

# **Channel Amplifier**

**1080**

# Channel Amplifier

## I 080

---

© 1997 AMS Neve plc own the copyright of all information and drawings contained in this manual which are not to be copied or reproduced by any means or disclosed in part or whole to any third party without written permission.

---

As part of our policy of continual product improvement, we reserve the right to alter specifications without notice

---

Disclaimer: The information in this manual has been carefully checked and is believed to be accurate at the time of publication. However, no responsibility is taken by us for inaccuracies, errors or omissions nor is any liability assumed for any loss or damage resulting either directly or indirectly from use of the information contained within it.

---

### HEAD OFFICE

AMS NEVE PLC • BILLINGTON ROAD • BURNLEY  
LANCS BB11 5UB • ENGLAND  
TELEPHONE: +44 (0) 1282 457011 • FAX: +44 (0) 1282 417282

### LONDON OFFICE

TELEPHONE: +44 (0) 171 916 2828 • FAX: +44 (0) 171 916 2827

### NORTH AMERICAN OFFICES

AMS NEVE INC., NEW YORK  
TEL: +1 (212) 949 2324 • FAX: +1 (212) 450 7339  
AMS NEVE INC., HOLLYWOOD  
TEL: +1 (213) 461 6383 • FAX: +1 (213) 461 1620  
RUPERT NEVE CANADA INC., TORONTO  
TEL: +1 (416) 365 3363 • FAX: +1 (416) 365 1044  
e-mail: [enquiry@ams-neve.com](mailto:enquiry@ams-neve.com)  
<http://www.ams-neve.com>

## **Health and Safety Warnings**

### ***Caution***



TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER OR BACK. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.

- Only suitably trained personnel should service this equipment.
- No attempt to enter this equipment should be made by the user.
- There are no user serviceable parts enclosed.
- Please read and take note of all warning and informative labels.
- This equipment must be isolated from the mains by removing the incoming IEC mains connector before starting any servicing operation.
- Ensure that mains outlet sockets of the facility are easily identifiable.
- All installation wiring must comply with your national wiring regulations.

### **Explanation of Warning Symbols**



The lightening flash with arrow head symbol within an equilateral triangle is intended to alert the user to the presence of dangerous voltages and energy levels within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock or injury.



The exclamation mark within an equilateral triangle is intended to prompt the user to refer to important operating or maintenance (servicing) instructions in the documentation supplied with the product.



## **Earthing, Power Supplies and Fuse Ratings**

***This equipment must be EARTHED.***

The equipment gets its main safety earth through the power cord. Connection should only be made via a suitable socket where the earth ground has been verified. If the ground connection is not present the whole of the equipment could present a potential electric shock hazard.

Information on the mains current and voltages ratings for this equipment is located on the mains rating plate near the IEC mains inlet. Fuses should only be replaced with ones of the same type and rating as that indicated on the ratings plate.

## **System Interconnections**

All system interconnections to this equipment fall within the SELV limits as defined by EN60950.

## **Environmental Considerations**

Temperature Range:

Operating 0°C to +30°C,

Non-operating -20°C to +60°C.

Relative humidity:

Operating 25% to 80% non condensing.

Non-operating 0% to 90% non condensing.

Should condensation have occurred during shipping it is essential that the units are given time to adjust to the ambient temperature to allow the condensation to dissipate before power is applied.

Altitude:

Operating Up to 2,000 feet

Non-operating 40,000 feet.

Ensure that the equipment is securely mounted in a rack or on a secure level surface before operating. Additional supports are recommended for rack mounted equipment over 3U high.

Operate only in a clean and dry environment.

Do not operate in an explosive atmosphere.



Do not allow any liquid or solid objects to enter the equipment. Should this accidentally occur then immediately switch off the unit and contact your service agent.

## **Cooling**

Ensure adequate space for cooling is provided - this will also enhance the life and reliability of the equipment.

Do not allow ventilation slots to be blocked.

Service personnel should periodically inspect, and if necessary, clean air filters on the rack units.

Do not leave the equipment powered up with the dust cover fitted (where provided).

Cooling methods:

Where convection cooling is used (for example the console with no air filters) ensure free air flow by allowing a gap of at least 75mm all around the equipment. If in doubt contact AMS Neve Customer Support Department for advice.

The rack mounted equipment uses forced air cooling with air filters.

## **Cleaning**

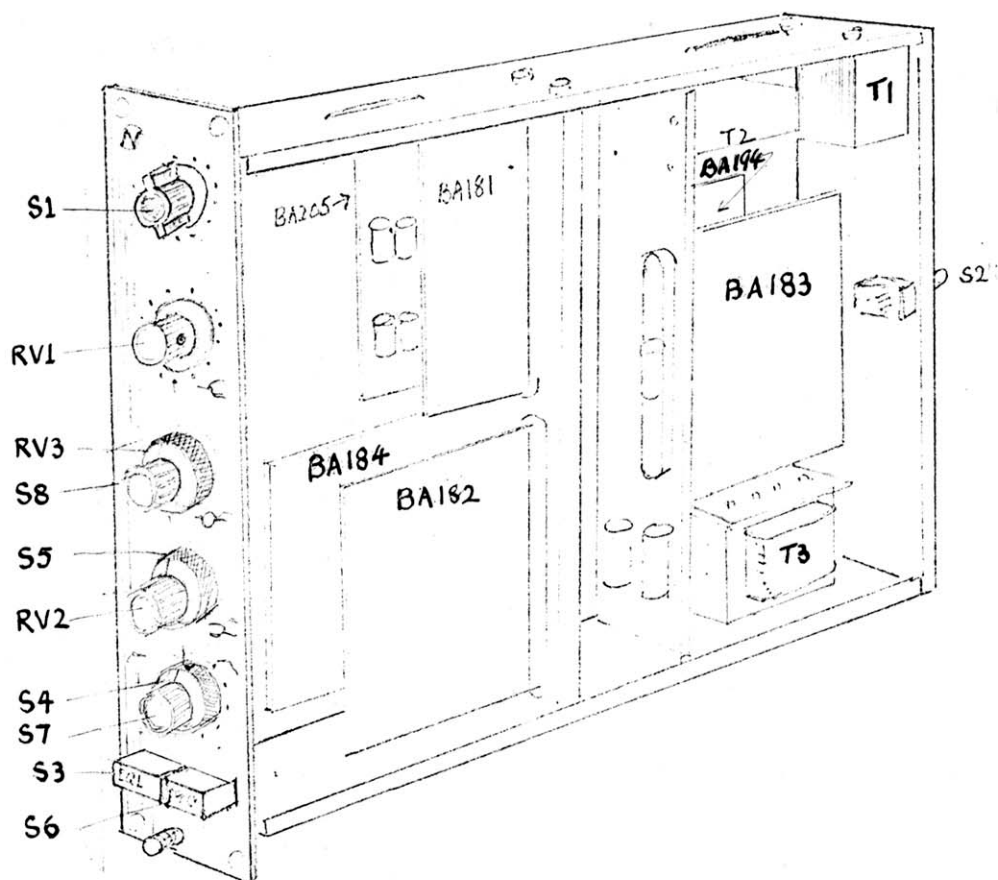
For cleaning the front panels of the equipment we recommend anti-static screen cleaner sprayed onto a soft cloth to dampen it only.

## **Warning**



Exposure to high sound pressure levels for extended periods of time can permanently damage your hearing.

## CHANNEL AMPLIFIER 1080



### CIRCUIT REFERENCES

Module - general	-	Channel Amplifier 1080.
Board BA 183	-	Amplifier.
Board BA 184	-	Amplifier.
Board BA 205	-	Signal processing HF/LF cut/boost.
Board BA 182	-	High pass filter.
Board BA 181	-	Signal processing - "presence".
Board BA 194/A	-	Low Pass Filter.

### GENERAL DESCRIPTION

The channel amplifier operates from a microphone or a line source and raises the level of the incoming signal to 0 dBm for feeding into a 600 ohm load. The following signal processing operations can be switched into operation as required.

- (1) High frequency Cut/Boost.
- (2) "Presence" (mid-frequency boost/cut).
- (3) Low frequency cut/boost.
- (4) High pass/low pass filter.

The level of the incoming signal can be between -80 dBm and -20 dBm for a microphone input, or between -20 dBm and +10dBm for a line input. After performing signal processing as required, the signal output level is 0dBm.

The unit contains the printed circuit board amplifier B183, an operational amplifier B 184, an output amplifier (part of board B 183), and the filter circuits.

The sections of the attenuator are arranged so that when the low level input is used, the high level input is disconnected, and the gain of amplifier BA 183 N-V is raised by section S1C of the attenuator. When the attenuator is switched to deal with a high level signal, the first is disconnected and the signal is routed via a section of the attenuator directly to the input of the second amplifier, the gain of which is automatically reduced.

Switch S3 is located beside the main connector on the rear panel of the unit. The switch is wired so that the primaries of the microphone input transformer may be adjusted to suit either of the two types of microphone in most general use.

The line input transformer connects an input at higher level via a separate section of the Line/Microphone input selector and switched attenuator S1. The switch is divided into two sections separated by OFF positions. The microphone input is connected to the first amplifier at pin U of board BA 184 N-V. The output from the emitter follower of the first amplifier at board contact P is taken via the switch S1b to the input U of a similar amplifier on board BA 183 N-V.

The resistor R1 connects feedback from the output to the input of the amplifier. This feedback loop modifies the overall gain of the amplifier and also lowers the input stage impedance to match that



of the microphone input transformer. Gain is also modified by R3 which is connected between contacts T and V, thereby altering the amplitude of the signal developed across a resistor forming part of the emitter loading of the input and output stages of the amplifier.

Note the intermediate OFF position dividing the two sections of the microphone switched attenuator occurring between -50 and -45 dB positions. At the -50 dB position, the gain of the first amplifier board on the BA 184 is no longer required, and the output from the microphone transformer is switched directly to the input U of a similar amplifier on board B 183 N-V. At the -50dB and -45 dB positions, R11 and R16 are respectively switched across the feedback gain control points T and V of the BA 183 N-V amplifier. At the -40dB to -20dB switch positions, gain is progressively reduced by the effects of R12, R14, R17, R19 in series with the "live" pin of microphone input transformer, and shunted by R10, R13, R15, R18 connected across the secondary.

A second "OFF" position isolates the microphone positions of the switched attenuator from the alternative line input provided by the high level input transformer. In this case the attenuator action is not complicated by variations of feedback, and the amplifier of board B 183 N-V acts as the initial stage of gain with a fixed amount of overall feedback provided by R2.

The output from contact P of board BA 183 N-V is taken to the switch S3 which enables the signal processing circuits to be either switched in or by-passed as required. The switch is shown in the by-passing position on the circuit diagram H/10,030. The signal is taken via the link K-L and applied at the input (contact L) of the board BA 183 A-M. The output from this amplifier at contacts B and M is taken to pins 1 and 3 of the output transformer. Switch S6 enables the phase of the output from T3 to be reversed, if desired. The functions of the four signal processing boards are given on the table in the bottom left-hand corner of the circuit H/10,030.

In order to boost the gain of the output amplifier, R52 in series with the 80  $\mu$ F capacitor C6 are effectively connected across a resistor in the emitter circuit of the input transistor of this amplifier. Contacts A and J are linked to boost the current through the power transistor in this application.

The 10M resistors wired between the switch contacts of S4, S5, S7 and S8 suppress clicks when adjustments are made.

### SPECIFICATION

#### Inputs

1. Microphone.
2. Line - Both inputs are balanced and earth free. R.F. isolated, electrostatically screened, astatically wound transformers used for each input.

#### Input Impedance.

1. Microphone - 300 or 1200 ohms termination, switchable.
2. Line - 10,000 ohms line, bridging from 600 ohms or lower source impedance.

#### Sensitivity

1. Microphone - from -80 dBm to -20 dBm in 5dB steps for 0dBm output.
2. Line - from -20dBm to +10dBm in 5dB steps for 0dBm output.

#### Noise

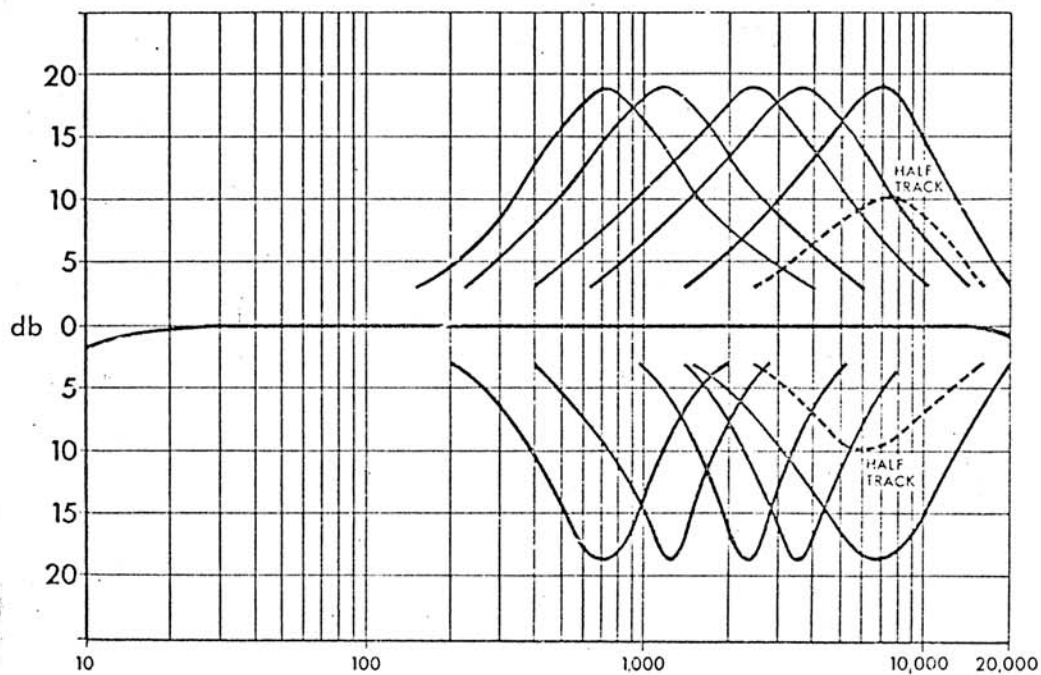
- (a) Better than -125 dBm E.I.N. between -80 and -40 dBm referred to 600 ohms input impedance.
- (b) Better than -83 dBm between -35 and +10dBm sensitivity.  
R.M.S. values, 20 Hz to 20 kHz, unweighted with filters and controls either "Flat" or switched out.

#### Output

Balanced and floating to feed a 600 ohms load.

A second unbalanced output is also available.

Maximum output +26 dBm into 600 ohms, or +20 dBm into 150 ohms.



Continuously variable to a maximum of  $\pm 16$ dB. Switched maximum boost and cut frequencies peaking at 7.0, 3.6, 2.4 and 0.7kHz.

#### Push-buttons

1. Equalisation IN/OUT.
2. Phase Reverse (output).



### Output Impedance

600 ohms, balanced (source impedance 75 ohms).

May be adjusted internally to feed a 150 ohm load (source impedance 20 ohms.)

### Frequency Response

15 Hz - 20 kHz  $\pm$  0.5dB.

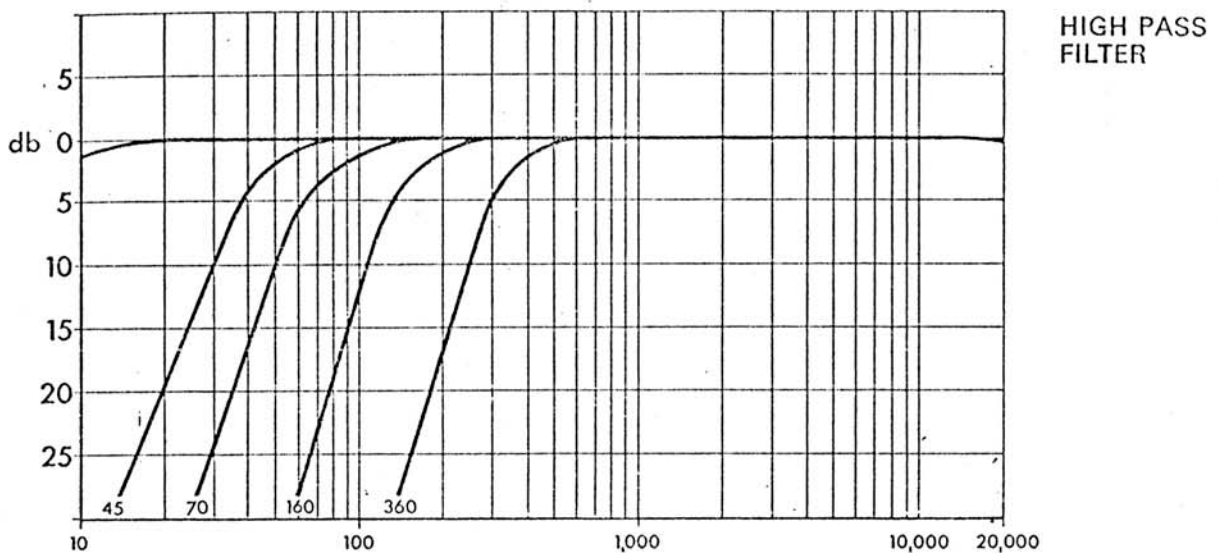
7 Hz - 35 kHz - 3dB.

Reactive component less than 20% between 50 Hz and 10kHz.

Measured with filter and response controls switched "out" from 200 ohms source into 1200 microphone input at -60 dBm sensitivity, or from a 600 ohm source into 10,000 ohm line input.

With conditions as above, a square wave of 1 microsecond rise time and 10kHz repetition rate shows ringing and overshoot not exceeding 1% of the peak amplitude, the output rise time being strictly consistent with amplifier band width.

### High Pass Filter



Provides 4 switched responses with -3dB points at 45Hz, 70Hz, 160Hz and 360Hz. Slope - 18dB per octave.

PARTS LIST 1080 (Cont'd)

REF.	DESCRIPTION	PART NO.
R40	12K TR5 5%	R5 12K
R41-48	10M BTT	RBT 10M
R49	4K7 TR5 5%	R5 4K7
R50	1K5 "	R5 1K5
R51	270 "	R5 270
R52	390 "	R5 390
R53	120 "	R5 120
R54	12 "	R5 12
R55	5K1 "	R5 5K1
R56-63	10M BTT	RBT 10M
R64	1K2 R5 5%	R5 1K2
R65-74	10M BTT	RBT 10M
R75	1K5 R5 5%	R5 1K5
R76	220 R4 5%	R4 220
C1	180 pF suflex H.5 10%	C 0040
C2	640 $\mu$ F C437/AR/F640	C 0032
C3	180 pF Suflex H.5 5%	C 0040
C4	640 $\mu$ F C437/AR/F640	C 0032
C5	100nF C296/AA/10K	C0009
C6	80 $\mu$ F C426/AR/F80	C 0029
C7	640 $\mu$ F C437/AR/F640	C 0032
C8	640 $\mu$ F "	C 0032
S1	Input Attenuator Elma 23 way	S 0120
S2	H1/LD Mic. input	S 0132
S3	Equalisation by-pass	S 0142
S4	Low Pass Filter (Outer)	MK 20000
S5	Treble/Bass Cut/Boost	S 0132
S7	High Pass Filter (Blue Centre)	MK 20000
S8	Presence	S 0291
	BA 184 Amplifier	
	BA 183 Amplifier	
	BA 194/A - Low Pass Filter	
	BA 205 Treble/Bass Boost/Cut	
	BA 182 High Pass Filter	
	BA 181 "Presence"	
	Input Transformer 10468 (Mic)	T 0004
	Input Transformer 31267 (Line)	T 0006
	Output Transformer L 01166	T 0007

PARTS LIST 1080

REF.	DESCRIPTION	PART NO.
R1	22K TR5 5%	R5 22K
R2	18K "	R5 18K
R3	91 "	R5 91
R4	3K9 R4 5%	R4 3K9
R5	3K3 "	R4 3K3
R6	2K7 "	R4 2K7
R7	2K7 "	R4 2K7
R8	18K "	R4 18K
R9	12K "	R4 12K
R10	3K9 "	R4 3K9
R11	120 "	R4 120
R12	2K2 "	R4 2K2
R13	1K8 "	R4 1K8
R14	3K3 "	R4 3K3
R15	1K "	R4 1K
R16	330 "	R4 330
R17	3K9 "	R4 3K9
R18	510 "	R4 510
R19	4K3 "	R4 4K3
R20	33 "	R4 33
R21	27 "	R4 27
R22	47 "	R4 47
R23	2K2 "	R4 2K2
R24	82 "	R4 82
R25	150 "	R4 150
R26	270 "	R4 270
R27	430 "	R4 430
R28	10K R5 5%	R5 10K
R29-36	10M BTT 5%	RBT 10M
R37	15K R5 5%	R5 15K
R38	4K7 "	R5 4K7
R39	39K "	R5 39K



# Parts List

L. Part No. 1080

Description: Channel Amp.

Sheet 1 of 5 sheets

A.L. 5 6  
DATE 13/3/72 13/3/72

Item	Date	Change	Qty	1-6-74	10907
1	4/8/71				
2	15.10.71	10340			
3	28.10.71	10388			
4	11.1.72	10429 & 10435			

Item No.	N.E.L. Part No.	Description	Qty Per	Total This Job	Qty Issued	Qty Short	Checked by	Price Each £. s.
1	M10383	Front Inter Panel	1					
2	MU20157	Inter Panel	1					
3	M10292	Inter Panel	1					
4	M10341	Rear Panel	1					
5	M10310	Top & Bottom Panel	2					
6	M10231	Side Panel	2					
7	M10381	Transformer Bracket	1					
8	M10122	Transformer Plate	1					
9	S0209	Knob-Marconi bar with skirt - 1" Maroon	1					
10	S0269	Knob-Marconi round - less skirt - with bush 11/16"	3					
11	M11033	Knob-Dual concentric Aluminium - 2 types engraved	1					
12	S0157	Isostat Cap White (M11745/1) (M11745/2 Phase)	2					
13								
14								
15	C0079	Connector 18 Way 143-018-01	7					
16	T0007	Transformer L01166	1					
17	S0206	Knob-Marconi bar with skirt - 1" Blue	1					

# Parts List

N.L. Part No. 1080

Description:

Sheet 2 of 5 sheets

Issue	Date	Change Note No.
1	4.8.71	
2	15.10.71	10340
3	28.10.71 28.10.71	10386 <del>10388</del> 10387
4	11.1.72	10429 & 10435

Works Order No:

Qty Issued:

Issued to:

Item No.	N.E.L. Part No.	Description	Qty Per	Total This Job	Qty Issued	Qty Short	Checked by	Price Each £. s.
18	S0210	Knob-Marconi round with skirt - 11/16" Grey	1					
19	T0006	Transformer 31267/S	1					
20	T0004	Transformer 10468/S	1					
21	EK20074/B	EQUALISATION CONTROL	1					
22	S0120	Switch - Elma 03-3 x 23 Way <i>3 way switch</i>	1					
23	S0291	Switch - Dual concentric 2 P 6W	1					
24	S0106	Switch - Elma 2 x 6 (or S0105 SZY 2P6W)	1					
25	S0132	Switch - Isostat 2B 2P 15 mm	1					
26	S0142	Switch - Secme toggle	1					
27	MG20030/52	Spacer - 5/32" x 4 BA	2					
28	MG20030/51	Spacer - 3/16" long	4					
29	EK20079/A	Equalisation control (50K) corrected-sub assy.	1					
30	EK20076/A	Equalisation Control (10K) sub assy.	1					
31	RBT10M	Resistor B.T.T. 10 M ohms	24					
32	R4 27	Resistor TR4 5% 27 ohm	1					
33	R4 33	Resistor TR4 33 ohm	1					
32	C0186	CAPACITOR POLYSTYRENE 3300pF 10%	1					

# Parts List

Part No. 1080  
 Description: \_\_\_\_\_  
 Sheet 3 of 5 sheets

Issue	Date	Change Note No.
1	4.8.71	
2	15.10.71	10340
3	28.10.71	10388
4	11.1.72	10429 & 10435

Works Order No: \_\_\_\_\_  
 Qty Issued: \_\_\_\_\_  
 Issued to: \_\_\_\_\_

Item No.	N.E.L. Part No.	Description	Qty Per	Total This Job	Qty Issued	Qty Short	Checked by	Price Each £. s.
34	R4 47	Resistor TR4 47 ohm	1					
35	R4 82	" " " 82 "	1					
36	R4 120	" " " 120 "	1					
37	R4 150	" " " 150 "	1					
38	R4 270	" " " 270 "	1					
39	R4 330	" " " 330 "	1					
40	R4 430	" " " 430 "	1					
41	R4 510	" " " 510 "	1					
42	R4 1K	" " " 1K "	1					
43	R4 2K2	" " " 2K2 "	2					
44	R4 2K7	" " " 2K7 "	2					
45	R4 3K3	" " " 3K3 "	2					
46	R4 3K9	" " " 3K9 "	3					
47	R4 4K3	" " " 4K3 "	1					
48	R4 12K	" " " 12K "	4					
49	R4 18K	" " " 18K "	1					
50	R4 4K7	" " " 4K7 "	1					



# Parts List

N.E.L. Part No. 1080  
 Description:  
 Sheet 4 of 5 sheets

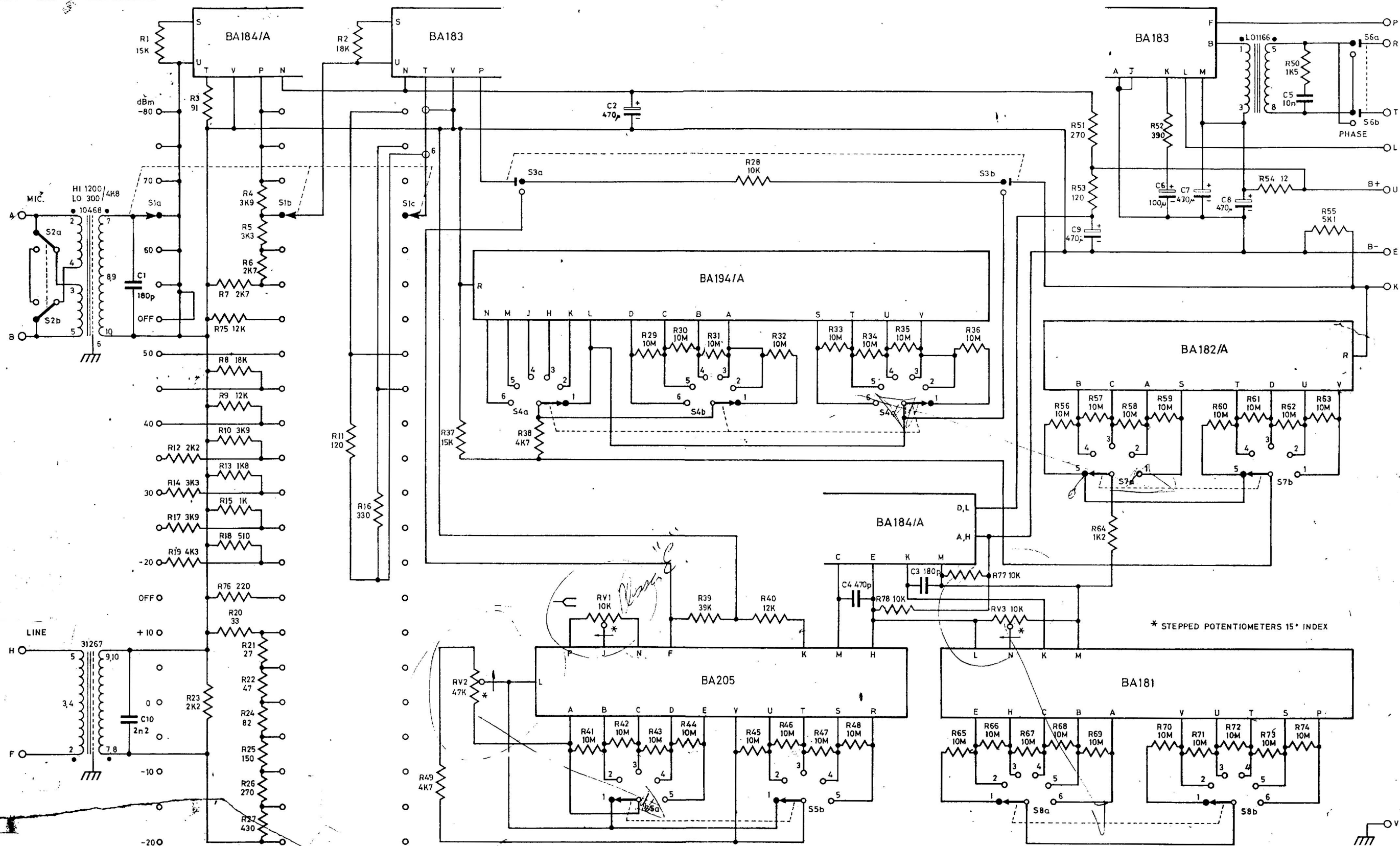
Issue	Date	Change Note No.
1	4.8.71	
2	15.10.71	10340
3	28.10.71	10382
4	11.1.72	10425 & 10435

Works Order No:

Qty Issued:

Issued to:

Item No.	N.E.L. Part No.	Description	Qty Per	Total This Job	Qty Issued	Qty Short	Checked by	Price Each £. s.
50	R4 91	Resistor TR4 5% 91 ohm	1					
51	R4 270	" " " 270 "	1					
52	R4 1K2	" " " 1K2 "	1					
53	R4 120	" " " 120 "	1					
54	R4 1K5	" " " 1K5 "	2					
55	R4 390	" " " 390 "	1					
56	R4 12K	" " " 12K	1					
57	R4 18K	" " " 18K	1					
58	R4 22K	" " " 22K	1					
59	R4 39K	" " " 39K	1					
60	R4 5K1	" " " 5K1	1					
61	R4 4K7	" " " 4K7	1					
62	R4 15K	" " " 15K	1					
63	R4 10K	" " " 10K	3					
64	C0009	Capacitor C296 AA/10K	1					
65	C0298	Capacitor 100µf 25V.	1					
80	M11215	Alum. CONNECTOR Screen	1					



NOTE: BA283 MAY BE USED IN LIEU OF BA183

NOTES: 1. ELECTROLUBE PCB CONNECTORS BEFORE INSERTING BOARD.  
2. SCREEN LEAD TAILS NOT SHOWN.

SW.No.	1	2	3	4	5	6
S4	OFF	18KHz	14KHz	10KHz	8KHz	6KHz
S5	OFF	35	60	100	220	
S7	360	160	70	45	OFF	
S8	OFF	7.0	3.6	2.4	1.2	0.7

	6	5	4	3	2	1	ISSUE
	20-5-74	12-6-72	11-1-72	8/11/71	27-8-71	24/8/71	DATE
	10907	A.L.6	10429	10387	10320		CHANGE NOTE NO
							CHECKED

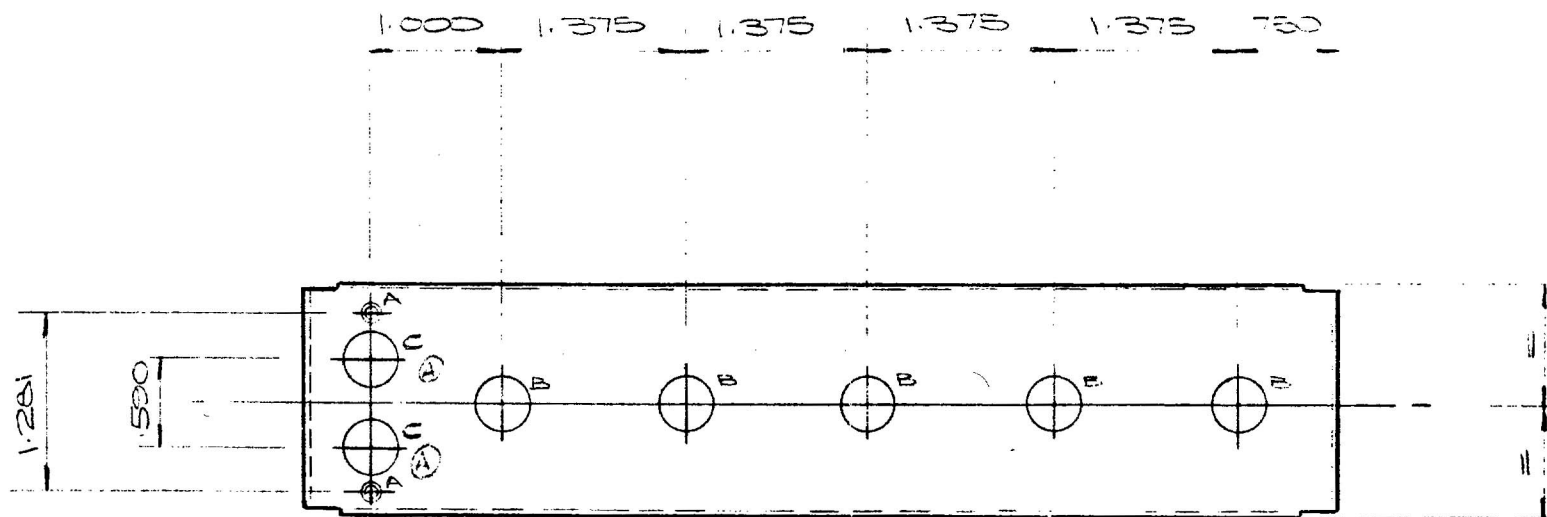
FIRST USED ON		MAT'L	TOL. UNLESS OTHERWISE STATED		
DRN. D & D			LINEAR	ANGULAR	HOLES
TRACED LMC		FINISH	+		+ .005 - .000
CHECKED			3RD ANGLE PRJ.	DIMS IN	SCALE
		TITLE	DRG. NO		
		1080 CHANNEL AMPLIFIER	H/10,030		
Rupert Neve & Company Ltd.			1971	©	A2

DRAWING  
NUMBER

M/10383



This drawing is the property of this company and may not be reproduced or disclosed to a third party without the permission of this company



FINISH - NICKEL PLATE

BLANK DRG No M/10234

A HOLES 6BA CL. & CSK

B " 13/32 DIA (A)

C " 7/16 " (A)

	1066	A	23-7-69	10-6-69
	1063	ISSUE	DATE	



The Neve Group of Companies

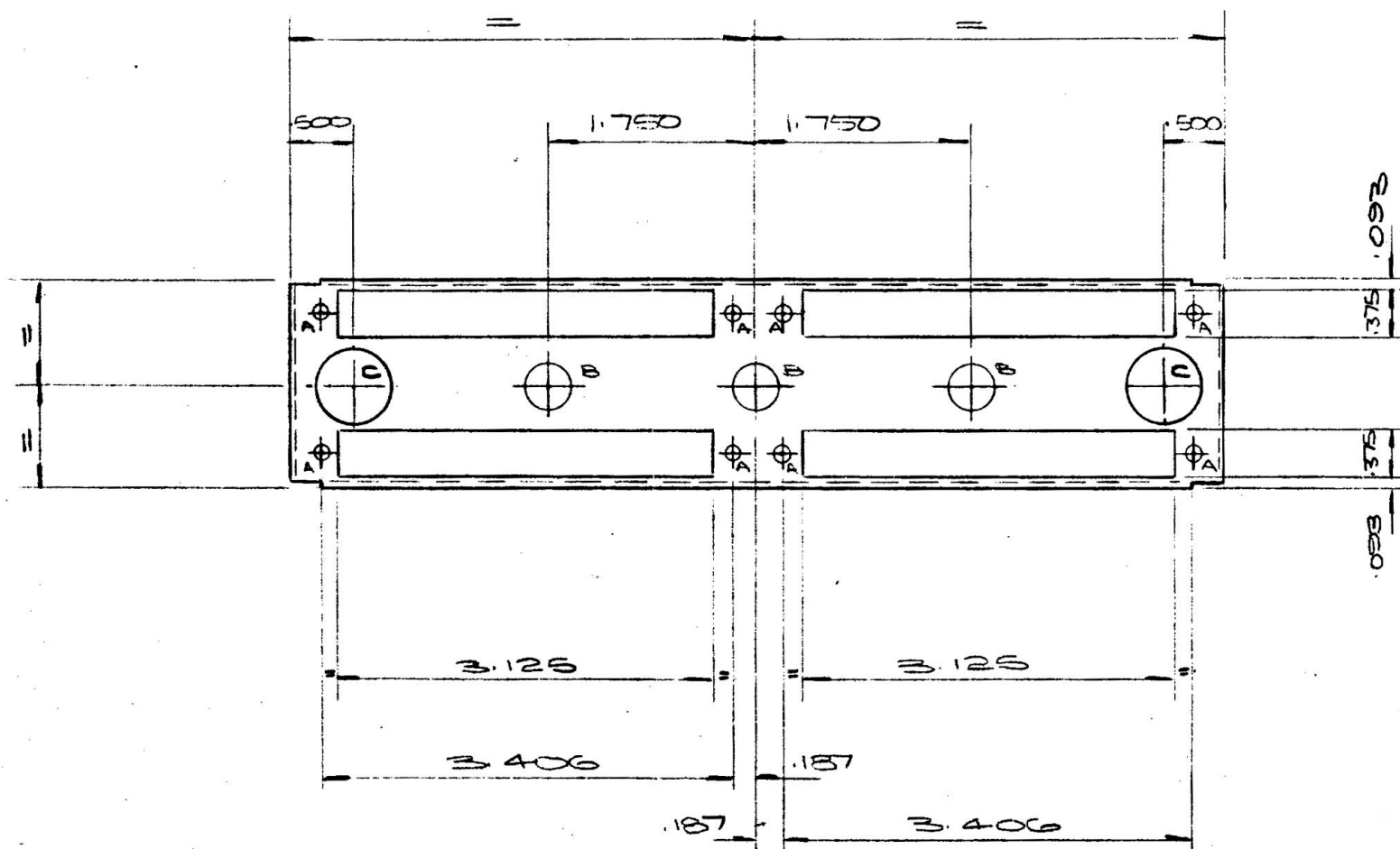
TITLE MODULE FRONT INTER PANEL		
DRAWN P.H.R.	DATE 10-4-69	PROJECT
TRACED	TOLS. ±.005 UNLESS STATED	DRAWING NUMBER M/10383
CHECKED D.J.L.	SCALE 1/1	

DRAWING  
NUMBER

M/10292



This drawing is the property of this company and may not be reproduced or disclosed to a third party without the permission of this company.



BLANK M/10234

A HOLES  $\frac{5}{32}$  DIAB "  $\frac{1}{2}$  " " "C HOLES  $\frac{5}{8}$  DIA

FINISH:- NICKEL PLATE.

2	1072		
1	1066		
1	1067		
1	1065	3	14.6.73 FINISH ADDED
1	2067	2	5.3.73 10668
1	2065	1	28.1.70
1	1063	A	15.4.68
QNTY	USED ON	ISSUE	DATE



The Neve Group of Companies

TITLE INTERMEDIATE PANEL

DRAWN RHR DATE 5-3-69 PROJECT

TRACED TOLS  $\pm .005$  UNLESS STATED DRAWING NUMBER

CHECKED BJK. SCALE 1/1

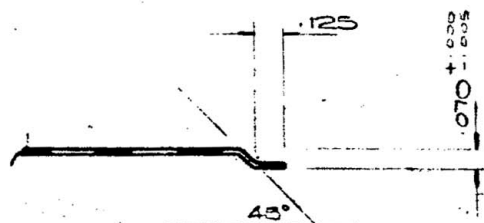
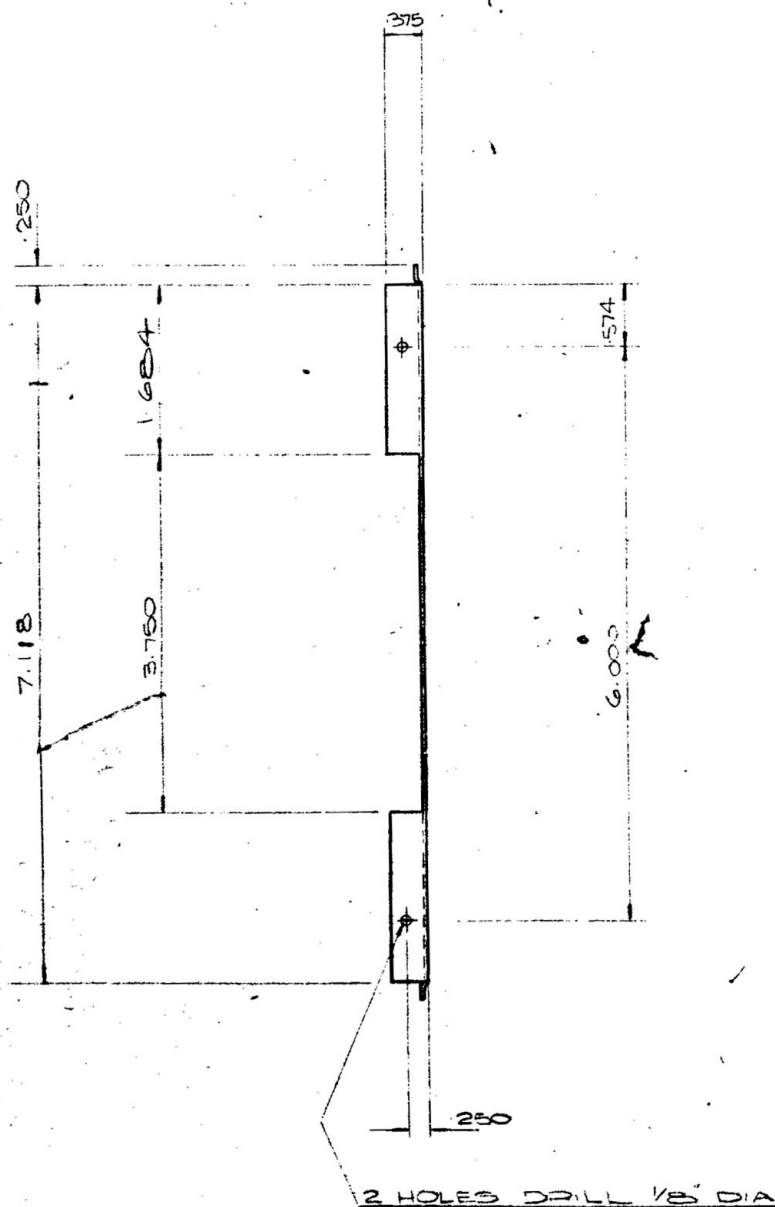
M/10292

DRAWING  
NUMBER

M/10231



This drawing is the property of this company and may not be reproduced or disclosed to a third party without the permission of this company.

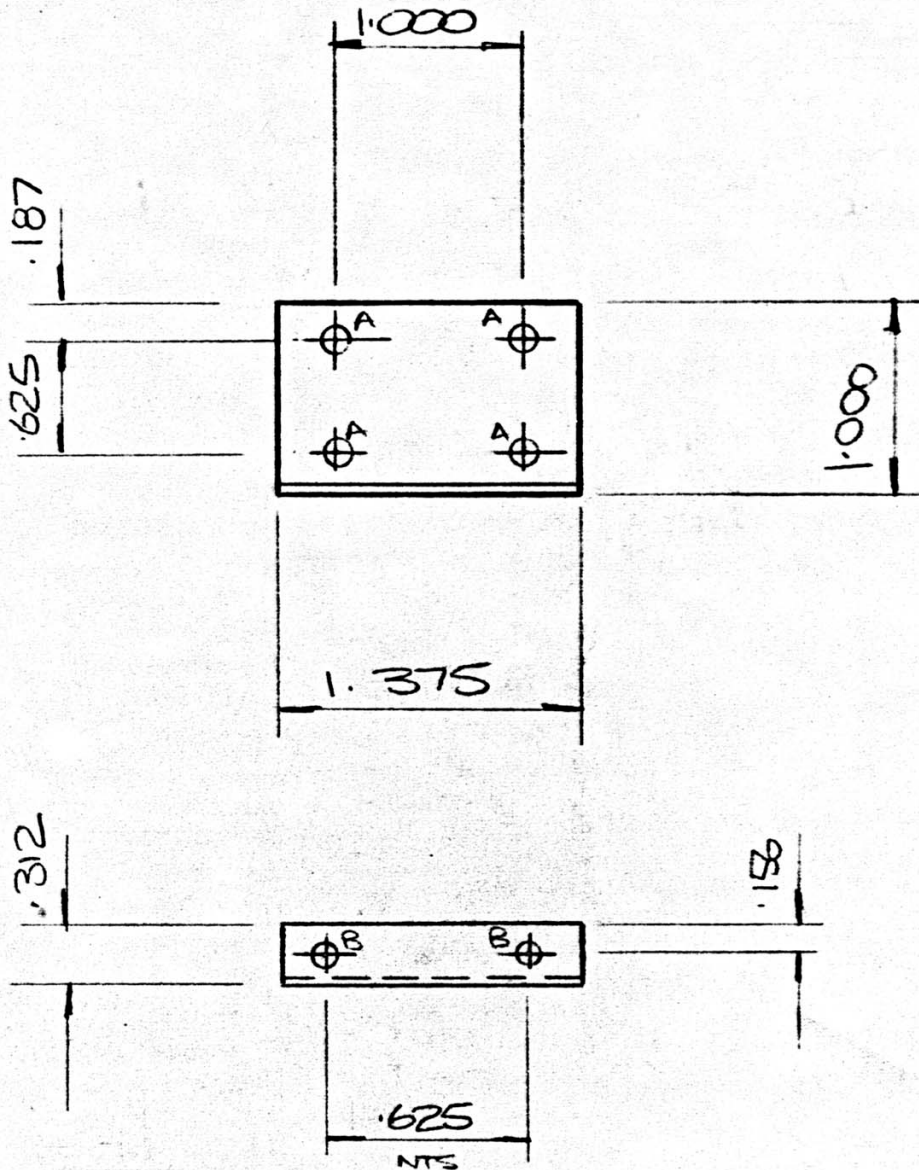
SECTION A-A  
2:1MATERIAL: 24 SWG MILD STEEL  
FINISH - NICKEL PLATE.

The Neve Group of Companies			
TITLE SIDE PANEL			
DRAWN P.H.R.	DATE 20-1-63	PROJECT	
TRACED	TOLS ± .005 UNLESS STATED	DRAWING NUMBER M/10231	
CHECKED D.T.L.	SCALE 1/4" = 1"	ISSUE DATE	





This drawing is the property of this company and may not be reproduced or disclosed to a third party without the permission of this company.



MATL : 20 SWG M. S.

A HOLES 5/32 DIA

B " 6 BA TAP

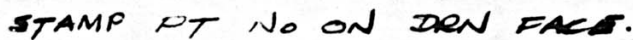
ISSUE	DATE



The Neve Group of Companies.

TITLE TRANSFORMER BRACKET		
DRAWN PHR	DATE 5-4-69	PROJECT
TRACED	TOLS. $\pm 0.10$ UNLESS STATED	DRAWING NUMBER M/10381
CHECKED	SCALE 1/1	



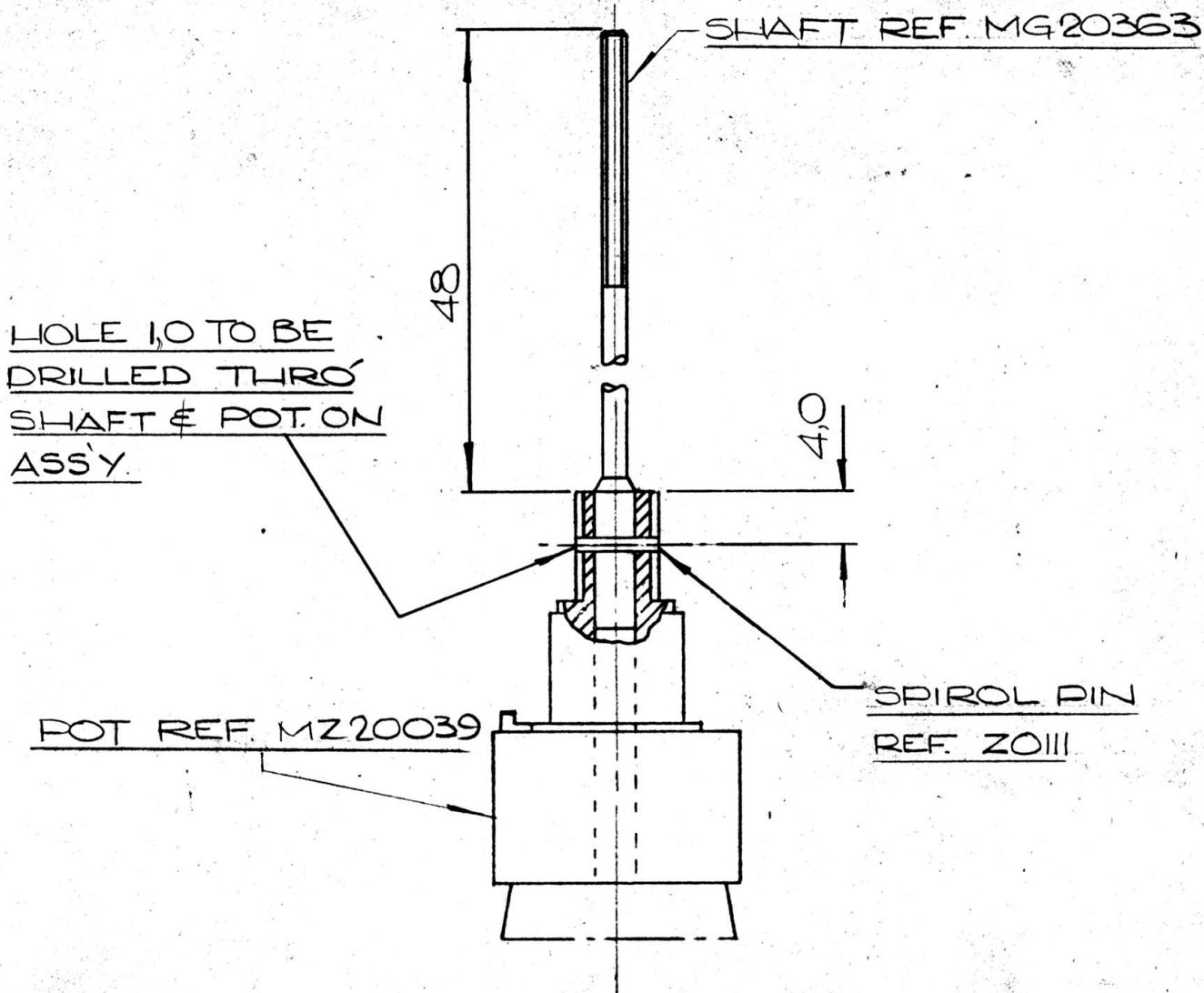


	1.	17 MAY 77
10032	A	18-9-12
CN No	ISSUE	DATE

M/10122



Rupert Neve & Company Ltd. own the copyright of this drawing which is not to be copied reproduced or disclosed, in part or whole, to a third party without written permission.



	1	ISSUE	FIRST USED ON	MATL.	TOL. UNLESS OTHERWISE STATED		
				SEE ABOVE	LINEAR ± 0.3	ANGULAR	HOLES ± .005 -.000
	16 DEC 71	DATE	DRN. JAS	FINISH	3RD ANGLE PRJ.	DIMS IN 12 12	SCALE 2/1
		CHANGE NOTE NO	TRACED	TITLE	DRG. NO MK20007		
			CHECKED	NOT RECY			
		CHECKED	Rupert Neve & Company Ltd.			1971	© A4

1

2

3



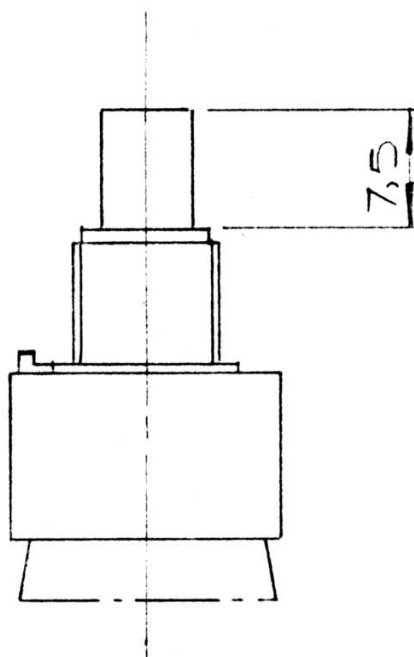
Rupert Neve & Company Ltd. own the copyright of this drawing which is not to be copied reproduced or disclosed, in part or whole, to a third party without written permission.

A

B

C

D



	1	ISSUE	FIRST USED ON	MATL.	TOL. UNLESS OTHERWISE STATED		
	16 DEC 71	DATE	DRN. JAS	ELMA 01	LINEAR ± 0.3	ANGULAR	HOLES ± .005 ± .000
		CHANGE NOTE NO	TRACED	FINISH	3RD ANGLE PROJ 	DIMS IN mm	SCALE 2/1
		CHECKED	CHECKED	TITLE POT. MOD	DRG. NO MZ 20039		
		CHECKED	Rupert Neve & Company Ltd.			1971	© A4

General Description

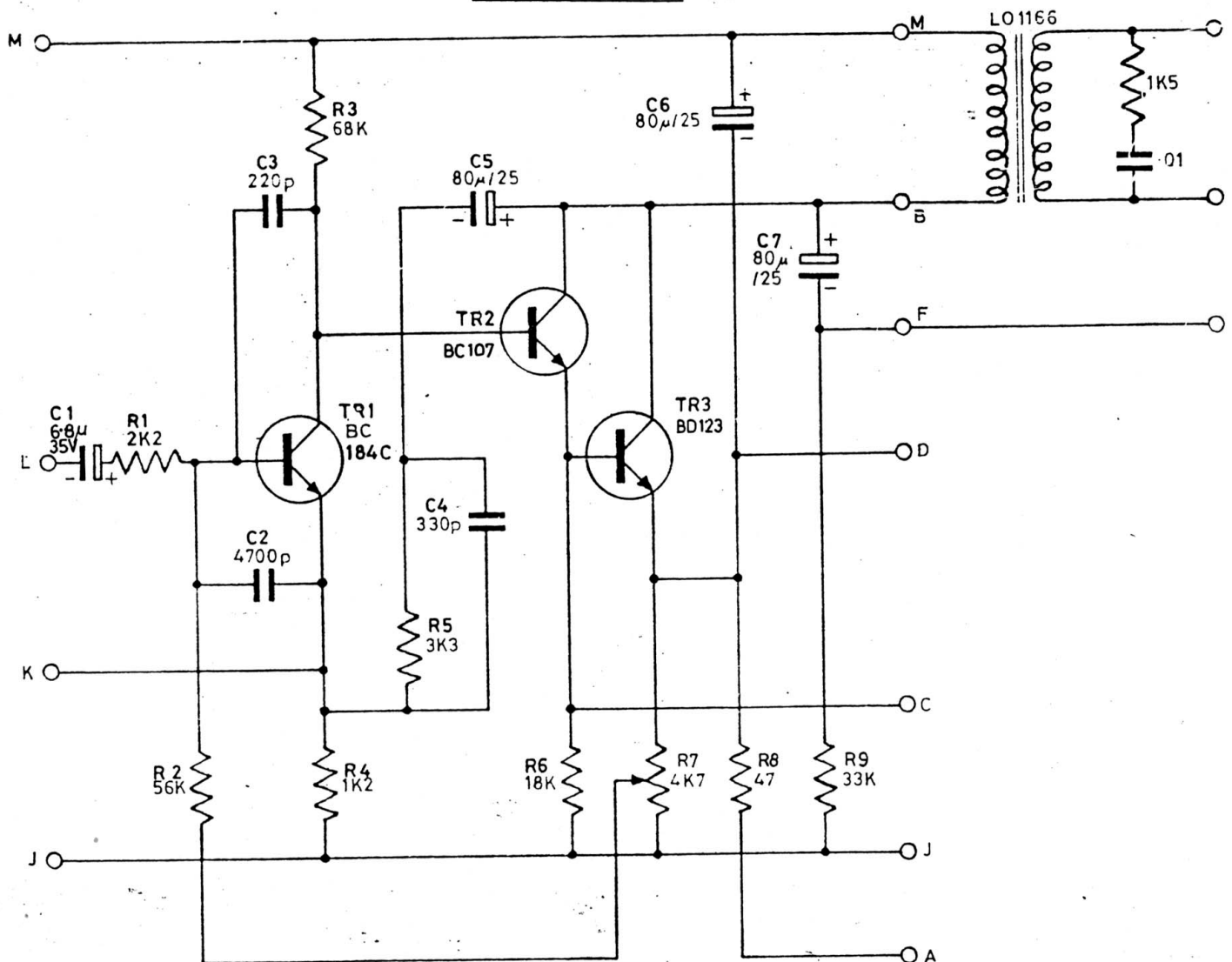
Fixed a.c. feedback is applied via C4 from the collector circuit of the d.c. connected pair TR2, TR3 to the emitter of TR1.

The potentiometer R7 is for adjusting the d.c. bias of TR1.

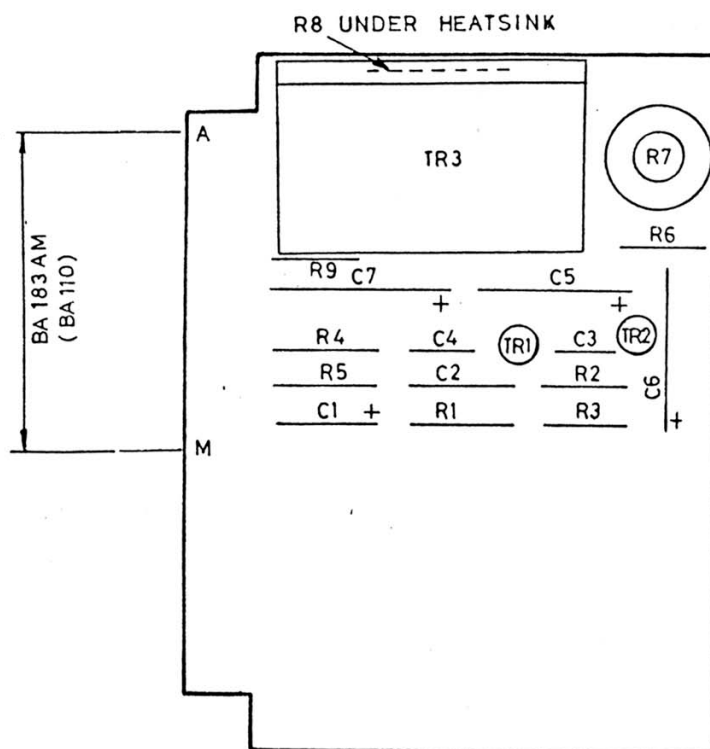
The gain of the amplifier is determined by the connection of externally mounted components (a resistor R in series with an electrolytic capacitor C) between contacts K and J. These components shunt the emitter load of TR1, thereby, increasing the gain. See table for gain variation in 5 dB steps from 15 dB to 35 dB. An unbalanced, low source impedance output taken via C7 to the common collectors of TR2 and TR3 is available at contact F.

Gain dB Balanced	15	20	25	30	35
Gain dB Unbalanced	11	16	21	26	31
Value of R $\Omega$	-	1K2	470	220	110
Value of C $\mu$ F	-	80	80	80	80

When the loading on the secondary of the output transformer is increased, the extra current required from TR3 is provided by linking contacts J and A externally, thereby connecting the 47 ohm resistor R8 in parallel with the potentiometer R7. Where the d.c. connected pair TR2, TR3 are operated at higher current, provision is made for TR3 to be mounted on an external heat sink. The p.c.b. assembly is then known as BA183AMA.

CIRCUIT DIAGRAM

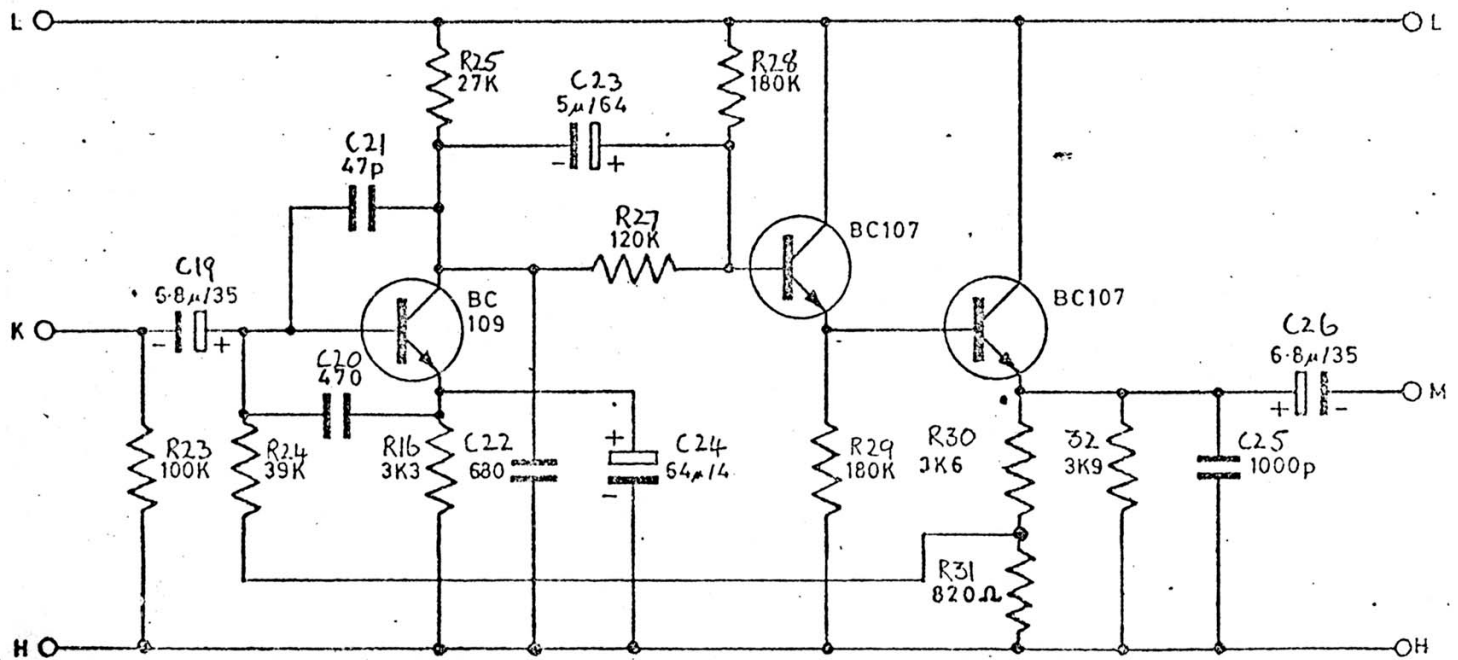
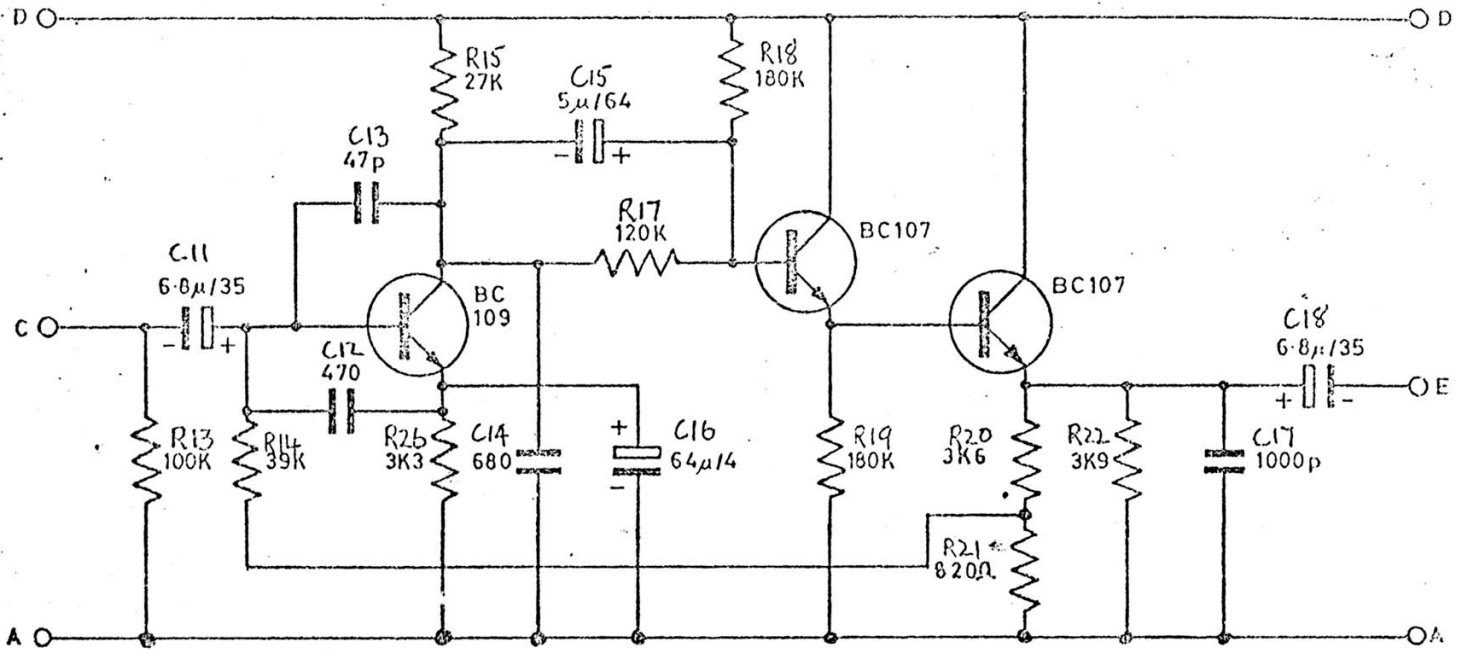
# COMPONENT LAYOUT BA183AM



## PARTS LIST BA183AM

Ref	Description	Part No.
R1	Resistor 2K2, TR5 5%	R5 2K2
R2	Resistor 56K " "	R5 56K
R3	Resistor 68K " "	R5 68K
R4	Resistor 1K2 " "	R5 1K2
R5	Resistor 3K3 " "	R5 3K3
R6	Resistor 18K " "	R5 18K
R7	Potentiometer 4K7 miniature	P0032
R8	Resistor 47 TR6 5%	R6 47
R9	Resistor 33K TR5 5%	R5 33K
C1	Capacitor 6.8 $\mu$ F, electrolytic 35V	C0175
C2	Capacitor 4700 pF, Suflex H.S. 10%	C0051
C3	Capacitor 220 pF, Suflex H.S. 10%	C0041
C4	Capacitor 330 pF, Suflex H.S. 10%	C0042
C5	Capacitor 80 $\mu$ F, Electro. C426/AR/F80	C0029
C6	Capacitor 80 $\mu$ F, Electro. C426/AR/F80	C0029
C7	Capacitor 80 $\mu$ F, Electro. C426/AR/F80	C0029
TR1	BC109	T0043
TR2	BC107	T0042
TR3	BD123 (2N 3055 Newmarket)	T0043

BOARD BI83 IO66/IO73





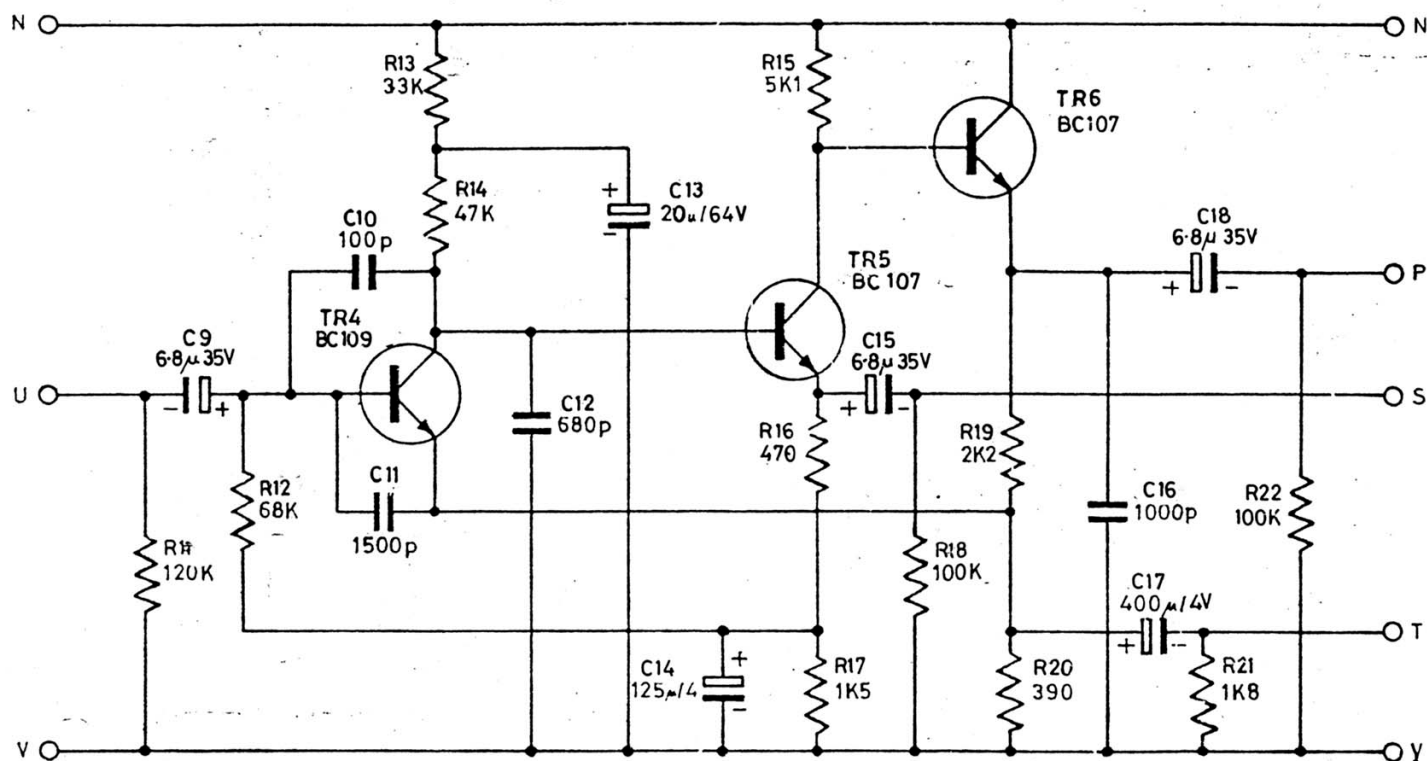
General Description

The gain of the pre-amplifier (TR4, 5, 6) may be changed by the connection of an external resistor between contacts T and V which decouples R18 more effectively, thereby, increasing the gain of the amplifier.

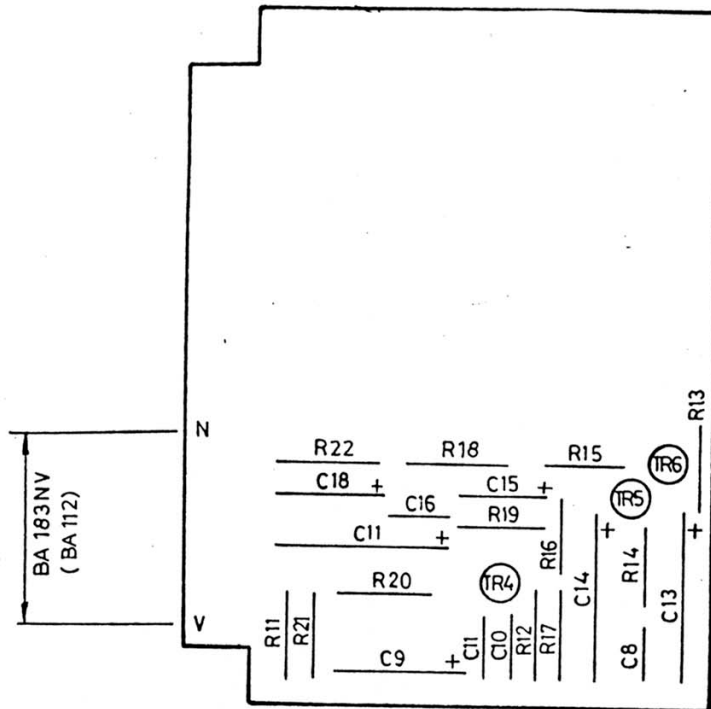
Gain is increased in 5 dB steps according to the table.

Gain dB	18	23	28	33	43	48
RX	-	330	56	27	15	8.2

Feedback connections are made externally by connecting a resistor between the emitter-follower output from TR5 at contact S on the P.C.B. and the input contact U. The value of the resistor used in this loop varies according to the system requirements as gain is also affected.

Circuit Diagram

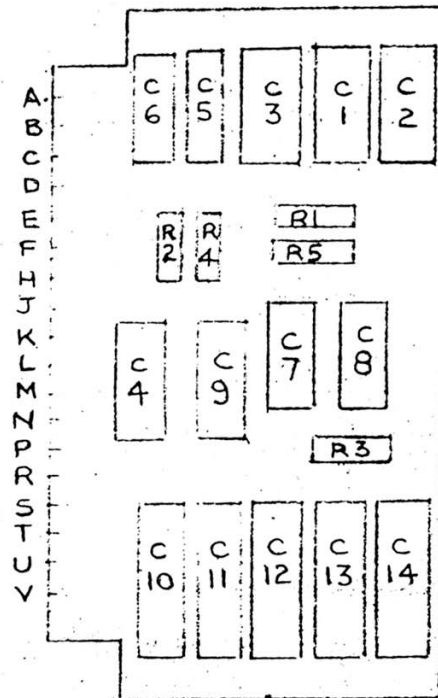
# COMPONENT LAYOUT BA183NV



## PARTS LIST BA183NV

Ref	Description	Part No.
R11	Resistor 120K TR5 5%	R5 120K
R12	Resistor 68K " "	R5 68K
R13	Resistor 33K " "	R5 33K
R14	Resistor 47K " "	R5 47K
R15	Resistor 5K1 " "	R5 5K1
R16	Resistor 470 " "	R5 470
R17	Resistor 1K5 " "	R5 1K5
R18	Resistor 100K " "	R5 100K
R19	Resistor 2K2 " "	R5 2K2
R20	Resistor 390 " "	R5 390
R21	Resistor 1K8 " "	R5 1K8
R22	Resistor 100K " "	R5 100K
C9	Capacitor 6.8 $\mu$ F, Electro 35V	C0175
C10	Capacitor 100 pF, Suflex H.S. 10%	C0039
C11	Capacitor 1500 pF, Suflex H.S. 10%	C0131
C12	Capacitor 680 pF, Suflex H.S. 10%	C0045
C13	Capacitor 20 $\mu$ F, 64V Electro C426AR/H20	C0035
C14	Capacitor 125 $\mu$ F, 4V Electro C426AR/B125	C0024
C15	Capacitor 6.8 $\mu$ F, 35V Electro	C0175
C16	Capacitor 1000 pF, Suflex H.S.10%	C0047
C17	Capacitor 400 $\mu$ F, 4V Electro C426AR/B400	C0025
C18	Capacitor 6.8 $\mu$ F, Electro 35V	C0175
TR1	BC109	T0043
TR2	BC107	T0042
TR3	BC107	T0042

PRINTED CIRCUIT BOARD B205 (IO73/IO76)



PARTS LIST

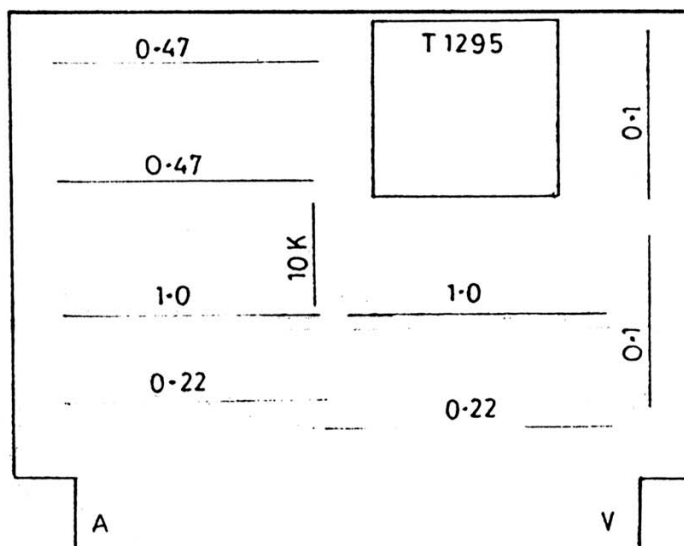
Ref	Description	Part No.
R1,R5	6K2 TR5 5%	R5 6K2
R2,R4	620 " "	R5 620
R3	12K " "	R5 12K
C1,2,3,12	100nF C296 AA/100K	C0015
C13,14	" " "	C0015
C4,9	22nF C296 AA/A22K	C0011
C7,6,10	15nF C296 AA/A15K	C0010
C5,11	47nF C296 AA/A47K	C0013
C8	10nF C296 AA/10K	C0009

PRINTED CIRCUIT BOARD ASSEMBLY BA182/A

PARTS LIST

<i>Qty</i>	<i>Description</i>	<i>Part No.</i>
1	Inductor T1295	IN12005
1	Resistor 10K0 TR4 2%	RA010K0
2	Capacitor 0.1 $\mu$ F 160V Polycarbonate	CA21002
2	" 0.22 $\mu$ F " "	CA22201
2	" 1.0 $\mu$ F " "	CA30010
2	" 0.47 $\mu$ F 250 "	CA24700
1	Printed Circuit Board (unassembled)	EV10182

COMPONENT LAYOUT

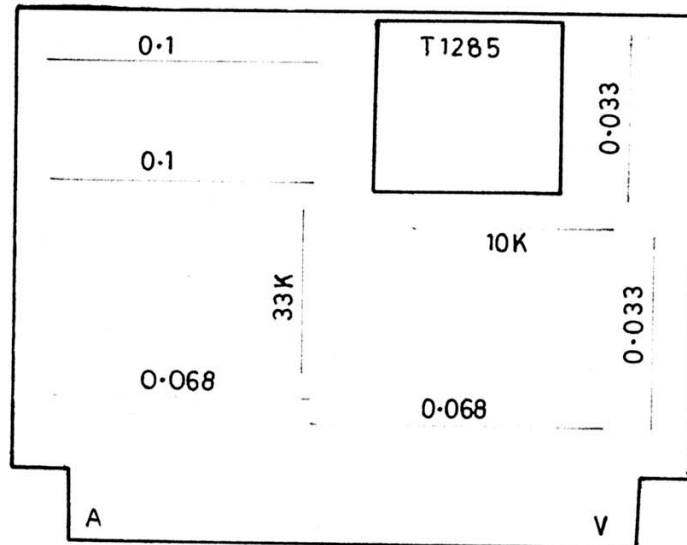


PRINTED CIRCUIT BOARD ASSEMBLY BA182/B

PARTS LIST

Qty	Description	Part No.
1	Inductor T1285	IN12004
1	Resistor 10K0 TR4 2%	RA010K0
1	" 33K0 " "	RA033K0
2	Capacitor 0.033 $\mu$ F 160V Polycarbonate	CA20331
2	" 0.068 $\mu$ F " "	CA20681
2	" 0.1 $\mu$ F " "	CA21002
1	Printed Circuit Board (unassembled)	EV10182

COMPONENT LAYOUT

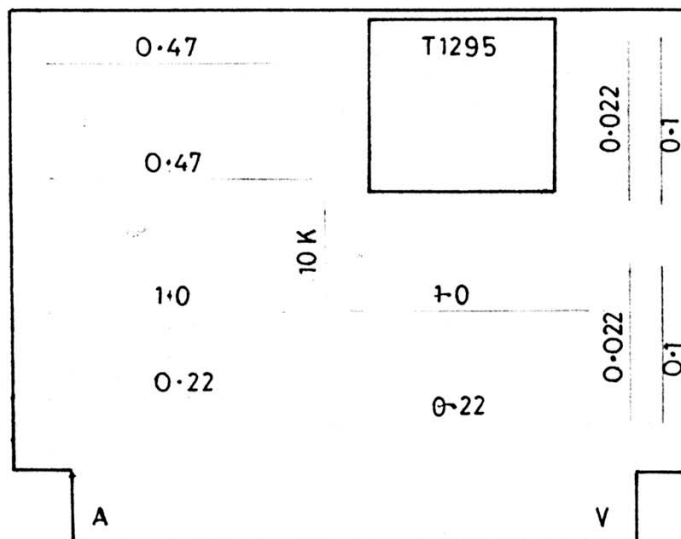


PRINTED CIRCUIT BOARD ASSEMBLY BA182/C

PARTS LIST

Qty	Description	Part No.
1	Inductor T1295	IN12005
1	Resistor 10K0 TR4 2%	RA010K0
2	Capacitor 0.022 $\mu$ F 160V Polycarbonate	CA20221
2	" 0.1 $\mu$ F " "	CA21002
2	" 0.22 $\mu$ F " "	CA22201
2	" 1.0 $\mu$ F " "	CA30010
2	" 0.47 $\mu$ F 250 "	CA30040
1	Printed Circuit Board (unassembled)	EV10182

COMPONENT LAYOUT





PRINTED CIRCUIT BOARD ASSEMBLY BA182/D

PARTS LIST

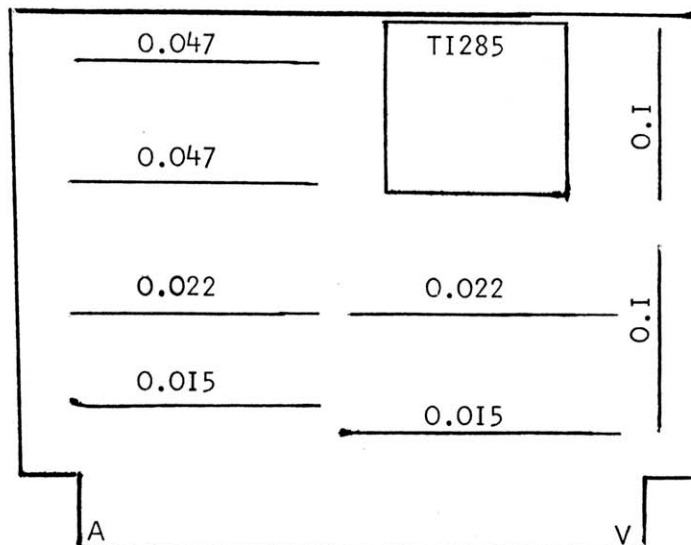
<i>Qty</i>	<i>Description</i>				<i>Part No.</i>
1	Inductor	T1295			IN1295
1	Resistor	10K0	TR4	2%	RA010K0
2	Capacitor	0.022	$\mu$ F	160V Polycarbonate	CA20221
2	"	0.1	$\mu$ F	" "	CA21002
2	"	0.22	$\mu$ F	" "	CA22201
2	"	1.0	$\mu$ F	" "	CA30010
2	"	0.47	$\mu$ F	250V "	CA24700
1	Printed Circuit Board (unassembled)				EV10182

PRINTED CIRCUIT BOARD ASSEMBLY BAI82F

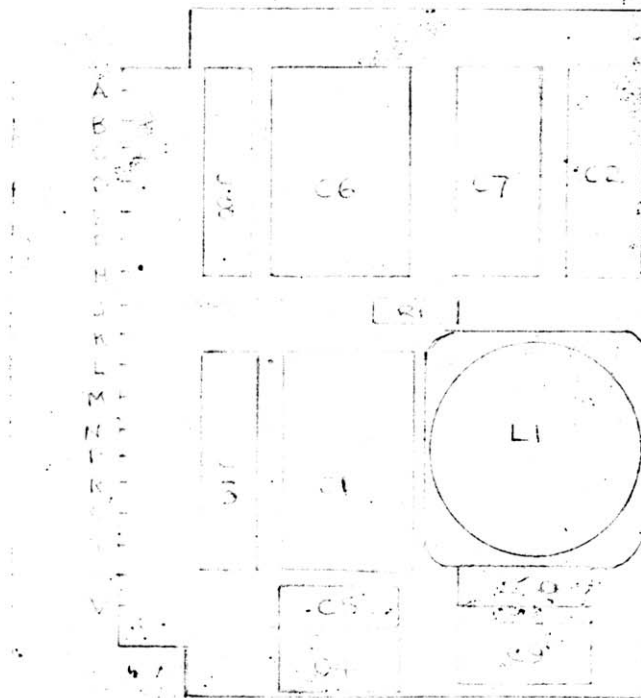
PARTS LIST

<i>Qty</i>	<i>Description</i>	<i>Part No.</i>
1	Inductor T1285	IN12004
2	Capacitor 0.1 F Polycarbonate	CA21002
2	Capacitor 0.015 F "	CA20151
2	Capacitor 0.022 F "	CA20221
2	Capacitor 0.047 F "	CA20471
1	Printed Circuit Board (unassembled)	EV10182

COMPONENT LAYOUT



# BOARD BI82C (I073/I076)

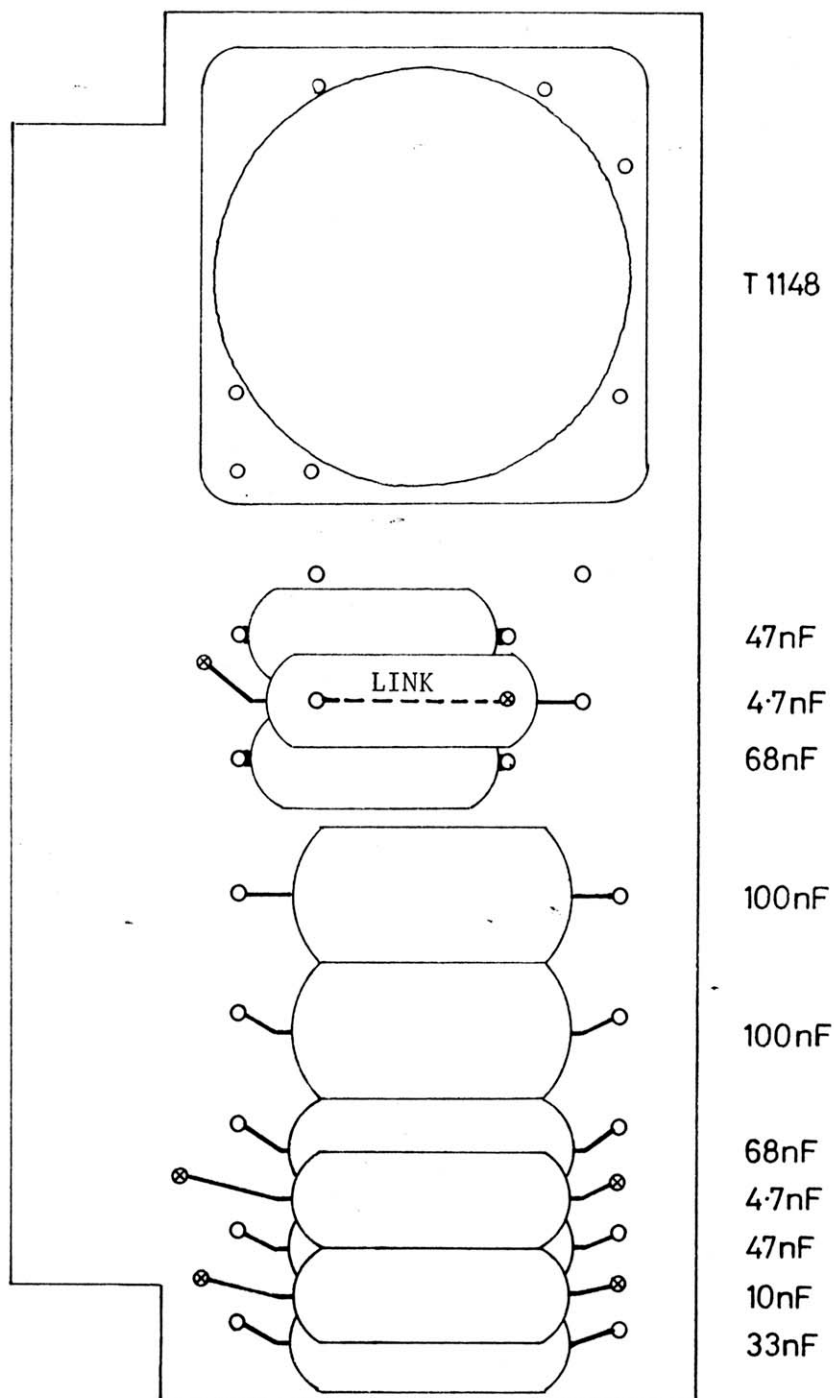


## PARTS LIST BI82C

Ref	Description	Part No.
R1	10K TR5 5%	R5 10K
C1,6	1 $\mu$ F C296 AA/A1M	C0021
C2,7	0.47 $\mu$ F C296 AA/A470K	C0019
C3,8	0.22 $\mu$ F C296 AA/A220K	C0017
C4,9	0.1 $\mu$ F C296 AA/A100K	C0015
C5,10	0.022 $\mu$ F C296 AA/A22K	C0013
L1	T1295	T0014

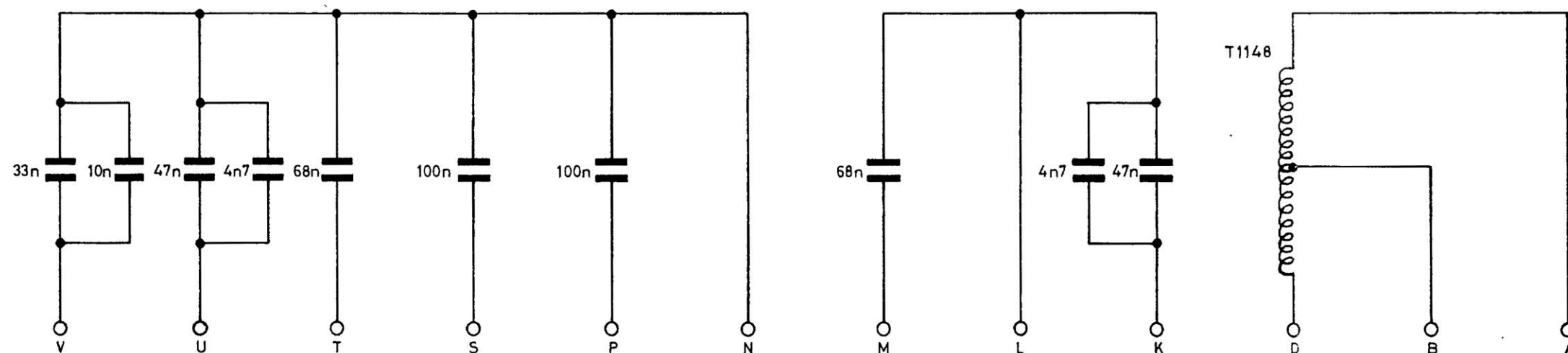
PRINTED CIRCUIT BOARD ASSEMBLY  
BAI8IB

COMPONENT LAYOUT



PARTS LIST

Qty	Description	Part No.
1	Printed Circuit Board	B181
1	Choke T1148	T0008
2	Capacitor 100 nF	C0015
2	Capacitor 68 nF	C0014
2	Capacitor 47 nF	C0013
1	Capacitor 33 nF	C0012
1	Capacitor 10 nF	C0009
2	Capacitor 4.7 nF	C0005



The Neve Group of Companies

TITLE

B181/B

This drawing is the property of this company and may not be reproduced or disclosed to a third party without the permission of this company.

DATE 24/2/71

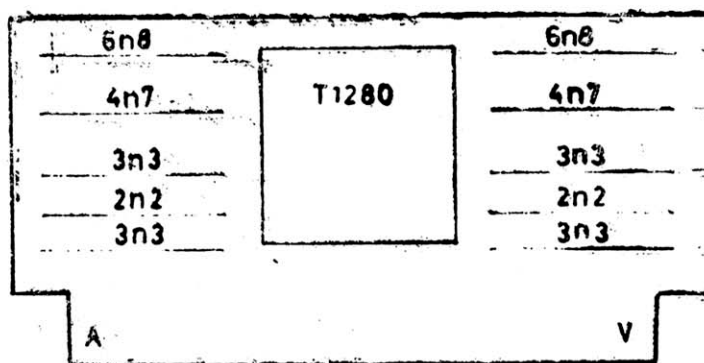
DRAWING NUMBER D/10,018/B

# PRINTED CIRCUIT BOARD ASSEMBLY BA194/A

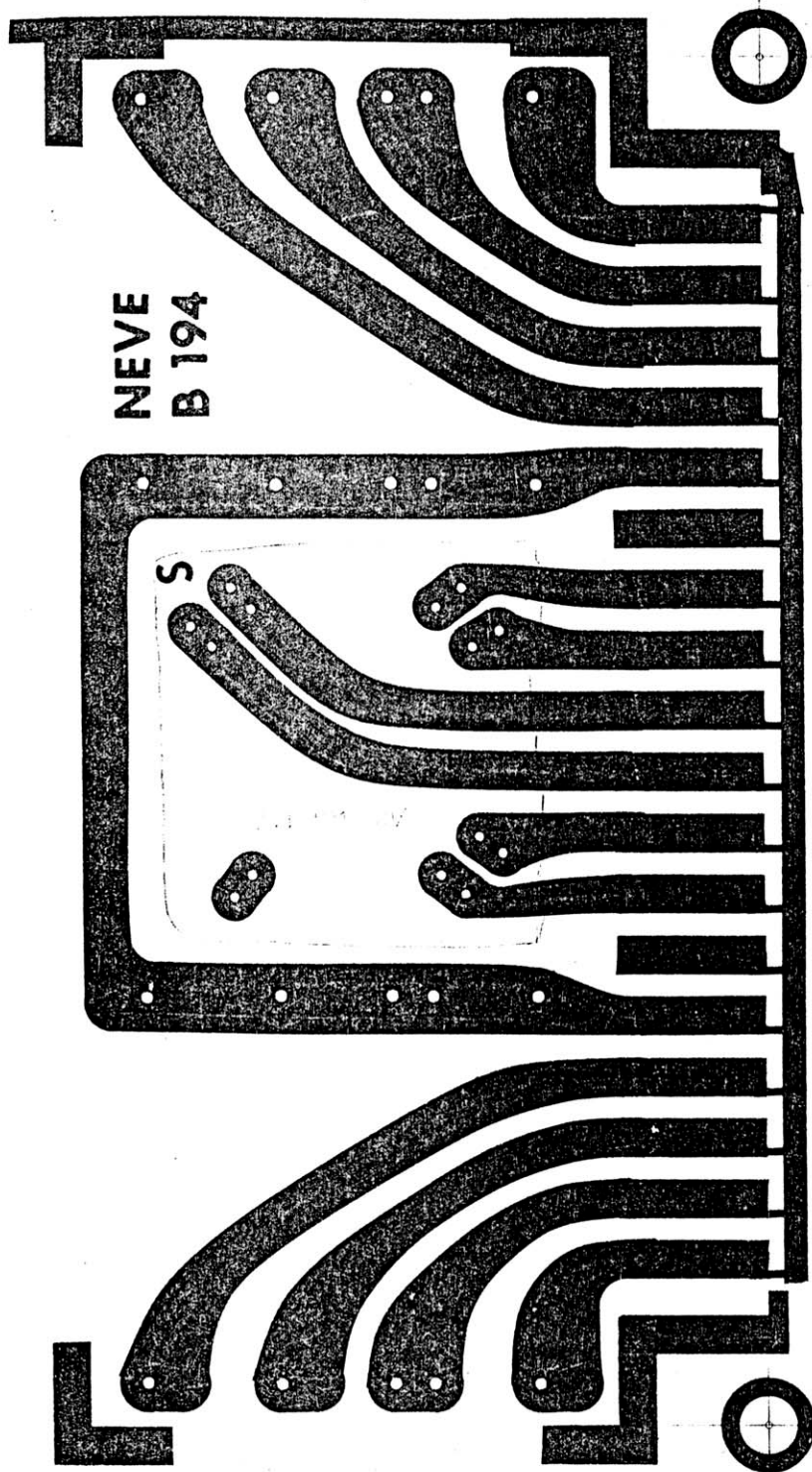
## PARTS LIST

Qty	Description	Part No.
1	Inductor T1280	EV10194
2	Capacitor 6n8 Polycarbonate	CA20062
2	" " 4n7 "	CA20042
4	" " 3n3 "	CA20035
2	" " 2n2 "	CA20024
1	Printed Circuit Board (unassembled)	EV10194

## COMPONENT LAYOUT





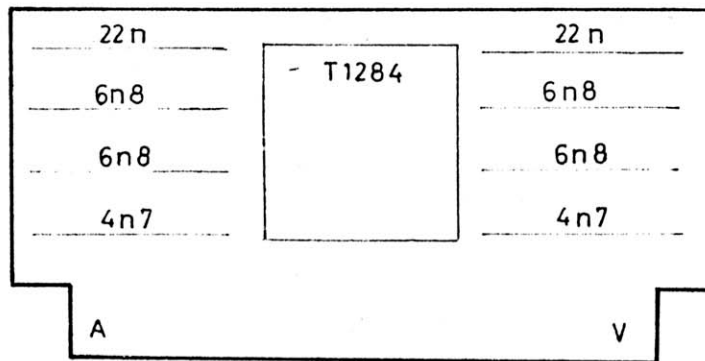


PRINTED CIRCUIT BOARD ASSEMBLY BA194/B/GL

PARTS LIST

Qty	Description	Part No.
1	Inductor T1284	IN12003
2	Capacitor 22n 400V Polycarbonate	CA20221
"	"	"
4	" 6n8 " "	CA20062
2	" 4n7 " "	CA20042
1	Printed Circuit Board (unassembled)	EV10194

COMPONENT LAYOUT

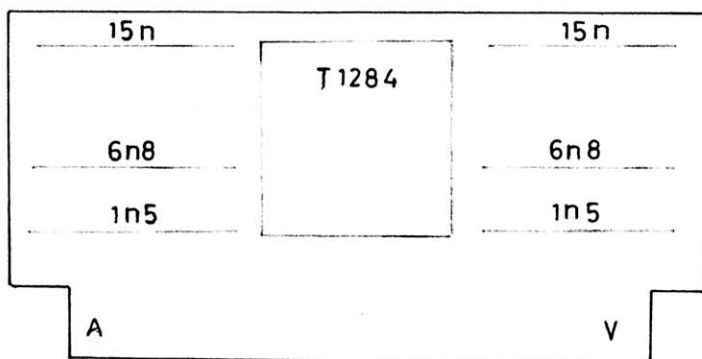


PRINTED CIRCUIT BOARD ASSEMBLY BA194/C

PARTS LIST

Qty	Description	Part No.
1	Inductor T1284	T0012
2	Capacitor 6n8 250V Polycarbonate	C0188
2	" 1n5 " "	C0191
2	" 15n " "	C0202
1	Printed Circuit Board (unassembled)	B194

COMPONENT LAYOUT

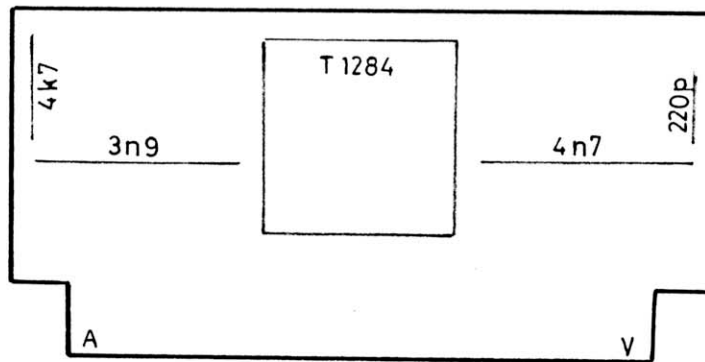


PRINTED CIRCUIT BOARD ASSEMBLY BAI94/J

PARTS LIST

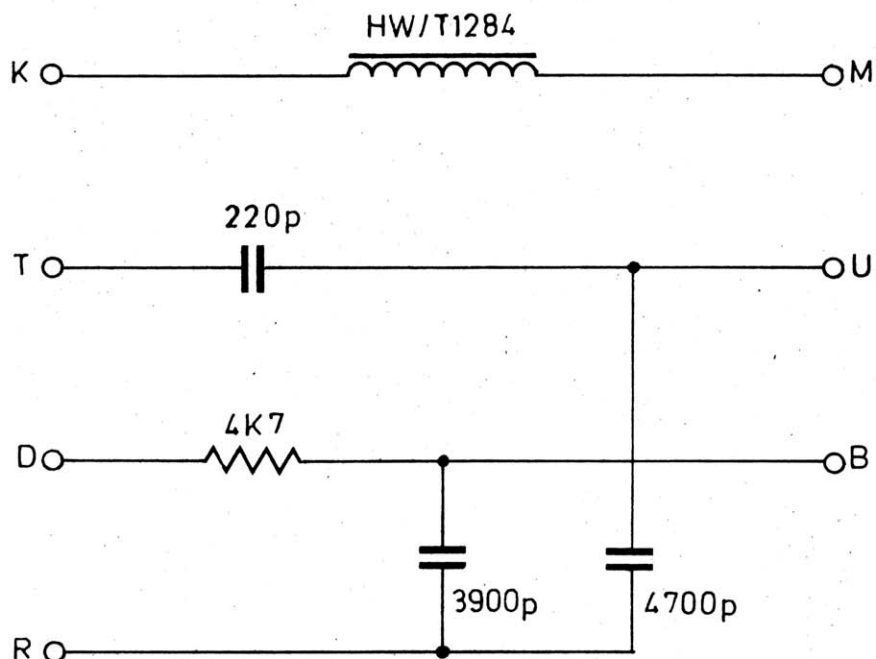
<i>Qty</i>	<i>Description</i>	<i>Part No.</i>
1	Capacitor Suflex 220 pF	CO041
1	Capacitor Suflex 4n7	CO187
1	Capacitor Suflex 3n9	CO303
1	Resistor 4K7 ohm TR4 5%	R4 4K7
1	Inductor T1284	TO012
1	Printed Circuit Board	B194


COMPONENT LAYOUT

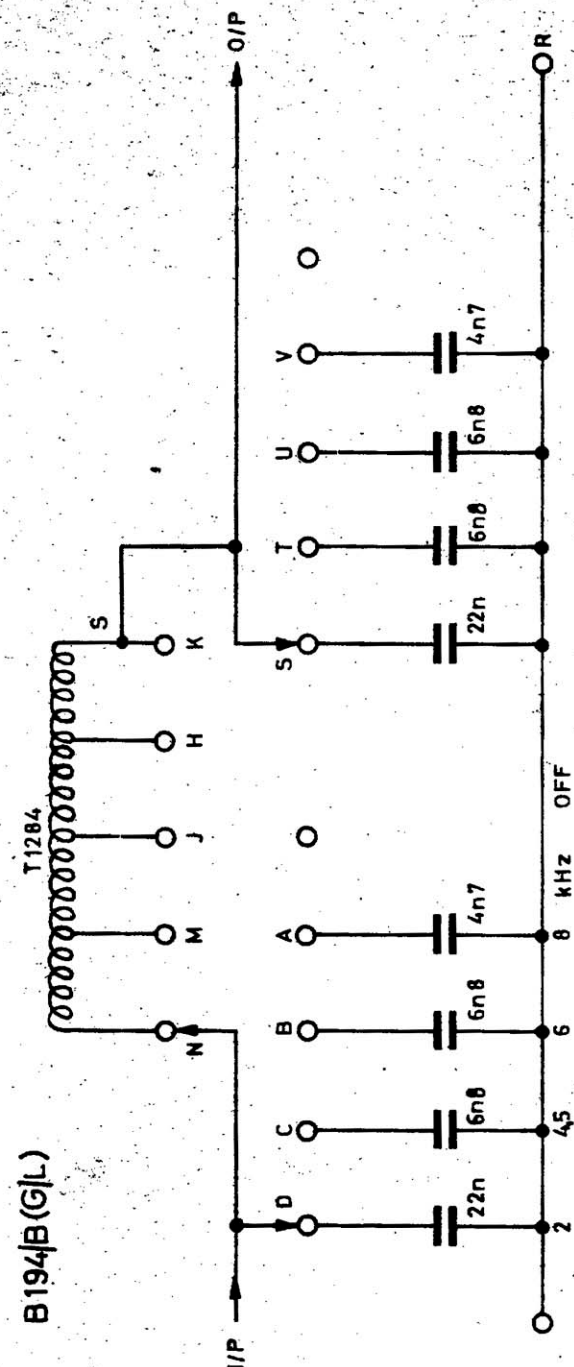




Rupert Neve & Company Ltd. own the copyright of this drawing which is not to be copied reproduced or disclosed, in part or whole, to a third party without written permission.



	1	ISSUE	FIRST USED ON 1284	MATL.	TOL. UNLESS OTHERWISE STATED		
					LINEAR ±	ANGULAR	HOLES +0.005 -0.000
	19 2 74	DATE	DRN. G.T	FINISH	3RD ANGLE PRJ. 	DIMS IN	SCALE
	10857	CHANGE NOTE NO	TRACED	TITLE B194J LOW PASS FILTER	DRG. NO D10031/J		
		CHECKED	CHECKED AHL	Rupert Neve & Company Ltd.			1974
		CHECKED					© A4



USED ON A3705



The Neve Group of Companies

TITLE

B194/B (G/L) LOW PASS FILTER

This drawing is the property of this company and may not be reproduced or disclosed to a third party without the permission of this company.

1

11427

10-3-76

DATE 10-3-76

DRAWING  
NUMBER

D/10,031/B(G/L)