

NEVE BA283 AMPLIFIER BOARD DOCUMENTATION

Operating and Technical Service and Repair Documentation for OBSOLETE NEVE EQUIPMENT manufactured prior to 1980. This documentation is posted here as a service to those who have this equipment and are trying to maintain, service or repair it.

We believe this documentation to be free of any copy rights and/or errors, but if you know of any infringements or errors or alternate versions please contact us at <mailto:docs@technicalaudio.com> as soon as possible with this information.

THE BA283 AMPLIFIER PCB CAME IN A NUMBER OF VERSION
DECODE INFO FOR THE VARIOUS VERSIONS

B = Board or PCB assembly

A = Amplifier

283 = the three digit part number designation for the assembly

VERSIONS: note that most version suffixes here have two letters and these happen to indicate the edge card pin numbers of the portion of the circuit board that is "stuffed" and there is a third "A" letter designation added to those versions where the TO-3 output transistor is remoted off actual card assembly.

BA283AV = fully populated with both a pre or "gain" amplifier and an output amplifier

BA283AVA = BA283AV with remoted TO-3 output transistor TR3

BA283AM = 1/2 populated with only an output amplifier and NO pre or "gain" amplifier

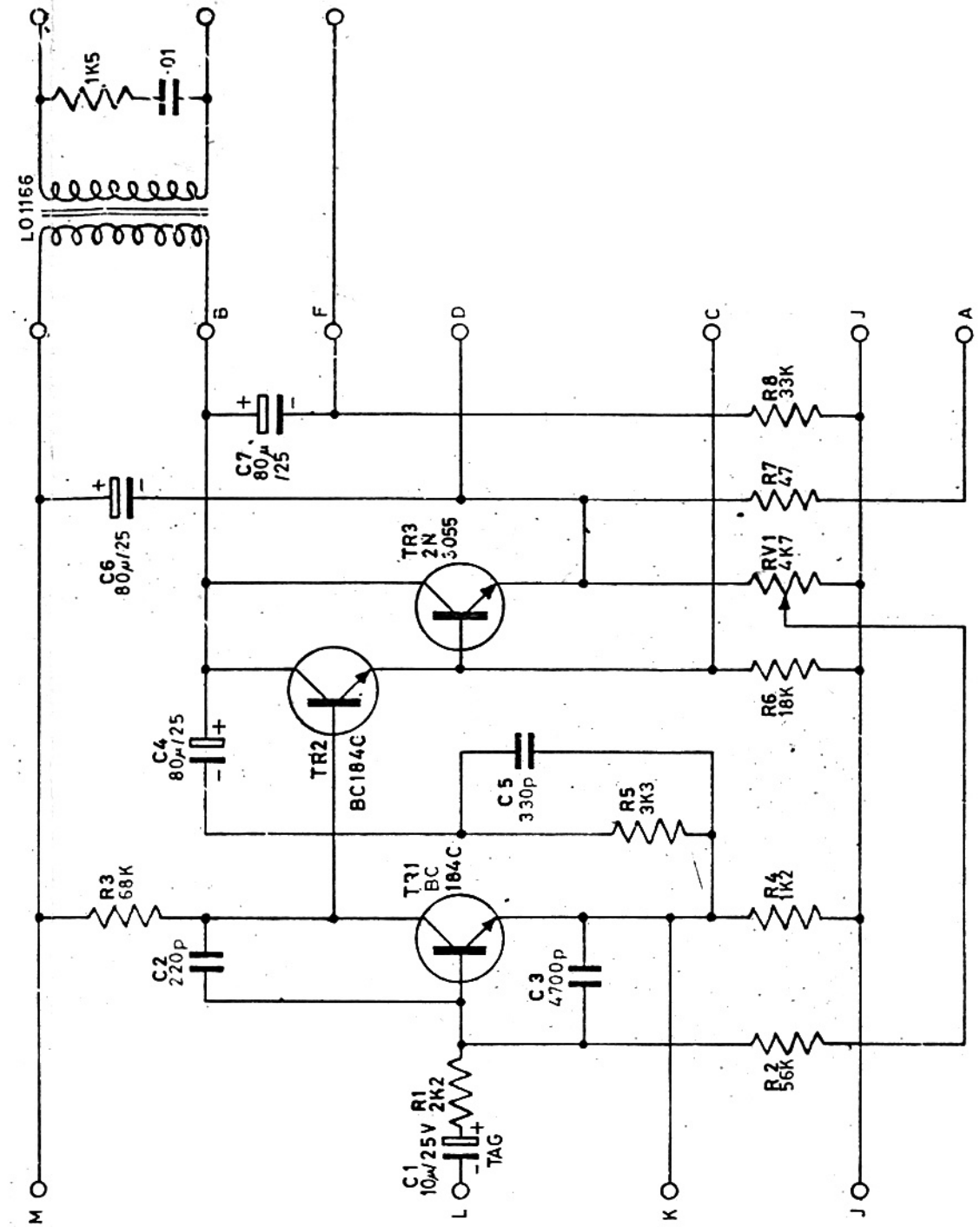
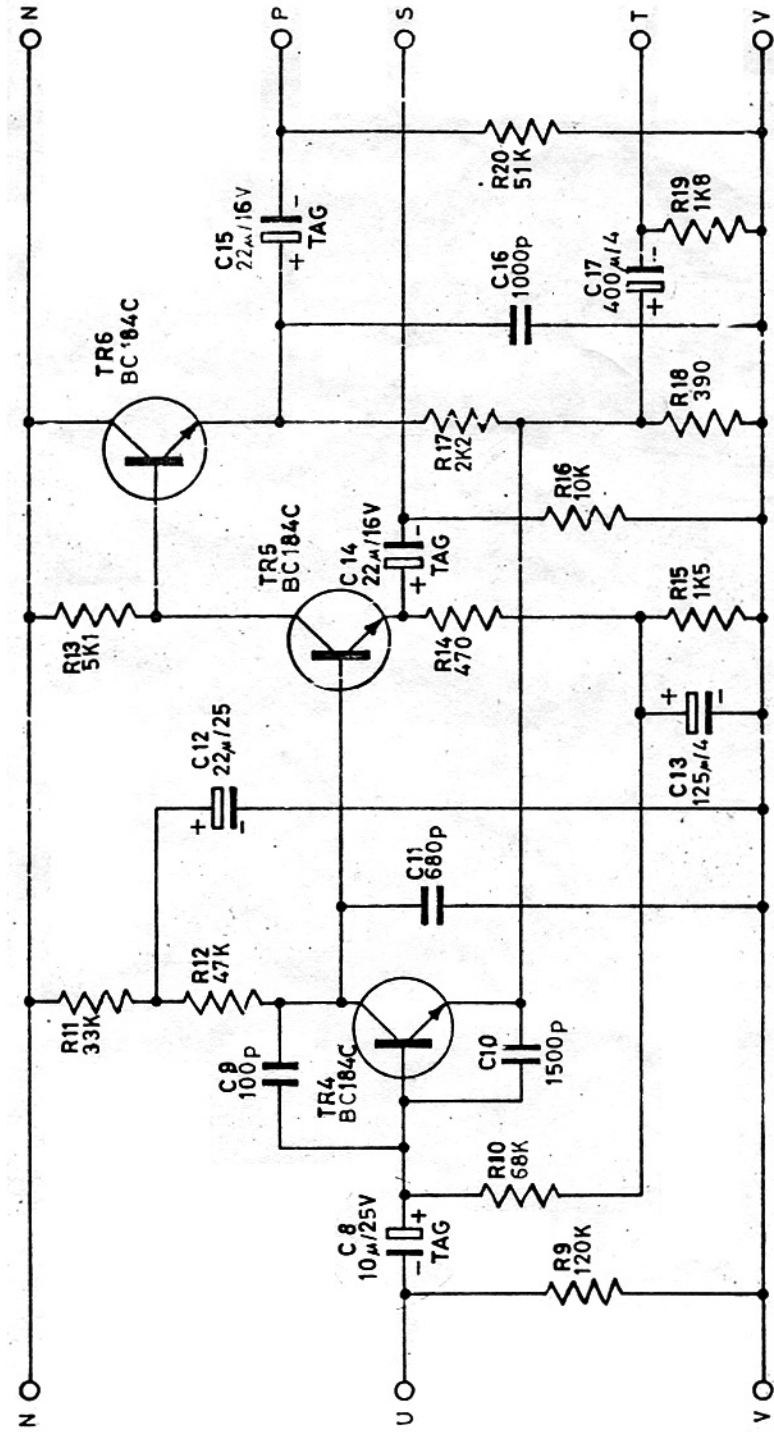
BA283AMA = BA283AM with remoted TO-3 output transistor TR3

BA283NV = 1/2 populated with only a pre or "gain" amplifier and NO output amplifier

BA283S = don't see these often but appears nearly identical to BA283AM

The most common version would be BA283AM

all BA283 boards have pads and traces such that they can be fully stuffed and converted to BA283AV



D 23-11-72
10547



The Neve Group of Companies

TITLE BA283 AM & AV

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.

C	15/11/72	10565	DATE	15/11/71	CN 10361
B	7/6/72	10518	DRAWING	EX/10 283	
A	8-3-72	10473	NUMBER		

PRINTED CIRCUIT BOARD ASSEMBLY BA283AV AND BA283AVA

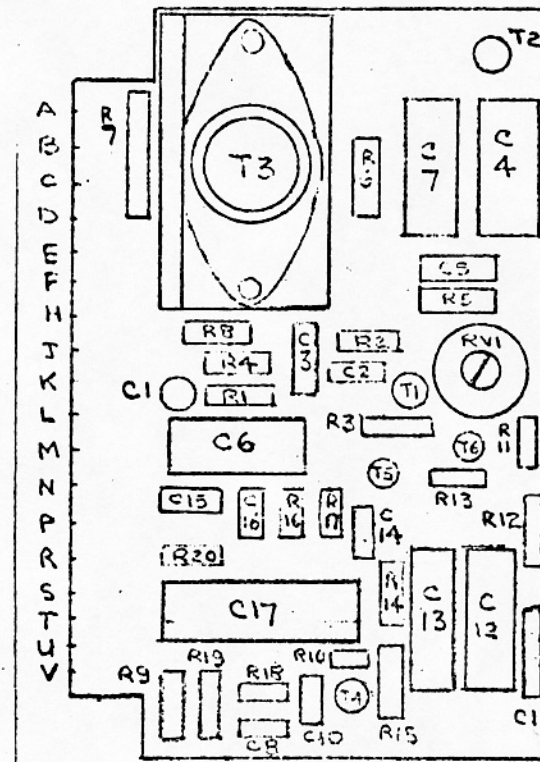
Circuit Diagram EX10283

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, 3) wired between pins A and M on the connector and is known as the BA283AM.

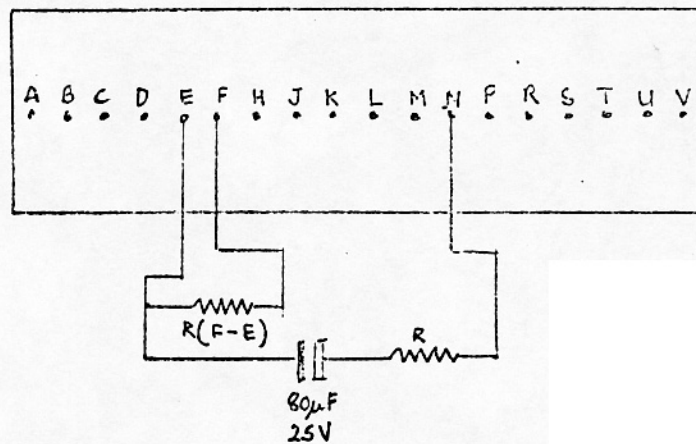
When TR3 on the output stage is operated at high currents provision is made for it to be mounted on an external heat sink. This is indicated by the addition of the suffix A to the board assembly e.g. BA283AMA and AVA.

PRINTED CIRCUIT BOARD BA283AV



PARTS LIST BA283AV

GAIN BOOST CONNECTIONS.



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	

PRINTED CIRCUIT BOARD ASSEMBLY BA283AM AND BA283AMA

Circuit Diagram EX10283

General Description

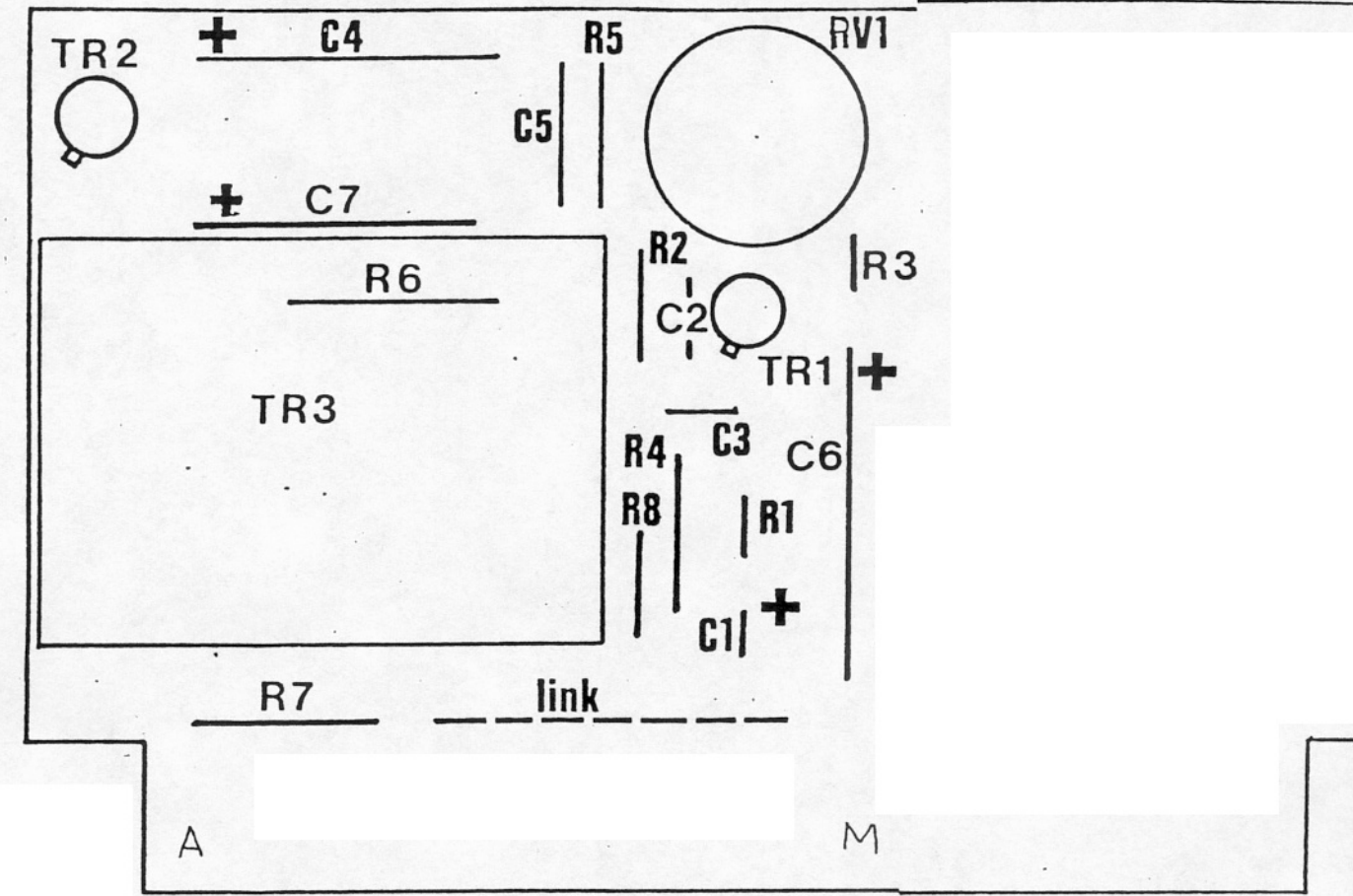
Fixed a.c. feedback is applied via C4 from the collector circuit of the d.c. connected pair TR2, TR3 to the emitter of TR1.

The potentiometer 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 BA283AM & BA283AMA

Ref	Description	Part No.
R1	2K2 TR4 \pm 2%	RA002K2
R2	56K " "	RA056K0
R3	68K " "	RA068K0
R4	1K2 " "	RA001K2
R5	3K3 " "	RA003K3
R6	18K " "	RA018K0
R7	47 TR6 "	RFO47R0
R8	33K TR4 "	RA033K0
RV1	Potentiometer, preset 4K7	PT13200
C1	10 μ F, 25V TAG	CA60100
C2	220 pF	CA12200
C3	4700 pF	CA20040
C4	100 μ F, 25V	CA61002
C5	330 pF	CA13300
C6,7	100 μ F, 25V	CA16002
TR1,2	BC184C	TR16401
*TR3	2N3055	TR16000
	Printed Circuit Board Assembly	EV10283

*On BA283 AMA, TR3 is mounted remote

PRINTED CIRCUIT BOARD ASSEMBLY BA283NV

General Description

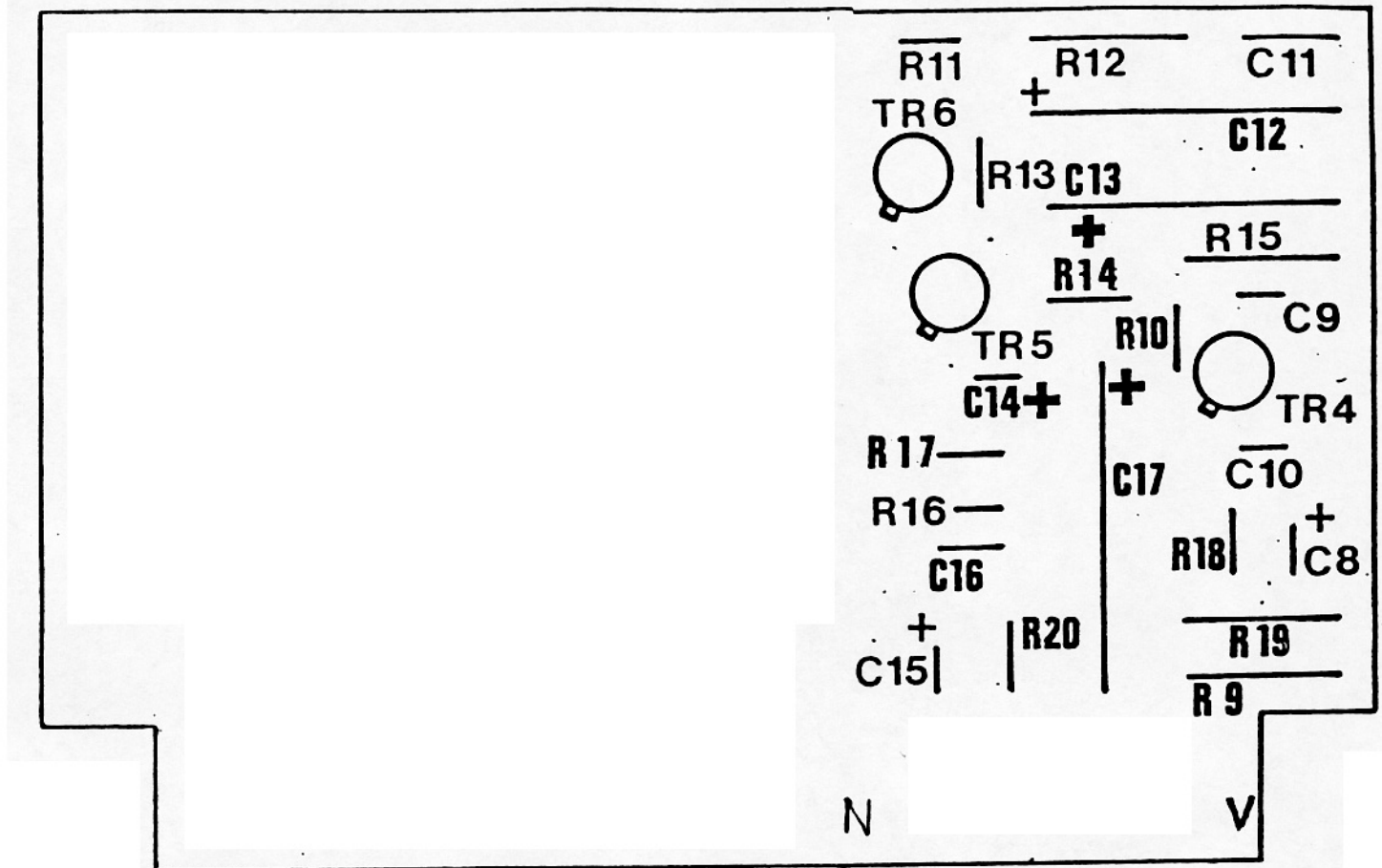
Circuit Diagram EX10283

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 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.



PARTS LIST BA283 NV

Ref	Description	Part No.
R9	Resistor 120K TR4 2%	RA120KO
R10	" 68K " "	RA068KO
R11	" 33K " "	RA033KO
R12	" 47K " "	RA047KO
R13	" 5K1 " "	RA005K1
R14	" 470 " "	RA470RO
R15	" 1K5 " "	RA001K5
R16	" 10K " "	RA010KO
R17	" 2K2 " "	RA002K2
R18	" 390 " "	RA390RO
R19	" 1K8 " "	RA001K8
R20	" 51K " "	RA051KO
C8	Capacitor 10 μF, 25V	CA60100
C9	" 100 pF	CA11000
C10	" 1500 pF	CA20012
C11	" 680 pF	CA16800
C12	" 22 μF, 25V	CA60220
C13	" 100 μF, 4V	CA61000
C14	" 22 μF, 16V	CA60223
C15	" 22 μF, 16V	CA60223
C16	" 1000 pF	CA20010
C17	" 330 μF, 4V	CA63300
T4	Transistor BC184C	TR16401
T5	" BC184C	TR16401
T6	" BC184C	TR16401
	Printed Circuit Board Assembly	BA283NV