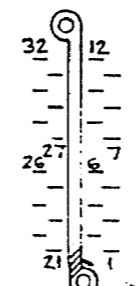


PART	DESCRIPTION	VALUE	RATING	PART NUMBER	NOTES
C1, C2	CAPACITOR	0.01	100V.		SEE NOTE 2
F1, F2	FUSE	2A		FUJITSU P4-1	WITH ISOLATED CONTACTS
F3	FUSE	3A		FUJITSU P4-1	WITH ISOLATED CONTACTS
SW1, 2	SWITCHES (RESET 1, 2)			1000 TYPE KEY SW.	
A	AMP METER	0-2.0A			
	LAMP	24V.	2W.		SEE NOTE 3
R1	RESISTOR	390Ω	5W.		SEE NOTE 3
	TERMINAL BLOCK			8 WAY	
	MOLEX CONNECTOR			POLARIZED TYPE 1490P	
D1, D2	DIODE	1A	200V	IN 5059	

**NOTES**

- FOR OPERATING INSTRUCTIONS SEE PR2218
- CAPACITORS C1 & C2 ARE DSC CERAMIC 100V.
- LAMPHOLDER WITH RED LENS, 24V 2W LAMP 390Ω 5W RESISTOR.
- THIS DRAWING SUPERSEDES 40347 & 40902
- R1 VALUE BETWEEN 8-47Ω. REFER TO NOTES ER/ES G151.

NUMBERING OF 1000 TYPE KEYS (AS SEEN FROM REAR)



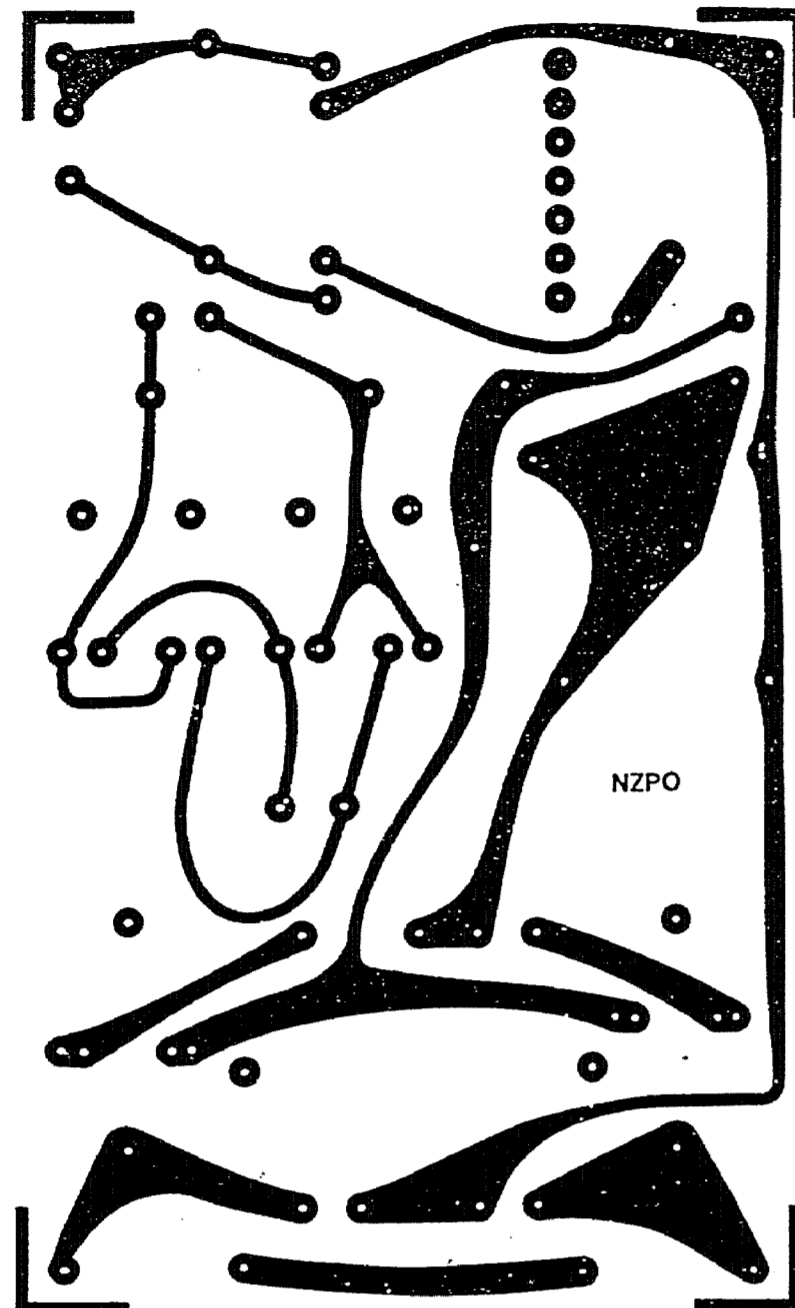
NB: SPRING POSITIONS ARE COUNTED WHETHER EQUIPPED OR NOT

FRAME CHAMFER OR MARKING INDICATES COMMENCEMENT END FOR TAG NUMBERING.

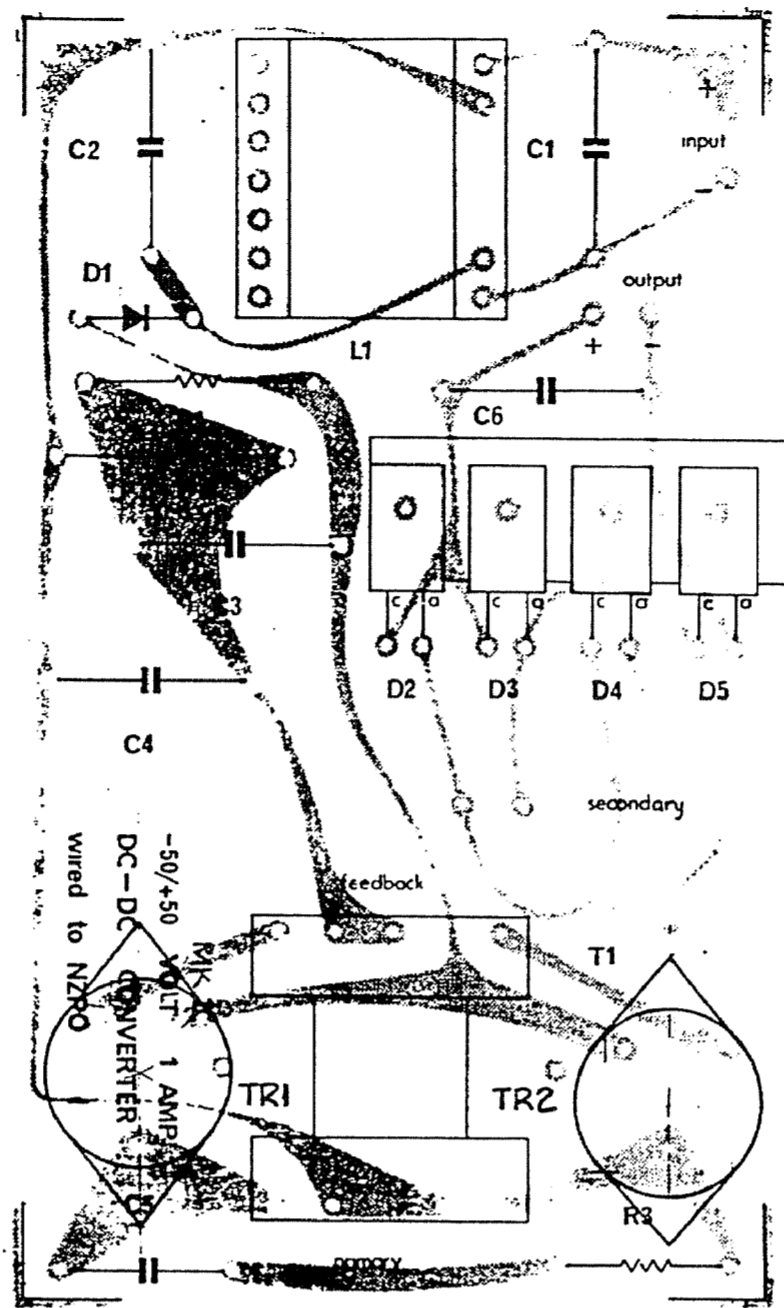
**DC-DC POWER SUPPLY  
-50VDC/+50VDC**

REV	DATE	ISS	CHANGE	BY	CHKD
1	12.11.83	1	INITIAL DESIGN	E.M.	E.M.
2	15.11.83	1	REVISION	E.M.	E.M.
3	16.11.83	1	REVISION	E.M.	E.M.
4	16.11.83	1	REVISION	E.M.	E.M.

ENGINEER-IN-CHIEF, WELLINGTON  
 1 OF 4 DRAWN: E.M. FRAC: 100  
 EC 42397

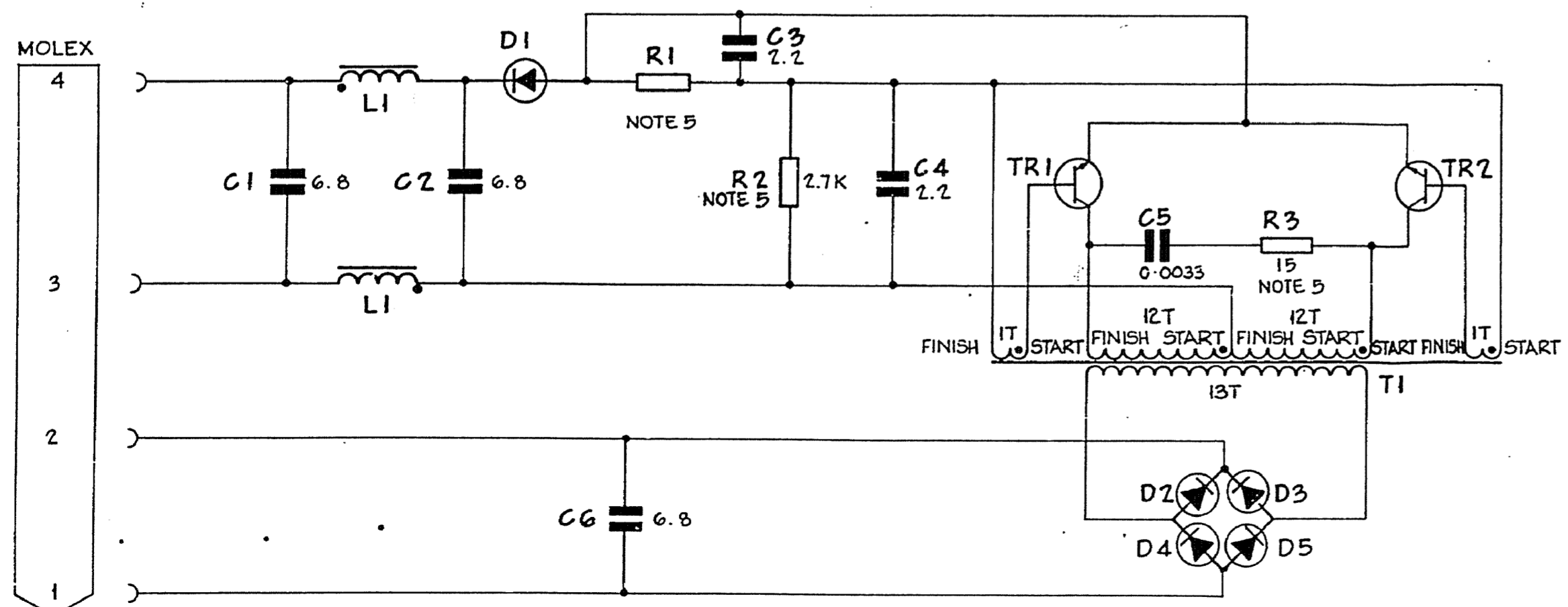


COPPER SIDE  
DRILLING DETAILS  
ALL HOLES 1.2mm DIA



COMPONENT SIDE

DESIGNATION	DESCRIPTION	VALUE	RATING	TOLERANCE	PART NO	NOTES
R1	RESISTOR	8T047	5W		NOTE 5	SELECTED FOR BEST EFFICIENCY WIRE WOUND. REFER ER/ES G131
R2	RESISTOR	2.7K	5W			WIRE WOUND.
R3	RESISTOR	15	5W			WIRE WOUND
C1, C2, C6	CAPACITOR	6.8	100V.		METALISED POLYESTER	TUBULAR POLYESTER
C3, C4	CAPACITOR	2.2	100V			
C5	CAPACITOR	0.0033	1000V			
D1	DIODE				IN5059 (A14B)	FAST RECOVERY
D2-D5	DIODE				PHILIPS BYX71-350	
TR1, TR2	TRANSISTOR				BUX 80 (PHILIPS)	ALTERNATIVES: TEXAS BUY 69B; RCA 2N6513; INTERNATIONAL RECTIFIER IR 402. REFER ER/ES G131 FOR SELECTION PROCEDURE.
T1	TRANSFORMER				EC 40 (SL NO AD1&AD2)	PHILIPS CORE 4322-020-52510 FORMER 8222-294-38660 IF POT CORE USED: PHILIPS P36/22. S.L NO CG760
L1	CHOKER	0.5mH	1.5A		EC 35 (SL NO AD3 & AD4)	PHILIPS CORE 4322-020-52500 FORMER 8222-294-38650 2x50 TURNS OF 0.710mm (22SWG). BIFILAR WOUND.
	MOLEX CONNECTOR				M1490 R&P	NOTE 5
	CERAMIC BEAD	6 REQUIRED			CERAMCO (MORLYNN) INTERLOCK BEAD 2024	



SCHEMATIC

TRANSFORMER DETAILS

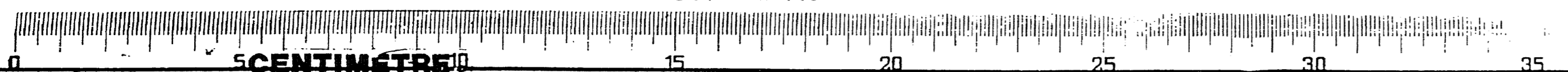
	ALL WINDINGS TO BE BIFILAR WOUND	
	EC CORE	POT CORE
PRIMARY	2 x 12 TURNS (21SWG)	2 x 9 TURNS, 0.810mm (21SWG)
FEEDBACK	2 x 1 TURN (30SWG)	2 x 1 TURN, 0.315mm (30SWG)
SECONDARY	13 TURNS (22SWG)	3.5 TURNS, 0.710mm (22SWG)

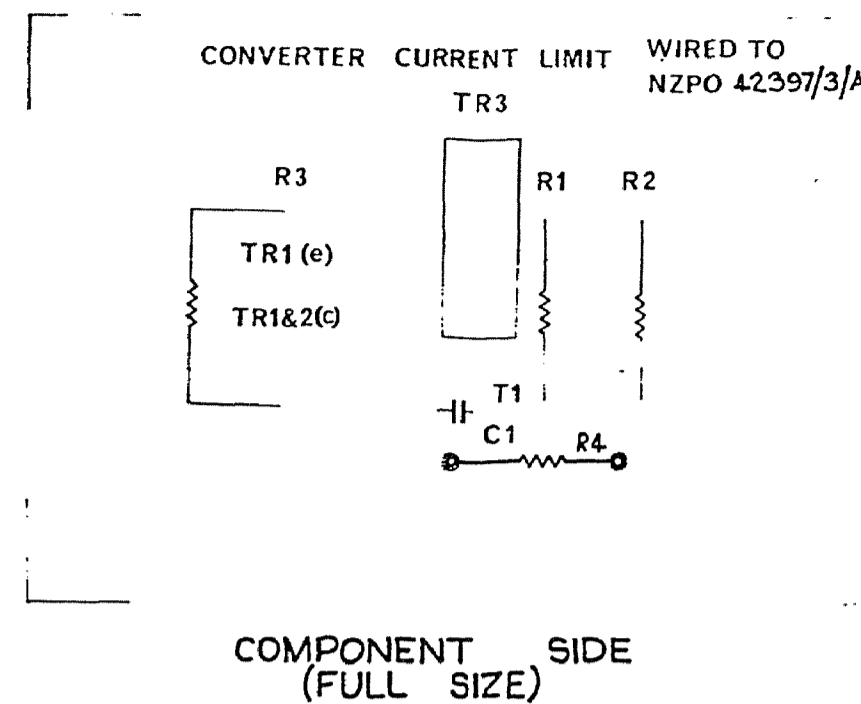
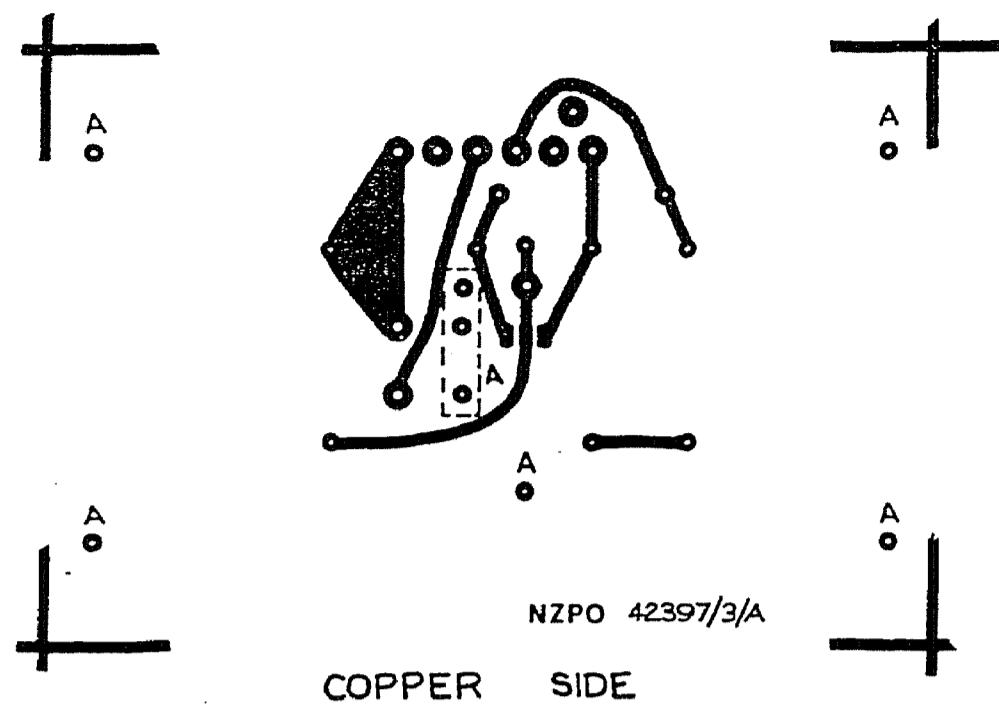
NOTES

- P.C BOARD TO BE MADE FROM 1.6mm THICK G10 FIBREGLASS, 70 MICRON COPPER, SINGLE SIDED.
- P.C BOARD NEGATIVE AND SCREEN AVAILABLE FROM ELECTRICAL-MECHANICAL SECTION, E-IN-C, WELLINGTON.
- T1 AND D2-D5 TO BE MECHANICALLY COUPLED TO THE CASE WITH ALUMINIUM BRACKETS. SEE NZPO DRG 40435.
- THIS DRAWING SUPERSEDES DRG 40094. & 40980
- RESISTORS MOUNTED 10 mm OFF PC BOARD. REFER PARTS LIST.

DC-DC POWER SUPPLY  
-50V DC/+50V DC  
DC-DC CONVERTER, -50/+50 VOLT, 1 AMP, MKII

DEL	CHK	APD	ORDER	DATE	ISS	CHANGE	NZPO
							ENGINEER-IN-CHIEF, WELLINGTON
122	PBC	PBC	20959	18.7.80	A		COY NO
142	PBC	PBC	12322	15.3.80	B	MINOR AMENDMENTS	ORIGIN:EMMAT
GFK	AMPL	AMPL	119231	30.5.84	C	PARTS LIST AMENDED	
PM	RJP	AMPL	114425	28.11.85	D	TR1, TR2 TYPE NZ AMD.	





COMPONENT LIST					
PART	DESCRIPTION	VALUE	RATING	PART N <sup>o</sup>	NOTES
R1, 2	RESISTOR	0.22	2W		WIRE WOUND
R3	RESISTOR	560	5W		WIRE WOUND
C1	CAPACITOR	0.01	100V		
TR1	TRANSISTOR			2N3772	RCA
TR2	TRANSISTOR			TIP49	
TR3	TRANSISTOR			TIP49	
T1	MICROTHERM	80°C			INSULATED, NZ SOLENOID OR SIMILAR
	MOLEX CONNECTOR			M3003-6	FEMALE CONN. M3011-6-1/2
R4	RESISTOR	10	1/4 W	SL ER 201	

PC BOARD DETAILS

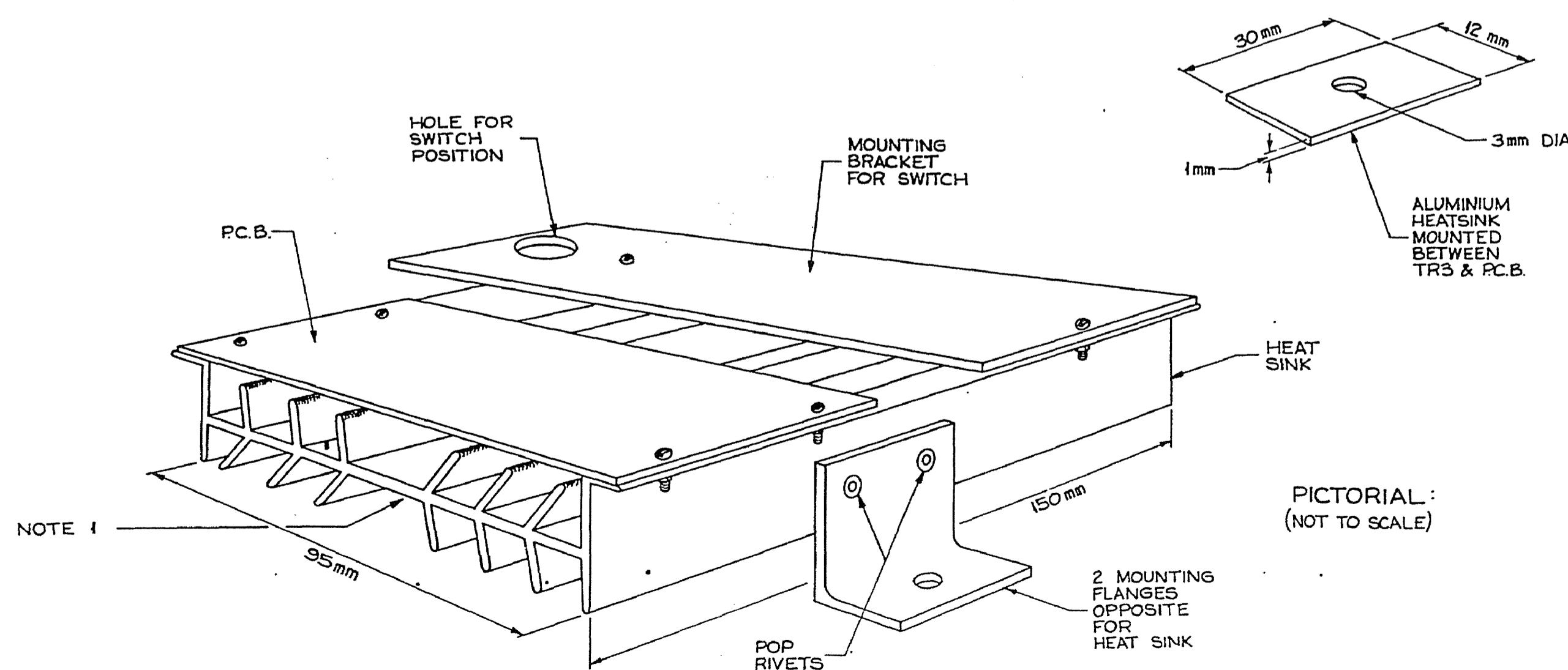
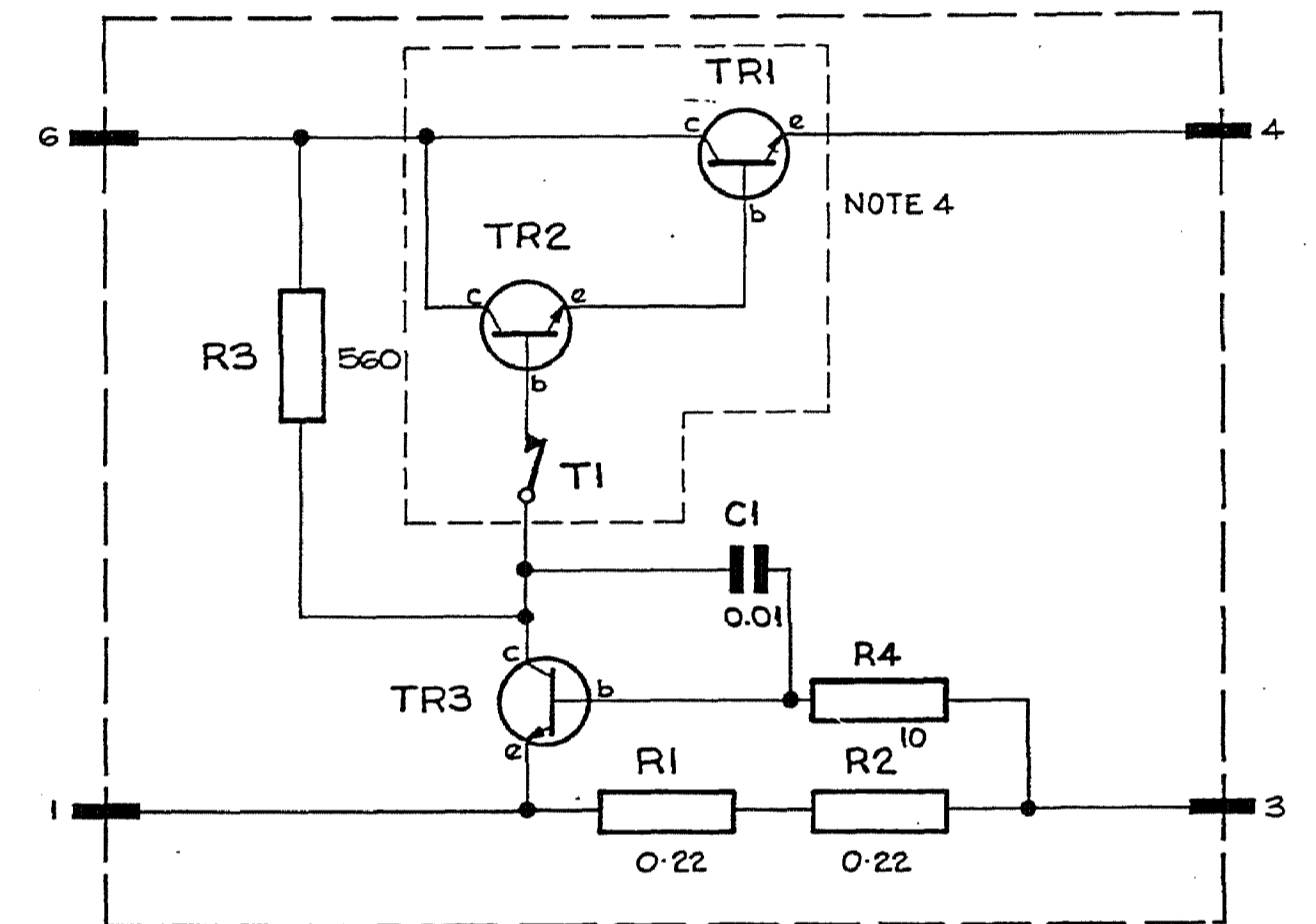
PRINTED CIRCUIT BOARD NEGATIVES & SILK SCREEN AVAILABLE FROM ELECTRICAL-MECHANICAL SECTION, E-IN-C WELLINGTON.

PRINTED CIRCUIT BOARD TO BE MADE FROM 1.6mm THICK G10 FIBREGLASS, 70 MICRON COPPER SINGLE SIDED.

DRILLING DETAILS

ALL PRINTED CIRCUIT BOARD DRILLINGS ARE TO BE 1.2mm EXCEPT THE INDICATED HOLES BELOW.

A - 3mm DIA

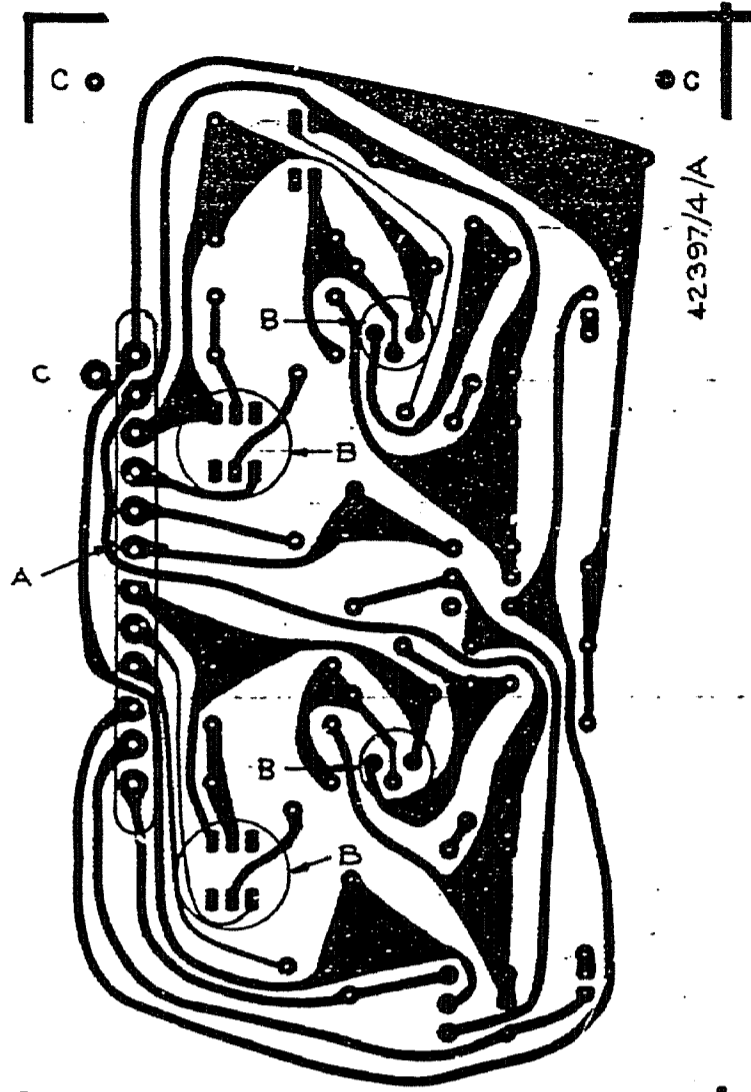


NOTES:

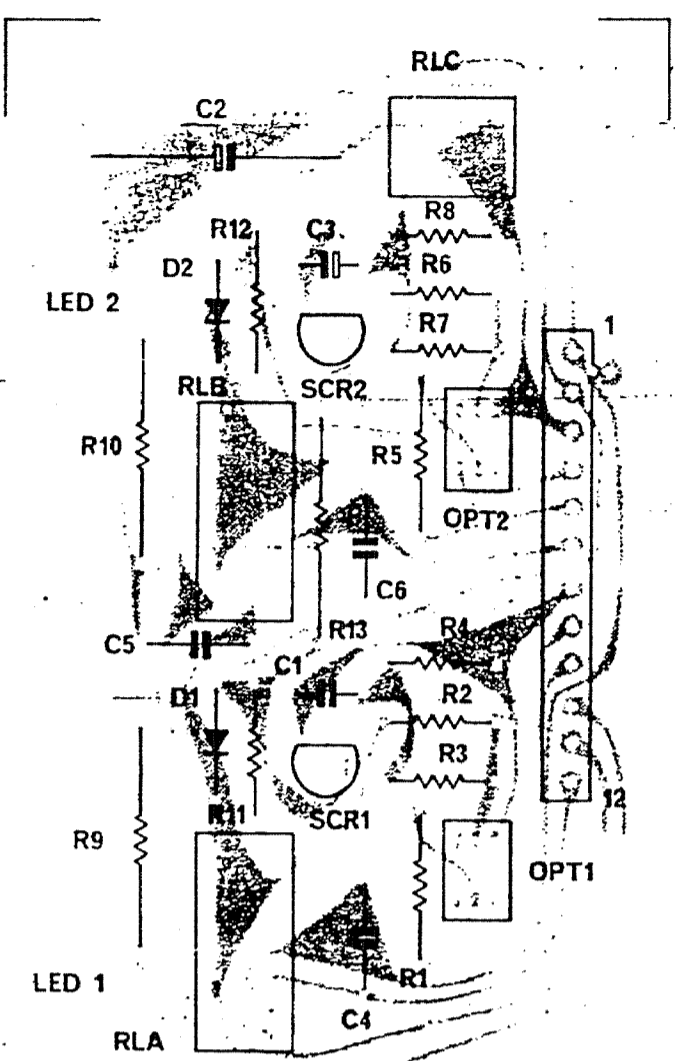
1. THE MICROTHERM IS TO BE MOUNTED ON THE CASE OF TRANSISTOR TR1 WHICH IS MOUNTED ON THE UNDERSIDE OF HEATSINK.
2. THE HEATSINK IS TO BE 150mm LONG AND HAVE A THERMAL RATING OF NOT GREATER THAN 2°C/WATT
3. THE HEATSINK AND ALUMINIUM BRACKETS SHALL BE PAINTED MATT BLACK
4. MOUNTED ON HEATSINK

DC-DC POWER SUPPLY						-50 VDC / +50 VDC		CONVERTER CURRENT LIMIT	
DEL	CKD	APP	ORDER	DATE	ISS	CHANGE			
17P	17P	17P	20359	8.2.85	A	NO CHANGE. SHTS 1,2,4 AMENDED.			
17P	17P	17P	11521	13.3.85	B	C1 ALTERED.			
17P	17P	17P	11425	28.11.85	D	NO CHANGE. SHT. 2 AMD.			
N Z P O						ENGINEER-IN-CHIEF, WELLINGTON			
COY N <sup>o</sup>						ORIGIN: E-M (MAT)			
3 OF 4						DRAWN: EM			
A2						EC 42397			
40						45			
50						55			





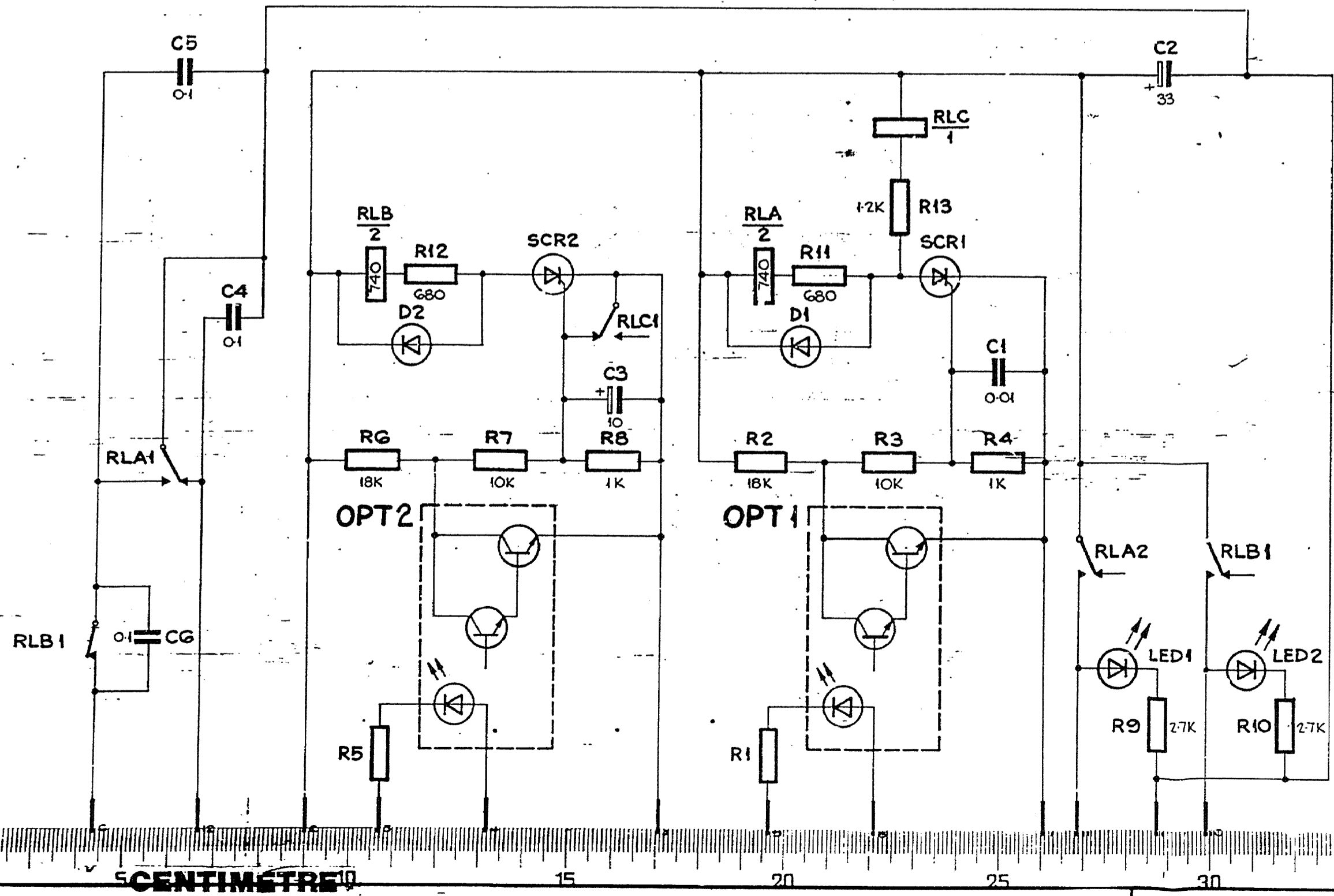
COPPER SIDE



CONVERTER FAIL MK II WIRED TO  
CHANGE-OVER & ALARM NZPO 42397/4/A  
COMPONENT SIDE  
(FULL SIZE)

PART	DESCRIPTION	VALUE	RATING	TOLERANCE	PART NUMBER	NOTES
R1, R5	RESISTORS					SEE NOTE 1 BELOW.
R2, R6	RESISTORS	18K	1/4W	5%		
R3, R7	RESISTORS	10K	1/4W	5%		
R4, R8	RESISTORS	1K	1/4W	5%		
R9, R10	RESISTORS	27K	2W			
R11, R12	RESISTORS	680	1W	5%		
R13	RESISTOR	1.2K	1/4W	5%		
C1	CAPACITOR	0.01	100V			METALISED POLYESTER
C2	CAPACITOR ELECTROLYTIC	33	100V			
C3	CAPACITOR ELECTROLYTIC	10	50V			
C4, C5, C6	CAPACITOR	0.1	100V			METALISED POLYESTER
D1, D2	DIODES				BAX 1G	
LED1	YELLOW LED				MONSANTO MV5353	
LED2	RED LED				MONSANTO MV5055	
SCR1, SCR2	THYRISTORS				2N50G2	
RLA, B	MINIATURE RELAY	740Ω	5A		PYE 2G5/24/G2Y	TWO POLE CHANGE-OVER
RLC	MINIATURE RELAY				PYE MZ24	ONE POLE CHANGE-OVER
OPT1, OPT2	INTEGRATED CIRCUITS				MONSANTO MCA7-30	

COMPONENT LIST



PC BOARD DRILLING:

ALL HOLES TO BE 1mm DIA, EXCEPT THE INDICATED HOLES AS SHOWN BELOW.  
 A - 1.2mm DIA.  
 B - 0.8mm DIA.  
 C - 3.0mm DIA.

NOTES:

- THESE RESISTOR VALUES DEPEND UPON WHICH APPLICATION THE UNIT IS TO BE USED FOR:-  
 50V DC-DC CONVERTER 47KΩ 1W 5%  
 130V DC-DC CONVERTER 18KΩ 1W 5%  
 ±80V DC-DC CONVERTER 15KΩ 5W 5%
- PRINTED CIRCUIT BOARD NEGATIVE AND SCREEN AVAILABLE FROM ELECTRICAL/MECHANICAL SECTION, E-IN-C, WELLINGTON.
- PRINTED CIRCUIT BOARD TO BE MADE FROM 1.6mm THICK G10 FIBREGLASS, 70 MICRON COPPER SINGLE SIDED.
- LED'S TO BE MOUNTED ON THE COPPER SIDE OF THE PC BOARD.

THIS DRAWING SUPERSEDES DRAWING 40363

DC-DC POWER SUPPLY  
 -50 VDC / +50 VDC  
 CONVERTER FAIL CHANGE-OVER AND ALARM MKII

DEL	CKD	APD	ORDER	DATE	ES	CHANGE	N Z P O
IPP	PCB	20253	3-2-80	A		MINOR AMENDMENTS	ENGINEER-IN-CHIEF, WELLINGTON
GER	AMF	11271	30.05.80	B		NO CHANGE SHTS 1-3 AMENDED	COY NO
P.M	RJP	AMF	11425	28.11.85	D	NO CHANGE SHT 2 AMB.	ORIGIN:EMMAY
							4 OF 4 DRAWN: E.M. TRACED: I.P.D.
							A2 EC 42397

5 CENTIMETRE