

Instruction Manual

for



H.F. TELEGRAPH TRANSMITTER (TYPE 1213 SERIES)

Handbook Ref. T.58

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HANDBOOK Ref. T.58

DESCRIPTION, INSTALLATION, OPERATING
AND
MAINTENANCE INSTRUCTIONS
FOR
MARCONI MARINE 'SEASPAN' H.F. TELEGRAPH TRANSMITTER
(TYPE 1213 SERIES)

SECTION I
INTRODUCTION

The 'Seaspan' transmitter type 1213A is primarily designed for use as an H.F. telegraph transmitter for installation with a mains operated 'Reliance' M.F. transmitter. In such an installation the H.T. supply is derived from the rotary transformer in the 'Reliance' with a common 24 volts battery supply for the valve heaters.

The control equipment required for operation in this way is housed in the base of the cabinet.

The other editions of the 'Seaspan' operate in conjunction with certain power supply units as follows:—

Type 1213B ...	Power unit type 1201A or B ...	...	...	105-250 volts A.C. 50/60 c.p.s.
Type 1213C ...	Separate power unit ...	...	...	110/220 volts D.C.
Type 1213D ...	Associated with 'Oceanspan VI or VII' with common power unit type 1201A or B ...	...	...	105-250 volts A.C. 50/60 c.p.s.

The 'Seaspan' series of transmitters meet the requirements of the General Post Office performance specification for a short wave radio-telegraph transmitter for ships and has been subjected to climatic and durability tests as called for in the performance specification for class B marine radio equipment.

SECTION II
BRIEF SPECIFICATION

2.1. TYPE OF TRANSMISSION

A1 only Continuous wave (C.W.)

2.2. OUTPUT POWER

Nominal 90 watts but varies from 70 watts at 22 Mc/s to 120 watts at 4 Mc/s. The power can be reduced in two steps to approximately 40 and 15 watts. The change of power caused by any frequency change within a band does not exceed 1 dB.

2.3. FREQUENCY RANGE

Marine W.T. bands of 4, 6, 8, 12, 16 and 22 Mc/s the limits of which are as follows:—

- 4.133 to 4.238 Mc/s
- 6.200 to 6.357 Mc/s
- 8.265 to 8.476 Mc/s
- 12.400 to 12.714 Mc/s
- 16.530 to 16.952 Mc/s
- 22.070 to 22.400 Mc/s

2.4. CRYSTALS

Type 1663H (10XJ) for input capacitance of 50 pF.
Frequencies:—2.067 to 2.119 Mc/s for 4-16 Mc/s bands.
3.679 to 3.732 Mc/s for 22 Mc/s band.
A maximum of 10 crystals can be accommodated.

2.5. FREQUENCY TOLERANCE

$\pm 0.01\%$ over temperature range -15°C to $+55^{\circ}\text{C}$.

2.6. HARMONIC RADIATION

The power of any harmonic of the radiated frequency is in all cases 50 dB below the fundamental while that of subharmonics and harmonics of the crystal frequency is more than 75 dB below fundamental.

2.7. AERIAL IMPEDANCE

The approximate limits of aerial impedance into which the transmitter can satisfactorily tune are:—

- Resistive component 50 to 2,500 ohms.
- Reactive component $\pm 1,250$ ohms.

2.8. KEYING SPEED

The transmitter can be keyed at a maximum speed of 30 bauds (40 w.p.m.). When keyed at this speed at least 96% of the total power radiated lies within ± 100 c/s of the carrier frequency.

2.9. POWER SUPPLIES

Power supply arrangements vary for each edition as shown below.

2.9.1. Type 1213A

For use with a 'Reliance' transmitter operating from either 110 volts or 220 volts D.C. mains. Heaters are supplied from 24 volts batteries. A relay is included in the cabinet assembly to change over the H.T. supply from one transmitter to the other.

2.9.2. Type 1213B

For use with type 1201A or B power unit operating from 105-250 volts, 50-60 c/s A.C. mains. Heaters may be supplied from 24 volts battery or 24 volts A.C. from a transformer in the power unit.

2.9.3. Type 1213C

For use with a separate power unit operating from 110 or 220 volts D.C. Heaters are supplied with 24 volts D.C. from a rotary transformer in the power unit.

2.9.4. Type 1213D

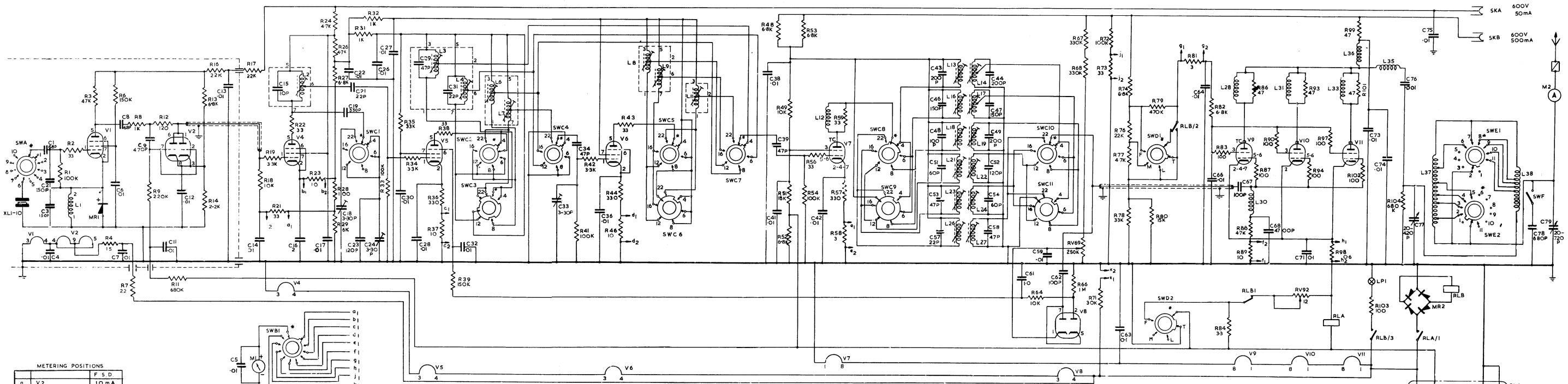
For use in conjunction with an 'Oceanspan VI or VII' from a common power unit type 1201A or B operating from 105-250 volts, 50-60 c/s A.C. mains. A relay is included in the cabinet assembly to change over supplies and control circuits from one transmitter to the other. The heaters are supplied from 24 volts A.C.

2.10. POWER CONSUMPTION

H.T. 600 volts, key down, full power	...	...	...	...	420 mA
key up	...	...	...	...	160 mA
L.T. 24 volts A.C. or D.C.	...	...	...	...	1.5 A

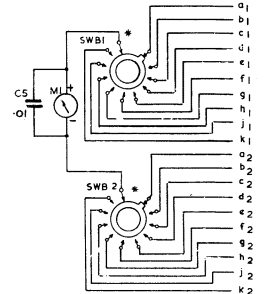
2.11. DIMENSIONS

Height	...	...	...	...	24" (61.0 cm)
Depth	...	...	...	...	12½" (31.2 cm)
Width	...	...	...	...	14½" (36.9 cm)
Weight	...	...	...	...	65 lb (29 kg)

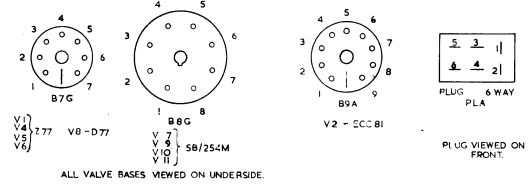


METERING POSITIONS

Letter	Value	F.S.D.
a	V2	10 mA
b	V4	30 mA
c	V5	30 mA
d	V6	30 mA
e	V7	100 mA
f	F.S. GRID	30 mA
g	F.S. SCREEN	100 mA
h	F.S. CATH	500 mA
j	HT	1000 V
k	24V	30 V



UNIT No.1.



- NOTES
1. ALL SWITCH WAFERS VIEWED FROM DRIVING END AND SHOWN IN FULLY ANTI-CLOCKWISE POSITION. (# DENOTES POSITION OF TAG 1).
 2. FOR COMPONENT SCHEDULE SEE WZ 10469A.
 3. SEE SH2 FOR POWER SUPPLIES.

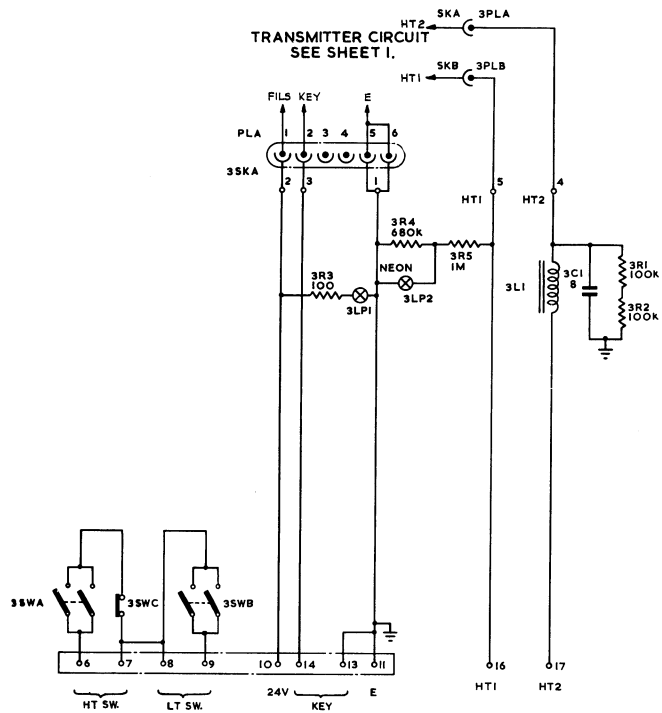


FIG. 2 UNIT No. 3 (CABINET).

SUPPLY CIRCUIT FOR TYPE 1213B TRANSMITTER
WITH TYPE 1201B POWER UNIT.
(115V 40/60 c.p.s. S.P. A.C. SUPPLY).

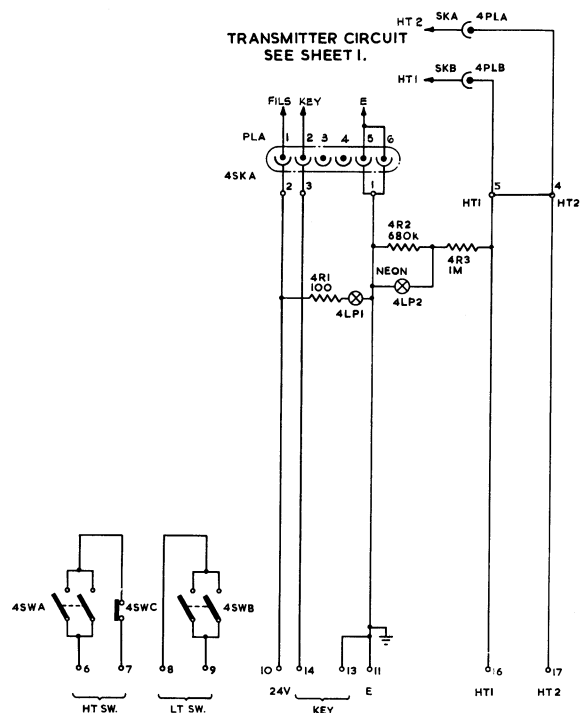


FIG. 3 UNIT No. 4 (CABINET).

SUPPLY CIRCUIT FOR TYPE 1215C TRANSMITTER
(110V OR 220V D.C. SUPPLY)

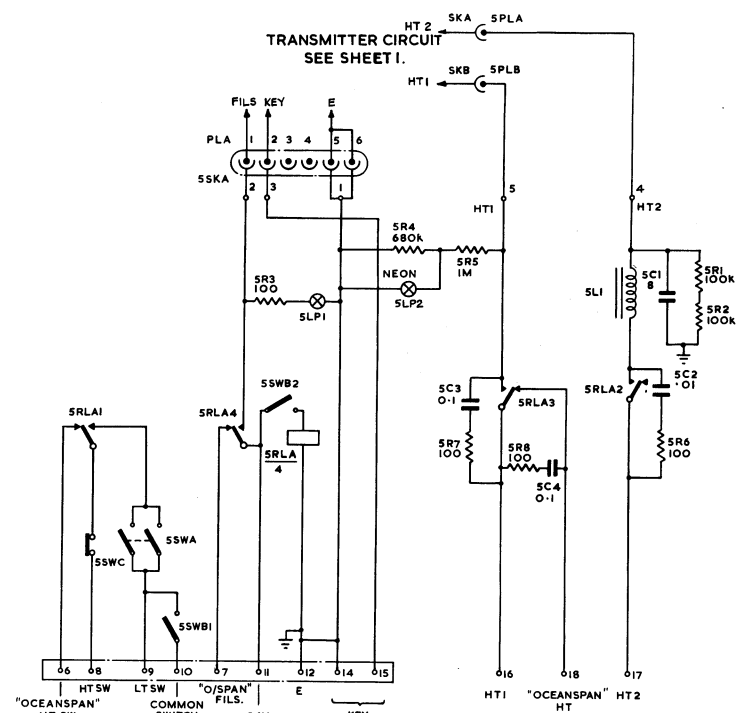


FIG. 4 UNIT No. 5 (CABINET).

SUPPLY CIRCUIT FOR TYPE 1215D TRANSMITTER
IN CONJUNCTION WITH "OCEANSPAN VI" OR "VII"
WITH COMMON TYPE 1201B POWER UNIT.
(115V 40/60 c.p.s. S.P. A.C. SUPPLY)

COMPONENT SCHEDULE

‘SEASPAN’ TRANSMITTER TYPE 1213A, B, C & D

Reference Numbers in column 2 correspond to those on circuit diagrams WZ.10969/D sheets 1 and 2 and component location WZ.10971/D sheets 1-4.

When ordering replacements quote ‘Description’, ‘Value’ and ‘Standard Identity’

Unit No. 1 is the transmitter.

Unit No. 2 is type 1213A cabinet.

Unit No. 3 is type 1213B cabinet.

Unit No. 4 is type 1213C cabinet.

Unit No. 5 is type 1213D cabinet.

Unit No.	CCT. No.	Description	Value	Standard Identity
		UNIT No. 1 TRANSMITTER		
		CAPACITORS		
1	C1	Mica, Metallised, Moulded Case	68pF. $\pm 5\%$ 750V. D.C.	PC.18802/11
1	C2	Mica, Metallised, Moulded Case	150pF. $\pm 5\%$ 750V. D.C.	PC.18802/15
1	C3	Mica, Metallised, Moulded Case	150pF. $\pm 5\%$ 750V. D.C.	PC.18802/15
1	C4	Paper, Tub. Met. Case, Insul.	·01 μ F. $\pm 20\%$ 350V. D.C.	PC.19202/9
1	C5	Paper, Tub. Met. Case, Insul.	·01 μ F. $\pm 20\%$ 350V. D.C.	PC.19202/9
1	C6	Paper, Tub. Met. Case, Insul.	·01 μ F. $\pm 20\%$ 350V. D.C.	PC.19202/9
1	C7	Paper, Tub. Met. Case, Insul.	·01 μ F. $\pm 20\%$ 350V. D.C.	PC.19202/9
1	C8	Mica, Metallised, Moulded Case	68pF. $\pm 5\%$ 750V. D.C.	PC.18802/11
1	C9	Mica Foil, Moulded Case	470pF. $\pm 20\%$ 750V. D.C.	PC.18702/4
1	C10			
1	C11	Paper, Tub. Met. Case, Insul.	·01 μ F. $\pm 20\%$ 350V. D.C.	PC.19202/9
1	C12	Paper, Tub. Met. Case, Insul.	·01 μ F. $\pm 20\%$ 350V. D.C.	PC.19202/9
1	C13	Paper, Tub. Met. Case, Insul.	·01 μ F. $\pm 20\%$ 500V. D.C.	PC.19203/14
1	C14	Paper, Tub. Met. Case, Insul.	·01 μ F. $\pm 20\%$ 350V. D.C.	PC.19202/9
1	C15	Ceramic, Tubular, Insulated	10pF. $\pm 5\%$ 500V. D.C.	PC.18201/10
1	C16	Paper Foil, Rect. Metal Case	2 μ F. $\pm 20\%$ 200V. D.C.	PC.19211/1
1	C17	Paper, Tub. Met. Case, Insul.	·01 μ F. $\pm 20\%$ 500V. D.C.	PC.19203/14
1	C18	Trimmer Air Dielectric	3 to 30pF. 75V. D.C.	PC.20001/4

Unit No.	CCT. Ref.	Description	Value	Standard Identity
1	C19	Mica, Foil, Moulded Case	330pF. $\pm 20\%$ 750V. D.C.	PC.18702/3
1	C20			
1	C21	Ceramic, Tubular, Insulated	22pF. $\pm 5\%$ 750V. D.C.	PC.18223/5
1	C22	Paper, Tub. Met. Case, Insul.	$.01\mu\text{F.} \pm 20\%$ 500V. D.C.	PC.19203/14
1	C23	Mica, Metallised Moulded Case	120pF. $\pm 5\%$ 750V. D.C.	PC.18802/14
1	C24	Trimmer, Air Dielectric	3 to 30pF. 75V. D.C.	PC.20001/4
1	C25			
1	C26	Paper, Tub. Met. Case, Insul.	$.01\mu\text{F.} \pm 20\%$ 500V. D.C.	PC.19203/14
1	C27	Paper, Tub. Met. Case, Insul.	$.01\mu\text{F.} \pm 20\%$ 500V. D.C.	PC.19203/14
1	C28	Paper, Tub. Met. Case, Insul.	$.01\mu\text{F.} \pm 20\%$ 350V. D.C.	PC.19202/9
1	C29	Mica, Metallised Moulded Case	47pF. $\pm 5\%$ 750V. D.C.	PC.18802/9
1	C30	Paper, Tub. Met. Case, Insul.	$.01\mu\text{F.} \pm 20\%$ 500V. D.C.	PC.19203/14
1	C31	Mica, Metallised, Moulded Case	22pF. $\pm 5\%$ 750V. D.C.	PC.18802/5
1	C32	Paper, Tub. Met. Case, Insul.	$.01\mu\text{F.} \pm 20\%$ 350V. D.C.	PC.19202/9
1	C33	Trimmer, Air Dielectric	3 to 30pF. 75V. D.C.	PC.20001/4
1	C34	Ceramic, Tubular Insulated	47pF. $\pm 2\%$ 750V. D.C.	PC.18223/9
1	C35			
1	C36	Paper, Tub. Met. Case, Insulated	$.01\mu\text{F.} \pm 20\%$ 350V. D.C.	PC.19202/9
1	C37			
1	C38	Paper, Tub. Met. Case, Insulated	$.01\mu\text{F.} \pm 20\%$ 500V. D.C.	PC.19203/14
1	C39	Ceramic, Tubular, Insulated	47pF. $\pm 2\%$ 750V. D.C.	PC.18223/9
1	C40			
1	C41	Paper, Tub. Met. Case, Insulated	$.01\mu\text{F.} \pm 20\%$ 500V. D.C.	PC.19203/14
1	C42	Paper, Tub. Met. Case, Insulated	$.01\mu\text{F.} \pm 20\%$ 350V. D.C.	PC.19202/9
1	C43	Silvered Ceramic, Tub., Insul.	200pF. $\pm 5\%$	WIS.7519/C Sh. 1, Ref. 5
1	C44	Silvered Ceramic, Tub., Insul.	200pF. $\pm 5\%$	WIS.7519/C Sh. 1, Ref. 5
1	C45			
1	C46	Silvered Ceramic, Tub., Insul.	150pF. $\pm 5\%$	WIS.7519/C Sh. 1, Ref. 4
1	C47	Silvered Ceramic, Tub., Insul.	150pF. $\pm 5\%$	WIS.7519/C Sh. 1, Ref. 4

Unit No.	CCT. Ref.	Description	Value	Standard Identity
1	C48	Silvered Ceramic, Tub., Insul.	100pF. $\pm 5\%$	WIS.7519/C Sh. 1, Ref. 3
1	C49	Silvered Ceramic, Tub., Insul.	200pF. $\pm 5\%$	WIS.7519/C Sh. 1, Ref. 5
1	C50	Silvered Ceramic, Tub., Insul.	60pF. $\pm 5\%$	WIS.7518/C Sh. 1, Ref. 3
1	C51			
1	C52	Silvered Ceramic, Tub., Insul.	120pF. $\pm 5\%$	WIS.7518/C Sh. 1, Ref. 2
1	C53	Silvered Ceramic, Tub., Insul.	47pF. $\pm 5\%$	WIS.7518/C Sh. 1, Ref. 1
1	C54	Silvered Ceramic, Tub., Insul.	60pF. $\pm 5\%$	WIS.7518/C Sh. 1, Ref. 3
1	C55	Silvered Ceramic, Tub., Insul.	22pF. $\pm 5\%$	WIS.7803/C Sh. 1, Ref. 1
1	C56			
1	C57			
1	C58	Silvered Ceramic, Tub., Insul.	47pF. $\pm 5\%$	WIS.7518/C Sh. 1, Ref. 1
1	C59	Paper, Tub. Met. Case, Insul.	0.01 μ F. $\pm 20\%$ 350V. D.C.	PC.19202/9
1	C60	Paper, Tub. Met. Case, Insul.	1 μ F. $\pm 25\%$ 150V. D.C.	PC.19301/4
1	C61			
1	C62	Ceramic, Tubular, Insulated	100pF. $\pm 2\%$ 750V. D.C.	PC.18223/13
1	C63	Paper, Tub. Met. Case, Insul.	0.1 μ F. $\pm 25\%$ 150V. D.C.	PC.19301/1
1	C64	Paper, Tub. Met. Case, Insul.	0.01 μ F. $\pm 20\%$ 1000V. D.C.	PC.19205/8
1	C65	Paper, Tub. Met. Case, Insul.	0.01 μ F. $\pm 20\%$ 1000V. D.C.	PC.19205/8
1	C66			
1	C67	Ceramic, Tubular, Insul.	100 μ F. $\pm 2\%$ 750V. D.C.	PC.18223/13
1	C68	Mica Foil, Moulded Case	4700pF. $\pm 20\%$ 350V. D.C.	PC.18701/3
1	C69	Paper, Tub. Met. Case, Insul.	0.1 μ F. $\pm 25\%$ 150V. D.C.	PC.19301/1
1	C70			
1	C71	Mica Foil, Moulded Case	0.01 μ F. $\pm 20\%$ 750V. D.C.	WIS.7718/B Sh. 1, Ref. 2
1	C72			
1	C73	Paper, Tub. Met. Case, Insul.	0.01 μ F. $\pm 20\%$ 1000V. D.C.	PC.19205/8
1	C74			
1	C75	Paper, Tub. Met. Case, Insul.	0.01 μ F. $\pm 20\%$ 1000V. D.C.	PC.19205/8
1	C76			
1	C77	Variable	0.001 μ F. $\pm 20\%$ 2500V. D.C. 20 to 420pF.	WIS.7496/B Sh. 1, Ref. 1 W.41398 Sh. 1, Ed. B

Unit No.	CCT. Ref.	Description	Value	Standard Identity
1	C78	Silvered Ceramic, Insul.	680pF. $\pm 5\%$ -10%	WIS.5410/C Sh. 1, Ref. 2
1	C79	Variable	20 to 720pF.	W.41398 Sh. 1, Ed. A
RESISTORS, FIXED				
1	R1	Comp., Grade 2, Insulated	100k $\Omega \pm 10\%$ $\frac{1}{4}$ W.	PC.66610/49
1	R2	Comp., Grade 2, Insulated	33 $\Omega \pm 10\%$ $\frac{1}{4}$ W.	PC.66610/7
1	R3	Comp., Grade 2, Insulated	47k $\Omega \pm 10\%$ $\frac{1}{4}$ W.	PC.66610/45
1	R4	Wirewound, Vit. Enam., Wire Terms.	15 $\Omega \pm 5\%$ $1\frac{1}{2}$ W.	PC.67007/2
1	R5			
1	R6	Comp., Grade 2, Insulated	150k $\Omega \pm 10\%$ $\frac{1}{4}$ W.	PC.66610/51
1	R7	Wirewound, Vit. Enam., Wire Terms.	22 $\Omega \pm 5\%$ 3W.	PC.67008/3
1	R8	Comp., Grade 2, Insulated	1.0k $\Omega \pm 10\%$ $\frac{1}{4}$ W.	PC.66610/25
1	R9	Comp., Grade 2, Insulated	220k $\Omega \pm 10\%$ $\frac{1}{4}$ W.	PC.66610/53
1	R10			
1	R11	Comp., Grade 2, Insulated	680k $\Omega \pm 10\%$ $\frac{1}{4}$ W.	PC.66610/59
1	R12	Comp., Grade 1, High Stability, Insul.	120 $\Omega \pm 5\%$ $\frac{1}{8}$ W.	PC.66601/2
1	R13	Wirewound, Vit. Enam., Wire Terms.	6.8k $\Omega \pm 5\%$ 3W.	PC.67008/18
1	R14	Wirewound, Vit. Enam., Wire Terms.	2.2k $\Omega \pm 5\%$ $1\frac{1}{2}$ W.	PC.67007/15
1	R15			
1	R16	Wirewound, Vit. Enam., Wire Terms.	22k $\Omega \pm 5\%$ 6W.	PC.67010/21
1	R17	Wirewound, Vit. Enam., Wire Terms.	22k $\Omega \pm 5\%$ 6W.	PC.67010/21
1	R18	Comp., Grade 2, Insulated	10k $\Omega \pm 10\%$ $\frac{1}{2}$ W.	PC.66611/37
1	R19	Comp., Grade 2, Insulated	3.3k $\Omega \pm 10\%$ $\frac{1}{4}$ W.	PC.66610/31
1	R20			
1	R21	Wirewound, Vit. Enam., Wire Terms.	33 $\Omega \pm 5\%$ $1\frac{1}{2}$ W.	PC.67007/4
1	R22	Comp., Grade 2, Insulated	33 $\Omega \pm 10\%$ $\frac{1}{4}$ W.	PC.66610/7
1	R23	Wirewound, Vit. Enam., Wire Terms.	10 $\Omega \pm 5\%$ $1\frac{1}{2}$ W.	PC.67007/1
1	R24	Wirewound, Vit. Enam., Wire Terms.	4.7k $\Omega \pm 5\%$ 10W.	PC.67011/17
1	R25			

Unit No.	CCT. Ref.	Description	Value	Standard Identity
1	R26	Wirewound, Vit. Enam., Wire Terms.	4.7k Ω \pm 5% 10W.	PC.67011/17
1	R27	Wirewound, Vit. Enam., Wire Terms.	6.8k Ω \pm 5% 4½W.	PC.67009/18
1	R28	Comp. Grade 2, Insulated	100 Ω \pm 10% ¼W.	PC.66610/13
1	R29	Wirewound, Vit. Enam., Wire Terms.	6k Ω \pm 5% 7W.	WIS.7804/B Sh. 1, Ref. 1
1	R30			
1	R31	Comp., Grade, 2 Insulated	1k Ω \pm 10% ¼W.	PC.66610/25
1	R32	Comp., Grade 2, Insulated	1k Ω \pm 10% ¼W.	PC.66610/25
1	R33	Comp., Grade 2, Insulated	100k Ω \pm 10% ¼W.	PC.66610/49
1	R34	Comp., Grade 2, Insulated	3.3k Ω \pm 10% ¼W.	PC.66610/31
1	R35	Comp., Grade 2, Insulated	33k Ω \pm 10% ½W.	PC.66611/43
1	R36	Comp., Grade 2, Insulated	330 Ω \pm 10% ¼W.	PC.66610/19
1	R37	Wirewound, Vit. Enam., Wire Terms.	10 Ω \pm 5% 1½W.	PC.67007/1
1	R38	Comp., Grade 2, Insulated	33 Ω \pm 10% ¼W.	PC.66610/7
1	R39	Comp., Grade 2, Insulated	150k Ω \pm 10% ¼W.	PC.66610/51
1	R40			
1	R41	Comp., Grade 2, Insulated	100k Ω \pm 10% ¼W.	PC.66610/49
1	R42	Comp., Grade 2, Insulated	3.3k Ω \pm 10% ¼W.	PC.66610/31
1	R43	Comp., Grade 2, Insulated	33 Ω \pm 10% ¼W.	PC.66610/7
1	R44	Comp., Grade 2, Insulated	330 Ω \pm 10% ¼W.	PC.66610/19
1	R45			
1	R46	Wirewound, Vit. Enam., Wire Terms.	10 Ω \pm 5% 1½W.	PC.67007/1
1	R47			
1	R48	Wirewound, Vit. Enam., Wire Terms.	6.8k Ω \pm 5% 10W.	PC.67011/18
1	R49	Wirewound, Vit. Enam., Wire Terms.	10k Ω \pm 5% 3W.	PC.67008/19
1	R50			
1	R51	Wirewound, Vit. Enam., Wire Terms.	18k Ω \pm 5% 10W.	WIS. 7805/B Sh. 1, Ref. 1
1	R52	Wirewound, Vit. Enam., Wire Terms.	6.8k Ω \pm 5% 3W.	PC.67008/18
1	R53	Wirewound, Vit. Enam., Wire Terms.	6.8k Ω \pm 5% 10W.	PC.67011/18
1	R54	Comp., Grade, 2 Insulated	100k Ω \pm 10% ¼W.	PC.66610/49

Unit No.	CCT. Ref.	Description	Value	Standard Identity
1	R55			
1	R56	Comp., Grade 2, Insulated	33 Ω \pm 10% $\frac{1}{4}$ W.	PC.66610/7
1	R57	Comp., Grade 2, Insulated	330 Ω \pm 10% $\frac{1}{4}$ W.	PC.66610/19
1	R58	Wirewound, Vit. Enam., Wire Terms.	3 Ω \pm 5% 3W.	WIS.7417/B Sh. 1, Ref. 6
1	R59	Comp., Grade 2, Insulated	33 Ω \pm 10% $\frac{1}{4}$ W.	PC.66610/7
1	R60			
1	R61			
1	R62			
1	R63			
1	R64	Comp., Grade 2, Insulated	10k Ω \pm 10% $\frac{1}{4}$ W.	PC.66610/37
1	R65			
1	R66	Comp., Grade 2, Insulated	1M Ω \pm 10% $\frac{1}{4}$ W.	PC.66610/61
1	R67	Comp., Grade 2, Insulated	330k Ω \pm 10% $\frac{1}{2}$ W.	PC.66611/55
1	R68	Comp., Grade 2, Insulated	330k Ω \pm 10% $\frac{1}{2}$ W.	PC.66611/55
1	RV69	Potentiometer, Comp., Linear	250k Ω \pm 20% 1/10W.	PC.67201/30
1	R70			
1	R71	Comp., High Stability, Non-Insul.	30k Ω \pm 5% $\frac{1}{4}$ W.	WIS.7314/B Sh. 1, Ref. 42
1	R72	Wirewound, Vit. Enam., Wire Terms.	100k Ω \pm 5% 6W.	PC.67010/25
1	R73	Wirewound, Vit. Enam., Wire Terms.	33 Ω \pm 5% 1 $\frac{1}{2}$ W.	PC.67007/4
1	R74	Wirewound, Vit. Enam., Wire Terms.	6.8k Ω \pm 5% 6W.	PC.67010/18
1	R75			
1	R66	Wirewound, Vit. Enam., Wire Terms.	22k Ω \pm 5% 6W.	PC.67010/21
1	R77	Wirewound, Vit. Enam., Wire Terms.	4.7k Ω \pm 5% 3W.	PC.67008/17
1	R78	Wirewound, Vit. Enam., Wire Terms.	3.3k Ω \pm 5% 1 $\frac{1}{2}$ W.	PC.67007/16
1	R79	Comp., Grade 2, Insulated	470k Ω \pm 10% 1W.	PC.66612/51
1	R80	Comp., Grade 2, Insulated	15k Ω \pm 10% $\frac{1}{2}$ W.	PC.66611/39
1	R81	Wirewound, Vit. Enam. Wire Terms.	3 Ω \pm 5% 3W.	WIS.7417/B Sh. 1 Ref. 6
1	R82	Wirewound, Vit. Enam., Wire Terms.	6.8k Ω \pm 5% 6W.	PC.67010/18
1	R83	Comp., Grade 2, Insulated	100 Ω \pm 10% $\frac{1}{4}$ W.	PC.66610/13
1	R84	Wirewound, Vit. Enam., Wire Terms.	3.3 Ω \pm 5% 3W.	PC.67008/22
1	R85			

Unit No.	CCT. Ref.	Description	Value	Standard Identity
1	R86	Comp. Grade 2, Insulated	47 Ω \pm 10% $\frac{1}{2}$ W.	PC.66611/9
1	R87	Comp., Grade 2, Insulated	100 Ω \pm 10% $\frac{1}{2}$ W.	PC.66611/13
1	R88	Comp., Grade 2, Insulated	4.7k Ω \pm 10% $\frac{1}{2}$ W.	PC.66611/33
1	R89	Wirewound, Vit. Enam., Wire Terms.	10 Ω \pm 5% $\frac{1}{2}$ W.	PC.67007/1
1	R90	Comp., Grade 2, Insulated	100 Ω \pm 10% $\frac{1}{4}$ W.	PC.66610/13
1	R91			
1	RV92	Potentiometer, W/W, Linear	12 Ω \pm 5% 2W.	WIS.4101/C Sh. 1, Ref. 18
1	R93	Comp., Grade 2, Insulated	47 Ω \pm 10% $\frac{1}{2}$ W.	PC.66611/9
1	R94	Comp., Grade 2, Insulated	100 Ω \pm 10% $\frac{1}{2}$ W.	PC.66611/13
1	R95			
1	R96			
1	R97	Comp., Grade 2, Insulated	100 Ω \pm 10% $\frac{1}{4}$ W.	PC.66610/13
1	R98	Wirewound, Vit. Enam., Wire Terms.	0.6 Ω \pm 5% 3W.	WIS.7384/C Sh. 1, Ref. 12
1	R99	Wirewound, Vit. Enam., Wire Terms.	47 Ω \pm 5% 4 $\frac{1}{2}$ W.	PC.67009/5
1	R100			
1	R101	Comp., Grade 2, Insulated	47 Ω \pm 10% $\frac{1}{2}$ W.	PC.66611/9
1	R102	Comp., Grade 2, Insulated	100 Ω \pm 10% $\frac{1}{2}$ W.	PC.66611/13
1	R103	Wirewound, Vit. Enam., Wire Terms.	100 Ω \pm 5% 3W.	PC.67008/7
1	R104	Comp. Grade 2, Insulated	680k Ω \pm 10% $\frac{3}{4}$ W.	PC.66612/53
		INDUCTORS		
1	L1	Choke R.F.	2.2mH	W.41193/B Sh. 2
1	L2	2 - 4 Mc/s	31 - 66 μ H	W.26958/B Sh. 200
1	L3	4 Mc/s	14 - 27 μ H	W.26958/B Sh. 202
1	L4	6 Mc/s	9.5 - 19 μ H	W.26958/B Sh. 201
1	L5			
1	L6	8 Mc/s	9.5 - 19 μ H	W.26958/B Sh. 204
1	L7	11 Mc/s	5.4 - 10.3 μ H	W.26958/B Sh. 203
1	L8	12 Mc/s	5.2 - 10.3 μ H	W.26958/B Sh. 205
1	L9	16 Mc/s	2.9 - 5.7 μ H	W.26958/B Sh. 206

Unit No.	CCT. Ref.	Description	Value	Standard Identity
1	L10			
1	L11	22 Mc/s	1.95 - 3.85 μ H	W.26958/B Sh. 207
1	L12	Anti-Squegger		W.43234/C Sh. 1, Ref. 4
1	L13	4 Mc/s	5 - 7.1 μ H	W.42925/B Sh. 1, Ed. A
1	L14	4 Mc/s	5 - 7.1 μ H	W.42925/B Sh. 1, Ed. B
1	L15			
1	L16	6 Mc/s	3.05 - 4.1 μ H	W.42925/B Sh. 1, Ed. C
1	L17	6 Mc/s	3.06 - 4.1 μ H	W.42925/B Sh. 1, Ed. D
1	L18	8 Mc/s	2.2 - 3.1 μ H	W.42925/B Sh. 1, Ed. E
1	L19	8 Mc/s	1.23 - 1.62 μ H	W.42929/B Sh. 1, Ed. F
1	L20			
1	L21	12 Mc/s	1.61 - 2.13 μ H	W.42925/B Sh. 1, Ed. G
1	L22	12 Mc/s	0.7 - 0.96 μ H	W.42925/B Sh. 1, Ed. H
1	L23	16 Mc/s	1.03 - 1.3 μ H	W.42925/B Sh. 1, Ed. J
1	L24	16 Mc/s	0.55 - 0.68 μ H	W.42925/B Sh. 1, Ed. K
1	L25			
1	L26	22 Mc/s	0.86 - 1.08 μ H	W.42925/B Sh. 1, Ed. L
1	L27	22 Mc/s	0.38 - 0.45 μ H	W.42925/B Sh. 1, Ed. M
1	L28	Anti-Squegger		2/W.43392/C
1	L29			
1	L30	Choke R.F.	2.2mH	W.41193/B Sh. 2
1	L31	Anti-Squegger		2/W.43392/C
1	L32			
1	L33	Anti-Squegger		2/W.43392/C
1	L34			
1	L35	Inductor		13/W.41399/C
1	L36	Choke R.F.	1000 μ H	W.41348/C Sh. 1, Ed. A
1	L37	Inductor	11.5 μ H	W.43243/B Sh. 1, Ed. A
1	L38	Inductor	3.5 μ H	W.43244/B Sh. 1, Ed. A
		CRYSTALS		
1	XL1 - XL10	Type QO1663A (10XJ) Frequency as required. Spec. WZ.12919/C, Sh. 3.		

Unit No.	CCT. Ref.	Description	Value	Standard Identity
		SWITCHES		
1	SWA1	Rotary		WIS.5555/C
1	SWB1-2	Rotary		Sh. 20 WIS.5555/C
1	SWC1-11	Rotary		Sh. 29 WIS.5810/C
1	SWD1-2	Rotary		Sh. 1 WIS.5810/C
1	SWE1-2	Rotary		Sh. 2 WIS.5895/B Sh. 1
		VALVES		
1	V1	Z77		
1	V2	ECC81		
1	V3			
1	V4	Z77		
1	V5	Z77		
1	V6	Z77		
1	V7	5B/254M		
1	V8	D77		
1	V9	5B/254M		
1	V10	5B/254M		
1	V11	5B/254M		
		MISCELLANEOUS ELECTRICAL ITEMS		
1	LP1	Lamp E10, Clear, 16V. 3.2W.		PC.48701/6
1	M1	Milliammeter, 0-1mA FSD		WIS.3954/B
1	M2	Ammeter, 0-3A, FSD		Sh. 4, Ref. 30A WIS.3954/B
1	MR1	Rectifier, Germanium		Sh. 23, Ref. 185A WIS 4703/B
1	MR2	Rectifier		
1	PLA	Plug, 6 Way		Sh. 6, Ref. 25 WIS.3737/C
1	RLA	Relay, High Speed, Non-Polarised		Sh. 1, Ref. 7 PC.65201/2
1	RLB	Relay, K3000		
1	SKA	Socket, Co-axial		WIS.1829 Sh. 34, Ref. 468
1	SKB	Socket, Co-axial		WIS.4552/C Sh. 1, Ref. 3 WIS.4552/C Sh. 1, Ref. 3
		MISCELLANEOUS MECHANICAL ITEMS		
1	1	Valveholder B7G. For V1, V4, V5, V6 & V8		PC.81811/1
1	2	Valveholder B9A. For V2		
1	3	Valveholder B8G. For V7, V9, V10 & V11		PC.81816/1 PC.81813/1

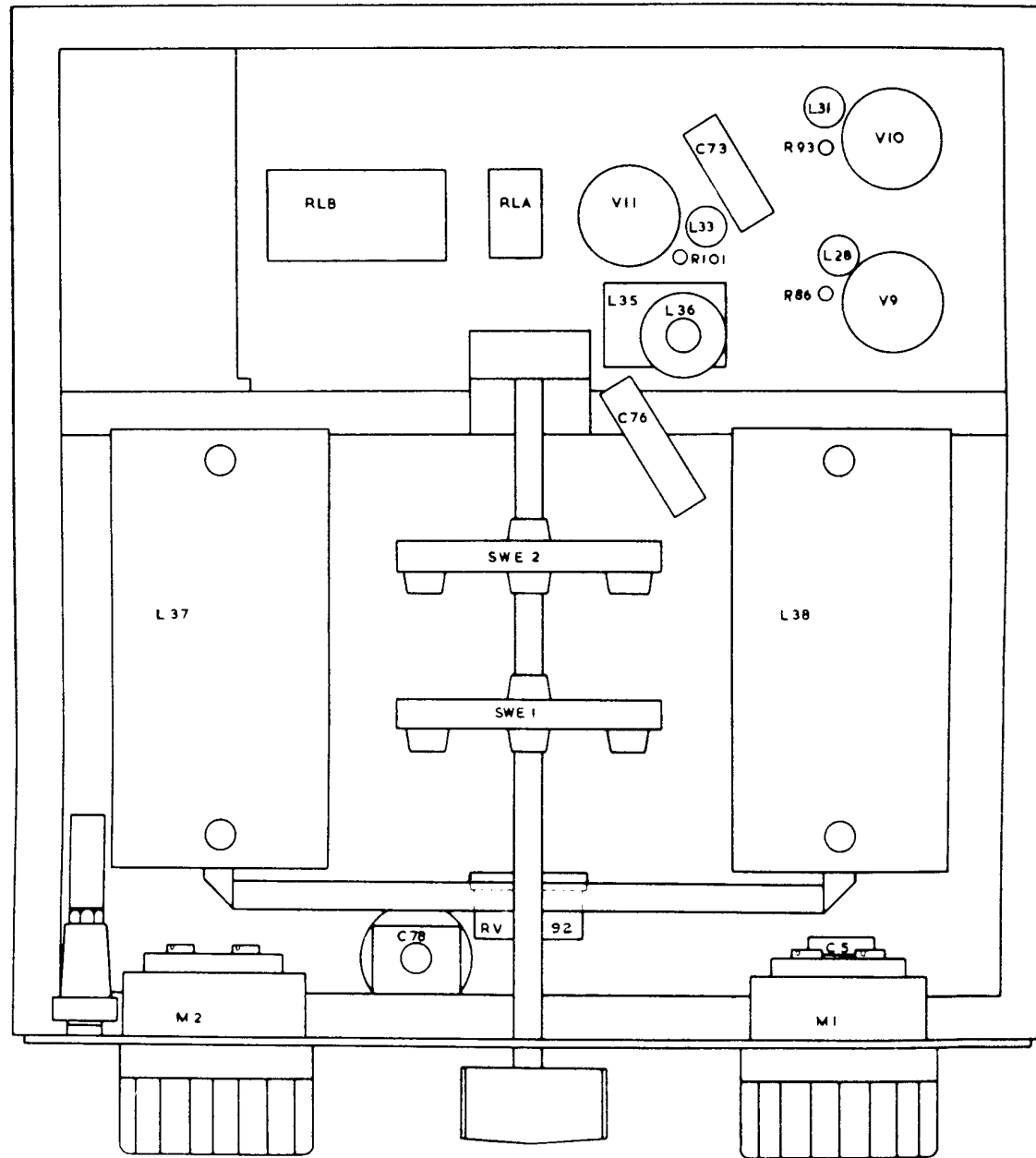
Unit No.	CCT. Ref.	Description	Value	Standard Identity
1	4	Lampholder. For LP1		W.19348/B Sh. 1, Ed. L
1	5	Handle. For SWA, B, C & E		WSK.15139 Sh. 1
1	6	Handle. For C77 & C79		WCP.938
1	7	Top Cap. For V9, V10 & V11		W.43392/C Sh. 1., Ed A
1	8	Top Cap. For V7		PC.24516/1
1	9	Can, Screening B7G. For V1, V4, V5, V6 & V8		PC.17501/2
1	10	Can, Screening B9A. For V2		PC.17502/2
1	11	Retainer, Valve. For V7		WIS.3701/C Sh. 1, Ref. 6
1	12	Cover, Relay. For RLB		PC.66001/1
1	13	Lens, Amber. For LP1		WIS.4065/C Sh. 1, Ref. 11
UNIT No. 2 TYPE 1213A TRANSMITTER (CABINET)				
CAPACITORS				
2	C1	Paper, Tub. Met. Case, Insul.	1.0 μ F. \pm 20% 350V. D.C.	PC.19202/20
2	C2	Paper, Tub. Met. Case, Insul.	1.0 μ F. \pm 20% 350V. DC.	PC.19202/20
2	C3	Paper, Tub. Met. Case, Insul.	1.0 μ F. \pm 20% 350V. D.C.	PC.19202/20
2	C4	Paper, Tub. Met. Case, Insul.	1.0 μ F. \pm 20% 350V. D.C.	PC.19202/20
2	C5	Paper, Tub. Met. Case, Insul.	0.1 μ F. \pm 20% 1000V. D.C.	PC.19205/10
2	C6	Paper, Tub. Met. Case, Insul.	0.1 μ F. \pm 20% 1000V. D.C.	PC.19205/10
RESISTORS, FIXED				
2	R1	Comp., Grade 2, Insulated	100 Ω \pm 10% $\frac{1}{2}$ W.	PC.66611/13
2	R2	Comp., Grade 2, Insulated	100 Ω \pm 10% $\frac{1}{2}$ W.	PC.66611/13
2	R3	Wirewound, Vit. Enam., Wire Terms.	100 Ω \pm 5% 3W.	PC.67008/7
2	R4	Comp., Grade 2, Insulated	680k Ω \pm 10% $\frac{1}{2}$ W.	PC.66611/59
2	R5	Comp., Grade 2, Insulated	1M Ω \pm 10% $\frac{1}{2}$ W.	PC.66611/61
SWITCHES				
2	SWA1-2	2 Pole On-Off	10A.	PC.71304/1
2	SWB1-2	2 Pole On-Off	10A.	PC.71304/1
2	SWC	Micro Switch		WIS.1675 Sh. 1, Ref. 3

Unit No.	CCT. Ref.	Description	Value	Standard Identity
MISCELLANEOUS ELECTRICAL ITEMS				
2	FS1	Fuse, Cartridge	7.5A.	WIS.3117 Sh. 1, Ref. 1
2	FS2	Fuse, Cartridge	7.5A.	WIS.3117 Sh. 1, Ref. 1
2	FS3	Fuse, Cartridge	7.5A.	WIS.3117 Sh. 1, Ref. 1
2	LP1	Lamp, E10, Clear, 16V., 3-2W.		PC.48701/6
2	LP2	Lamp, Neon, 0-2W.		PC.47802/1
2	PLA	Plug, Co-axial		WIS.4552/C Sh. 1, Ref. 2
2	PLB	Plug, Co-axial		WIS.4552/C Sh. 1, Ref. 2
2	RLA	Relay		WIS.5945/C Sh. 1, Ref. 7
2	SKA	Socket, 6 Pin		WIS.3727/C Sh. 1, Ref. 7
MISCELLANEOUS MECHANICAL ITEMS				
2	1	Lampholder. For LP1		W.19348/B Sh. 1, Ed. L
2	2	Lampholder. For LP2		W.19347/B Sh. 1, Ed. B
2	3	Lens, Amber. For LP1		WIS.4065/C Sh. 1, Ref. 11
2	4	Lens, Clear. For LP2		WIS.4065/C Sh. 1, Ref. 5
2	5	Insulator		1/WIS.1067 Sh. 1
2	6	Fuseholder		WIS.4154/C Sh. 1, Ref. 1
UNIT No. 3 TYPE 1213B TRANSMITTER (CABINET)				
CAPACITORS				
3	C1	Paper, Rect. Metal Case	8.0 μ F. \pm 20% 800V. D.C.	PC.19213/4
RESISTORS, FIXED				
3	R1	Comp., Grade 2, Insulated	100k Ω \pm 10% $\frac{3}{4}$ W.	PC.66612/43
3	R2	Comp., Grade 2, Insulated	100k Ω \pm 10% $\frac{3}{4}$ W.	PC.66612/43
3	R3	Wirewound, Vit. Enam., Wire Terms.	100 Ω \pm 5% 3W.	PC.67008/7
3	R4	Comp., Grade 2, Insulated	680k Ω \pm 10% $\frac{1}{2}$ W.	PC.66611/59
3	R5	Comp. Grade 2,, Insulated	1M Ω \pm 10% $\frac{1}{2}$ W.	PC.66611/61

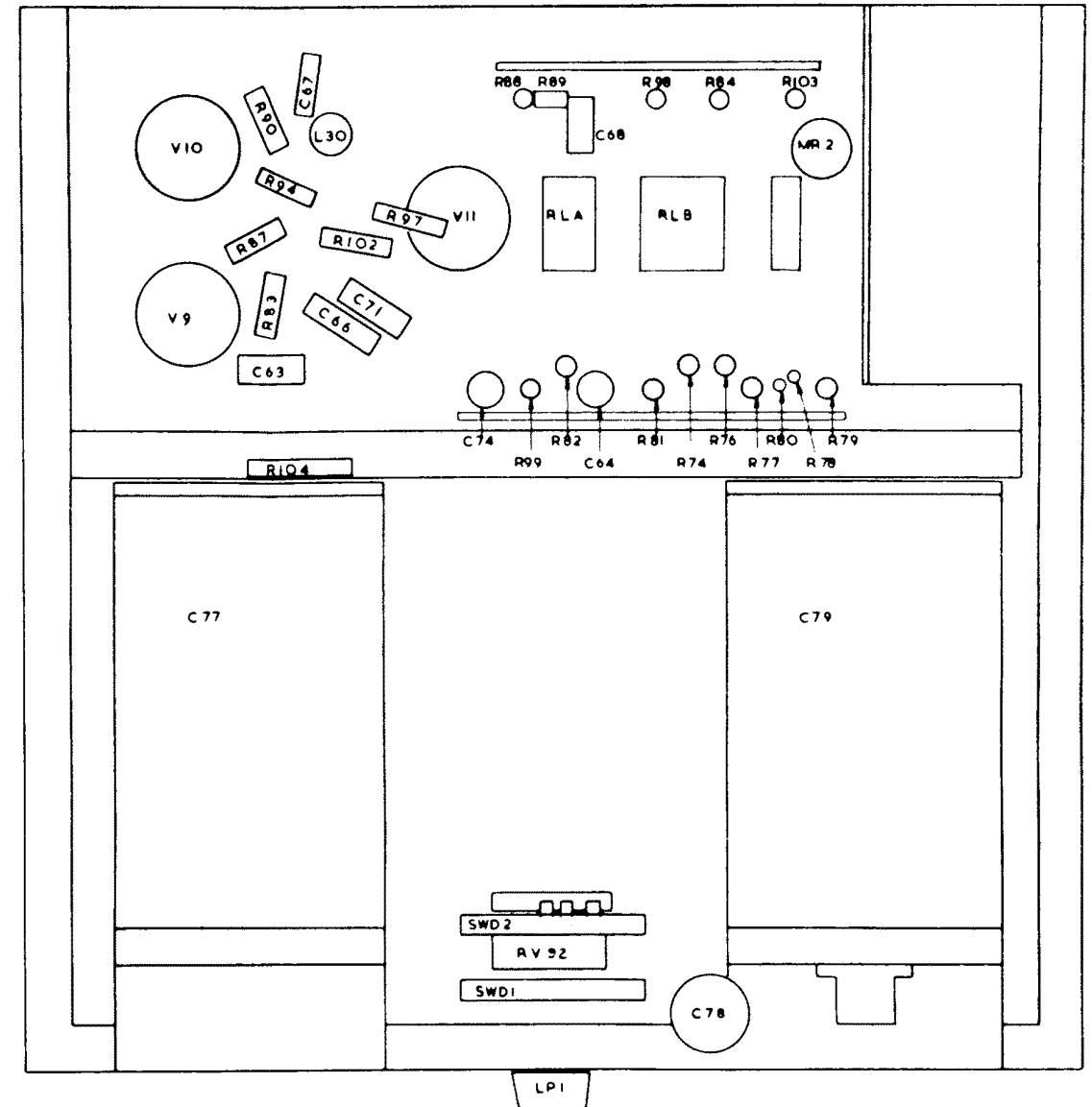
Unit No.	CCT. Ref.	Description	Value	Standard Identity
SWITCHES				
3	SWA	2 Pole On-Off	10A.	PC.71304/1
3	SWB	2 Pole On-Off	10A.	PC.71304/1
3	SWC	Micro Switch		WIS.1675 Sh. 1, Ref. 3
MISCELLANEOUS ELECTRICAL ITEMS				
3	L1	Choke, Smoothing	35H 60mA.	WIS.5698/C Sh. 12
3	LP1	Lamp, E10, Clear, 16V. 3·2W.		PC.48701/6
3	LP2	Lamp, Neon, 0·2W.		PC.48702/1
3	PLA	Plug, Co-axial		WIS.4552/C Sh. 1, Ref. 2
3	PLB	Plug, Co-axial		WIS.4552/C Sh. 1, Ref. 2
3	SKA	Socket, 6 Pin		WIS.3727/C Sh. 1, Ref. 7
MISCELLANEOUS MECHANICAL ITEMS				
3	1	Lampholder. For LP1		W.19348/B Sh. 1, Ed. L
3	2	Lampholder. For LP2		W.19347/B Sh. 1, Ed. B
3	3	Lens, Amber. For LP1		WIS.4065/C Sh. 1, Ref. 11
3	4	Lens, Clear. For LP2		WIS.4065/C Sh. 1, Ref. 5
3	5	Insulator		1/WIS.1067 Sh. 1
UNIT No. 4 TYPE 1213C TRANSMITTER (CABINET)				
RESISTORS, FIXED				
4	R1	Wirewound, Vit. Enam., Wire Terms.	100 Ω \pm 5% 3W.	PC.67008/7
4	R2	Comp., Grade 2, Insulated	680k Ω \pm 10% $\frac{1}{2}$ W.	PC.66611/59
4	R3	Comp., Grade 2, Insulated	1M Ω \pm 10% $\frac{1}{2}$ W.	PC.66611/61
SWITCHES				
4	SWA	2 Pole On-Off	10A.	PC.71304/1
4	SWB	2 Pole On-Off	10A.	PC.71304/1
4	SWC	Micro Switch		WIS.1675 Sh. 1, Ref. 3
MISCELLANEOUS ELECTRICAL ITEMS				
4	LP1	Lamp, E10, Clear, 16V. 3·2W.		PC.48701/6
4	LP2	Lamp, Neon, 0·2W.		PC.48702/1
4	PLA	Plug, Co-axial		WIS.4552/C Sh. 1, Ref. 2

Unit No.	CCT. Ref.	Description	Value	Standard Identity
4	PLB	Plug, Co-axial		WIS.4552/C Sh. 1, Ref. 2
4	SKA	Socket, 6 Pin		WIS.3727/C Sh. 1, Ref. 7
MISCELLANEOUS MECHANICAL ITEMS				
4	1	Lampholder. For LP1		WIS.19348/B Sh. 1, Ed. L
4	2	Lampholder. For LP2		W.19347/B Sh. 1, Ed. B
4	3	Lens, Amber. For LP1		WIS.4065/C Sh. 1, Ref. 11
4	4	Lens, Clear. For LP2		WIS.4065/C Sh. 1, Ref. 5
4	5	Insulator		1/WIS.1067 Sh. 1
UNIT No. 5 TYPE 1213D TRANSMITTER (CABINET)				
CAPACITORS				
5	C1	Paper, Rectangular Met. Case	8·0 μ F. \pm 20% 800V. D.C.	PC.19213/4
5	C2	Paper, Tub. Met. Case, Insul.	·01 μ F. \pm 20% 1000V. D.C.	PC.19205/8
5	C3	Paper, Tub. Met. Case, Insul.	0·1 μ F. \pm 20% 1000V. D.C.	PC.19205/10
5	C4	Paper, Tub. Met. Case, Insul.	0·1 μ F. \pm 20% 1000V. D.C.	PC.19205/10
RESISTORS, FIXED				
5	R1	Comp., Grade 2, Insulated	100k Ω \pm 10% $\frac{3}{4}$ W.	PC.66612/43
5	R2	Comp., Grade 2, Insulated	100k Ω \pm 10% $\frac{3}{4}$ W.	PC.66612/43
5	R3	Wirewound, Vit. Enam., Wire Terms.	100 Ω \pm 5% 3W.	PC.67008/7
5	R4	Comp., Grade 2, Insulated	680k Ω \pm 10% $\frac{1}{2}$ W.	PC.66611/59
5	R5	Comp., Grade 2, Insulated	1M Ω \pm 10% $\frac{1}{2}$ W.	PC.66611/61
5	R6	Comp., Grade 2, Insulated	100 Ω \pm 10% $\frac{1}{2}$ W.	PC.66611/13
5	R7	Comp., Grade 2, Insulated	100 Ω \pm 10% $\frac{1}{2}$ W.	PC.66611/13
5	R8	Comp., Grade 2, Insulated	100 Ω \pm 10% $\frac{1}{2}$ W.	PC.66611/13
SWITCHES				
5	SWA	2 Pole On-Off	10A.	PC.71304/1
5	SWB	2 Pole On-Off	10A.	PC.71304/1
5	SWC	Micro Switch		WIS.1675 Sh. 1, Ref. 3

Unit No.	CCT. Ref.	Description	Value	Standard Identity
		MISCELLANEOUS ELECTRICAL ITEMS		
5	L1	Choke, Smoothing	35H. 60mA.	WIS.5698/C Sh. 12
5	LP1	Lamp, E10, Clear, 16V. 3·2W.		PC.48701/6
5	LP2	Lamp, Neon, 0·2W.		PC.48702/1
5	PLA	Plug, Co-axial		WIS.4552/C Sh. 1, Ref. 2
5	RLA	Relay		WIS.5945/C Sh. 1, Ref. 7
5	SKA	Socket, 6 Pin		WIS.3727/C Sh. 1, Ref. 7
5	PLB	Plug, Co-axial		WIS.4552/C Sh. 1, Ref. 2
		MISCELLANEOUS MECHANICAL ITEMS		
5	1	Lampholder. For LP1		W.19348/B Sh. 1, Ed. L
5	2	Lampholder. For LP2		W.19347 Sh. 1, Ed. B
5	3	Lens, Amber. For LP1		WIS.4065/C Sh. 1, Ref. 11
5	4	Lens, Clear. For LP2		WIS.4065/C Sh. 1, Ref. 5
5	5	Insulator		1/WIS.1067 Sh. 1



PLAN VIEW.

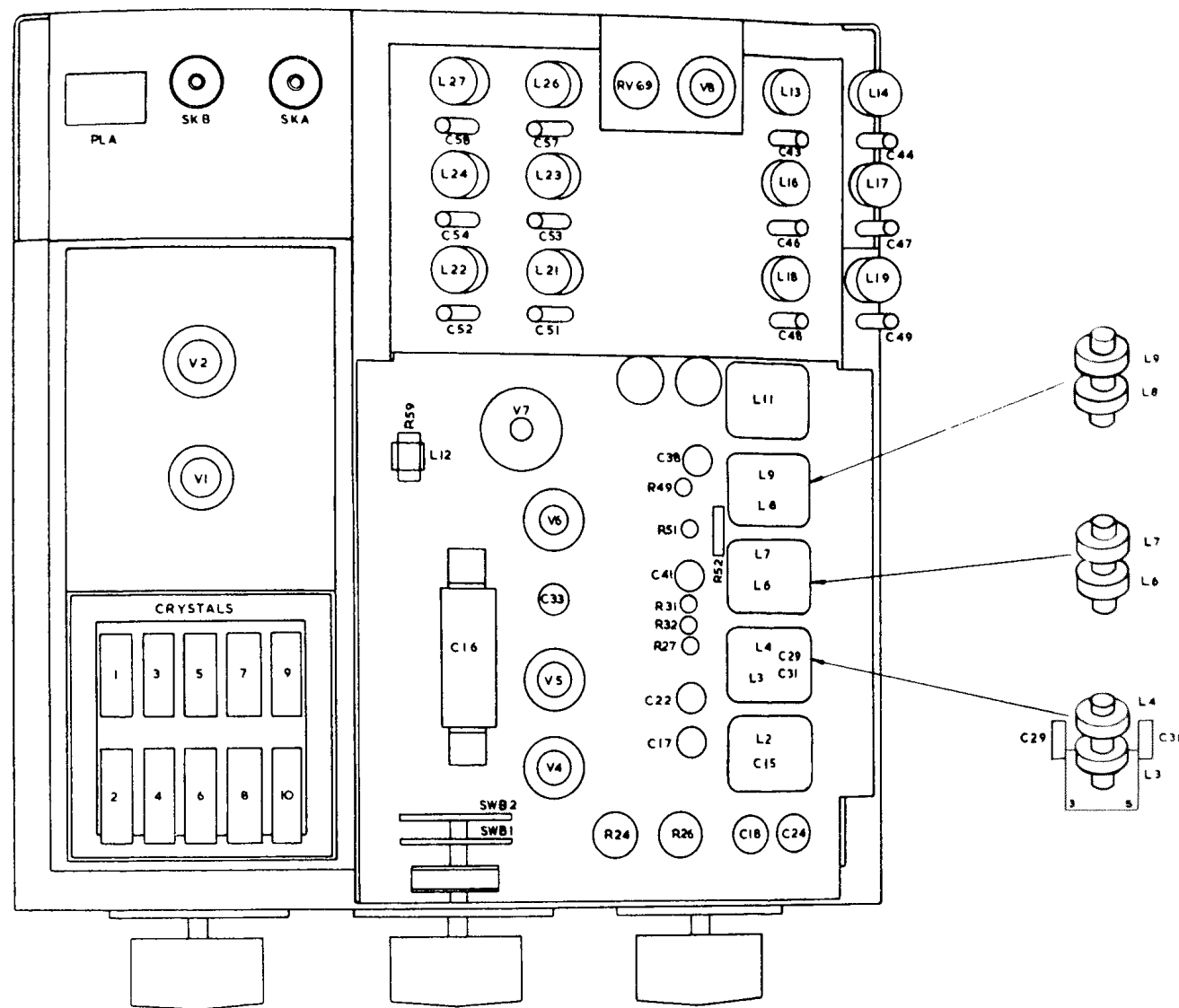


UNDERPLAN VIEW.

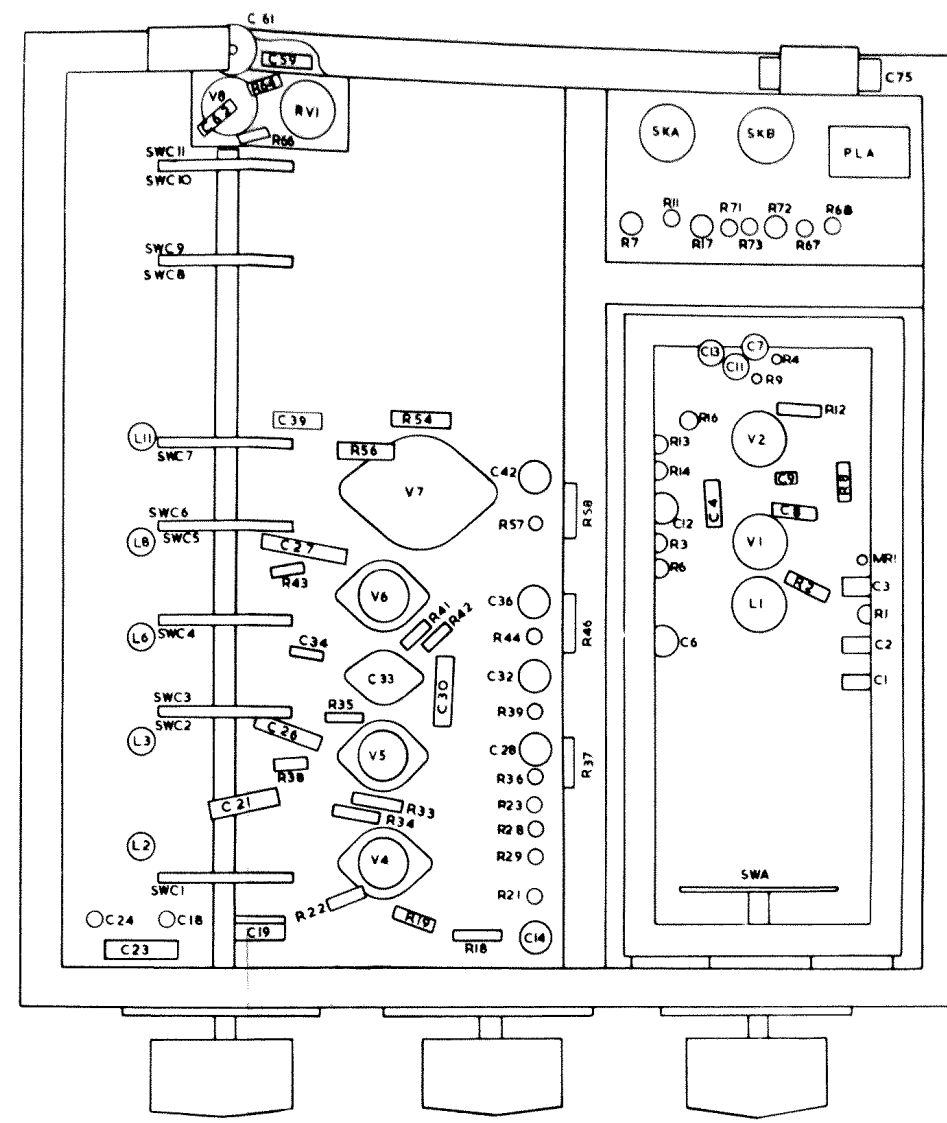
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Sheet No. 1

COMPONENT LOCATION
UPPER FRAME

WZ.10971/D



PLAN VIEW

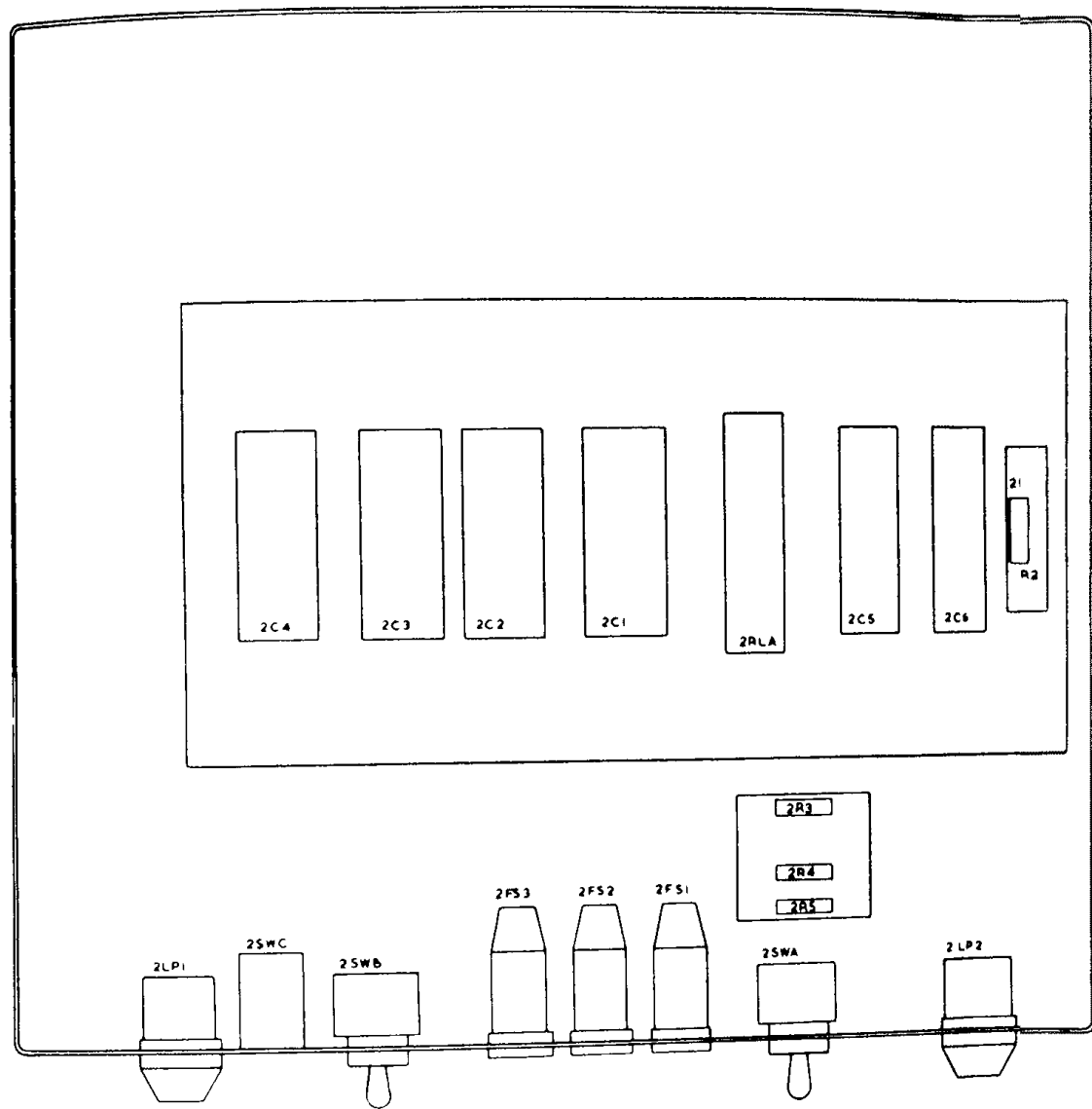


UNDERPLAN VIEW

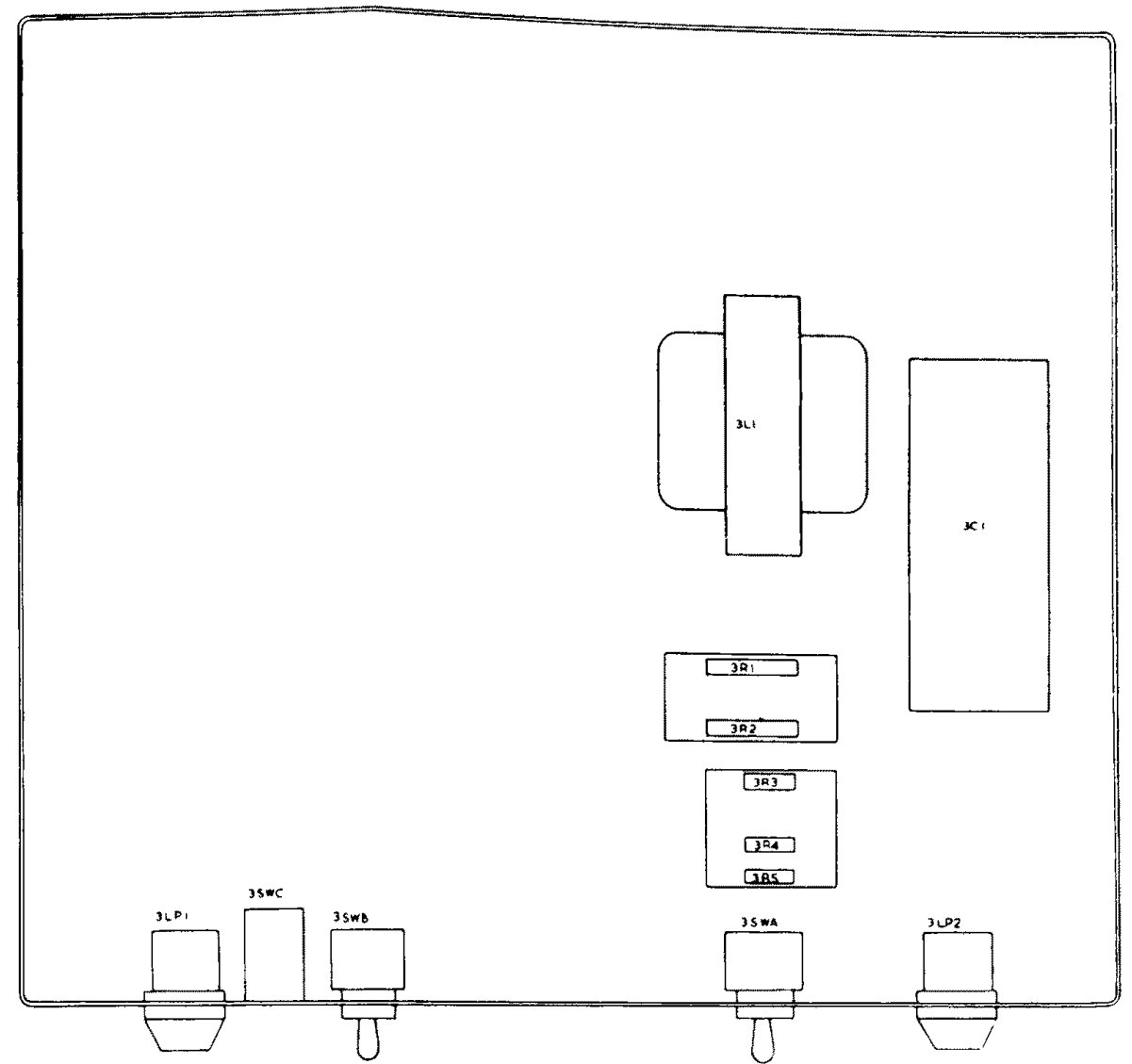
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Sheet No 2

COMPONENT LOCATION
LOWER FRAME

WZ.10971/D



TYPE 1213A

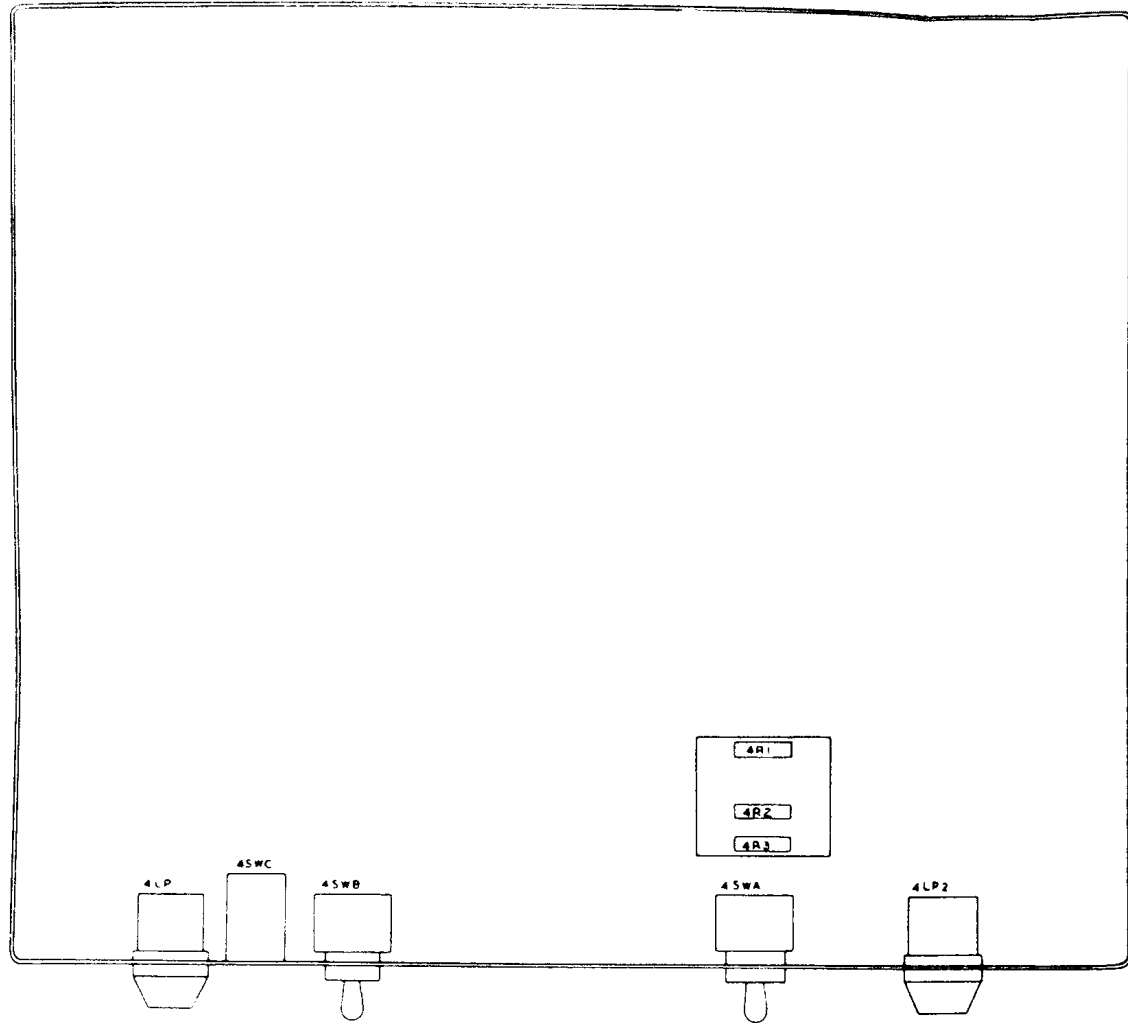


TYPE 1213B

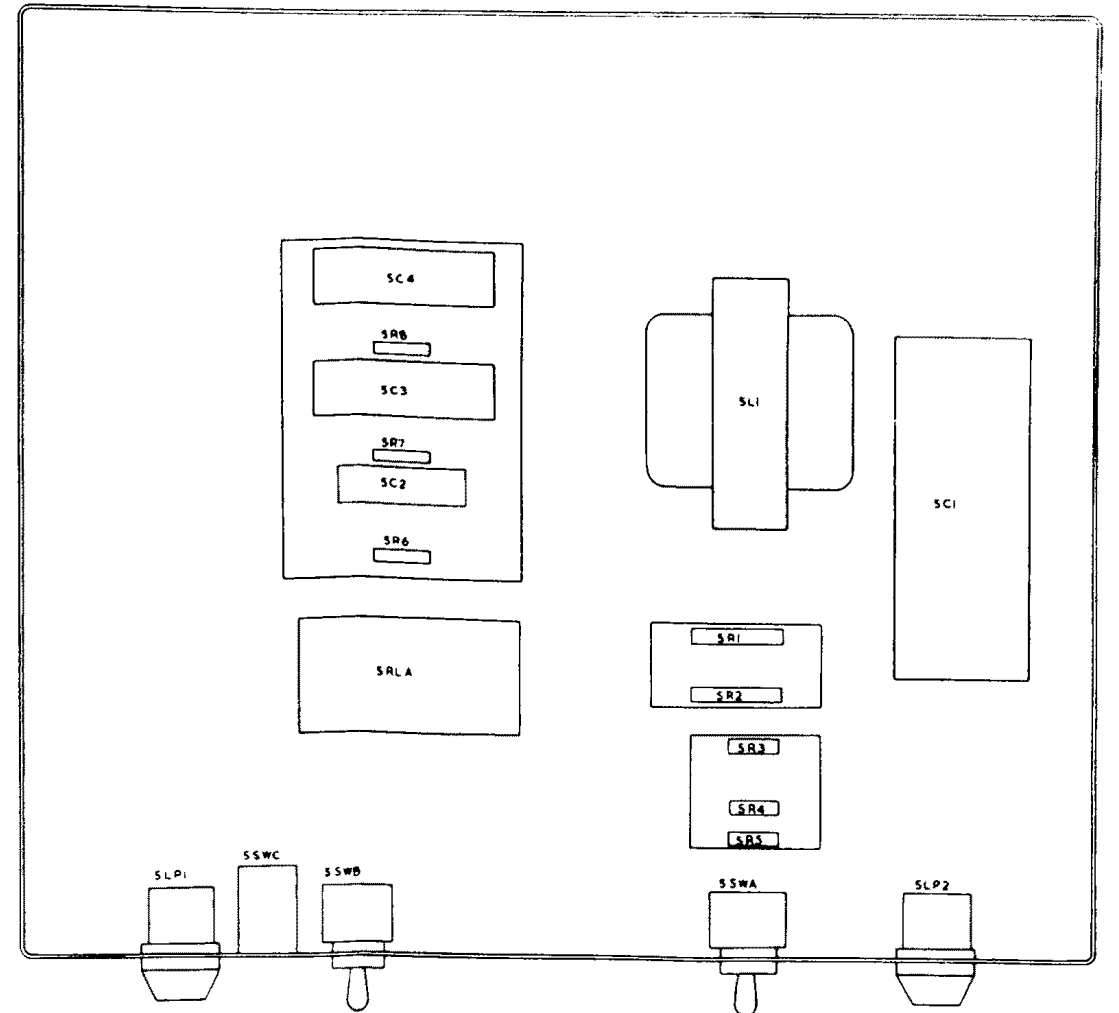
Issue No. 1
Sheet No. 3

COMPONENT LOCATION
CABINET

WZ.10971/D



TYPE 1213 C

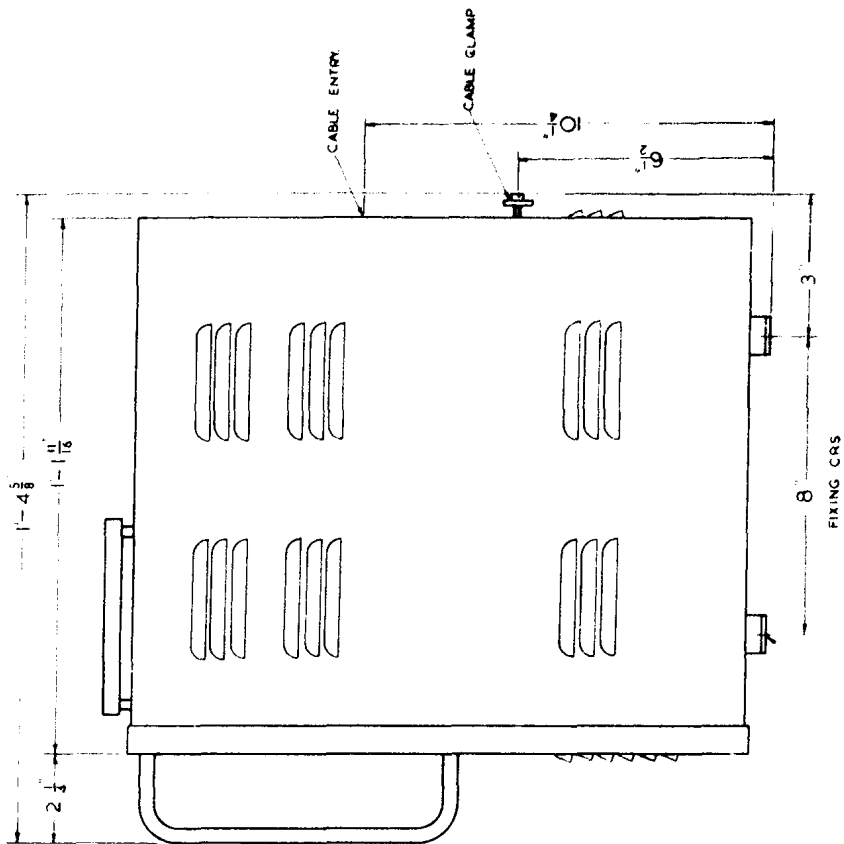


TYPE 1213 D

Issue No. 1
Sheet No. 4

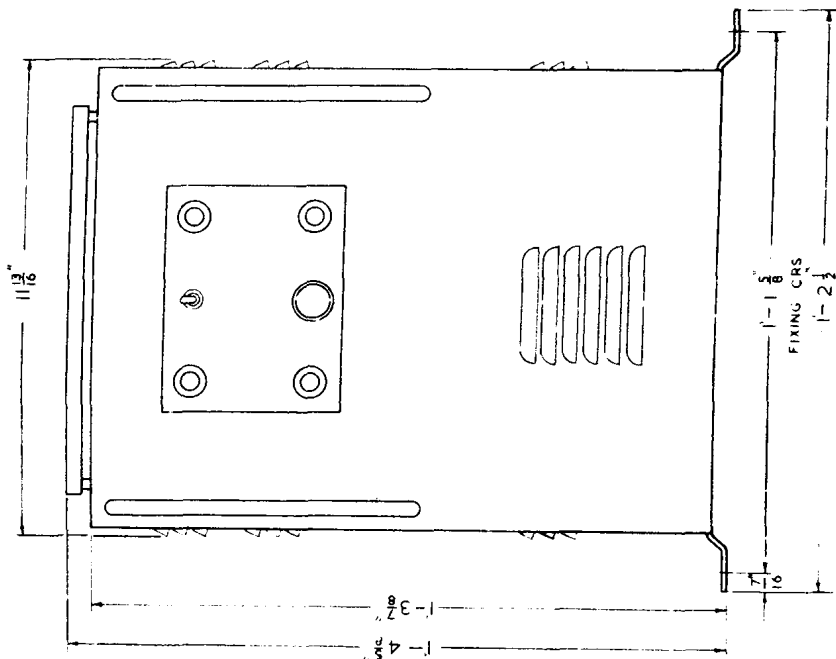
COMPONENT LOCATION
CABINET

WZ.10971/D



4 HOLES 3/8" DIA. FOR FIXING

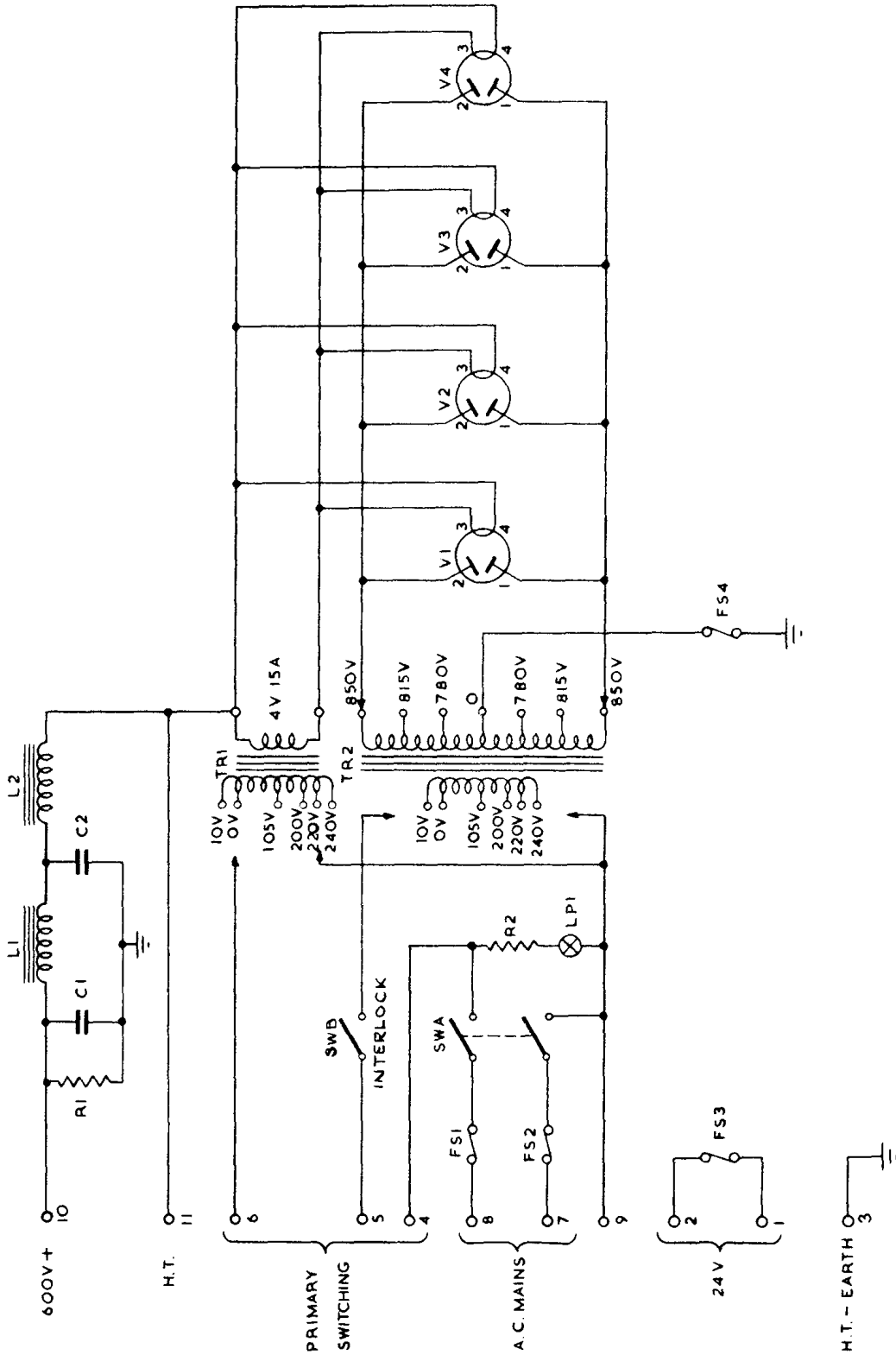
SUPPLIED FOR FIXING
 4 WOODSCREWS No 14 x 1 1/4" RD HD
 4 WASHERS PLAIN 1/4" WHIT
 WEIGHT 10.4 LBS



Issue No. 2
 Sheet No. 1

OUTLINE OF A.C. POWER UNIT TYPE 1201

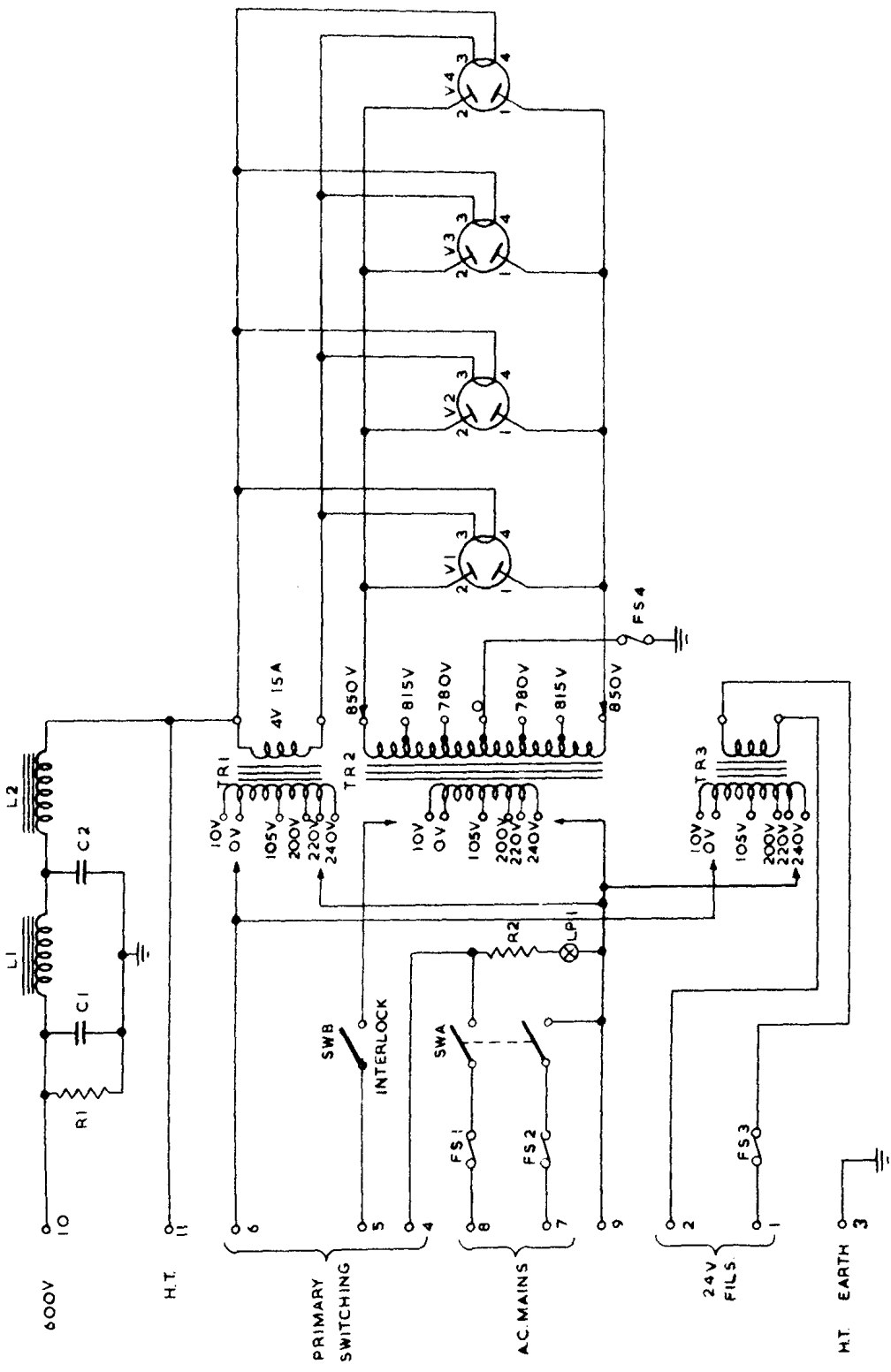
WZ.11093



NOTE
UP TO SERIAL N°230 UNITS ARE SUITABLE
FOR 115V AC ONLY

Issue No. 4
Sheet No. 1

POWER UNIT TYPE 1201A CIRCUIT DIAGRAM WZ.11157/B



NOTE
 UP TO SERIAL N#230 UNITS ARE SUITABLE
 FOR 115VAC ONLY

Issue No. 5
 Sheet No. 2

POWER UNIT TYPE 1201B CIRCUIT DIAGRAM WZ.11157/B

COMPONENT SCHEDULE

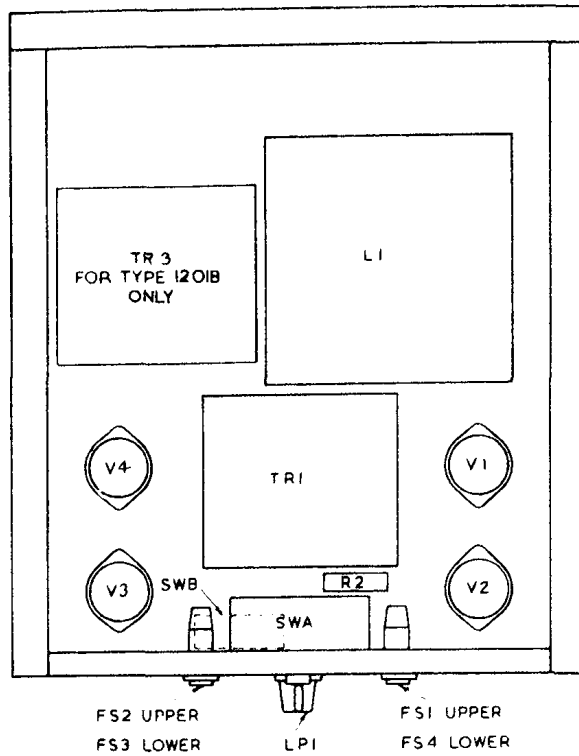
POWER UNIT TYPES 1201A & B

Reference Numbers in column 1 correspond to those on circuit diagram WZ.11157/B sheets 1 and 2 and component location WZ.11094 sheet 1.

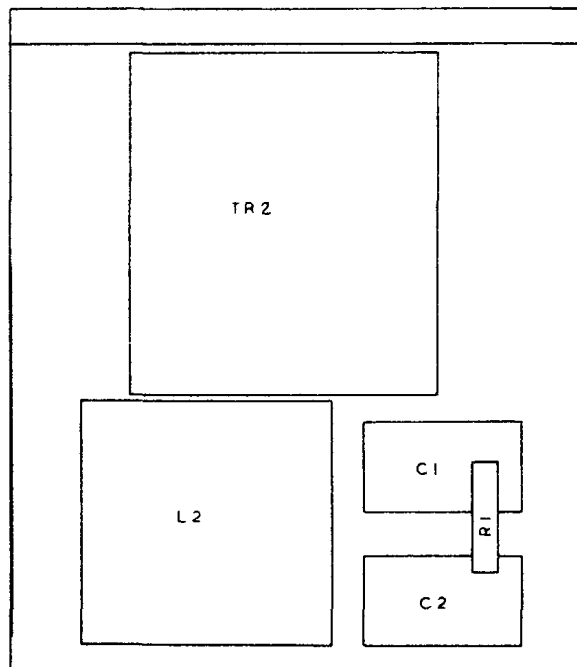
When ordering replacements quote 'Description', 'Value' and 'Standard Identity'.

CCT. Ref.	Description	Value	Standard Identity
	CAPACITORS		
C1	Paper Foil, Rectangular Metal Case	8 μ F. \pm 20% 800V. D.C. Wkg.	PC.19213/4
C2	Paper Foil, Rectangular Metal Case	8 μ F. \pm 20% 800V. D.C. Wkg.	PC.19213/4
	FUSES		
FS1	Cartridge	7.5A.	WIS. 3117 Sh. 1, Ref. 1
FS2	Cartridge	7.5A.	WIS.3117 Sh. 1, Ref. 1
FS3	Cartridge	7.5A.	WIS.3117 Sh. 1, Ref. 1
FS4	Cartridge	750mA.	WIS.2947 Sh. 1, Ref. 6
	INDUCTORS		
L1	Smoothing Choke	7H.	WIS.5698/C Sh. 11
L2	Smoothing Choke	7H.	WIS.5698/C Sh. 11
	LAMPS		
LPI	M.E.S.	6.3V. .06A.	WIS.5772/C Sh. 1, Ref. 1
	RESISTORS		
R1	Comp., Grade 2, Non-Insulated	470 Ω \pm 10% 1W.	PC.66616/57
R2	Wirewound, Vit. Enam.	2.2k Ω \pm 5% 4 $\frac{1}{2}$ W.	PC.67009/15
	SWITCHES		
SWA	Switch	D.P. On/Off	WIS.3454/B Sh. 1, Ref. 2
SWB	Switch, Micro Burgess Type BRL	S.P. C/O	
	TRANSFORMERS		
TR1	Transformer	P: 115V. S: 4V. 15A.	WIS.5697/C Sh. 15

CCT. Ref.	Description	Value	Standard Identity
TR2	Transformer	P: 115V.	WIS.5697/C
TR3	Transformer (Type 1201B only)	S: 850V.-0-850V. P: 115V. S: 25-2V.	Sh. 14 WIS.5697/C Sh. 16
	VALVES		
V1	U18/20		
V2	U18/20		
V3	U18/20		
V4	U18/20		
	MISCELLANEOUS		
X1	Valveholder	B5	PC.81805/1
X2	Fuseholder		WIS.4154/C
X3	Stand-Off Terminal Insulator		Sh. 1, Ref. 1 WSK.5501/C
X4	Lampholder	Amber Lens	Sh. 2, Ed. D W.19348/B
X5	Lens, Amber	For X4	Sh. 1, Ed. L WIS.4065/C
X6	Valve Retainer		Sh. 1, Ref. 11 WIS.3516/C
X7	Clip	For C1 & C2	Sh. 1, Ref. 1 WIS.5693/B Sh. 1, Ref. 19

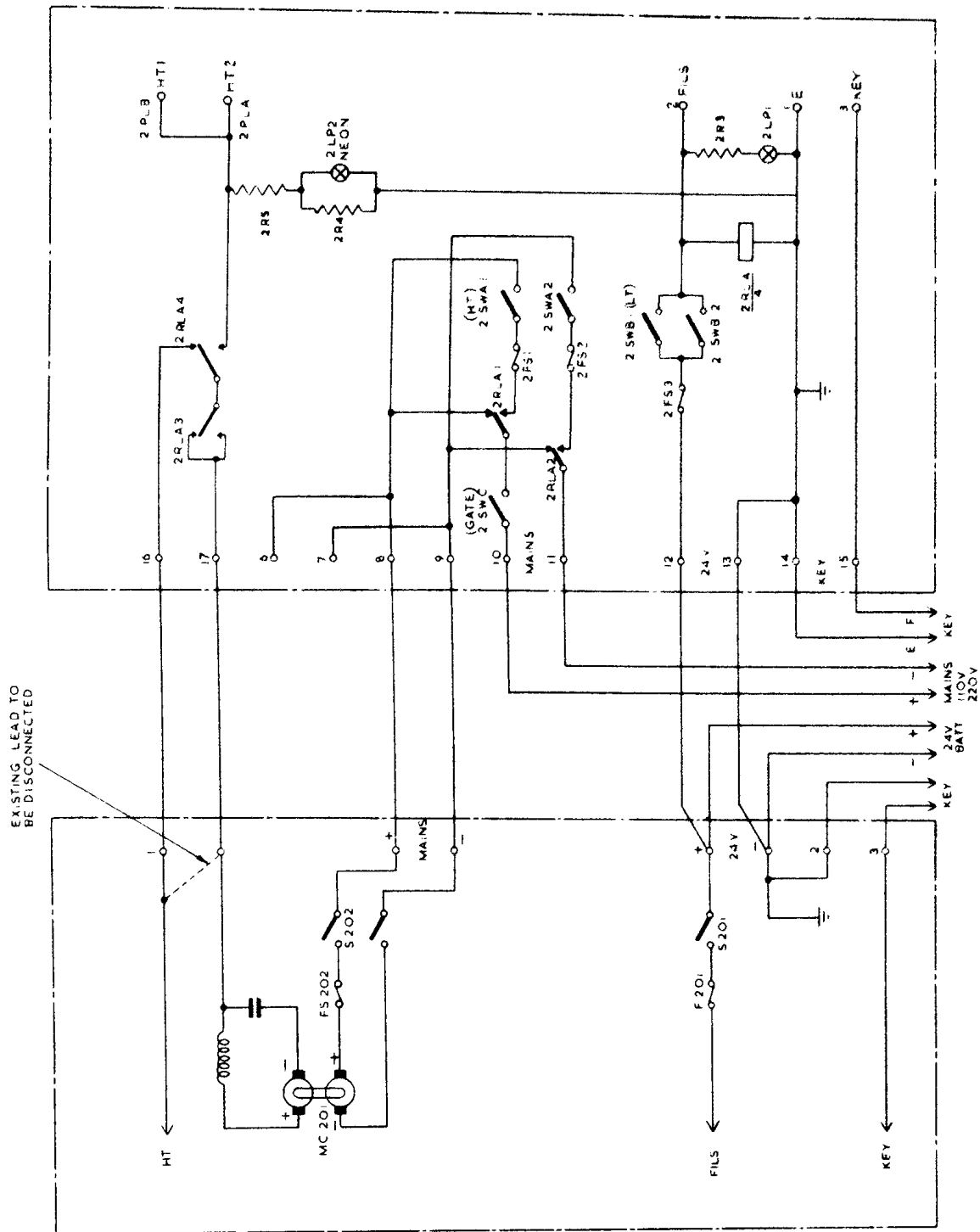


PLAN VIEW
SHOWING COMPONENTS ON UPPER CHASSIS



PLAN VIEW
SHOWING COMPONENTS ON LOWER CHASSIS

COMPONENT LOCATION
A.C. POWER UNIT TYPE 1201



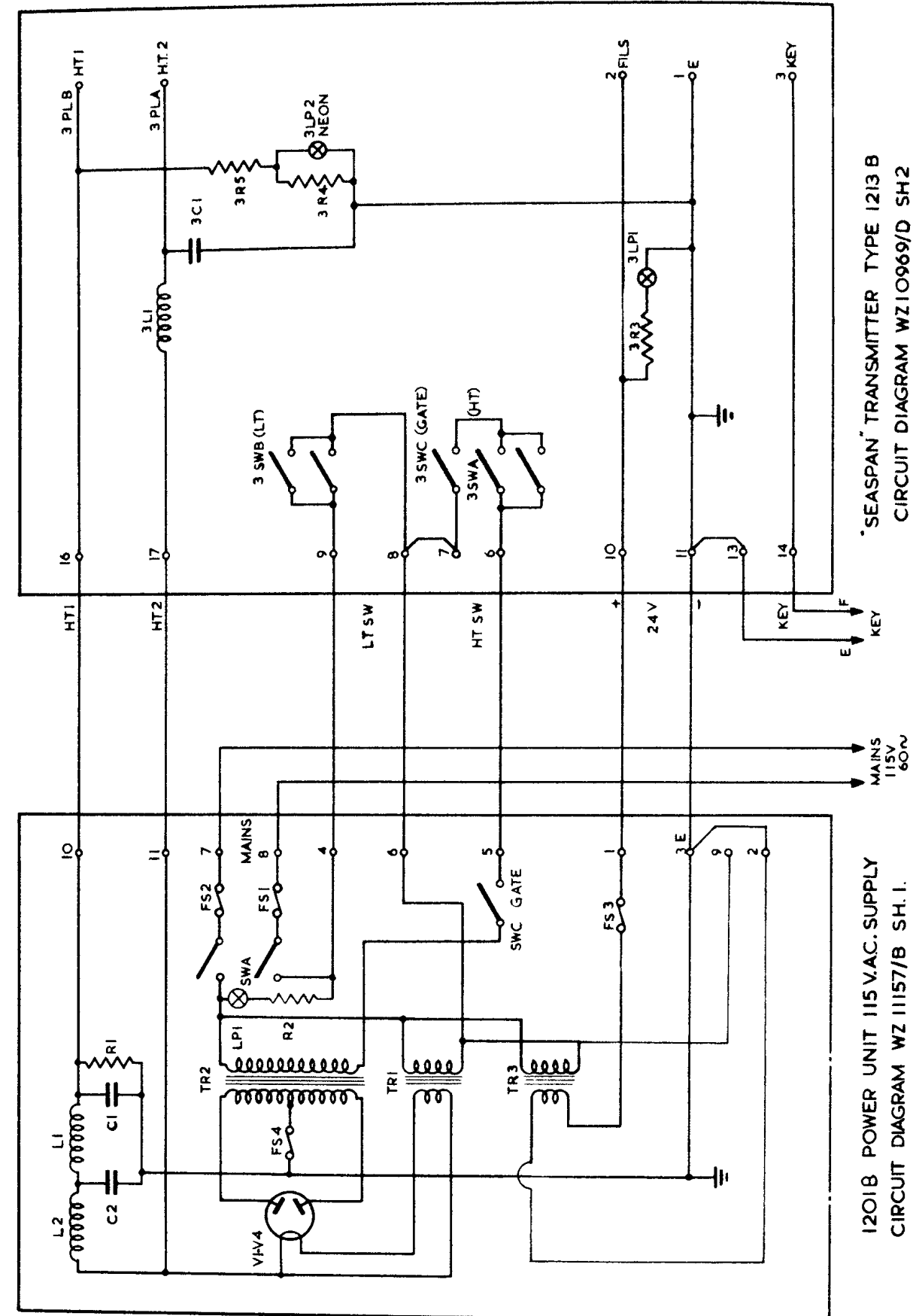
Issue No. 2
Sheet No. 1

FUNCTIONAL DIAGRAM OF POWER SUPPLY & CONTROL CIRCUITS "SEASPAN" TYPE 1213A

WZ.12222/B

"SEASPAN TRANSMITTER
TYPE 1213A
FOR CIRCUIT DIAGRAM SEE
WZ.10989/D SH2

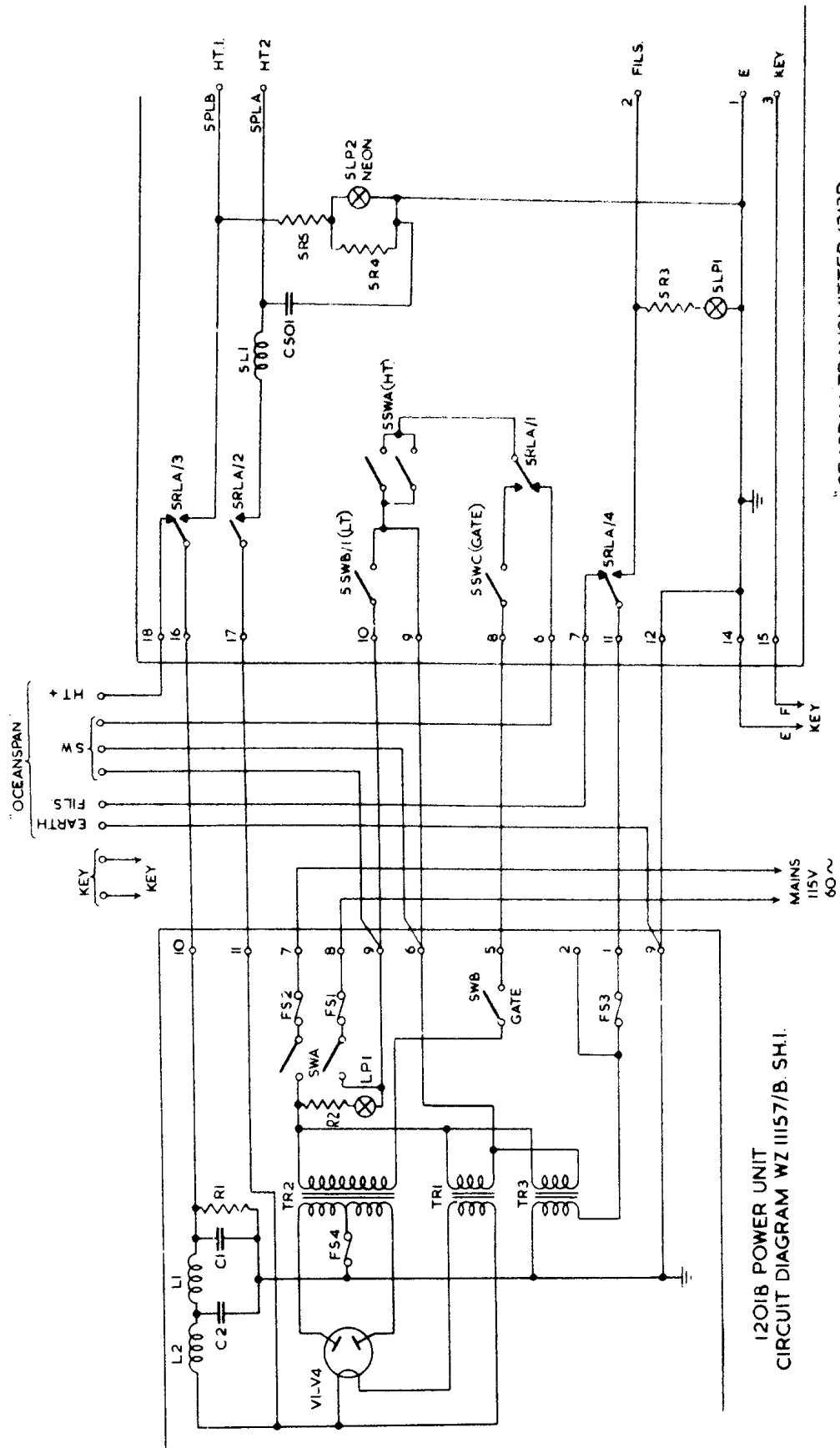
"RELIANCE TRANSMITTER
110V SUPPLY UNIT
FOR 220V SUPPLY ADD .00 TO EACH
OF ABOVE CIRCUIT REFS



12018 POWER UNIT 115 V.A.C. SUPPLY
CIRCUIT DIAGRAM WZ 11157/B SH. I.

1213B "SEASPAN" TRANSMITTER TYPE 1213 B
CIRCUIT DIAGRAM WZ 10969/D SH.2

FUNCTIONAL DIAGRAM OF POWER SUPPLY
& CONTROL CIRCUITS "SEASPAN" TYPE 1213B



12018 POWER UNIT
CIRCUIT DIAGRAM WZ 11157/B SH.1.

"SEASPAN" TRANSMITTER 1213D
CIRCUIT DIAGRAM WZ 10969/D SH.2

FUNCTIONAL DIAGRAM OF POWER SUPPLY
& CONTROL CIRCUITS "SEASPAN" TYPE 1213D

WZ.12222/B