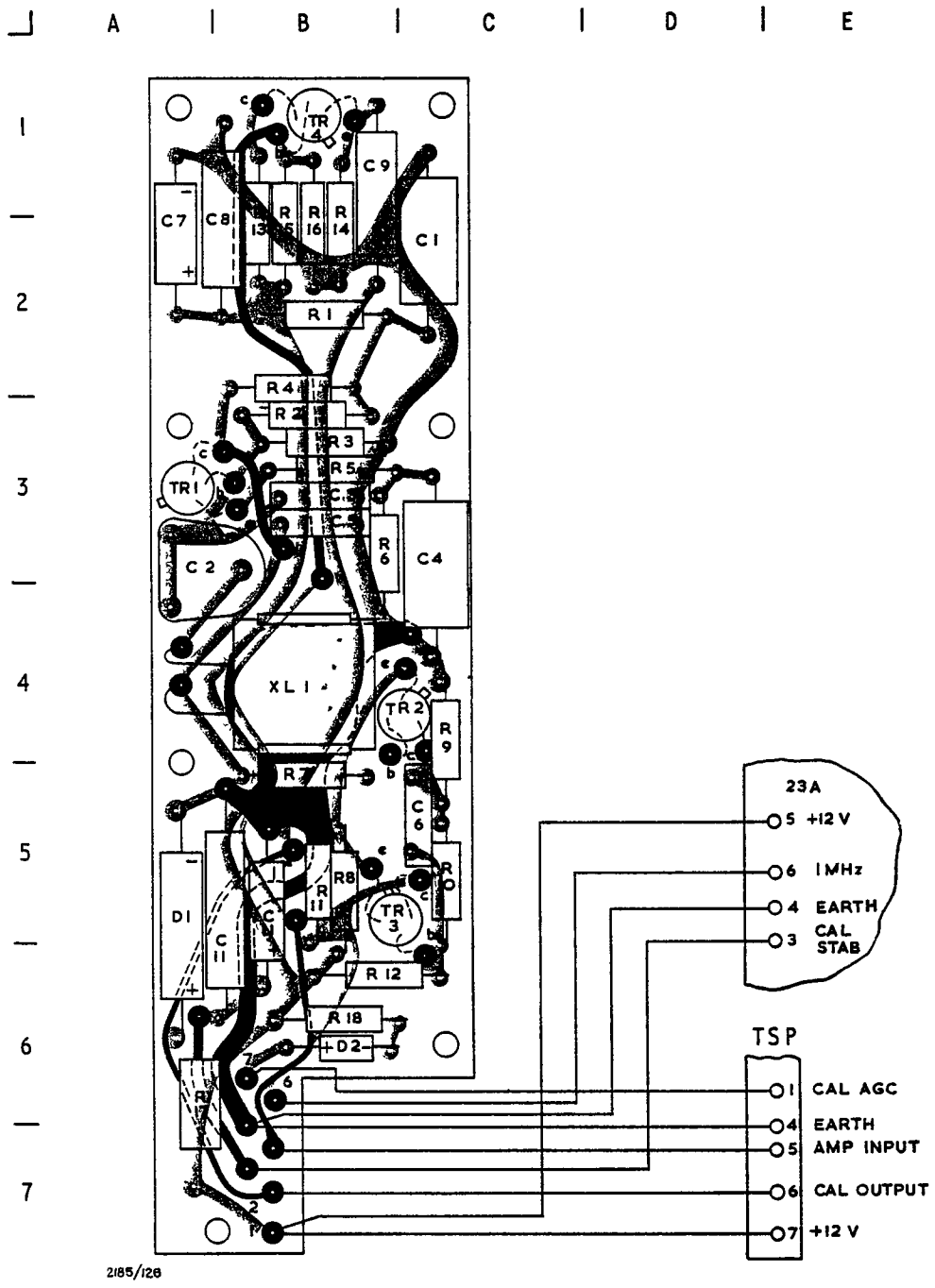


Fig 2566 - TRA13, board 22 layout

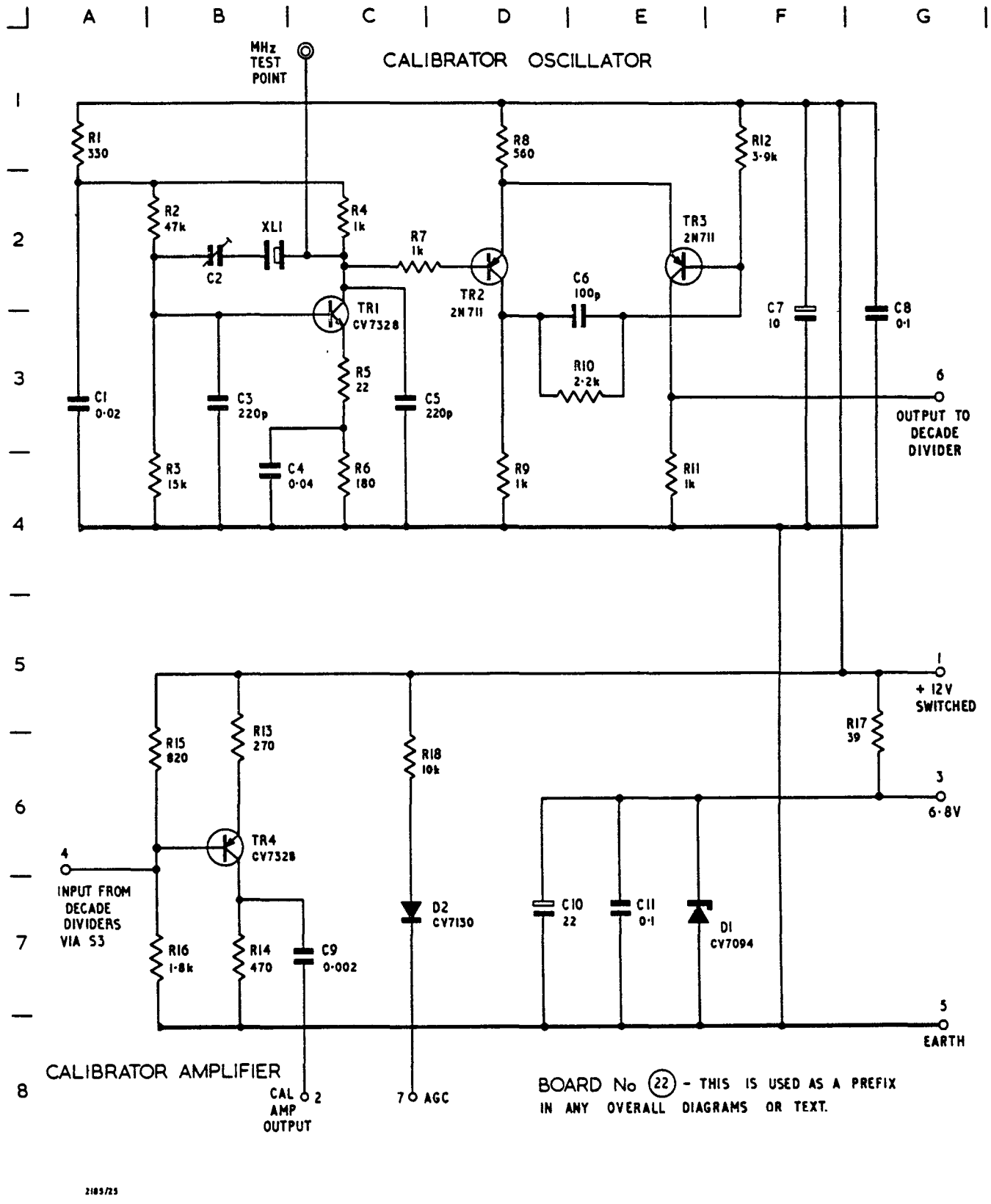


Fig 2567 - TRA13, board 22 circuit

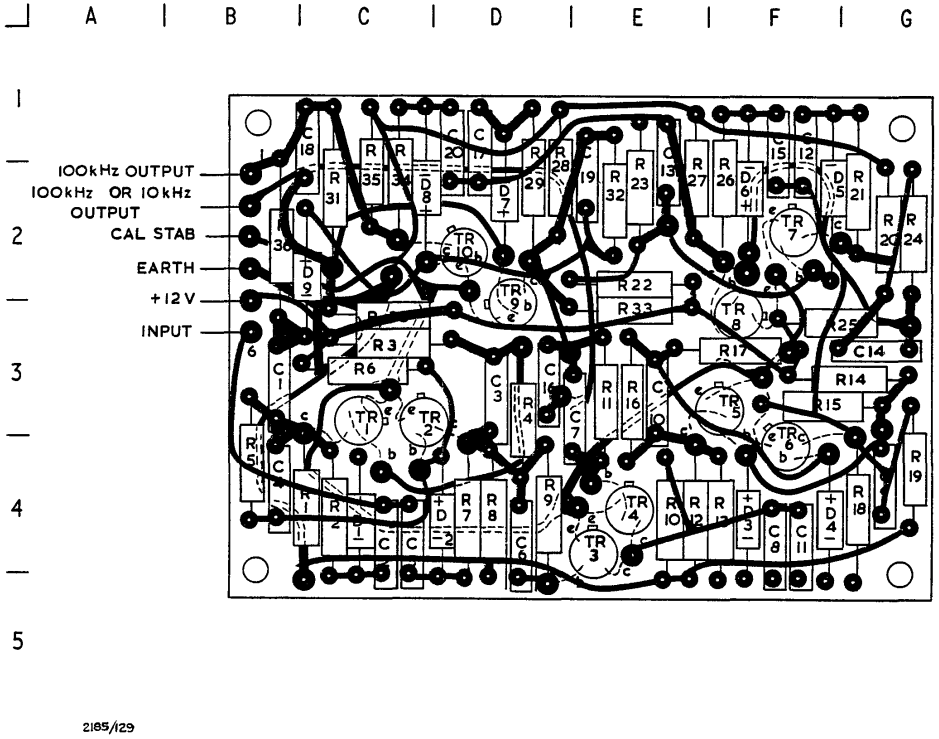


Fig 2569 - TRA13, board 23 layout

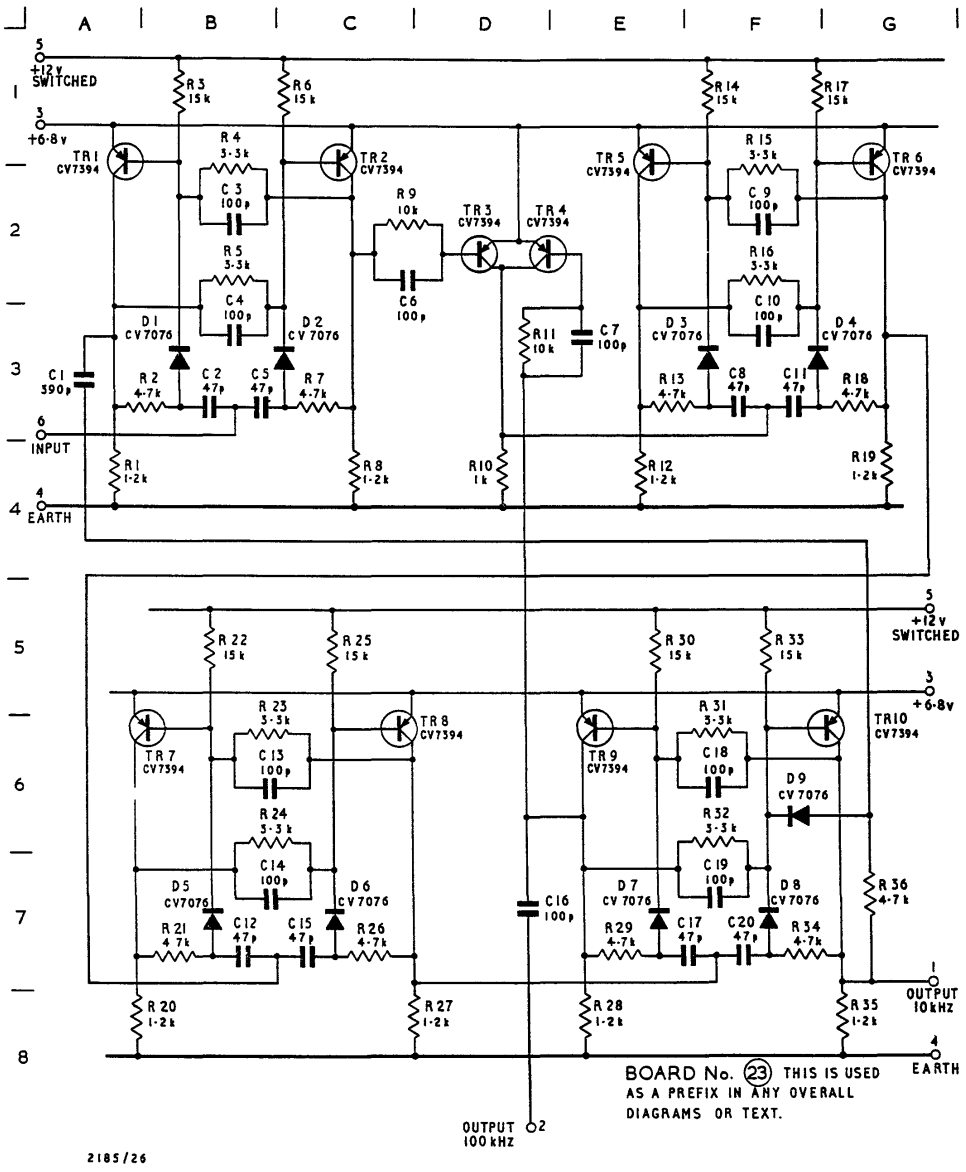


Fig 2568 - TRA13, board 23 circuit

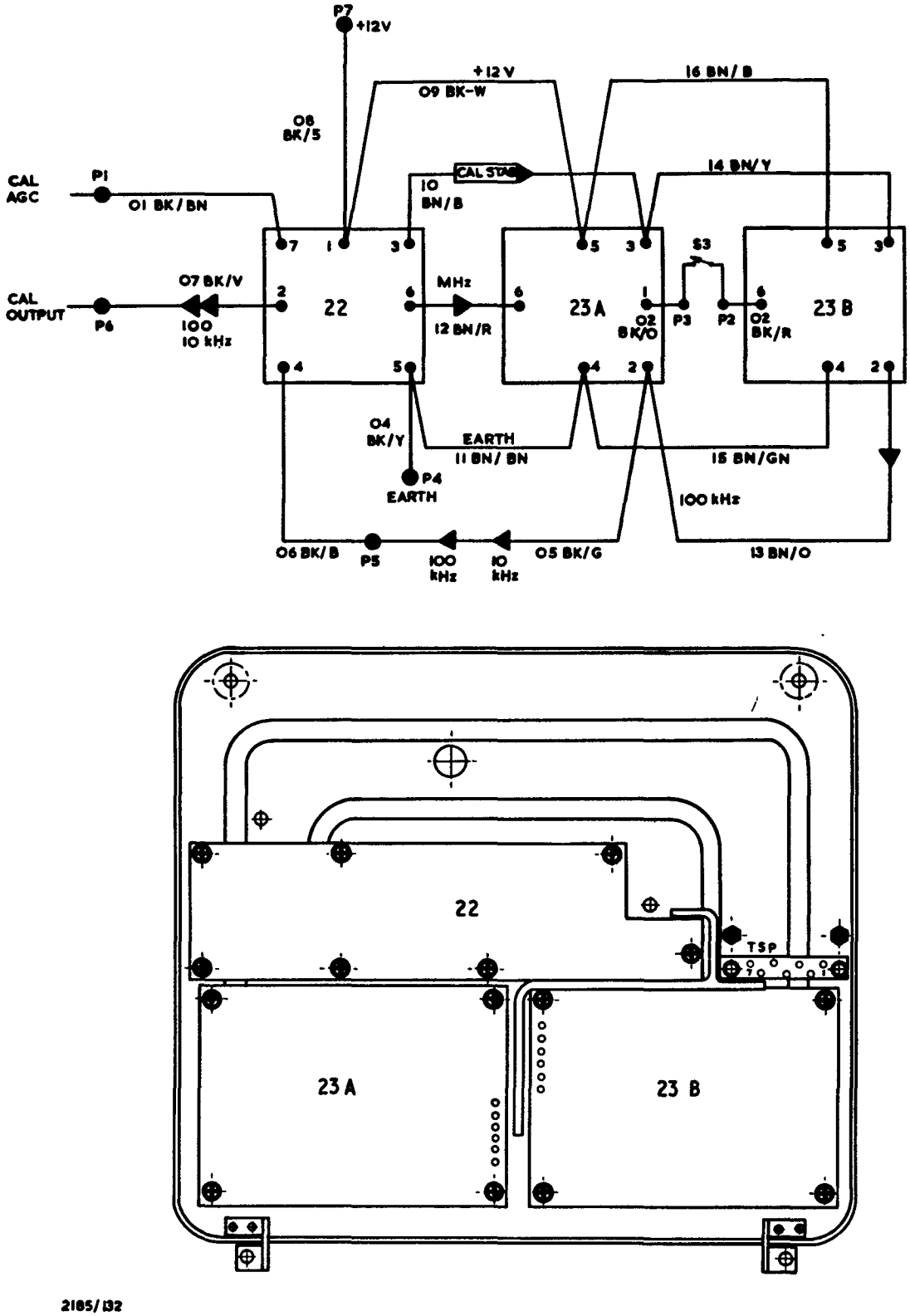


Fig 2570 - TRA13, calibrator tray layout and wiring

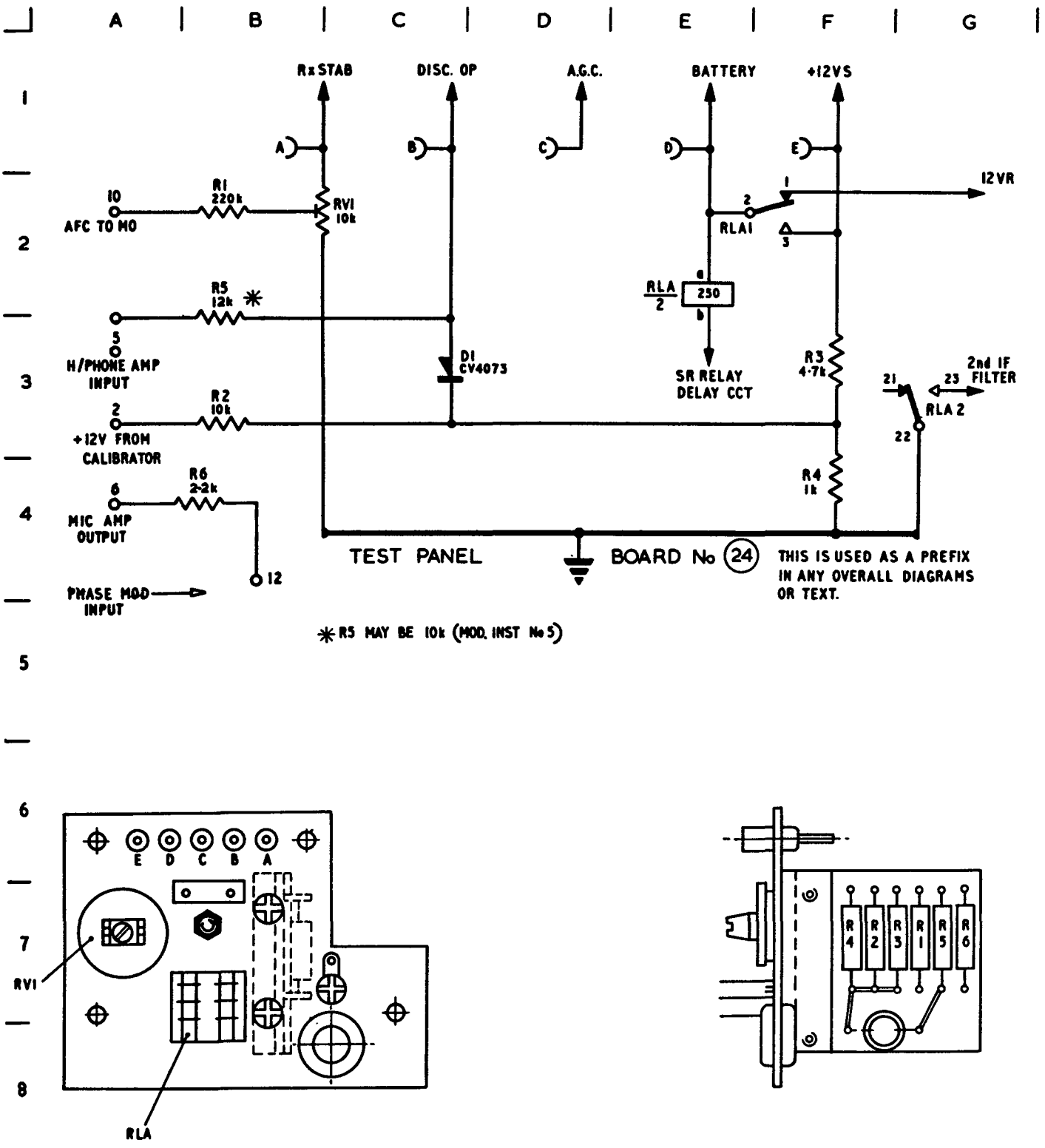


Fig 2571 - TRA13, board 24 layout and circuit

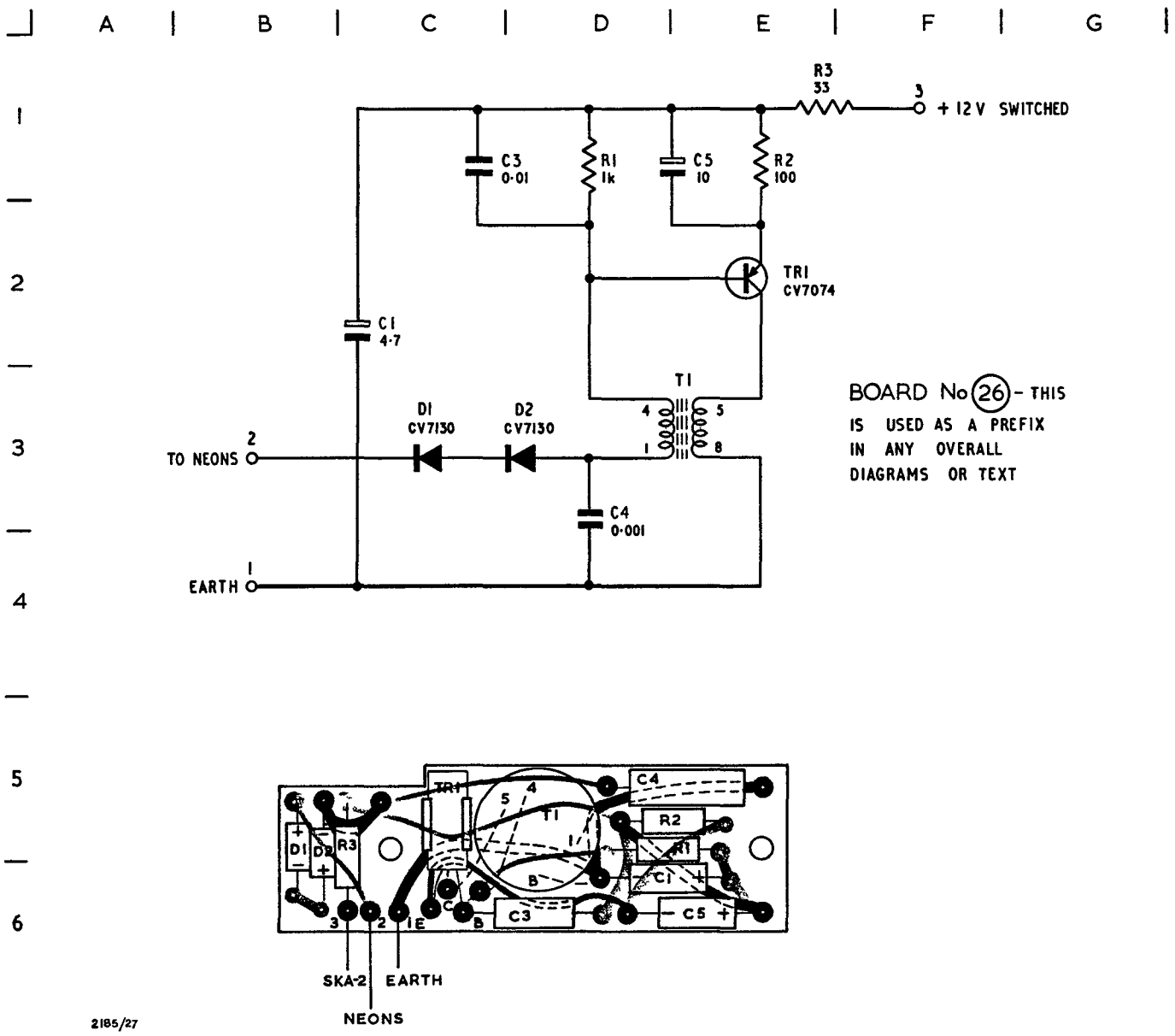


Fig 2572 - TRA13, board 26 circuit and layout

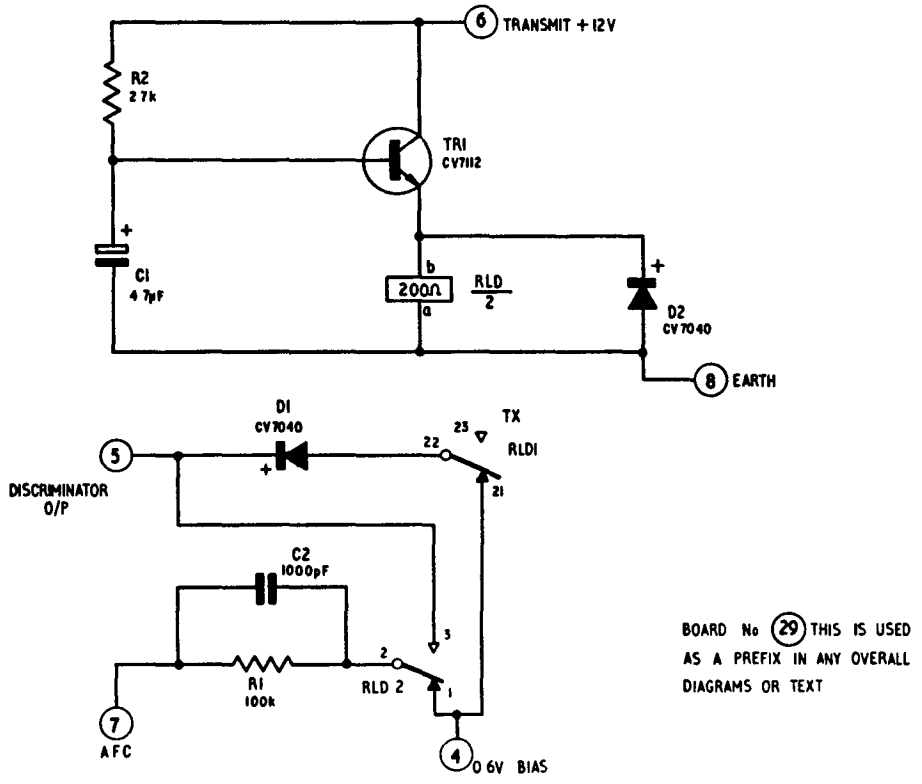


Fig 2573 - TRA13, board 29 circuit

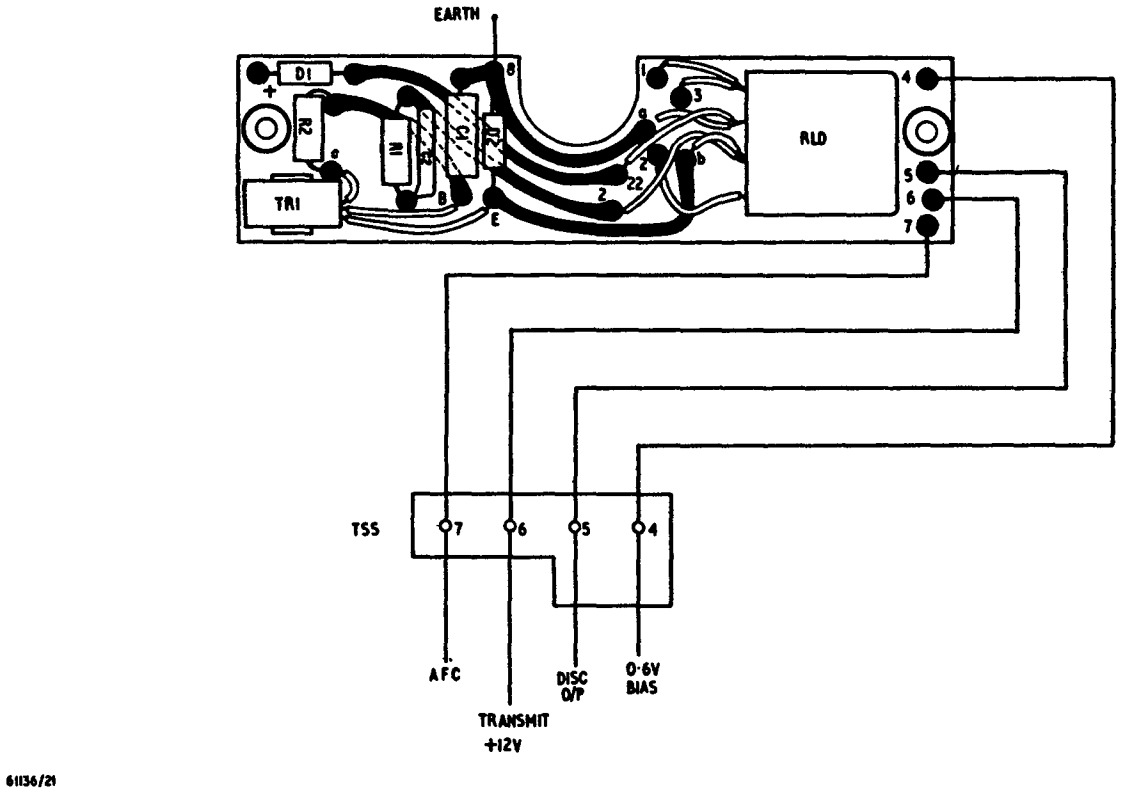


Fig 2574 - TRA13, board 29 layout

Table 2501 - TRA13, specification tests

Notes.

1. The conditions of test are as specified in Tels F 144.

2. The tests quoted are those considered necessary to check the serviceability of a set (A tests). They do not include those tests included in the original specification which prove design or quality (B and C tests).

3. Supply currents at 3.1 and 6.1MHz

Operating condition	Maximum supply current mA
Cursor adjust	400
Channel adjust	400
Tune, r.f.	850
Phase mod, receive	185
Phase mod, transmit	725
A.M. receive	165
A.M. transmit (30% mod)	900
C.W. receive	185
C.W. transmit	725

4. Transmitter power output - 50Ω load

Condition	Frequency MHz	Supply volts	Output power	
			Watts	Volts/50Ω
Ph.M	2.0	12	1.5	8.5
Ph.M	3.1	12	1.5	8.5
Ph.M	4.0 L	12	1.5	8.5
A.M.	4.0 L	12	0.75	6.0
C.W.	4.0 L	12	1.5	8.5
Ph.M	4.0 H	12	1.5	8.5
C.W.	6.1	12	1.5	8.5
Ph.M	8.0	12	1.5	8.5
A.M.	8.0	12	0.75	6.0
C.W.	8.0	12	1.5	8.5
Ph.M	8.0	10	1.0	7.0
A.M.	8.0	10	0.5	5.0
C.W.	8.0	10	1.0	7.0

Note: L = Low band (2-4) H = High band (4-8)

Table 2501 - (cont)

5. Transmitter, frequency deviation, phase modulation

Frequency MHz	Modulation level 1000Hz	Deviation Hz
2.3	10mV	600-1600
2.3	20mV	800-1600
2.3	100mV	800-1600
4.0 L	10mV	600-1600
4.0 L	20mV	800-1600
4.0 L	100mV	800-1600
4.0 H	10mV	600-1600
4.0 H	20mV	800-1600
4.0 H	100mV	800-1600

6. Transmitter, modulation depth, amplitude modulation

Frequency MHz	Modulation level 1000Hz	Modulation depth %
2.3	10mV	60-100
2.3	100mV	60-100
4.0 L	10mV	60-100
4.0 L	100mV	60-100
4.0 H	10mV	60-100
4.0 H	100mV	60-100

7. Transmitter, sidetone levels

A.M. 0.4-1.5mW (0.25-0.5V across 150Ω)

Ph.M 0.25-1.0mW (0.2-0.4V across 150Ω)

C.W. 30-70μW (65-105mV across 150Ω)

C.W. sidetone frequency 500-2000Hz

8. Transmitter, a.f.c. operation

Set unboxed

2.01MHz, error not greater than 200Hz
3.99MHz, error not greater than 200Hz

Set boxed

Sidetone to be present on phase modulation.

Table 2501 - (cont)

9. Transmitter, remote control

a. C.W. check that operation is satisfactory.

b. Ph.M - audio input 35mV, 100Hz; deviation 900-1600Hz.

c. A.M. - audio input 35mV, 1000Hz; mod depth 70-100%.

Carry out tests at 3.99MHz.

10. Receiver, signal to noise ratio

Conditions	Frequency MHz	S/N ratio dB
Ph.M	2.1	)
Ph.M	2.9	)
A.M.	2.9	) Ratio not less
C.W.	2.9	) than 16dB
Ph.M	3.9	)
Ph.M	4.1	) S/N ratio =
Ph.M	5.9	) S + N (dB)-
A.M.	5.9	) N (dB)
C.W.	5.9	)
Ph.M	7.9	)

11. Receiver, a.f. output power

Ph.M 5-10mW (0.85-1.2V across 150Ω))
A.M. 4-10mW (0.8-1.2V across 150Ω)) Tests carried out at 4.6MHz
C.W. not less than 2mW (0.55V minimum across 150Ω))

A.F. gain control range 21-27dB

12. Limiting

Input 3.1μV-100μV. Output change 2dB max.

13. A.G.C.

Input 6.3μV-100μV. Output change 7dB max.

14. Receiver, c.w. tone control range

Maximum clockwise: 2.5-3.5kHz
Maximum anti-clockwise: 2.5-3.5kHz

Table 2501 - (cont)

15. Crystal calibrator

System switch at CHANNEL ADJUST. Tune set to 7.95, 7.96, 7.97, 7.98 and 7.99MHz points. Ensure that tuning meter is deflected full scale when tuning through these points.

16. Netting error - set tuned to 7.4MHz

Receive: difference from 7.4MHz ±300Hz

Transmit: difference from 7.4MHz ±200Hz

17. Remote control - a.f. output power

Signal input: 4MHz, 10μV, 1000Hz, 1000Hz deviation

A.F. volts across RC terminals (1200Ω): 0.15-0.3

18. Battery volts indication

At meter mark L, input volts 9.9-10.1V

19. Film scale accuracy

Set tuned to 7.0MHz on 7.0-7.5MHz range. Check calibration marks at 100, 200, 300, 400 and 500kHz marks maximum error between mark and cursor setting 5kHz.

20. Sealing and leak test

Starting pressure:	10 lb/in.^{2}
Leakage rate:	25 cm^3/h
Time interval to reduce to 9 lb:	15 hours
Time constant:	150 hours

Table 2502 - TRA13, transmitter tests, preferred sequence

Test No	Set tuned up			Modulation meter		Valve voltmeter			Test box system switch	Supply current max mA	Supply unit	
	Frequency		System switch	Deviation Hz	Mod depth %	Range	Reading V	Measure			Volts	Overload A
	MHz switch	Dials										
1	2-2.5	2.000	Ph.M			10V	8.6 min	1.5W r.f.	Tx POWER OUT	725	12	1.0
2	2-2.5	2.300	Ph.M	600-1600					Tx 10mV MOD		12	1.0
3	2-2.5	2.300	Ph.M	800 1600					Tx 20mV MOD		12	1.0
4	2-2.5	2.300	Ph.M	800-1600					Tx 100mV MOD		12	1.0
5	2 2.5	2.300	A.M.		60-100				Tx 100mV MOD		12	1.5
6	2-2.5	2.300	A.M.		60 100				Tx 10mV MOD		12	1.5
7	3-3.5	3.100	CURS ADJ							400	12	1.0
8	3-3.5	3.100	CHAN ADJ							400	12	1.0
9	3-3.5	3.100	TUNE RF							850	12	1.0
10	3-3.5	3.100	A.M.		30%				Tx 10mV MOD	900	12	1.0
11	3 3.5	3.100	A.M.		85%	1V	0.25-0.5	A.M. sidetone	Tx 10mV MOD		12	1.5
12	3-3.5	3.100	Ph.M	800		1V	0.2-0.4	Ph.M sidetone	Tx 20mV MOD		12	1.0
13	3-3.5	3.100	Ph.M			10V	8.6 min	1.5W r.f.	Tx POWER OUT		12	1.0
14	3.5-4.0	3.1000	C.W.			10V	8.6 min	1.5W r.f.	Tx POWER OUT		12	1.0
15	3.5-4.0	3.1000	Ph.M			10V	8.6 min	1.5W r.f.	Tx POWER OUT		12	1.0
16	3.5-4.0	3.1000	Ph.M	600-1600					Tx 10mV MOD		12	1.0
17	3.5-4.0	3.1000	Ph.M	800-1600					Tx 20mV MOD		12	1.0
18	3.5-4.0	3.1000	Ph.M	800-1600					Tx 100mV MOD		12	1.0
19	3.5-4.0	3.1000	A.M.		60-100				Tx 100mV MOD		12	1.5
20	3.5-4.0	3.1000	A.M.		60-100				Tx 10mV MOD		12	1.5
21	3.5-4.0	3.1000	A.M.			10V	6.1 min	0.75W r.f.	Tx POWER OUT		12	1.5
22	3.5-4.0	3.1000	C.W.			10V	8.6 min	1.5W r.f.	Tx POWER OUT		12	1.0
23	3.5-4.0	3.1000	A.M.		70-100				Tx RC 35mV MOD		12	1.5
24	3.5-4.0	3.1000	Ph.M	900-1600					Tx RC 35mV MOD		12	1.5
25	4.0-4.5	4.100	A.M.		60-100				Tx 10mV MOD		12	1.5
26	4.0-4.5	4.100	A.M.		60-100				Tx 10mV MOD		12	1.5
27	4.0-4.5	4.100	Ph.M	600-1600					Tx 10mV MOD		12	1.0
28	4.0-4.5	4.100	Ph.M	800-1600					Tx 20mV MOD		12	1.0
29	4.0-4.5	4.100	Ph.M	800-1600					Tx 100mV MOD		12	1.0
30	4.0-4.5	4.100	Ph.M			10V	8.6 min	1.5W r.f.	Tx POWER OUT		12	1.0
31	6.0-6.5	6.100	C.W.			10V	8.6 min	1.5W r.f.	Tx POWER OUT	725	12	1.0
32	6.0-6.5	6.100	C.W.			100mV	65-105mV	C.W. sidetone	Tx CW		12	1.0
33	7.5-8.0	7.900	C.W.			10V	8.6 min	1.5W r.f.	Tx POWER OUT		12	1.0
34	7.5 8.0	7.900	A.M.			10V	6.1 min	0.75W r.f.	Tx POWER OUT		12	1.0
35	7.5 8.0	7.900	Ph.M			10V	8.6 min	1.5W r.f.	Tx POWER OUT		12	1.0
36	7.5-8.0	7.900	Ph.M			10V	7.0 min	1.0W r.f.	Tx POWER OUT		10	1.0
37	7.5-8.0	7.900	A.M.			10V	5.0 min	0.5W r.f.	Tx POWER OUT		10	1.0
38	7.5-8.0	7.900	C.W.			10V	7.0 min	1.0W r.f.	Tx POWER OUT		10	1.0

Note: 3.1000 (MHz Film | kHz Film) means 4MHz on low band, ie 3 on MHz film and 1000kHz on kHz film

Table 2503 - TRA13, receiver tests, preferred sequence

Test No	Set tuned up			Signal generator			Counter	Valve voltmeter			Test box system switch	Supply current max mA	Supply unit	
	Frequency		System switch	Frequency	Level	Mod*		Range	Reading	Measure			Volts	Current limiter mA
	MHz switch	Dials												
39	2-2.5	2.100	Ph.M	2.1	4µV	F.M.A.		100mV	'n' dB	A.F. output	Rx S/N MOD ON	185	12	250
	2-2.5	2.100	Ph.M	2.1	4µV	C.W.		100mV	< 'n' dB	Noise output	Rx S/N MOD OFF		12	250
40	2.5-3.0	2.900	Ph.M	2.9	4µV	F.M.A.		100mV	'n' dB	A.F. output	Rx S/N MOD ON		12	250
	2.5-3.0	2.900	Ph.M	2.9	4µV	C.W.		100mV	< 'n' dB	Noise output	Rx S/N MOD OFF		12	250
41	2.5-3.0	2.900	A.M.	2.9	6.3µV	A.M.A.		100mV	'n' dB	A.F. output	Rx S/N MOD ON		12	250
	2.5-3.0	2.900	A.M.	2.9	6.3µV	C.W.		100mV	< 'n' dB	Noise output	Rx S/N MOD ON		12	250
42	2.5-3.0	2.900	C.W./	2.9	2µV	C.W.		30mV	'n' dB	B.F.O. note max/	Rx S/N MOD ON		12	250
	2.5-3.0	2.900	C.W.//	2.9	2µV	C.W.		30mV	< 'n' dB	B.F.O. note min//	Rx S/N MOD OFF		12	250
43	3.5-4.0	3.900	Ph.M	3.9	4µV	F.M.A.		100mV	'n' dB	A.F. output	Rx S/N MOD ON		12	250
	3.5-4.0	3.900	Ph.M	3.9	4µV	C.W.		100mV	< 'n' dB	Noise output	Rx S/N MOD OFF		12	250
44	4.0-4.5	4.100	Ph.M	4.1	4µV	F.M.A.		100mV	'n' dB	A.F. output	Rx S/N MOD ON		12	250
	4.0-4.5	4.100	Ph.M	4.1	4µV	C.W.		100mV	< 'n' dB	Noise output	Rx S/N MOD OFF		12	250
45	5.5-6.0	5.900	Ph.M	5.9	4µV	F.M.A.		100mV	'n' dB	A.F. output	Rx S/N MOD ON		12	250
	5.5-6.0	5.900	Ph.M	5.9	4µV	C.W.		100mV	< 'n' dB	Noise output	Rx S/N MOD OFF		12	250
46	7.5-8.0	7.900	Ph.M	7.9	4µV	F.M.A.		100mV	'n' dB	A.F. output	Rx S/N MOD ON		12	250
	7.5-8.0	7.900	Ph.M	7.9	4µV	C.W.		100mV	< 'n' dB	Noise output	Rx S/N MOD OFF		12	250
47	4.5-5.0	4.600	A.M.	4.6	10µV	A.M.B.		3V	0.8-1.2	A.F. output	Rx AF OP		12	250
48	4.5-6.0	4.600	Ph.M	4.6	10µV	F.M.B.		3V	0.8-1.2	A.F. output	Rx AF OP		12	250
49	4.5-5.0	4.600	Ph.MØ	4.6	10µV	F.M.B.		100mV	'n' dB	A.F. output min	Rx AF OP		12	250
	4.5-5.0	4.600	Ph.M	4.6	10µV	F.M.B.		100mV	'n' dB ±3dB max	A.F. output -21dB	Rx GAIN CONTROL MIN		12	250
	4.5-5.0	4.600	Ph.M	4.6	3.1µV	F.M.A.		300mV	'A' dB	A.F. output	Rx AF OP		12	250
50	4.5-5.0	4.600	Ph.M	4.6	100mV	F.M.A.		300mV	'B' dB	A.F. output	Rx AF OP		12	250
									B-A 2dB					
	4.5-5.0	4.600	A.M.	4.6	6.3µV	A.M.B.		1V	'A' dB	A.F. output	Rx AF OP		12	250
51	4.5-5.0	4.600	A.M.	4.6	100mV	A.M.B.		1V	'B' dB	A.F. output	Rx AF OP		12	250
									B-A 7dB					
52	4.5-5.0	4.600	C.W.	4.6	1µV	C.W.		Note that CW TONE range is 300Hz at pinch zero and 2500-3500Hz at each maximum						
53	4.5-5.0	4.600	Ph.M	4.6	10µV	F.M.B.		1V	0.15-0.3V	RC A.F. output	Rx RC AF OP		12	250
54	7.0-7.5	7.400	Ph.M	7.4	4µV	F.M.A.	7.4 ±300Hz	100mV	Max AF		Rx AF OP		12	250
	7.0-7.5	7.400	Ph.M				7.4 ±200Hz				Tx POWER OUT		12	1A
				MISCELLANEOUS TESTS										
55	7.0-7.5	7.400	Ph.M	Set meter should read to 'L' mark							Rx AF OP		10	250
56	7.0-7.5	7.000	CURS ADJ	Tune set in accurately and align cursor to 000 mark							Rx AF OP		12	250
57	7.0-7.5	7.100	CURS ADJ	Tune set in accurately max difference between 100 mark and cursor should be 5kHz							Rx AF OP			
58	7.0-7.5	7.200	CURS ADJ	As for 57, between 200 mark and cursor										
59	7.0-7.5	7.300	CURS ADJ	As for 57, between 300 mark and cursor										
60	7.0-7.5	7.400	CURS ADJ	As for 57, between 400 mark and cursor										
61	7.0-7.5	7.500	CURS ADJ	As for 57, between 500 mark and cursor										
62	7.5-8.0	7.950	CHAN ADJ	Tune unit and ensure that tuning meter deflects to full scale when tuning										
63	7.5-8.0	7.960	CHAN ADJ											
64	7.5-8.0	7.970	CHAN ADJ											
65	7.5-8.0	7.980	CHAN ADJ											
66	7.5-8.0	7.990	CHAN ADJ											

Notes: *A.M.A. 30% 1000Hz; A.M.B. 80% 1000Hz; F.M.A. 400Hz deviation, 1000Hz; F.M.B. 1000Hz deviation, 1000Hz.
/C.W. TONE tuned for max V.V. reading. //C.W. TONE tuned for min on V.V. ØGAIN to MIN (because of going to OFF).

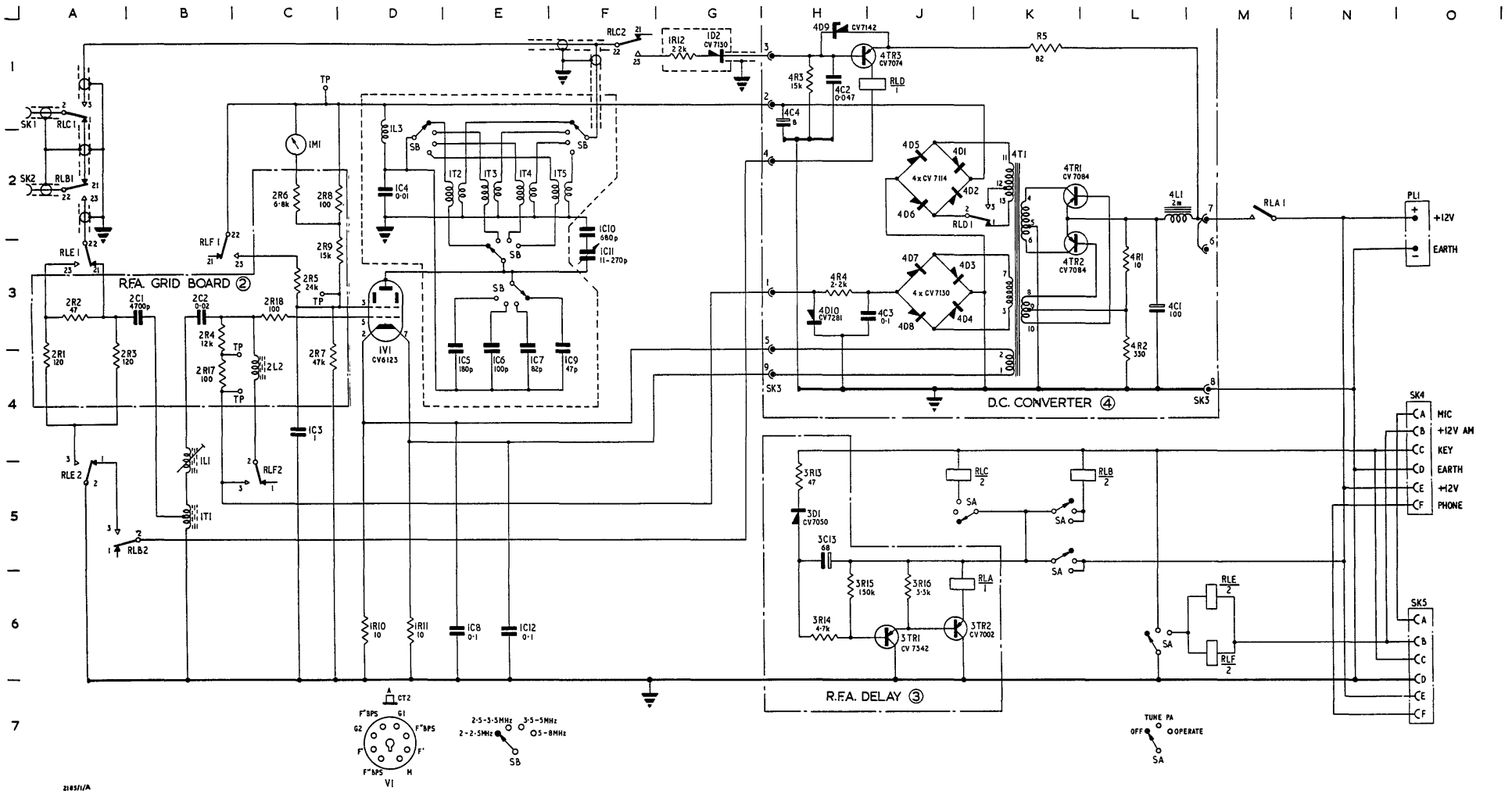


Fig 2575 - RFA12 circuit

Table 2504 - TRA13, spares schedule, Field repairs

Catalogue No	Designation	Function and cct ref
Z1/5820-99-101-9909	PANEL ELECTRONIC CCT SRBP 3.1/16 x 7/8 in. o/a dim 12 components	Neon oscillator 26
Z1/5820-99-102-0067	PANEL ASSEMBLY ELECTRONIC CCT 1.45 x 4.32 x 4.4 in. o/a dim 3 panels	Receiver, r.f. amplifier assembly 1
Z1/5820-99-102-0024	PANEL ASSEMBLY ELECTRONIC CCT 1.7 x 3.2 x 5 in. o/a dim 4 panels	1st mixer, 1st local oscillator assembly 2, 3, 4, 17
Z1/5820-99-101-9808	PANEL ELECTRONIC CCT SRBP 5.1/6 x 3.7/16. 60 components	1st i.f. amplifier and 2nd local oscillator 5
Z1/5820-99-101-8603	PANEL ELECTRONIC CCT SRBP 35/32 x 2.5/8 x 1/2 in. 26 components	2nd mixer 6
Z1/5820-99-102-2781	PANEL ASSEMBLY ELECTRONIC CCT 5.7/8 x 2 x 1 in.	2nd i.f. filter and diode switch assembly 7
Z1/5820-99-101-9810	PANEL ELECTRONIC CCT SRBP 3.27/32 x 2.11/16 in. o/a dim 38 components	2nd i.f. amplifier 8
Z1/5820-99-102-0594	PANEL ASSEMBLY ELECTRONIC CCT SRBP, 3.1/4 x 2.1/4 x 1.3/8 in. o/a dim 2 panels	Limiter and discriminator assembly 10, 11
Z1/5820-99-101-9812	PANEL ELECTRONIC CCT SRBP 4 x 2.3/4 in. o/a dim 46 components	Headphone amplifier 13
Z1/5820-99-102-0518	PANEL ELECTRONIC CCT SRBP 3 x 2.1/4 in. 27 components	Receiver stabilizer 21
Z1/5820-99-101-9881	PANEL ELECTRONIC CCT SRBP 3.29/32 x 2.11/16 in. o/a dim 39 components	Automatic gain control 12
Z1/5820-99-101-8605	PANEL ASSEMBLY ELECTRONIC CCT 3.13 x 1.55 x 1.08 in. o/a dim	Beat frequency oscillator assembly 9
Z1/5820-99-101-8607	PANEL ELECTRONIC CCT SRBP 6.1/2 x 2.3/4 in. 35 components.	Calibrator oscillator 22

Table 2504 - (cont)

Catalogue No	Designation	Function and cct ref
Z1/5820-99-101-8608	PANEL ELECTRONIC CCT SRBP 3.7/8 x 2.3/4 in. 75 components	Calibrator decade 23a, 23b
Z1/5820-99-102-0711	PANEL ASSEMBLY ELECTRONIC CCT 2.7 x 2.27 x 1.15 in. 2 panels	Microphone amplifier assembly 15, 16
Z1/5820-99-102-0678	PANEL ASSEMBLY ELECTRONIC CCT 4.4 x 2.85 x 0.95 in. o/a dim 2 panels	Master oscillator, transmitter stabilizer assembly 18, 25
Z1/5820-99-101-8592	PANEL ELECTRONIC CCT SRBP 2 x 5/8 in. 2 variable capacitors	Transmitter power amplifier control 19C8, 19C10
Z1/5820-99-101-8591	PANEL ELECTRONIC CCT 3.5/8 x 3.7/16 in. 27 components	Transmitter power amplifier 19
Z1/5820-99-101-8602	PANEL ELECTRONIC CCT SRBP 3.1/8 x 1.1/2 in. 18 components	Amplitude modulator 20
Z1/5820-99-102-0431	PANEL TEST ELECTRICAL EQUIPMENT 1.27 x 1.93 x 2.56 in. o/a dim	Test panel 24
Z1/5820-99-102-0610	SWITCH ASSEMBLY ROTARY WAFER 1.3/16 in. dia 19/16 in. lg o/a dim 10 resistors, 1 semi-conductor device	Gain control 2752
Z1/5820-99-102-2814	PANEL ELECTRONIC CCT 1.1/2 x 5/16 in. 2 resistors	R4, R5
Z1/5330-99-911-0979	SEAL RUBBER ROUND SECTION SYNTHETIC 0.612 in. ID x 0.818 in. OD	
Z1/4440-99-942-2061	DESICCANT CONTAINER DEHUMIDIFIER AL, silical gel 1.1/4 in. lg 5/8 in. dia	
Z1/5820-99-102-0349	GASKET, ALUM/SYNTHETIC RUBBER 9.3/8 in. x 8.3/4 x 5/32 in.	
Z1/5820-99-107-9610	PANEL ELECTRONIC CCT SRBP 4.06 x 1.06 in. 8 components	A.F.C. delay 29

Table 2504 - (cont)

Catalogue No	Designation	Function and cct ref
Z1/5820-99-949-8852	CRANK HAND, STEEL, 15/16 in. lg crank, 7/16 in. lg handle, 1/4 in. shaft	Tuning knob
Z1/5355-99-949-9032	KNOB, ALUMINIUM SET SCREW TYPE, bar w/angle pointer 1/4 in. bore, 1.1/4 x 1/2 x 1/2 in.	System and MHz switch
Z1/5355-99-949-6085	KNOB, ALUMINIUM, SET SCREW, ROUND with bar lever, 1/4 in. bore with flat 1/2 x 1/2 x 7/8 in. o/a dim	RF - CHANNEL-FREE, CW TONE
Z1/5310-99-911-0837	NUT, PLAIN, HEXAGON, BRASS, 0.525 in. A/F, 3/32 in. thk	Associated with front panel switches
Z/5330-99-097-1003	SEAL, RUBBER STRIP, 0.38 in. ID 0.055 in. by 0.055 in. section	
Z/5310-99-011-9097	WASHER SPRING TENSION, beryllium copper, 0.40 in. ID, 0.68 in. OD, 0.148 in. thk	
Z1/5355-99-949-5747	KNOB, AL, SET SCREW, RD, 1/4 in. bore with flat, 1/2 in. OD, 1/2 in. H	CURSOR ADJ
Z1/5355-99-949-5986	KNOB, AL, SET SCREW, RD, 0.167 in. bore with flat, 1/2 in. OD, 1/2 in. H	GAIN
Z1/5330-99-949-0775	WASHER NON METALLIC SYNTHETIC RUBBER, 0.475 in. OD, 0.375 in. ID, 0.052 in. thk	
Z1/5970-99-102-0200	INSULATOR, PLATE, PLASTICS: RECT; 1.5/32 in. lg, 13/64 in. w, 1/8 in. thk o/a dim 2 parallel grooves 0.75 in. C to C	Battery plug
Z1/5330-99-102-0186	WASHER SHOULDERED PLASTICS, 0.142 in. ID, 0.50 in. OD, 0.125 in. H shoulder 0.176 in. dia, 0.040 in. H	Battery plug

Table 2504 - (cont)

Catalogue No	Designation	Function and cct ref
Z1/5820-99-102-0179	CONTACT ELECTRICAL, BRASS, 1.281 in. x 0.25 in. x 0.159 in. o/a dim	Battery plug
6MT1/5330-99-943-2478	RING SEALING TOROIDAL SYNTHETIC RUBBER, NATURAL, 5/32 in. ID, 9/32 in. OD; 1/16 in. H o/a. 65-77 deg shore hardness	
H9/5330-99-942-9521	RING SEALING TOROIDAL RUBBER, 1 in. OD, 0.07 in. H, 65-77 deg hardness	
6MT1/5330-99-101-8824	RING SEALING TOROIDAL, SYNTHETIC RUBBER, 3.1/8 in. ID, 3.1/4 in. OD 0.067/ 0.073 in. H; 44.52 deg shore hardness	
Z1/5910-99-105-0449	CAPACITOR VARIABLE AIR DIELECTRIC 27.6 PF MAX	C.W. tone 27C2
Z1/5820-99-102-4591	METER, ARBITRARY SCALE MOVING COIL, RD FLANGE MNTG, 1 in. barrel dia, 200μA f.s.d.	Tuning meter 27M1
Z1/5935-99-102-3140	SOCKET ELECTRICAL, FIXED; BRASS, FLANGE MNTD, 50 ohm 500V a.c., male shell bayonet locking	As socket 27SKD
Z1/5935-99-949-6270	SOCKET ELECTRICAL FIXED, 2 pole	Charging socket 27SKE
Z1/5935-99-949-3145	SOCKET ELECTRICAL FIXED MALE SHELL, 6 pole; 2850V a.c. 4A	Head gear socket 27SK, B, C
Y3/5940-99-904-3609	TERMINAL SPRING HEAD 1.11/16 in. lg o/a, 500V a.c./d.c. rated working voltage; 10 amps 2 BA screw mntg	RC terminals
Z1/5820-99-105-5976	CORD ASSEMBLY, TUNING DRIVE, TWINE, W/SPRING CLIPS, 8 in. approx o/a lg	MHz blind cord

Table 2504 - (cont)

Catalogue No	Designation	Function and cct ref
Z1/5310-99-102-3753	WASHER, KEY, STEEL, 1 EXT KEY, 0.1875 in. ID, 0.375 in. OD, 0.032 in. thk, 0.451 in. o/a incl key	Stop work on tuning shaft
Z1/5999-99-102-3286	SCALE, TUNING, FLEXIBLE, SAFETY FILM, marked 2 thro' 7 channels, 1 ft 7.11/16 in. lg, 1.547 in. w, 0.005 in. thk	Vertical blind
Z1/5820-99-102-0284	SCALE, TUNING, FLEXIBLE, 35 MM, 3 ft 7 in. lg	Horizontal blind
Z/5945-99-012-0008	RELAY, ARMATURE NORMAL DUTY, 250 ohms, 2 change over, Type SM4B-N15	RLA, RLB
Z2/5305-99-102-0060	SCREW, CAP, SOCKET HEAD UNC CORROSION RESISTING STEEL, flat fillister knurled head No 6 by 1 in. class 2 A fit	
Z/5960-99-037-2893	VALVE ELECTRONIC CV7328	Receiver stabilizer 21TR4
Z1/5910-12-141-1978	CAPACITOR, FIXED, PLASTICS, DIELECTRIC METALLISED TUBULAR PLASTIC CASE, 0.05μF ±20%, 250V d.c. working	Was 0.047μF before Mod Instr No 38 27C1
Z1/5910-99-102-8865	CAPACITOR, FIXED, MICA DIELECTRIC METALISED RECTANGULAR PLASTIC CASE 0.0033μF ±1% 125V d.c. wkg	27C4
Z/5960-99-037-2013	SEMI-CONDUCTOR DEVICE DIODE CV7015	27D1
Z/5960-99-000-2213	VALVE ELECTRONIC CV2213	Neons 27LP1-4
Z/5905-99-011-8263	RESISTOR, VARIABLE COMPOSITION, 25k ohms ±20%, 1/4 watt linear	28RV1
Z/5960-99-037-2159	VALVE ELECTRONIC CV7084	A.M. modulator 28TR1
Z1/5950-99-102-0677	TRANSFORMER, AUDIO FREQUENCY, PRIMARY 150 turns, sec 1 300 turns sec 2 50 turns, 1.23 x 1.45 in. o/a dim	A.M. modulator transformer 28T1

Table 2504 - (cont)

Catalogue No	Designation	Function and cct ref
Z1/5950-99-103-0714	TRANSFORMER, AUDIO FREQUENCY PRIMARY, 760 turns, sec 3040 tapped at 875 turns, 0.755 x 0.860 x 1.182 in. o/a dims	A.M.C. transformer 28T2
Z1/5960-99-103-2401	TRANSFORMER, AUDIO FREQUENCY PRIMARY 1056 turns, sec 330 turns 0.755 x 0.860 x 1.182 in. o/a dim	Phone transformer 28T3
Z1/5930-99-102-3785	SWITCH, ROTARY WAFER, WIRED, 12 POSITION, 4 WAFERS	
Z/5910-99-101-9219	CAPACITOR, FIXED, ELECTROLYTIC tantalum 22µF ±20% 10-13V d.c.	27C5
Z1/5905-99-972-7058	RESISTOR, FIXED FILM 56 ohm ±5% 1/4W	27R24
Z/5905-99-011-3225	RESISTOR, FIXED W.W. 56 ohm ±5% 2.6W	27R25
Z/5970-99-106-8253	TERMINAL, INSULATED, special purpose (used with above item)	27IT1

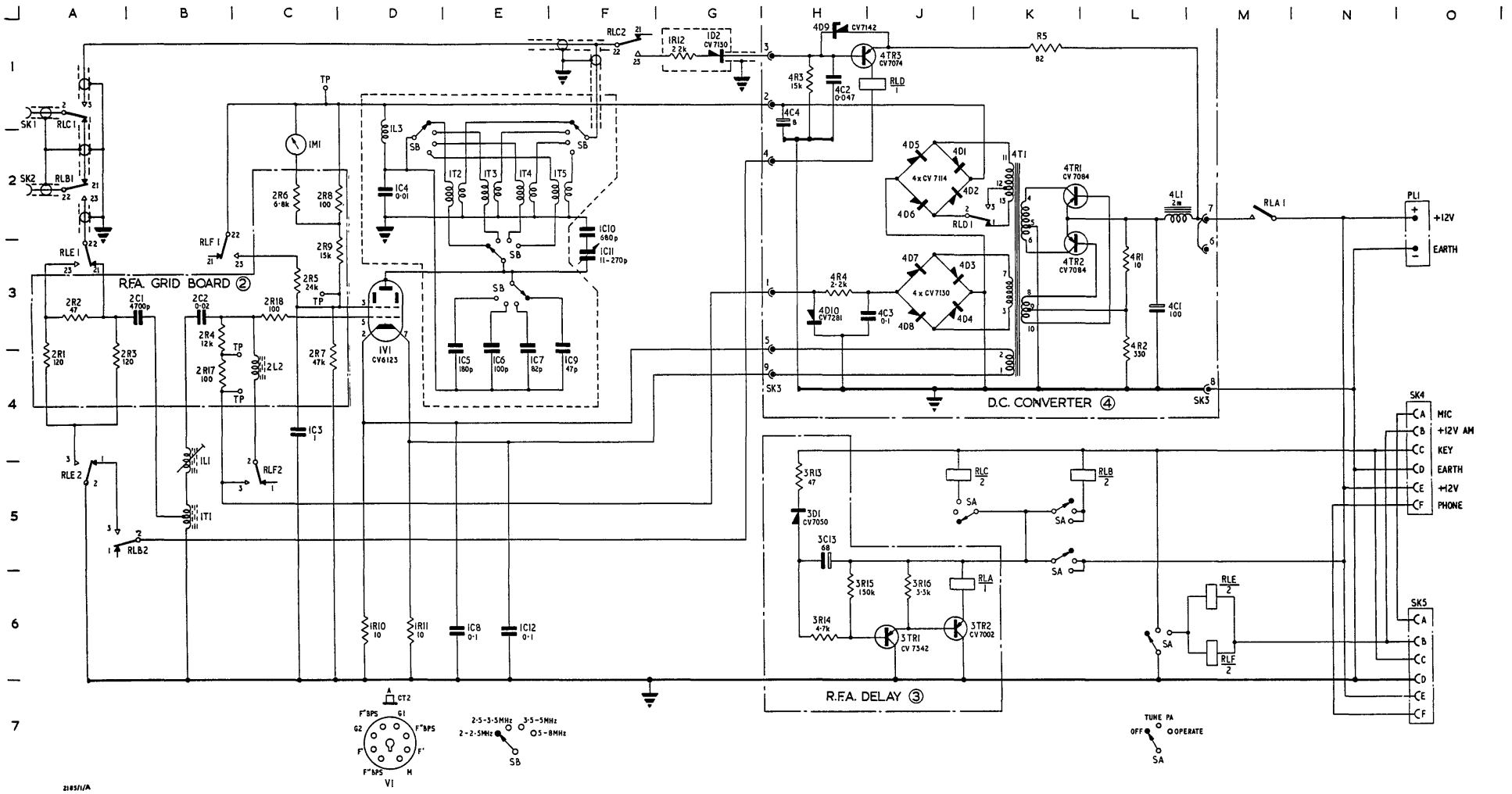


Fig 2575 - RFA12 circuit

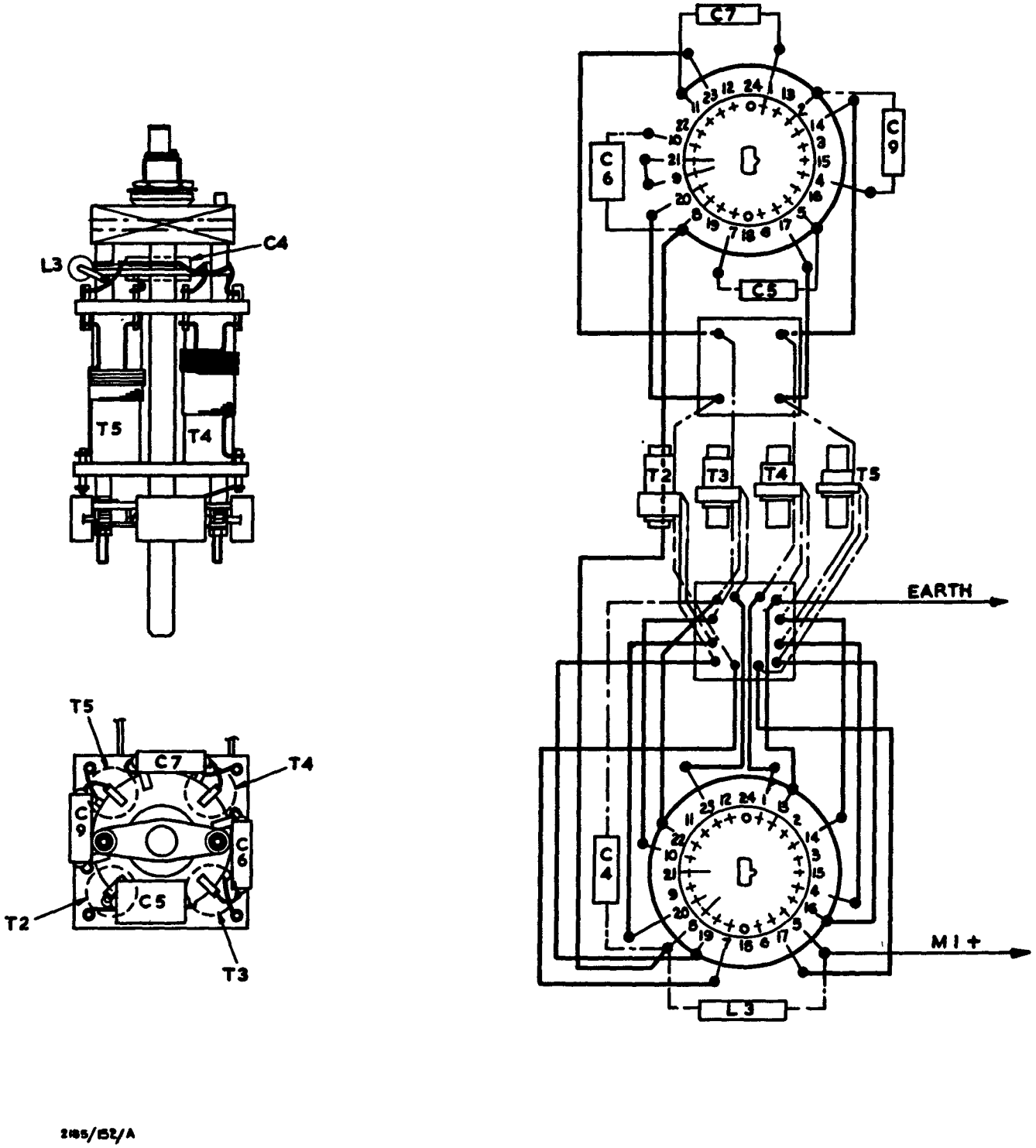


Fig 2576 - RFA12, tuning unit, r.f., layout

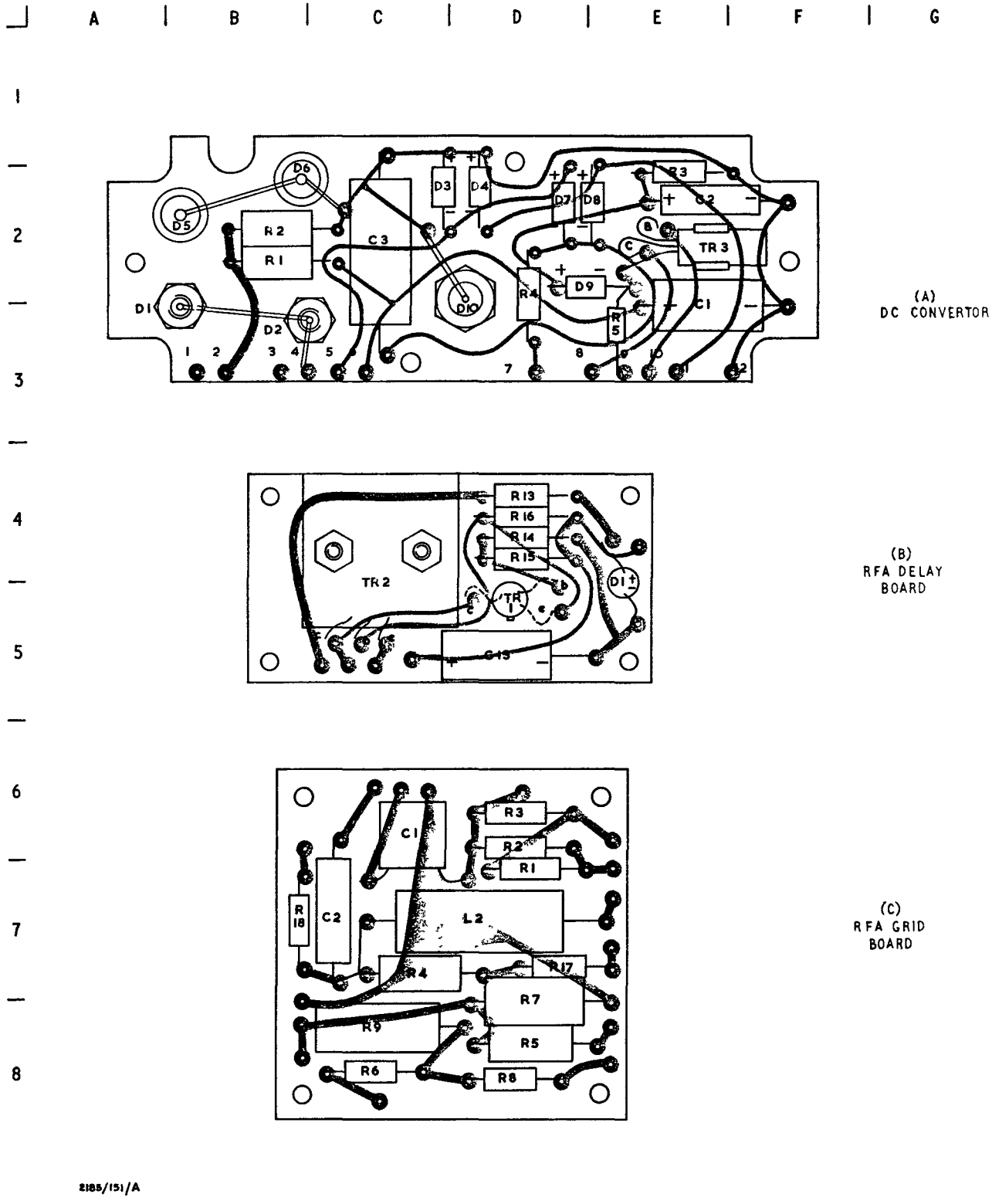


Fig 2577 - RFA12, printed boards layout

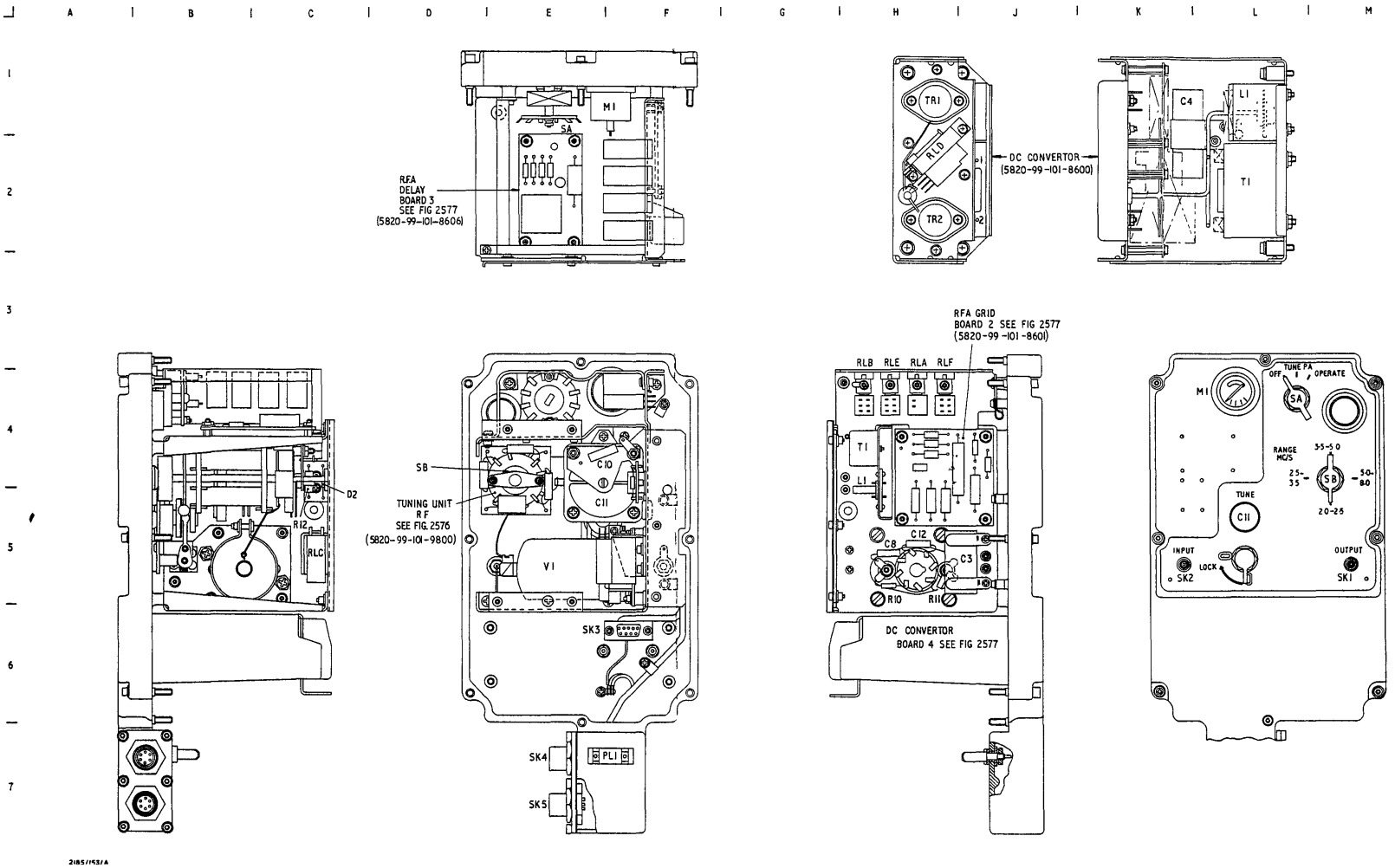


Fig 2578 - RFA12 layout

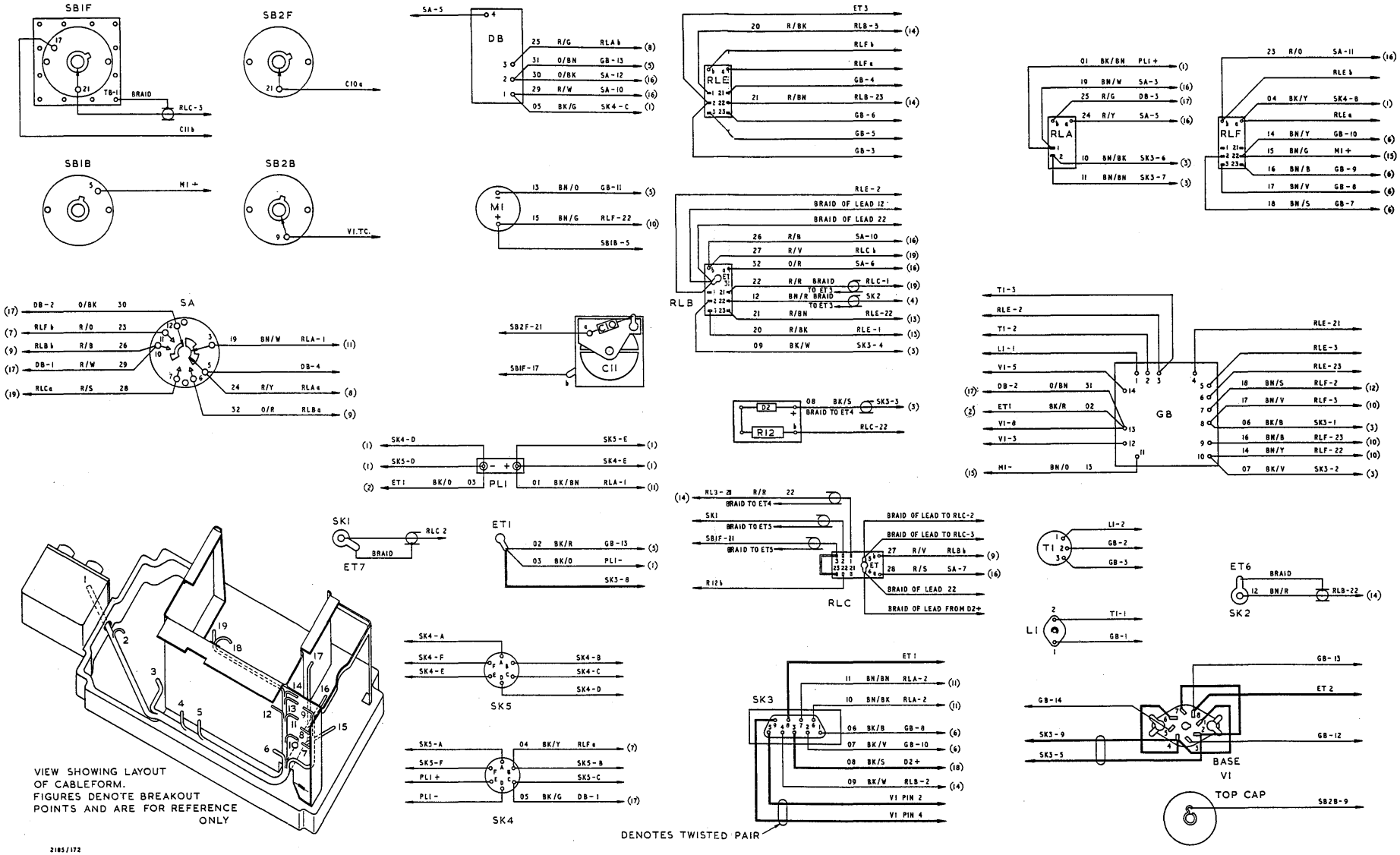
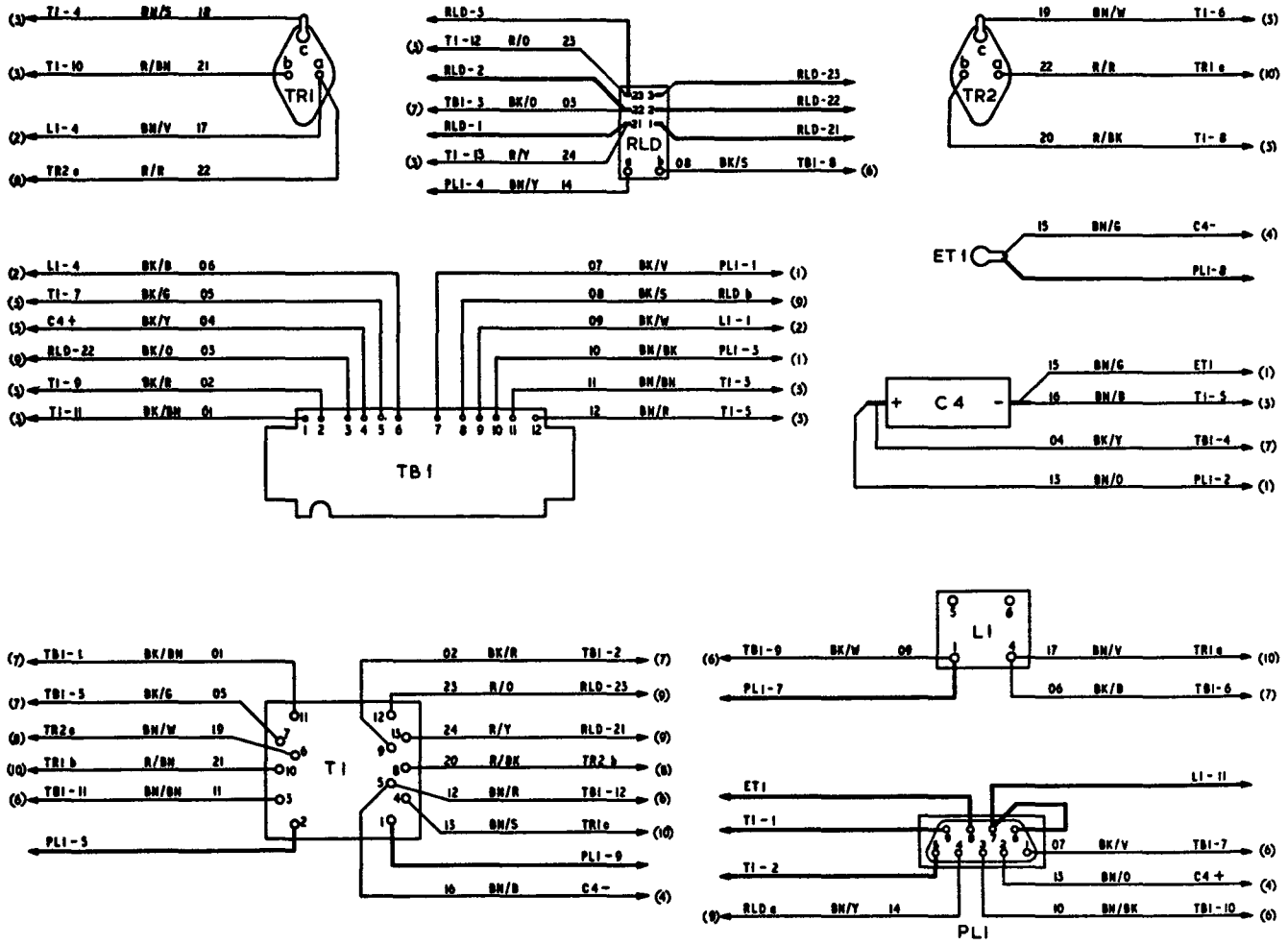
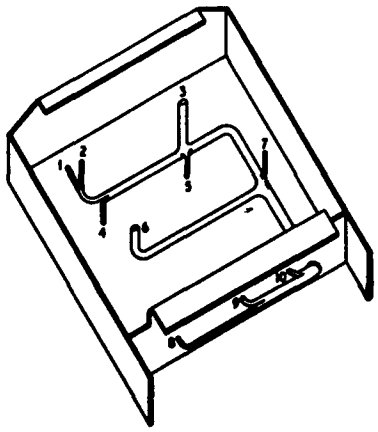


Fig 2579 - RFA12 wiring





VIEW SHOWING POSITION OF CABLEFORM NUMBERS DENOTE CABLEFORM BREAKOUT POINTS AND ARE FOR REFERENCE ONLY

2185/173/A

Fig 2580 - RFA12, d.c. convertor wiring

Table 2505 - RFA12 specification tests

Test	Input Volts	Frequency		Modulation	Limits
		MHz	Range		
Power consumption	12	3.0	B	Ph	4.5A max
	12	3.0	B	A.M.	4.0A max
Power output	12	2.0	A		)
	12	2.25	A		)
	12	2.5	A		)
	12	2.5	B		) 16.0W min
	12	3.0	B		) Note frequency and
	12	3.5	B		) range at which
	12	3.5	C		) lowest output is
	12	4.2	C		) obtained call this
	12	5.0	C		) F LOW
	12	5.0	D		)
	12	6.5	D		)
	12	8.0	D		)
	12	F LOW	-	A.M.	8.0W min
	10	F LOW	-	Ph	10.0W min
	10	F LOW	-	A.M.	5.0W min
Delay circuit	12	After the RFA is switched off the input current should reduce to zero in 5-10 seconds.			
Sealing and leak test	Max leakage rate: 25 cm^3/h Starting pressure: 10 $lb/in.^2$ Time to reduce to 9 lb: 12 hours				

Table 2506 - RFA12, spares schedule, Field repairs

Catalogue No	Designation	Function and cct ref
Z1/5820-99-101-9800	TUNING UNIT R.F. 1.7/8 in. x 1.7/8 in. x 5.1/4 in. approx	SB and coils
Z1/5820-99-101-8601	PANEL ELECTRONIC CIRCUIT SRBP 1.1/2 in. x 2.1/2 in. 2 capacitors and 9 resistors	RFA grid board
Z1/5820-99-101-8606	PANEL ELECTRONIC CIRCUIT SRBP 2.7/8 in. x 1.1/2 in. 8 components	RFA DELAY
Z1/5820-99-102-0634	POWER SUPPLY, Transistorized 12V d.c. i/p 360V d.c. o/p	D.C. convertor

Table 2506 - (cont)

Catalogue No	Designation	Function and cct ref
Z1/5330-99-911-0979	SEAL RUBBER, ROUND SECTION Synthetic, 0.612 in. id x 0.818 in. od	Desiccator plug seal
Z1/5820-99-101-9236	GASKET, ALUMINIUM-NEOPRENE, RECT 9 in. lg 6 in. wide, 5/32 in. thk	Main gasket
Z1/5820-99-101-9242	CAP, SCREW HEAD, ANTI-TAMPER, Brass, 0.244 in. id, 0.256 in. od 4 BA	Front panel
Z1/5820-99-101-9241	CAP, SCREW HEAD, ANTI-TAMPER, Brass, 0.192 in. id 0.214 in. od, 6 BA	Headphone socket
Z1/4440-99-942-2061	DESICCANT CONTAINER DEHUMIDIFIER AL, Silica gel, 1.1/4 in. lg, 5/8 in. dia	Desiccator
Z1/5910-99-101-9790	CAPACITOR ASSEMBLY 2 in. x 2.3/8 in. x 3.3/4 in. approx o/a dim	C10, C11
Z1/5355-99-105-9659	KNOB, ALUMINIUM, SET SCREW TYPE: BAR W/ANGLE POINTER; 1/4 in. bore, 1.1/4 in. lg, 1/2 in. w, 1/2 in. thk	RANGE MHz SYSTEM
Z1/5355-99-106-0792	KNOB, ALUMINIUM, SET SCREW TYPE, RND, 1/4 in. bore, 3/4 in. od, 1/2 in. thk, w/o skirt	TUNE
Z1/5355-99-105-9656	KNOB, ALUMINIUM, SET SCREW, ROUND WITH BAR LEVER 1/4 in. bore with flat 1/2 in. w, 1/2 in. thk, 7/8 in. lg o/a	LOCK
Z1/5355-99-101-9129	GASKET, ALUMINIUM NEOPRENE, 2.5/8 in. lg, 1.3/8 in. w, 1/8 in. thk	PHONE SOCKETS
Z1/5970-99-102-0200	INSULATOR, PLATE, PLASTICS: RECT; 1.5/32 in. lg, 13/64 in. w, 1/8 in. thk o/a dim 2 parallel grooves 0.75 in. C to C	Battery plug

Table 2506 - (cont)

Catalogue No	Designation	Function and cct ref
Z1/5330-99-102-0186	WASHER SHOULDERED PLASTICS, 0.142 in. id, 0.50 in. od; 0.125 in. h, shoulder 0.176 in. dia 0.040 in. h,	Battery plug
Z1/5820-99-102-0179	CONTACT ELECTRICAL, BRASS, 1.281 in. lg 0.25 in. w, 0.159 in. h, o/a dim	Battery plug
Z1/5820-99-102-0146	METER ARBITRARY SCALE, PANEL TYPE, D.C., 1 in. dia, 200μA f.s.d.	M1
Y1/5945-99-102-0758	RELAY ARMATURE, HEAVY DUTY, 250Ω, Ericson N299 TS B02	RLA
Z1/5945-99-012-0008	RELAY ARMATURE, NORMAL DUTY, 250Ω, 2 changeover, Type SM4B-N15	RLB, C, E, F
Z1/5935-99-102-3140	SOCKET, ELECTRICAL, FIXED, Brass, Flange, 50Ω 500V a.c., male shell bayonet locking	SK1, SK2
Z1/5935-99-949-3145	SOCKET, ELECTRICAL FIXED MALE SHELL, 6 pole, 2850V a.c. 4 amps	SK4, SK5
Z1/5820-99-101-8600	PANEL ELECTRONIC CCT SRBP, 5 in. lg, 1.3/4 in. w, 18 components	Part of D.C. convertor
Z1/5950-99-102-0785	TRANSFORMER TRANSISTOR POWER SUPPLY, 2 primary windings, 2 feed back windings, 3 secondary windings, 1.907 in. x 2.187 in. x 2.438 in. o/a	T1
Z1/5935-99-932-1904	PLUG ELECTRICAL, FIXED PLASTIC, male shell, 9 poles	D.C. convertor
Z/5960-99-037-3495	Valve Electronic	1V1

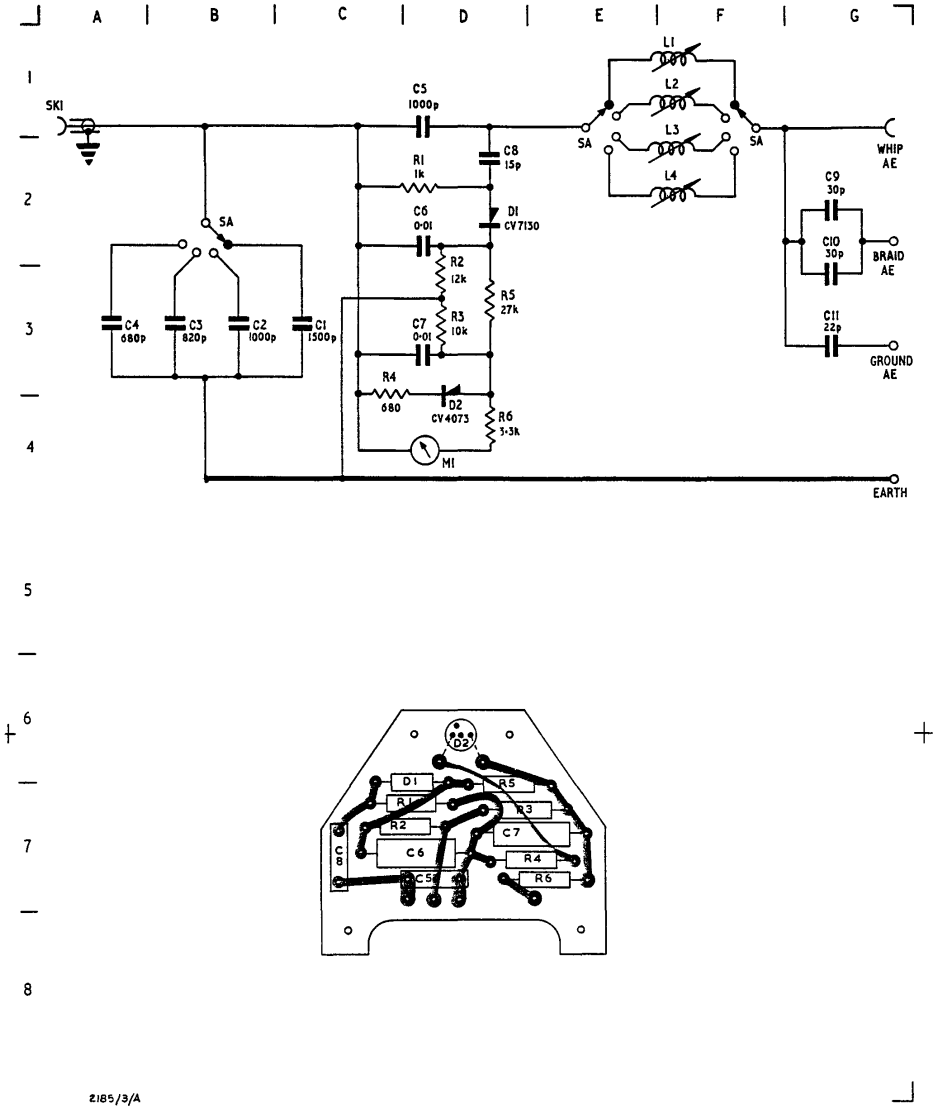


Fig 2581 - Tuner, r.f., circuit

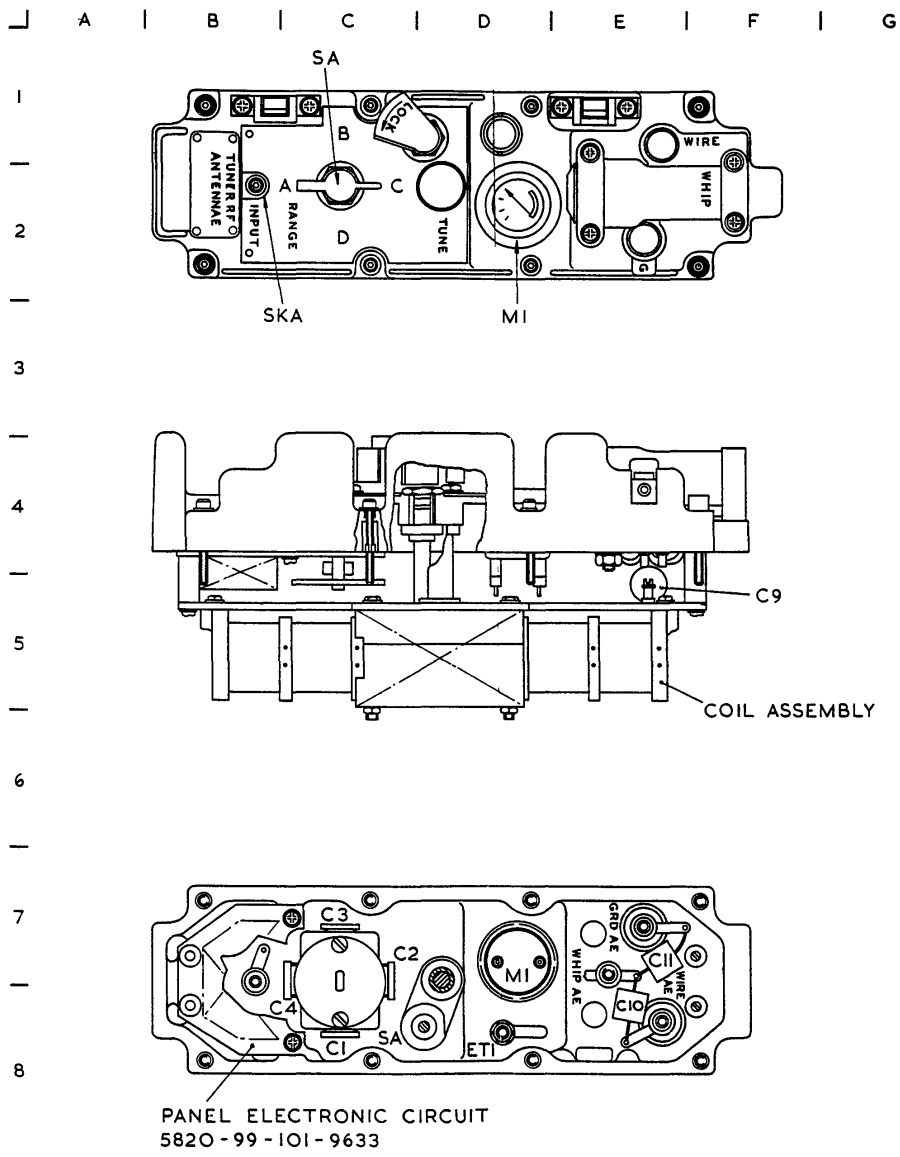
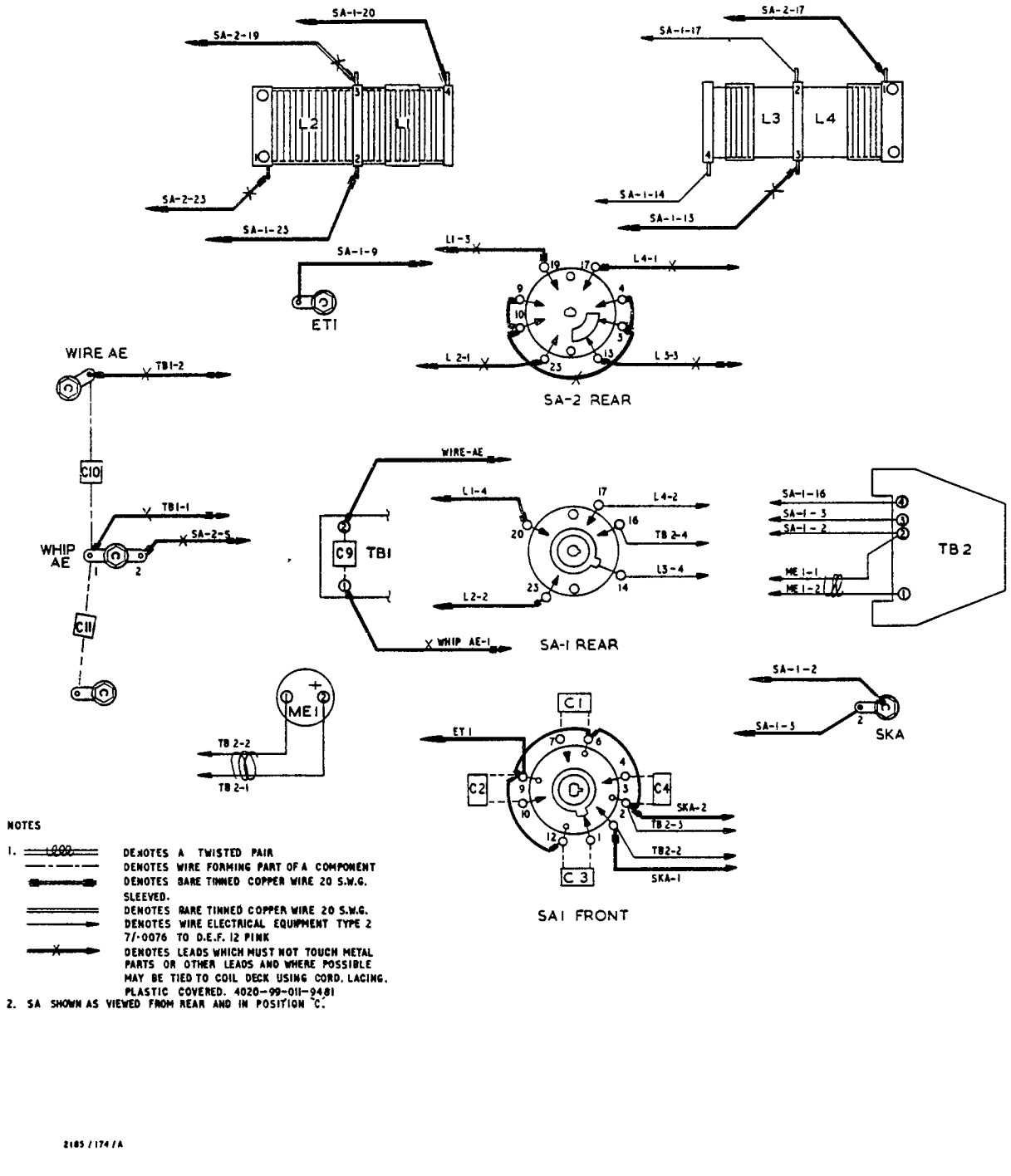


Fig 2582 - Tuner, r.f., layout



NOTES

1. DENOTES A TWISTED PAIR
   DENOTES WIRE FORMING PART OF A COMPONENT
   DENOTES BARE TINNED COPPER WIRE 20 S.W.G. SLEEVED.
   DENOTES BARE TINNED COPPER WIRE 20 S.W.G.
   DENOTES WIRE ELECTRICAL EQUIPMENT TYPE 2 7/-0076 TO D.E.F. 12 PINK
   DENOTES LEADS WHICH MUST NOT TOUCH METAL PARTS OR OTHER LEADS AND WHERE POSSIBLE MAY BE TIED TO COIL DECK USING CORD, LACING, PLASTIC COVERED. 4020-99-011-9481
2. SA SHOWN AS VIEWED FROM REAR AND IN POSITION 'C'.

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Fig 2583 - Tuner, r.f., wiring

Table 2507 - Tuner, r.f., spares schedule, Field repairs

Catalogue No	Designation	Function and cct ref
Z1/5330-99-911-0979	SEAL RUBBER, ROUND SECTION, RING SEALING, SYNTHETIC, 0.612 in. id 0.818 in. od	Desiccator cap seal
Z1/5820-99-101-8722	GASKET, BONDED SEAL, alloy neoprene, rect shape, 8.85 in. lg, 2.75 in. w, 0.156 in. thk, o/a dim	Main gasket
Z1/5820-99-101-9633	PANEL, ELECTRONIC CCT, SRBP 2.15/16 in. lg, 1.7/8 in. w, 1/16 in. thk 12 components	Metering cct
Z1/5820-99-102-0146	METER ARBITRARY SCALE, Panel Type, 200µA f.s.d.	M1
Y3/5940-99-901-3609	TERMINAL SPRING HEAD, 1.11/16 in. 50V a.c./d.c. R.W.V. 10 amp, 2 BA screw mtg	
Z1/5935-99-945-8225	SOCKET ELECTRICAL, fixed brass, threaded, bush mtg, co-axial 50Ω 1kV d.c. male shell	Input socket
Z1/5820-99-949-5667	TUNER RADIO FREQ, coil deck assembly 7.7/8 in. lg, 3.3/4 in. h, 1.15/16 in. w	L1-L4
Z1/5820-99-101-9880	CATCH, ELECTRONIC EQPT, HOOK ASSEMBLY steel, 15/16 in. lg, 3/4 in. h, 0.795 in. w	Fixing catches
Z1/5355-99-105-9659	KNOB, AL, SET SCREW TYPE, 1/4 in. bore, 3/4 in. od 1/2 in. thk, w/out skirt	RANGE
Z1/5355-99-106-0792	KNOB, AL, SET SCREW TYPE, 0.252 in. bore, 47/64 in. od, 1/2 in. thk, w/out skirt	TUNE
Z1/5355-99-106-1383	KNOB, AL, SET SCREW TYPE, 1 in. lg, 7/8 in. w, 11/16 in. thk, o/a dim	LOCK
Z1/5820-99-949-5712	BLOCK MOUNTING ANTENNAE, Polythene, 1.5/16 in. x 2.5/16 in. x 2.9/16 in.	

Table 2507 - (cont)

Catalogue No	Designation	Function and cct ref
Z2/5305-99-102-8579	SCREW CAP, SOCKET HEAD, UNC, corrosion resisting steel, flat fillister knurled head, No 6 Class 2A thread	Panel fixing screws
Z1/4440-99-942-2061	DESICCANT CONTAINER DEHUMIDIFIER, desiccator silica gel, AL, 1.1/4 in. lg, 5/8 in. dia	Desiccator
Z1/5910-99-914-2055	CAPACITOR, FIXED, CERAMIC, DIELECTRIC DISC, 30pF ±1.5pF 4kV d.c. working	C9, 10
Z1/5910-99-580-1815	CAPACITOR, FIXED, CERAMIC, DIELECTRIC DISC, 22pF ±5% 4kV d.c. working	C11

Table 2508 - Tuner, r.f., specification tests

Test	Test No	Tuner controls		Resonant frequency MHz
		Range	Tune	
Frequency coverage	1	A	Fully clockwise	2
	2	A	Fully anticlockwise	2.8 approx
	3	B	Fully anticlockwise	Not greater than test 2
	4	B	Fully clockwise	4.4 approx
	5	C	Fully clockwise	Not greater than test 4
	6	C	Fully anticlockwise	7.1 approx
	7	D	Fully anticlockwise	Not greater than test 6
	8	D	Fully clockwise	8
Meter sensitivity (Base only)	9	With an input of 8MHz, 2.25 watts or 22.5 watts and the tuner adjusted to give a maximum on its inbuilt meter, the deflection shall be less than full scale.		
	10	With an input of 8MHz, 10 watts the inbuilt meter shall have a deflection of at least 1/3rd full scale.		
Sealing test		Leakage rate:	10 cm^3/h max	
		Starting pressure:	10 $lb/in.^2$	
		Leak time:	After 10 hours the pressure should not be less than 9 $lb/in.^2$	

Table 2509 - Stabilizer, voltage specification tests

Test box switch position	Test being performed	
1	Adjust input voltage to 31.6	
2	Adjust RV1 until Meter 2 reads 14.6	
3	Output volts, input 31.6, full load	
4	Reverse input voltage, input current	
5	Adjust input voltage to 20.6	
6	Output voltage at no load	
7	Output voltage full load	
8	Current limiting	
Switch position	**Voltmeter reading**	**Ammeter reading**
1	6(31.6)	
2	6(14.6)	
3	2(14.2) - 6(14.6)	2A approx
4	2 (100μA)	
6	2(14.2) - 6(14.6)	
7	2(14.2) - 6(14.6)	2A approx
8		3A max
Sealing test	Leakage rate:	10 cm^3/h
	Starting pressure:	10 $lb/in.^2$
	Leak time:	After 5 hours the pressure shall not have reduced below 9 $lb/in.^2$

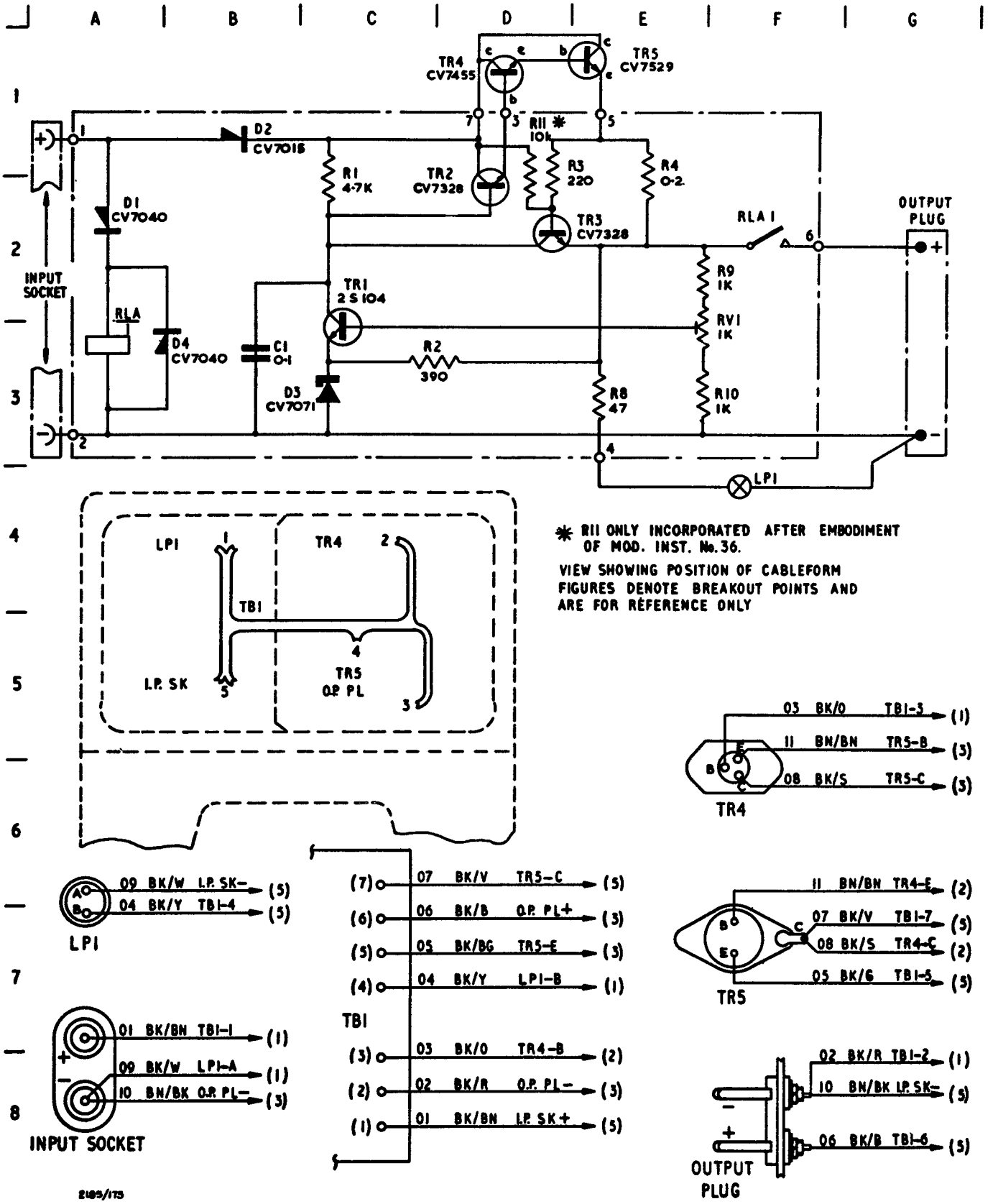


Fig 2584 - Stabilizer, voltage, circuit and wiring

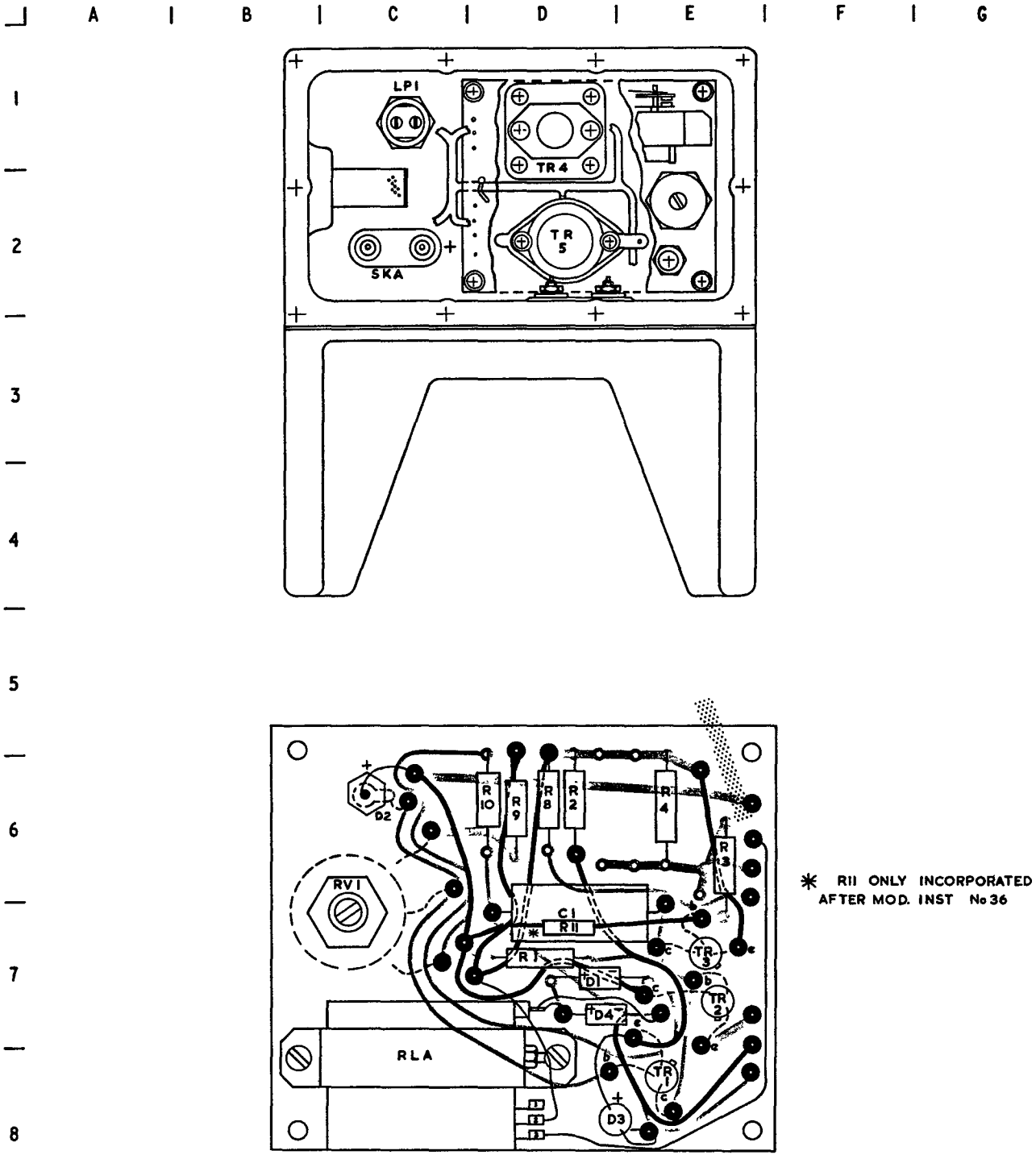


Fig 2585 - Stabilizer, voltage, layout

Table 2510 - Stabilizer, voltage, spares schedule, Field repairs

Catalogue No	Designation	Function and cct ref
Z1/5820-99-101-9913	PANEL ELECTRONIC CCT, SRBP, 1.13/32 in. lg x 2.7/8 in. w, o/a dim 17 components	
Z1/5905-99-011-9489	RESISTOR VARIABLE, wire wound, toroidal 1kΩ ±10%, 1/2 watt, linear	RV1
Y1/5945-99-102-8701	RELAY ARMATURE, MEDIUM DUTY 700Ω, 2 changeover	RLA
Z1/5995-99-102-0198	SEAL RUBBER ROUND SECTION, SYNTHETIC, 0.612 in. id, 0.818 in. od	Desiccator
Z1/5970-99-102-0200	INSULATOR PLATE, PLASTIC, RECT 1.5/32 in. lg, 13/64 in. w, 1/8 in. thk, o/a dim 2 parallel grooves, 0.75 in. C to C	Battery plug
Z1/5330-99-102-0186	WASHER SHOULDERED PLASTICS, 0.142 in. id, 0.50 in. od; 0.125 in. h, shoulder 0.176 in. dia 0.040 in. h	Battery plug
Z1/5820-99-102-0179	CONTACT ELECTRICAL, BRASS: 1.281 in. lg, 0.25 in. w, 0.159 in. h, o/a dim	Battery plug
Z1/5820-99-101-9196	GASKET, ALUMINIUM-NEOPRENE, 1.27/32 in. lg, 27/32 in. w, 1/32 in. thk	Battery plug gasket
Z1/4440-99-942-2061	DESICCANT, CONTAINER, DEHUMIDIFIER, AL, silicon gel, 1.1/4 in. lg, 5/8 in. dia	Desiccator
Z/6210-99-012-0913	LIGHT INDICATOR SEALED, 0.75 in. dia	Lamp holder
Z/6210-99-012-0914	LENS INDICATOR LIGHT, PLASTIC, RED, 0.781 in. lg, 0.75 in. dia	Dimmer cap
LV6/MT1/5330-99-912-8741	RING SEALING TOROIDAL, RUBBER, 5/32 in. id, 9/32 in. od, 1/16 in. o/a h, 66-77 BS Hardness	Battery plug seal
X5/6240-99-995-9120	LAMP FILAMENT, LAMP ELECTRICAL MIDGET FLANGE CLEAR, 12V 0.1A, 12V, 1.2W	
Z1/5935-99-949-6270	SOCKET ELECTRICAL, Fixed 2 pole	Input socket
Z/5960-99-037-3578	TRANSISTOR, SEMI-CONDUCTOR, CV7455	TR4
Z/5960-99-037-3776	TRANSISTOR, SEMI-CONDUCTOR, CV7529	TR5

Table 2511 - Control, transmitter/receiver remote, specification tests

Test No	Test box switch position	B.F.O.		VV reading	Multimeter reading
		f Hz	Level		
1*	Rx O.P. 0.8V	1000	Adjust to give 0.8V on VV	0.8V	-
2*	Rx I.P. 0.9-1.5V	1000	As test 1	0.9-1.5V	1.75-2.25
3*	Rx I.P. 0.9-1.5V	300	As test 1	±2dB of reading test 3	-
4*	Rx I.P. 0.9-1.5V	3000	As test 1	±2dB of reading test 3	-
5*	Tx RT	1000	1V	25-45mV	4.0-5.0V
6*	Tx RT	300	1V	±2dB of reading test 5	-
7*	Tx RT	3000	1V	±2dB of reading test 5	-
8*	Tx RT SIDETONE	1000	1V	250-500mV	-
9*	Tx RT SIDETONE	300	1V	±2dB of reading test 8	-
10*	Tx RT SIDETONE	3000	1V	±2dB of reading test 8	-
11/	Tx CW SIDETONE	0	0	70-105mV	
12/	Tx CW SIDETONE	0	0	Tone heard to be between 500-2000Hz. No clicks or chirps	

Notes: *Switch on RCU at RT
/Switch on RCU at CW
All tests at 12 volts input

Sealing test: Leak rate: 10 cm^3/h
Starting pressure: 10 $lb/in.^2$
Leak time: After 2.5 hours the pressure should not reduce below 9 $lb/in.^2$

Note: The circuit diagram incorporates components L1, C10 and TH1, the layout and wiring diagrams do not show these components as their final position is not firm at time of printing. They may be found in different positions at different stages of production.

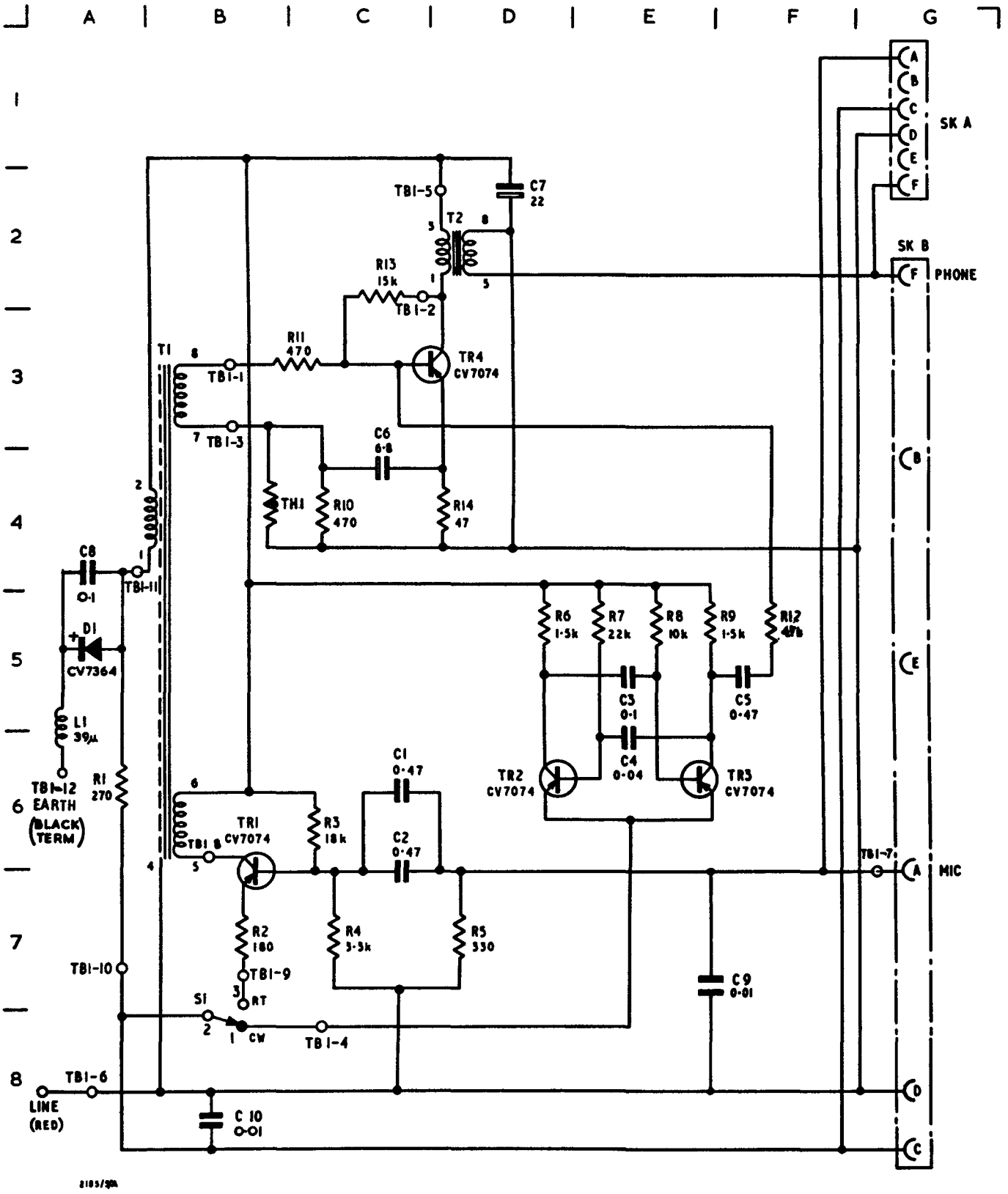


Fig 2586 - RCU circuit

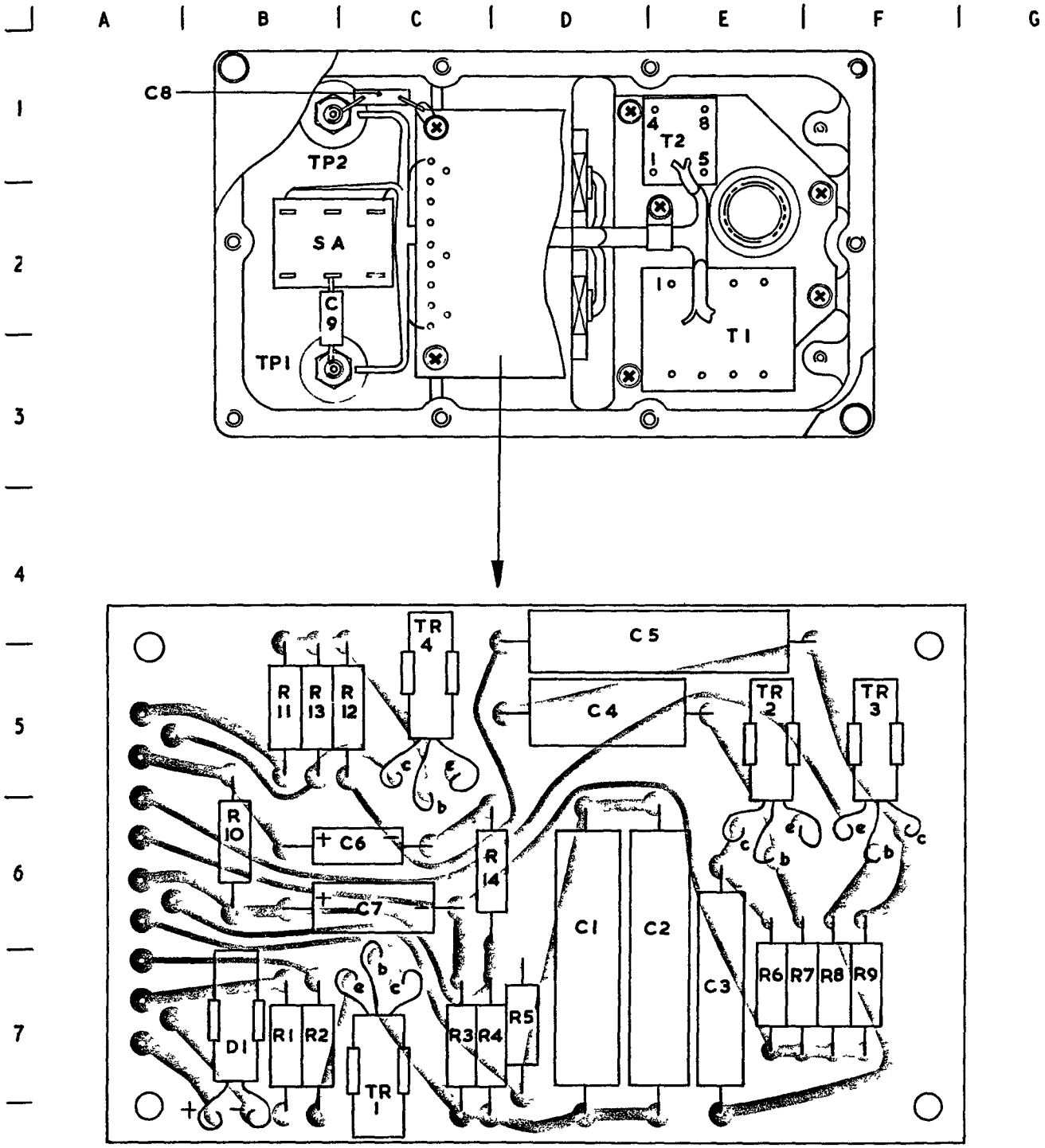
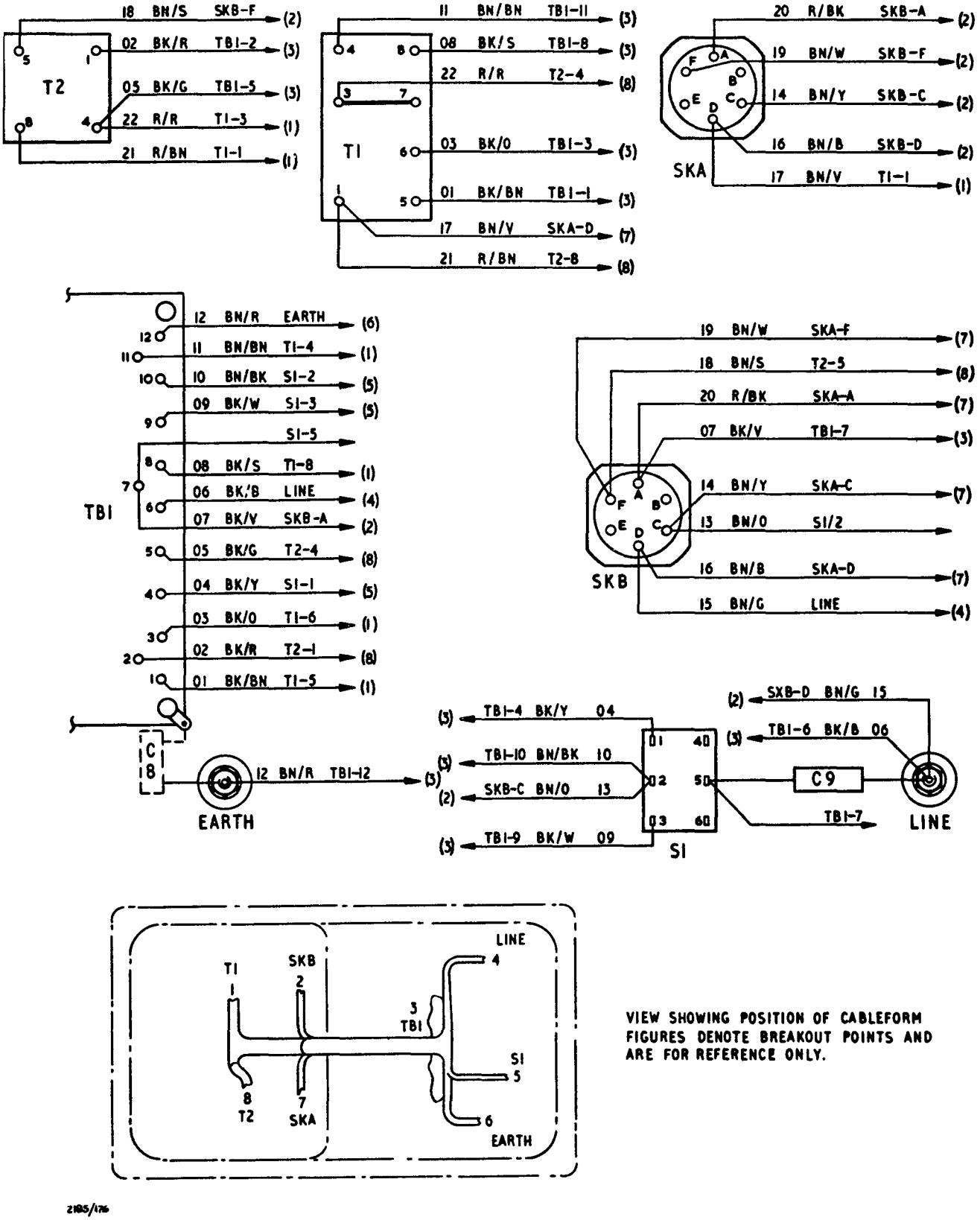


Fig 2587 - RCU layout



VIEW SHOWING POSITION OF CABLEFORM
FIGURES DENOTE BREAKOUT POINTS AND
ARE FOR REFERENCE ONLY.

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Fig 2588 - RCU wiring

Table 2512 - Control, transmitter/receiver remote, spares schedule, Field repairs

Catalogue No	Designation	Function and cct ref
Z1/5820-99-101-8590	PANEL ELECTRONIC CIRCUIT SRBP 4.1/8 in. lg, 2.5/8 in. w, 26 components	-
Z1/5330-99-911-0979	SEAL, RUBBER ROUND SECTION, SYNTHETIC 0.612 in. id, 0.818 in. od	Desiccator seal
Z1/4440-99-942-2061	DESICCANT CONTAINER DEHUMIDIFIER, AL, silica gel, 1.1/4 in. lg, 5/8 in. dia	-
Y3/5940-99-901-3609	TERMINAL SPRING HEAD, 1.11/16 in. lg, o/a dim. 500V a.c./d.c. rated working voltage, 10A, 2 BA	-
Z1/5950-99-102-0895	TRANSFORMER AUDIO FREQUENCY, Primary 1000 turns, 1st secondary 500 turns, 2nd secondary 3000 turns, 1.23 in. x 1.45 in. 1.48 in. o/a dim	T1
Z1/5935-99-949-3145	SOCKET ELECTRICAL, FIXED MALE SHELL 6 pole, 2850V a.c., 4A	SKT A SKT B

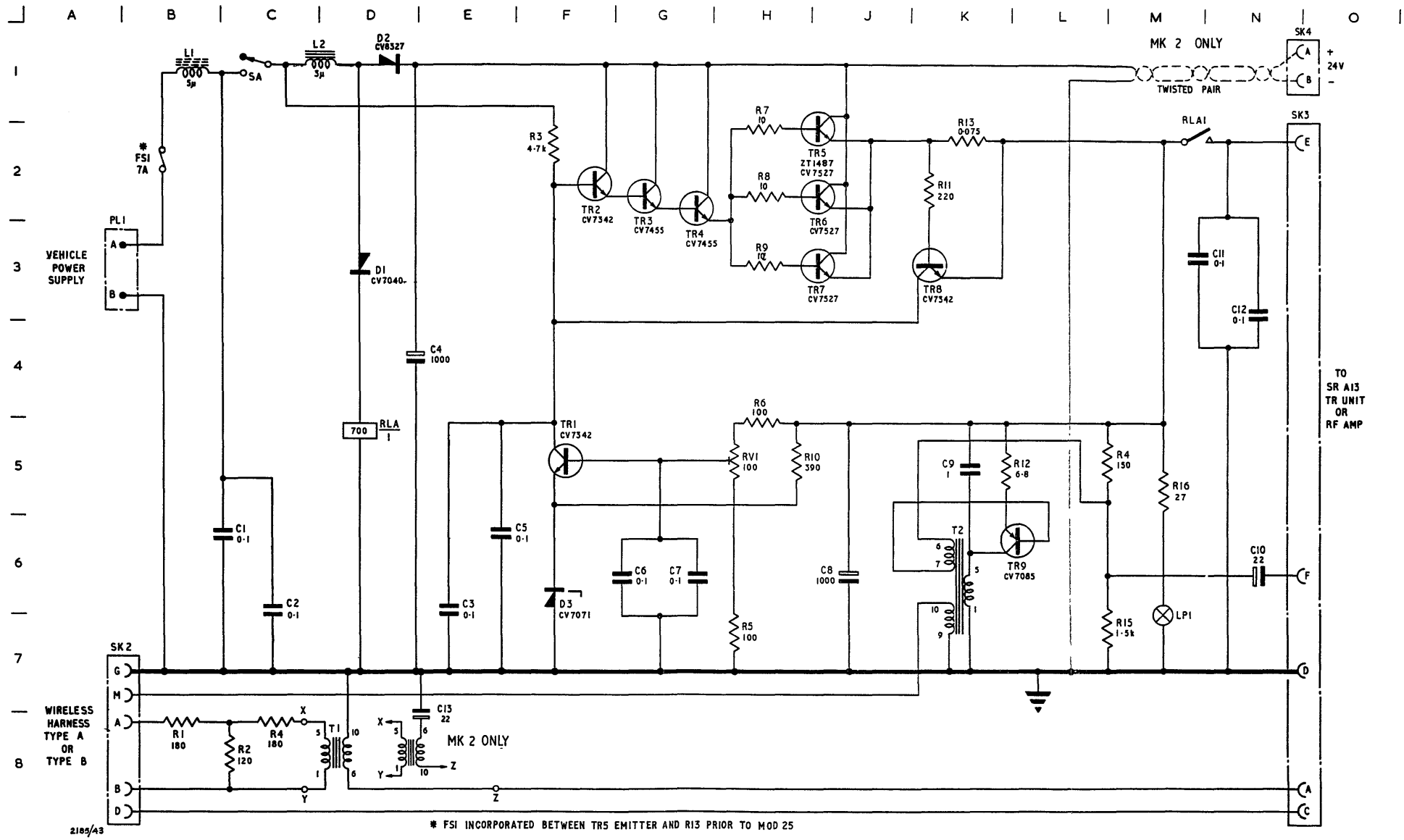
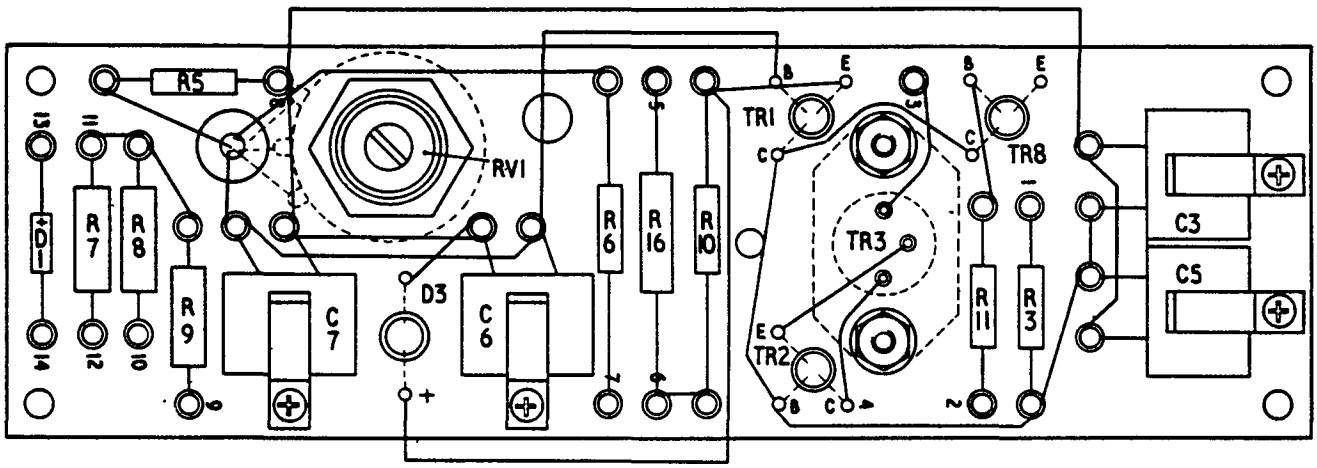
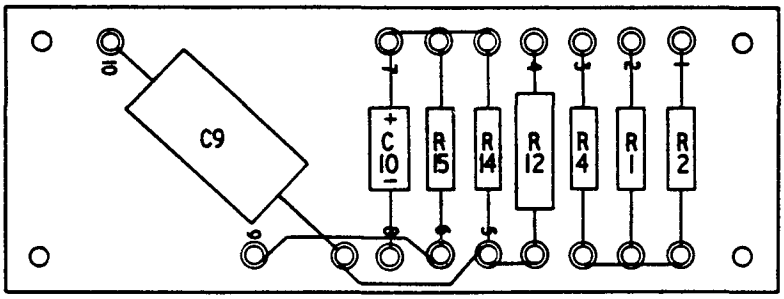


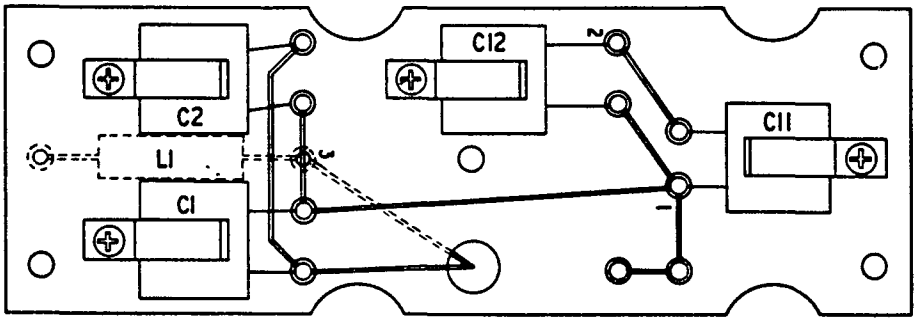
Fig 2589 - Harness adaptor circuit



PANEL ELECTRONIC CIRCUIT 5820-99-102-0252 (TB1)



PANEL ELECTRONIC CIRCUIT 5820-99-102-0430 (TB2)



PANEL ELECTRONIC CIRCUIT 5820-99-102-0438 (TB3)

Fig 2590 - Harness adaptor component boards, detail

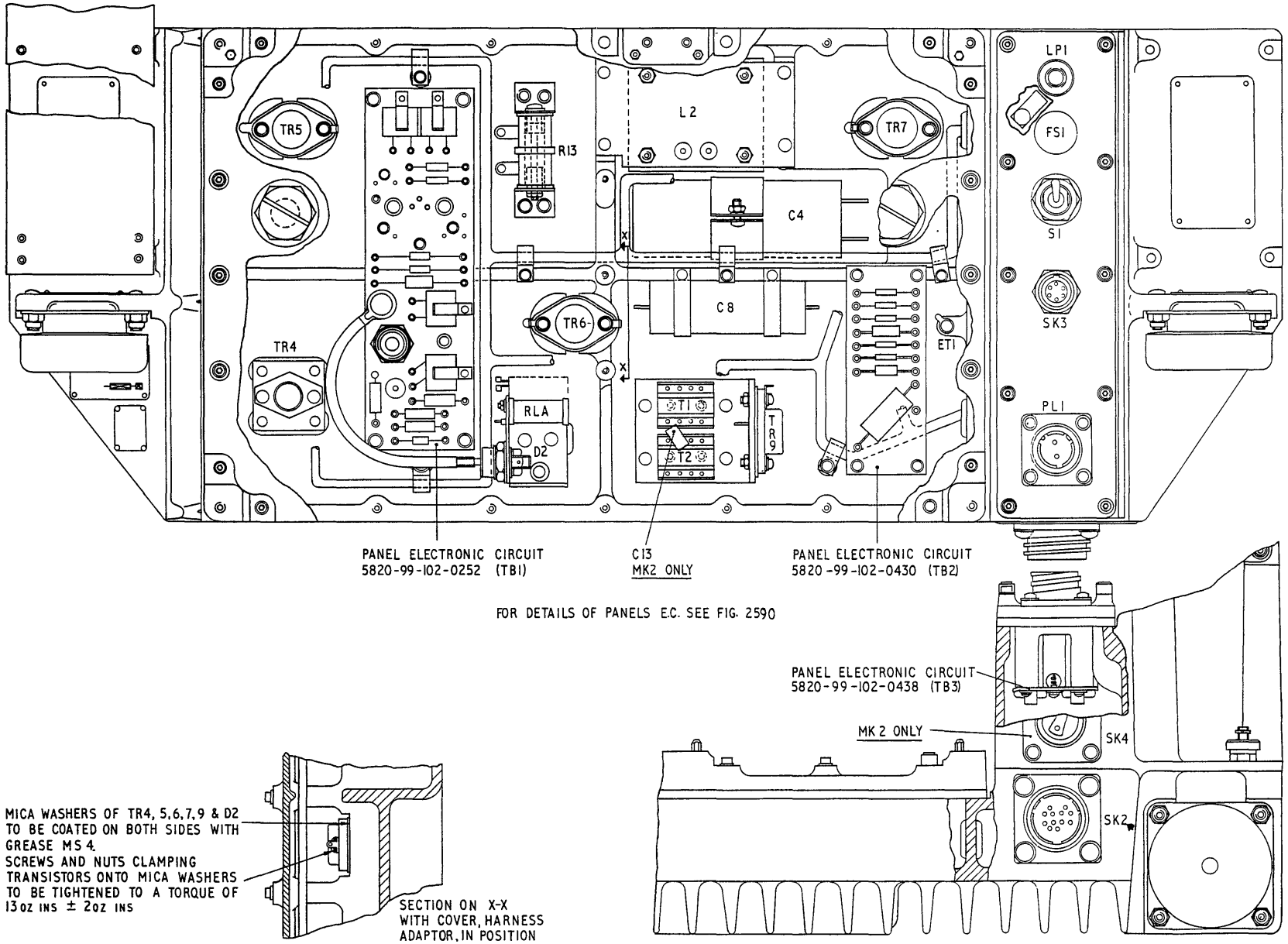
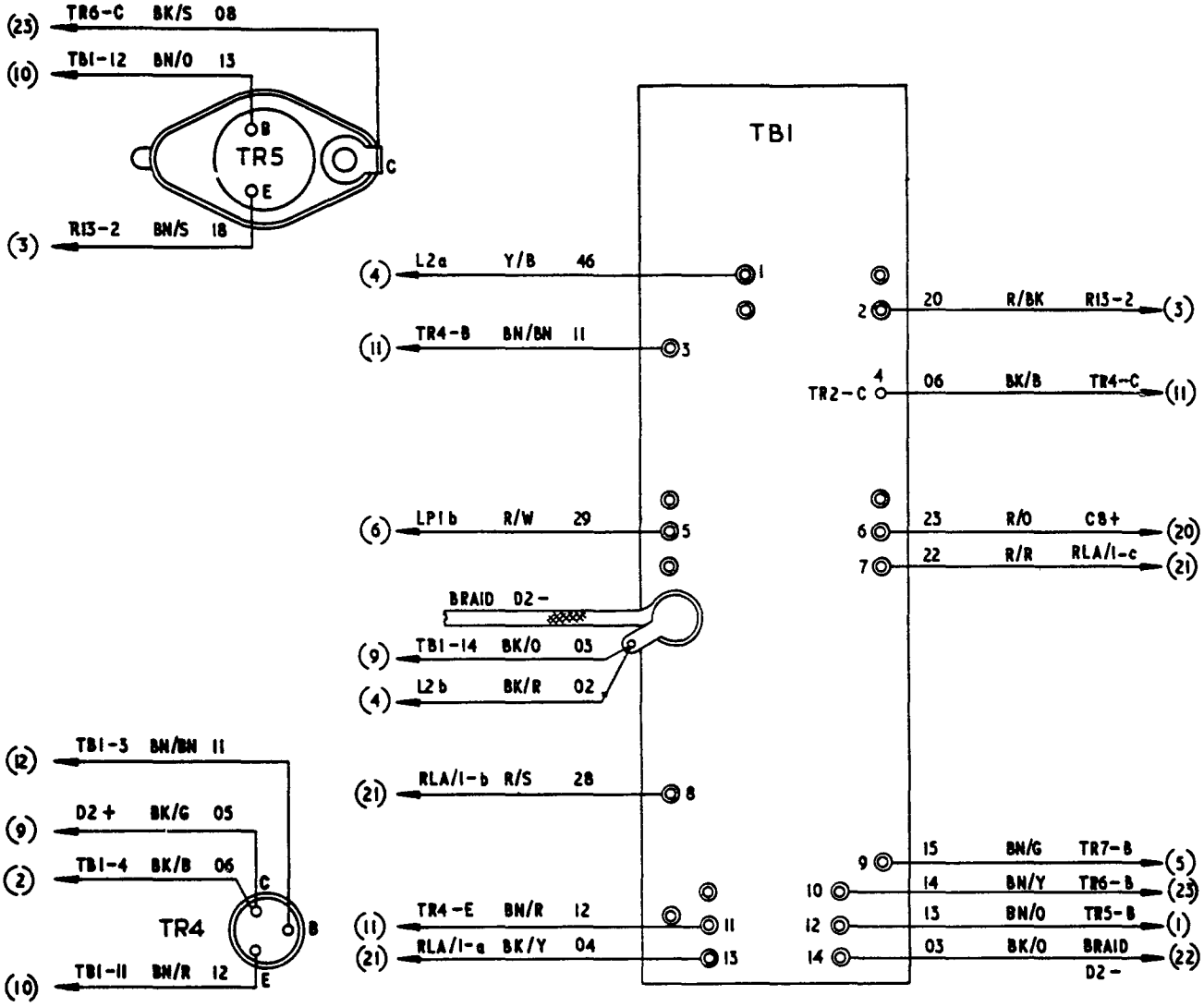
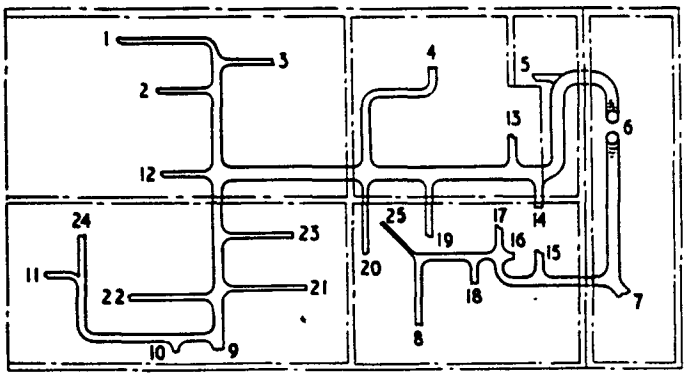


Fig 2591 - Harness adaptor layout





VIEW SHOWING POSITION OF CABLEFORM. FIGURES DENOTE BREAKOUT POINTS AND ARE FOR REFERENCE ONLY.

Fig 2592 - Harness adaptor wiring

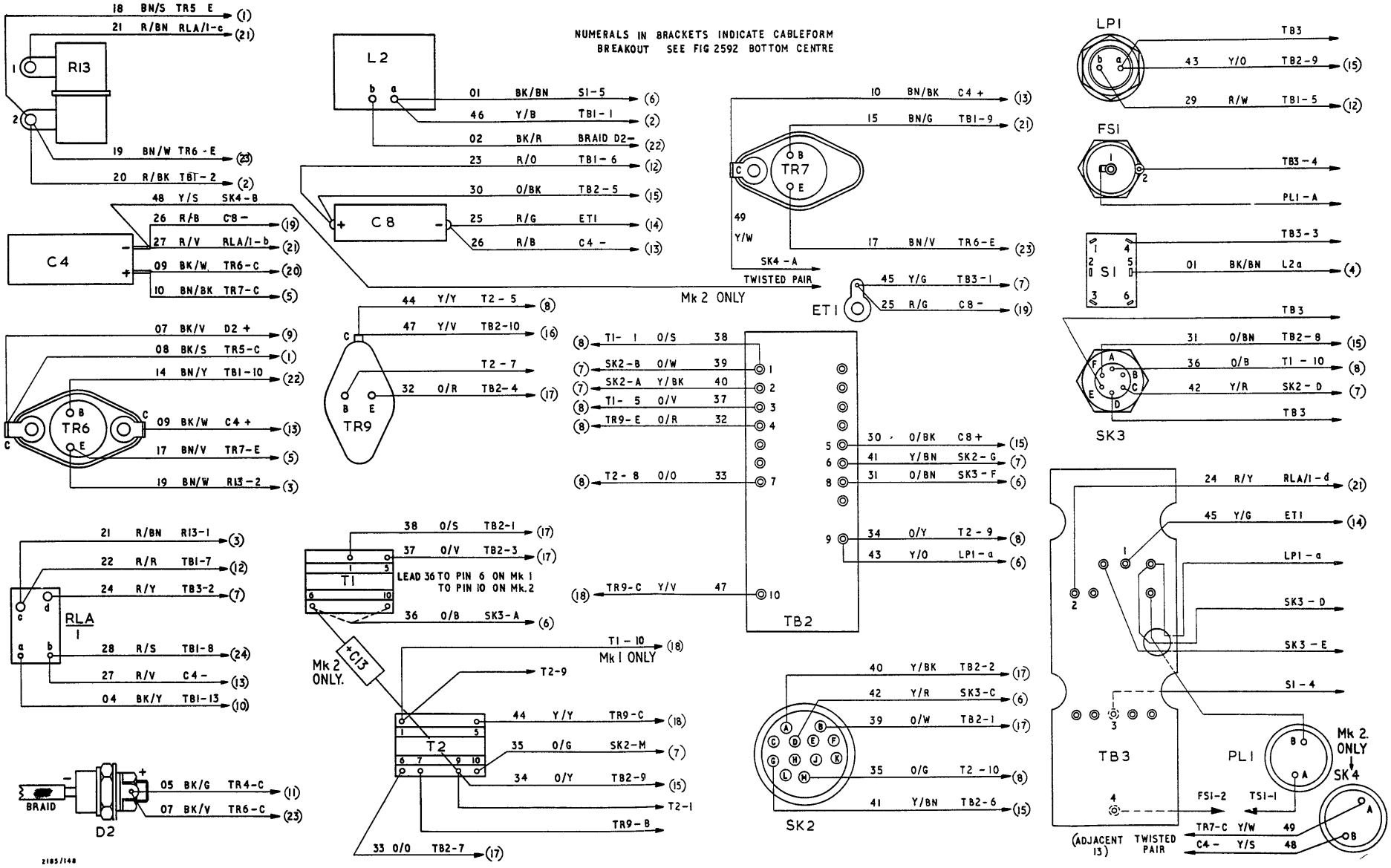


Fig 2593 - Harness adaptor wiring

Table 2513 - Harness adaptor specification tests

Test	Input volts	Tests
Output voltage	31.6	1. Adjust RV1 in adaptor until output voltage meter reads 12.7 volts ie to the 9 mark 2. Operate the LOAD switch, the output voltmeter should read between 6(12.0V) and 10(13.0V) the input current should be less than 6.5A.
	20.6	Repeat 2 above at 20.6 input volts
Current limiting	20.6	1. Switch SHORT switch to ON the output current shall be less than 10A, this test must not be applied for more than 1 minute
Reverse voltage protection	31.6	1. Set NORMAL/REVERSE switch to REVERSE 2. The input current and output voltage meters shall read zero
Headphone amplifier	24	1. Switch to OUTPUT 50Ω, increase b.f.o. input until valve voltmeter reads 2.75V 2. Switch to INPUT 50Ω, the voltmeter should read between 2.0 and 3.0 volts 3. Switch to REG the valve voltmeter should read less than 3.24 volts
Microphone attenuator	24	1. Switch to ATTENUATION TESTS INPUT and valve voltmeter to 300mV range 2. Increase b.f.o. input until voltmeter reads 300mV 3. Switch to ATTENUATION TESTS OUTPUT and voltmeter to 100mV range 4. The voltmeter should read between 23 and 34mV
Output voltage at SK 4	20.6	Connect a 6 ohm, 60 watt resistor between pins A and B of SK 4. The voltage across the resistor shall not be less than 18 volts.
Sealing test	Starting pressure: 10 lb/in.^{2} Permitted leak: 10 cm^3/h Time to reduce to 9 lb: 15 h Time constant: 280 h	

Table 2514 - Harness adaptor spares schedule, Field repairs

Catalogue No	Designation	Function and cct ref
Z1/5820-99-102-0252	PANEL ELECTRONIC CCT SRBP, 6.7/8 in. lg, 2.1/16 in. w, 3/32 in. thk, 20 components	TB1
Z1/5820-99-102-0438	PANEL ELECTRONIC CCT SRBP, 4.3/16 in. lg, 1.5/8 in. w, 1/16 in. thk, 4 capacitors, 1 inductor	TB3
Z1/5820-99-102-0430	PANEL ELECTRONIC CCT SRBP, 4 in. lg, 1.1/2 in. w, 1/16 in. thk, 2 capacitors, 6 resistors	TB2
Z1/5340-99-102-0462	STRAP SECURING, AL, SINGLE, 17/32 in. dia grip,1.432 in. lg, 5/16 in. w, 0.048 in. thk	Cable cleat
Z1/5310-99-100-6742	NUT PLAIN, KNURLED, BA, steel, cad plated, No 2 5/8 in. od, 1/4 in. high	Earthing nut
Z1/5820-99-949-0972	CIRCLIP EXTERNAL, brass, 0.130 in. gap, 0.325 in. max od, 0.032 in. thk, C shape	Earthing nut clip
Z1/5330-99-911-0979	SEAL RUBBER, ROUND SECTION, synthetic, 0.612 in. id, 0.818 in. od	Desiccator seal
Z1/5340-99-949-5123	MOUNT RESILIENT, 4 x 7/16 in. dia mtg holes,on 1.5/16 in. x 1.5/16 in. centre,2.3/8 in. x 2.3/8 in. x 1.1/8 in. o/a dim. Type 9B-C1020-4	Shock mount
Z1/5820-99-102-0493	GASKET, ALUMINIUM/RUBBER, 14.15/16 in. lg, 9.3/8 in. w, 5/32 in. thk	Main gasket
Z1/5820-99-102-0501	GASKET, ALUMINIUM/RUBBER, 9.1/4 in. lg, 2.1/4 in. w, 5/32 in. thk	Panel gasket
Z1/4440-99-942-2061	DESICCANT CONTAINER DEHUMIDIFIER, Aluminium, silica gel 1.1/4 in. lg, 5/18 in. dia	Desiccator

Table 2514 - (cont)

Catalogue No	Designation	Function and cct ref
Z1/5910-99-104-3994	CAPACITOR FIXED ELECTROLYTIC, Aluminium electrode, processed foil, tubular metal case 1000µF +50 -20% 50V d.c. wkg	C4
Z1/5910-99-012-4914	CAPACITOR FIXED ELECTROLYTIC, Aluminium electrode, processed foil, tubular metal case 1000µF +100 -20% 25V d.c. wkg	C8
Z1/5950-99-102-0586	INDUCTOR RF, 3mH, 6A, 2.562 in. lg 2.125 in. w, 2.195 in. h, o/a dim	L2
Z/5945-99-053-0468	RELAY ARMATURE, 24V, 10 amp d.c.	RLA
Z1/5905-99-101-9802	RESISTOR FIXED WIRE WOUND, vitreous enamelled 0.075Ω ±5% 6 watts	R13
Z1/5935-99-911-4461	SOCKET ELECTRICAL, M4 fixed female shell size 2/0, 12 pole, Plessey 2CE84800	SK 2
Z1/5950-99-102-0624	TRANSFORMER AUDIO FREQUENCY, isolating type, 680 turns primary, 680 turns secondary, 1.110 in. lg, 0.875 in. w, 1.067 in. h	T1
Z1/5950-99-102-0629	TRANSFORMER AUDIO FREQUENCY, output type, 220 turns primary, 100 turns secondary, 1.110 in. lg, 0.875 in. w, 1.067 in. h	T2
Z1/5940-99-949-0966	TERMINAL SCREW HEAD, steel, cad plat 2 BA, 0.89 in. lg, 0.44 in. w	-
Z/6210-99-012-0913	LIGHT INDICATOR 1 in. lg, 0.75 in. dia	Lampholder
Z/6210-99-012-0914	LENS, INDICATOR LIGHT, PLASTIC, red, dimmer, 0.718 in. lg, 0.75 in. dia	Dimmer cap
X2/5920-99-012-0231	FUSE UNIT, PROTECTED, single way, 7A, 280V a.c./d.c.	Fuseholder

Table 2514 - (cont)

Catalogue No	Designation	Function and cct ref
X2/5920-99-059-0113	FUSE LINK, cartridge, ceramic, 7A 440V a.c.	FS1
X5/6240-99-995-9120	LAMP FILAMENT, 12V, 1.2W, midget flange, clear	ILP1
Z1/5935-99-940-8717	PLUG ELECTRICAL, M4, fixed, female shell size 1/0, 2 pole. Plessey 2CE84780	Input 24V
Z1/5935-99-949-3145	SOCKET ELECTRICAL, fixed, male shell, 6 pole, 2850V a.c. 4A	A13 in
Z/5930-99-051-0583	SWITCHES, lever operated, 2 pole, changeover SMSB10A 250V a.c.	ON-OFF
Z/5960-99-037-2159	SEMI-CONDUCTOR DEVICE, TRANSISTOR CV7084	TR9
Z/5960-99-037-3578	VALVE, ELECTRONIC CV7455	TR4
Z/5960-99-037-3774	VALVE, ELECTRONIC CV7527	TR5, 6, 7
Z/5960-99-037-3521	VALVE, ELECTRONIC CV8327	D2
Z1/5935-99-940-8596	Socket 2 pt	SK 4

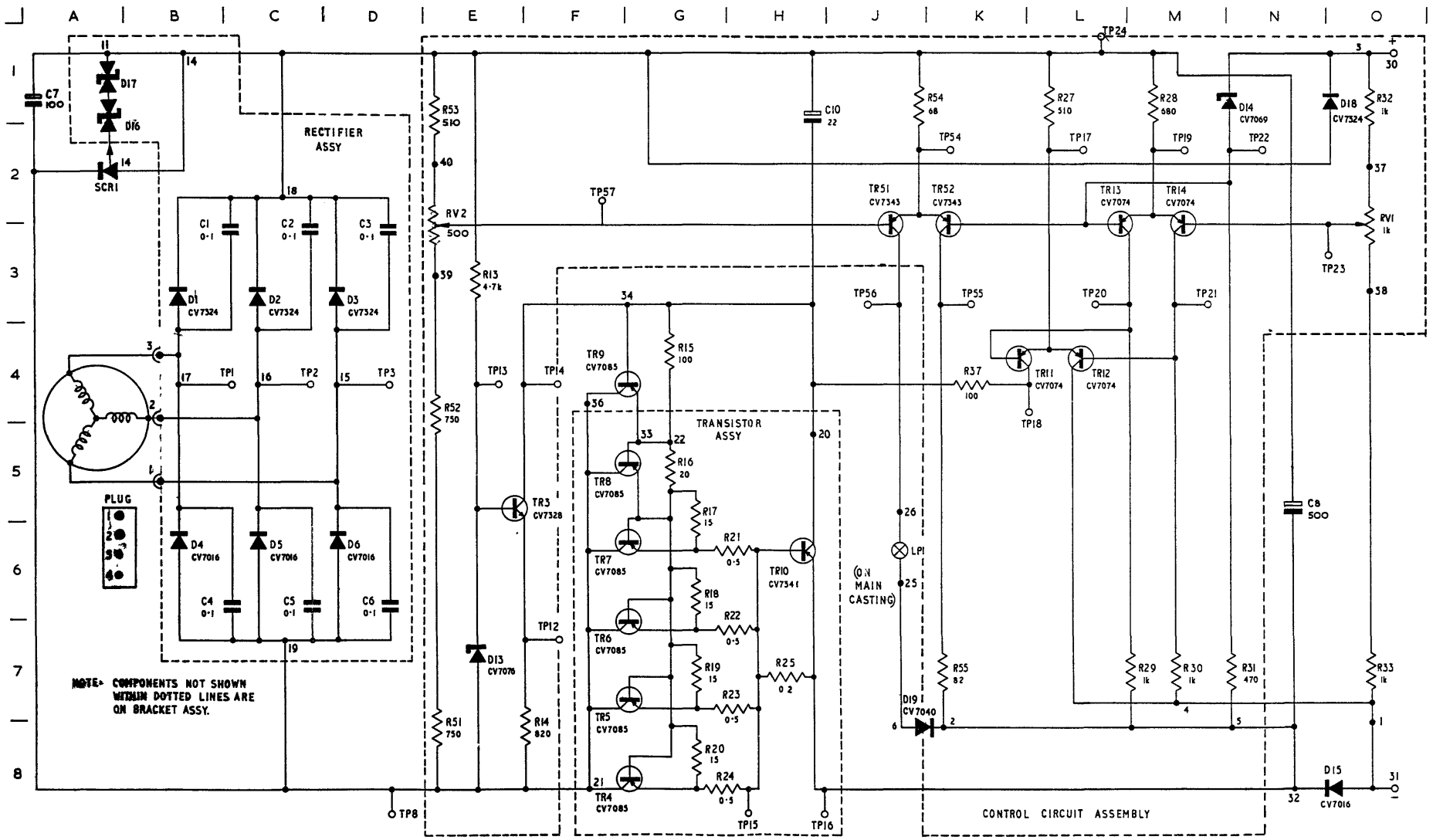


Fig 2594 - Generator, d.c., circuit

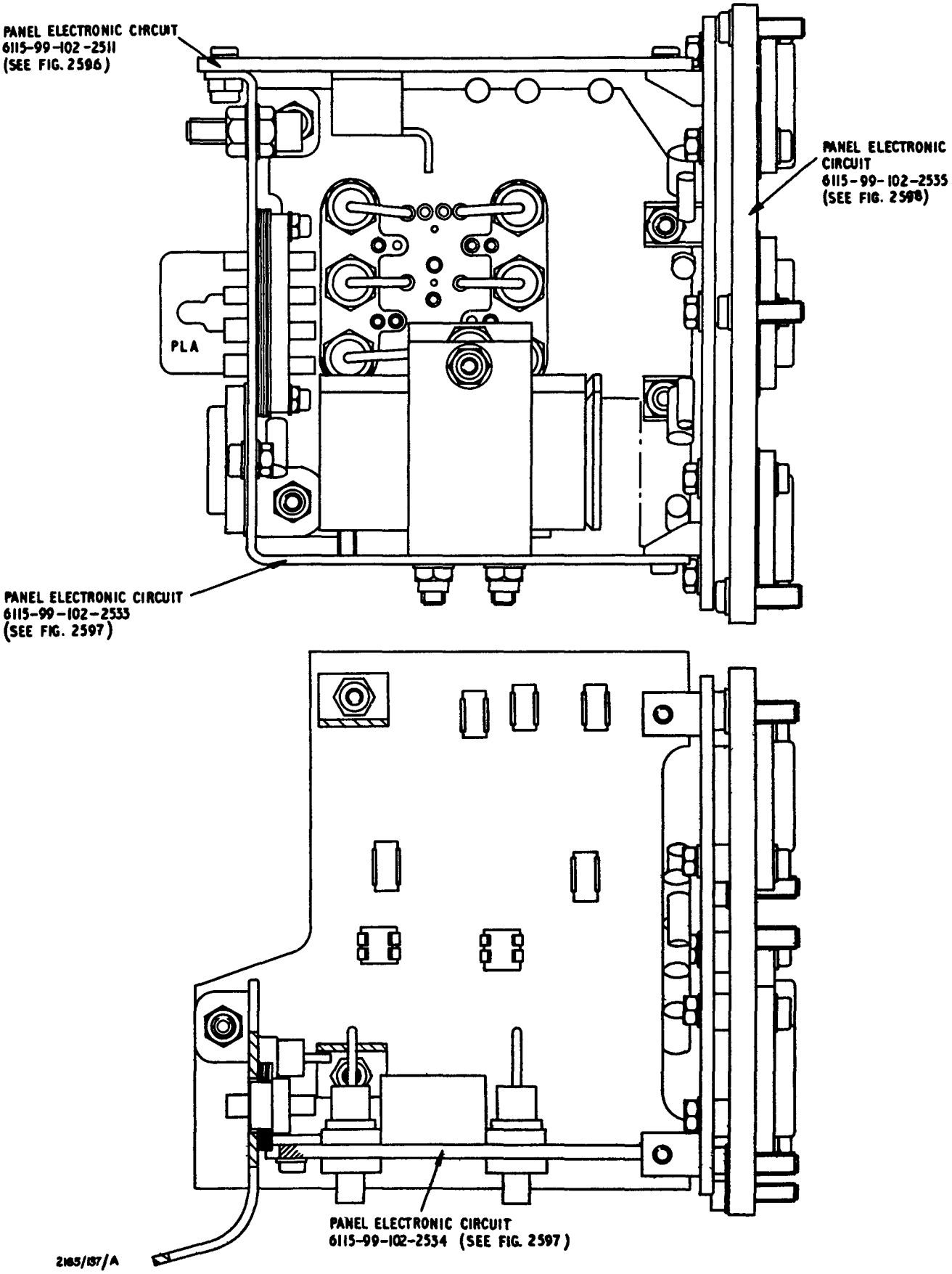


Fig 2595 - Generator, d.c., casing assembly

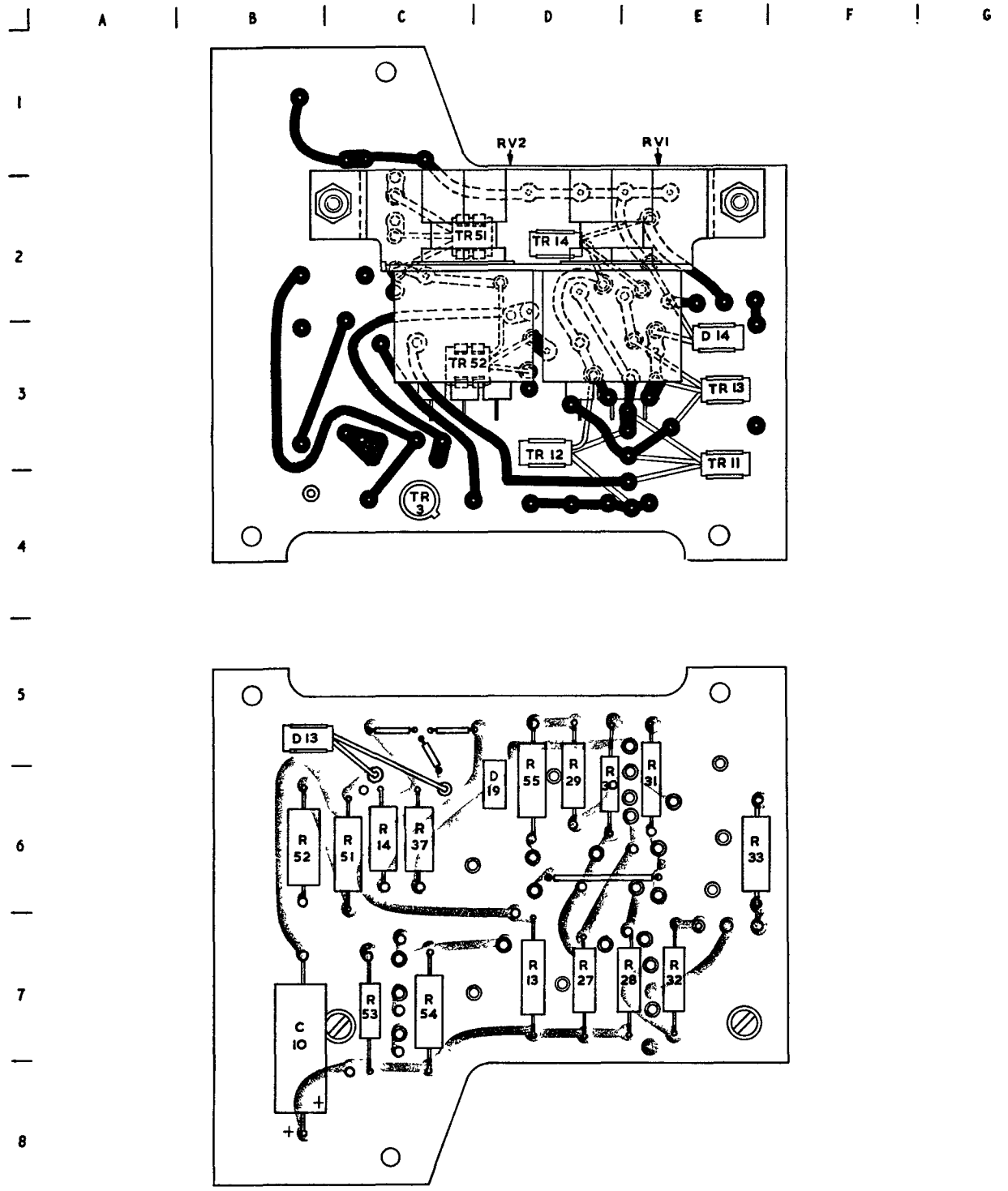


Fig 2596 - Generator, d.c., control circuit, board layout

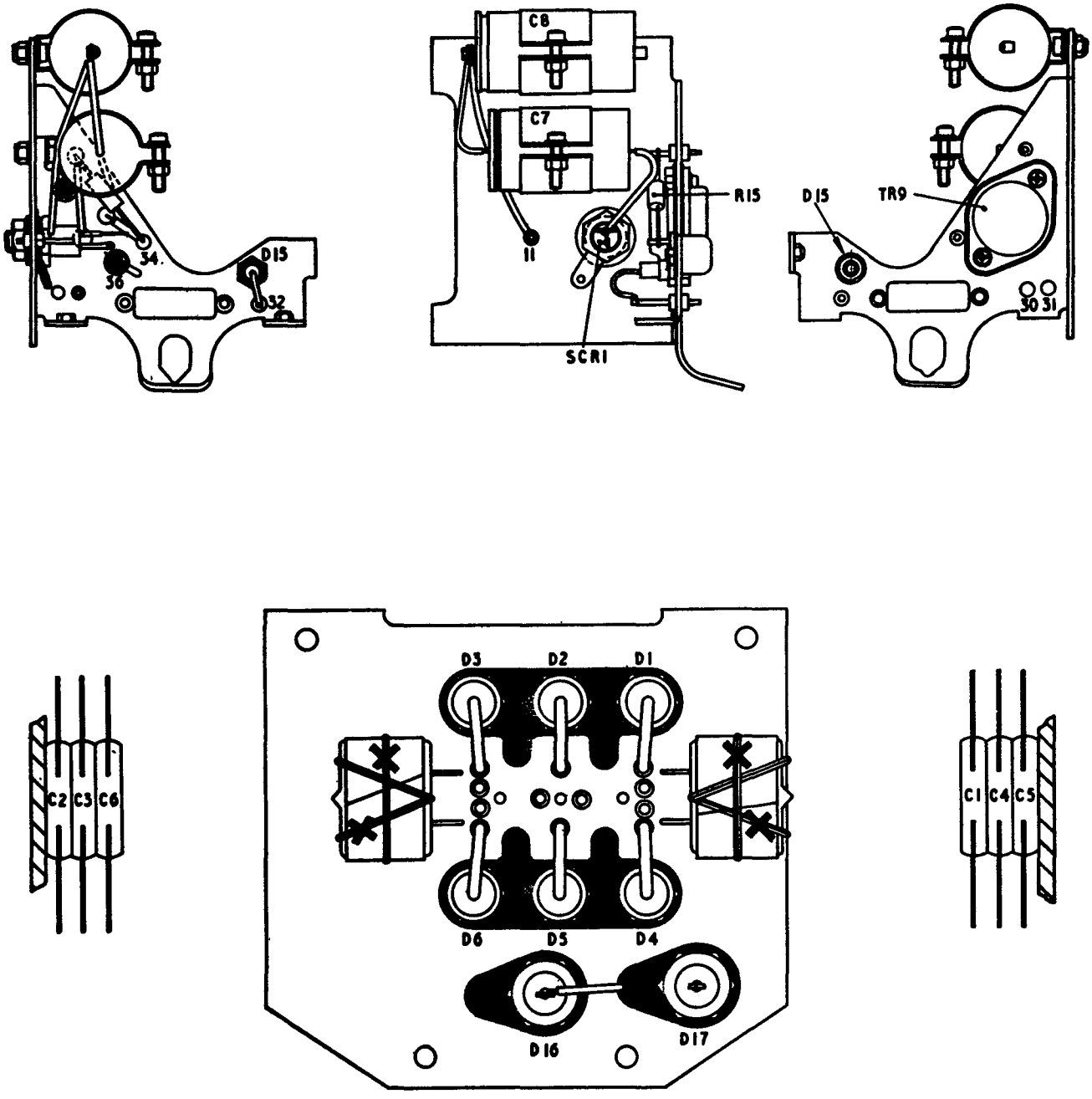


Fig 2597 - Generator, d.c., rectifier board and bracket assembly

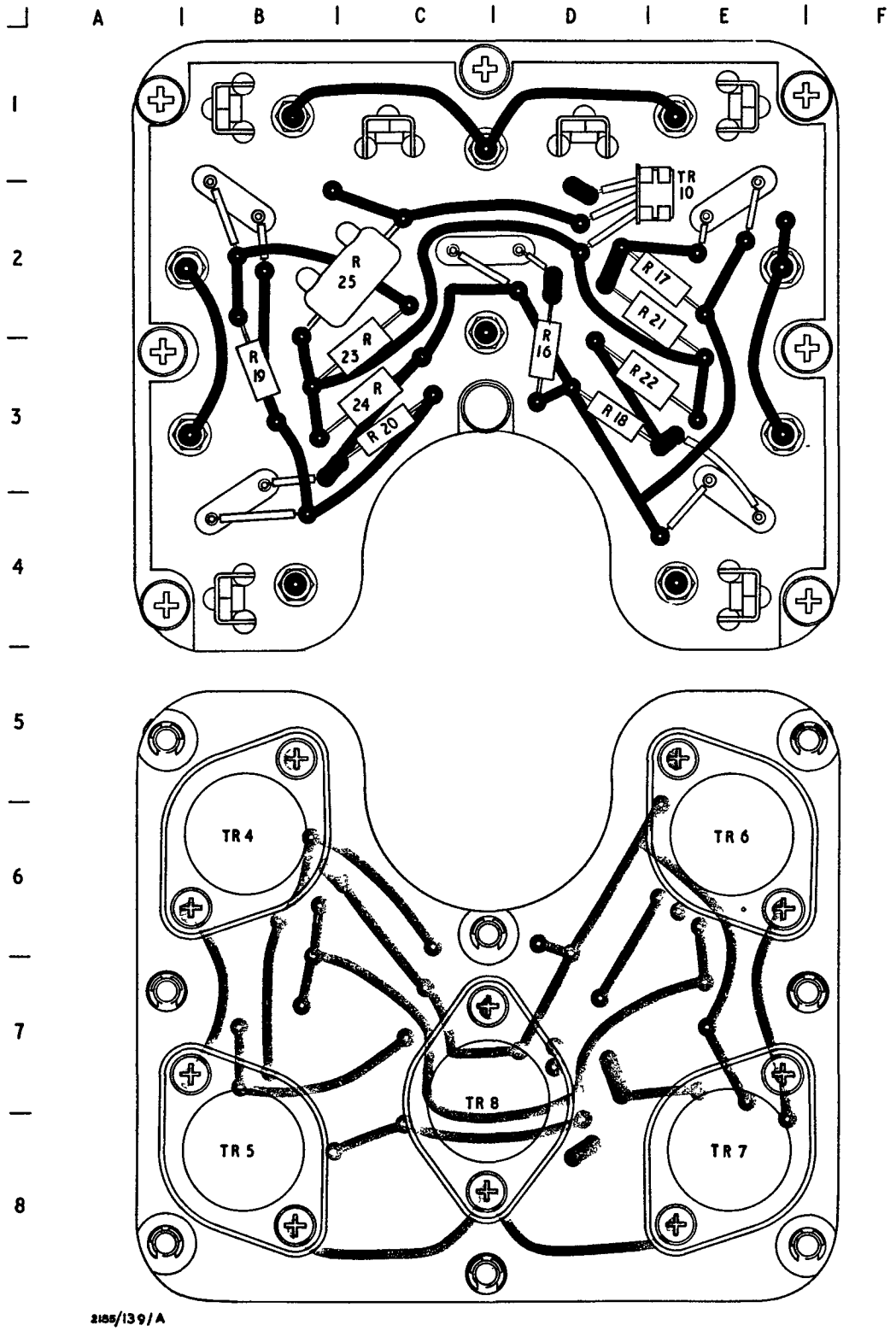


Fig 2598 - Generator, d.c., transistor assembly

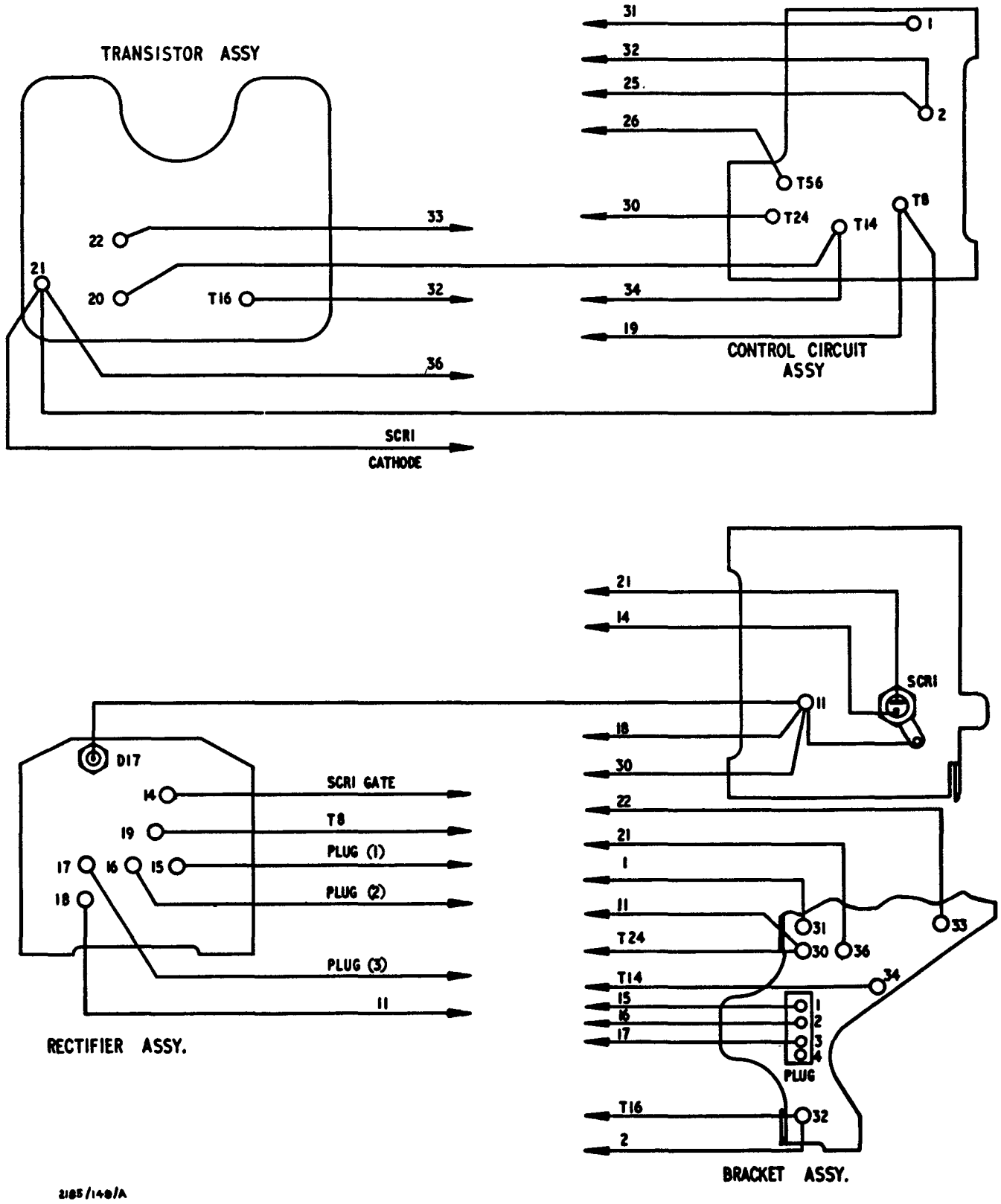


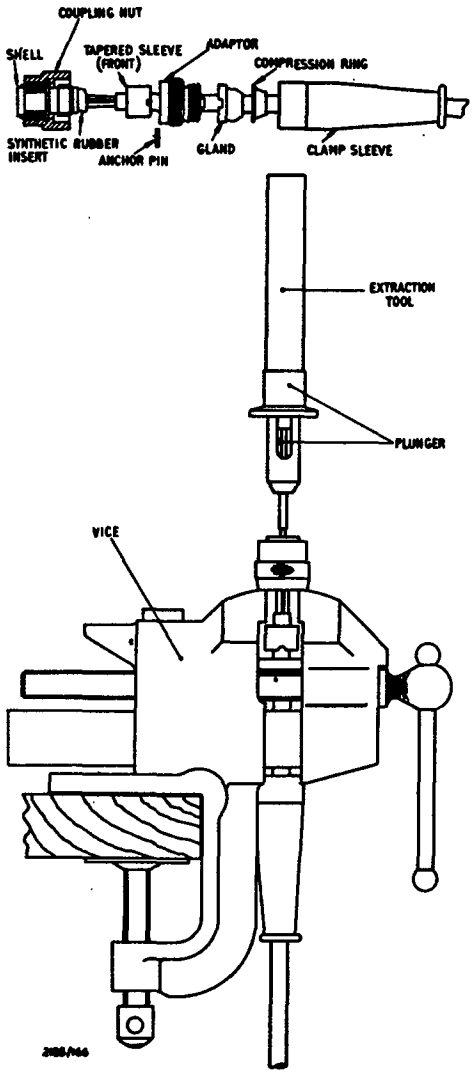
Fig 2599 - Generator, d.c., wiring

Table 2515 - Generator, d.c., specification tests

Test	Test box switch position	Handle speed	Meter 1	Meter 2	Remarks
Normal operation	3	75 rev/min	Nil	2(14.2)-6(14.6)	LOAD switch off
	3	75 rev/min	2A approx	2-6	LOAD switch on
Normal speed	With the LOAD switch on, the output voltage and the lamp are to be steady at a handle speed of 60-75 rev/min				
Current limiting	8	65 rev/min	2.2-3.0		Test must not be applied for more than 1 minute
Overwind	3	84-124 rev/min		Nil	The operation of the overwind control will be seen by a sudden drop of meter 2 reading to zero
	3	100 rev/min		2-6	This test must not be applied for more than 1 minute
Note: The above tests can only be applied accurately in those workshops provided with a Test Stand, Automotive Generator and Starter. Other workshops will have to turn the handle manually and estimate the speeds; it may not be possible to apply the 100 rev/min overwind test.					
Sealing test:	Starting pressure:	10 lb/in.^{2}			
	Permitted leak:	10 cm^3/h			
	Time to reduce to 9 lb:	12 h			
	Time constant:	90 h			

Table 2516 - Generator, d.c., spares schedule, Field repairs

Catalogue No	Designation	Function and cct ref
Z/6210-99-012-0913	LIGHT INDICATOR 1 in. lg, 0.75 in. dia	Lampholder
Z/6210-99-012-0914	LENS INDICATOR LIGHT, PLASTIC red, dimmer, 0.718 in. lg, 0.75 in. dia	Lamp cover
X5/6240-99-995-9120	LAMP FILAMENT, 12V, 1.2W, midget flange clear	Lamp
Z1/5935-99-949-6270	SOCKET ELECTRICAL, fixed 2 pole	O/P socket
Z1/5820-99-101-9196	GASKET, AL, NEOPRENE 1.27/32 in. lg, 27/32 in. w, 1/32 in. thk	Socket gasket
LV6/MT1/5330-99-102-2397	SEAL, PLAIN, synthetic rubber 0.5 in. shaft dia, 1.0625 in. loosing bore dia, 0.394 in. w	Driving shaft seal
LV6/MT7/5830-99-912-8744	RING SEALING TOROIDAL, synthetic rubber, 0.25 in. id, 0.375 in. od, 0.125 in. o/a 66°-77° B.S. hardness rating	Lampholder seal
Z1/6115-99-102-2345	ARM HAND CRANK, steel, 5/16 in. dia, 6.21/32 in. lg, 4.5/32 in. o/a handle lg	
Z1/6115-99-102-2346	HANDLE, HAND CRANK, plastic, 1.13 in. od, 3.38 in. lg	
Z1/6115-99-102-2532	PANEL ASSEMBLY ELECTRONIC CCT 4.1/2 in. x 4.1/2 in. approx o/a dim	Control cct assembly complete



1. Disassemble plug as shown.

2. Place plug in vice with rear of coupling nut resting on the jaws.

3. Place the tube of the extraction tool* over one of the pins of the plug.

4. Slowly and steadily depress the plunger of the tool, the pin will then be ejected from the rubber insert.

5. Repeat 3 and 4 until all pins are removed.

*F1/5120-99-120-7736 EXTRACTOR, electrical contact, 20.

Fig 2600 - Method of dismantling pygmy plugs

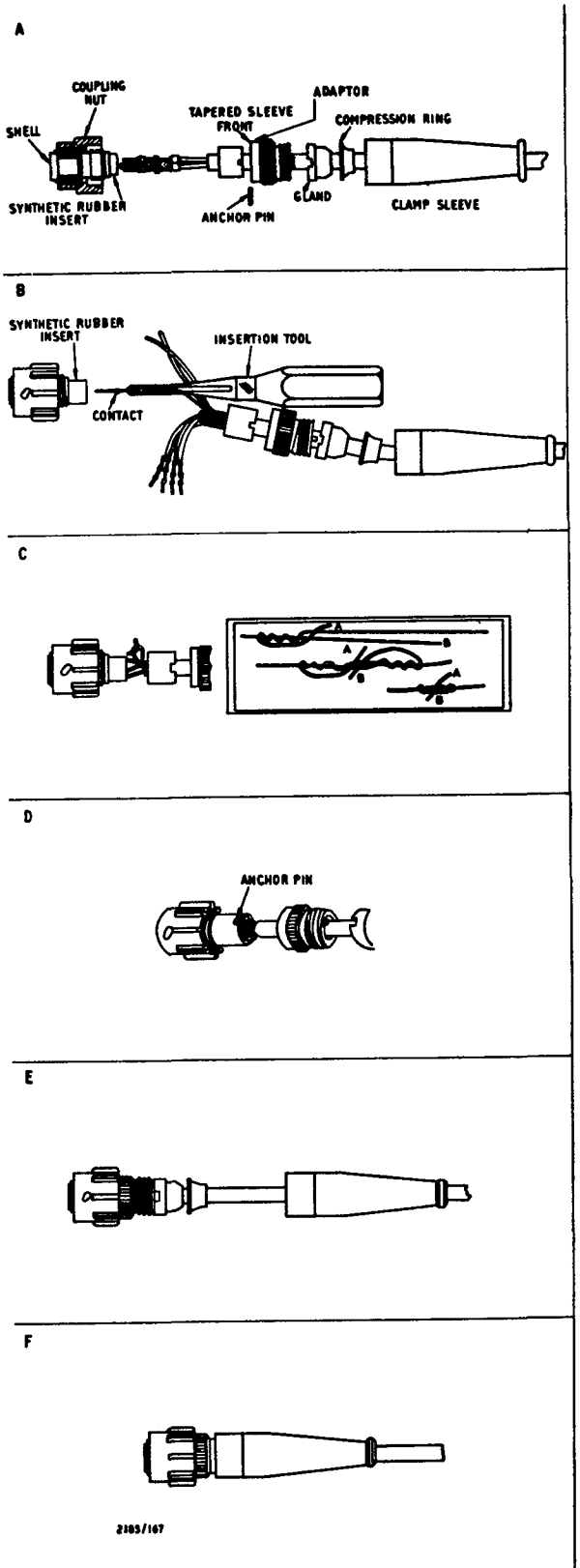


Fig 2601 - Method of assembling pygmy plugs

A Thread clamp sleeve, compression ring, gland, adaptor and tapered sleeve over cable in that order. Use rubber lubricant if necessary./

B Insert contacts into the relevant holes in the rear of the insert using special tool.*

Note: If the lay of the cable differs from the location of contact positions the individual cables must follow the shortest route, eg, plait them if necessary.

C Tie special knot to form loop in strain cords as shown, ends of knot to be heatsealed, knot to be positioned so that when assembled as shown in section D below, no strain is imposed on the conductors.

D Bring up the tapered sleeve to butt against the rear of the connector shell, pass the anchor pin between an equally divided number of connectors and also through the nylon loop and locate the ends of the pin in the slots provided. After strain cord has been secured cable must be capable of withstanding a steady pull of 10 lb without imposing any strain on the conductors.

E Apply Loctite Grade A to the external thread on the connector shell. Bring the adaptor over the tapered sleeve to engage with the thread on the rear of the connector (shell) screw on firmly whilst ensuring that the anchor pin remains in position, bring up the gland and locate the adaptor key as shown.

F Apply Loctite Grade A to the external thread on the adaptor. Bring up the compression ring to the rear of the gland, bring up the clamp sleeve over the compression ring and gland, then screw up firmly.

Note: Loctite Grade A available in:

10cc tubes H1/8030-99-220-2387
50cc tubes H1/8030-99-220-2874

/Silicone compound, Releasil 7 H1/HA 6850-99-943-3472

*F1/5120-99-120-7735, Inserter, electrical contact, 20

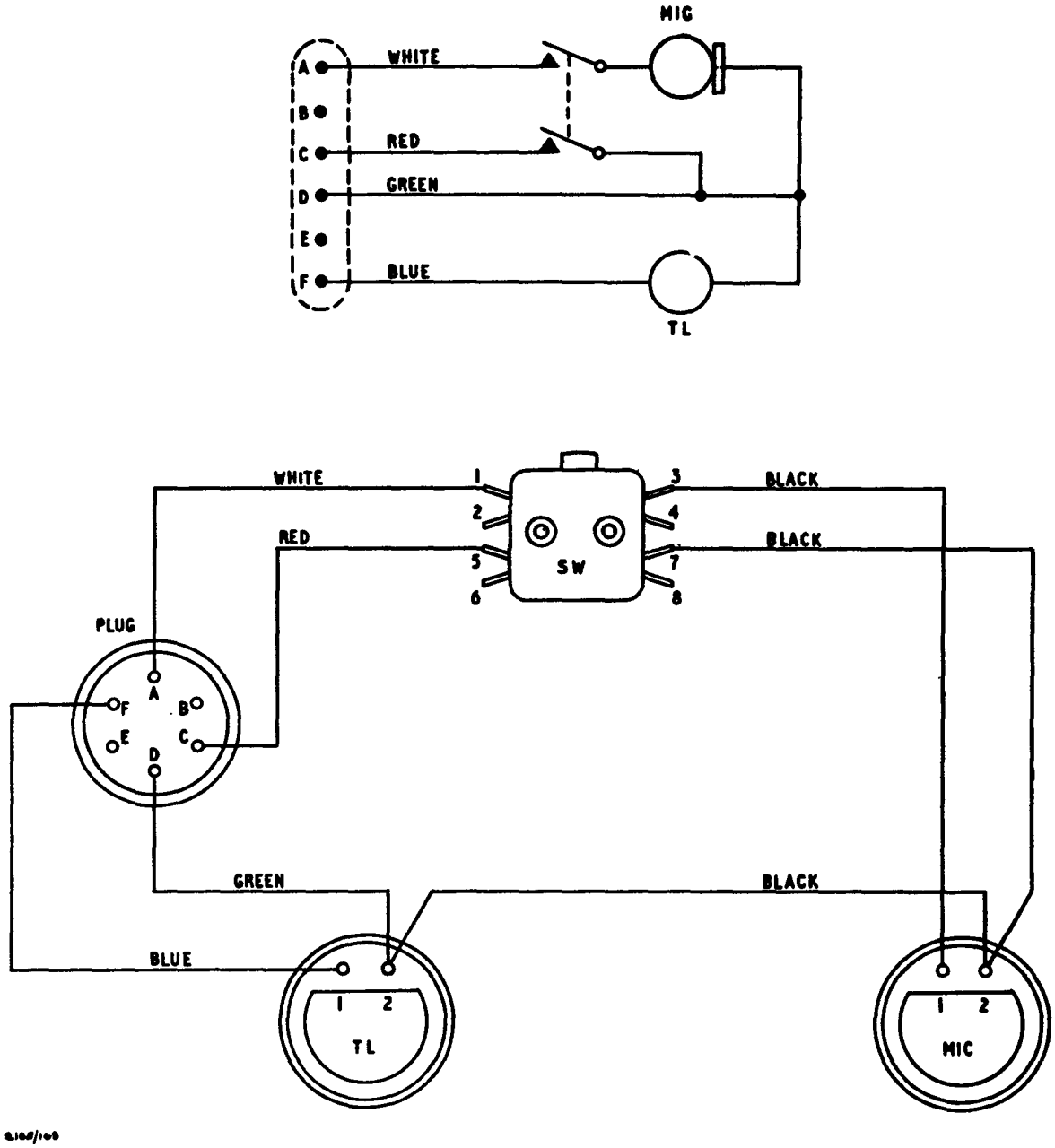


Fig 2602 - Handset S.I. type, circuit and layout

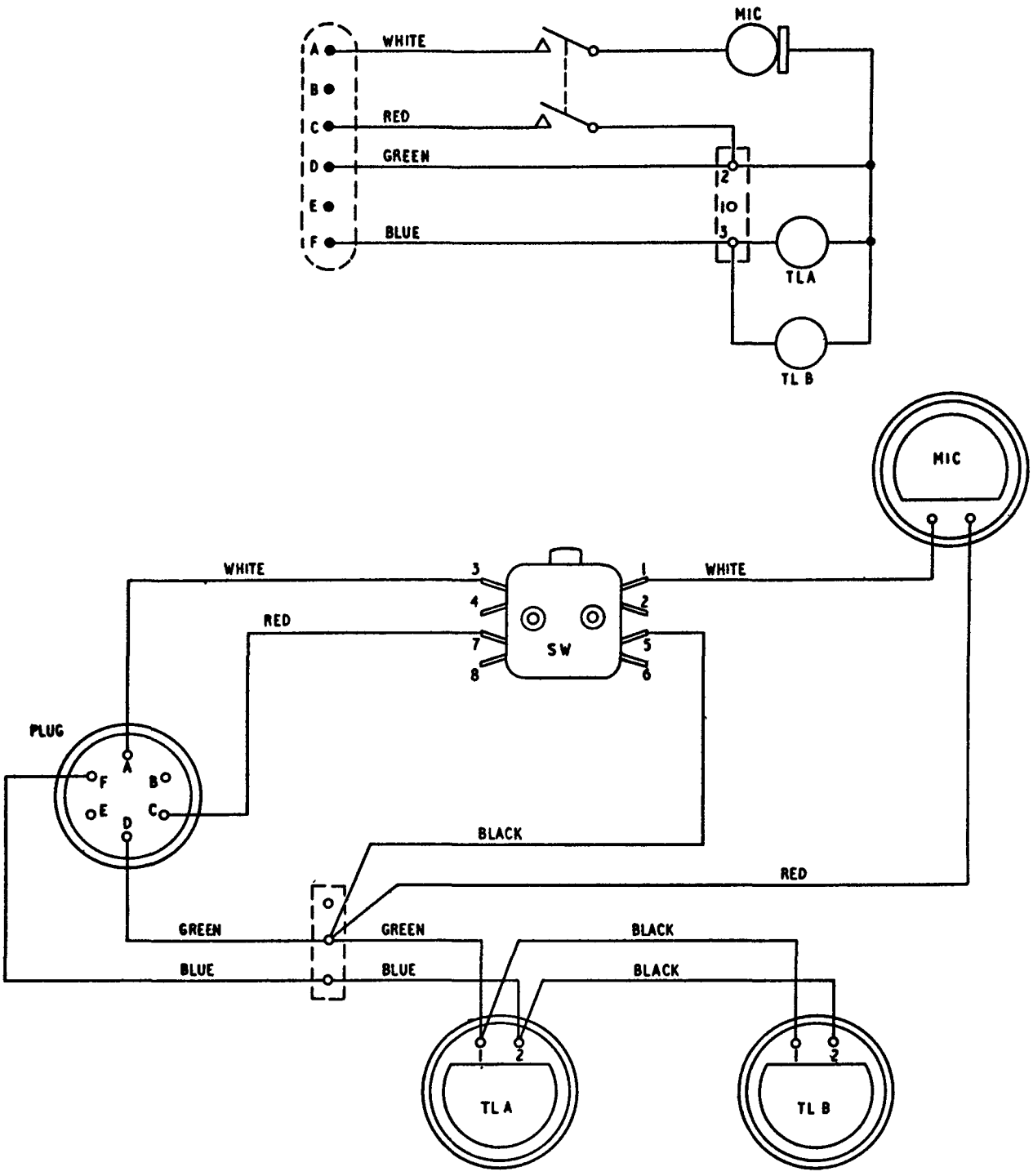
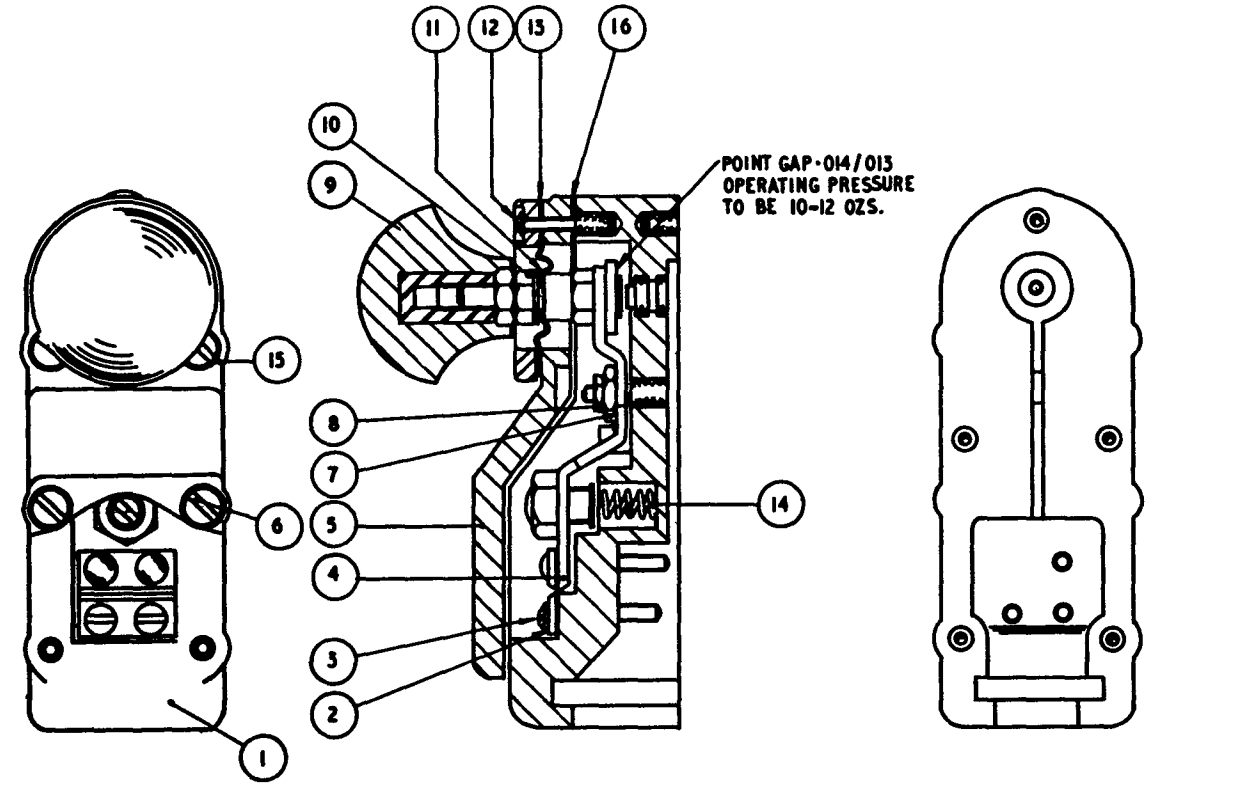


Fig 2603 - Headset and microphone assembly circuit and layout



ITEM	NAME	ITEM	NAME
1	BODY, KEY, TELEGRAPH	9	KNOB
2	PLATE, WASHER, PLAIN	10	NUT, HEX, THIN
3	SCREW, MACHINE	11	WASHER, FLAT
4	ARM ASSEMBLY, KEY TELEGRAPH	12	SCREW, MACHINE
5	COVER, TELEGRAPH KEY	13	DIAPHRAGM, KEY TELEGRAPH
6	SCREW, MACHINE	14	SPRING, HELICAL, COMPRESSION
7	NUT, PLAIN, HEXAGON	15	CLAMP, RIM, CLENCHING
8	NUT, HEX, FULL	16	GASKET

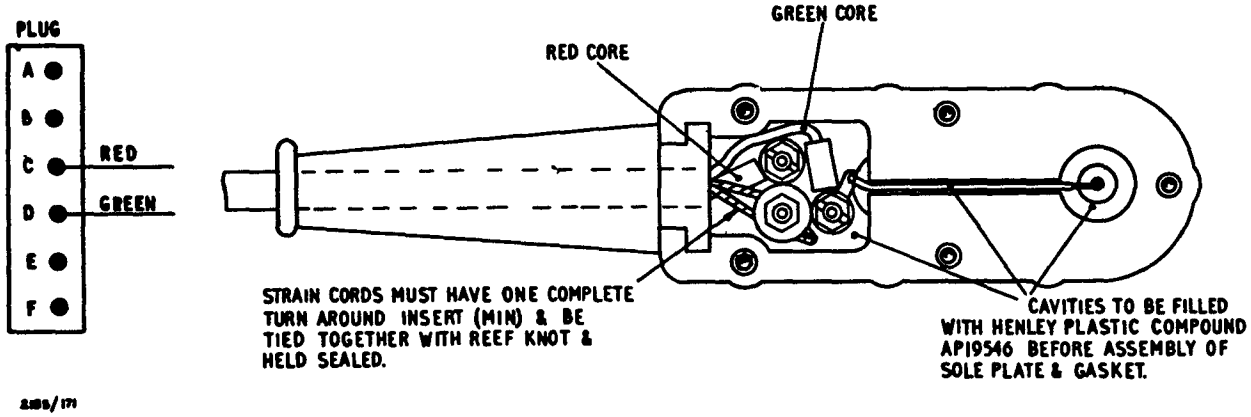
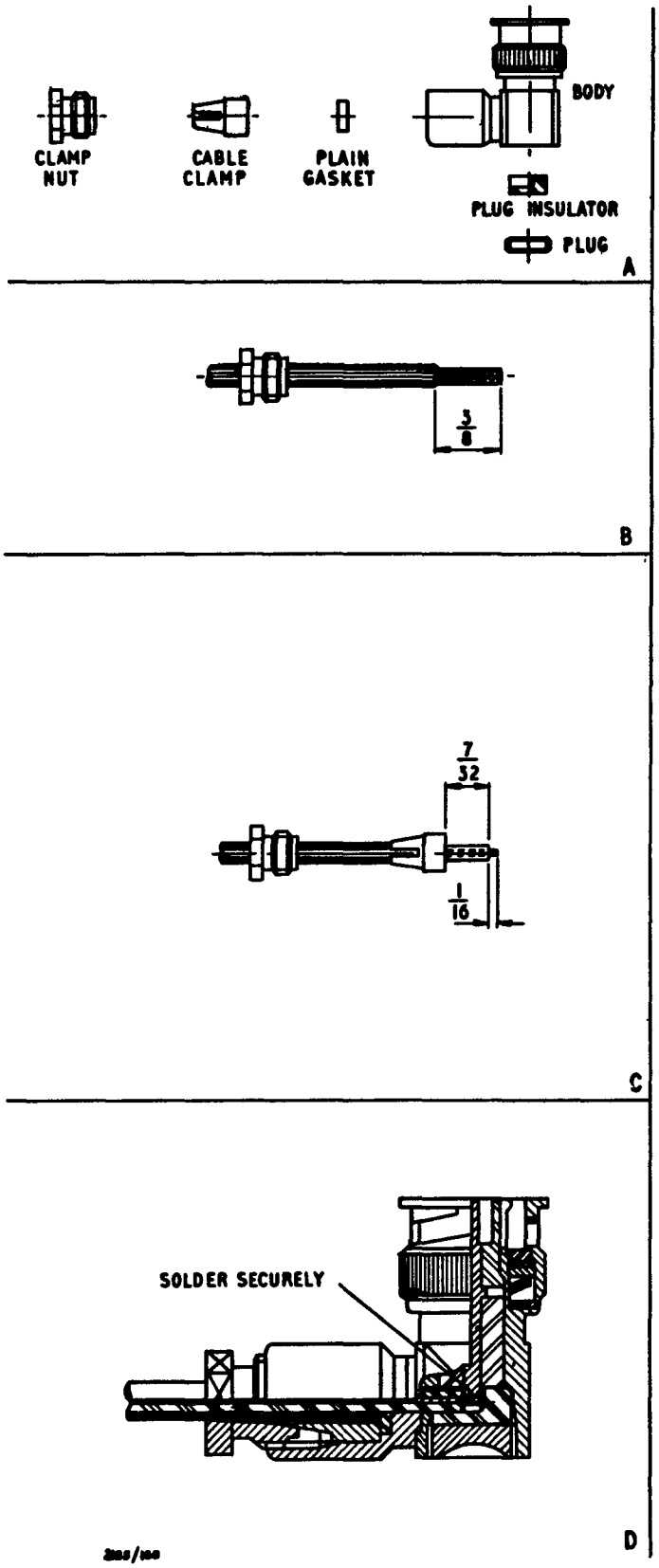


Fig 2604 - Key, telegraph circuit and layout



A Disassemble plug as shown.

B Remove all piece parts shown above. Cut off outer sheath square to 3/8 in. from end of cable.
Care must be taken to avoid damaging the braid.
Slide clamp nut over outer sheath.

C Screw cable clamp over outer sheath until rear face is flush with cut end of outer sheath. Comb out the braid and fold back to lay against rear face of cable clamp. Trim off surplus braid flush with O/Dia of cable clamp.
Cut off dielectric to 7/32 in. from braid, care being taken to avoid damaging the centre conductor. Cut off centre conductor to 1/16 in. from end of dielectric. Tin dip centre conductor. Avoid excessive heat.
Slide plain gasket over the dielectric to butt against the braid.

D Turn the male contact in the body so that the slot is in line to receive the centre conductor of the cable.
Push the sub-assembled cable into the body as far as it will go. Engage the clamp nut in the thread and tighten fully home.
Solder the centre conductor securely into the slot in the male contact. Avoid excessive heat.
Replace the plug insulator with slot leading and in line with the cable. Locate the plug and tighten up.

Fig 2605 - Co-axial connectors, method of assembly

Table 2517 - Headset, microphone SI, spares schedule, Field repairs

Catalogue No	Designation
Y1/5965-99-100-1940	NECKBAND, SINGLE WIRE STYLE STEEL WIRE
Y1/5965-99-949-2572	CUSHION EARPHONE, RUBBER, 3.88 in. lg, 3.62 in. w, 2.3/16 in. thk, entry for one cord
Y1/5965-99-100-1941	CUSHION EARPHONE, RUBBER, 3.7/8 in. x 3.5/8 in. x 2.3/16 in. o/a dim
Y1/5965-99-100-1942	BOOM, MICROPHONE, STEEL, 6.1/2 in. lg, 3/4 in. w
Y1/5965-99-901-1184	MICROPHONE ELEMENT MAGNETIC TYPE, 300Ω, 200-3400Hz, 1.833 in. dia, 0.755 in. h, SI E/M No 1
Y1/5965-99-940-2368	INSET EARPHONE, ELECTRO MAGNETIC
Y1/5965-99-901-2377	CLIP CLOTHING, STEEL, CAD PLATED, PAINTED OLIVE DRAB, 1.5/8 in. x 2 in. x 11/16 in.
Y1/5995-99-102-0173	CORD ASSEMBLY ELECTRICAL, 2 conductor tinsel, 17 in. lg, 2 terminal lug, 1 strain cord tinsel fitted term lug each end
Z42/5965-99-102-0174	JUNCTION BOX, PLASTIC, 2 in. x 1.5 in. x 0.547 in.
Y1/5965-99-102-0175	PLATE RETAINING GASKET, ALUMINIUM, 1.375 x 0.437 x 0.125 in.
Y1/5965-99-102-0176	PUSH BUTTON, BRASS, 0.290 in. lg, 0.625 in. dia, black
Y1/5965-99-101-9830	GASKET RUBBER, RECT SHAPE, 1.37 in. lg, 0.43 in. w, 0.025 in. thk
Y1/5965-99-100-1939	HEADBAND, SINGLE FLAT BAND, GLASS TYPE, PVC COVERED, 15.1/2 in. lg, 5/8 in. w
Y1/5965-99-100-1943	SHELL MICROPHONE, RUBBER, 2.7/16 in. lg, 1.15/16 in. w, 1.1/10 in. deep
Y1/5995-99-101-9829	CORD ASSEMBLY ELECTRICAL, 4 tinsel conductors, nylon braid conductors processed both ends 4 ft 8 in. lg
Z1/5935-99-102-2821	PLUG ELECTRICAL, FREE, PLASTIC, 6 pole 5A, 500V, a.c., male shell, bayonet locking

Table 2517 - (cont)

Catalogue No	Designation
Y1/5995-99-101-9828	CORD ASSEMBLY ELECTRICAL, 4 tinsel conductors, nylon braid 6 pt plug, 1st end conductor processed 2nd end 4 ft 9 in. lg
Y1/5325-99-102-0172	GROMMET, RUBBER, NATURAL, 0.453 in. w, 0.578 in. lg, 2.5 in. h
Y1/5995-99-102-0173	CORD ASSEMBLY ELECTRICAL, 4 tinsel conductor, nylon braid, conductors processed both ends 1 ft 8 in. lg o/a
Y1/5330-99-949-2571	COVER TERMINAL BOX, PLASTIC, 2 in. lg, 1.1/2 in. w, 0.22 in. h
Y1/5330-99-949-2593	GASKET RUBBER, RECT SHAPE, 2 in. x 1.1/2 in. x 0.031 in.
Z1/5390-99-900-9260	SWITCH SENSITIVE PLUNGER TYPE, SP4 CCT BURGESS TYPE M1
Z1/5820-99-102-3724	OUTLET SET ELECTRICAL, PLUG-SOCKET 0.697 in. dia 3.125 in. lg

Table 2518 - Handset, SI type, spares schedule, Field repair

Catalogue No	Designation
Y1/5965-99-901-1184	MICROPHONE ELEMENT, MAGNETIC TYPE, 300Ω, 200-3400Hz, 1.833 in. dia, 0.77 in. h SI E/M No 1
Y1/5965-99-940-2368	INSET, EARPHONE ELECTROMAGNETIC
Z42/5995-99-101-4823	CORD ASSEMBLY, ELECTRICAL, 4 tinsel conductors, nylon braid, 6 pt plug, 1st end conductors processed, 2nd end 5 ft 9 in. o/a lg
Y1/5995-99-102-9824	CORD ASSEMBLY, ELECTRICAL, 4 tinsel conductors, nylon braid, conductor processed both ends, 5 ft 9 in. lg o/a
Y1/5975-99-100-1947	PROTECTOR, ELECTRICAL CABLE RUBBER, 1.733 in. lg, 0.54 in. flange dia, 0.27 in. bore, 0.25 in. cable
Z42/5975-99-901-2988	PACKING NUT, CABLE GLAND, STEEL, 10.5 mm, dia bore, 3/4 in. od, 9/16 in., h, 5/8 in. - 18 UNF-1A

Table 2518 - (cont)

Catalogue No	Designation
Y1/5310-99-901-2989	WASHER FINISHING, ALUMINIUM ALLOY, 0.421 in. id, 0.538 in. od, 0.125 in. high
Z1/5935-99-102-2821	PLUG ELECTRICAL, FREE, PLASTIC, 6 pole, 5A, 500V a.c., male shell, bayonet locking
Z32/5930-99-109-2208	SWITCH AND ACTUATOR ASSEMBLY, 3.1/8 in. x 27/32 in. x 7/8 in.
Y1/5965-99-101-9826	COVER ELECTRICAL SWITCH ALUMINIUM, 1.875 in. x 0.75 in. x 0.064 in.
Y1/5965-99-101-9827	GASKET RUBBER, RECT SHAPE, 1.875 in. lg, 0.75 in. w, 0.028 in. thk
Y1/5965-99-101-9713	BAR ACTUATOR, ELECTRICAL SWITCH ASSEMBLY, 3.11/16 in. x 9/16 in. x 3/8 in. PVC covered
Y1/5930-99-901-0419	CAP ELECTRICAL NYLON, 0.731 in. lg, 2.187 in. dia
Z1/5820-99-102-3724	OUTLET SET ELECTRICAL PLUG SOCKET, 0.697 in. dia, 3.125 in. lg, o/a dim 4 way

Table 2519 - Key, telegraph, spares schedule, Field repairs

Catalogue No	Designation
Y2/5325-99-103-6947	GROMMET RUBBER SYNTHETIC, CONICAL SHAPE, major dia .067 in. minor dia 0.5 in. 2.850 in. h
Y2/5805-99-102-0928	GASKET ALUM-NEOPRENE, 2.1/2 in. lg, 1 in. w, 0.081 in. thk
Z1/5305-99-949-2069	SCREW EXTERNALLY RELIEVED BODY BA, BRASS FLAT COUNTERSUNK HEAD, SLOT DRIVE, CAD PLATED, No 8, 0.181 in. lg, SCR 0.115 in.
Y2/5805-99-102-0778	BODY KEY TELEGRAPH, PLASTIC, 2.770 in. o/a lg, 1 in. w, 0.875 in. thk
Y2/5805-99-102-0918	ARM ASSEMBLY KEY TELEGRAPH, COMPRISING ARM AND SPRING POINT ASSEMBLY, SCREW AND TWO NUTS
Y2/5805-99-102-0919	COVER TELEGRAPH KEY, PLASTICS, 2.1/2 in. o/a lg, 1 in. w, 1/2 in. thk

Table 2519 - (cont)

Catalogue No	Designation
Y2/5355-99-102-0921	KNOB, PHENOTIC RESIN SCREW ON TYPE, 0.9330 in. dia, 0.780 in. thk No 4 BA
Y2/5805-99-102-0925	DIAPHRAGM, KEY TELEGRAPH NEOPRENE, 0.760 in. w, 0.770 in. lg, 0.120 in. thk, centre hole 0.145 in. dia
Y2/5805-99-102-1101	CABLE ASSEMBLY, ELECTRICAL, SPECIAL PURPOSE
Z1/5935-99-102-2821	PLUG ELECTRICAL PLASTIC, 6 pole, 5A 500V a.c., male shell, bayonet locking
Z1/5820-99-102-1960	OUTPUT SET ELECTRICAL, PLUG SOCKET, 0.697 in. dia, 3.125 in. lg, o/a dim 2 way

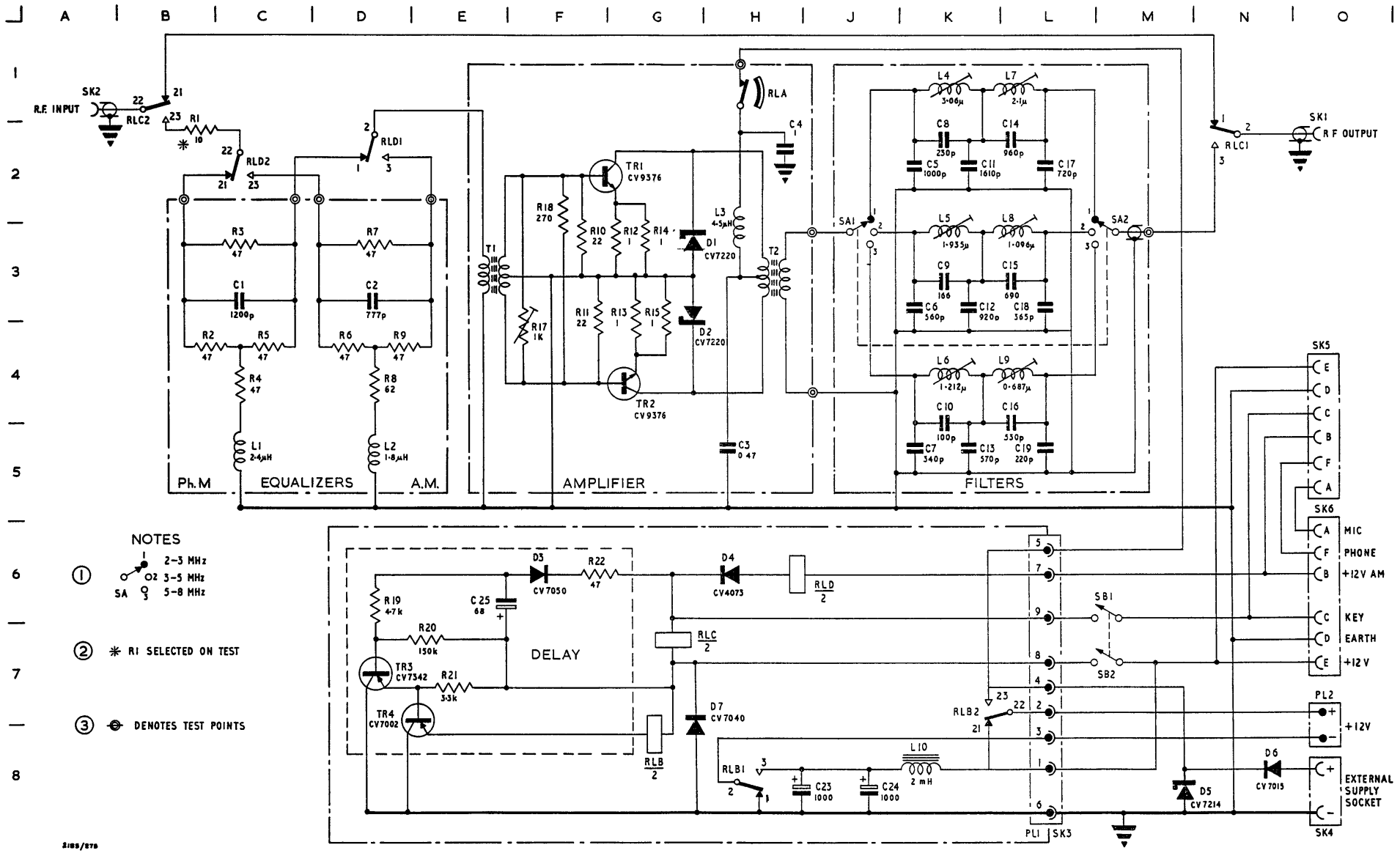


Fig 2606 - RFA12 Mk 2 circuit diagram

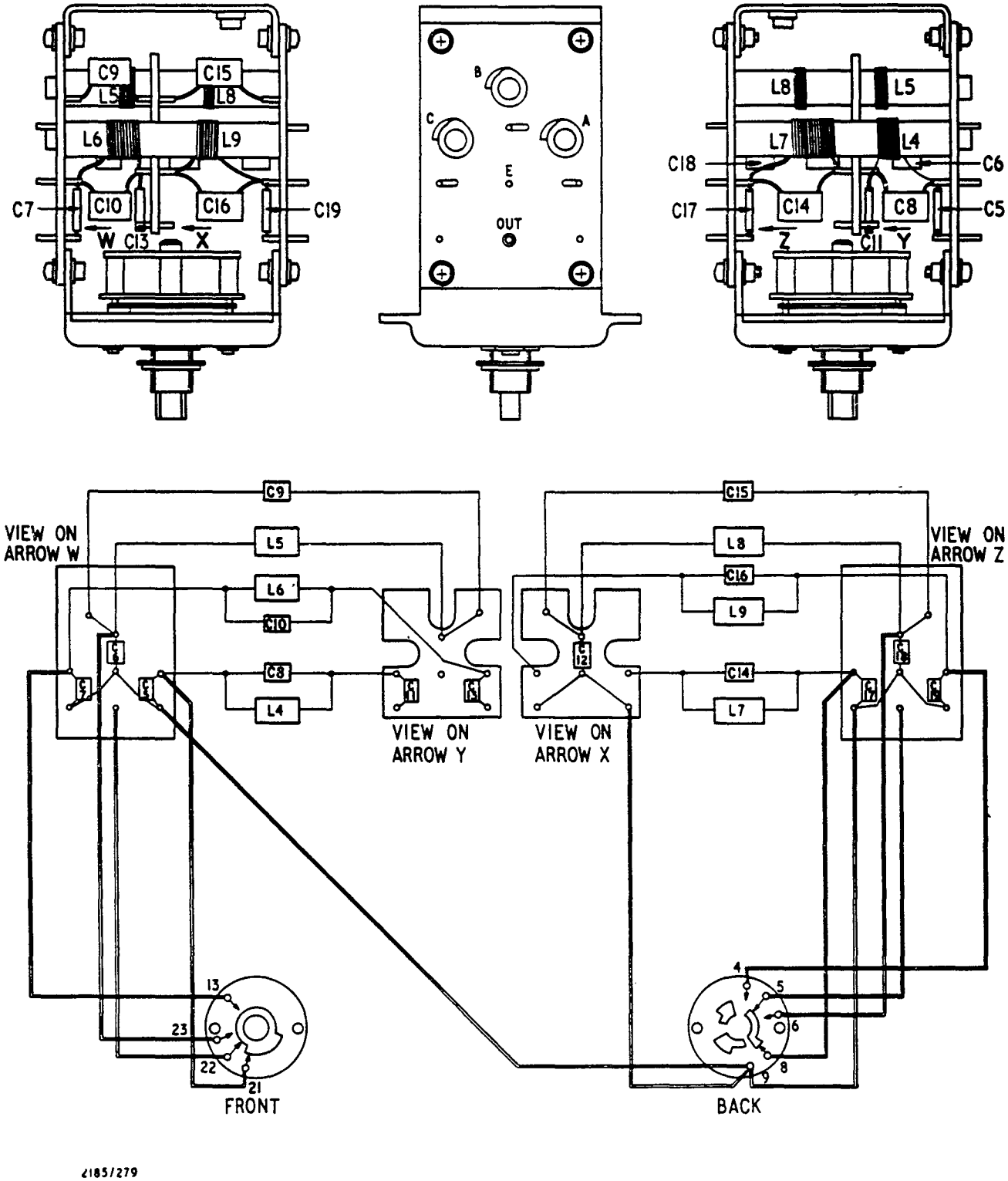


Fig 2607 - RFA12 Mk 2, filter unit layout and wiring

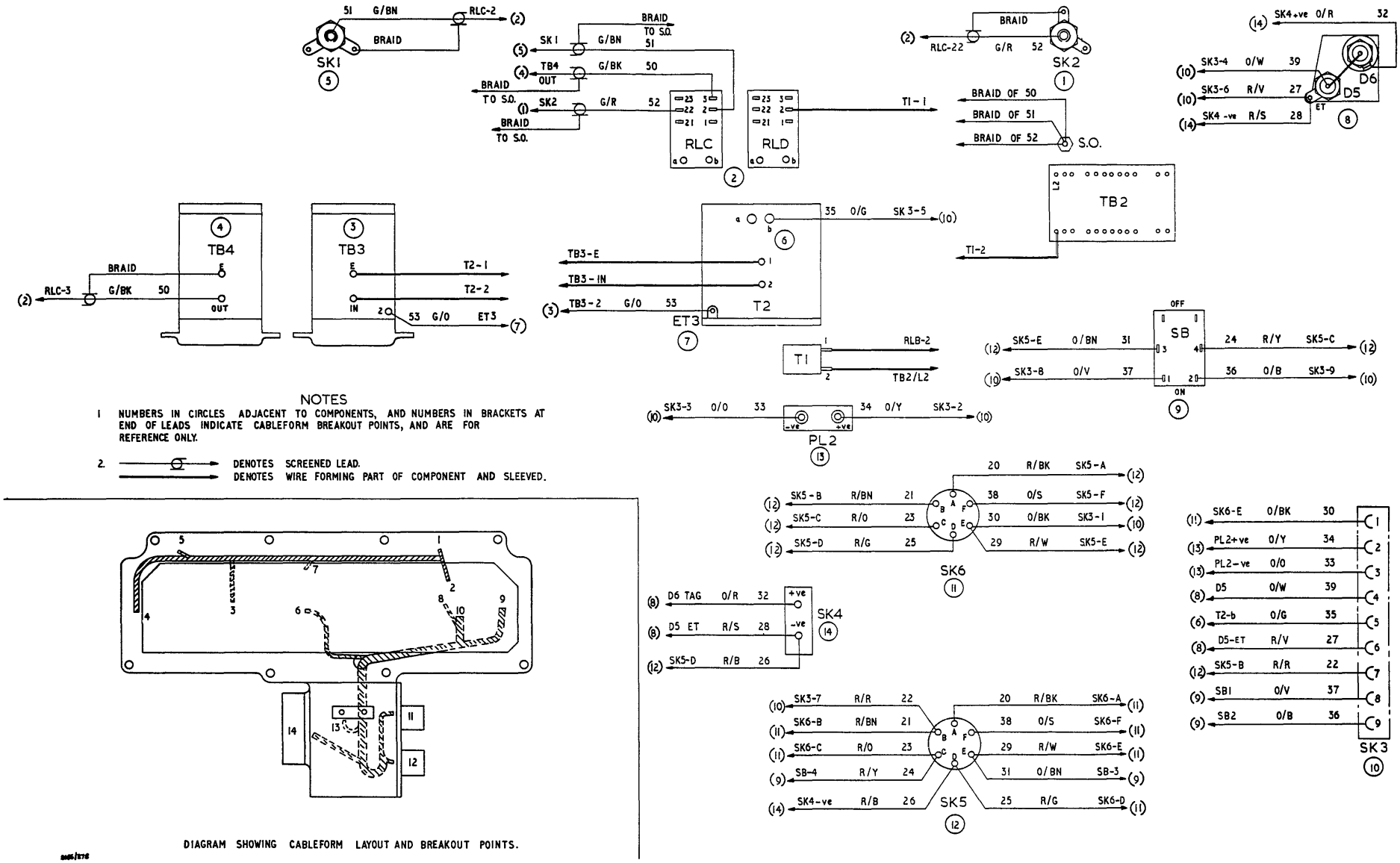


Fig 2608 - RFA12, Mk 2, front panel layout and wiring

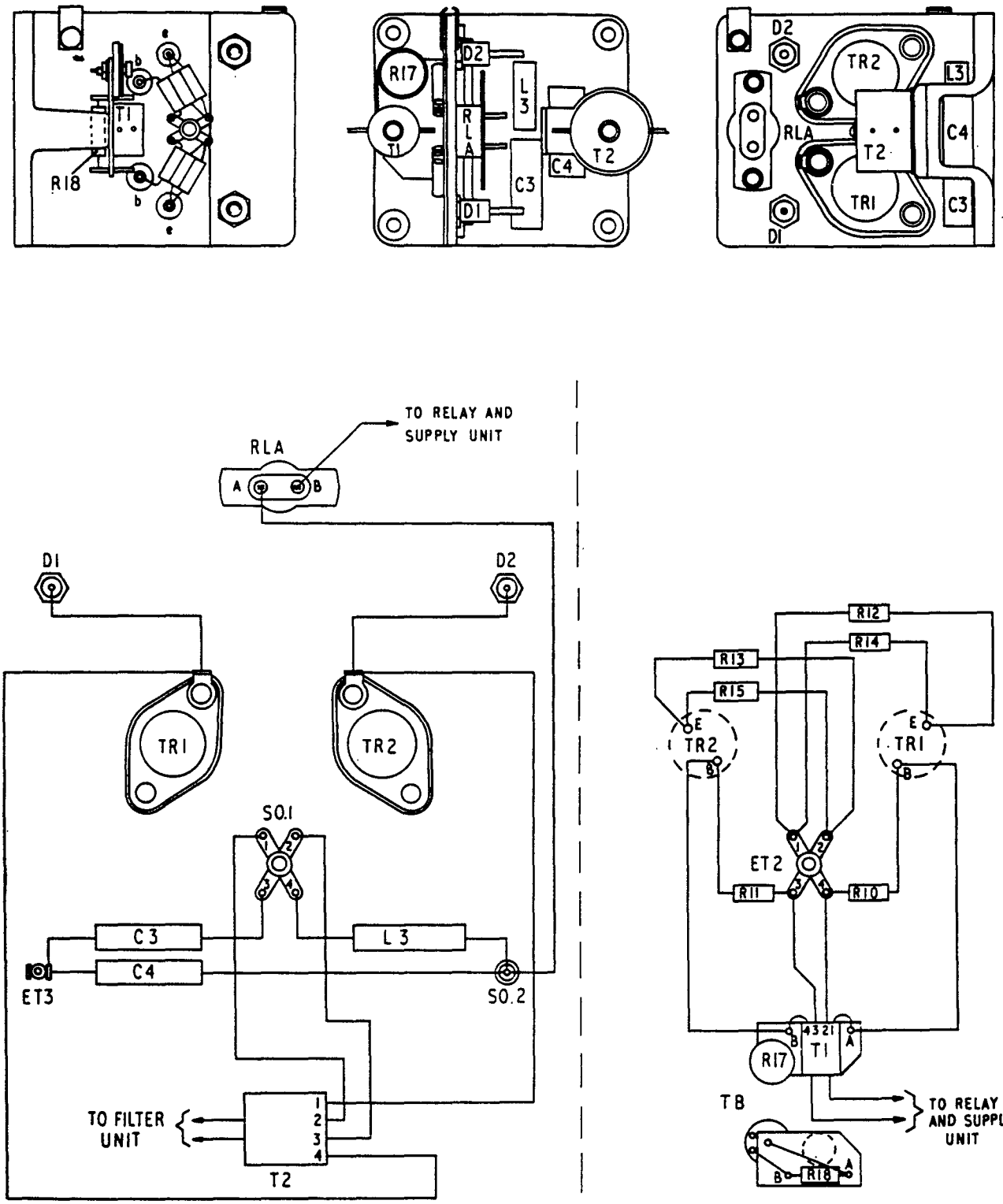


Fig 2609 - RFA12, Mk 2, amplifier sub-assembly layout and wiring

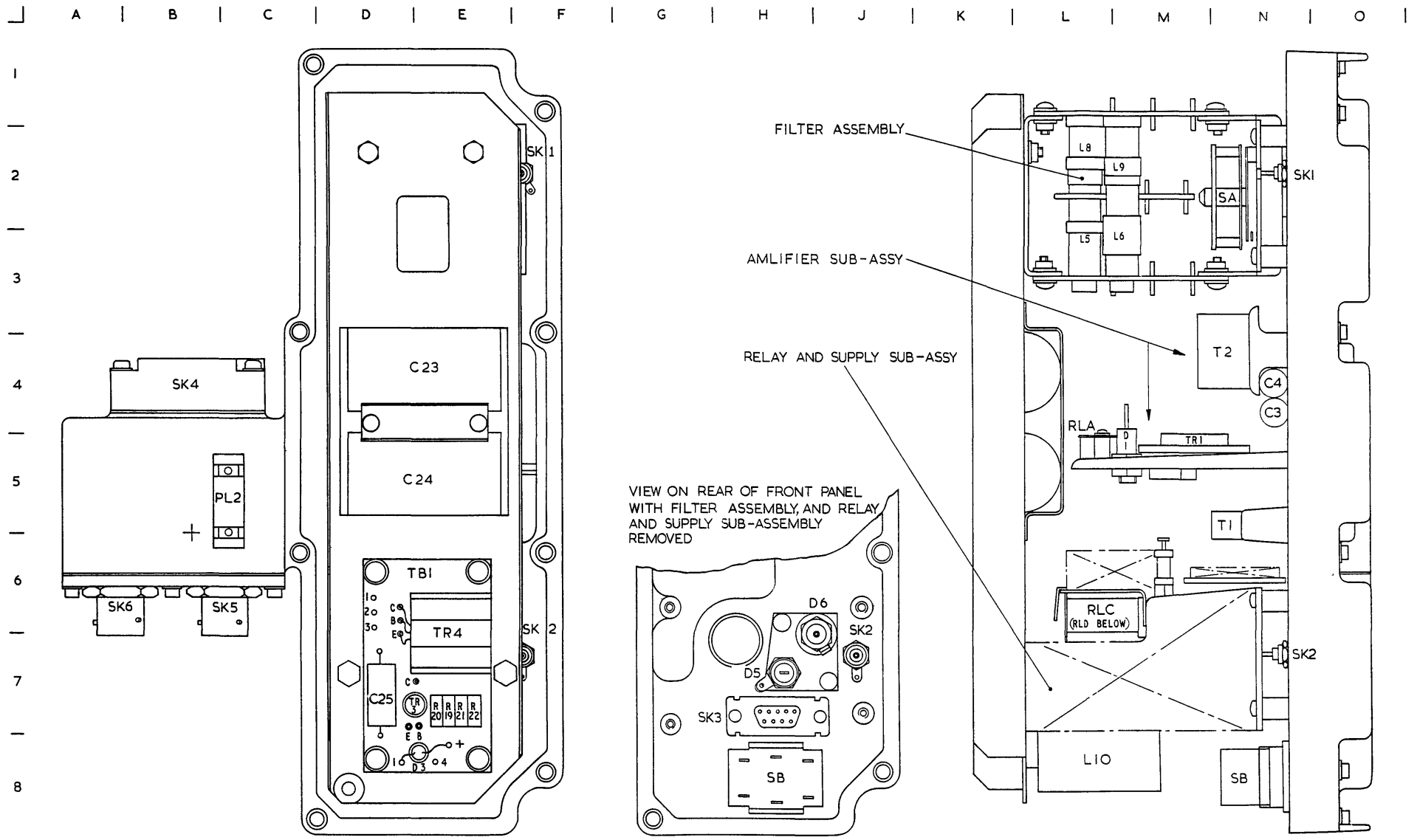


Fig 2610 - RFA12, Mk 2, general layout

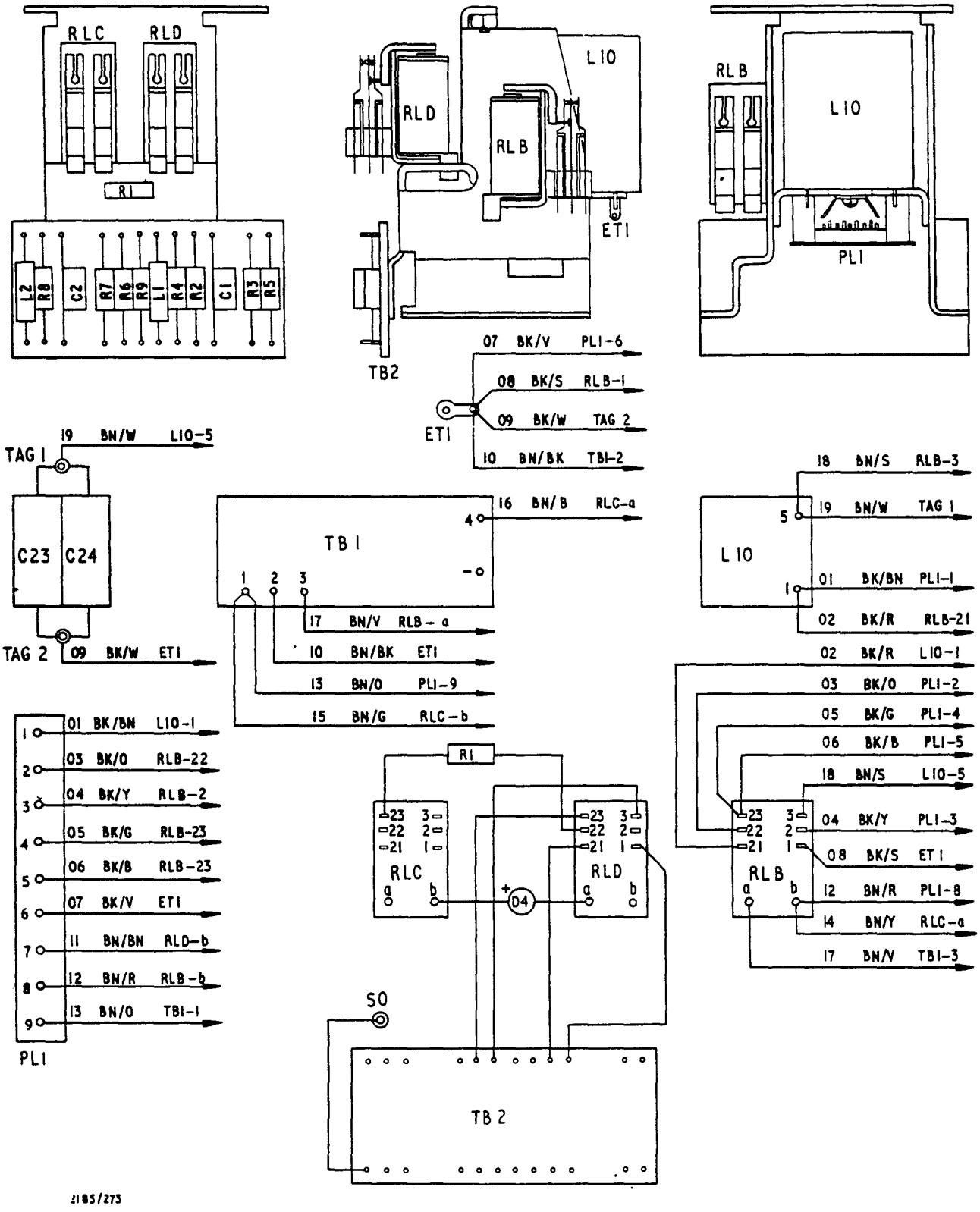


Fig 2611 - RFA12, Mk 2, relays and supply unit layout and wiring

Table 2520 - RFA12, Mk 2, spares schedule, Field repairs

Catalogue No	Designation
Z1/5820-99-105-9913	Amplifier, r.f., sub-assembly
Z1/5820-99-106-0557	Relay and supply sub-assembly
Z1/5820-99-106-0387	Filter, switched, assembly
Z1/5820-99-106-3817	Gasket, 9-3/8 in. lg, x 3.5/16 in. w, x 5/32 in. thk
Z1/5330-99-949-0601	Washer, non-metallic
Z1/5330-99-911-0979	Seal, rubber, round section, 0.0612 in. od, 0.375 in. dia hole 0.035 in. thk
Z/4440-99-942-2061	Desiccant, container, dehumidifier
Z1/00000-09123	Socket, electrical, 50 ohms, male shell, bayonet locking
Z1/5970-99-102-0200	Insulator plate plastics, rectangular, 2 parallel grooves
Z1/5330-99-102-0186	Washer, shouldered, plastics, 0.142 in. id, 0.50 in. od
Z1/5820-99-102-0179	Contact, electrical, brass, 1.281 in. x 0.25 in. x 0.159 in.
Z1/5820-99-101-9196	Gasket, aluminium neoprene 1.27/32 in. x 27/32 in. x 1/32 in.
Z1/5820-99-101-9129	Gasket, aluminium neoprene 2.5/8 in. x 1.3/8 in. x 1/8 in.
Z1/00000-09131	Ring sealing, toroidal, 2.5/8 in. x 1.3/8 in. x 1/8 in.
Z1/5935-99-949-3145	Socket, electrical, fixed, male shell, 6-pole
Z1/5935-99-949-6270	Socket, electrical, fixed, 2-pole
Z/5960-99-037-2013	Valve, electronic, CV7015
Z/5960-99-037-2621	Valve, electronic, CV7214
Z/5930-99-051-0554	Switch, lever operated, 2-pole changeover

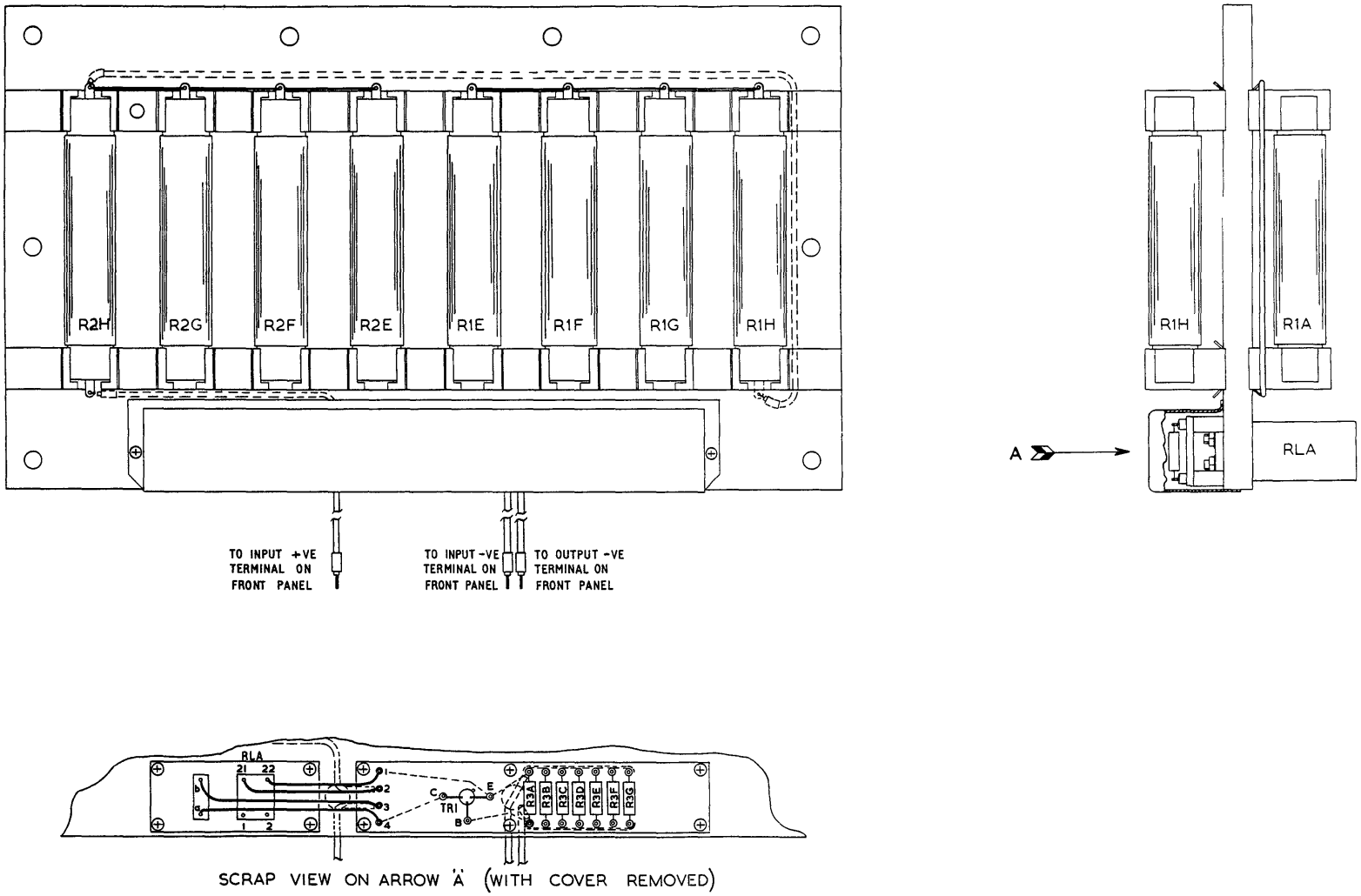
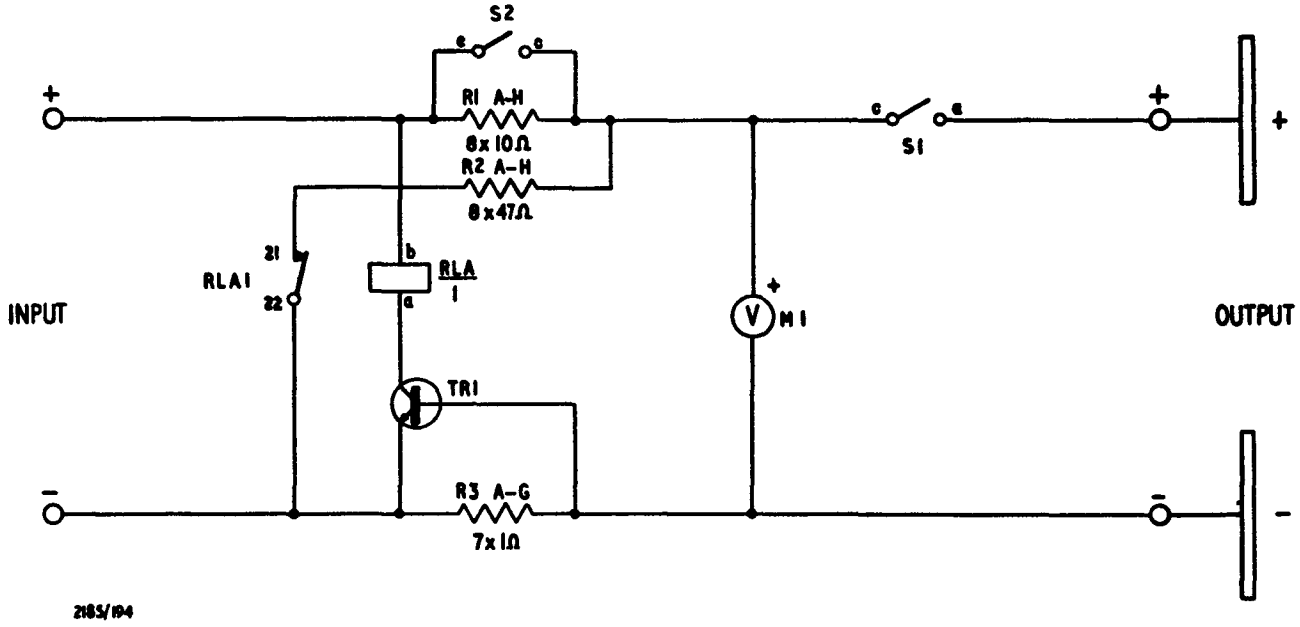


Fig 2612 - Charger, battery resistance, layout



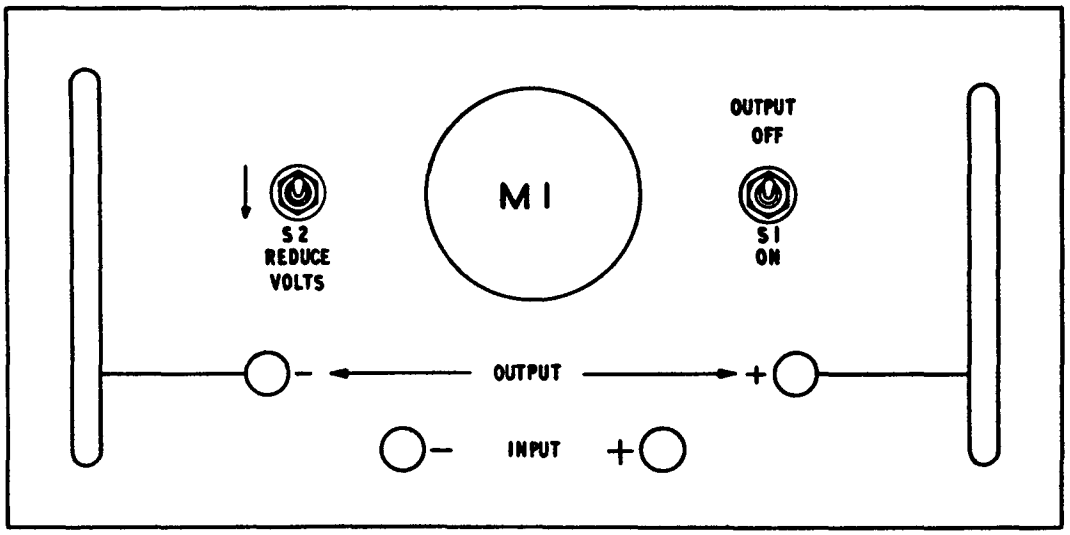


Fig 2613 - Charger, battery resistance, circuit and controls

Table 2521 - Charger, battery resistance, spares schedule, Field repairs

Catalogue No	Designation	Function or cct ref
Z9/5305-99-105-7491	Screw, external relieved body, No 10-24, 0.55 in. lg	
Z9/6130-99-105-7585	Cap protective screwhead plastics, tubular 0.35 in. lg	
Z9/6130-99-105-7490	Panel electronic circuit fibre glass, 7 resistors	R3A-G
Z/5905-99-011-3195	Resistor fixed wirewound 1 ohm ±10%, 1.5 watt	R1A-H
Z42/5960-99-037-2893	Valve electronic CV7328	TR1
Z/5945-99-012-3894	Relay armature sealed 670 ohms SM 5M-H93	RLA
Z9/6150-99-105-7641	Bus-bar, brass 6.05 in. long 'C' shape	
Z9/5340-99-105-7744	Bushing plastics, polythene 1 hole 0.257 in. dia	
Z/5940-99-056-0055	Terminal screwhead, captive stud mounting	
Z4/6625-99-900-2125	Voltmeter, moving coil, 0 to 50V d.c.2 in. scale	M1
Z/5930-99-051-0588	Switch, lever operated, single pole, 10A, 250V a.c.	S2
Z/5905-99-011-9868	Clip, resistor 13/16 in. dia grip, non-locking	
Z/5905-99-024-1099	Resistor, fixed wirewound 47 ohms ±5%, 30 watts	
Z/5905-99-024-1003	Resistor, fixed wirewound 10 ohms ±5%, 30 watts	

EME 8c/2185/Tels

END

STATION, RADIO, A13

FORWARD CODING

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

Assembly Code	Designation	
0100	Transmitter-receiver, radio, A13	
0101	Filter, bandpass (Z1/5915-99-105-5971)	Board 7
0102	Filter, bandpass (Z1/5915-99-105-5970)	Board 7
0103	Panel assembly, electronic circuit	Boards 2, 3, 4, 17
0104	Panel assembly, electronic circuit	Board 1
0105	Panel assembly, electronic circuit	Boards 10, 11
0106	Panel assembly, electronic circuit	Boards 15, 16
0107	Panel assembly, electronic circuit	Boards 18, 25
0108	Panel assembly, electronic circuit	Board 9
0109	Panel, electronic circuit	Board 26
0110	Panel, electronic circuit	Board 5
0111	Panel, electronic circuit	Board 6
0112	Panel, electronic circuit	Board 8
0113	Panel, electronic circuit	Board 13
0114	Panel, electronic circuit	Board 21
0115	Panel, electronic circuit	Board 12
0116	Panel, electronic circuit	Board 22
0117	Panel, electronic circuit	Board 23
0118	Panel, electronic circuit	Board 19
0119	Panel, electronic circuit	Board 20
0120	Panel, test, electrical equipment	Board 24
0121	Switch assembly, gain control	
0200	Amplifier, r.f., No 12	
0201	Tuning unit, r.f.	
0202	Panel, electronic circuit	RFA grid board
0203	Panel, electronic circuit	RFA delay board
0204	Power supply, transistorized	D.C. converter
0250	Amplifier, r.f., No 12, Mk 2	
0251	Amplifier, r.f., sub-assembly	
0252	Filter, switched	
0253	Relay and supply assembly	
0300	Tuner, r.f., antenna	
0301	Tuner, r.f.	
0302	Panel, electronic circuit - metering circuit	

Assembly Code	Designation
0400	Control, transmitter-receiver, remote
0401	Panel, electronic circuit
0500	Harness adaptor (Z1/5820-99-949-6105)
0501	Harness adaptor (Z1/5820-99-105-3155)
0502	Panel, electronic circuit, TB1
0503	Panel, electronic circuit, TB2
0504	Panel, electronic circuit, TB3
0600	Stabilizer, voltage, transistor type
0601	Panel, electronic circuit
0700	Generator, d.c., hand
0701	Panel assembly, electronic circuit (control circuit assembly complete)
0702	Panel, electronic circuit (Z1/6115-99-102-2511)
0703	Panel, electronic circuit (Z1/6115-99-102-2533)
0704	Panel, electronic circuit (Z1/6115-99-102-2534)
0705	Panel, electronic circuit (Z1/6115-99-102-2535)
0800	Ancillaries
0801	Cable assembly, r.f., uniradio 95, 2 ft
0802	Cable assembly, r.f., uniradio 95, 50 ft
0803	Carrying frame, electrical equipment
0804	Handset, SI type
0805	Headset, microphone, SI type
0806	Key, telegraph
0807	Mast, sectionalized construction
0808	Charger battery, resistance

EME8c/2185/Tels

END