PRINTED CIRCUIT BOARD ASSEMBLY BA784

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PRINTED CIRCUIT BOARD ASSEMBLY BA784

1. GENERAL

The BA784 printed circuit motherboard provides the basic circuit components and connections for a range of channel and group switching units. The technical description of the parent module should therefore be read in conjunction with this description of the BA784.

2. CIRCUIT DESCRIPTION
(Circuit diagram EX10784)

A balanced audio input at +4dBu nominal level is introduced at pins 32,33,35 to the input step-down transformer T1, having a nominal input impedance of 10kΩ. The signal is reduced to -9dBu at T1 secondary, and is attenuated down to -15dBu by R1 and R2. The input level at pin 3 of IC1 is approximately -16dB; IC1 provides +10dB gain giving a pre-fade output level of -6dBu. TR1 and TR2 are a complementary pair which provides the drive to the bus-bars. The output circuit includes overload protection through the diodes D1-D4.

The pre-fade output is taken directly to pin 24, to be used as the solo pre-fade output via the fader overpress switch. The fader send connection is taken via one contact set of the CUT relay RLA, and a parallel connection is taken as the pre-fade input to the Auxiliary channels pre/post selection switches.

IC2 provides post-fade amplification; the circuit being similar to that of IC1 and producing +10dB nominal gain. If the pcb is fitted in the 33752 channel routing unit R13 is replaced by a wire link and R14 is omitted; this attenuator is not needed because the channel fader provides 10dB in hand.

RV2 is provided to allow post-fade gain to be matched to the pre-fade performance, so that there is no deviation in the Auxiliary output levels when switching from "pre" to "post" (see sections on 33752 and 33753 switching units)

The output from IC2 is taken via the drive and overload protection circuit similar to the pre-fade case, and is completed via a second contact set of RLA. An unbalanced output is taken via pin 22 and solder connection 20, for direct application (pin 22) or for further assignment and level control within the switching unit (PAN, Aux level, SOLO).

Relay RLA is the CUT relay; when the winding is energised, the two contact sets disconnect the pre-fade and post-fade outputs and connect the two output lines to O.V.(B-). The relay current is controlled by the switching transistor TR5 which is brought into conduction by connecting the "CUT SWITCH" or "MASTER CUT" connections to OV outside the pcb. The CR circuit C13, R28, R30 prevents rapid voltage changes at the base of TR5, thus producing a "soft" switching effect.

Current limiting resistors are provided at R25 (SOLO l.e.d. drive) and R26 (CUT l.e.d.). D11 and C14 prevent overshoot and ringing of the relay coil current.

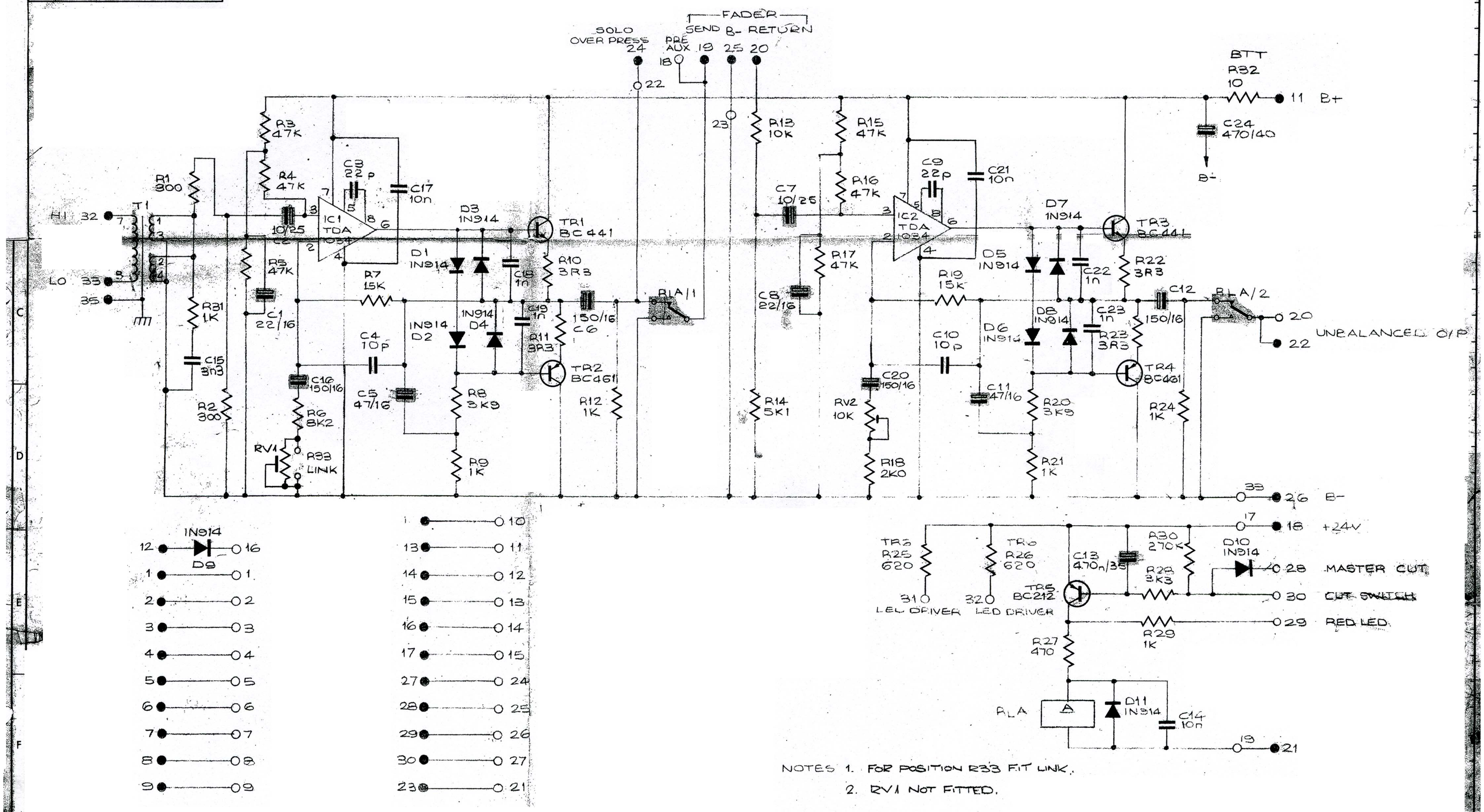
Power supplies are required from a stabilised +24V power unit; the quiescent current consumption is 100mA ±10mA.

The specification for the BA784 pcb is included in the overall performance figures given in the separate descriptions of the 33752 and 33753 switching modules.

PARTS LIST

Cct.	Component/Value	Part No
	Capacitors	
C1,8	22μ/15V	CA60224
C2,7	10μ/25V	CA60101
C3,9	22p/63V	CA10220
C4,10	10p/63V	CA10101
C5,11	47μ/16V	CA60471
C6.12,16,20	150μ/16V	CA61501
C13	470η/35V	CA54700
C14	10η/250V	CA20102
C15	3.3η/30V	CA20031
C17,21	10η/30V	CA20103
C18,19,22,23	1η /30V	CA20010
C24	470μ/40V	CA64705
D1-D11	Diode 1N914	DD10002
IC1,2	Integrated Circuit TDA1034	IC20007
-	DIL socket, 8 pin	CN20162
	Resistors	
R1,2	300	RA300R0
R3,4,5,15,16,17	47K	RA047K0
R6	8.2K	RA008K2
R7,19	15K	RA015K0
R8,20	3.9K	RA003K9
R9,21,12,24,29,21	1K	RA001K0
R10,11,22,23	3.3	RF003R3
R13	10K	RA010K0
R14	5.1K	RA005K1
R18	2K	RA002K0
R25,26	620	RC620R0
R27	470	RA470R0
R28	3.3K	RA003K3
R30	270K	RA270K0
R32	10	RD010R0
RV1	Not allocated	-
RV2	Potentiometer	PT15030
T1	Transformer	TF10016
TR1,3	Transistor BC441	TR16201
TR2,4	- BC461	TR12201
TR5	- BC212B	TR12403
-	Mounting pad (TR1-4)	SA10200
	Mounting pad TR5	SA10400

DRAWING No.
EX10784



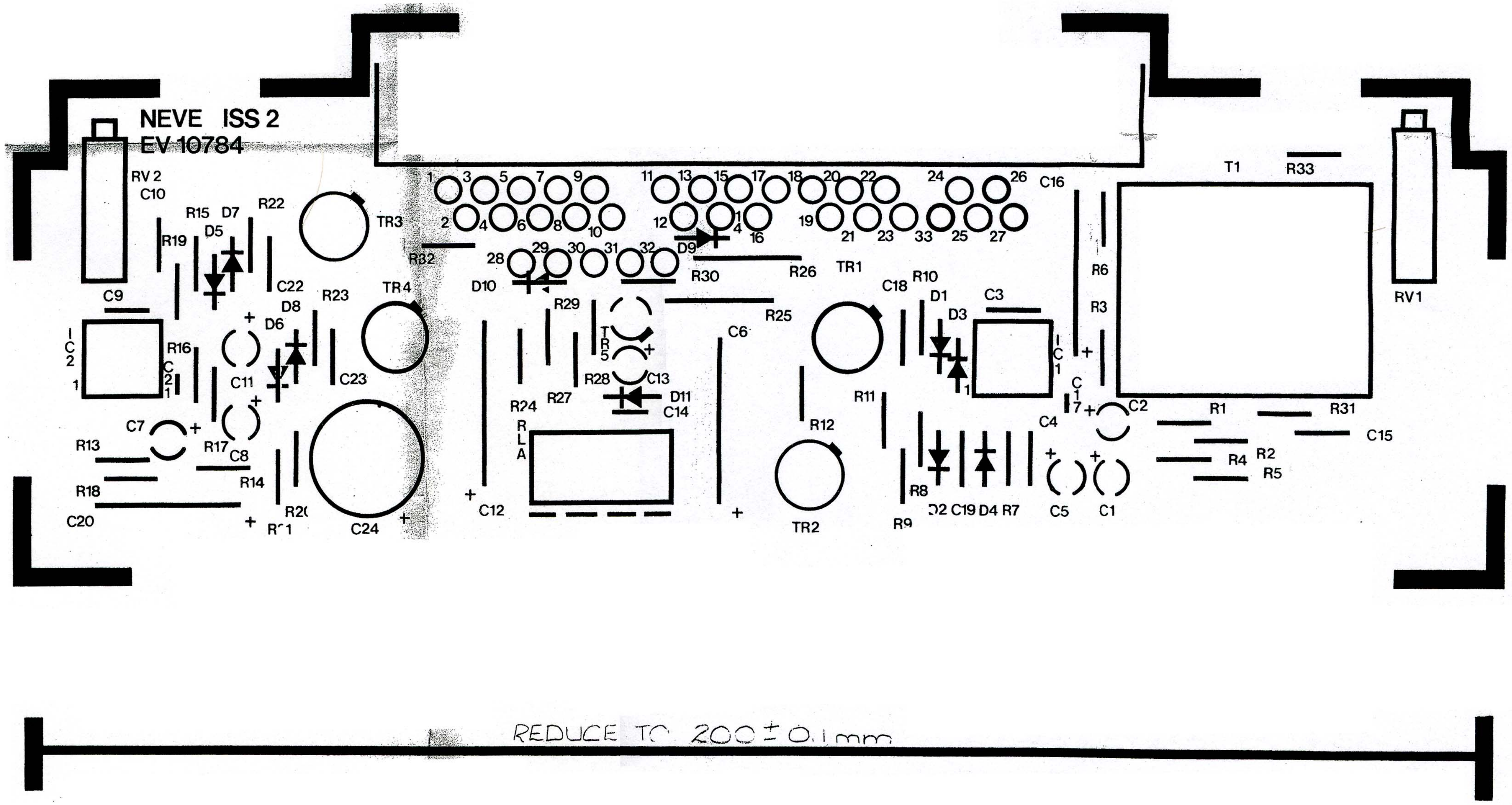
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

1	10
13	11
14	12
15	13
16	14
17	15
27	24
28	25
29	26
30	27
23	21

NOTES 1. FOR POSITION R33 FIT LINK.
2. RV1 NOT FITTED.

4	3	2	1	ISSUE	FIRST USED ON D345	MATL. SPEC 5316	TOL. UNLESS OTHERWISE STATED LINEAR + −	ANGULAR	HOLES + 0.13 − 0
24·9·80	18-4-79	20-2-79	1-2-79	DATE	DRN. PNW	FINISH BA784	3rd ANGLE PRJ.	DIMS. IN	SCALE
60939	50303.	50273		CHANGE NOTE Nº	TRACED JDW	TITLE MOTHERBOARD FOR 33753	DRG. No. EX10784		
Ap	Bc.	RC		CHECKED	CHECKED RNW	Neve Electronics International Ltd.	1978 © A2		

DRG No
EW 10784



REDUCE TO 200 ± 0.1mm

THIS MASTER MUST BE PRESERVED IN PERFECT CONDITION

2	1	ISSUE	
10.1.79	23.1.79	DATE	
36273		CHANGE NOTE	
		CHECKED	

FIRST USED ON D 345
DRN MJT
CHECKED ELECT RAW
CHECKED MECH
TITLE 33752 & 33753 MOTHERBOARD
DRG. No. EW 10784
Rupert Neve & Company Ltd.
1978 A2