

SECURITY CLASSIFICATION

SERVICES' DRG No.

FIRST USED ON

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3RD ANGLE PROJECTION

DO NOT SCALE PRINT



150 MILLIMETRES FULL SIZE

ALL CHANGES TO THIS DOCUMENT ARE LISTED ON

NOTES

ISSUE

DATE

1. FOR REF. VIEW OF COMPONENT SIDE, SEE SHEET 2.

2. MANUFACTURE TO DEF. STAN. 59-48/1.

3. BOARD MANUFACTURE TO USE FILMS L-41-0631F1 Issue C F2 Issue C FL Issue C

4. COMPONENT SIDE (F2) OF THE BOARD TO BE SILK SCREENED IN YELLOW CHARACTERS.

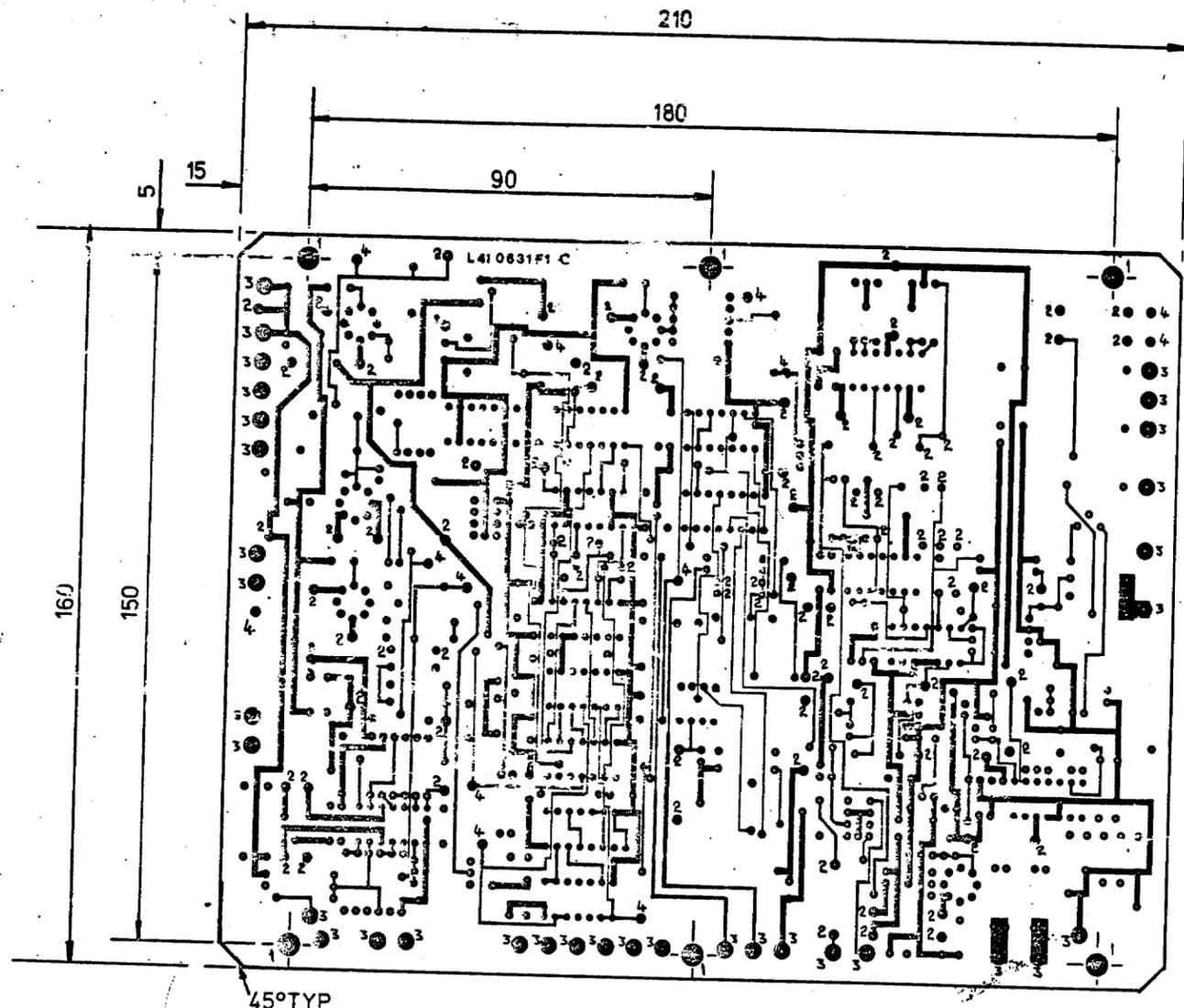
5. UNLESS OTHERWISE STATED, ALL HOLES TO BE PLATED THROUGH.

6. ALL HOLE SIZES ARE FINISHED SIZE.

7. INSPECTION NOTE: AT NO POINT AROUND THE EDGE OF THE HOLES SHALL THERE BE LESS THAN 0.13 WIDTH OF COPPER. AT NO POINT SHALL THE TRACK WIDTH OR INSULATION BETWEEN TRACKS BE REDUCED BY MORE THAN 10%. BOW & TWIST SHALL BE MEASURED & NOT TO EXCEED 0.5% (SEE MRP 687-04-01 FOR INSPECTION PROCEDURE).

N.C. DRILL TAPE (NP)J (Q TABLE)

DRILL NO.	FINISHED HOLE Ø	NO. OFF
1	3.5 ± 0.076	6
2	1.1 ± 0.076	88
3	1.6 ± 0.076	34
4	1.3 ± 0.076	13
5	0.9 ± 0.076	732



CANCELLED

TO MAKE DUPLICATE BOARDS USE ISSUE A OF THIS DRAWING AND ISSUE A FILMS BOTH HELD BY ENGINEER

4.2 METRE WILLIAM HERSCHEL TELESCOPE FOR OBSERVATORIO DEL ROQUE DE LOS MUCHACHOS LA PALMA AND ROYAL GREENWICH OBSERVATORY

IDENTITY DRAWING NO. L-41-0630-50PT

ASSOCIATED ITEMS AVAILABLE FOR THIS DRAWING	SUFFIX	MARK
CHANGE MOD RECORD SH	C	
DRAWING LIST	J	
ITEM LIST	K	
TEST SPEC.	L	
WIRING LIST	N	
CCT DIAGRAM	Z	
SAFETY WARNING		NO

APPROVED	ISSUED BY DAW	PCB D.O.	UNLESS OTHERWISE STATED, SCREW THREADS TO BE ISO METRIC COARSE PITCH, MEDIUM CLASS TO BS. 3643, PART 2.
CHECKED	APPROVED (PROD)	MATERIAL	MARCONI SPEC.
DRAWN	DIM. IN mm	NELOCON105 TO MEMAG 01/FR4 1.6 ± 0.03 THICK 175um (105g/m²) DOUBLE SIDED COPPERCLAD TO DEF. STAN. PT 3 OR APPROVED EQUIVALENT.	FINISH 60/40 TIN-LEAD TO BS 441
TRACED	ORIGINAL SCALE 1:1		MARCONI SPEC. MRP 684 -02-07.

TOLERANCES, UNLESS OTHERWISE STATED	±0.25.
HOLE DIAS. UP TO 6mm INCL. BS4500 H11	OVER 6mm BS4500 H13

MARCONI RADAR SYSTEMS LIMITED	CHELMSFORD & LEICESTER, ENGLAND
TITLE	BOARD DRILLING & PREPARATION. POWER AMPLIFIER INPUT CONTROL & LOGIC BOARD
PUNCH CARD TITLE	

SECURITY CLASSIFICATION	
MARCONI DRAWING No.	L-41-0630
SERVICES DRAWING No.	
SH. No. 1	
SH. CONTD.	
SIZE A2	

SECURITY CLASSIFICATION

SERVICES' DRG No.

FIRST USED ON L

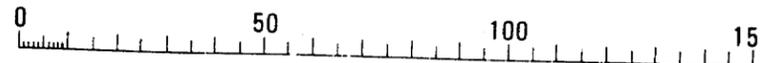
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3RD ANGLE PROJECTION

DO NOT SCALE PRINT



150 MILLIMETRES FULL SIZE

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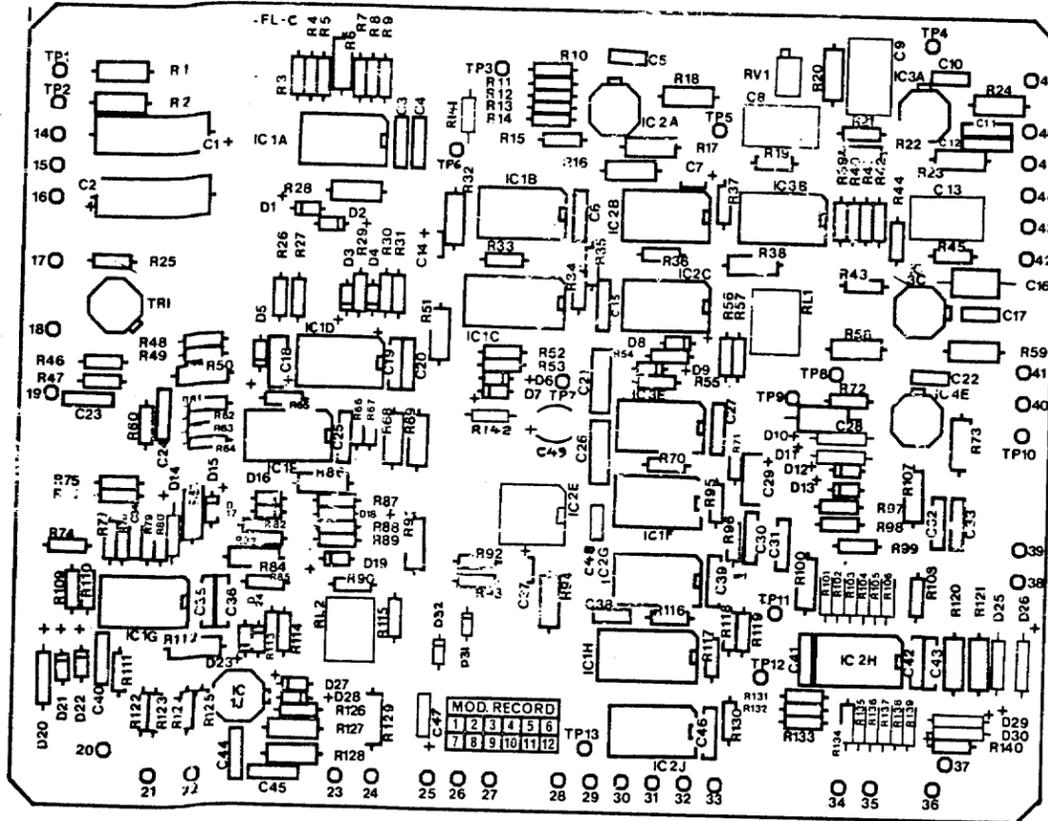
NOTES

1. FOR MANUFACTURING DATA SEE SHEET 1.

ISSUE DATE

A	321 NCC1 0042/1. 20-8-82
B	321 NCC1 150/1 8-12-83
C	CAR 019225 (1081 NCC) CS.SH.1. ISS.B. 23-11-84

(210)

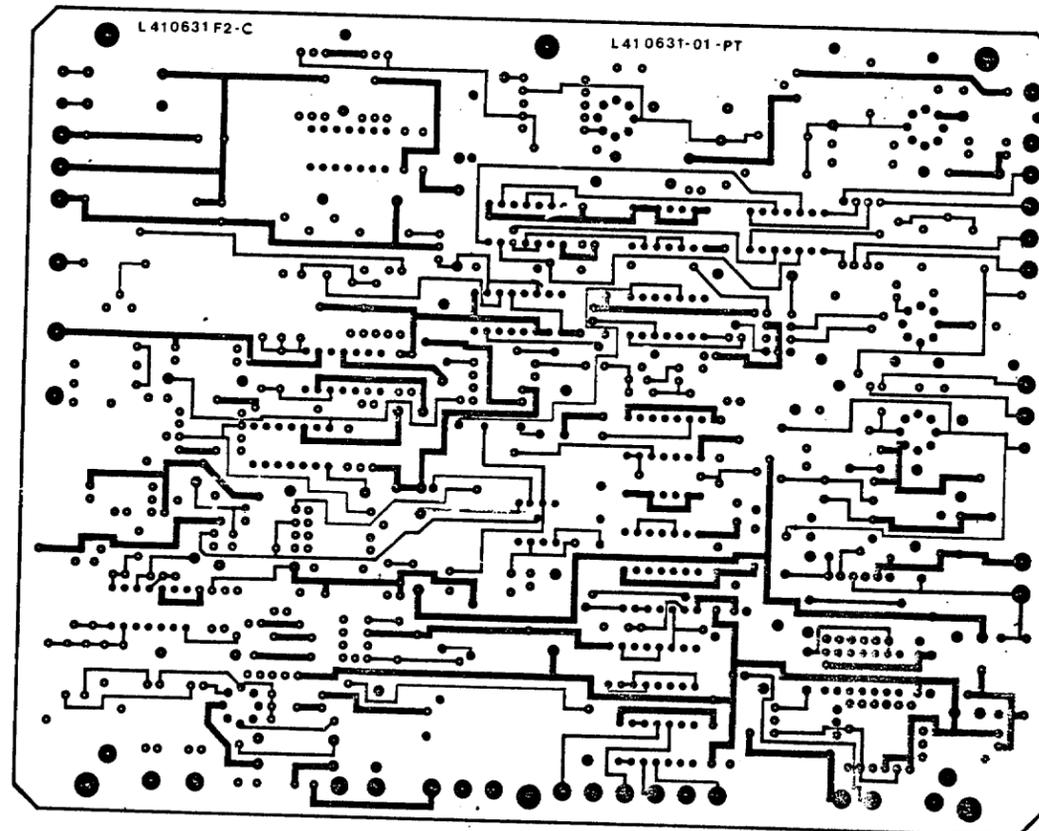


SILK SCREEN



CANCELLED

TO MAKE DUPLICATE BOARDS USE ISSUE A OF THIS DRAWING AND ISSUE A FILMS BOTH HELD BY ENGINEER.



COMPONENT SIDE

4.2 METRE WILLIAM HERSCHEL TELESCOPE FOR OBSERVATORIO DEL ROQUE DE LOS MUCHACHOS LA PALMA. AND ROYAL GREENWICH OBSERVATORY

ASSOCIATED ITEMS AVAILABLE FOR THIS DRAWING	SUFFIX	MARK X
CHANGE MOD RECORD SH	C	
DRAWING LIST	J	
ITEM LIST	K	
TEST SPEC.	L	
WIRING LIST	N	
CCT DIAGRAM	Z	
SAFETY WARNING		NO

APPROVED	ISSUED BY DAW PCB D.O.	UNLESS OTHERWISE STATED, SCREW THREADS TO BE ISO METRIC COARSE PITCH, MEDIUM CLASS TO BS. 3643, PART 2.		
CHECKED	APPROVED (PROD)	MATERIAL	MARCONI SPEC.	FINISH
DRAWN AMG	DIM. IN mm	MARCONI SPEC.		
TRACED	ORIGINAL SCALE 1:1	TOLERANCES, UNLESS OTHERWISE STATED		
		HOLE DIAS. UP TO 6mm INCL BS4500 H11 OVER 6mm BS4500 H13		

MARCONI RADAR SYSTEMS LIMITED
CHELMSFORD & LEICESTER, ENGLAND

TITLE NHOT CL1940
BOARD DRILLING & PREPARATION.

PUNCH CARD TITLE

SECURITY CLASSIFICATION

MARCONI DRAWING No.

SERVICES DRAWING No. L-41-0630

SH No. 2

SH CONT.

PAST USED ON ALL CHANGES TO THIS DOCUMENT ARE LISTED ON L-41-0631/C

SEE SHT. 2 FOR LIST OF COMPONENTS REQUIRED FOR THIS CHANGE.
 SEE SHT. 3 FOR VIEW OF COMPONENT SIDE OF BOARD (F2)
 SEE SHT. 4 FOR VIEW OF SILK SCREEN ON COMPONENT SIDE (FL)
 SEE SHT. 5 FOR VIEW OF FLOW SOLDER SIDE OF BOARD (FI)

1. PRODUCTION BOARDS USING ISSUE A ARTWORK. MODIFY IN LINE WITH WP 3051.

2. REMOVE D4 AND REPLACE BETWEEN D4-VE AND VIA HOLE A (D4+VE).
 DRILL 1 HOLE Ø1MM AT POSITION B (0.5" TO THE LEFT OF PAD C).
 FIT A VEROPIN AT POSITION B ON F2 SIDE.
 REMOVE AND RETAIN R12.
 FIT R12 BETWEEN VEROPIN AT POSITION B AND PAD C.
 FIT NEW R141, 1.5K, BETWEEN VEROPIN AT POSITION B AND PAD D USING SLEEVING ON LEADS.
 REMOVE AND DISCARD C40.
 REMOVE AND SCRAP D21, D22, R123 AND R125.
 FIT A VEROPIN AT POSITIONS E, F, G, H AND J ON F2 SIDE.
 FIT NEW D21, D22, R123 AND R125 (USING VEROPINS WHERE NECESSARY).
 FIT NEW C51, 1000pF, BETWEEN VEROPIN AT D22-VE AND VEROPIN AT POSITION J.
 FIT NEW C50, 1000pF, BETWEEN VEROPIN AT D21-VE AND VEROPIN AT POSITION J USING SLEEVING ON LEFT HAND LEAD ONLY.
 FIT NEW C52, 390pF, BETWEEN VEROPIN AT POSITION G AND VEROPIN AT POSITION J.
 FIT NEW C53, 390pF, BETWEEN VEROPIN AT POSITION H AND VEROPIN AT POSITION J USING SLEEVING ON LEFT HAND LEAD ONLY.
 REMOVE AND SCRAP R45 AND C16.
 DRILL 1 HOLE Ø1MM AT POSITION K.
 FIT A VEROPIN AT POSITIONS K, L AND M ON F2 SIDE.
 FIT NEW R45 BETWEEN VEROPIN AT POSITION L AND VEROPIN AT POSITION M, AND C16 AS BEFORE WITH SLEEVING ON LEFT HAND LEAD.
 FIT NEW D34, 5.6V ZENER, BETWEEN VEROPIN AT POSITION M (D34-VE) AND VEROPIN AT POSITION K (D34+VE) USING SLEEVING ON LEADS.
 FIT NEW D33, 5.6V ZENER, BETWEEN VEROPIN AT POSITION L (D33-VE) AND VEROPIN AT POSITION K (D33+VE) USING SLEEVING ON LEADS.
 REMOVE AND DISCARD C17.
 REPLACE C17 WITH A 330pF CAPACITOR.
 CUT THE FOLLOWING TRACKS ON FI SIDE :-
 POSITION N BETWEEN C2-VE PAD P AND VIA HOLE R.
 POSITION S BETWEEN R63 AND R64.
 POSITION T BETWEEN R52 AND R53.
 POSITION U BETWEEN IC2E PIN 17 AND IC2E PIN 20.
 POSITION V BETWEEN IC2E PIN 17 AND R93.
 POSITION W BETWEEN IC2J PIN 6 AND IC2J PIN 9.
 POSITION X BETWEEN IC2J PIN 8 AND IC2J PIN 12.
 POSITION Y BETWEEN IC2J PIN 2 AND IC2J PIN 13.
 POSITION Z BETWEEN IC2J PIN 1 AND JUNCTION AA.
 POSITION AB BETWEEN R106 AND JUNCTION AC.
 POSITION AD BETWEEN C32 AND C33.
 ADD LINK ON F2 SIDE BETWEEN C31 PAD AE AND C28 PAD AF.
 ADD LINK ON FI SIDE BETWEEN R21 PAD AG AND TR1 PAD AH.
 CUT TRACK ON FI SIDE AT POSITION AJ BETWEEN R90 PAD AK AND RL2 PIN 6.
 ADD LINK ON FI SIDE BETWEEN VIA HOLE AL AND RL2 PIN 7.
 REMOVE AND DISCARD C22, C21 AND C26.
 REPLACE C22 WITH A 22pF 100V MONOBLOC CAPACITOR.
 REPLACE C21 AND C26 WITH A 10pF 100V MONOBLOC CAPACITOR USING VEROPINS IN FIXING HOLES (4OFF) ON F2 SIDE.

REMOVE AND DISCARD R46, R47, R48, R52, R53, R60, R62, R63, R64, R66, R67, R74, R80, R88, R91, R92, R93, R94, R109, R110 AND R111.
 REPLACE THE FOLLOWING RESISTORS :-
 R46 WITH A 30K, R47 WITH A 330Ω,
 R48 WITH A 820Ω, R52 WITH A 10K,
 R53 WITH A 10K, R60 WITH A 1.2K,
 R62 WITH A 6.8K, R63 WITH A 1K,
 R64 WITH A 9.1K, R66 WITH A 2.7K,
 R67 WITH A 4.7K, R74 WITH A 10K,
 R80 WITH A 1K, R88 WITH A 1K,
 R91 WITH A 100Ω, R92 WITH A 10K,
 R93 WITH A 10K, R94 WITH A 100Ω,
 R109 WITH A 470Ω, R110 WITH A 2.7K,
 R111 WITH A 1K.
 CUT TRACK ON F2 SIDE AT POSITION 'AM' BETWEEN IC2J PIN 1 AND IC2J PIN 5.
 REMOVE AND SCRAP R63.
 CUT TRACK ON F2 SIDE AT POSITION 'AN' BETWEEN R63 AND R62.
 FIT NEW R63.
 CUT TRACK ON F2 SIDE AT POSITION AP BETWEEN R92 AND R93.
 REMOVE AND DISCARD IC2E.
 DRILL 4 HOLES Ø1MM 0.5" ABOVE IC2E PINS 17, 18, 19 AND 20 (TO ACCOMMODATE NEW IC2E, SEE BELOW).
 DRILL 3 HOLES Ø1MM 0.6" ABOVE IC2E PINS 17, 18 AND 19.
 FIT NEW C47, 0.47µF 35V, TANTALUM CAPACITOR BETWEEN VIA HOLE AR (+VE C47) AND TRACK RUNNING FROM BOTTOM OF R94, POSITION AS, (-VE C47).
 DRILL 1 HOLE Ø1MM (MARKED 'AT') 0.55" BELOW -VE END OF C37.
 DRILL 1 HOLE Ø1MM 0.1" TO THE RIGHT OF PAD 'AT' LOOKING ON F2 SIDE.
 FIT NEW C48, 10pF 100V, BETWEEN VIA HOLE AU AND PAD 'AT'.
 REMOVE AND SCRAP R93.
 FIT A VEROPIN AT POSITION AV ON F2 SIDE.
 FIT NEW R93 CONNECTING TO VEROPIN AT POSITION AV.
 FIT NEW D32, IN4149 SIGNAL DIODE, BETWEEN VEROPIN AT POSITION AV (+VE D32) AND VIA HOLE AW USING SLEEVING ON BOTH LEADS.
 FIT NEW D31, IN4149 SIGNAL DIODE BETWEEN VEROPIN AT POSITION AV AND VIA HOLE BN (+VE D31) USING SLEEVING ON LEFT HAND LEAD ONLY.
 ADD THE FOLLOWING LINKS ON FI SIDE BETWEEN :-
 IC2J PIN 1 AND IC2J PIN 2,
 IC2J PIN 5 AND IC2J PIN 6,
 IC2J PIN 8 AND IC2J PIN 9,
 IC2J PIN 12 AND IC2J PIN 13,
 IC1E PIN 8 AND R64 PAD AX.
 ADD LINK ON F2 SIDE BETWEEN NEW IC2E PIN 6 AND OLD IC2E PIN 15.
 ADD LINK ON F2 SIDE FROM NEW IC2E PIN 8 THROUGH VIA HOLE AY AND CONNECT TO NEW C48 PAD 'AT' ON FI SIDE.
 FIT NEW IC2E USING A SPREADER AS SHOWN ON F2 SIDE.
 ADD LINK ON F2 SIDE FROM OLD IC2E PIN 7 THROUGH VIA HOLE AZ AND CONNECT TO NEW IC2E PIN 2 ON FI SIDE.

ADD LINK ON F2 SIDE FROM R52 LHS THROUGH VIA HOLE BA AND CONNECT TO NEW IC2E PIN 3 ON FI SIDE.
 ADD LINK ON F2 SIDE FROM OLD IC2E PIN 12 THROUGH VIA HOLE BB AND CONNECT TO NEW IC2E PIN 4 ON FI SIDE.
 ADD THE FOLLOWING LINKS ON F2 SIDE BETWEEN :-
 OLD IC2E PIN 3 AND VIA HOLE BC,
 OLD IC2E PIN 4 AND VIA HOLE BD,
 OLD IC2E PIN 7 AND OLD IC2E PIN 14,
 R52 L.H.S. AND R93 L.H.S. (VEROPIN AT POSITION AV),
 R63 L.H.S. AND D18 +VE.
 DRILL 1 HOLE Ø1MM AT POSITION 'BE' (KEEP WELL CLEAR FROM ANY COPPERWORK ON BOTH SIDES).
 ADD LINK ON F2 SIDE FROM TP12 THROUGH VIA HOLE 'BE' AND CONNECT TO IC2J PIN 13 ON FI SIDE.
 DRILL 1 HOLE Ø1MM 0.25" TO THE RIGHT OF PAD BF AND FIT A VEROPIN IN THIS HOLE FROM F2 SIDE ENSURING A GOOD CONTACT IS MADE WITH TRACK ON FI SIDE.
 DRILL 1 HOLE Ø1MM 0.1" ABOVE VEROPIN AT POSITION BG.
 FIT A VEROPIN AT POSITION BH ON F2 SIDE.
 DRILL 1 HOLE Ø1MM 0.5" TO THE RIGHT OF VEROPIN AT POSITION BH.
 FIT A VEROPIN AT POSITION BJ ON F2 SIDE.
 FIT NEW R142, 1K, BETWEEN VEROPIN AT POSITION BH AND VEROPIN AT POSITION BJ.
 FIT NEW C49, 68µF 25V, BETWEEN VEROPIN AT POSITION BG AND VEROPIN AT POSITION BJ (C49+VE).
 ADD LINK ON F2 SIDE BETWEEN R36 LHS AND VEROPIN AT POSITION BH.
 DRILL 1 HOLE Ø1MM 0.2" BELOW RL1 PIN 4.
 ADD LINK ON F2 SIDE FROM R19 LHS THROUGH HOLE BK AND CONNECT TO RL1 PIN 4 ON FI SIDE.
 DRILL 1 HOLE Ø1MM 0.2" TO THE LEFT OF RL1 PIN 2.
 ADD LINK ON F2 SIDE FROM VIA HOLE BL THROUGH HOLE BM AND CONNECT TO RL1 PIN 2 ON FI SIDE.
 ADD LINK ON FI SIDE FROM C42 PAD BP AND R106 PAD BR

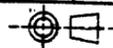
NB: LAST REFERENCE USED IS BR.
 USE TAK PAK TO SECURE WIRES (SINGLY OR TOGETHER) TO BOARD AVOIDING VIA HOLES.
 THE ABOVE CHANGES ARE FROM E1 NCJ-150/1 AND CAR 019225/1081NCC)

APPROVED (PROD)
 CERTIFIED
 CHECKED
 DRAWN
 SD

MATERIAL				MARCONI SPEC				ESTIMATED MASS (kg)				TITLE RECORD DRAWING				RESPONSIBLE AUTHORITY			
PROTECTIVE FINISH				MARCONI SPEC				TOLERANCES				POWER AMPLIFIER INPUT CONTROL AND LOGIC BOARD.				ISS. A. ARTWORK			
ISSUE				DATE				CHANGE NO.				N.S.N.				SECURITY CLASSIFICATION			
ISSUE				DATE				CHANGE NO.				MCCS DRAWING NO.				L-41-0631 M			
ISSUE				DATE				CHANGE NO.				MOD ESTABLISHMENT				SERVICE DRAWING NO.			

SERVICE DRAWING NO. 1
 SHEET NO. OF 1
 SECURITY CLASSIFICATION
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3rd ANGLE PROJECTION



LIST OF MATERIALS REQUIRED FOR THIS CHANGE:

HARWIN PC77040-3 17 OFF
 WIRE 1/0.254 PVF INS BLUE SW2000-10 5 METRES
 SLEEVING VIOLET PM9056-211 50MM
 IC SPREADER (SUPPLIED BY ENGINEER)
 ADHESIVE TAK PAK 00216 SM910041-1

RESISTOR FIXED TO BSCECC 40101-019 STYLE FX.

330Ω SC550504-561 1 OFF R47
 470Ω SC550504-565 1 OFF R109
 820Ω SC550504-571 1 OFF R48
 1K SC550504-573 6 OFF R63, R80, R88, R111, R142, R63.
 1.2K SC550504-575 1 OFF R60
 1.5K SC550504-577 1 OFF R141
 2.7K SC550504-583 4 OFF R66, R110, R123, R125.
 4.7K SC550504-589 1 OFF R67
 6.8K SC550504-593 1 OFF R62
 9.1K SC550504-596 1 OFF R64
 10K SC550504-597 5 OFF R52, R53, R74, R92, R93.
 30K SC550504-608 1 OFF R46
 68K SC550504-617 1 OFF R45

RESISTOR FIXED TO BSCECC 40101-019 STYLE EX.

100Ω SC550505-549 2 OFF R91, R94.

1000 pF ± 20% 200V SPRAGUE 923CX7R 2 OFF C50, C51.
 390 pF ± 20% 200V SPRAGUE 923CX7R 2 OFF C52, C53.
 390 pF ± 2% 100V MULLARD 642 1 OFF C17
 100 pF ± 2% 100V MULLARD 642 1 OFF C48
 22 pF ± 5% 100V SC150504-575 1 OFF C22
 10 pF ± 5% 100V SC150504-571 2 OFF C21, C26.
 0.47 pF ± 20% 35V SC150318-613 1 OFF C47
 68 pF ± 20% 25V SC150516-549 1 OFF C49
 33 nF ± 2% 25V SUFLEX HSQ 1 OFF C16

5.6V ZENER SS10000-23 2 OFF D33, D34.
 IN4149 SS10223-501 4 OFF D31, D32, D21, D22.

OP-AMP LM108AH SS65045-1 1 OFF IC2E

APPROVED (PROD)
 CERTIFIED
 CHECKED
 DRAWN
 SD

ISSUE	DATE	CHANGE No	CHK'D	ISSUE	DATE	CHANGE No	CHK'D

MATERIAL	MARCONI SPEC	ESTIMATED MASS (kg)	TITLE RECORD DRAWING
			POWER AMPLIFIER INPUT CONTROL AND LOGIC BOARD
			ISS. A. ARTWORK.
			N.S.N.
PROTECTIVE FINISH	MARCONI SPEC	TOLERANCES	DIMENSIONS IN MILLIMETRES

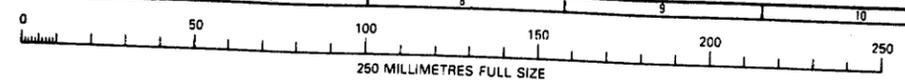
MARCONI Command and Control Systems
 NEW PARKS, LEICESTER, ENGLAND.
 MOD ESTABLISHMENT

RESPONSIBLE AUTHORITY
 SECURITY CLASSIFICATION
 MCCS DRAWING NO. L-41-0631 M
 SERVICE DRAWING NO.

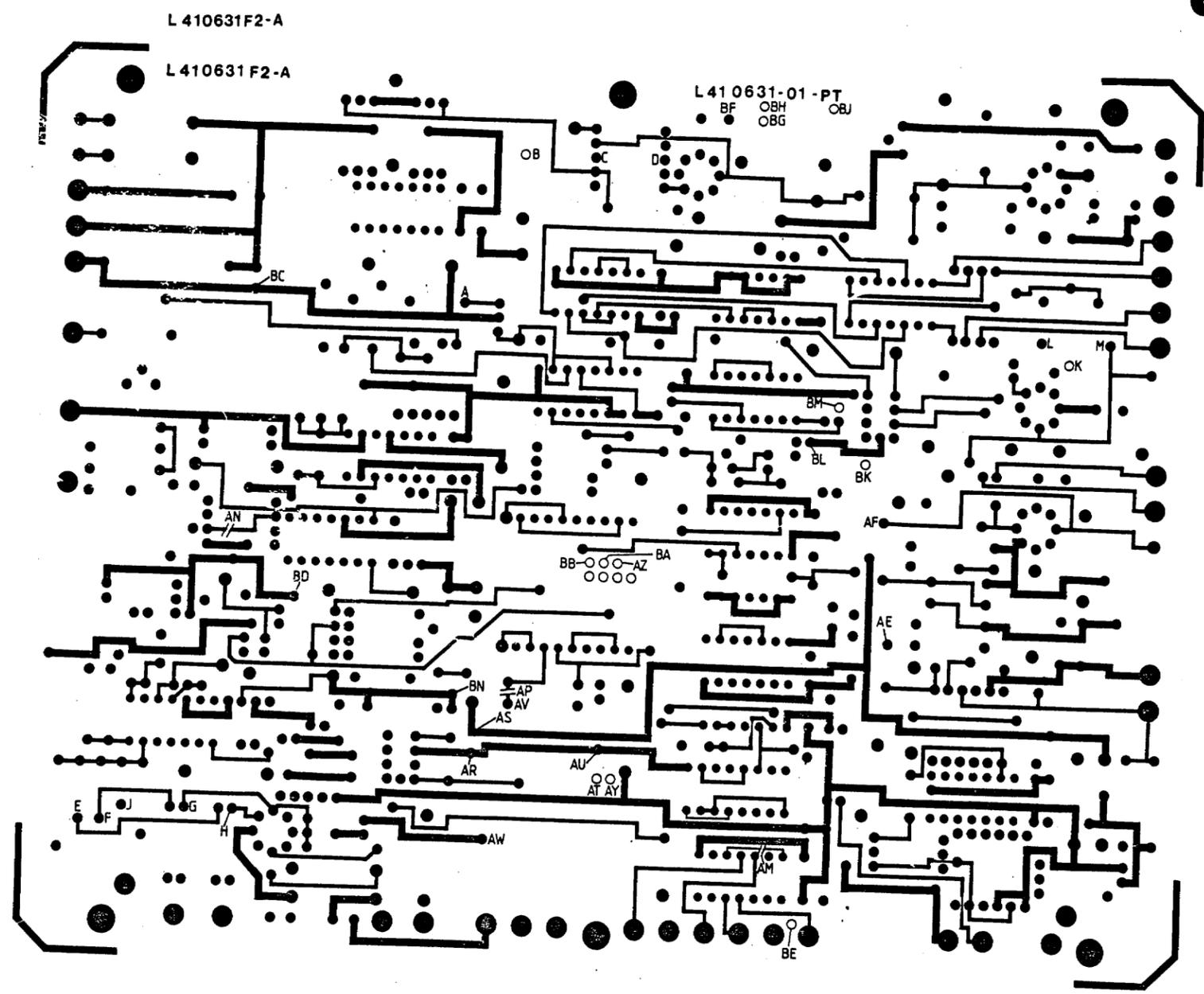
SAFETY CLASS HAZARD
 SEE LOGBOOK YES SEE NOTE

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3rd ANGLE PROJECTION



COMPONENT SIDE OF BOARD (F2)



DRG. NO. TO APPEAR AS COPPER

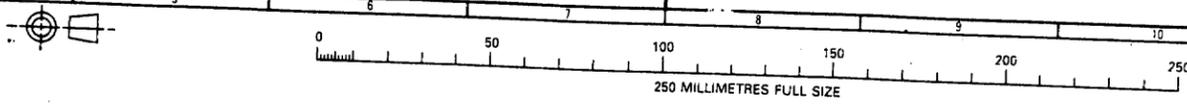
L-41-0631 F2

MATERIAL				MARCONI SPEC				ESTIMATED MASS (kg)				TITLE RECORD DRAWING				RESPONSIBLE AUTHORITY			
PROTECTIVE FINISH				MARCONI SPEC				SCALE (ORIGINAL)				POWER AMPLIFIER INPUT CONTROL AND LOGIC BOARD				ISS. A. ARTWORK			
TOLERANCES				DIMENSIONS IN MILLIMETRES				N.S.N.				SECURITY CLASSIFICATION				HAZARD YES			
UNLESS OTHERWISE STATED				MOD ESTABLISHMENT				NEW PARKS, LEICESTER, ENGLAND.				MCCS DRAWING NO. L-41-0631M				SEE NOTE			
ISSUE	DATE	CHANGE No	CHK'D	ISSUE	DATE	CHANGE No	CHK'D												
				A	23-11-84	CS (M.J)													

APPROVED (PROD)
 CERTIFIED
 CHECKED
 DRAWN SD

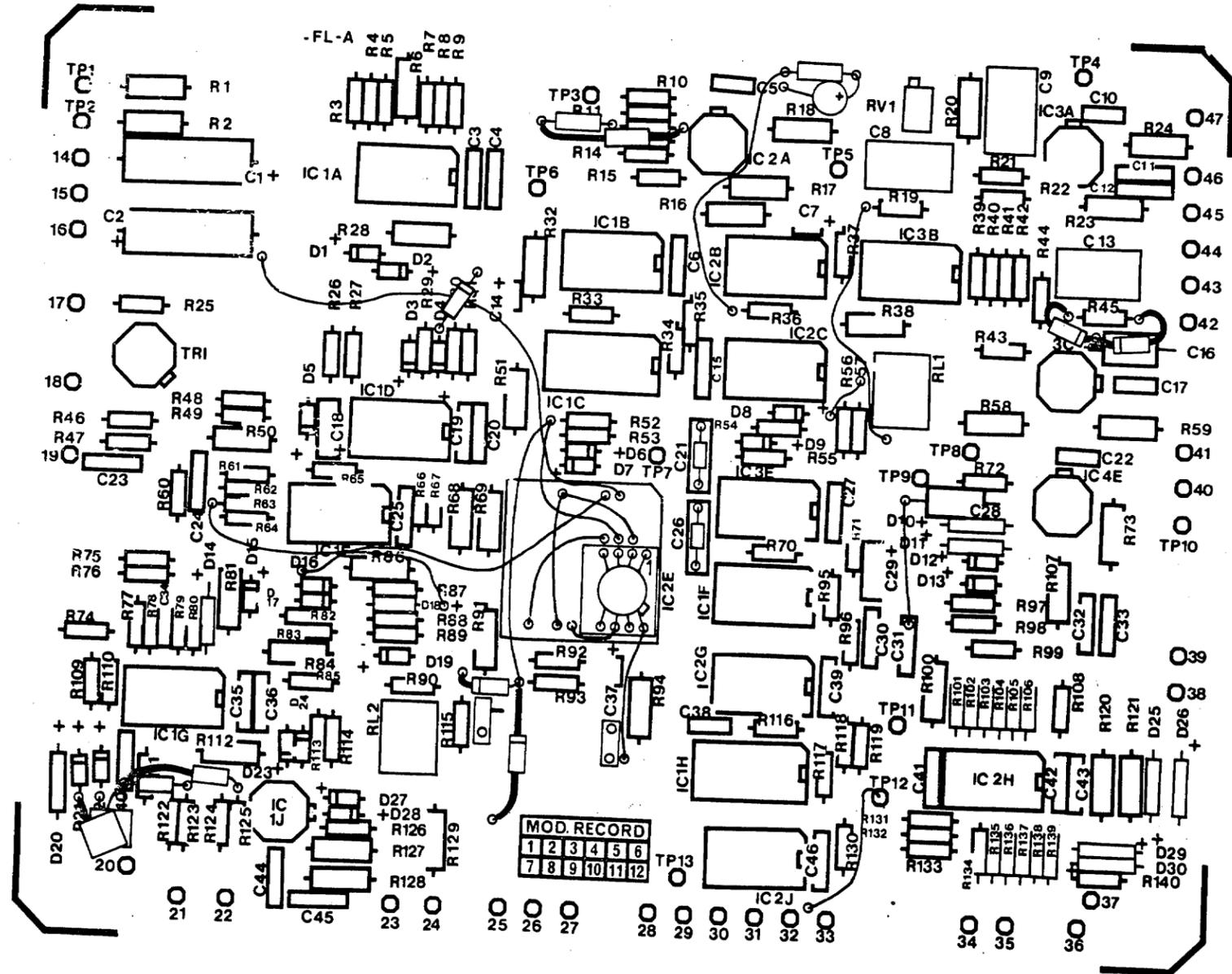
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3rd ANGLE PROJECTION



SILK SCREEN ON COMPONENT SIDE OF BOARD (FL)

L 410631 FL - A



APPROVED (PROD)
 CERTIFIED
 CHECKED
 DRAWN SD

ISSUE	DATE	CHANGE No	CHK'D	ISSUE	DATE	CHANGE No	CHK'D
				A	22-11-84	C.S.S.H.I	ISS.B

MATERIAL	MARCONI SPEC	ESTIMATED MASS (kg)	
PROTECTIVE FINISH	MARCONI SPEC	SCALE (ORIGINAL)	
		DIMENSIONS IN MILLIMETRES	
		TOLERANCES	
UNLESS OTHERWISE STATED			

TITLE RECORD DRAWING
POWER AMPLIFIER INPUT CONTROL AND LOGIC BOARD
 ISS.A. ARTWORK
 N.S.N.
Marconi Command and Control Systems
 NEW PARKS, LEICESTER, ENGLAND.
 MOD ESTABLISHMENT

SAFETY	CLASS	HAZARD
SEE LOPND		SEE NOTE
RESPONSIBLE AUTHORITY		
SECURITY CLASSIFICATION		
MCCS DRAWING NO. L-41-0631 M		
SERVICE DRAWING NO.		

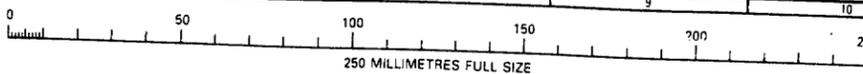
SERVICE DRAWING NO.

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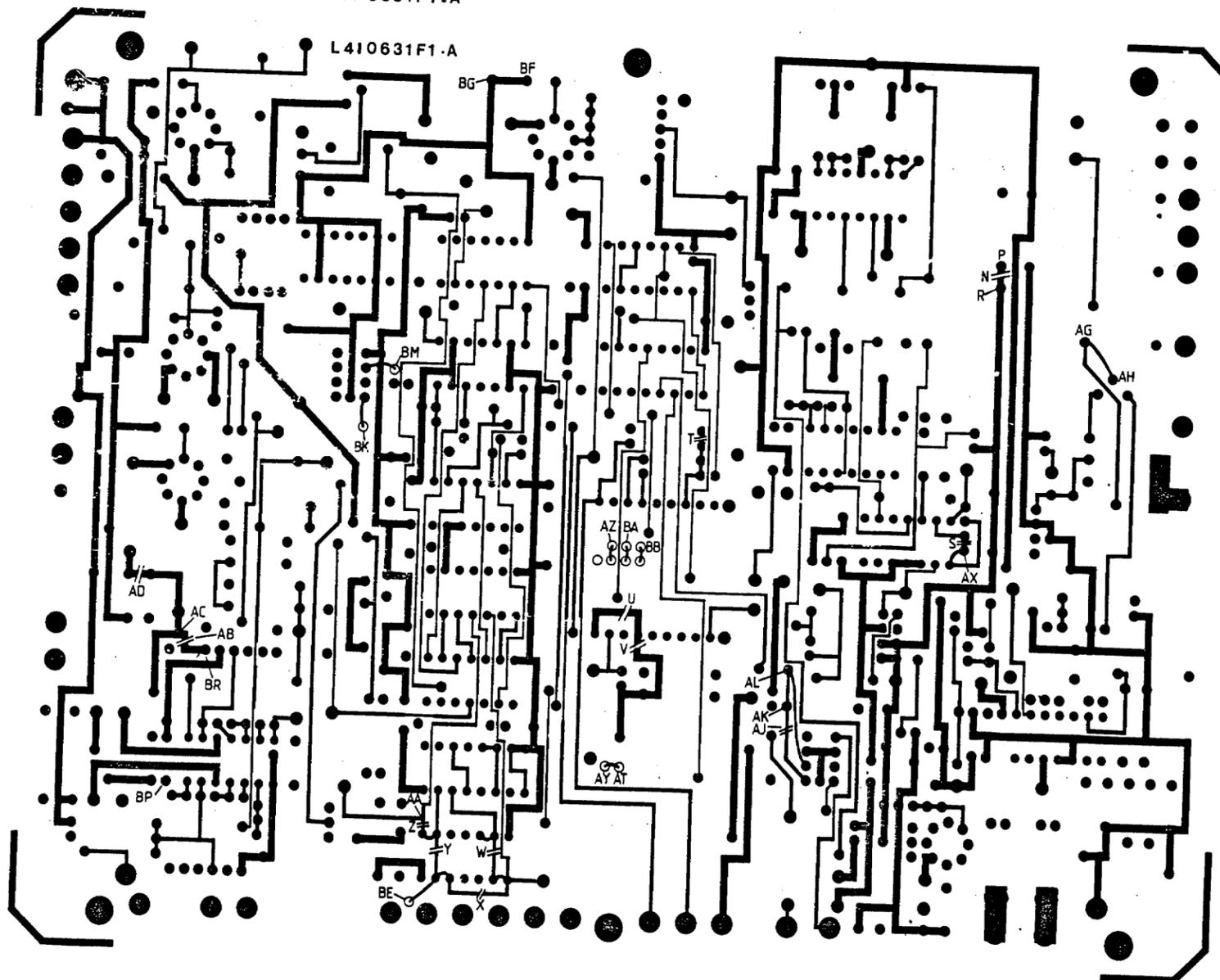
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FLOW SOLDER SIDE OF BOARD (F1)

L 41 0631F1.A

L 41 0631F1.A



DRG. NO. TO APPEAR AS COPPER

L-41-0631 F1

APPROVED (PROD)

CERTIFIED

CHECKED

DRAWN

SD

ISSUE	DATE	CHANGE No	CHK'D	ISSUE	DATE	CHANGE No	CHK'D

MATERIAL	MARCONI SPEC	ESTIMATED MASS (kg)
PROTECTIVE FINISH	MARCONI SPEC	SCALE (ORIGINAL)
		DIMENSIONS IN MILLIMETRES
		TOLERANCES
		UNLESS OTHERWISE STATED

TITLE RECORD DRAWING
POWER AMPLIFIER INPUT CONTROL AND LOGIC BOARD
 DIMENSIONS IN MILLIMETRES
 N.S.N.
Marconi Command and Control Systems
 NEW PARKS, LEICESTER, ENGLAND.
 MOD ESTABLISHMENT

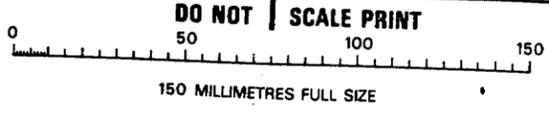
SAFETY	CLASS	HAZARD
SEE LOP80		YES SEE NOTE
RESPONSIBLE AUTHORITY		
SECURITY CLASSIFICATION		
MCCS DRAWING NO.	L-41-0631M	
SERVICE DRAWING NO.		

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SECURITY CLASSIFICATION
SERVICES DRG. No.
FIRST USED ON L-41-0633

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3rd ANGLE PROJECTION



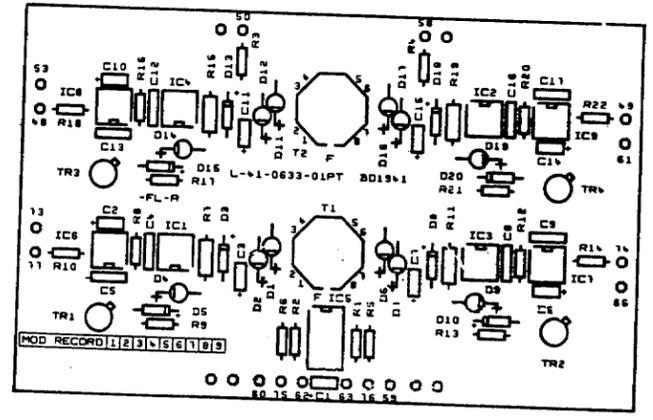
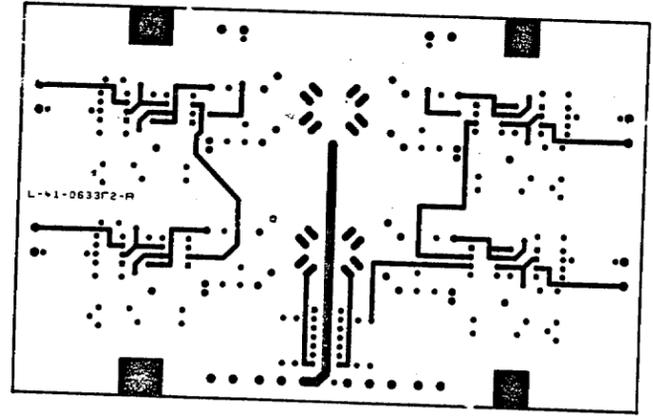
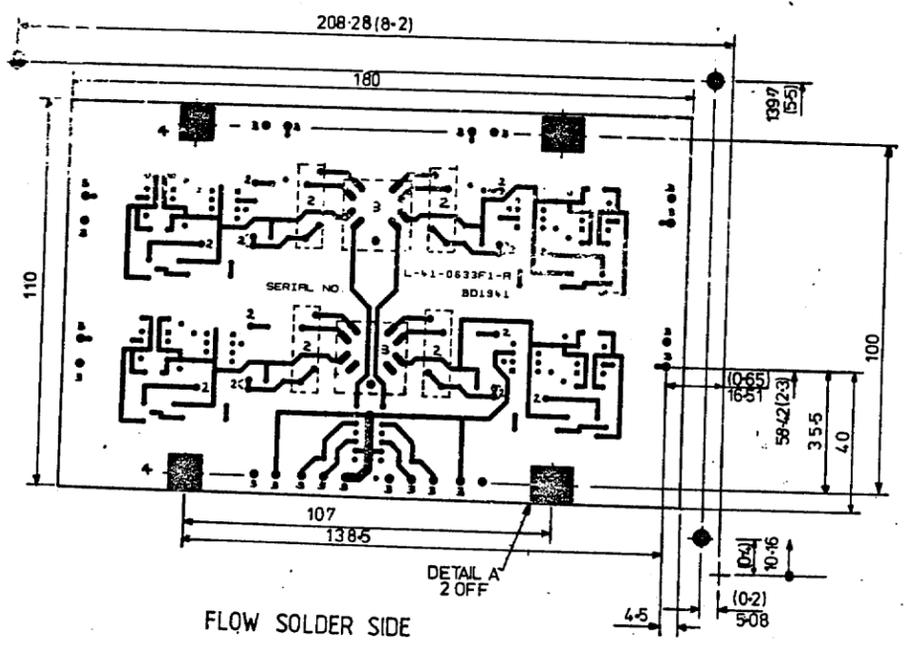
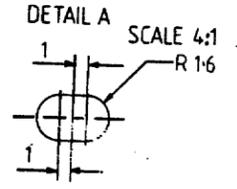
UNLESS OTHERWISE STATED ALL LANDS TO HAVE A FINISHED HOLE DIA. OF 0.90
NC DRILL TAPE (NPJ) 594 (Q TABLE) 129

DRILL No.	FINISHED HOLE Ø	No. OFF	SYMBOL	POS. TOL.	DATUM
1	09 ± 0.076	182			
2	11 ± 0.076	32			
3	13 ± 0.076	40			
4	34 ± 0.076	2			

ALL CHANGES TO THIS DOCUMENT ARE LISTED ON

- NOTES
1. THE BOARD TO BE MANUFACTURED TO DEF STAN 59-48
 2. BOARD MANUFACTURE TO USE FILMS L410633
F1 Issue A
F2 Issue A
FL Issue A
 3. THE COMPONENT SIDE (F2) OF THE BOARD TO BE SILK SCREENED IN YELLOW CHARACTERS
 4. UNLESS OTHERWISE STATED ALL HOLES TO BE PLATED THROUGH
 5. ALL HOLE SIZES ARE FINISHED SIZE.
 6. INSPECTION NOTE
BOW & TWIST SHALL BE MEASURED AND NOT EXCEED 0.5% (SEE MRP 687-04-01)
ON OUTER LAYERS AT NO POINT AROUND THE EDGE OF THE HOLES SHALL THERE BE LESS THAN 0.13 WIDTH OF COPPER.

ISSUE
A
321 NCC1
0043/1
20-9-82



4.2 METRE WILLIAM HERSCHEL TELESCOPE
FOR
OBSERVATORIO DEL ROQUE DE LOS MUCHACHOS
LA PALMA
AND
ROYAL GREENWICH OBSERVATORY



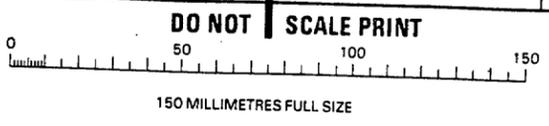
ASSOCIATED ITEMS AVAILABLE FOR THIS DRAWING	MARK
SUFFIN	X
CHANGE MOD. RECORD SH.	C
DRAWING LIST	I
ITEM LIST	K
TEST SPEC.	L
WIRING LIST	M
NET DIAGRAM	Z
SAFETY WARNING	NO

CHECKED D.M. G... DRAWN H.D.C. G...	APPROVED TRACED	APPROVED (PROD) ISSUED BY D.A.W. P.C.B.D.O.	DIMS. IN m.m. (INS) ORIGINAL SCALE 1:1	MATERIAL NELCO N105 TO NEMA G10/FR 4 1.60 THK 17.5µm (105g/m²) DOUBLE SIDED COPPER CLAD TO BS4584 PT 3 OR APPROVED EQUIVALENT.	MARCONI SPEC. PM7222/60/406	FINISH 60/40 TIN/LEAD TO BS 441	MARCONI SPEC. MRP 685-02-07	TOLERANCES, UNLESS OTHERWISE STATED: ±0.25 (0.01)	MARCONI RADAR SYSTEMS LIMITED CHELMSFORD & LEICESTER, ENGLAND	SECURITY CLASSIFICATION
UNLESS OTHERWISE STATED, SCREW THREADS TO BE ISO METRIC COARSE PITCH, MEDIUM CLASS TO BS 3343, PART 2.									MARCONI DRAWING No. L-41-0633	
TITLE: HOT BOARD DRILLING & PREPARATION.									SERVICES DRAWING No.	

SECURITY CLASSIFICATION
 SERVICES DRG. No. 1
 FIRST USED ON L410633

THIS DRAWING IS NOT TO BE DISCLOSED TO A THIRD PARTY WITHOUT WRITTEN AUTHORITY FROM THE COMPANY
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3rd ANGLE PROJECTION

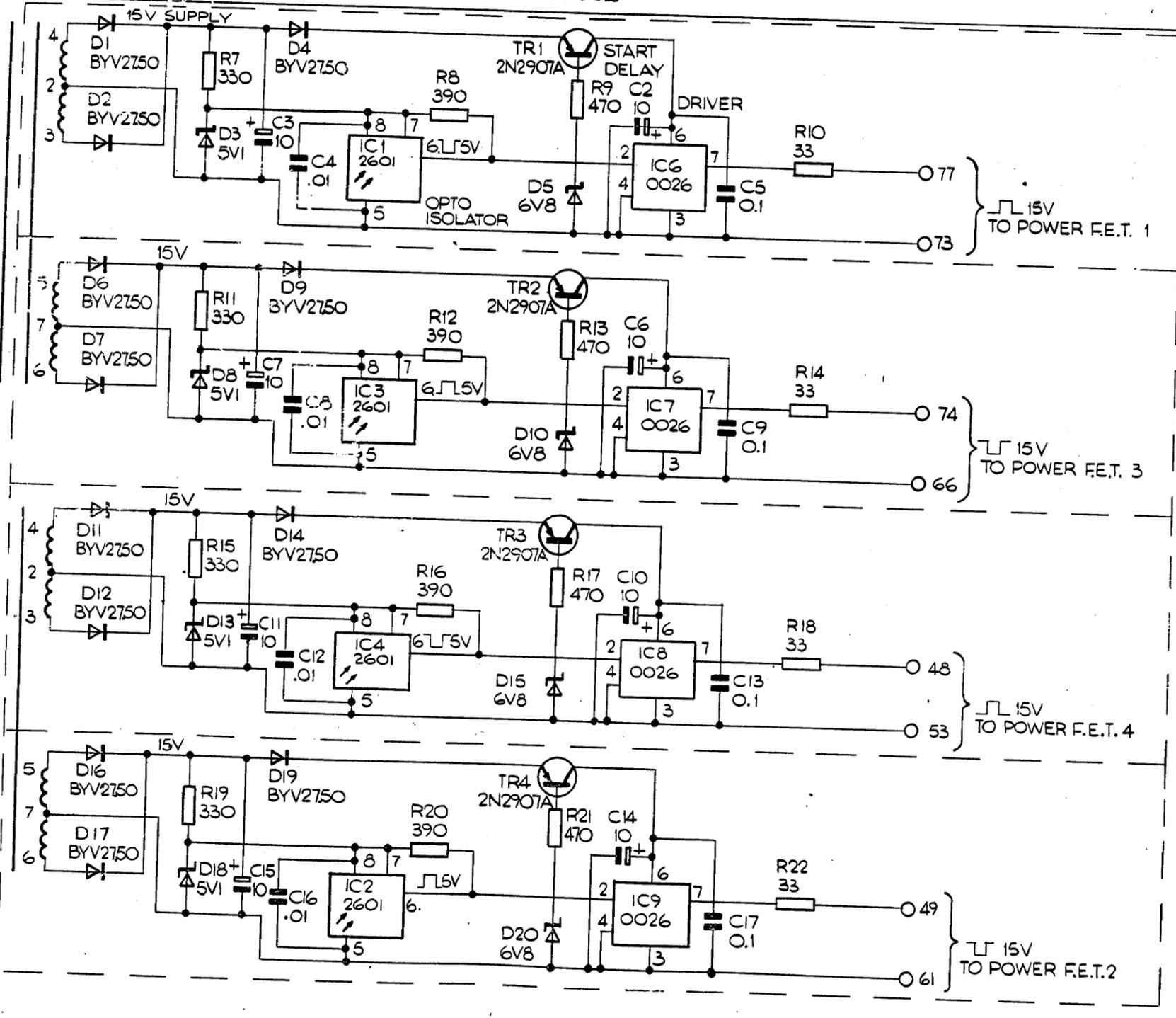
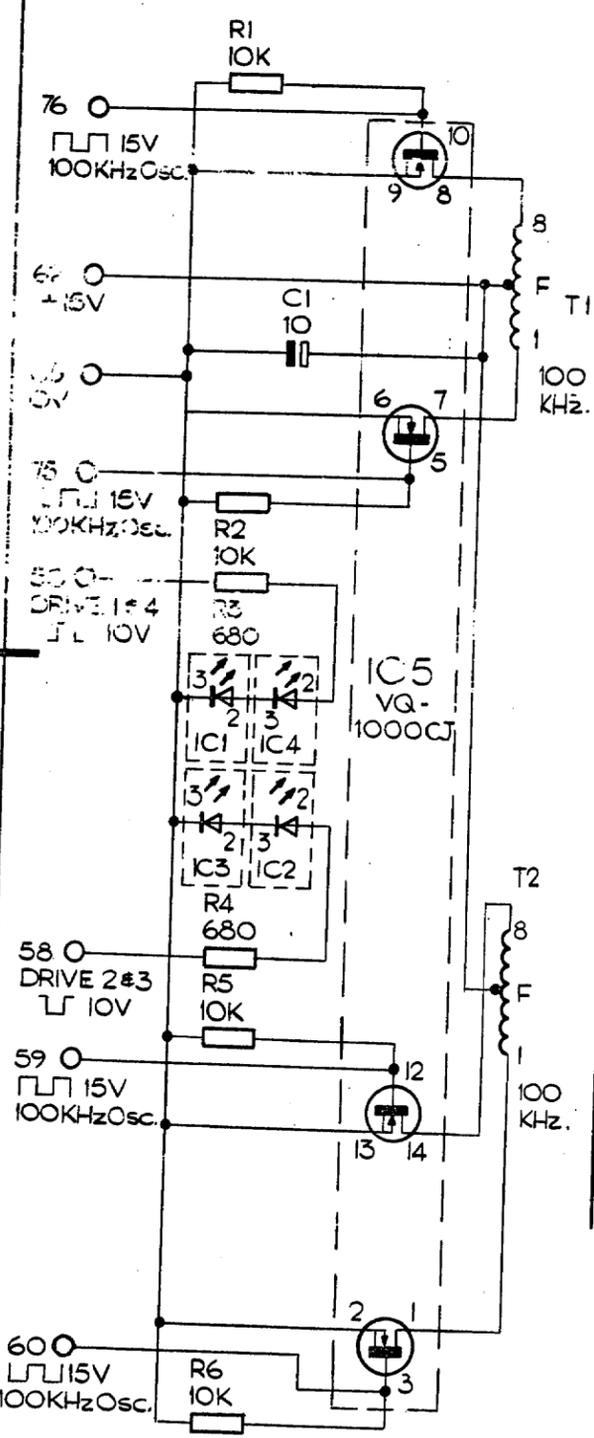


4.2 METRE WILLIAM HERSCHEL TELESCOPE
 FOR
 OBSERVATORIO DEL ROQUE DE LOS MUCHACHOS
 LA PALMA.
 AND
 ROYAL GREENWICH OBSERVATORY

ALL CHANGES TO THIS DOCUMENT ARE LISTED ON L410633 /C
 NOTES

CAPACITORS	C1	C3 C15 C12	C2 C14	C5 C13
RESISTORS	R1 R4 R2 R5 R3 R6	R7 R11 R19 R15	R8 R12 R20 R16	R9 R13 R21 R17
MISC.	IC1 IC3 IC2 IC4	IC5	T1 T2	D1 D6 D11 D16 D2 D7 D12 D7
				D3 D13 D8 D18
				D4 D14 D9 D19
				IC1 IC4 IC3 IC2
				TR1 TR2 DS D15 TR3 TR4 D10 D20
				R10 R14 R22 R18

A 321NCCI
 0043-2



THIS DRG. DERIVED FROM SK1749650-1.

1	?
3	4

ASSOCIATED ITEMS AVAILABLE FOR THIS DRAWING	SUFFIX	MARK
CHANGE MOD RECORD SH	C	
DRAWING LIST	J	
ITEM LIST	K	
TEST SPEC.	L	
WIRING LIST	N	
CCT DIAGRAM	Z	
SAFETY WARNING		

CHECKED	APPROVED	APPROVED (PROD)	DIMS. IN	MATERIAL	MARCONI SPEC.	FINISH	MARCONI SPEC.	TOLERANCES.	UNLESS OTHERWISE STATED:
1	<i>John D. ...</i>								
DRAWN	TRACED	ISSUED BY	ORIGINAL SCALE						
GF		DAW	PCB D.O.						

MARCONI RADAR SYSTEMS LIMITED CHELMSFORD & LEICESTER, ENGLAND		SECURITY CLASSIFICATION
TITLE TB2. P.A. DRIVER BD 1941.		MARCONI DRAWING No. L-41-0633 Z
SERVICES DRAWING No.		SH. No. / SH. CONTR. / SAFE