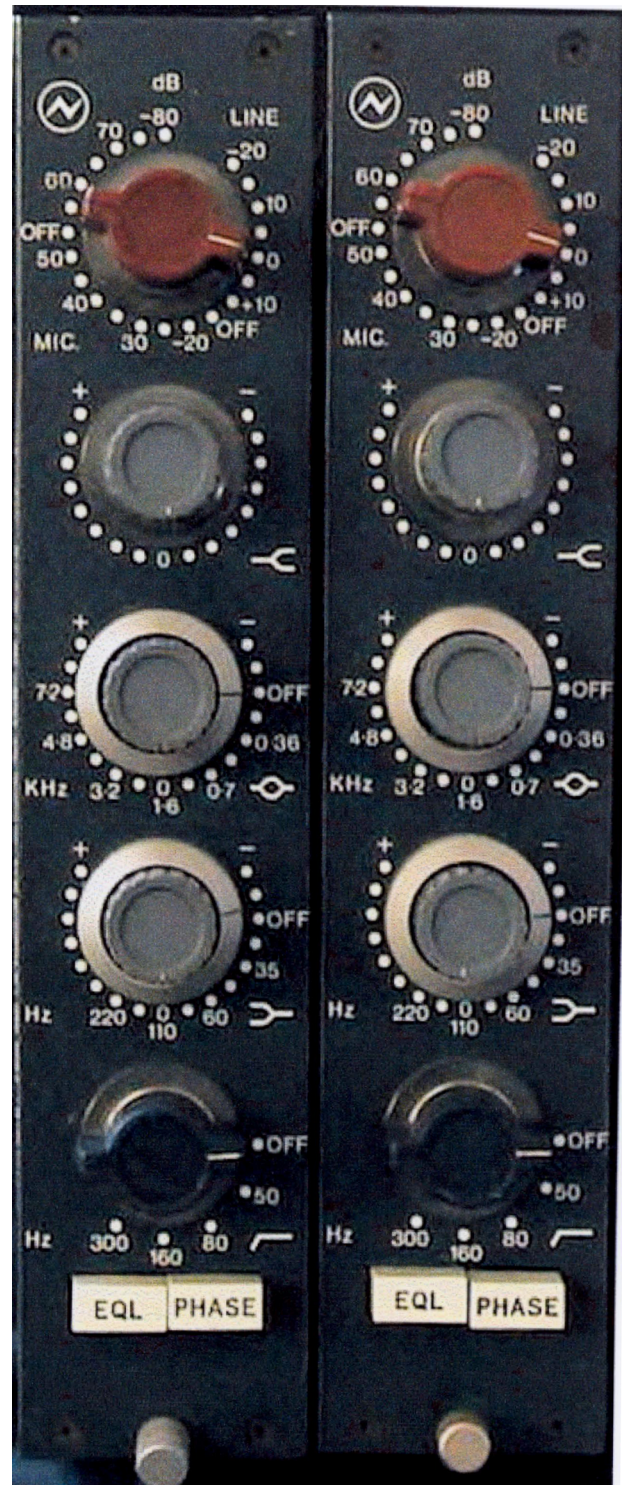


Neve 1073 Channel Amplifier & 1272 Microphone Preamplifier

Manual And Schematics

Including:

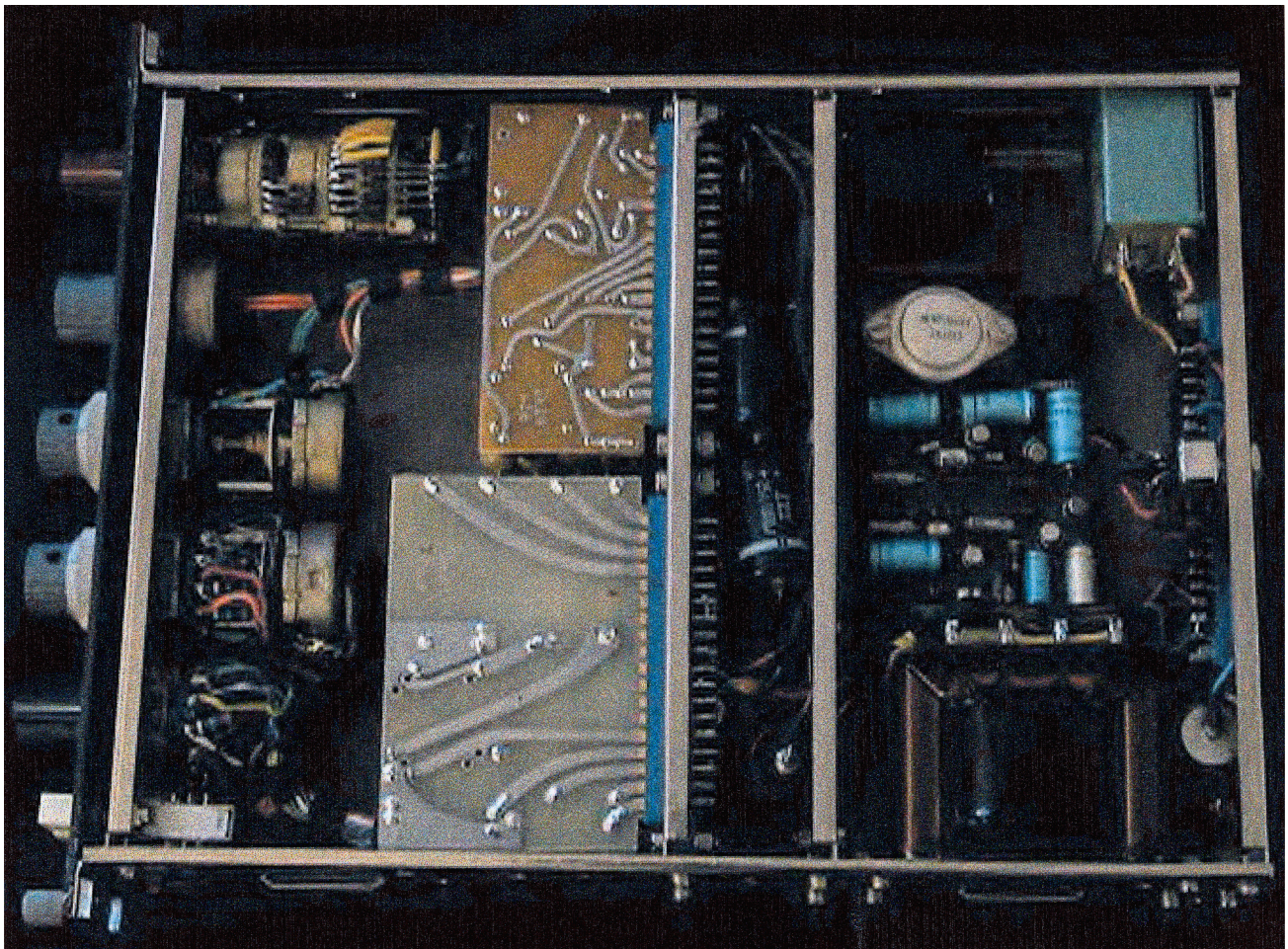
- *Detailed descriptions and schematics for all circuits.
- *Modifications and parts sources.
- *Transformer information.



Neve

1073 Channel Amplifier

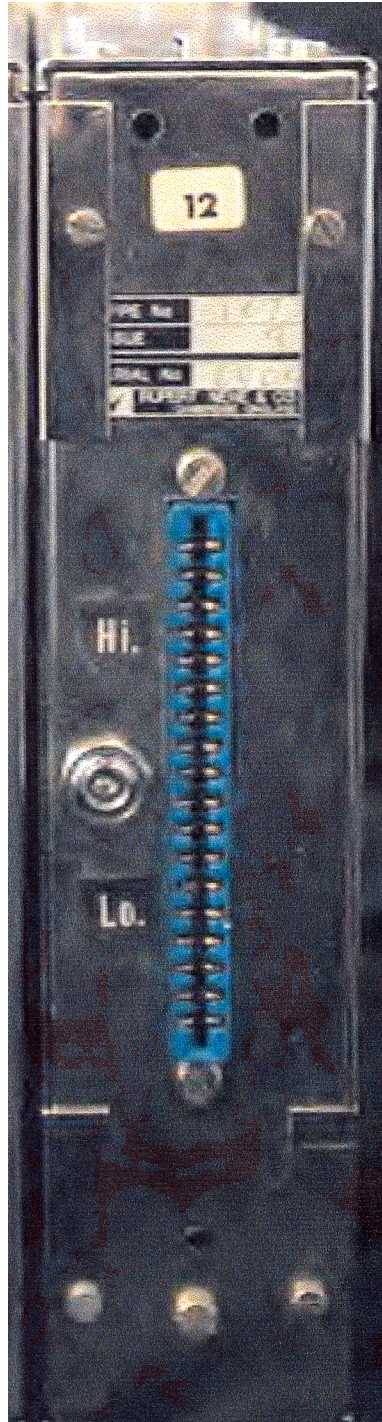
Inside View



Neve

1073 Channel Amplifier

Rear View



The thought, care and craftsmanship which goes into all Neve design is exemplified by this comprehensive Sound Control Console made to the individual requirements of Audio International Recording Ltd.



Additions are constantly being made to the range of channel amplifiers. Alternative filters and controls can be supplied to special order.

The NEVE range includes -

Microphone amplifiers.

Line amplifiers.

Distribution amplifiers.

Power amplifiers.

Channel amplifiers.

Special effects filters.

Equalised disc reproducer amplifiers.

Solid state switching matrices.

Limiters.

Limiter/compressors.

Remote control faders.

For further information on any of the above equipment, write to the Sales Manager.

Rupert Neve & Company Ltd.
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Melbourn,
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Hertfordshire, SG8 6AU,
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Telephone Royston (0763) 60776
Telex 81381

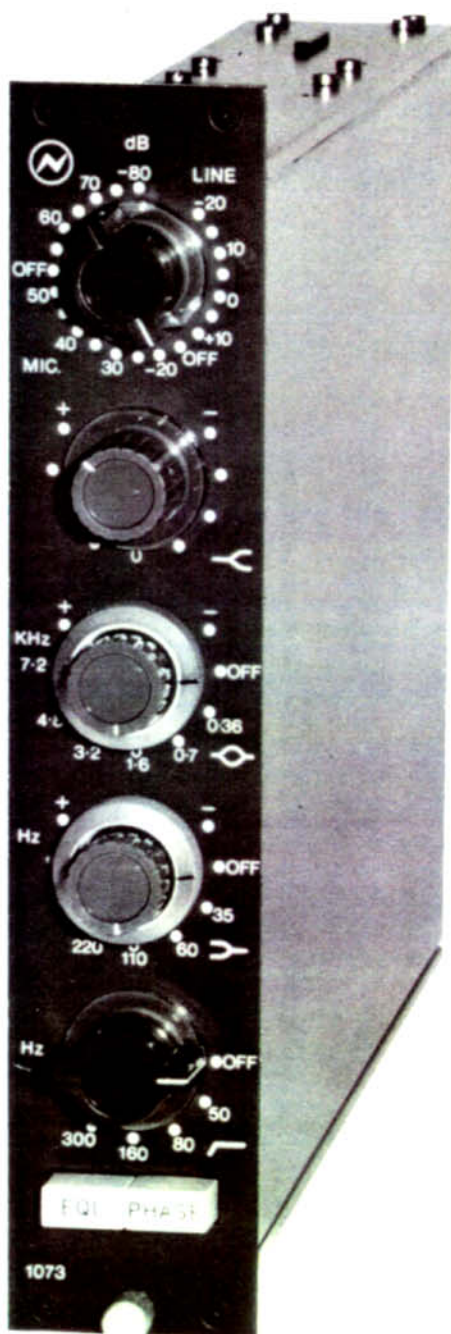
Rupert Neve of Canada Ltd.
7528 Bath Road,
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Toronto,
Ontario,
Canada
Telephone 416-677 6611

Rupert Neve Inc.
Berkshire Industrial Park,
Bethel,
Connecticut 06801,
U.S.A.
Telephone (203) 744 6230
Telex 969638



Neve

Channel Amplifiers



These comprise a range of high performance input amplifiers available for use on Neve sound control consoles, which incorporate alternative arrangements of filter and frequency response curves.

Neve





Channel Amplifiers

MECHANICAL

The amplifiers are completely enclosed modules designed to plug into a Neve control desk or a Neve 19" rack mounting frame. Sliding covers on both sides of the module provide for easy access to the circuitry. All connections are made on a multi-way connector having gold plated contacts.

DIMENSIONS

The front panels of modules listed below with the exception of the 1064 and 1064A measure 45 mm x 220 mm (1.75" x 8.70"). Modules should be spaced at 46 mm centres and mounted in a Neve module frame which may be mounted in a control desk or in a standard 19" rack. Up to 9 units may be mounted across a 19" rack mounting frame.

Type 1064, 1064A measure 45 mm x 305 mm (1.75" x 12").

POWER REQUIREMENTS

24 volts D.C. at approximately 120 mA.

CONNECTIONS

A	Input 0°	} Mic	K	External Fader Input.
B	Input 180°		L	External Fader Output.
C			P	Unbalanced Output.
D			R	Output 0°
E	24 volts—	} Line	S	Output Centre-tap.
F	Input 0°		T	Output 180°
H	Input 180°		U	24 volts +
J			V	Chassis

Note: The negative side of H.T. supply is amplifier "common signal" rail and should be connected to point 'V' (module case) at **one point only** in the system. When a number of modules are used together, 'V' should be connected to the frame or desk in which they are mounted and the frame itself connected to one side of the supply at one point only.

Summary of Control Arrangements

The following modules constitute the standard range. Alternative characteristics are available to special order.

MODEL Channel Amplifier	SENSITIVITY dBm		H.F. CONTROL	PRESENCE CONTROLS Frequencies kHz	L.F. CONTROLS Frequencies Hz	HIGH PASS FILTER Frequencies Hz	OTHERS
	MIC	LINE					
1064	5dB steps		Stepped 10 kHz	Separate stepped 0.7, 1.2, 2.4, 3.6, 7.0	Separate stepped 35, 60, 100, 220	45, 70, 160, 360	EQL. IN/OUT Phase switch
	-80 -20	-20 +10					
1064A	5dB steps		Continuously variable 10 kHz	Separate continuously variable 0.7, 1.2, 2.4, 3.6, 7.0	Separate continuously variable 35, 60, 100, 220	45, 70, 160, 360	EQL. IN/OUT Phase switch
	-80 -20	-20 +10					
1073	5dB steps		Continuously variable 12 kHz	Dual continuously variable 0.35, 0.7, 1.6, 3.2, 4.8, 7.2	Dual continuously variable 35, 60, 110, 220	50, 80, 160, 300	EQL. IN/OUT Phase switch
	-80 -20	-20 +10					
1076	5dB steps		Stepped 12 kHz	Dual stepped 0.35, 0.7, 1.6, 3.2, 4.8, 7.2	Dual stepped 35, 60, 110, 220	50, 80, 160, 300	EQL. IN/OUT Phase switch
	-80 -20	-20 +10					
FILTER UNIT 2065	Unity gain ± 3dB (preset)		Low/pass filter 2, 4, 6, 8 kHz	None	None	45, 70, 160, 360	EQL. IN/OUT
CORRECTION UNIT 2074	Unity gain ± 3dB (preset)		Continuously variable 12 kHz	Dual continuously variable 0.35, 0.7, 1.6, 3.2, 4.8, 7.2	Dual continuously variable 35, 60, 110, 220	50, 80, 160, 300	EQL. IN/OUT Phase switch
CORRECTION UNIT 2076	36 dB gain ± 3dB (preset)		Continuously variable 12 kHz	Dual continuously variable 0.35, 0.7, 1.6, 3.2, 4.8, 7.2	Dual continuously variable 35, 60, 110, 220	50, 80, 160, 300	EQL. IN/OUT Phase switch

CHANNEL AMPLIFIERS 1084 and 1085

1084 provides smooth controls on HF, LF and Presence.

1085 provides stepped controls on HF, LF and Presence.

SENSITIVITY SWITCH

Microphone input: Gain adjustable in 5 dB steps between -80 dB and -20 dB for 0 dBm output.

Line input: Gain adjustable in 5 dB steps between -20 dB and +10 dB for 0 dBm output.

H. F. CONTROL

Variable to maximum of ± 18 dB. Switched boost and cut frequencies.

10, 12 and 16 kHz "shelf" type curve shape.

PRESENCE CONTROL

Variable to a maximum of ± 12 dB or ± 18 dB, selectable on "Hi-Q" push-button. Switched boost and cut frequencies peaking at 7.2, 4.8, 3.2, 1.6, 0.7 and 0.35 kHz.

L. F. CONTROL

Variable to maximum of ± 18 dB. Switched boost and cut frequencies.

220, 110, 60 and 35 Hz.

HIGH PASS FILTER

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

LOW PASS FILTER

5 switched frequencies with -3 dB points at 18, 14, 10, 8 and 6 kHz. Slope 18 dB per octave.

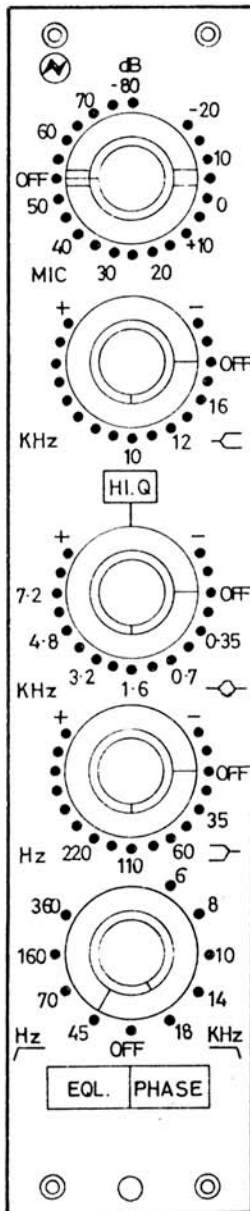
PUSH BUTTON SWITCHES

Equalisation IN/OUT

Phase reversal.

MECHANICAL

Front panel dimensions 45mm x 220mm (1.75" x 8.70")



Channel Amplifier 1081 and 1083 may be used in place of 1064 or 1064A unit, and the 1084 or 1085 may be used in place of the 1066, 1073 or 1076 units without modification to console wiring.

CHANNEL AMPLIFIER 1073

CONTENTS

General Description

Equalization Frequency Response Curves

Performance

Parts List - Module

Parts List - Switch Assemblies

Circuit Diagram - Switch Assemblies

- Sensitivity EK 20033

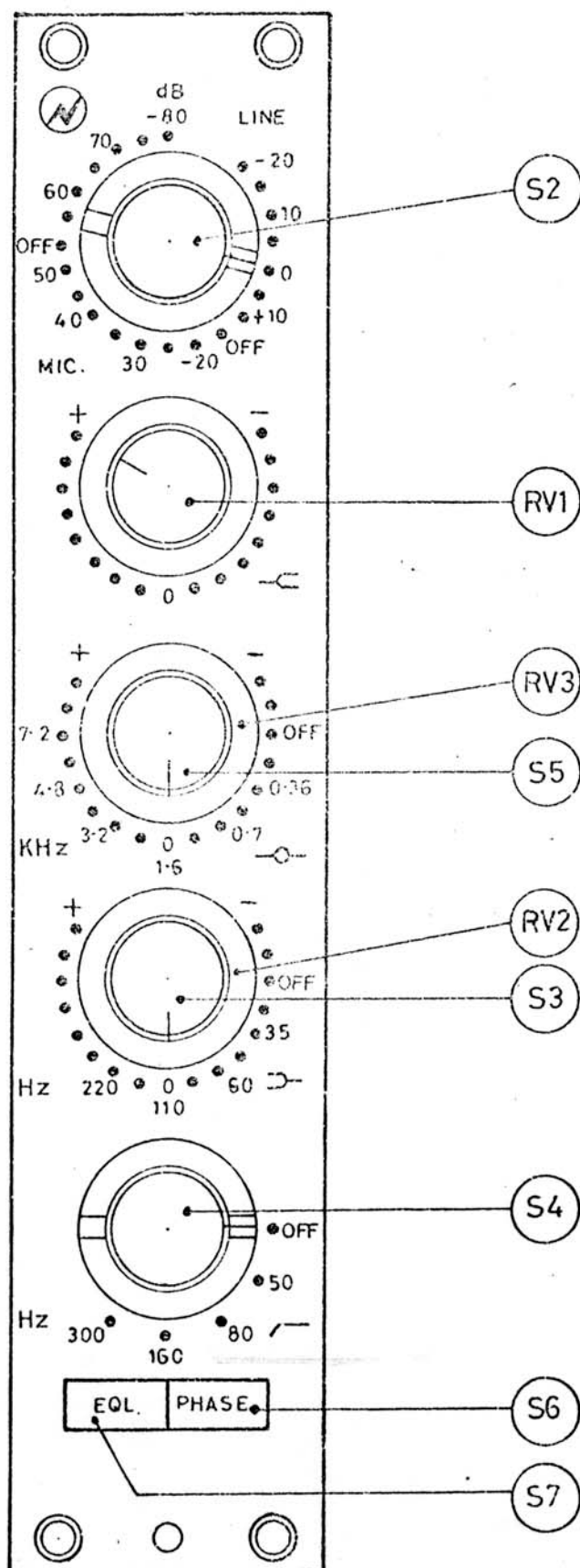
- Low Frequency EK 20065

- Presence EK 20105

- HP Filter EK 20066

Block Diagram E 10006

Circuit Diagram EH 10023



Circuits

Module: Block E 10006
Circuit EH10023

General Description

The Channel Amplifier operates from microphone or Line source and raises the level of the incoming signal to 0 dBm level for feeding into a 600 ohm load. The following frequency response correction operations are carried out and controlled by the channel amplifier:

1. H.F boost/cut
2. Presence (mid frequency cut/boost).
3. Low frequency cut/boost
4. High 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 +10 dBm for a line input. After amplification and signal processing the output level is 0 dBm.

The module contains two standard amplifiers BA284 and BA283 which are described separately. The BA284 acts as an operational amplifier in conjunction with the filter circuits. Board BA283AV incorporates an output amplifier, preceded by external fade connections and the equalising circuit.

These arrangements are shown on the block diagram (E10006). The sections of the input attenuator are wired so that when a low level input is used, the high level section is disconnected and the gain of the following amplifier BA283 is raised by section C of the input attenuator (see E10006).

When the unit is switched to receive a high level input, the amplifier BA284 (N-V section) is disconnected and the signal is routed via section B of the attenuator to the input of amplifier 2, the gain of which is automatically reduced. A switch (S1) enables the primary of the microphone input transformer to be arranged for high or low impedance microphones.

The line input transformer T2 connects a high level input via a separate section of the sensitivity switch which is divided into two sections separated by OFF positions. The microphone input is connected to the first stage of the BA284 amplifier at pin U. The output from the emitter follower TR3 at contact P is taken via the sensitivity switch S2b to the input at contact U of the amplifier BA283AV. The output from the emitter follower at contact P of this board is taken via the equalisation by-pass switch S7 and the external link between module contacts KL to the output amplifier via contact L of board BA283AV.

The 15K resistor R8 connects the output from the emitter follower TR2 (see microphone preamplifier circuit) at pin S to the input at contact U. This modifies the overall gain of the amplifier and also lowers the input impedance to match that of the transformer T1. Gain is also modified by the external resistor R10 connected between contacts T and V. The 91 ohm resistor shown in this position alters the amplitude of the signal developed across the emitter load of TR1 (see BA283 circuit) which also forms the emitter load of TR3 in common with R9. Note the intermediate OFF position dividing two sections of the sensitivity switch occurring between the -50 dB and 145 dB positions. At the -50 dB position, the gain of the first amplifier board on the BA284 is no longer required, and the output from T1 is switched directly to the input U of a similar amplifier on board BA283.

At the -50 dB and -45 dB positions, R29 and R30 are switched across the feedback gain control points T and V on the amplifier board BA283. At the -40 dB to -20 dB positions, gain is progressively reduced by the effects of R3 - R5 in series with the 'line' pin of the microphone input transformer T1, and shunted by R12-R18 connected across the secondary.

A second OFF position isolates the microphone positions of the switched attenuator from the alternative line input provided by T2. In this case the attenuator action is not complicated by variations of feedback, and the amplifier of board BA283 acts as the initial amplifier with fixed overall feedback applied by R29.

The output from contact P of board BA283 is taken to the switch S7 (EQ) via C11 and R27, which enables the frequency response correcting circuits to be switched in or by passed as required. The switch is shown in the by pass position and the signal is taken via the link K - L to the input at contact L of the output stage.

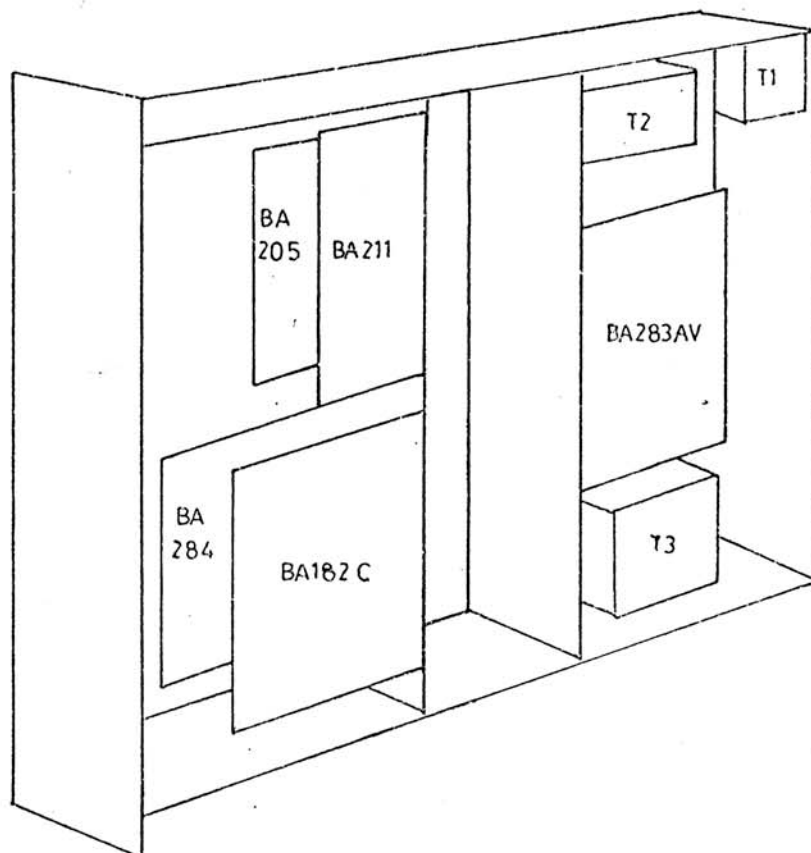
The output at contacts B and M is taken to pins 1 and 3 of the output transformer T3. Switch S6 enables the phase of the output from T3 to be reversed, if desired.

The signal processing circuits comprise board BA205, and an amplifier (part of BA284) which operates in conjunction with boards BA211 and BA182C.

In order to boost the gain of the output stage, C5 in series with R44 - are effectively connected across R4 in the emitter circuit of TR1, thereby providing 18 dB of gain (see circuit BA283). Contacts A and J when linked by a resistor at the board contacts boost the current through the power transformer TR3.

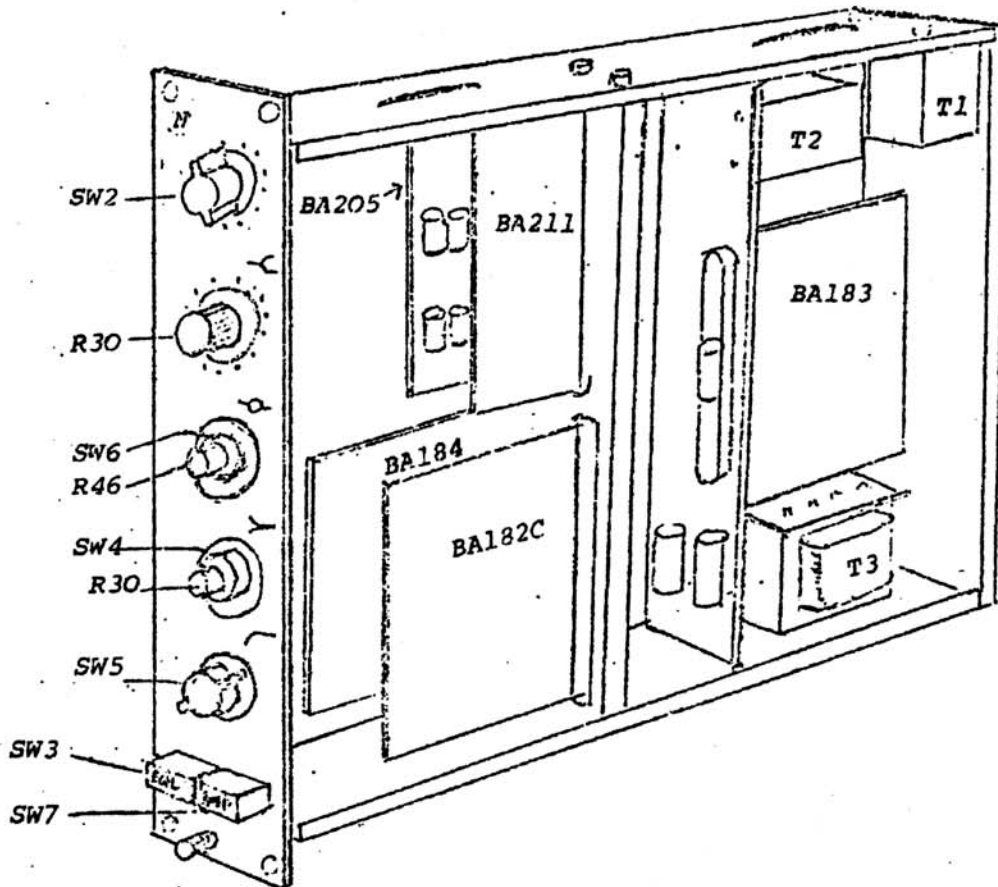
CHANNEL AMPLIFIER IO73

PRINTED CIRCUIT BOARD LAYOUT



Board	Function	Associated Sw.	Pots
BA284	Triple Amplifier	S2a,b,c	-
BA283AV	General Amplifier	-	-
-	H.F Cut/Boost	-	RV1
BA205	L.F Cut/Boost	Sw 3a,b Turnover frequency select	RV2
BA211	Presence	Sw 5 Centre freq. select	RV3 Boost/Cut
BA182C	H.P. Filter	Sw 4a,b Turnover select	-

CHANNEL AMPLIFIER 1073



Circuit References

Module wiring - 1073 Channel amplifier

Board BA183 - Amplifier

Board BA184 - Amplifier

Board BA211 - "Presence"

Board BA182C - High Pass Filter

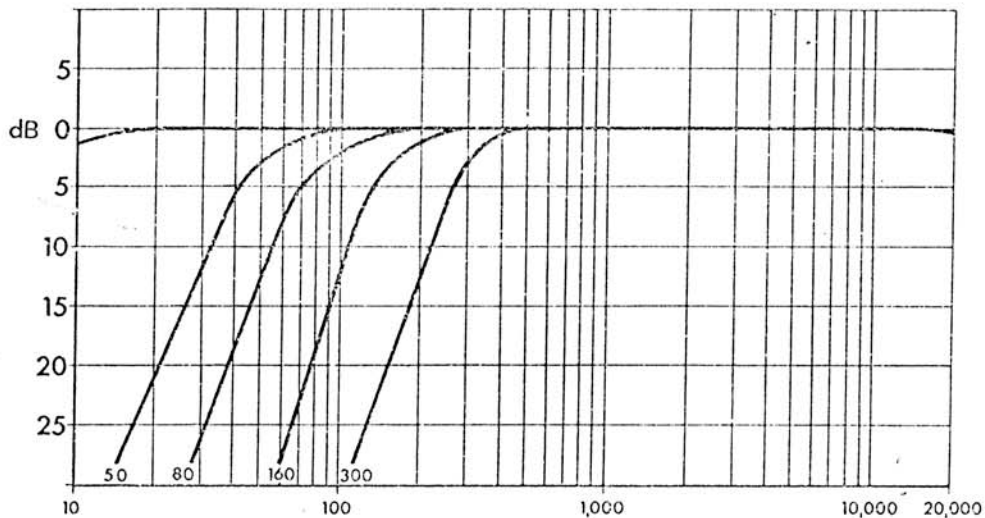
Board BA205 - H.F./L.F. Cut/Boost

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 are carried out and controlled by the Channel Amplifier:-

- (1) High frequency boost/cut.
- (2) Presence (mid frequency boost/cut).
- (3) Low Frequency boost/cut.
- (4) High pass filter.

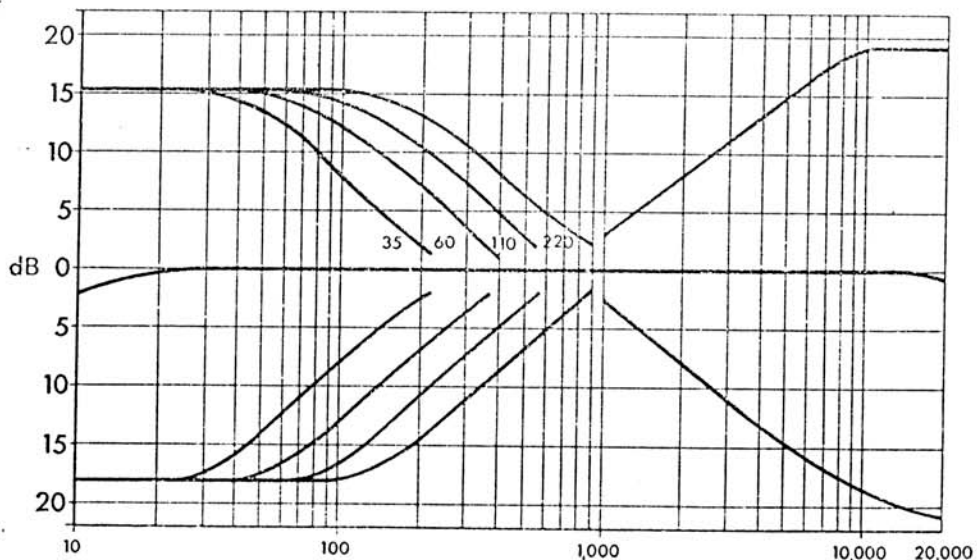
HIGH PASS FILTER



1073/1076

Provides 4 switched responses with -3 dB points at 50 Hz, 80 Hz, 160 Hz and 300 Hz. Slope - 18 dB per octave.

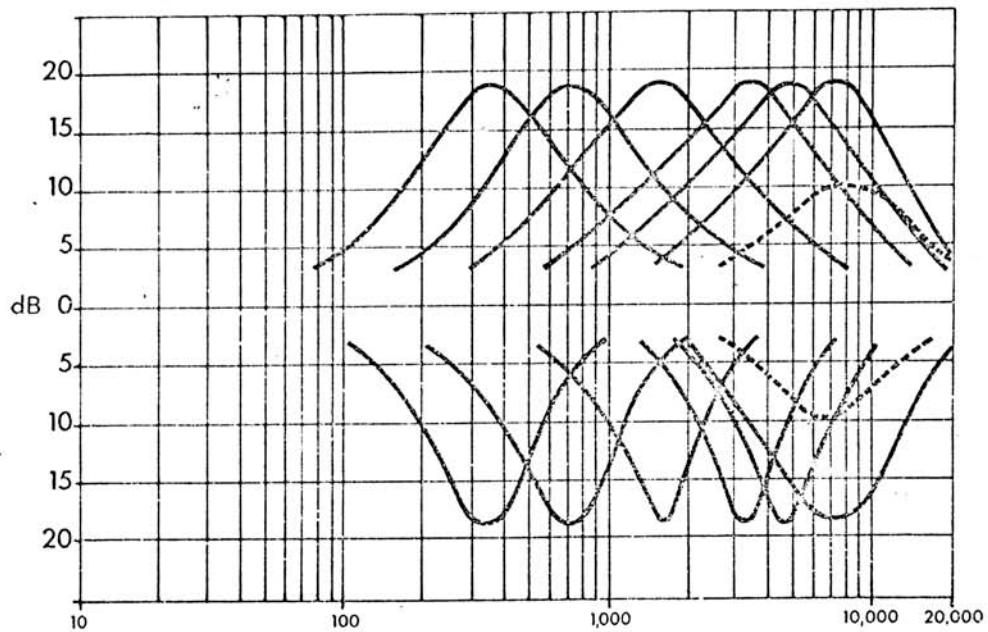
L.F. AND H.F. CUT/BOOST



1073 /1076

L.F. control - Continuously variable, ± 16 dB. Switched maximum boost and cut frequencies - 220 Hz, 110 Hz, 60 Hz and 35 Hz. "Shelf" type curve shape. Roll-off at 12 kHz.

PRESENCE
(MID-FREQUENCY)
CUT/BOOST



Continuously variable to a maximum of 16 dB.
Switched maximum boost and cut frequencies peaking at:-

0.35, 0.7, 1.6, 3.2, 4.8 and 7.2 kHz.

Push Buttons:

1. Equalisation In/Out
2. Phase Reverse (Output).

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

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 0.5 dB.

7 Hz - 35 kHz - 3 dB.

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

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 10 kHz repetition rate shows ringing and overshoot not exceeding 1% of the peak amplitude, the output rise time being strictly consistent with amplifier band width.

PARTS LIST 1073

Ref.	Description	Part No.
R1	22K TR5 5%	R5 22K
R2	2K2 TR4 "	R4 2K2
R3	3K3 " "	R4 3K3
R4	3K9 " "	R4 3K9
R5	4K3 " "	R4 4K3
R6	91 TR5 "	R5 91
R7	2K7 TR4 "	R4 2K7
R8	18K " "	R4 18K
R9	12K " "	R4 12K
R10	3K9 " "	R4 3K9
R11	1K8 " "	R4 1K8
R12	1K " "	R4 1K
R13	510 " "	R4 510
R14	33 " "	R4 33
R15	27 " "	R4 27
R16	47 " "	R4 47
R17	82 " "	R4 82
R18	150 " "	R4 150
R19	270 " "	R4 270
R20	430 " "	R4 430
R21	3K9 " "	R4 3K9
R22	3K9 " "	R4 3K9
R23	2K7 " "	R4 2K7
R24	12K " "	R4 12K
R25	12K " "	R4 12K
R26	220 " "	R4 220
R27	120 TR5 "	R5 120
R28	330 TR4 "	R4 330
R29	18K " "	R4 18K
R30	39K " "	R4 39K
R31	12K " "	R4 12K
R32-39	10M 10M B.T.T.	RBT 10M
R40	10K TR5 5%	R5 10K
R41	270 TR4 "	R4 270
R42	120 TR5 "	R5 120
R43	2K7 TR4 "	R4 2K7
R44	10K TR5 "	R5 10K
R45	4K7 TR4 "	R4 4K7
R46	1K5 TR5 "	R5 1K5
R47-54	10M 10M B.T.T.	RBT 10M
R55	1K2 TR4 5%	R4 1K2
R56-61	10M 10M B.T.T.	RBT 10M
R62	12 TR5 5%	RBT 12
R63	1K5 " "	R5 1K5
R64	5K1 " "	R5 5K1
R65	2K2 " "	R5 2K2
R66	1K5 " "	R5 1K1
R67	12K TR4 "	R4 12K

Ref.	Description	Part No.
C1	180pF Suflex HS 10%	C0040
C2	640 μ F C437 AR/F640	C0032
C3	640 μ F " "	C0032
C4	470pF Suflex HS, 10%	C0044
C5	180pF " " "	C0040
C6	3300pF " " "	C0186
C7	80 μ F C426 AR/F80	C0029
C8	640 μ F C437 AR/F640	C0032
C9	640 μ F " "	C0032
C10	0.01 μ F C296 AA/A10K	C0009
RV1	47K Potentiometer	P0020
RV2	10K " "	P0015
RV3	10K " "	P0016
S1	Input Attenuator	S0107
S2	Equalisation IN/OUT	S0142
S3	Switch (BA205)	S0106
S4	Switch (BA182C)	
T1	Microphone input transformer 10468	T0004
T2	Line input transformer 31267	T0006
T3	Output transformer L01166	T0007
	BA184 or BA284 (Printed Circuit Board)	
	BA183 or BA283 " " "	
	BA182C " " "	
	BA205 " " "	
	BA211 " " "	

CHANNEL AMPLIFIER 1073

PARTS LIST

Ref	Description	Part No.
R8	15K TR4, 5%	R4 15K
R10	91 " "	R4 91
R31,32	10 " "	R4 10K
R37	1K2 " "	R4 1K2
R38	18K " "	R4 18K
R39	39K " "	R4 39K
R44	1K5 " "	R4 1K5
R45	12K " "	R4 12K
R51	270 " "	R4 270
R56	12 BTT	BTT 12
R57	120 TR4 5%	R4 120
R58	2K7 " "	R4 2K7
R64	1K5 " "	R4 1K5
R70	5K1 " "	R4 5K1
R71,72	39K " "	R4 39K
RV1	10K Potentiometer (high frequency)	PO015
C1	180 pF	CO040
C2	470 pF	CO044
C3	180 pF	CO040
C4,7,8,10	470 μ F, 25V	CO299
C5	100 μ F, 25V	CO298
C6	2n2	CO192
C9	0.01 μ F	CO198
C12	22 μ F, 16V	CO199
S1	Toggle Switch	SO142
S2a,b,c	Sensitivity Switch Assembly	EK20033
S3a,b	L.F. Select Switch Assembly	EK20065
S4a,b	H.P. Filter Switch Assembly	EK20066
S5	Presence Switch Assembly	EK20105
S6,7	Push Button Switch 2B 2P engraved EQL,Phase	SO132 5mm 50200
T1	Mic Input 10468	TO004
T2	Line Input 31267	TO006
T3	Output LO1166	TO007
	Printed Circuit Board Assembly	BA182C
	" " " "	BA205
	" " " "	BA211
	" " " "	BA283AV
	" " " "	BA284
	Socket 18 way 143-018-01	CO079

PRINTED CIRCUIT BOARD ASSEMBLY BA283NV

General Description

Circuit Diagram EX10283

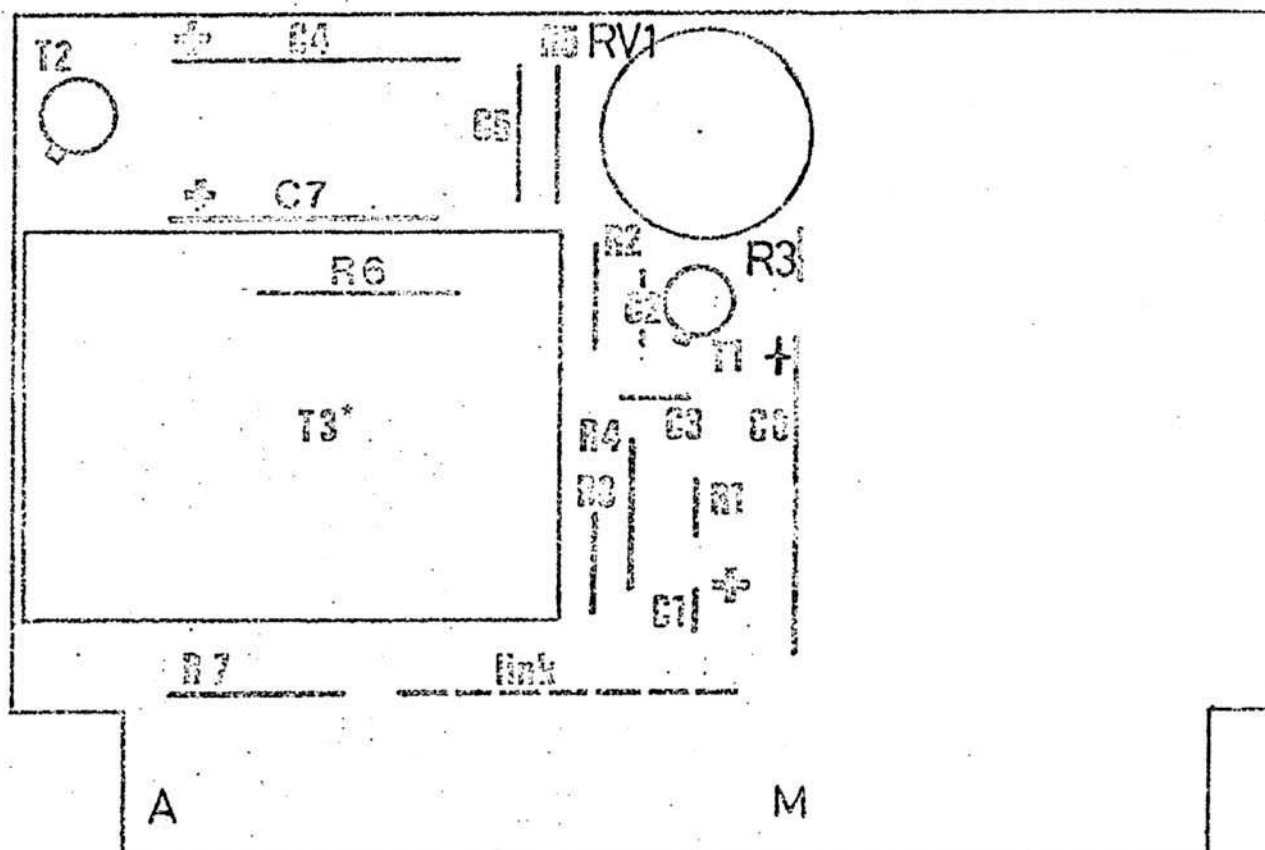
The gain of the pre-amplifier (TR4, 5, 6) may be changed by the connection of an external resistor between contacts T and V which decouples R18 more effectively, thereby, increasing the gain of the amplifier.

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

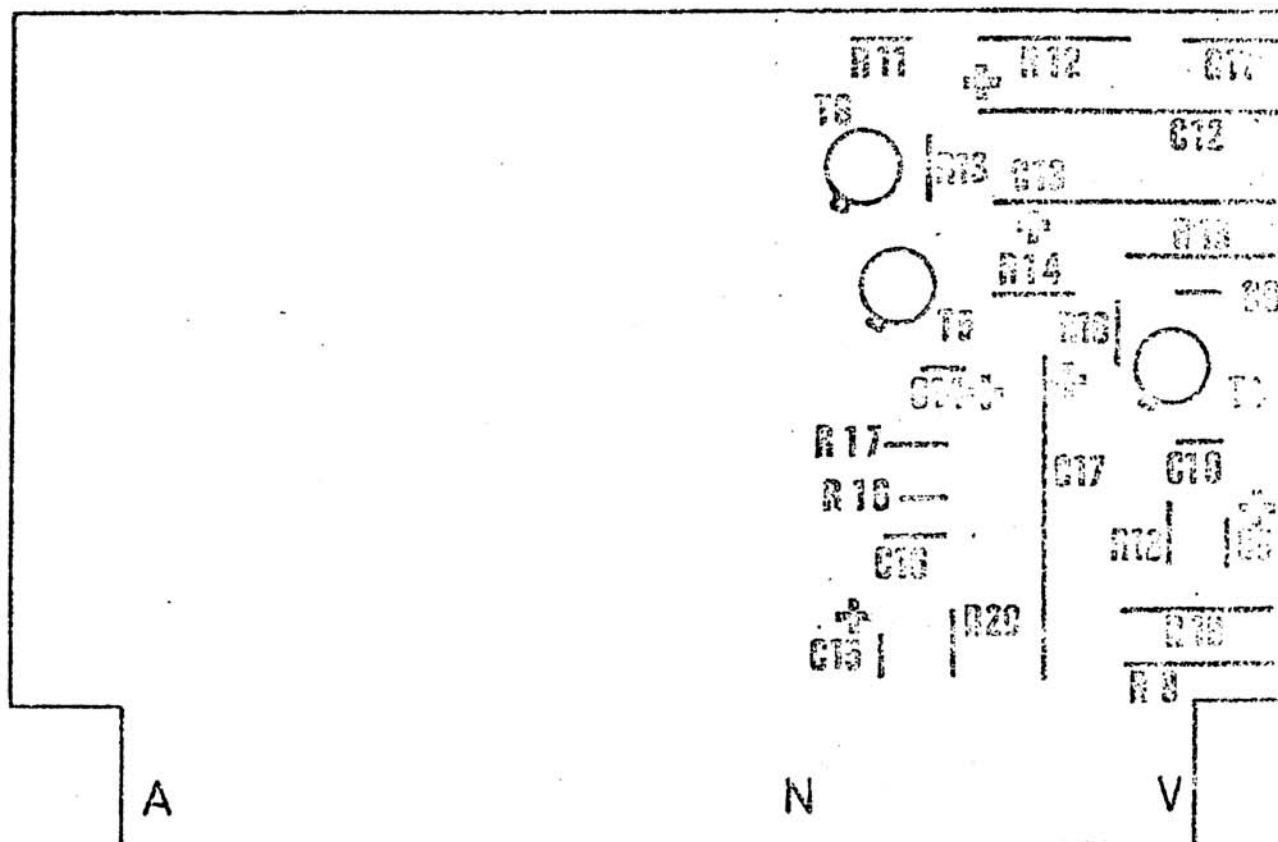
Feedback connections are made externally by connecting a resistor between the emitter-follower output from TF5 at contact S on the P.C.B. and the input contact U. The value of the resistor used in this loop varies according to the system requirements as gain is also affected.

COMPONENT LAYOUT BA283 AM AND AMA



PARTS LIST BA283AM & BA283AMA

Ref	Description	Part No.
R1	2K2 TR4 ±2%	R4 2K2
R2	56K " "	R4 56K
R3	68K " "	R4 68K
R4	1K2 " "	R4 1K2
R5	3K3 " "	R4 3K3
R6	18K " "	R4 18K
R7	47 TR5 "	R5 47
R8	33K TR4 "	R4 33K
RV1	Potentiometer, preset 4K7	FOO32
C1	10 μF, 25V TAG	COO207
C2	220 pF	COO41
C3	4700 pF	CO187
C4	80 μF, 25V	COO29
C5	330 pF	COO42
C6,7	80 μF, 25V	COO29
TR1,2	BC184C	TOO43
*TR3	2N3055	TCO37
	Printed Circuit Board Assembly	BA283AM
	*On BA283 AMA, TR3 is mounted remote	



PARTS LIST BA283 NV

Ref	Description	Part No.
R9	Resistor 120K 1/4 2%	R4 120K
R10	" 68K " "	R4 68K
R11	" 33K " "	R4 33K
R12	" 47K " "	R4 47K
R13	" 5K1 " "	R4 5K1
R14	" 470 " "	R4 470
R15	" 1K5 " "	R4 1K5
R16	" 10K " "	R4 10K
R17	" 2K2 " "	R4 2K2
R18	" 390 " "	R4 390
R19	" 1K8 " "	R4 1K8
R20	" 51K " "	R4 51K
C8	Capacitor 10 μ F, 25V	C0207
C9	" 100 pF	C0039
C10	" 1500 pF	C0191
C11	" 680 pF	C0045
C12	" 22 μ F, 25V	C0300
C13	" 125 μ F, 4V	C0024
C14	" 22 μ F, 16V	C0199
C15	" 22 μ F, 16V	C0199
C16	" 1000 pF	C0193
C17	" 400 μ F, 4V	C0025
T4	Transistor BC184C	T0043
T5	" BC184C	T0043
T6	" BC184C	T0043
	Printed Circuit Board Assembly	BA283NV

PRINTED CIRCUIT BOARD ASSEMBLY BA283AV AND BA283AVA

Circuit Diagram EX10283

This printed circuit board assembly BA283AV consists of two stages. each of which is described separately.

1. This is a pre amplifier stage (TR4, 5, 6) wired between pins N and V on the connector and is known as the BA283NV.
2. This is an output stage (TR1, 2) wired between pins A and M on the connector and is known as the BA283AM.

When TR3 on the output stage is operated at high currents provision is made for it to be mounted on an external heat sink. This is indicated by the addition of the suffix A to the board assembly e.g. BA283AMA and AVA.

Circuit Diagram EX10283General Description

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

The potentiometer RV1 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 35dB. An unbalanced, low source impedance output taken via C7 to the common collectors of TR2 and TR3 is available at contact F.

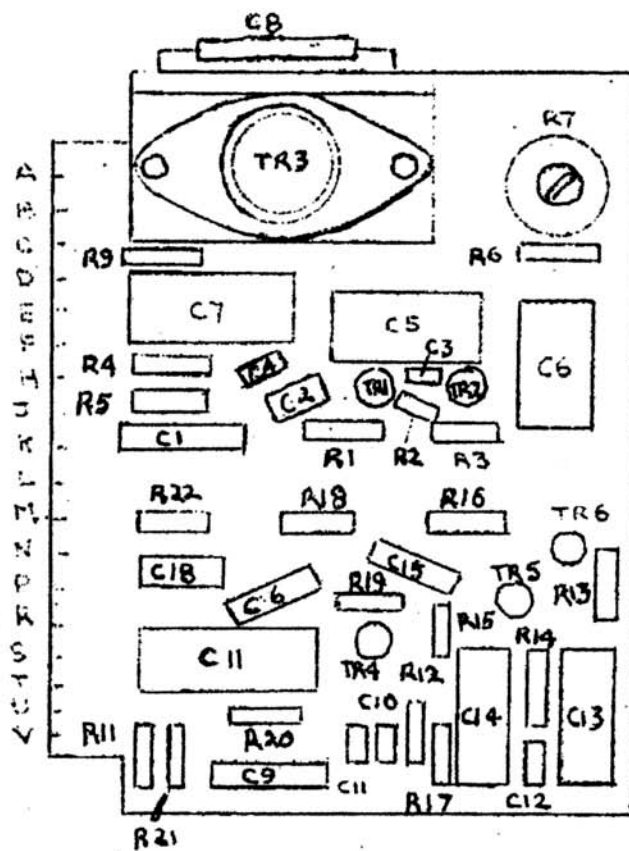
Gain dB Balanced	15	20	25	30	35
Gain dB Unbalanced	11	16	21	26	31
Value of R Ω	-	1K2	470	220	110
Value of C μ F	-	80	80	80	80

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 R7 in parallel with the potentiometer RV1. 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 printed circuit board assembly is then known as BA283AMA.

PARTS LIST BA284

Ref	Description	Part No.
R1	120K TR4, $\pm 2\%$	R4 120K
R2	68K " "	R4 68K
R3	33K " "	R4 33K
R4	47K " "	R4 47K
R5	5K1 " "	R4 5K1
R6	470 " "	R4 470
R7	1K5 " "	R4 1K5
R8	10K " "	R4 10K
R9	2K2 " "	R4 2K2
R10	390 " "	R4 390
R11	1K8 " "	R4 1K8
R12	51K " "	R4 51K
R13,23	100K " "	R4 100K
R14,24	39K " "	R4 39K
R15,25	27K " "	R4 27K
R16,26	3K3 " "	R4 3K3
R17,27	120K " "	R4 120K
R18,28	180K " "	R4 180K
R19,29	180K " "	R4 180K
R20,30	3K6 " "	R4 3K6
R21,31	820 ohms TR4, $\pm 2\%$	R4 820
R22,32	3K9 " "	R4 3K9
C1,10,18	10 μ F, 25V	CO207
C2	100 pF Suflex 10%	CO039
C3	1500 pF " "	CO191
C4,13,21	680 pF Suflex 10%	CO045
C5	22 μ F, 25V	CO300
C6	125 μ F, 4V	CO024
C7,8	22 μ F, 16V	CO199
C9	400 μ F, 4V	CO025
C10,	10 μ F, 25V, TAG	CO207
C11,19	47 pF	CO038
C12,20	470 pF	CO044
C13,21	680 pF	CO045
C14,22	22 μ F, 25V	CO300
C15,23	64 μ F, 4V	CO023
C16,24	1000 pF	CO183
C17,25	22 μ F, 16V	CO199
C26	1000 pF	CO183
TR1-9	BC184C	TO043
	P.C.B (assembled)	BA284

1065/10/3
PRINTED CIRCUIT BOARD, BI83 AVA



Ref	Description	Part No.
R1	2K2 TR5 5%	R5 2K2
R2	56K " "	R5 56K
R3	68K " "	R5 68K
R4	1K2 " "	R5 1K2
R5	3K3 " "	R5 3K3
R6	18K " "	R5 18K
R7	Potentiometer 4K7 Miniature	P0032
R8	47 TR6 5%	R6 47
R9	33K TR5 "	R5 33K
R10	1K5 " "	R5 1K5
R11	120K TR5 5%	R5 120K
R12	68K " "	R5 68K
R13	33K " "	R5 33K
R14	47K " "	R5 47K
R15	5K1 " "	R5 5K1
R16	470 " "	R5 470
R17	1K5 " "	R5 1K5
R18	100K " "	R5 100K
R19	2K2 " "	R5 2K2
R20	390 " "	R5 390
R21	1K8 " "	R5 1K8
R22	100K " "	R5 100K

CIRCUIT NOTES

1. Potentiometer R7 is for adjusting the bias on the base of TR1 to provide for variation in the drive to TR1. The potentiometer is mounted on the printed circuit board and is pre-set for optimum working conditions; subsequent adjustment should not be necessary.
2. The gain of the amplifier is determined by the connection of externally mounted components (a resistor and an electrolytic capacitor) between contacts K and J. These components effectively shunt the emitter load of TR1, thereby increasing the gain. See table for gain variation in 5 dB steps from 15 to 35 dB. Note that an unbalanced, low source impedance output is available at contact F, series connected by C7 to the common collectors of TR2 and TR3.
3. When the BA183 is used in a distribution amplifier, the loading on the secondary of the output transformer is increased and the extra current required is produced by linking contacts A and J externally. This effectively increases the shunting of the emitter load of TR3. In instances where the same amplifier is used in a Switching unit, the output transformer is replaced by a choke and the current is reduced by connecting a suitable resistor in series with R8.
4. Fixed a.c. feedback is applied from the collector circuit of the Darlington pair to the emitter of TR1 via C5 and R5, C4.

N.B. Where the power Darlington pair TR2, TR3 are operated at higher current, provision is made for TR3 to be mounted on an external heat sink.

The printed circuit boards type BA183AM and AV described in the various sections of this manual are gradually being superseded by board types BA183X/AM and AV or BA283/AM and AV.

The BA183X and B283 boards are identical electrically and may be interchanged. Performance of the equipment remains unchanged.

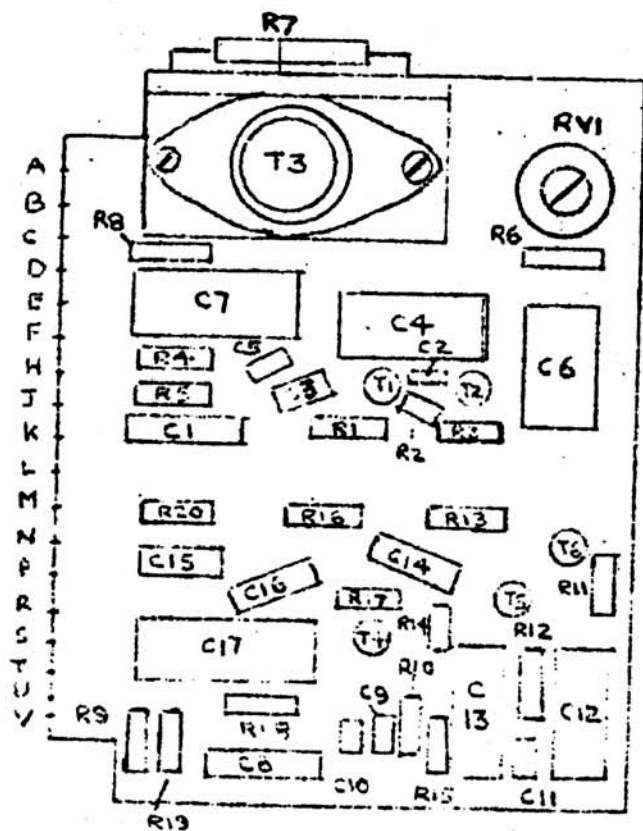
Care should be taken when replacing earlier BA183 boards by the new ones. In some modules pins C and D on the P.C.B. socket were originally used as anchor points for external components. Reference should be made to both the module and the module circuit diagram before replacement. If either of the pins have been used for anchoring components these should be transferred to pin E or H before insertion of the board.

PARTS LIST BA183X AND BA283

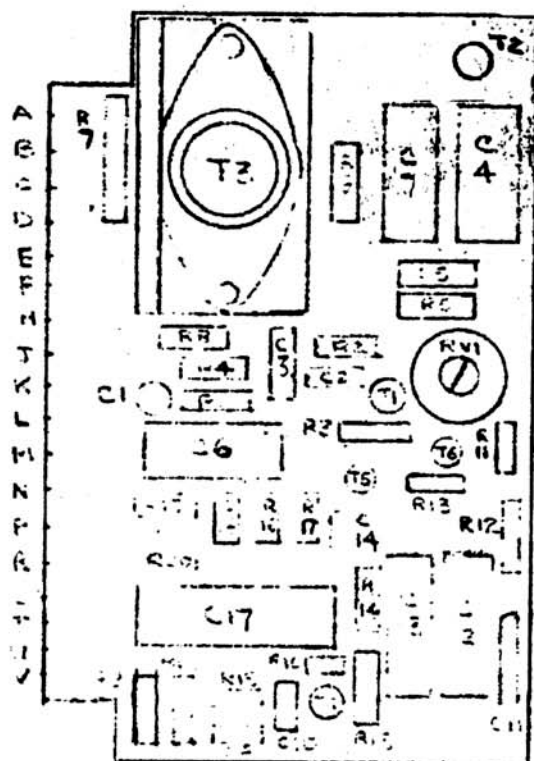
Ref	Description	Part No.
R1	2K2 R4, 5%	R4 2K2
R2	56K " "	R4 56K
R3	68K " "	R4 68K
R4	1K2 " "	R4 1K2
R5	3K3 " "	R4 3K3
R6	18K " "	R4 18K
R7	47 R5 "	R5 47
R8	33K R4 "	R4 33K
R9	120K " "	R4 120K
R10	68K " "	R4 68K
R11	33K " "	R4 33K
R12	47K " "	R4 47K
R13	5K1 " "	R4 5K1
R14	470 " "	R4 470
R15	1K5 " "	R4 1K5
R16	10K " "	R4 10K
R17	2K2 " "	R4 2K2
R18	390 " "	R4 390
R19	1K8 " "	R4 1K8
R20	51K " "	R4 51K
C1	10 μ F, 25V TAG	C0207
C2	220pF	C0041
C3	4700pF	C0187
C4	80 μ F, 25V	C0029
C5	330pF	C0042
C6,7	80 μ F, 25V	C0029
C8	10 μ F, 25V	C0207
C9	100pF	C0039

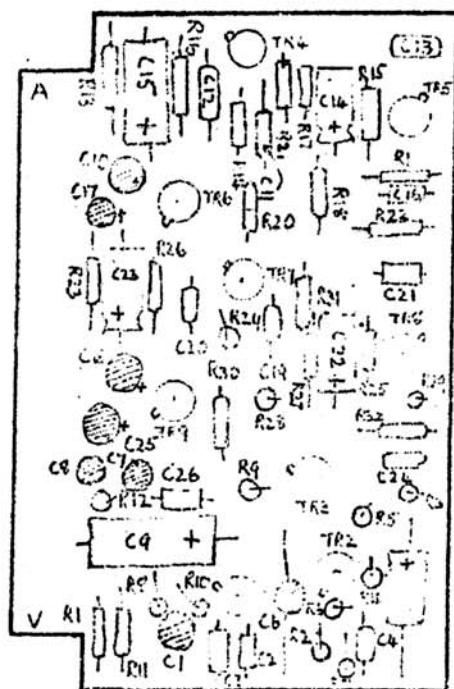
Ref	Description	Part No.
C10	1500pF	CO191
C11	680pF	CO045
C12	80μF, 64V	CO029
C13	125μF, 4V	CO024
C14	22μF, 16V	CO199
C15	22μF, 16V	CO199
C16	1000pF	CO193
C17	400μF, 4V	CO025
T1,2	BC184C	TO043
T3	BDY61	TO037
T4	BC184C	TO043
T5	BC184C	TO043
T6	BC184C	TO043
	BA283	

BAI83X



BA283



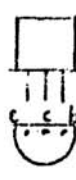
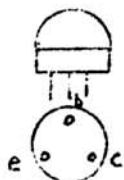


Note: Replacement of components on this board should be undertaken only by experienced engineers using the special de-soldering equipment (solder sipper) designed for the removal of components without damage.

BC114

BC109

BC184L



Tantalum Bead
Capacitor

Components mounted
vertically

Transistors viewed from
underside.

This p.c.b. consists of an input amplifier similar to that on the BA283 board together with two similar operational amplifiers.

The gain of the input amplifier may be changed by the connection of a resistor between contacts T and V which decouples R10 more effectively, thereby, increasing the gain of the amplifier. Gain is increased in 5 dB steps according to the following table:

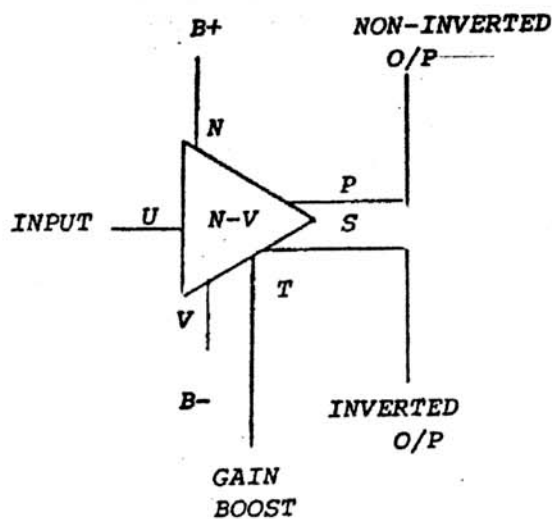
Gain db	18	23	28	33	38	43	48
R	-	330	120	56	27	15	8.2

Feedback connections all made externally by connecting a resistor between the emitter follower output from T2 at contact S and the input contact at U. The value of the resistor used in this loop varies according to system requirements as gain is also affected.

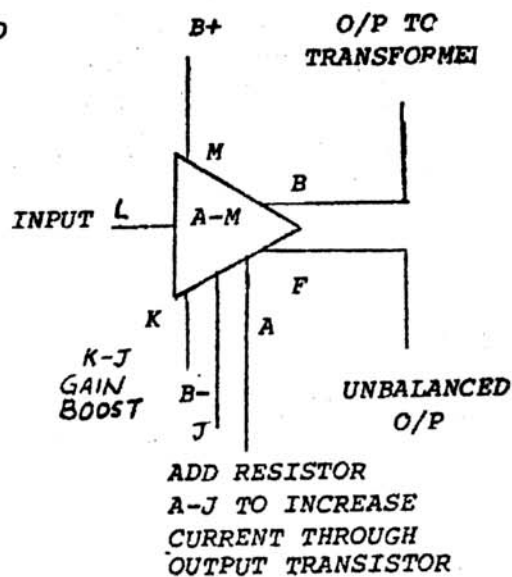
AMPLIFIER PRINTED CIRCUIT BOARDS B183/B283

The amplifier board B183 is used extensively in modules. It consists of two amplifiers, one an output stage with low gain and the second a pre-amplifier section for use with microphones or when feeding from bus-bars.

The output stage occupies pins A to M on the edge connector and the pre-amplifier stage pins N to V. This is used to designate the version fitted. Thus:- B183AM is the output stage only and B183AV is the full amplifier.



PRE-AMPLIFIER



OUTPUT AMPLIFIER

EK20105 PRESENCE SWITCH ASSEMBLY

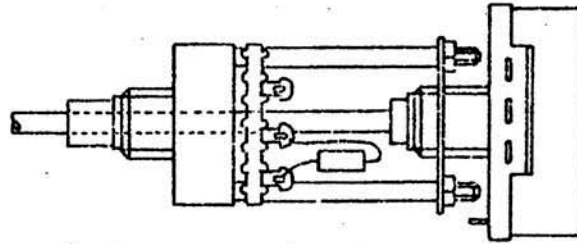
Ref	Description	Part No.
S5	Switch 1P 7W	SO524
R63	Resistors 4M7	T15 4M7
R65	" "	T15 4M7
R66	" "	T15 4M7
R67	" "	T15 4M7
R68	" "	T15 4M7
R69	" "	T15 4M7
KV3	Potentiometer 10K LIN.	PO016

EK20065 L.F. SWITCH ASSEMBLY

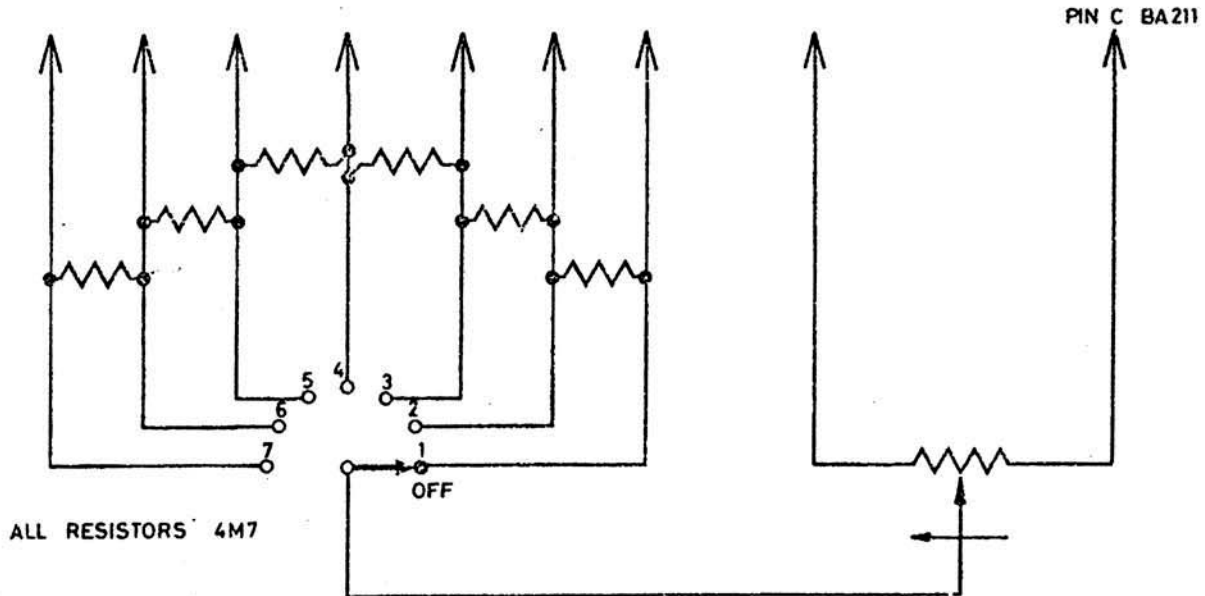
Ref	Description	Part No.
S3	Switch 2P 5W	SO523
R33	Resistors 4M7	T15 4M7
R34	" "	T15 4M7
R35	" "	T15 4M7
R36	" "	T15 4M7
R40	" "	T15 4M7
R41	" "	T15 4M7
R42	" "	T15 4M7
R43	" "	T14 4M7
RV2	Potentiometer 50K LIN	PO020

EK20066 H.P. FILTER SWITCH ASSEMBLY


Ref	Description	Part No.
S4	Switch 2P 5W	SO522
R47	Resistors 4M7	T15 4M7
R48	" "	T15 4M7
R49	" "	T15 4M7
R50	" "	T15 4M7
R52	" "	T15 4M7
R53	" "	T15 4M7
R54	" "	T15 4M7
R55	" "	T15 4M7
C12	Capacitor 22 μ F 16V	CO199



RESISTORS MOUNTED VERTICALLY
AROUND SWITCH



PRESENCE SWITCH ASSEMBLY (FOR USE WITH BA 211)

		ISSUE	FIRST USED ON 1082	MATL.	TOL. UNLESS OTHERWISE STATED		
					LINEAR ±	ANGULAR	HOLES +0.13 -0
		DATE	DRN. A.H.L	FINISH	3RD ANGLE PRJ. 	DIMS IN	SCALE N.T.S
		CHANGE NOTE NO	TRACED R.J.C	TITLE	DRG. NO		
			CHECKED ΔΔΔ	PRESENCE SWITCH	EK 20.105		

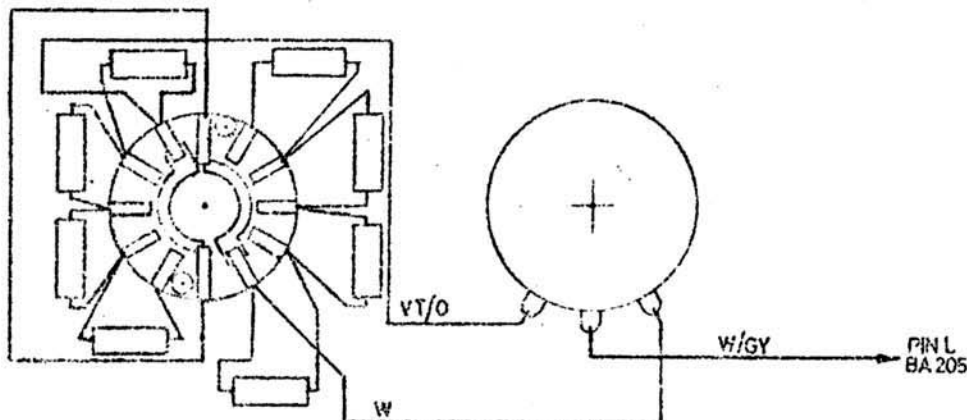


MTG. FACE

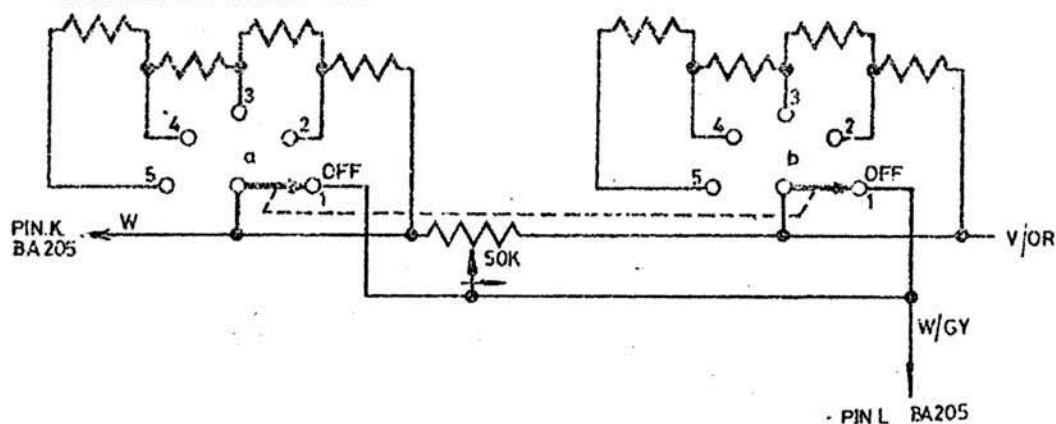
15

25

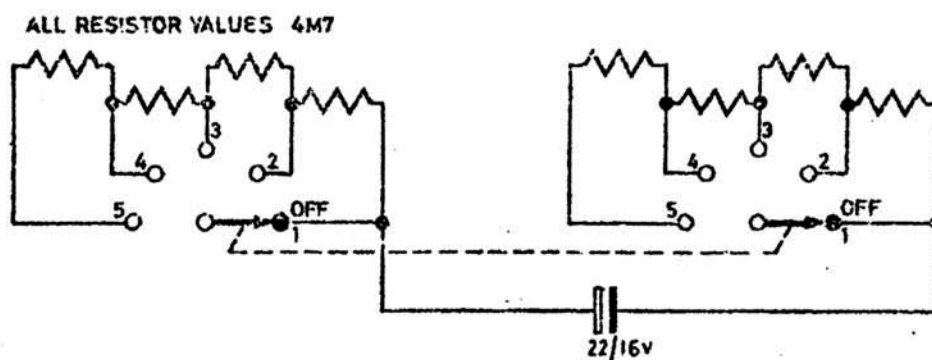
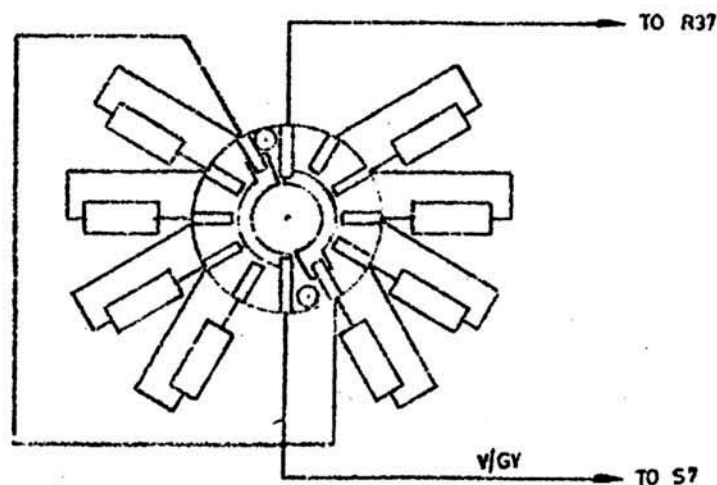
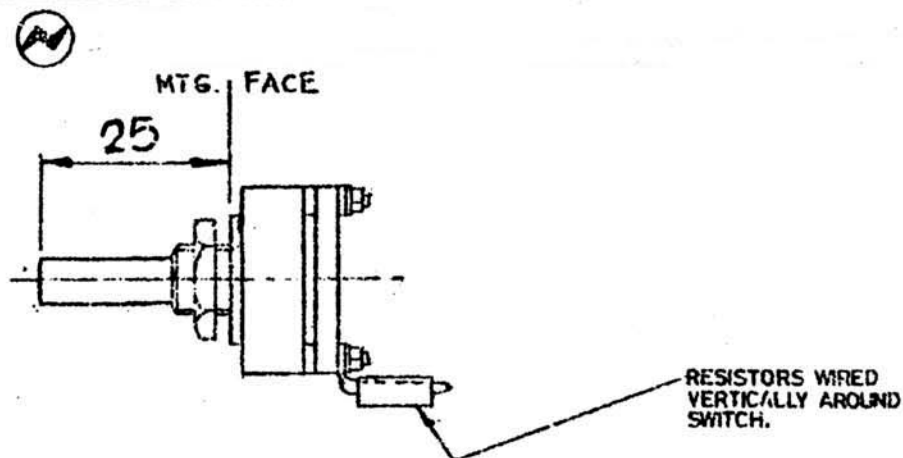
RESISTORS WIRED
VERTICALLY AROUND
SWITCH.



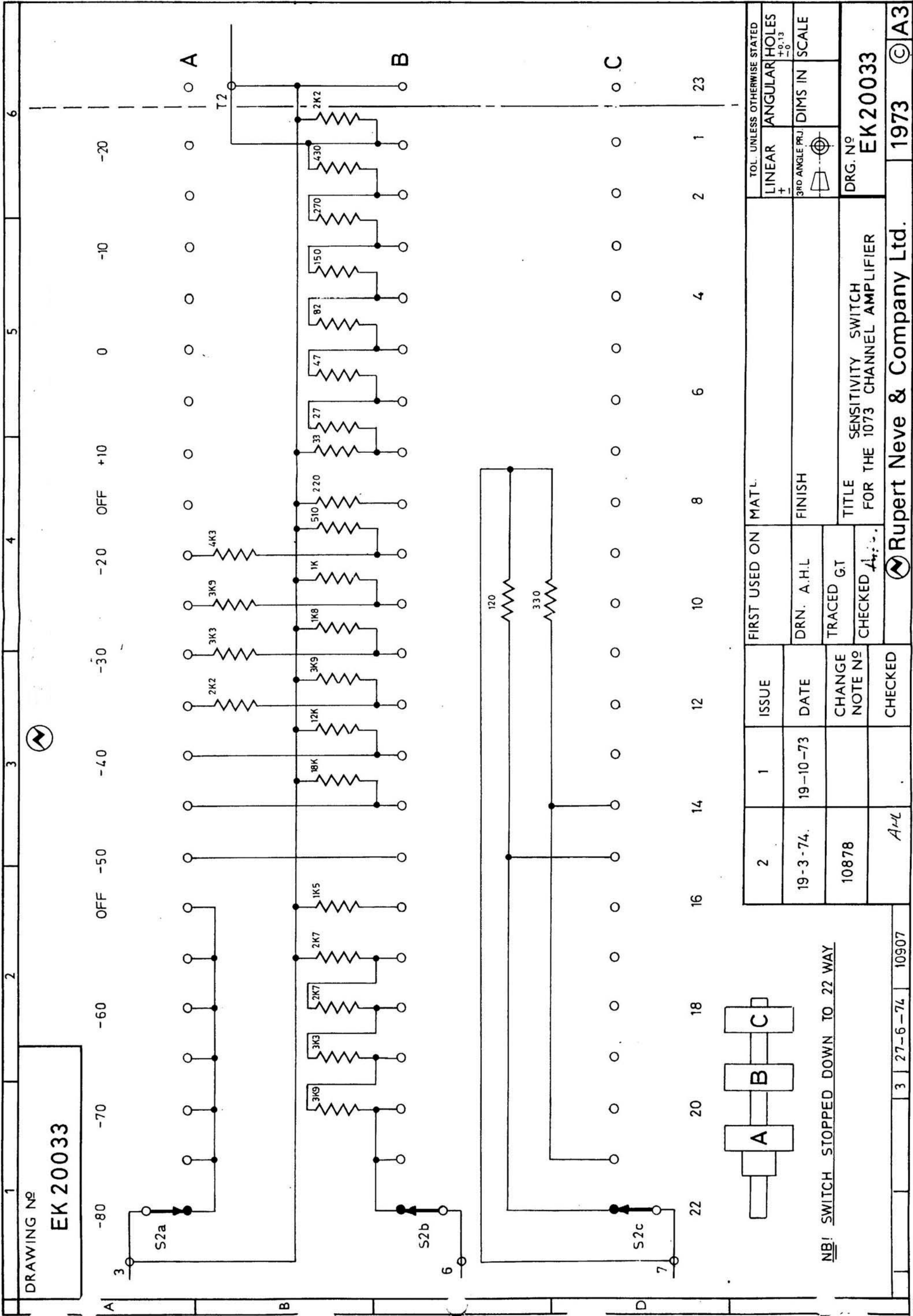
ALL RESISTOR VALUES 4M7



2	1	ISSUE	FIRST USED ON 1070	MATL.	TOL. UNLESS OTHERWISE STATED		
		DATE	DRN. D.G.J.		LINEAR $\pm 0,4$	ANGULAR	HOLES $\pm 0,13$ -0
30-11-73	6-11-72	CHANGE NOTE NO	TRACED	FINISH	3RD ANGLE PRJ.	DIMS IN mm	SCALE 1/1
10819		CHECKED	CHECKED	TITLE LOW FREQUENCY SWITCH	DRG. NO	EK 20065	
		CHECKED		Rupert Neve & Comp.	1972	(C)	A

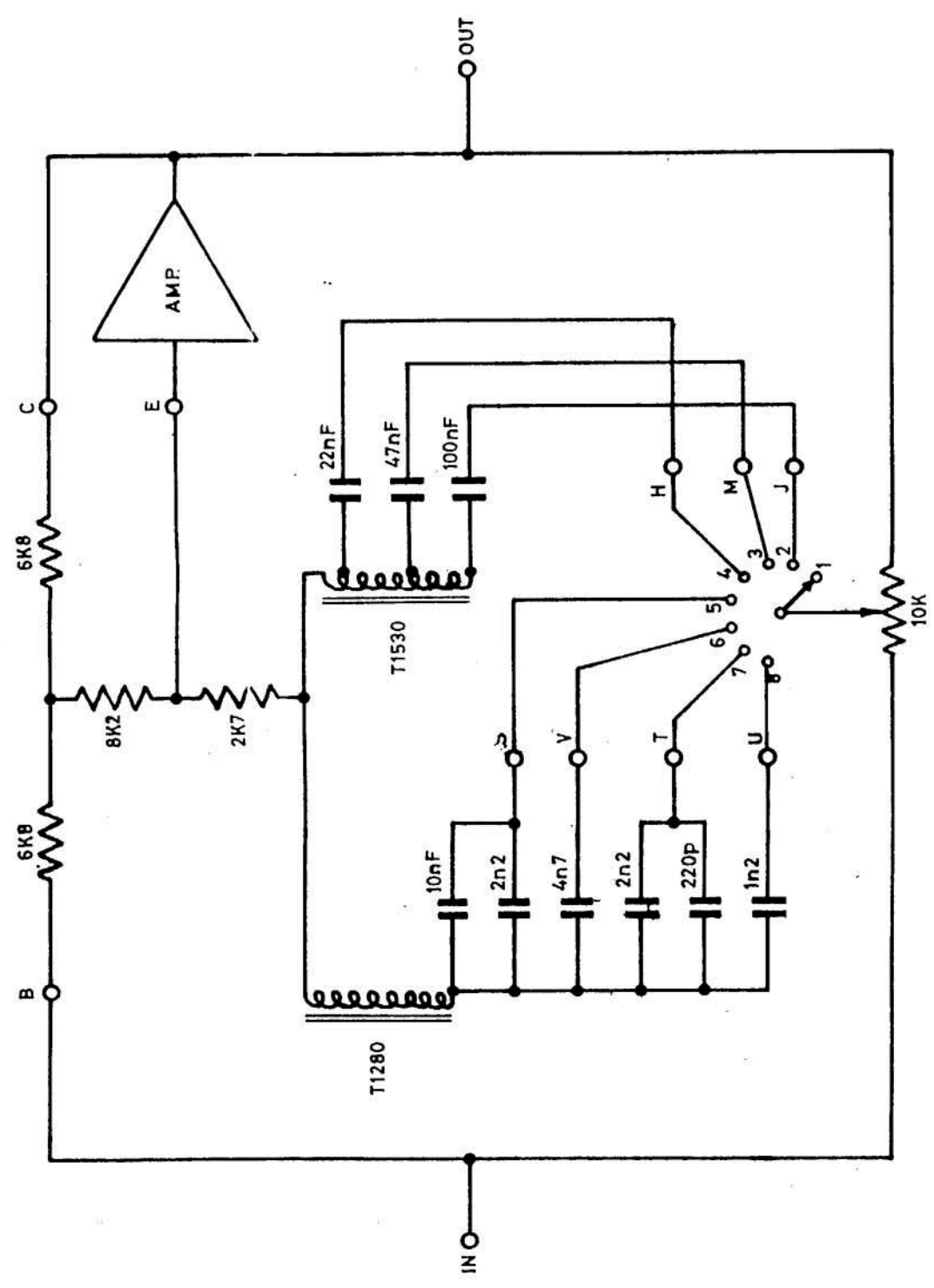


2	1	ISSUE	FIRST USED ON 1070	MATL.	TOL. UNLESS OTHERWISE STATED		
30-11-73	6-11-72	DATE	DRN. D.G.J.	FINISH	LINEAR ± 0.4	ANGULAR	HOLES ± 0.12 -0
10818		CHANGE NOTE NO.	TRACED	TITLE	3RD ANGLE PROJ	DIMS IN mm	SCALE 1/1
			CHECKED <i>AWL</i>	H.P. FILTER SWITCH	DRG. NO.	EK 20066	



EK20033 SENSITIVITY SWITCH ASSEMBLY

Ref	Description				Part No.
S1	Switch	3 x 23 way	Elma	O3	SO120
R1	Resistor	2K2 TR4	2%		R4 2K2
R2	"	not used			-
R3	"	2K2 TR4	2%		R4 2K2
R4	"	3K3 "	"		R4 3K3
R5	"	3K9 "	"		R4 3K9
R6	"	4K3 "	"		R4 4K3
R7	"	430 "	"		R4 470
R8	"	not used			-
R9	"	33 TR4	2%		R4 33
R10	"	not used			-
R11	"	2K7 TR4	2%		R4 2K7
R12	"	12K "	"		R4 12K
R13	"	18K "	"		R4 18K
R14	"	12K "	"		R4 12K
R15	"	3K9 "	"		R4 3K9
R16	"	1K8 "	"		R4 1K8
R17	"	1K0 "	"		R4 1K0
R18	"	510 "	"		R4 510
R19	"	220 "	"		R4 220
R20	"	3K9 "	"		R4 3K9
R21	"	3K3 "	"		R4 3K3
R22	"	2K7 "	"		R4 2K7
R23	"	not used			-
R24	"	27 TR4	2%		R4 27
R25	"	47 "	"		R4 47
R26	"	82 "	"		R4 82
R27	"	150 "	"		R4 150
R28	"	270 "	"		R4 270
R29	"	120 "	"		R4 120
R30	"	330 "	"		R4 330



- SW. POSNs.
- 1. OFF
 - 2. 0.36 KHz
 - 3. 0.7 KHz
 - 4. 1.6 KHz
 - 5. 3.2 KHz
 - 6. 4.8 KHz
 - 7. 7.2 KHz
 - 8. 10.0 KHz



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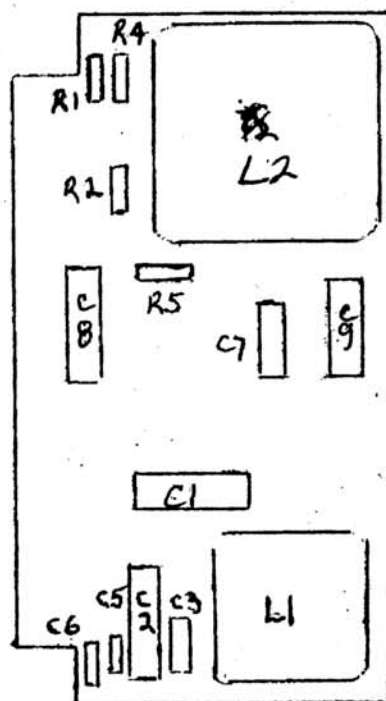
TITLE BA211

DATE 21/12/70

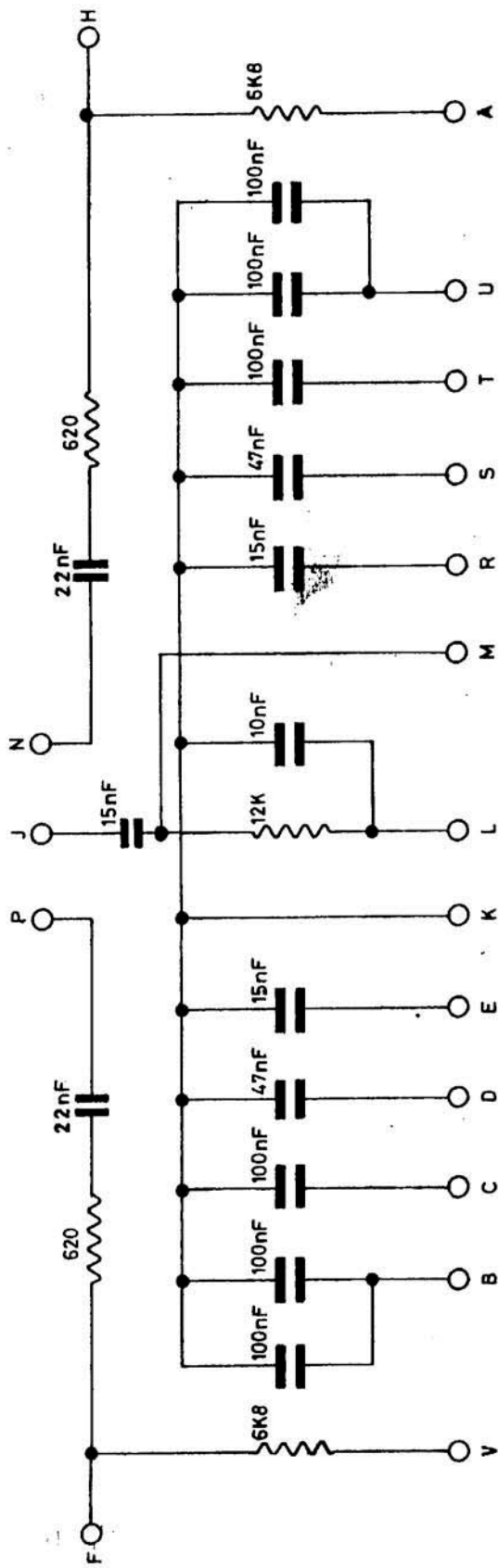
DRAWING NUMBER D/10,048

C	16/11/71	10.364	10.364
B	8/11/71	10.364	10.364
A	20/5/71	10.217	10.217

BA211 (1073/1076)



Ref	Description	Part No.
R1	6K8 RG 07	R4 6K8
R2	8K2 "	R4 8K2
R3	2K7 "	R4 2K7
R4	6K8 "	R4 6K8
C1	10nF C296AA/A10K	CO009
C2	2n2 Suflex 30V	CO197
C3	4n7 "	CO187
C4	2n2 "	CO197
C5	220pF " 63V	CO041
C6	1n2 " 30V	CO192
C7	22nF C296AA/A22K	CO011
C8	47nF C296AA/A47K	CO013
C9	100nF C296AA/A100K	CO015
L1	Choke T1280 200mH	TO011
L2	Choke T1530 2H	TO027



The Neve Group of Companies

FILE B 205 CIRCUIT DIAGRAM

DATE 24 FEB 71

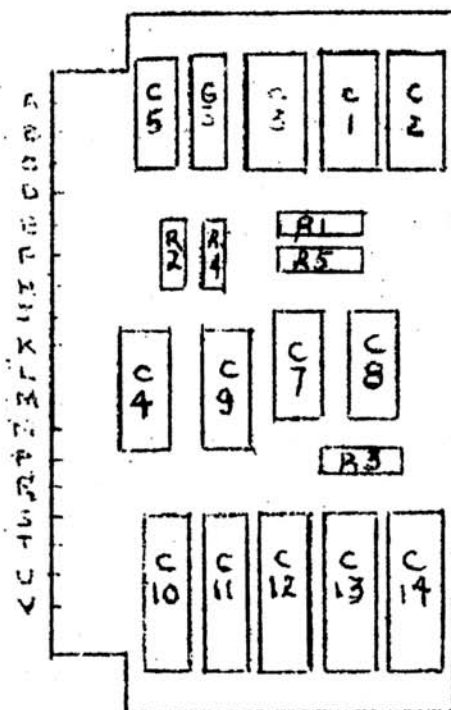
DRAWING
NUMBER

D/10,042

B 18-5-72 10513

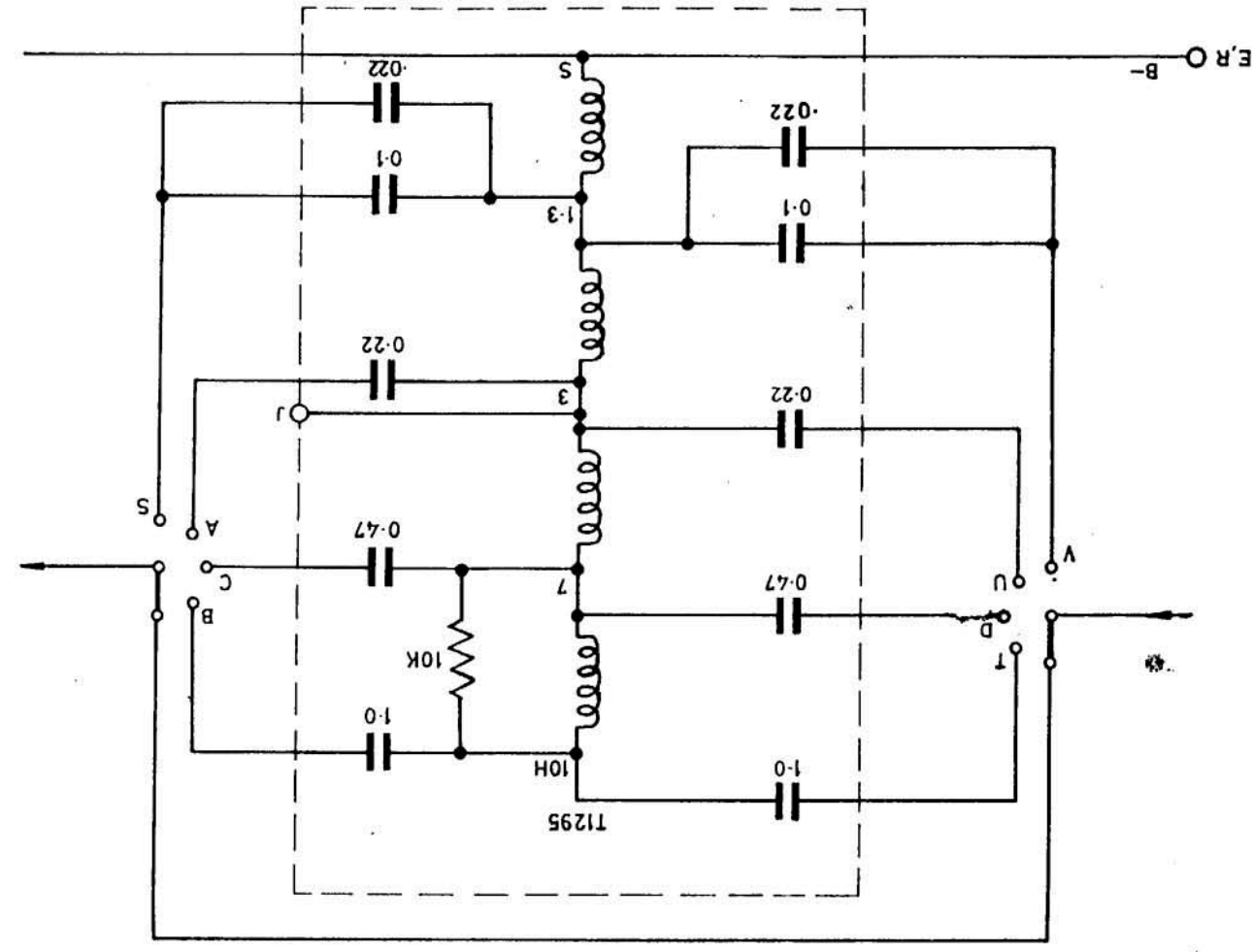
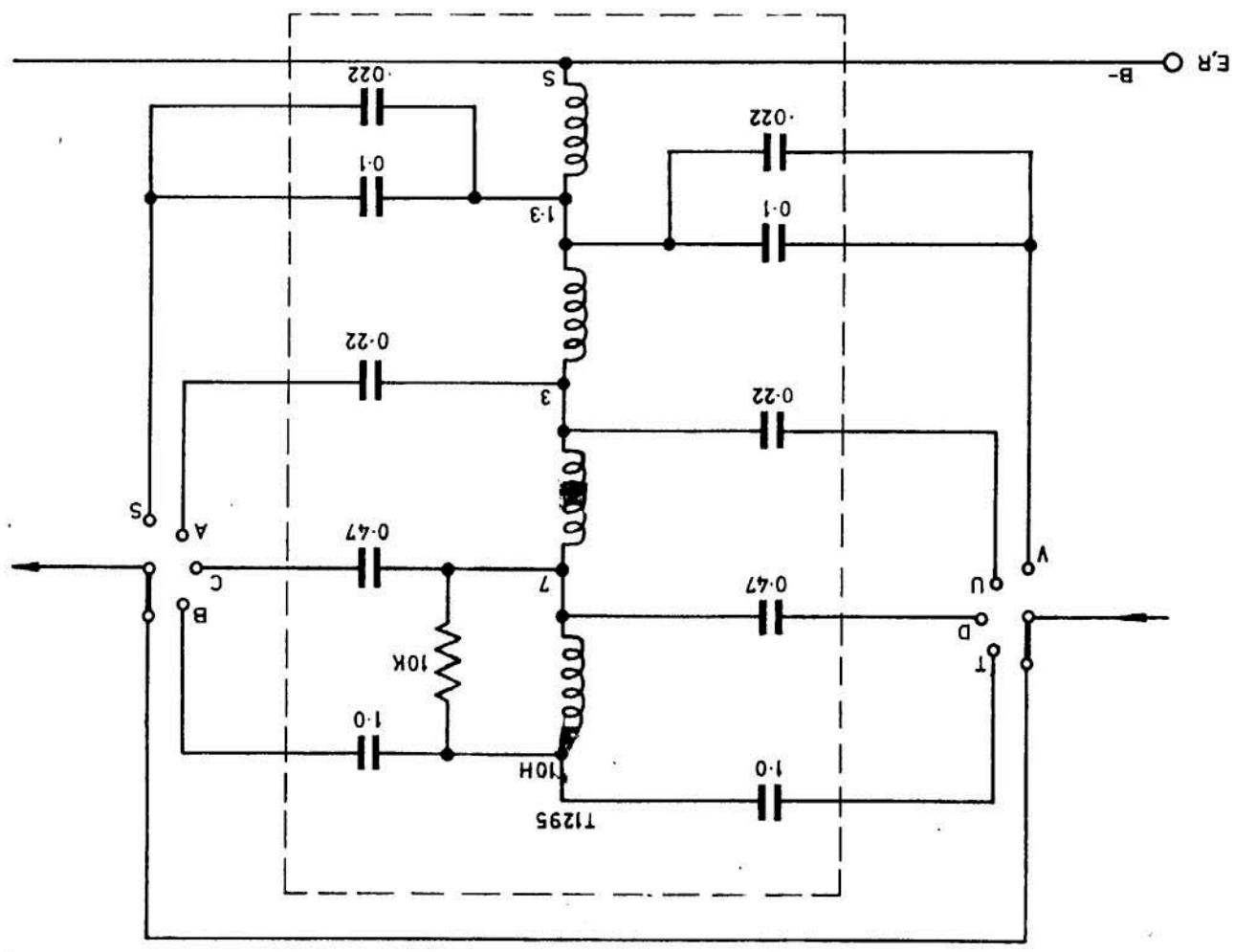
A 12/2/71 10,241

PRINTED CIRCUIT BOARD B205 (1066/1073)



PARTS LIST

Ref	Description	Part No.
R1,R5	6K8 TR5 5%	R5 6K8
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



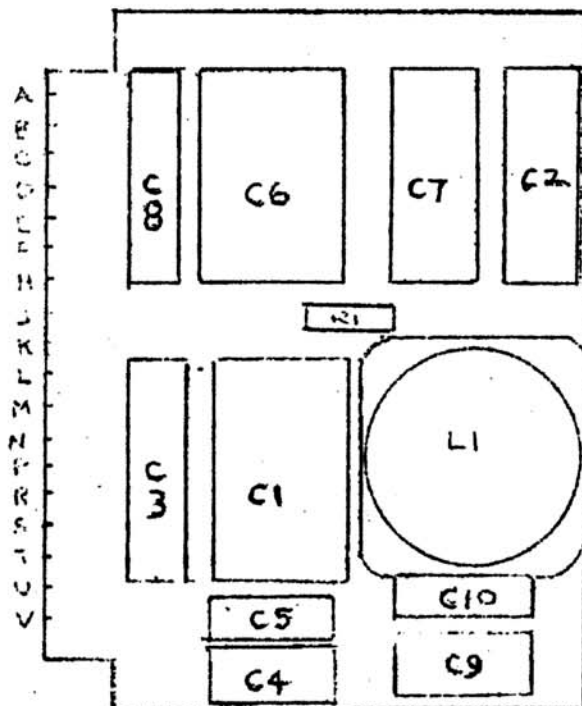
The Neve Group of Companies

ITL B182 c&d

DATE 21/10/70
DRAWING NUMBER D/10,019 c&d

A 19/7/71 10,299,88

BOARD BI82C (1073)

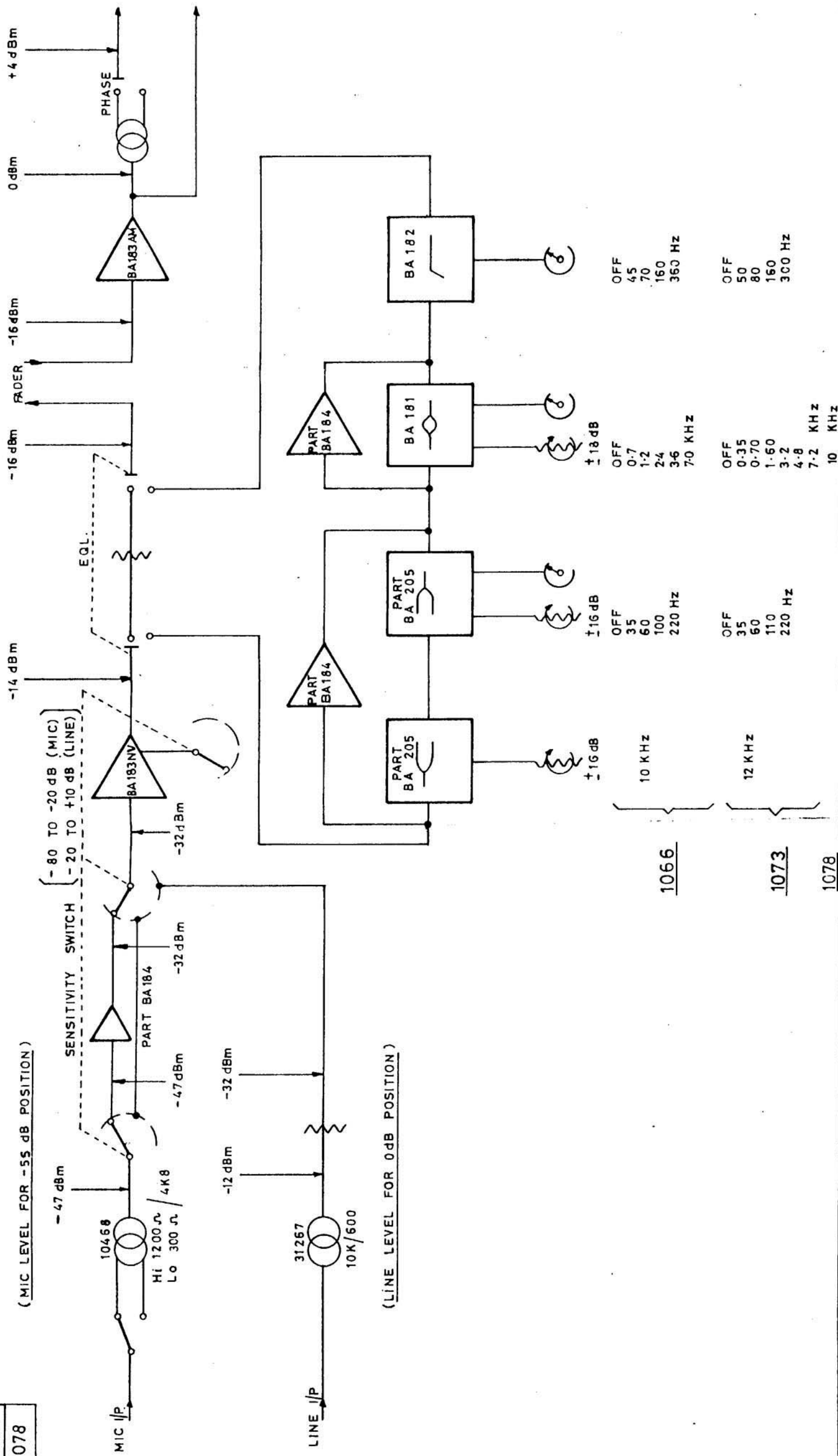


PARTS LIST BI82C

Ref	Description	Part No.
R1	10K TR5 5%	R5 10K
C1,6	1 μ F C296 AA/A1M	COO21
C2,7	0.47 μ F C296 AA/A47OK	COO19
C3,8	0.22 μ F C296 AA/A22OK	COO17
C4,9	0.1 μ F C296 AA/A10OK	COO15
C5,10	0.022 μ F C296 AA/A22K	COO13
L1	T1295	TOO14

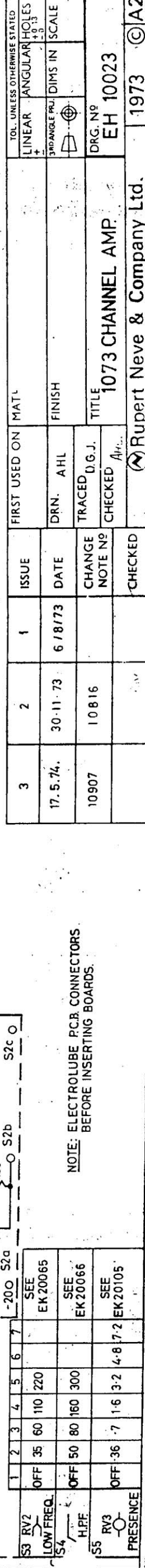
1066
1073
1078

E/10006



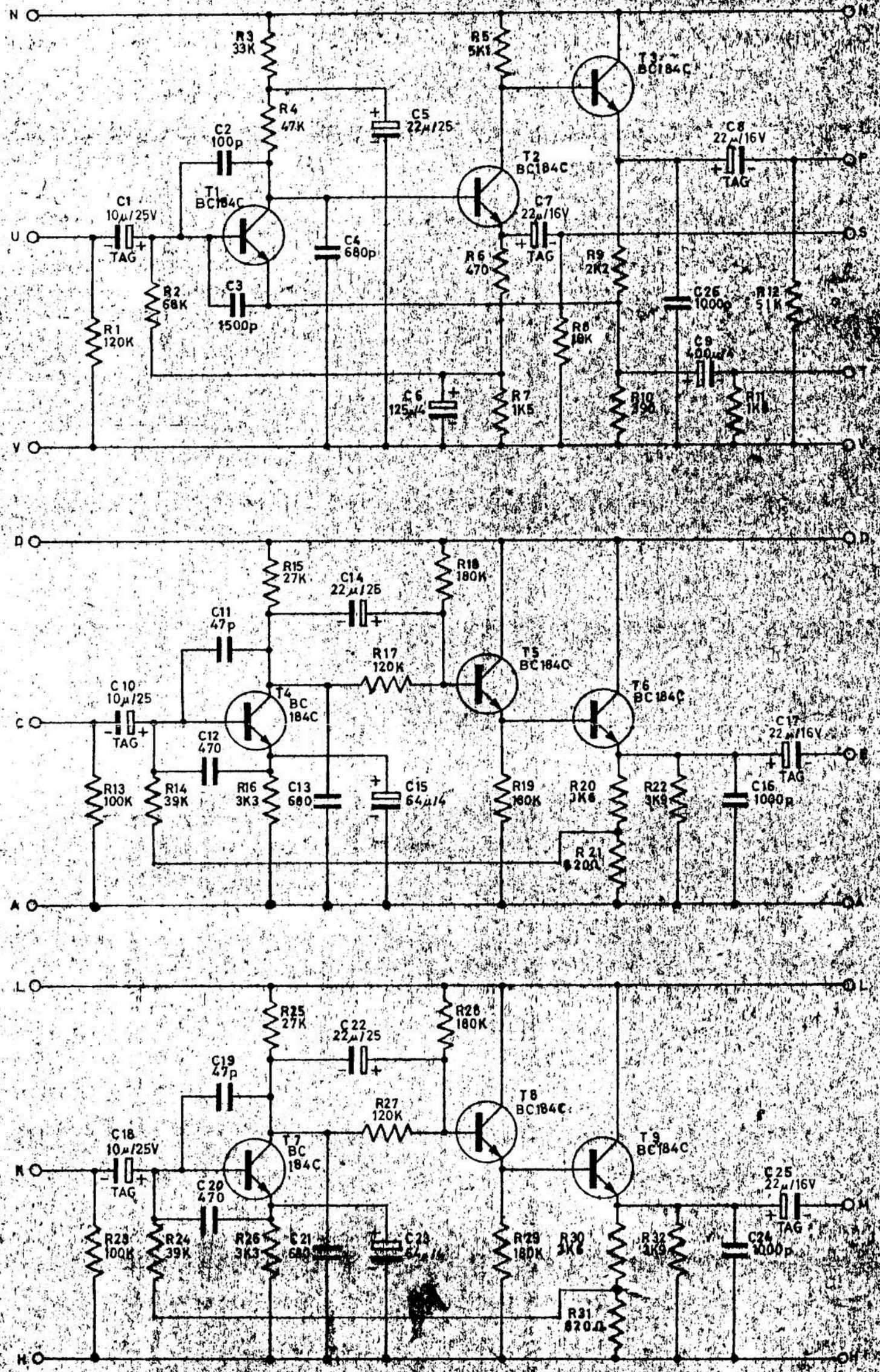
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CHANNEL AMPLIFIERS 1066, 1073, 1078

DATE 28.1.1970	
ISSUE 4	16.2.72
3. REDRAWN	2 NOV. 1971
DRAWING NUMBER E/10006	

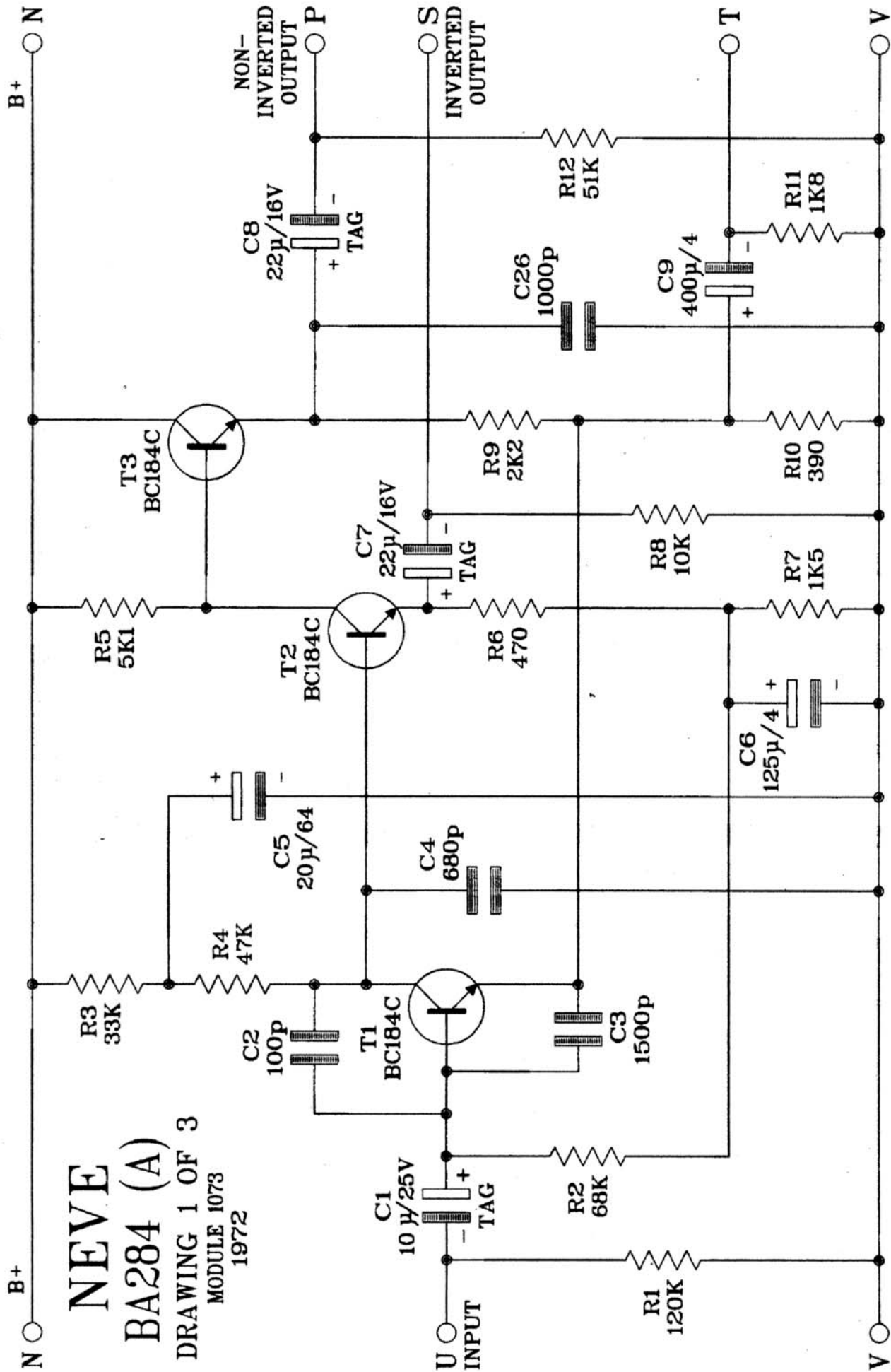


**NOTE: ELECTROLUBE P.C.B. CONNECTORS
BEFORE INSERTING BOARDS.**

The Neve Group of Companies



C	15/11/72	10565	DATE	15/11/71	CN10362
B	8-3-72	10473	DRAWING	EX/10,284	
A	8-12-71	10,402	NUMBER		



D O D

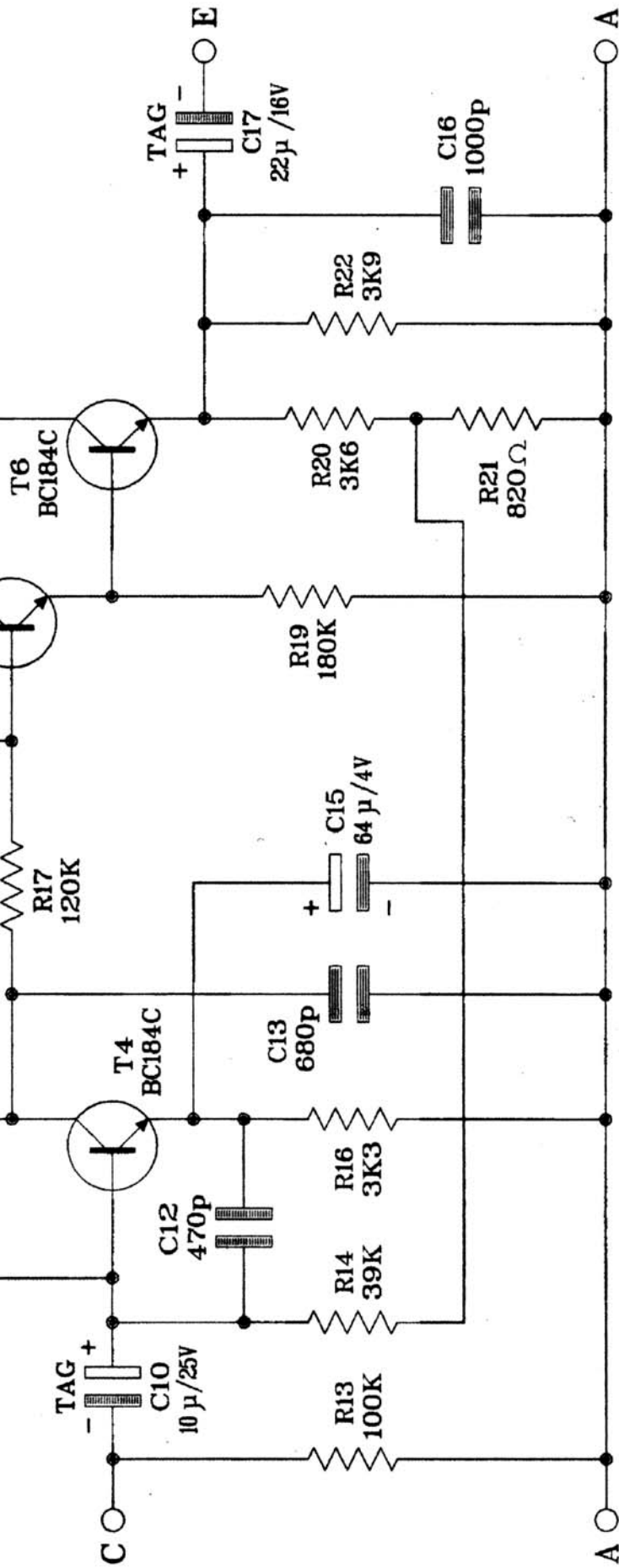
NEVE

BA284 (B)

DRAWING 2 OF 3

MODULE 1073

1972



L O L

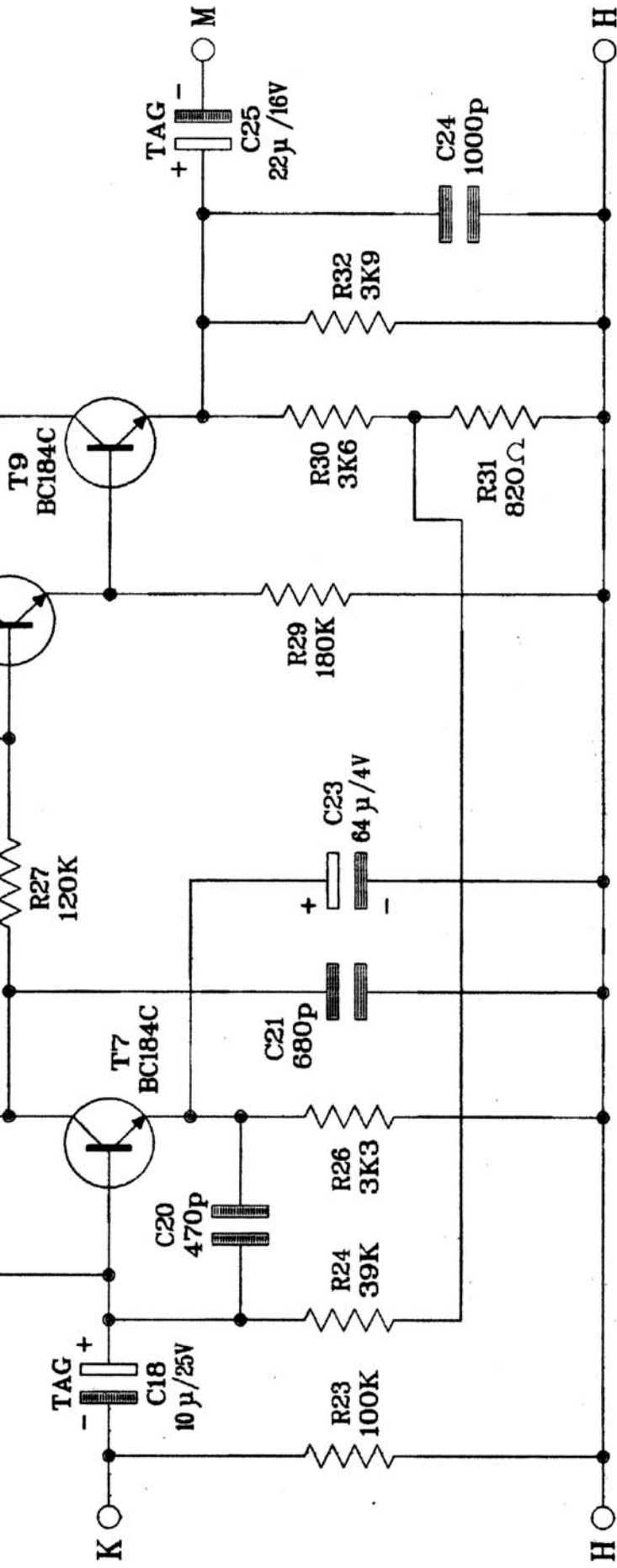
NEVE

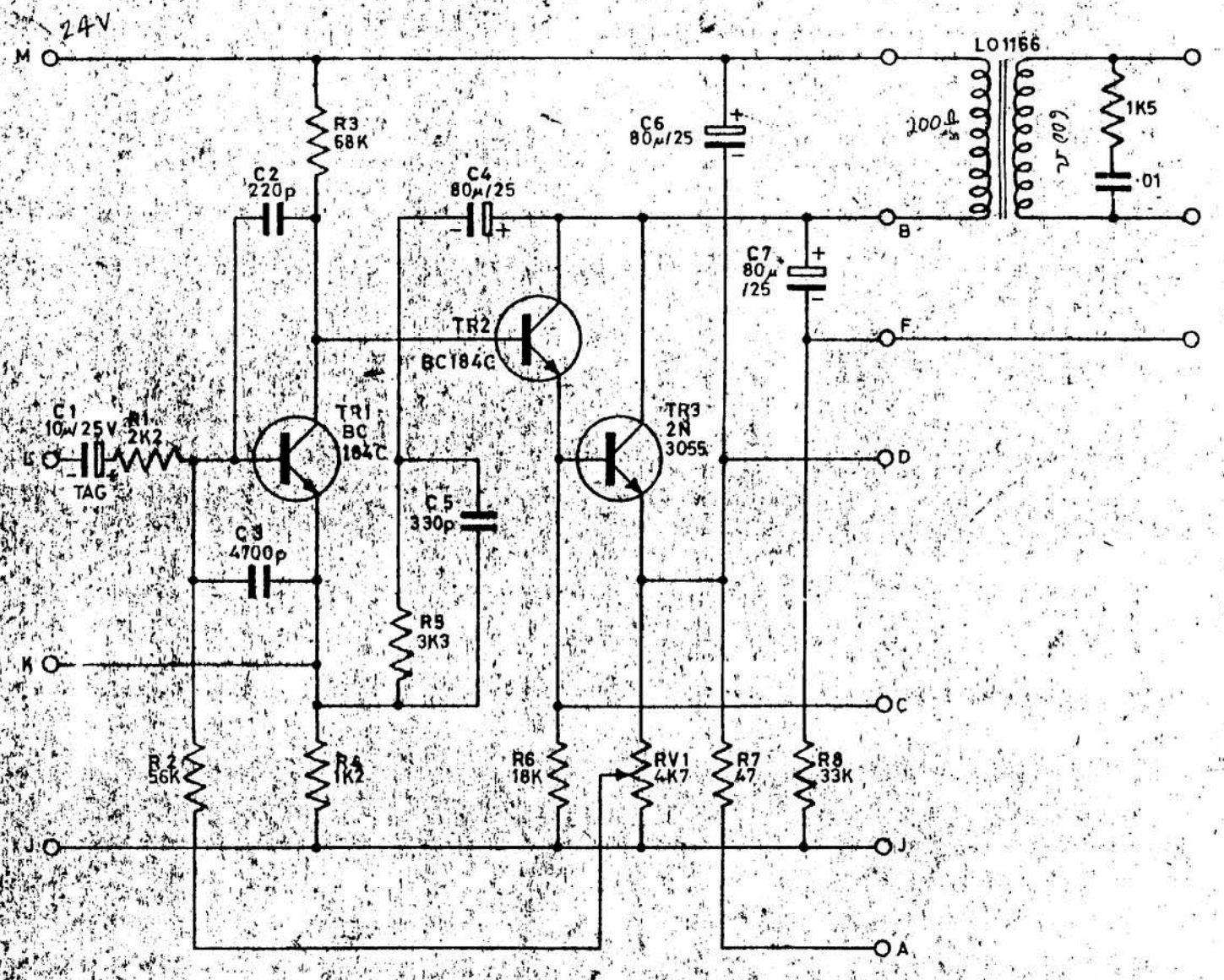
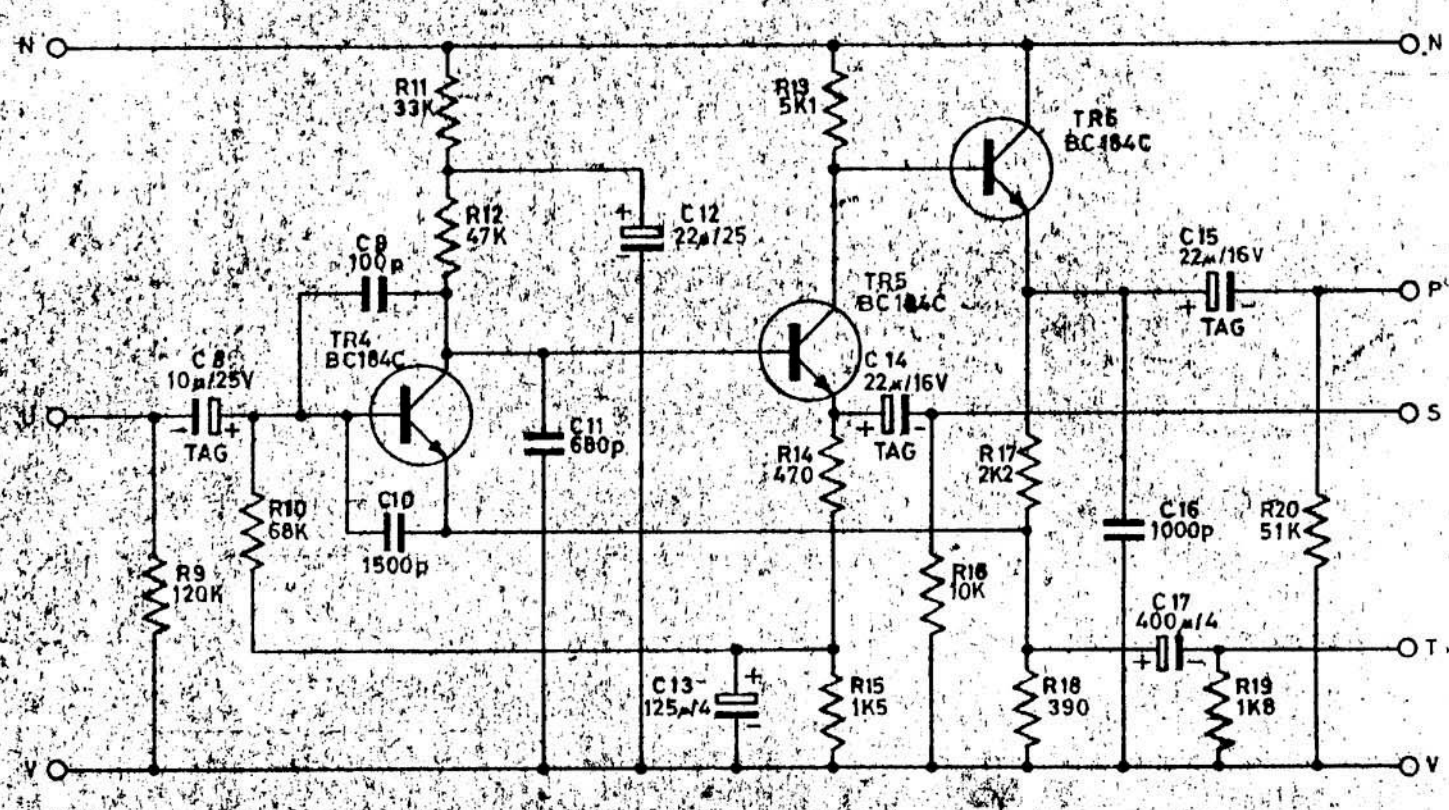
BA284 (C)

DRAWING 3 OF 3

MODULE 1073

1972

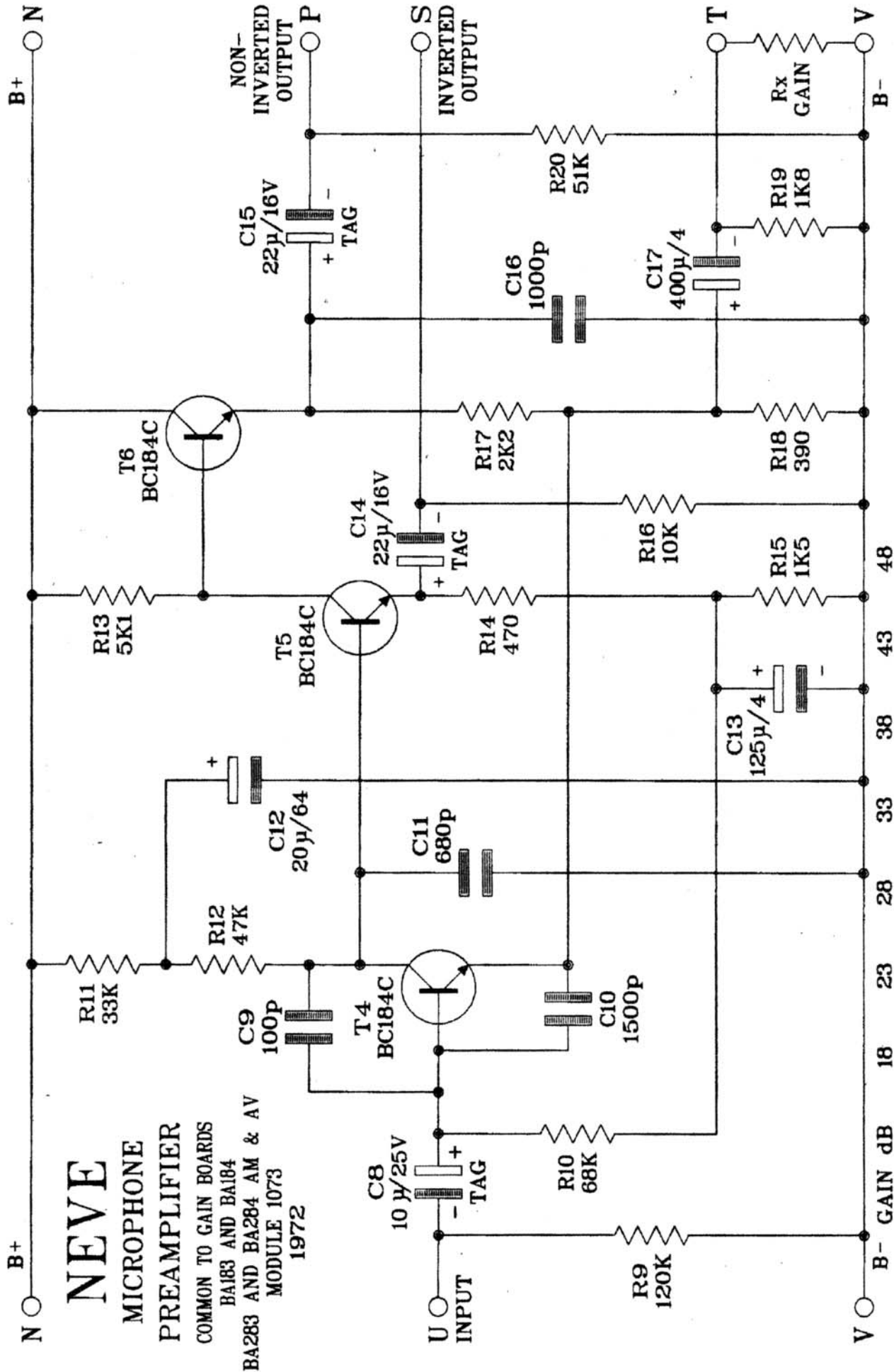




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BA283 AM & AV

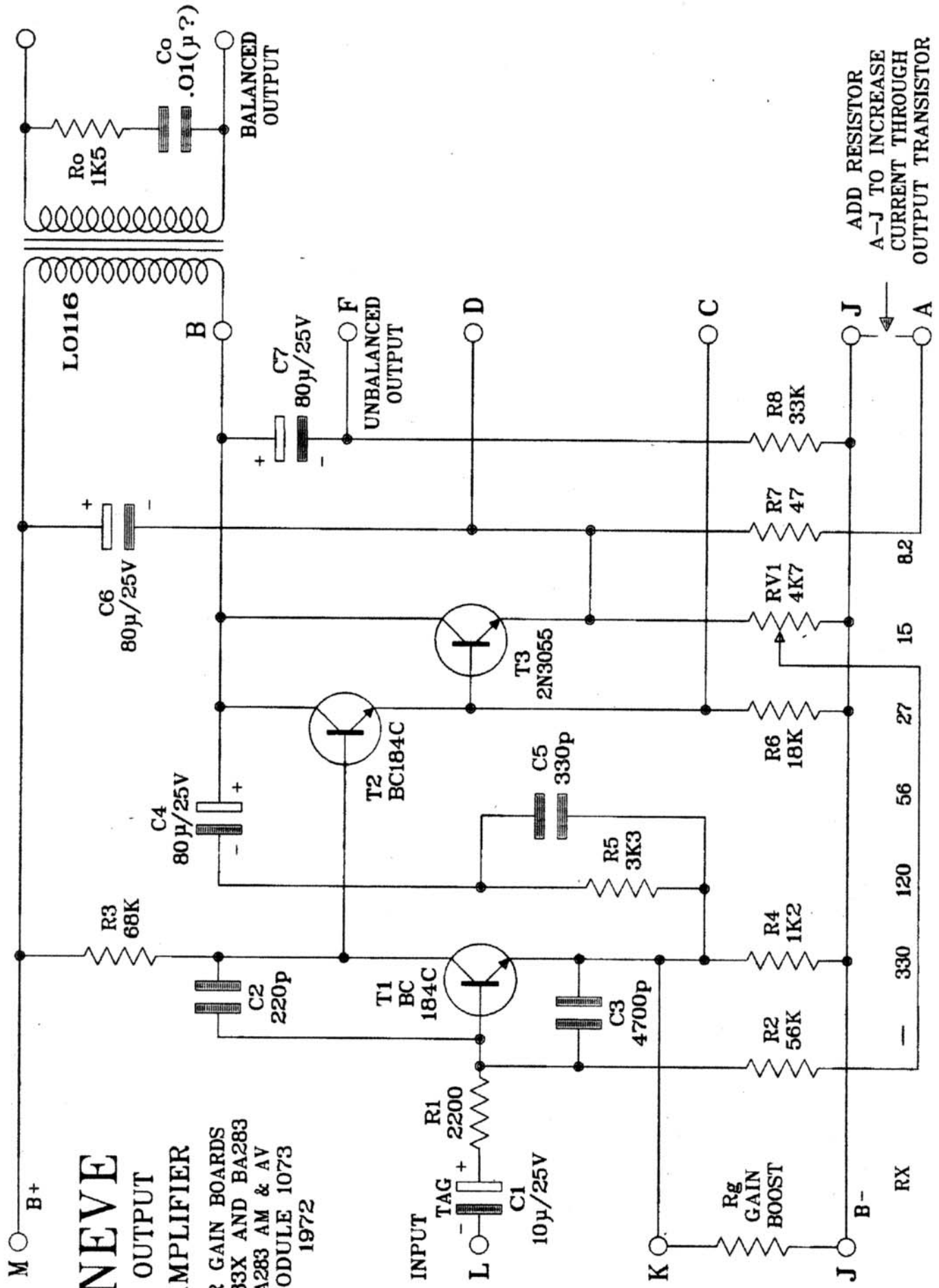
DATE	DRAWING NUMBER
15/11/72	EX/10 283
7/6/72	10518
8-3-72	10473



NEVE

OUTPUT AMPLIFIER

FOR GAIN BOARDS
BA183X AND BA283
BA283 AM & AV
MODULE 1073
1972



Rupert Neve & Company Limited

LINE AMPLIFIER 1272

CONTENTS

General Description

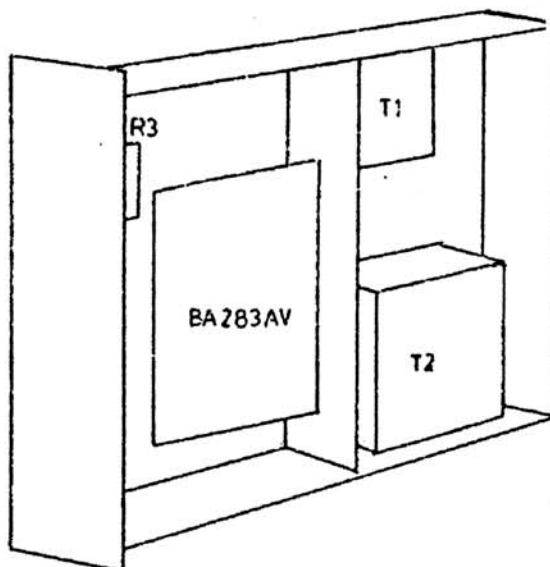
General Circuit Description

Parts List

Specifications

Block Diagram E 10045

Circuit Diagram N 10022



Circuit References

Block Diagram	E10045
Circuit Diagram	N10022

General Description

This is a general purpose high gain amplifier. Its high performance makes it suitable for professional broadcast and recording applications. It is normally used as a microphone amplifier or to restore mixing losses, and has a gain range of 35 dB to 60 dB.

There are two versions of the amplifier:-

- | | |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1272L | The potentiometer R3 is front panel mounted with a calibrated control knob. |
| 1272S | The potentiometer R3 is mounted on a bracket behind the front panel. A plastic plug conceals the hole in the front panel through which screwdriver adjustments may be made. |

Circuit Description

The unit consists of two stages of amplification on a single printed circuit board BA283AV (see under Printed Circuit Board Assemblies section).

The input is balanced and earth free. The input impedance may be adjusted for 1200 ohms or 300 ohms. The circuit diagram (N10022) shows the higher impedance selected by linking pins B and C on the rear connector. To select the lower impedance pins A and B and pins C and D should be linked.

The output from the first stage of amplification at K on the rear connector is taken to the gain control R3. In certain applications this control is augmented by an externally mounted fader replacing the link between K and the input to the second stage of amplification at pin L on the rear connector.

This stage drives the output transformer T2. The balanced and earth free output is available at pins R and T, and an unbalanced output is provided at pin P on the rear connector.

The gain of the first stage may be increased by connecting an external resistor between pins E and F as give by the following table.

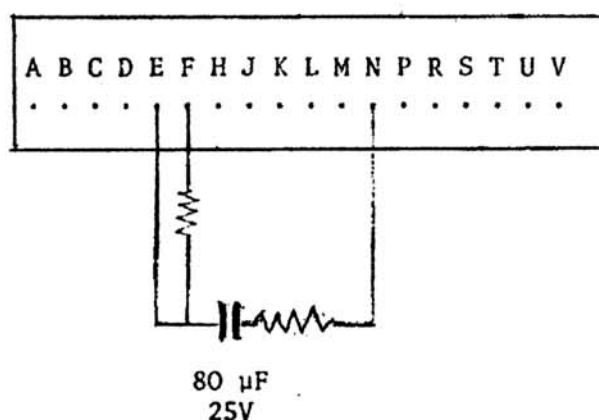
Gain dB	18	23	28	33	38	43	48
Resistor ohms	-	330	120	56	27	15	8.2

The gain of the second stage may be increased by connecting, in series with an electrolytic capacitor, an external resistor between pins E and N as give by the following table.

Gain dB Balanced Output	15	20	25	30	35
Resistor ohms	-	1K2	470	220	110

Note: The gain of the unbalanced output is 4 dB less than the balanced output.

GAIN BOOST CONNECTIONS



Neve 1272 Circuit Description

Here's a reproduction of some of the information that Neve originally provided for the 1272.

Line Amplifier 1272

Circuit Description

The unit consists of two stages of amplification on a single printed circuit board BA283AV.

The input is balanced and earth free. The input impedance may be adjusted for 1200 ohms or 300 ohms (*Note: The Neve 10468 input transformer T1 used in the 1272 has two primary windings that can be connected in series for 1200 ohms or in parallel for 300 ohms*). 1200 ohms is selected by connecting pins B and C on the rear connector. To select the lower 300 ohm impedance pins A and B and pins C and D should be linked.

(Note: Neve used an Amphenol 18-pin card edge connector for connections to the BA283AV as well as for the main input / output connector on the rear of the chassis of the 1272.)

The output from the first stage of amplification at pin K on the rear connector is taken to the gain control. In certain applications this control is augmented by an externally mounted fader replacing the link between pin K and the input to the second stage of amplification at pin L on the rear connector.

This stage drives the output transformer T2 (*Neve L01166*). The balanced and earth free output is available at pins R and T, and an unbalanced output is provided at pin P on the rear connector.

The gain of the first stage may be increased by connecting an external resistor between pins E and F as given in the following table.

Gain dB	18	23	28	33	38	43	48
Resistor Ohms	(open)	330	120	56	27	15	8.2

The gain of the second stage may be increased by connecting, in series with an electrolytic capacitor, an external resistor between pins E and N as given by the following table.

Gain dB	15	18	20	25	30	35
Resistor Ohms	(open)	1K5	1K2	470	220	110

(1K5 = 1.5K, 1K2 = 1.2K, etc.)

Note: the gain of the unbalanced output is 4 dB less than the balanced output.

The connections to the 18-pin input / output connector on the rear of the 1272 are as given in the following table.

A	Input - Winding #1 (+)
B	Input - Winding #2 (+)
C	Input - Winding #1 (-)
D	Input - Winding #2 (-)
E	Common for gain adjustment of first and second stages.
F	Connection for external boost resistor for first stage.
H	
J	See Note Below
K	Output of first stage.
L	Input of second stage.
M	
N	Connection for external gain boost resistor for second stage. (Connect resistor in series with an 80 uf @ 25V or larger capacitor to pin E.)
P	Unbalanced output.
R	Output (+)
S	
T	Output (-)
U	B+ (+24VDC)
V	Chassis ground.

Special Note: I recently received an e-mail about the Neve 1272 information on this page from Geoff Tanner of Phoenix Audio who is a well known authority on vintage Neve gear. Hopefully Geoff won't mind me including part of that message here for others to gain from as well:

"Virtually any Neve module in the 45 series has B- to pin E, B+ to pin U. Pin J on a 1272 is not B-common! It's the bottom of the preset pot! You connect it to B- to use a front panel pot that has a knob, and to B- via 5K1 if it's a preset pot on the front panel."

Thanks Geoff for taking the time to share this insight on the proper connection of the Neve 1272.

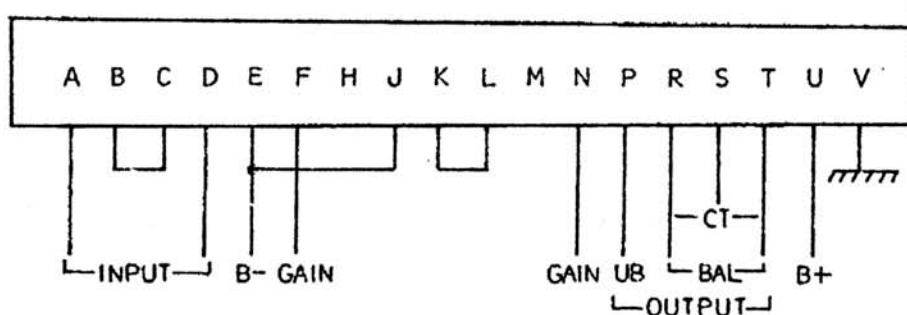
 [Return To The Vintage Neve Class A Circuit Information Page](#)

LINE AMPLIFIER 1272

PARTS LIST

Ref	Description	Part No.
R1	Resistor 5K6 TR4 2%	R4 5K6
R2	" 270 BTT	BTT 270
R3	Potentiometer 5K (used on 1272L)	PO025
P3	" " (" " 1272S)	PO013
R4	Resistor 1K5 TR4 2%	R4 1K5
R5	" 12 BTT 5%	BTT 12
C1	Capacitor 1000 μ F, 25V	CO333
C2	Capacitor 180 pF	CO040
C3	Capacitor 1250 μ F, 25V	CO033
C4	Capacitor 0.01 μ F	CO009
T1	Transformer 10468/S	TO004
T2	" LO1166	TO007
	Connector 18 way	CO079
	Printed Circuit Board Assembly	BA283AV

REAR CONNECTOR LAYOUT



PERFORMANCE SPECIFICATION

Input

Balanced and earth free, transformer input impedance 1200 ohms or 300 ohms.

Output

- 1) Balanced and earth free to feed 600 ohms load, Maximum output + 26dBm.
- 2) Unbalanced to feed 240 ohms or higher, the source impedance being 0.25 ohms (in series with 80 μ F capacitor), Maximum output + 22dBm.

Gain

- 1) Balanced Output.
38dB loaded, 39dB unloaded.
With no external gain boosting, gain control at maximum.
- 2) Unbalanced Output.
35dB.

Note: With external gain boosting, can be increased up to 70dB.

Noise

- 1) Better than -85dBm,
Gain 38dB, output loaded 600 ohms.
- 2) Better than -55dBm.
Gain 70dB, output loaded 600 ohms.

Frequency Response

± 0.5 dB measured wide band 20HZ to 20KHZ.

Distortion

20 HZ less than 0.1%
1 KHZ " " 0.01% at + 20dBm output.
10 KHZ " " 0.02%

Power Requirement

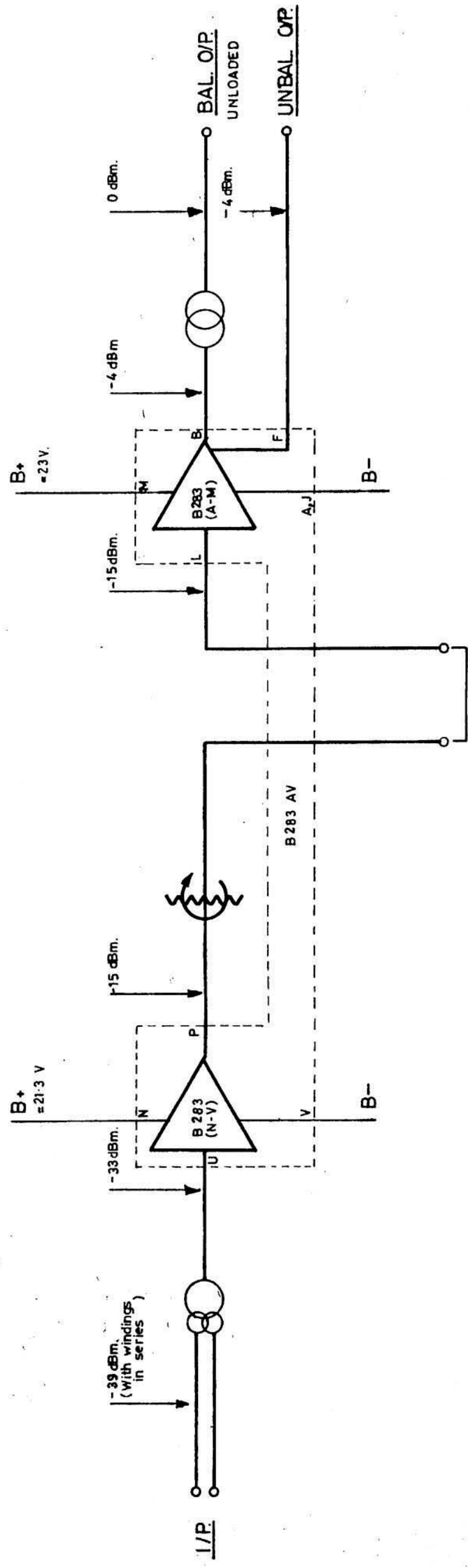
80 mA at 24V d.c (negative earth).

Temperature Range

0°C to + 55°C ambient.

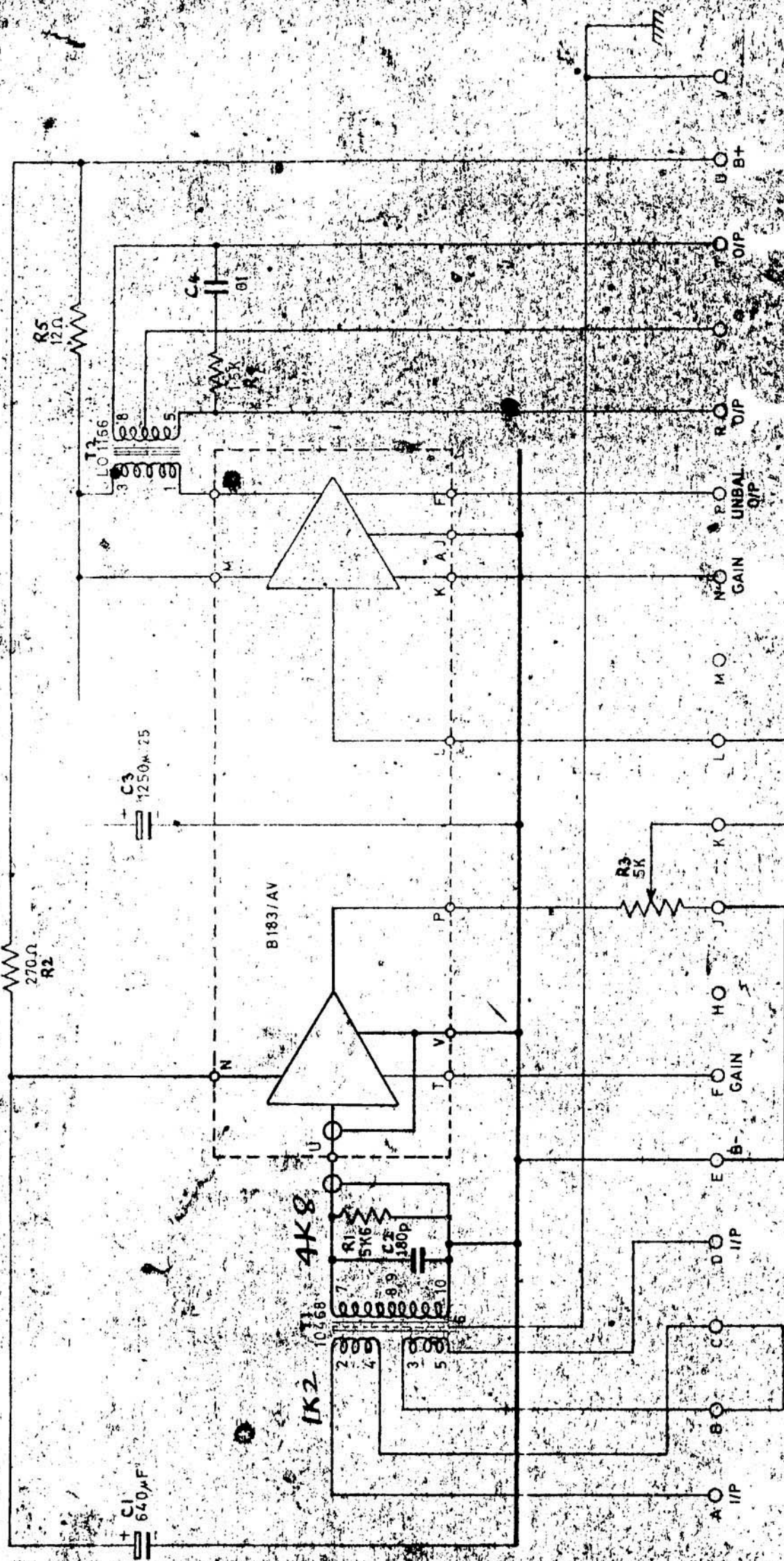
Dimensions

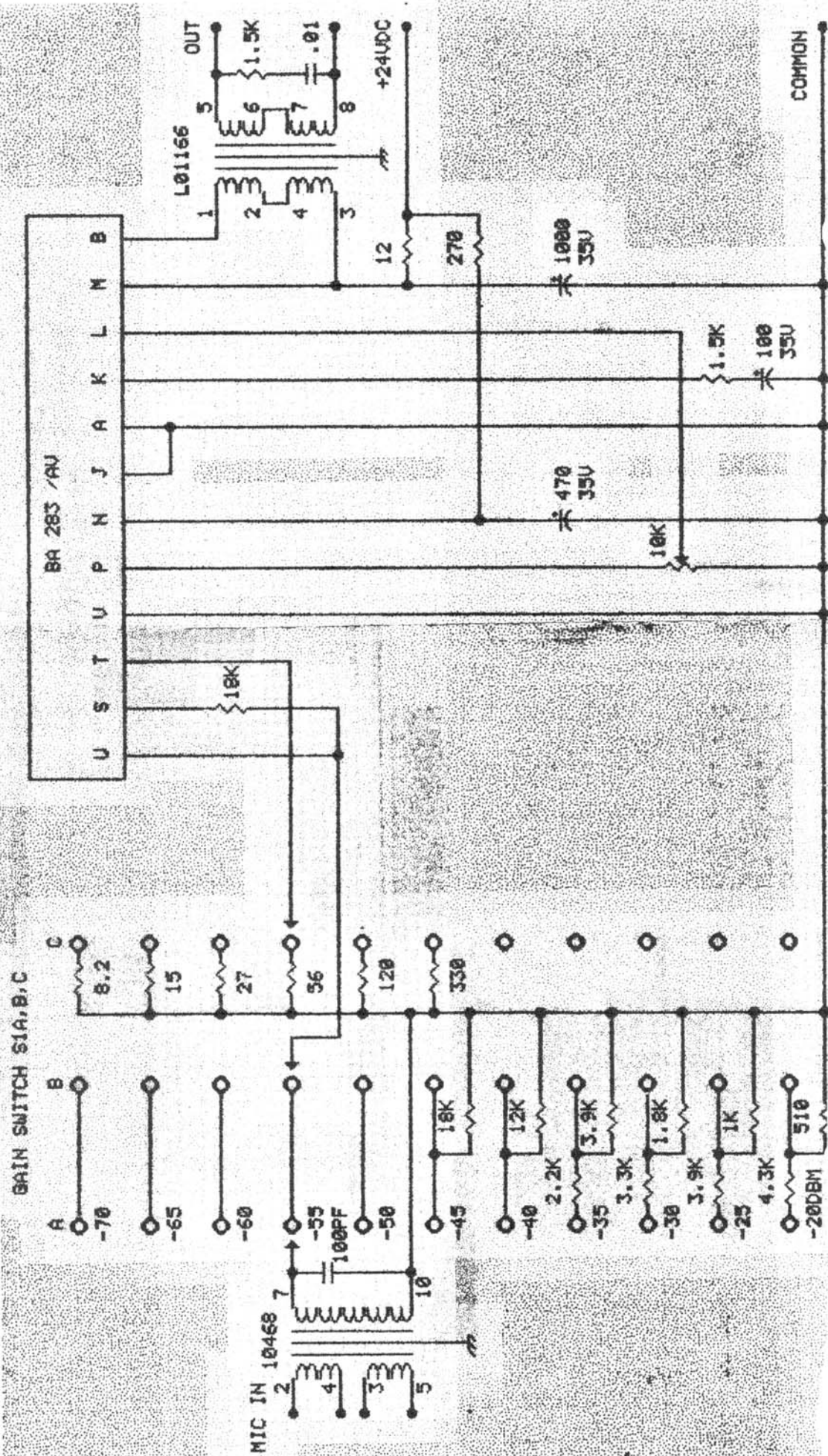
Height 13.3 cm (5.25 ins)
Width 4.6 cm (1.8 ins)
Depth 21.5 cm (8.5 ins)



T E 1272	The Neve Group of Companies		31 OCT 72	3	DATE	26 . 1 . 71
	BLOCK DIAGRAM		13 OCT 72	2	DRAWING NUMBER	E 10045
			26 JAN 71	1		

RUPERT NEVE & Co. Ltd.			
1272-LINE AMPLIFIER			
3/12/68	A	9/1/69	B
21/7/70	C	10/109	





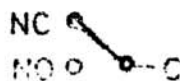
ELECTRICAL STANDARDS EDO 71

CONTENTS

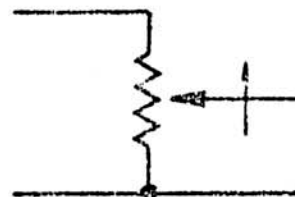
1. Circuit Diagram Symbols
2. Power Supply Wiring
3. Jack Sockets
4. Fader Wiring
5. Block Diagram Symbols
6. ~~Lead Coding~~
7. Screened Leads
8.)
9.)
10.) Not required
11.)
12.)
13. Transformer windings
14. ~~Connector Pin Allocation~~
15. Not required
16. ~~Capacitor Code~~
17. Not required
18. Not required
19. Standard Volume Indicator



TOGGLE SWITCH

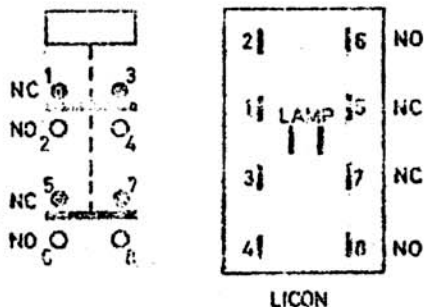


POTENTIOMETER WITH FRONT PANEL KNOB

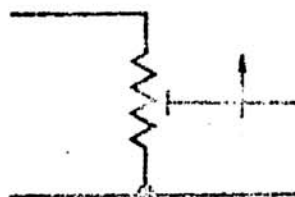


NOTE:-ARROW IF SHOWN INDICATES POSITION OF WIPER WHEN CONTROL IS FULLY CLOCKWISE. NORMAL POSITION WILL BE AS ABOVE IF NOT INDICATED.

PUSH BUTTON SWITCHES BREAK TWO MAKE TWO



POTENTIOMETER PRE-SET



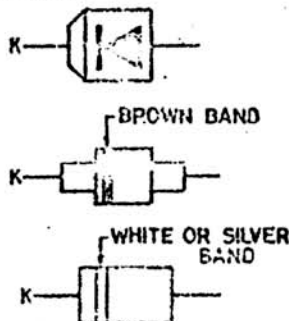
DIODES



LIGHT EMITTING DIODE



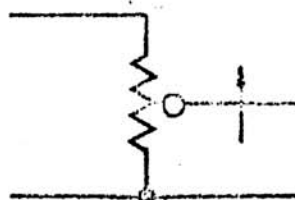
EXAMPLES



EXAMPLE



ROTARY STEPPED POTENTIOMETER



The Neve Group of Companies.

TITLE EDO ELECTRICAL STANDARDS

RAWN A.E.B.

DATE 28/7/71

ISSUE

1	2	3	4
28-7-71	14-10-71	30-8-72	11-9-72

TRACED T.J.D.

TOLS. \pm

UNLESS
STATED

DRAWING
NUMBER

EDO 71/5

CHECKED ASB

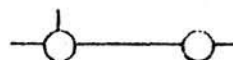
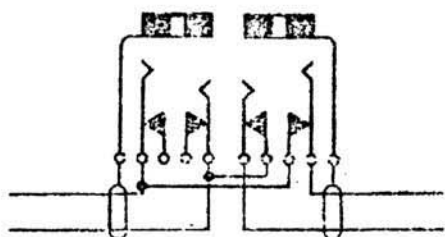
SCALE



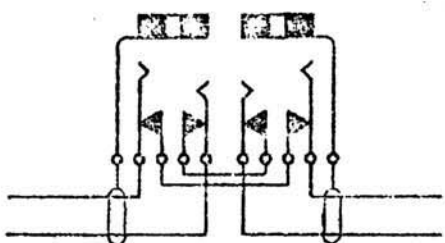
CIRCUIT SYMBOL

BLOCK SYMBOL

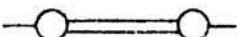
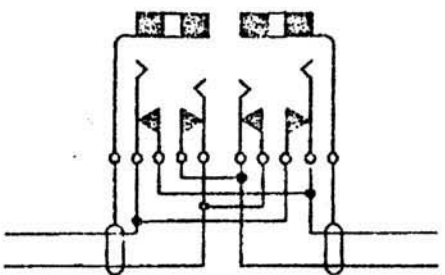
LAYOUT SYMBOL



HALF - NORMALLED



SINGLE - NORMALLED



DOUBLE - NORMALLED

ISSUE 2: 24-9-71



The Neve Group of Companies.

TITLE STANDARD JACK SOCKET CONNECTIONS

DRAWN N.J.T

DATE 30-6-71

PROJECT

TRACED

TOLS. \pm

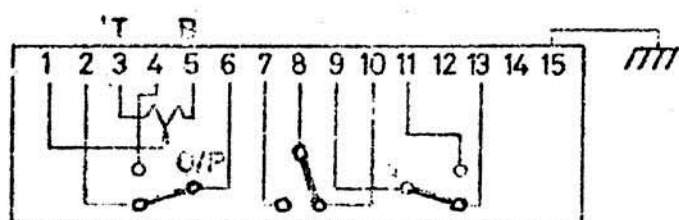
UNLESS
STATED

DRAWING
NUMBER EDO/71/3

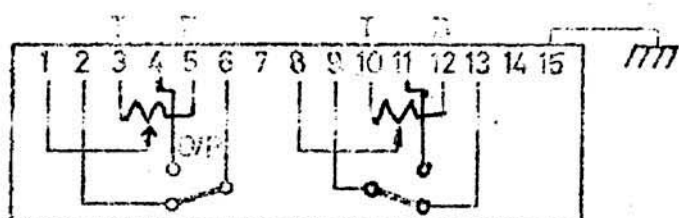
CHECKED

JLB

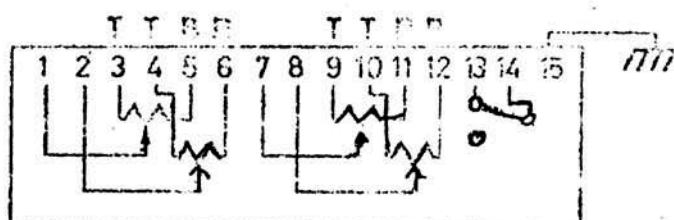
SCALE



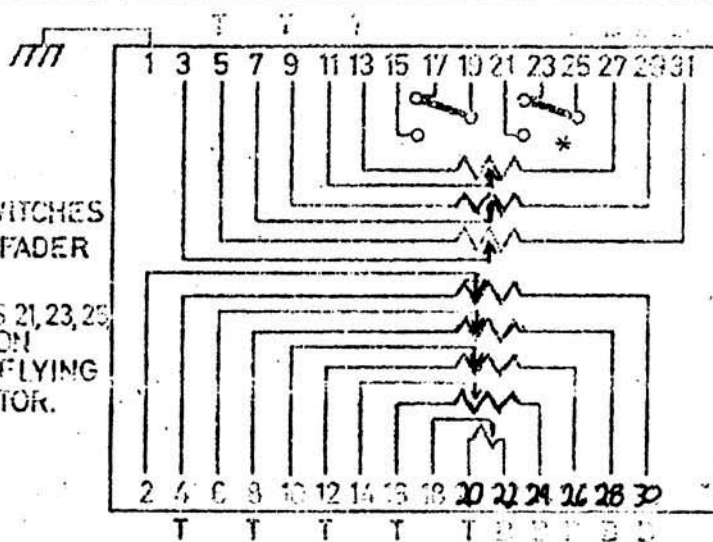
SINGLE TRACK



2 TRACK



4 TRACK



8 TRACK

T - INPUT
B - COMMON
O/P - OVERFLOW

NOTE: ALL SWITCHES SHOWN WITH FADER OPERATED

* SWITCH OUTPUTS 21, 23, 25 NOT PRESENT ON FADERS WITH FLYING LEAD CONNECTOR.



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TITLE PENNY & GILES FADER CONNECTIONS

DRAWN N.J.T

DATE 2-7-71

DATE 3-11-72

TRACED

TOLS. ±

UNLESS STATED

DRAWING NUMBER

EDC/71/4

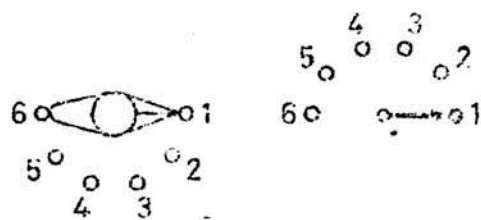
CHECKED

J.R.B.

SCALE



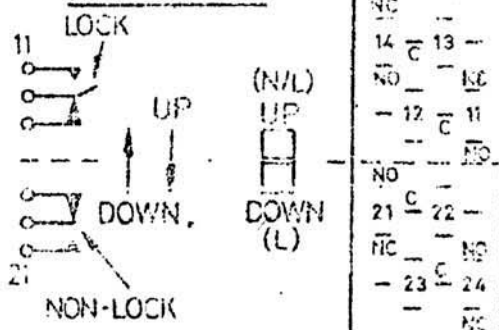
ROTARY SWITCH



VIEWED FROM
FRONT PANEL

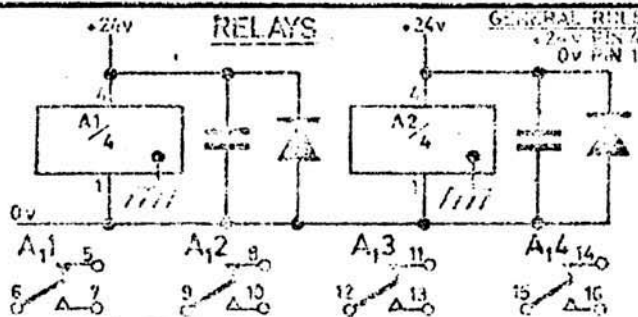
VIEWED FROM
WIRING SIDE

KEY SWITCH



REAR VIEW OF
KEY SWITCH 25-28

RELAYS



TWO RELAYS

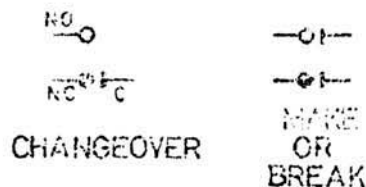
A₁1:- A₁ DENOTES RELAY
1 DENOTES CONTACT

ONE RELAY

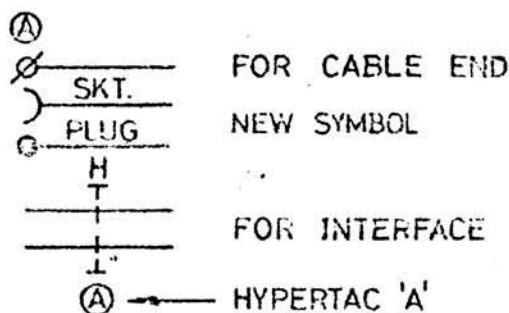
NOTE:- PIN NOS. APPLY
TO SYSTEM

A1:- A DENOTES RELAY
1 DENOTES CONTACT

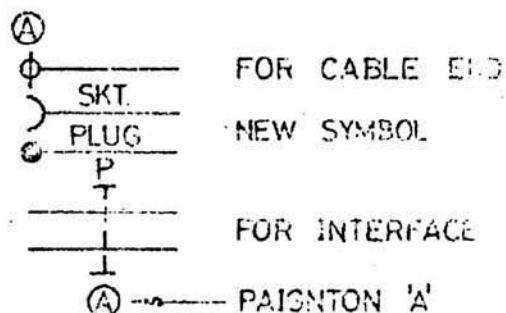
PUSH BUTTON SWITCHES



HYPERTAC OR UNITOR



PAIGNTON OR ANY OTHER



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TITLE E.D.O. ELECTRICAL STANDARDS

DRAWN A.E.B. & N.J.T

DATE 3-6-71

ISSUE

1 2 3
3-6-71 14-10-71 5-9-72

TRACED

TOLS. ±

UNLESS
STATED

DRAWING
NUMBER

EDO/71/1

CHECKED

A.E.B.

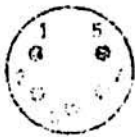

SCALE

CANNON XLR & EP FIXED CONNECTORS

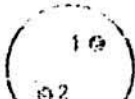
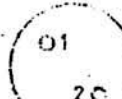
1. AUDIO

	PIN:		INPUT XLR 3-31	OUTPUT XLR 3-32
	1	SCREEN		
	2	RED		
	3	BLACK		
MATING CONNECTORS:	INPUT	XLR 3-12C		
	OUTPUT	XLR 3-11C		



2. 24V D.C.

	PIN:		INPUT EP 5-14	OUTPUT EP 5-13
	1	24V+ (B+)		
	2	124V SENSING		
		NH. SENSING		
		LEADS SHOULD		
		BE SCREENED		
	3	EARTH		
	4	0V SENSING		
	5	0V (S-)		
MATING CONNECTORS:	INPUT	EP 5-11		
	OUTPUT	EP 5-12		



3. 24V A.C.

	PIN:		INPUT EP 2-14	OUTPUT EP 2-13
	1	24V A.C.		
	2			
MATING CONNECTORS:	INPUT	EP 2-11		
	OUTPUT	EP 2-12		

4. 48V D.C.

	PIN:		INPUT EP 3-14	OUTPUT EP 3-13
	1	48V+		
	2	EARTH		
	3	0V		
MATING CONNECTORS:	INPUT	EP 3-11		
	OUTPUT	EP 3-12		

5. 110V / 0/230V A.C. A.C. POWER

	PIN:		INPUT EP 4-14	OUTPUT EP 4-13
	1	LIVE		
	2	NEUTRAL		
	3			
	4	EARTH		
MATING CONNECTORS:	INPUT	EP 4-11		
	OUTPUT	EP 4-12		



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TITLE STANDARD PHL CONNECTIONS

DRAWN A.E.B.

DATE 19/11/72

TRACED L.M.C.

TOLS. ±

UNLESS
STATED

DRAWING
NUMBER

CHECKED

AS

SCALE

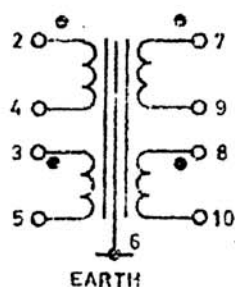
EDO 71/14



NOTE:

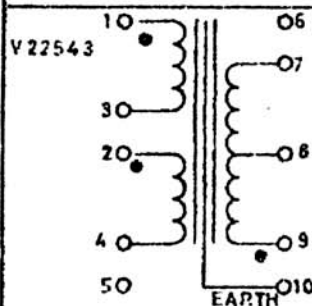
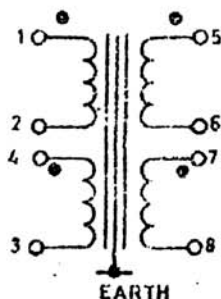
• DOTS INDICATE IN
PHASE POINTS.

31267, 10368 & 10468



TRANSFORMERS

TYPE	PRIMARY		SECONDARY		dB
	SERIES	PARALLEL	SERIES	PARALLEL	
31267 VT22671 T1452	10K		2K4		-6
	10K			600	-12
		2K4	2K4		0
		2K4		600	-6
10368 T1453	5K		2K4		-3
	5K			600	-9
		1K2	2K4		+3
		1K2		600	-3
10468 VT22670 T1454	1K2		4K8		+6
	1K2			1K2	0
		300	4K8		+12
		300		1K2	+6
LO2567 LI1166 LI1366	LO2567 UNGAPPED NO D.C.	200		600	+4
		200		150	-2
			50	600	+10
			50	150	+4
	LI1166 GAPPED	200		600	+4
		200		150	-2
	LI1366		50	600	+10
			50	150	+4
V22543		600	150	SECONDARY CENTRE TAPPED LOADED	0
				600 600	+1 +5



The Neve Group of Companies.

TITLE TRANSFORMER WINDINGS

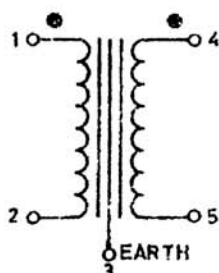
DRAWN	AEB	DATE	22/3/72	ISSUE	1	2	3	4	5
					22/3/72	13-4-72	12-5-72	9-8-72	8-11-73
TRACED		TOLS. ±	UNLESS STATED	DRAWING NUMBER	EDO 71/13				
CHECKED		SCALE			SHEET 1 OF 2				



NOTE:

- DOTS INDICATE IN
PHASE POINTS

LO1173, VT22737,
& VT22761



LO1173 { T1684 = PCB MOUNTING
T1686 = CHASSIS " "

(22737 = PCB MOUNTING

VT 22761 = CHASSIS " "

TRANSFORMERS

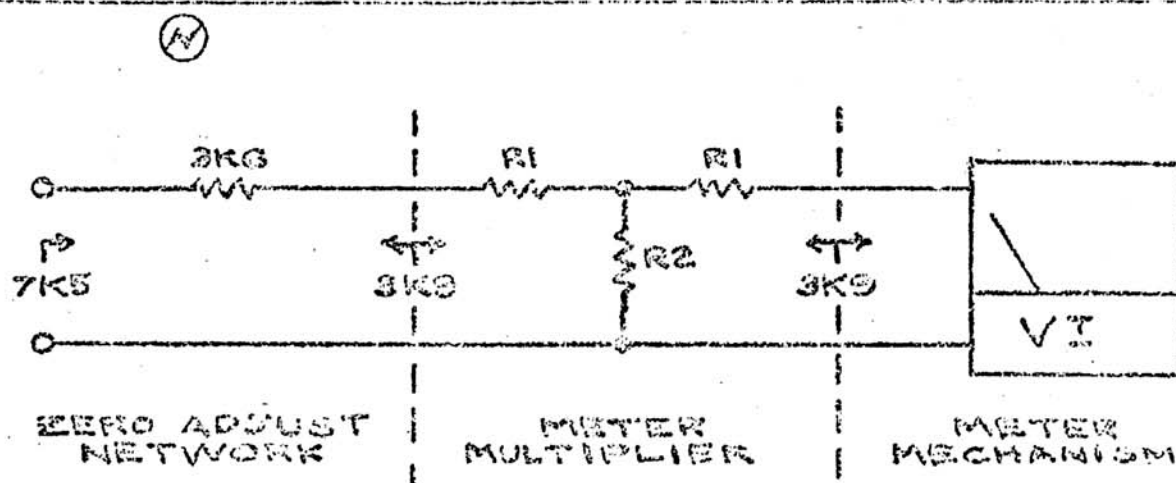
TYPE	PRIMARY		SECONDARY		dB
	SERIES	PARALLEL	SERIES	PARALLEL	
LO1173 VT22737 VT22761 T1684 T1686		70 ohms		600 ohms	+ 8
VT22867					
 PCB MOUNTING NO METAL CAN	10K		2K4		- 6
	10K			600	- 12



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TITLE TRANSFORMER WINDINGS

DRAWN	GT	DATE	8-11-73	ISSUE	1					
					8-11-73					
TRACED		TOLS. ±	UNLESS STATED	DRAWING NUMBER	EDO 71/13 SHEET 2 OF 2					
CHECKED	GT	SCALE								



STANDARD VOLUME INDICATOR



SCALE COLOUR IS BLUE - 2.03V ON MURSELL SCALE

METER MULTIPLIER VALUES

0 VU CALIBRATION	MULTIPLIER ATTENUATION	SERIES R1	SHUNT R2
+4 dBm	0 dB	SHORT	OPEN
+6	2	447 Ω	16,789 Ω
+8	4	883	8,177
+10	6	1,296	5,221
+12	8	1,679	3,690
+14	10	2,026	2,741
+16	12	2,334	2,091
+18	14	2,603	1,621
+20 V	16 V	2,833 V	1,268 V

(N) The Neve Group of Companies.

TITLE THE STANDARD VOLUME INDICATOR

DRAWN *FL* DATE 30-11-73 PROJECT ISSUE 1 30-11-73

TRACED TOLS. \pm UNLESS STATED DRAWING NUMBER EDO 71/19

CHECKED SCALE

PART SOURCES

VINTAGE NEVE PARTS CAN BE HAD AT THE FOLLOWING PLACES:

<http://www.phoenixaudio.net/>

E-Mail

Phoenixaudio@earthlink.net

Geoff Tanner

This is a source for vintage transformers and switches. I bought some BC184C transistors (needed) for \$2.00 US apiece. Geoff was very nice too. Vintage parts are expensive so I've sourced replacements.

<http://www.mercenary.com/>

E-Mail

questions@mercenary.com

Same as above

<http://www.ams-neve.com>

E-Mail

enquiry@ams-neve.com

sales@ams-neve.com

Director of customer support:

wally@amsneve.com

David Walton

Neve was very good about supplying parts to me. I bought the same BC184C's for \$.12 (12 cents) US. A lot cheaper than Phoenixaudio. Neve will also sell transformers etc. but they are pricey

PART SOURCES

NEW NEVE PARTS CAN BE HAD AT THE FOLLOWING PLACES:

Replacement Parts

Transformers

<http://www.sowter.co.uk>

Brian Sowter

Sowter makes reasonably priced input and OUTPUT transformers. 1073 moduals use neve LO1166 output transformers. They are difficult to make and are not interchangeable with other output trannies. I have included the Sowter transformer info. and Brian is very nice to deal with.

<http://www.jensentransformers.com>

Dean Jensen

Jensen transformers are great and worth the money. Unfortunately, Jensen does not make an output equivalent of the LO1166. But they do make a nice input trannie and I have included the information and the modification that Dean Jensen sent me to use it.

Switches

ELECTROSWITCH

E-Mail

sales@electro-nc.com

Phone: US code Then 1-888-768-2797

Custom switches - reasonably priced

PART SOURCES

NEW NEVE PARTS CAN BE HAD AT THE FOLLOWING PLACES:

Replacement Parts

The standard electrical components, resistors, caps. and the 2N3055 transistors along with +24 volt Power Supplies are available from:

Digi-Key

<http://www.digikey.com>

Mouser Electronics

<http://www.mouser.com>

Also check out:

<http://w3.one.net/~robgrow/circuits/circuits.html>

This guy has some excellent Neve information and Great Links!!!!

If you have questions, feel free to E-Mail me and I will do my best to answer them or find someone who can.



VINTAGE RECORDING STUDIO PRODUCTS



A NEW SERVICE for recreation or replacement or repair of vintage studio compressors, microphone amplifiers, equalizers, bridging and distribution amplifiers etc using tubes or transistors. There may be small differences in dimensions, taps and in the detailed specification but we are confident these transformers will have the "original sound"

CUSTOM DESIGN SERVICE We are extending our custom design service to include this type of transformer. We will not make a charge for the design provided we accept the requirement as being of general interest. We can work from circuits, actual transformers loaned to us or from specifications. We may offer the service on a "best efforts" basis if we cannot be sure of meeting a particular performance.

GENERIC PRODUCTS Many manufacturers used generic transformers which you may find on our [Pre-Amp](#) and [Line Amp](#) page or our [Pro-Audio](#) page. Please feel free to contact [technical support](#) for assistance.

PRO VINTAGE PRODUCTS					
Type	Equipment	Description	Voltage ratio	Z ratio	Total DC res ref pry ohms
9084	Ampex 351	Line out	5.55CT: 1CT+1	15K/600" +NFB	1500
					+38 dBu
					"SA" M6 Shrouded

8343	Fairchild type 670	Control amp output	4:1	10kCt/600	950	75 V rms output	"SI" M6 Shrouded
8344		Signalamp output	9+9: 1+1	60k/600	940	+30 dBu output	"jx" M6 Mumetal can
8345		Control amp input	17+17: 1+1	600/170k	34	+16 dBu	"j" Mumetal, Mumetal can
8346		Signal amp input	9+9: 1+1	600/50k	65	+24 dBu	"k" Mumetal, Mumetal can
3603	Pulteq EQP-1A	EQ input (Triad HS-56)	1CT:1	600/600	150	+17 dBu	"e" Mumetal, Mumetal can
8540		Amp input (Triad HS-29)	1:4CT	600/10k 47k load ok	112	+16 dBu	"e" Mumetal, Mumetal can
9041		Amp output Peerless S-217-D	5CT:1 NFB20%	15k/600	39 ref secy	+23 dBu	"j" open 70% Mumetal
4383	Teletronix LA-2A Compressor	Amp input	1:4CT	600/10k 47k load ok	112	+16 dBu	"e" Mumetal, Mumetal can
8940		Amp output	3:1	5k0/600	17 ref secy	+17 dBu output	"k" open 50% Mumetal
8751	Neve type 1073 Line Amplifier	600 ohm line Output transformer P/N L01166	1:1.5	N/A	39	+30 dBu	"OB" open U-Clamp M6
9160			1:1.5	N/A	37	+27 dBu	"OA" open U-Clamp M6, reduced size
9002		Input transformer P/N 10468	1+1:2+2	300/1k2 to 1k2/4k8	190	+18 dBu	"ex" Mumetal, Mumetal can
9145			1+1:2+2	300/1k2 to 1k2/4k8	190	+18 dBu	"e" Mumetal, Mumetal can, cost reduced
9165		Input transformer P/N 31267	2+2:2+2	10k/2k4 to 2k4/600	1k8	+24 dBu	"e" Mumetal, Mumetal can

E A Sowter Ltd The Boatyard, Cullingham Road IPSWICH IP1
2EG England

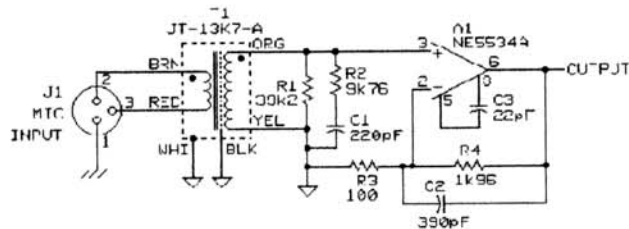
Tel: +44(0)1473 252794
Fax: +44(0)1473 236188

MICROPHONE INPUT TRANSFORMER

1:5 STEP-UP FOR MEDIUM IMPEDANCE AMPLIFIERS

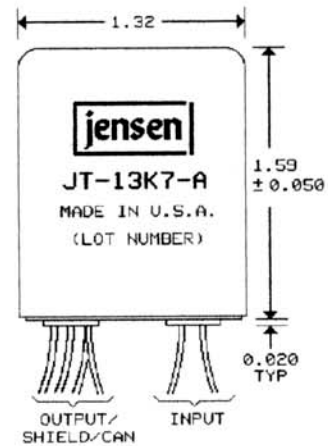
- M** Our best input transformer for most popular IC amplifiers
- M** Wide bandwidth: -3 dB at 0.9 Hz and 120 kHz
- M** 13.8 dB voltage gain with transformer Noise Figure of only 1.0 dB
- M** Input impedance of 1.5 k Ω for loading loss under 0.9 dB
- M** High common-mode rejection: 119 dB at 60 Hz

With its 4.1 k Ω secondary source impedance, this transformer not only optimizes noise performance of many IC or discrete amplifiers but also offers excellent CMRR as well. The primary is fully balanced and its leads may be reversed to

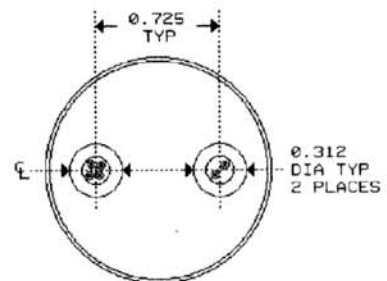


LOW NOISE MICROPHONE INPUT STAGE
40 dB OVERALL VOLTAGE GAIN

TYPICAL APPLICATION

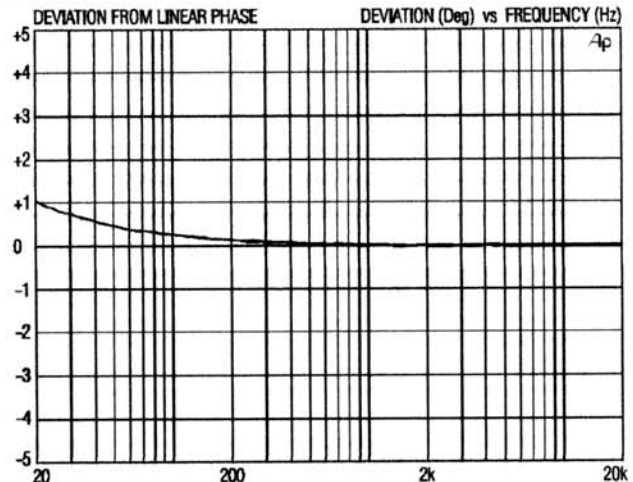
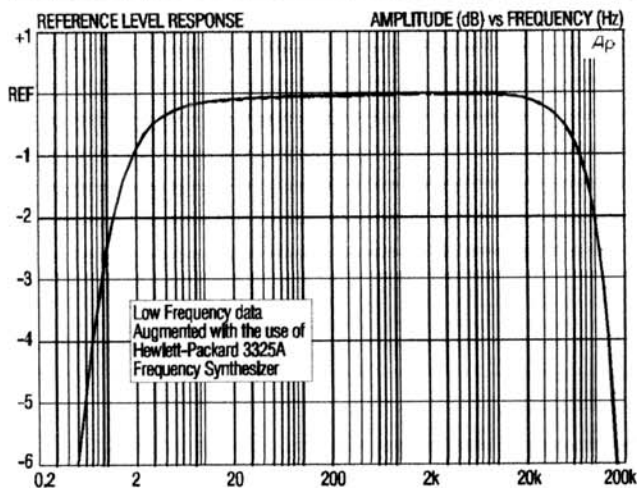


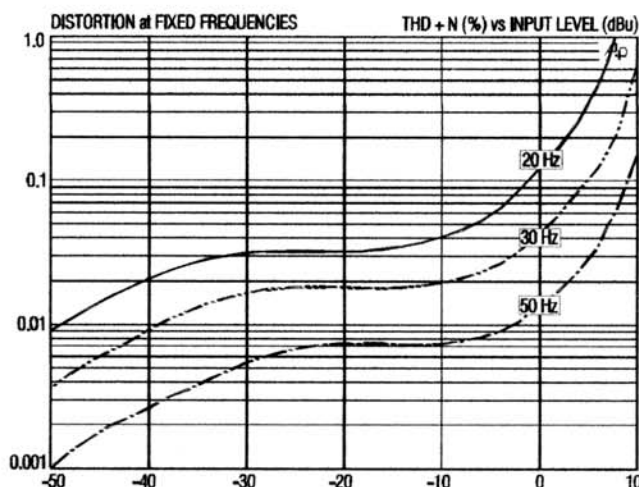
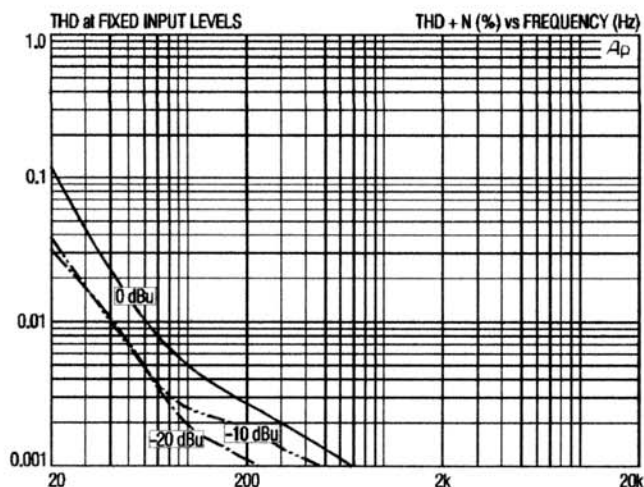
•30 AWG (7x38) UL STYLE 1061 COLOR CODED WIRE LEADS, 8" MINIMUM LENGTH



BOTTOM VIEW

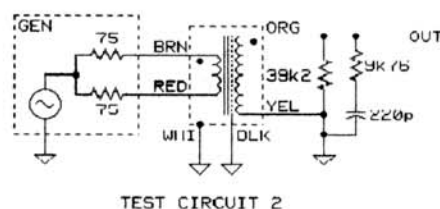
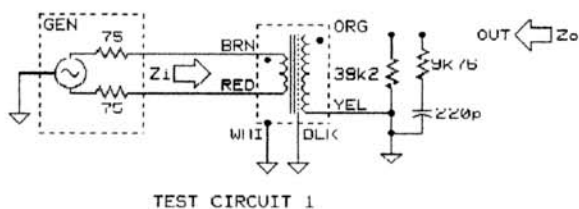
RECOMMENDED MOUNTING IS WITH UR-3 CLAMP
(SUPPLIED WITH TRANSFORMER)





JT-13K7-A SPECIFICATIONS (all levels are input unless noted)

PARAMETER	CONDITIONS	MINIMUM	TYPICAL	MAXIMUM
Input impedance, Z_i	1 kHz, -20 dBu, test circuit 1	1.45 k Ω	1.54 k Ω	1.65 k Ω
Voltage gain	1 kHz, -20 dBu, test circuit 1	13.6 dB	13.8 dB	14.0 dB
Magnitude response, ref 1 kHz	20 Hz, -20 dBu, test circuit 1	-0.15 dB	-0.08 dB	± 0.0 dB
	20 kHz, -20 dBu, test circuit 1	-0.15 dB	-0.08 dB	± 0.0 dB
Deviation from linear phase (DLP)	20 Hz to 20 kHz, -20 dBu, test circuit 1		+1	+2/-1
Distortion (THD)	1 kHz, -20 dBu, test circuit 1		<0.001%	
	20 Hz, -20 dBu, test circuit 1		0.03%	0.1%
Maximum 20 Hz input level	1% THD, test circuit 1	+5.0 dBu	+7.0 dBu	
Common-mode rejection ratio (CMRR) 150 Ω balanced source	60 Hz, test circuit 2		119 dB	
	3 kHz, test circuit 2	75 dB	87 dB	
Output impedance, Z_o	1 kHz, test circuit 1		4.14 k Ω	
DC resistances	primary (RED to BRN)		17.4 Ω	
	secondary (YEL to ORG)		471 Ω	
Capacitances @ 1 kHz	primary to shield and case		517 pF	
	secondary to shield and case		378 pF	
Turns ratio		1:4.995	1:5.000	1:5.005
Temperature range	operation or storage	0 C		70 C
Breakdown voltage (see IMPORTANT NOTE below)	primary or secondary to shield and case, 60 Hz, 1 minute test duration	250 V RMS		



All minimum and maximum specifications are guaranteed. Unless noted otherwise, all specifications apply at 25 C. Specifications subject to change without notice. All information herein is believed to be accurate and reliable, however no responsibility is assumed for its use nor for any infringements of patents which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Jensen Transformers, Inc.

IMPORTANT NOTE: This device is NOT intended for use in life support systems or any application where its failure could cause injury or death. The breakdown voltage specification is intended to insure integrity of internal insulation systems; continuous operation at these voltages is NOT recommended. Consult our applications engineering department if you have special requirements.

JENSEN TRANSFORMERS, INC., 7135 Hayvenhurst Avenue, Van Nuys, CA 91406-3807, USA

