

SERVICE DOCUMENTATION

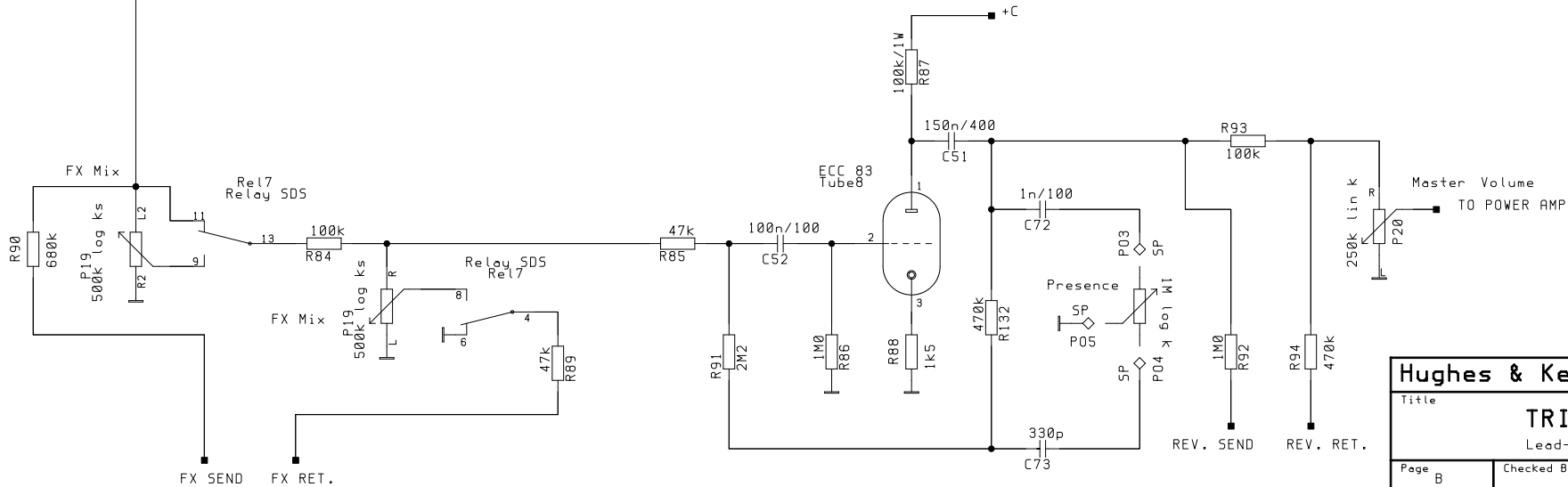
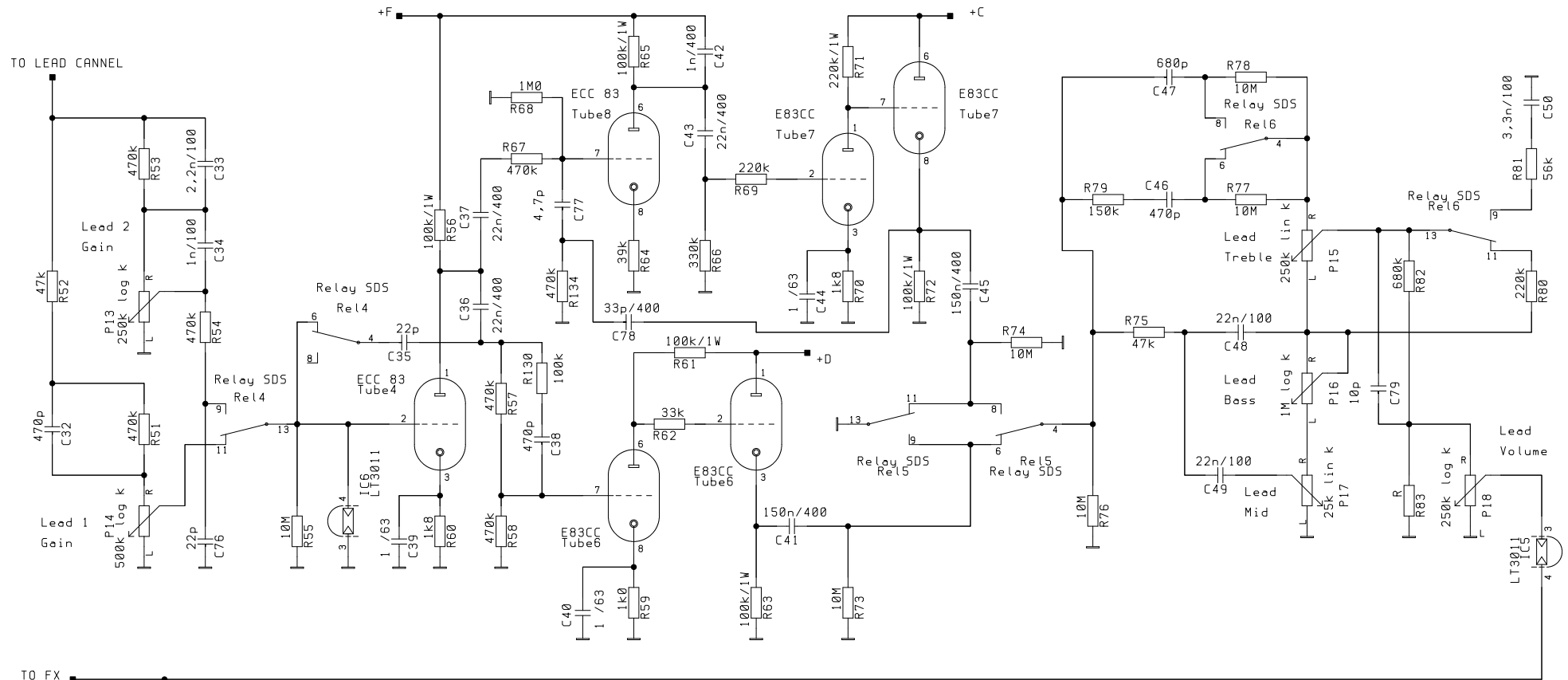


Triamp

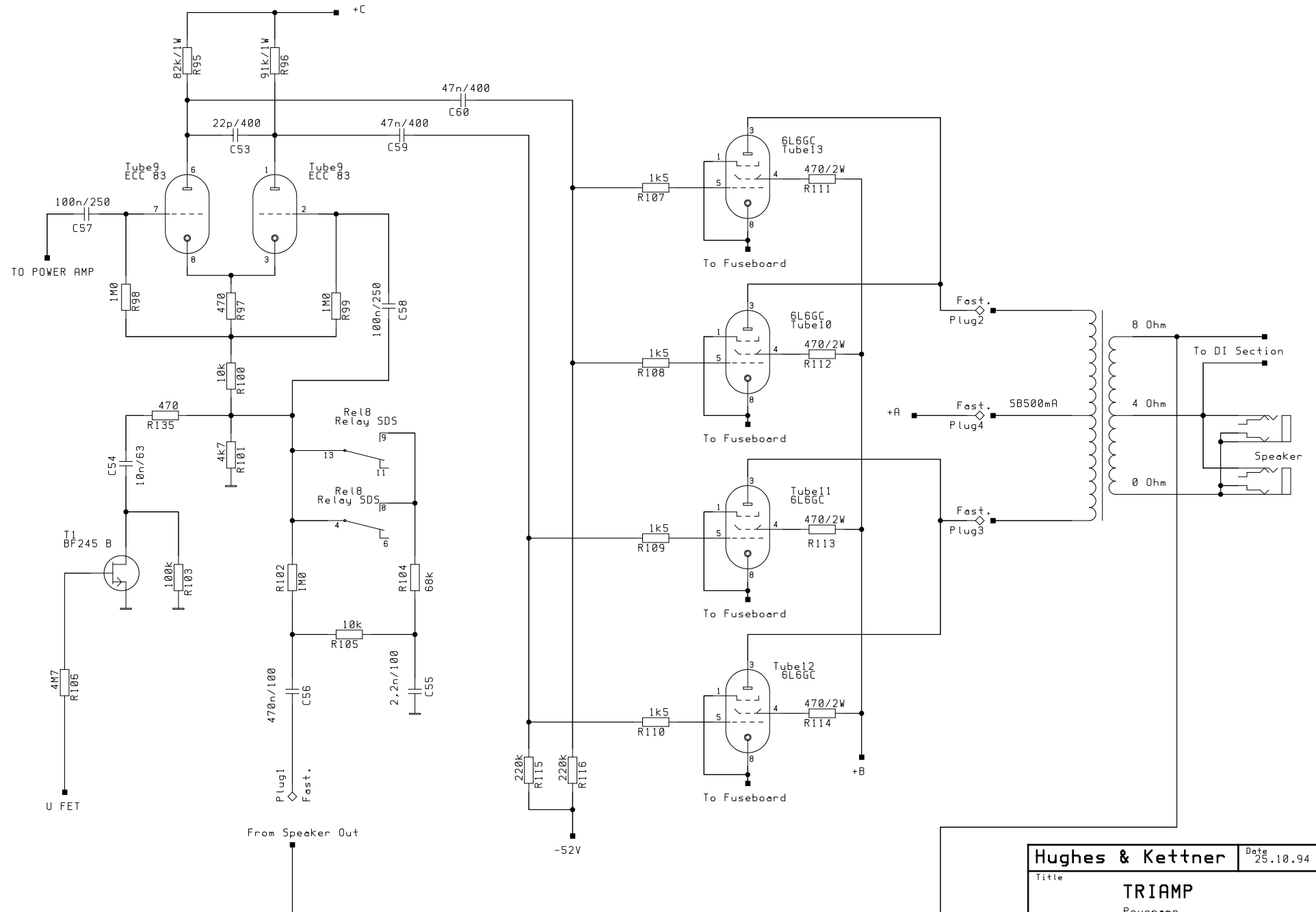
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1 Schaltpläne/ schematics

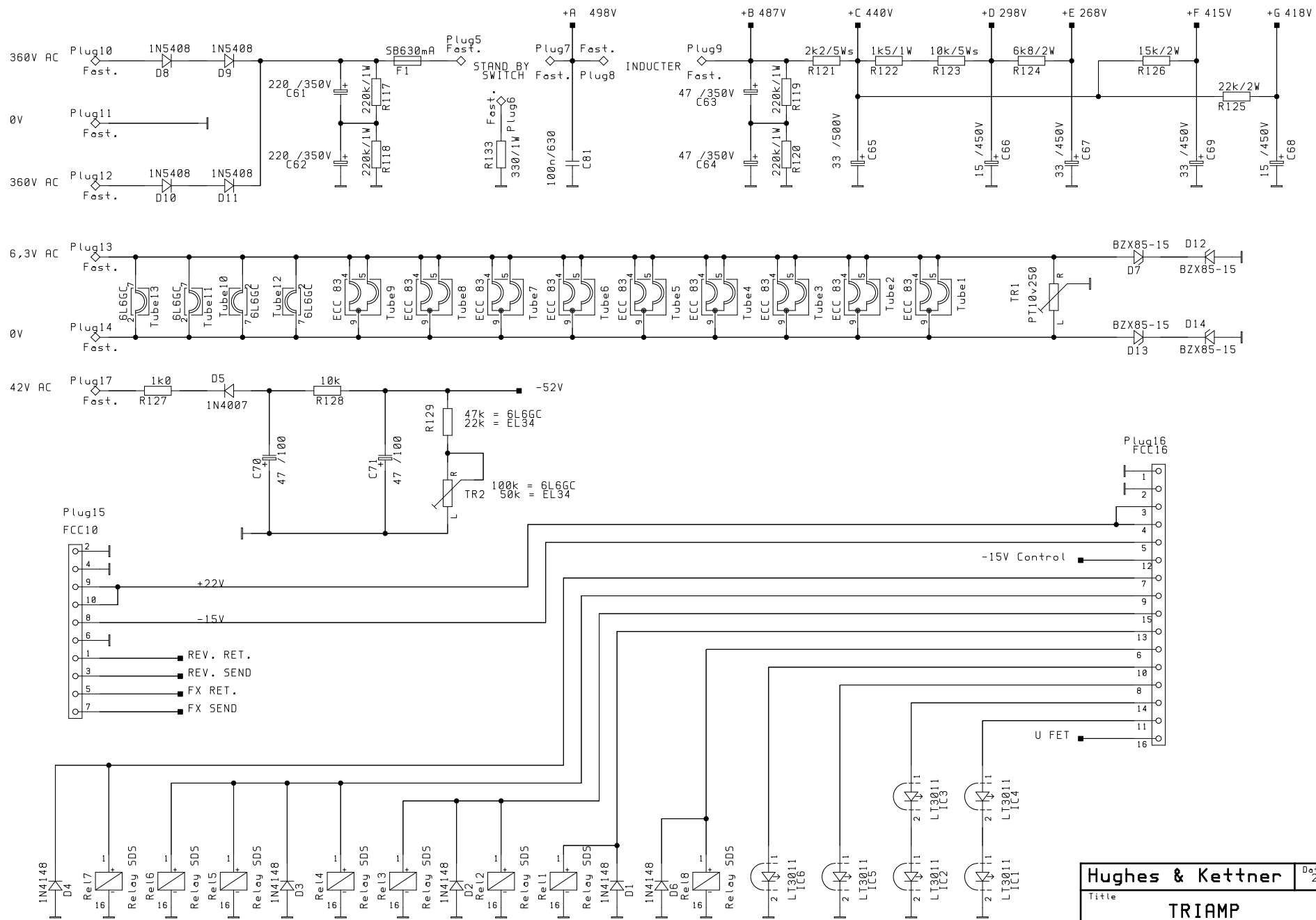


Hughes & Kettner		Date
Title		25.10.94
TRIAMP		
Lead-FX-Master		
Page	Checked BY	Date
B		

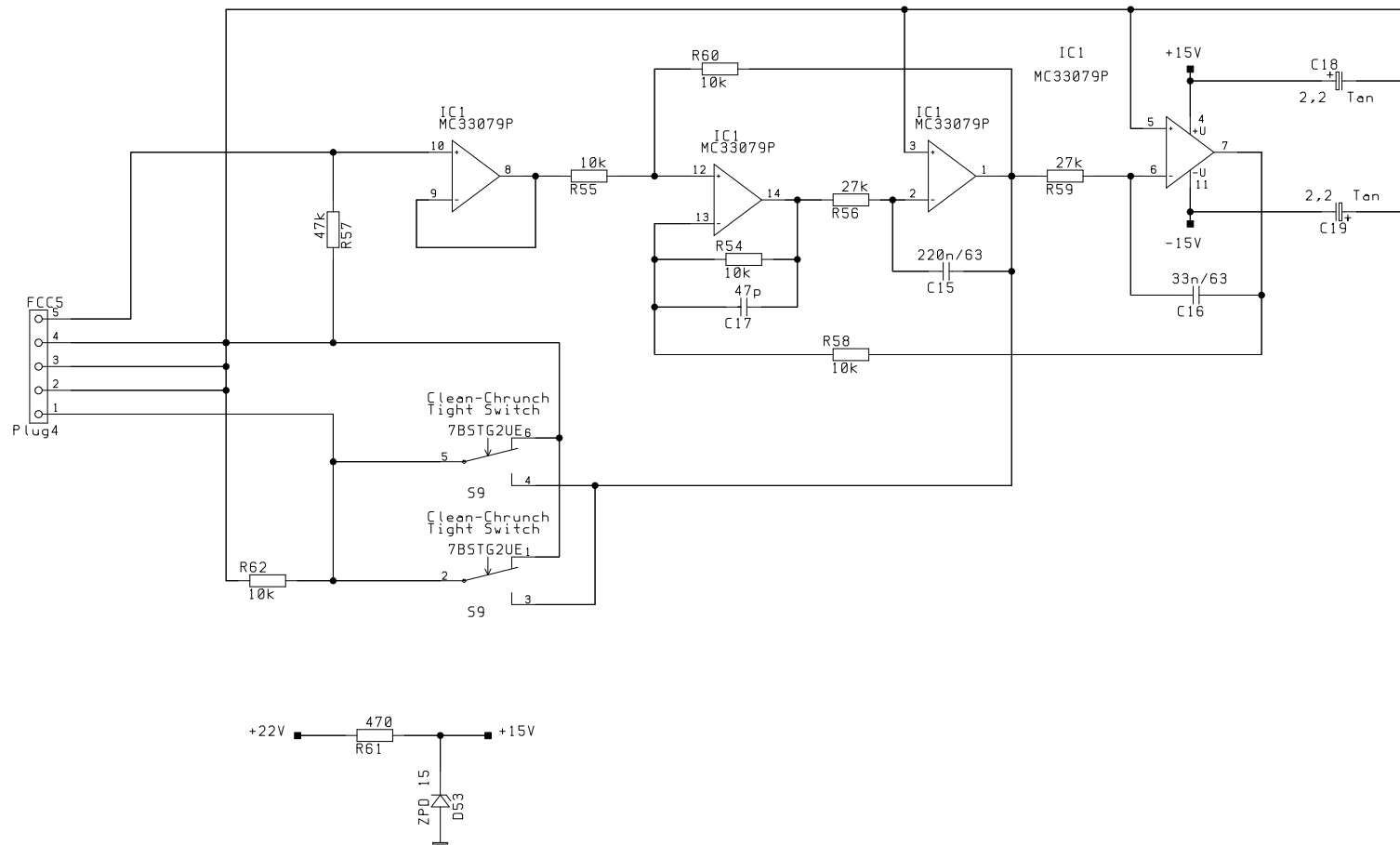


Hughes & Kettner		Date	25.10.94
Title		TRIAMP	
		Poweramp	
Page	Checked BY	Date	
C			

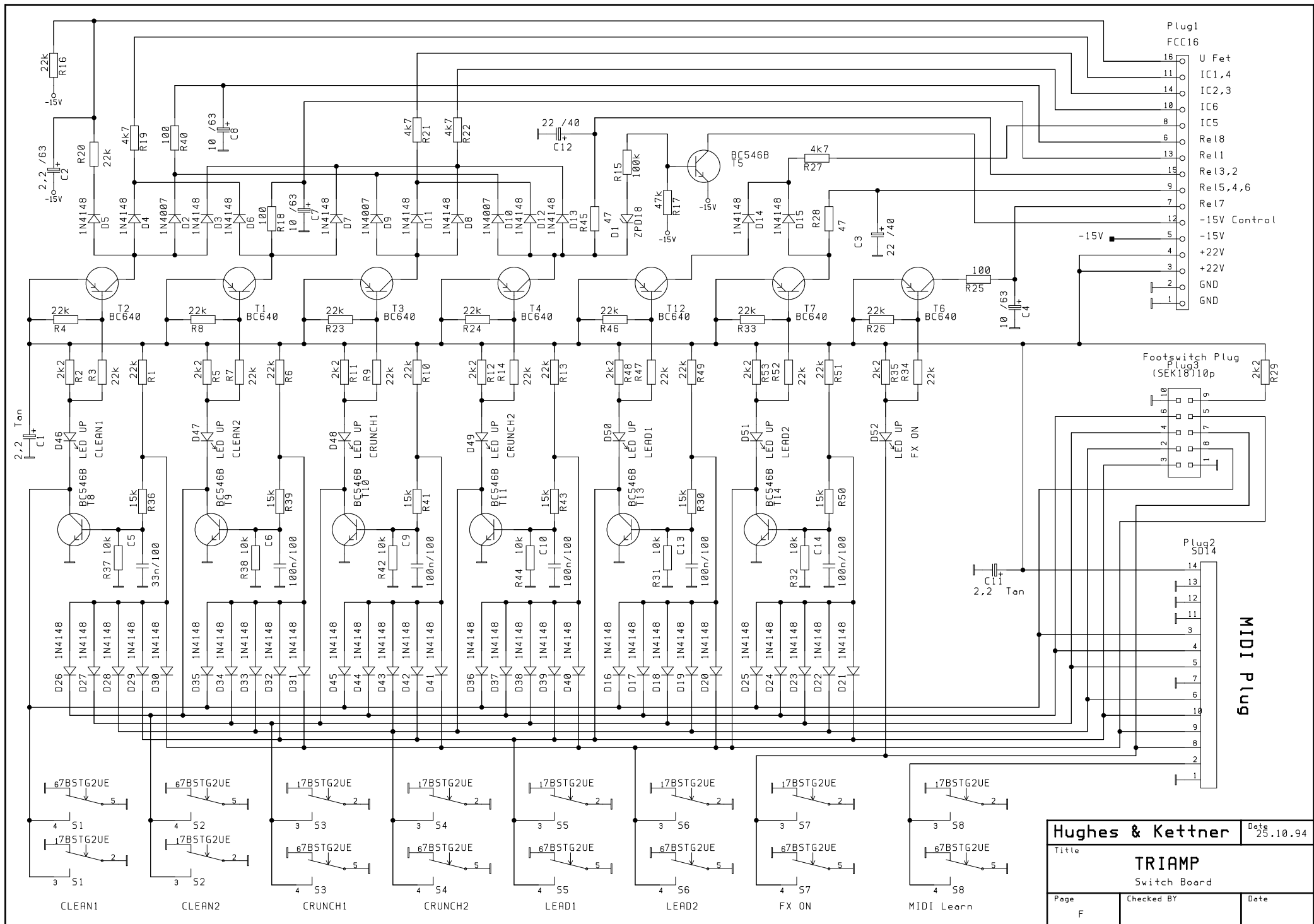
From Transformer



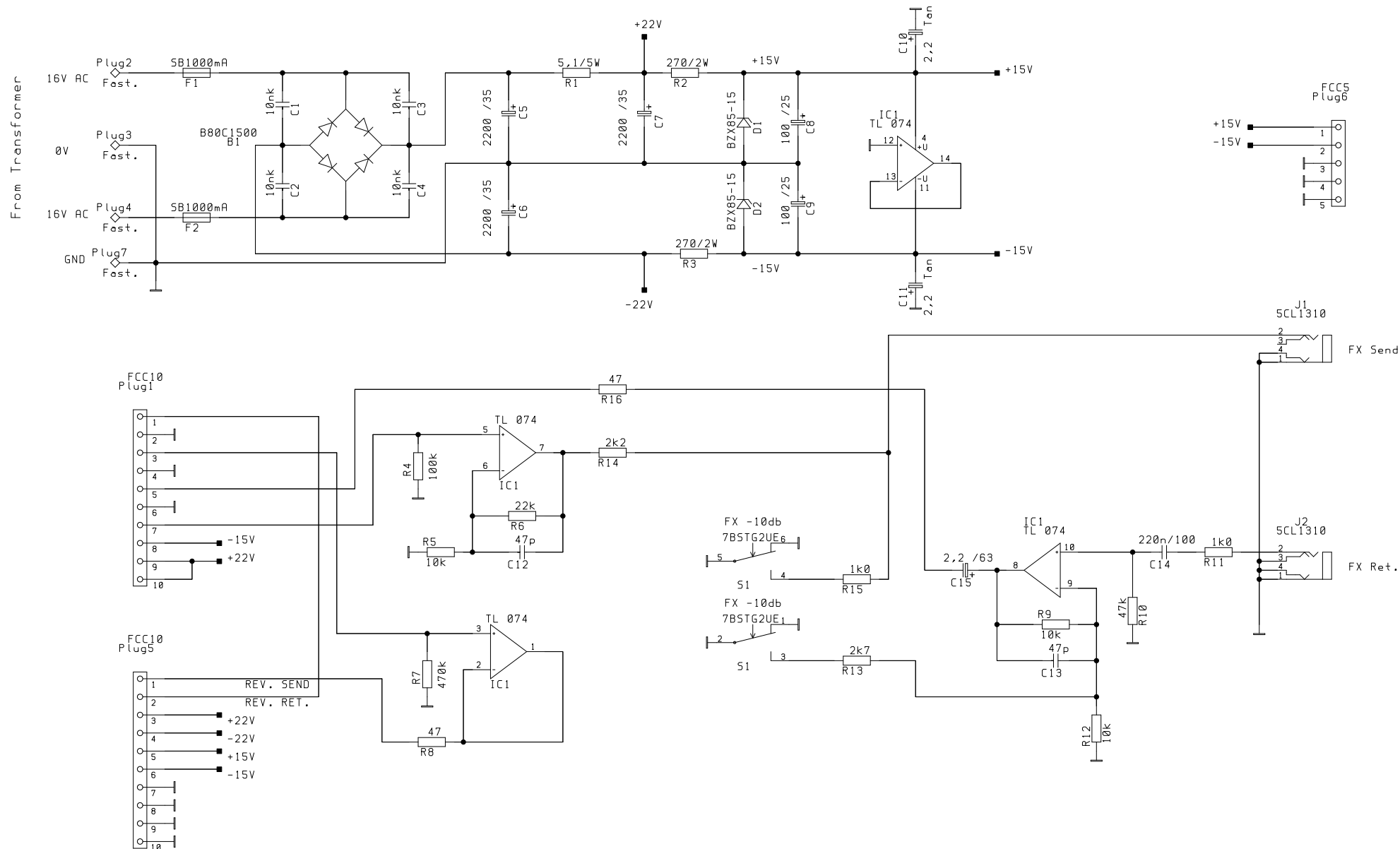
Hughes & Kettner		Date
25.10.94		
Title		
TRIAMP		
Power Supply		
Page	Checked BY	Date
D		



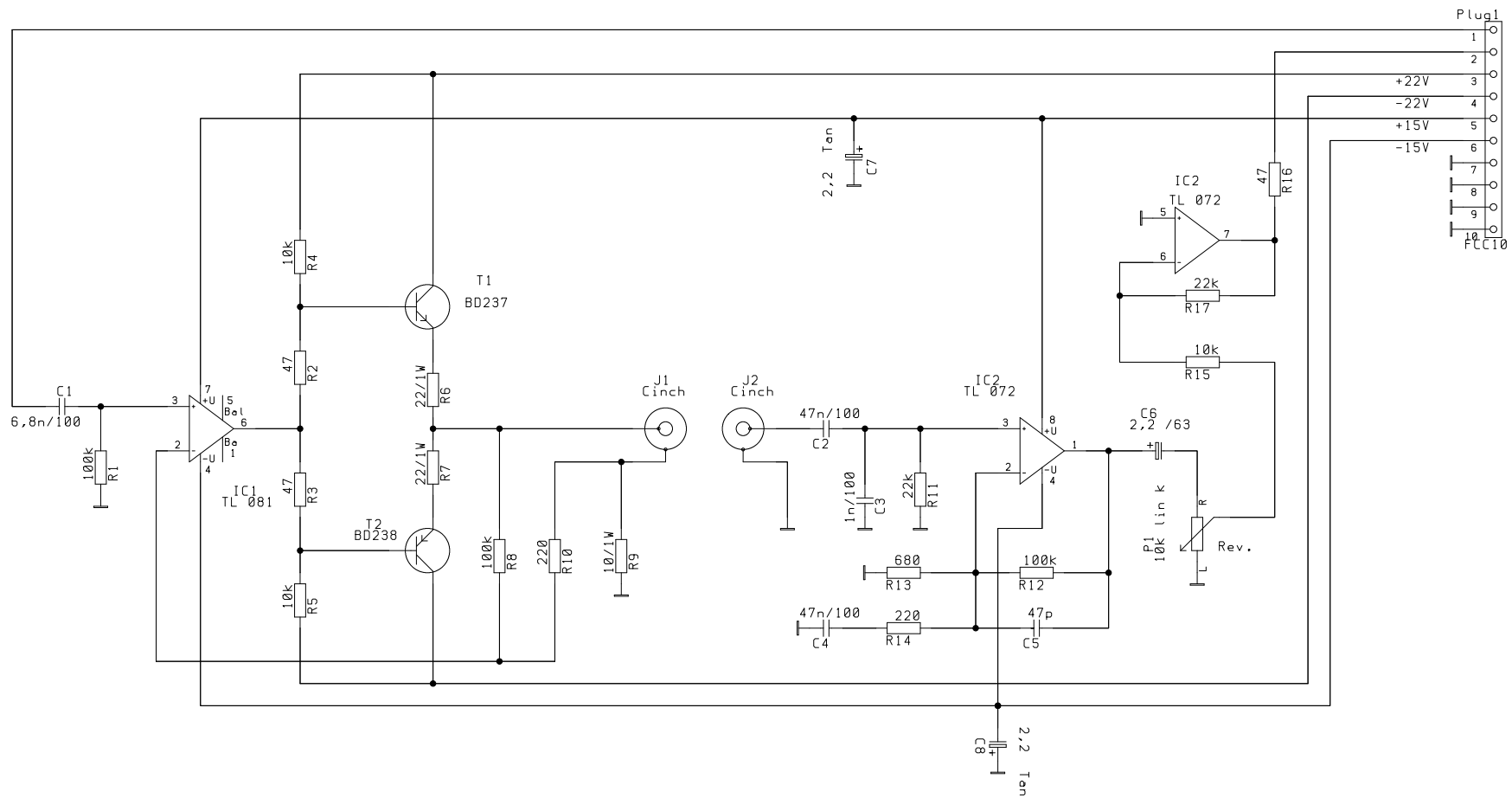
Hughes & Kettner		Date 25.10.94
Title TRIAMP Tight Filter		
Page E	Checked BY	Date



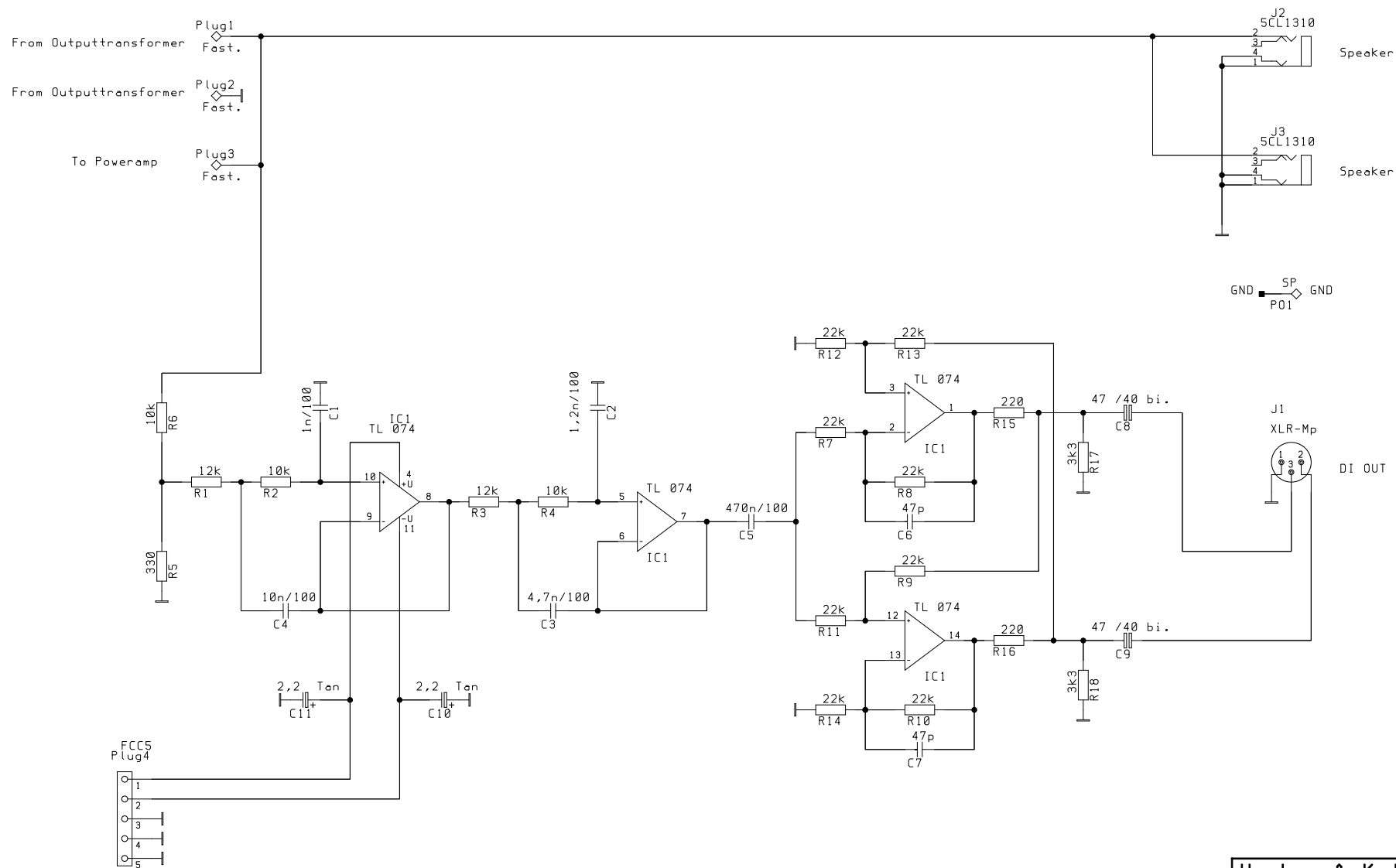
Hughes & Kettner		Date	25.10.94
Title			
TRIAMP			
Switch Board			
Page	Checked BY	Date	
F			



Hughes & Kettner		Date
25.10.94		
Title		
TRIAMP		
Power Supply & FX Buffer		
Page	Checked BY	Date
G		

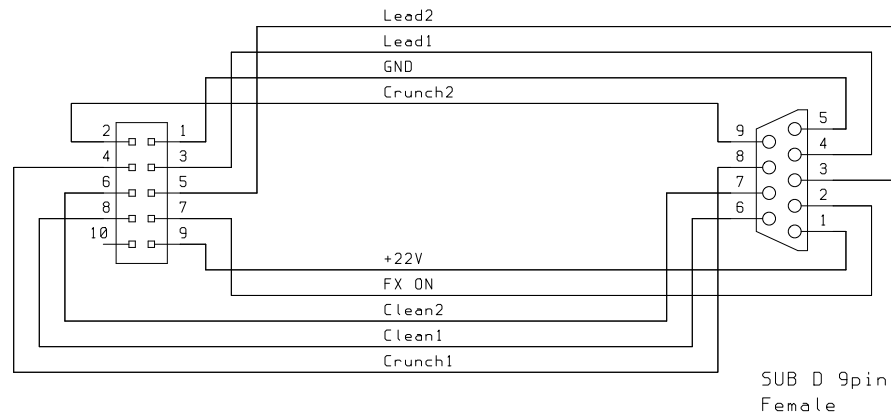


Hughes & Kettner		Date 25.10.94
Title TRIAMP Reverb		
Page H	Checked BY	Date



Hughes & Kettner		Date 25.10.94
Title TRIAMP		
DI OUT		
Page I	Checked BY	Date

INTERNAL FLATCABLE

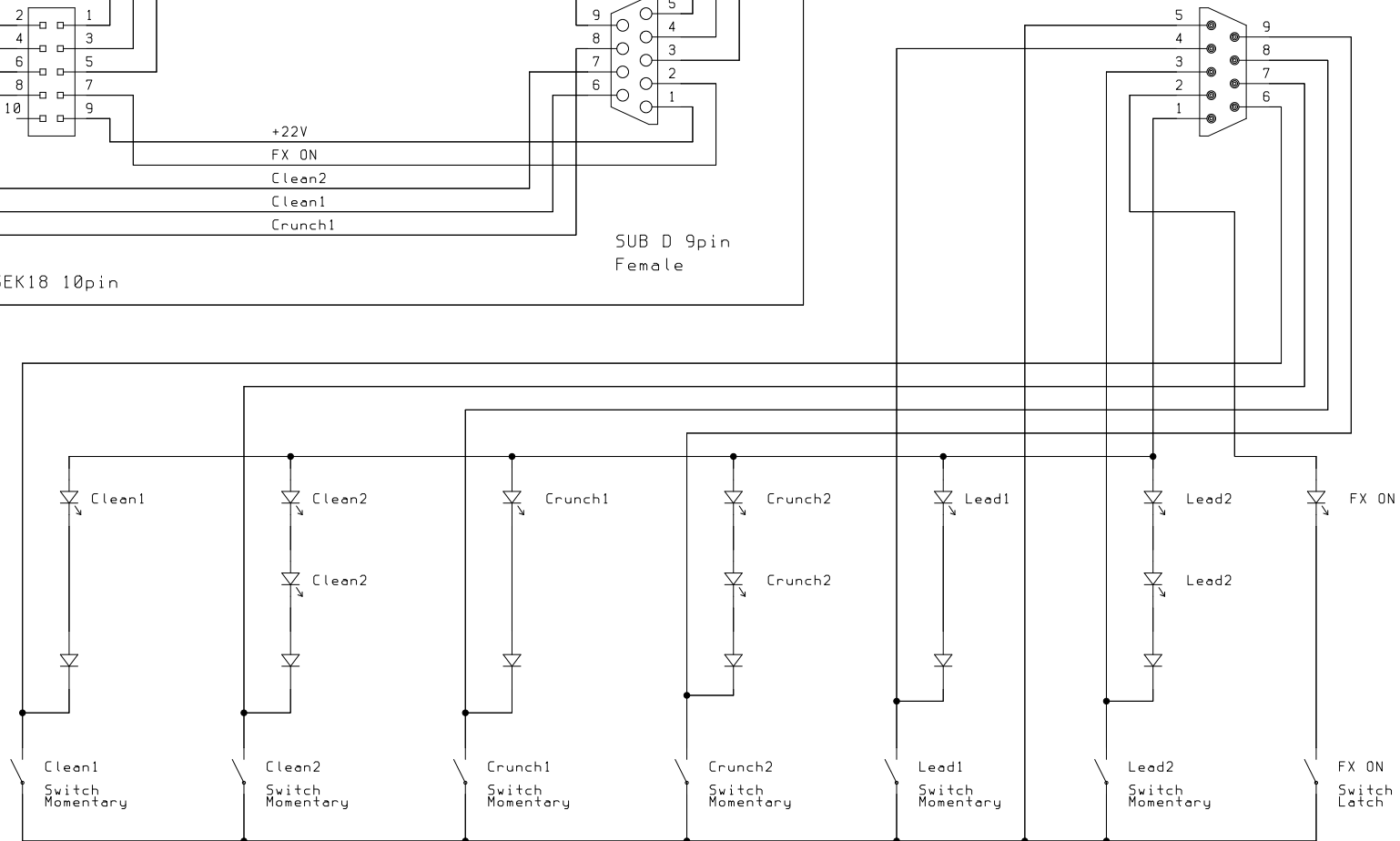


SEK18 10pin

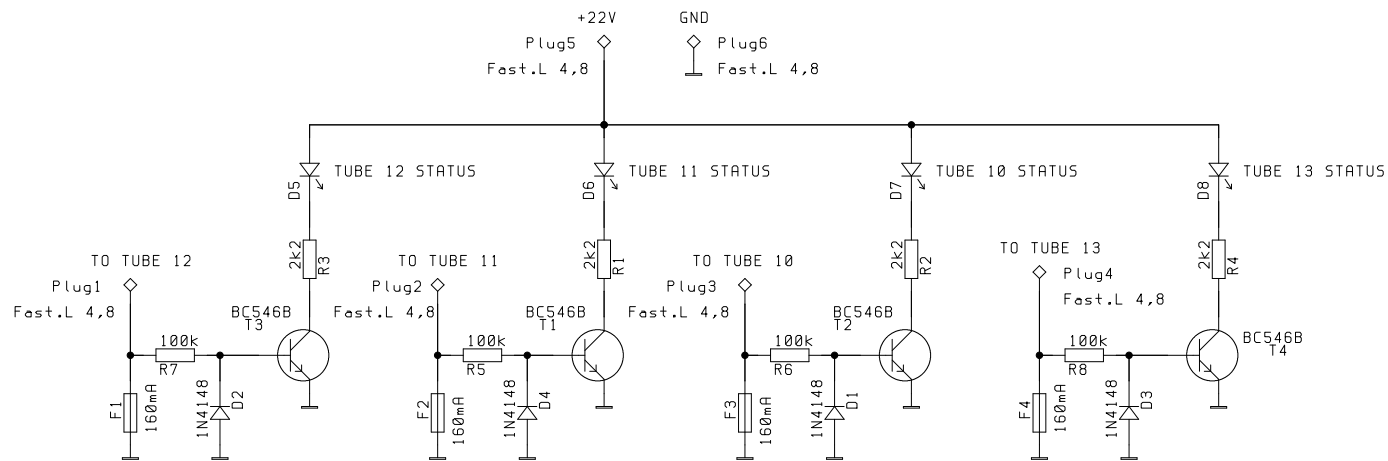
SUB D 9pin
Female

Footswitch

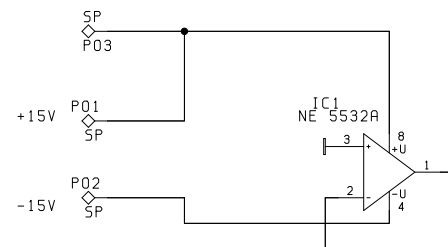
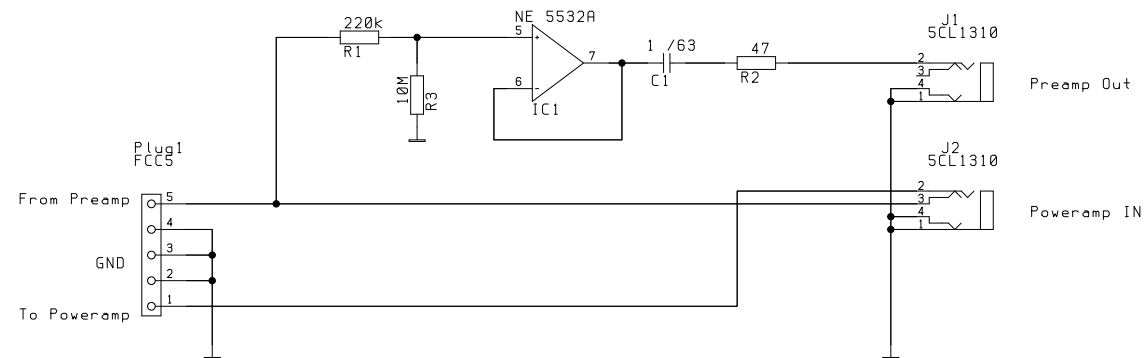
SUB D 9pin
Male



Hughes & Kettner		Date
Title		19.9.94
TRIAMP		
Footswitch		
Page	Checked BY	Date
J		



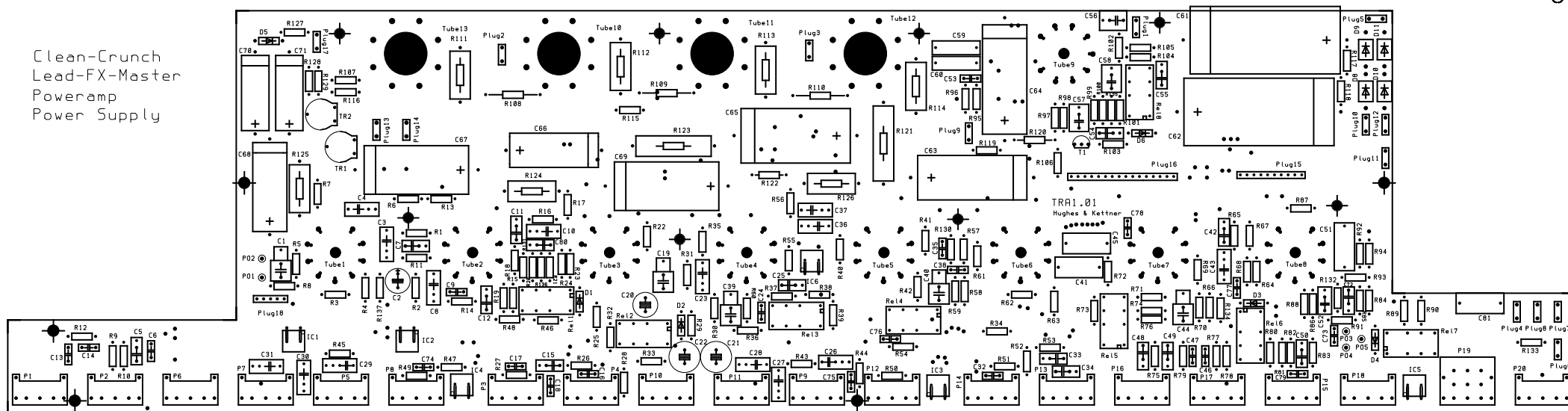
Hughes & Kettner		Date 23.1.97
Title TRIAMP Fuse Board		
Page K	Checked BY	Date



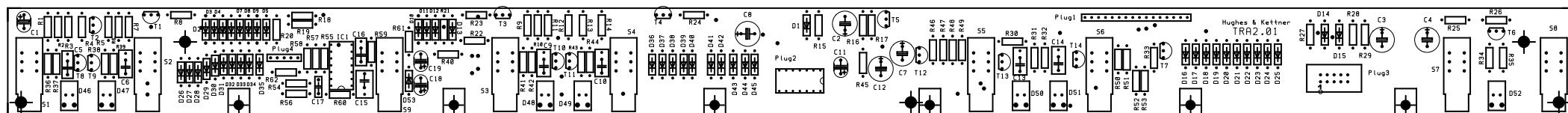
Hughes & Kettner		Date 24.1.97
Title TRIAMP Loopboard		
Page L	Checked BY	Date

2 Bestückungspläne/ component parts

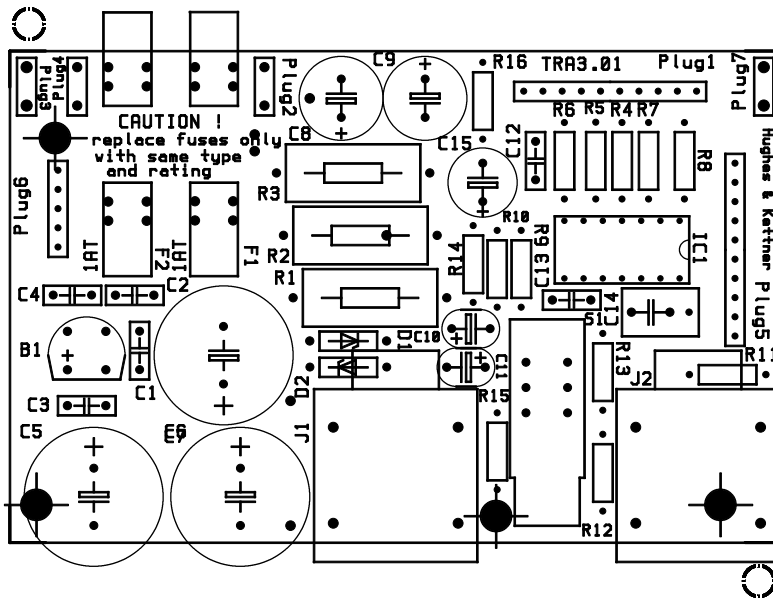
Clean-Crunch
Lead-FX-Master
Poweramp
Power Supply

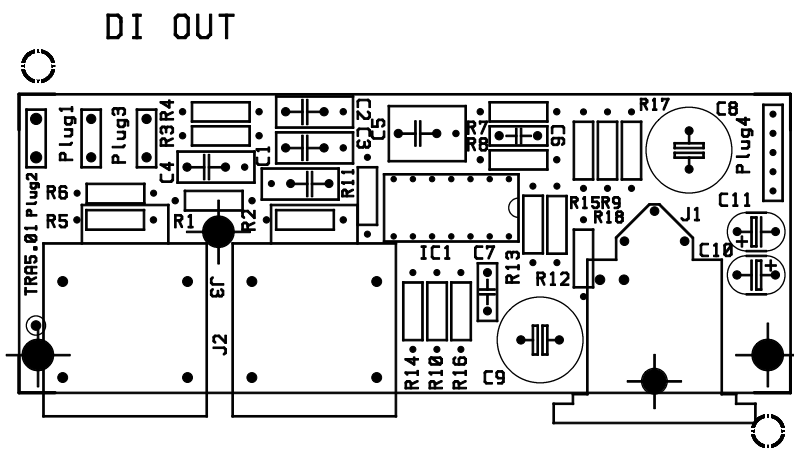


Tight Filter
Switch Board



Power Supply / FX Buffer

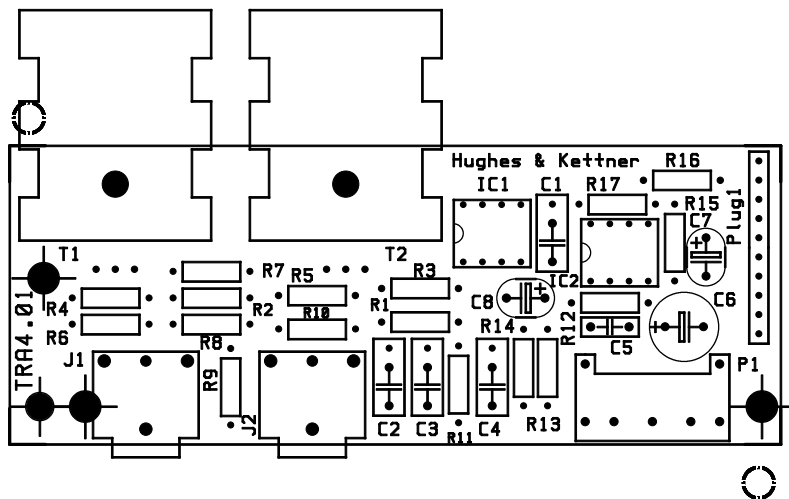




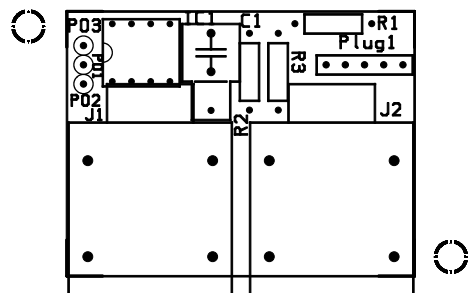
The diagram shows a PCB layout for a device, likely a radio receiver or amplifier. Key components and their locations are as follows:

- Top Section:** Two large rectangular cutouts at the top edge.
- Left Edge:** A circular feature labeled "TRA4.01" near the top, and a power plug labeled "P1" near the bottom.
- Top-Right Section:** Labeled "Hughes & Kettner". Contains IC1, IC2, C1, R17, R16, R15, C7, and a "Plug1" connector.
- Center Section:** Contains T1, R4, R6, J1, R7, R5, R2, R10, R3, T2, R1, R14, R12, C8, C2, C3, R11, C4, R13, C5, and C6.
- Bottom Section:** Contains J2, R9, and R8.

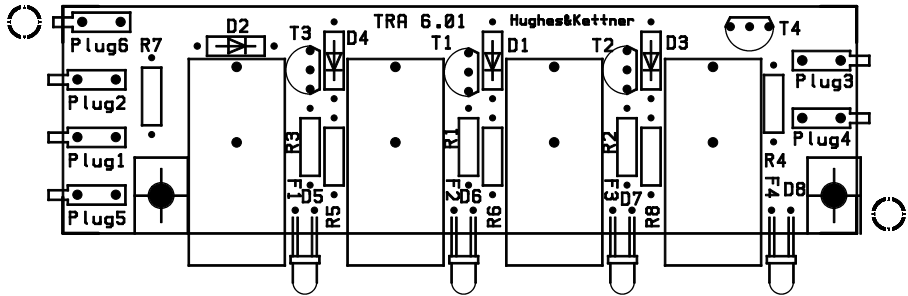
The layout includes numerous solder points and connection lines, indicating a complex electronic circuit.



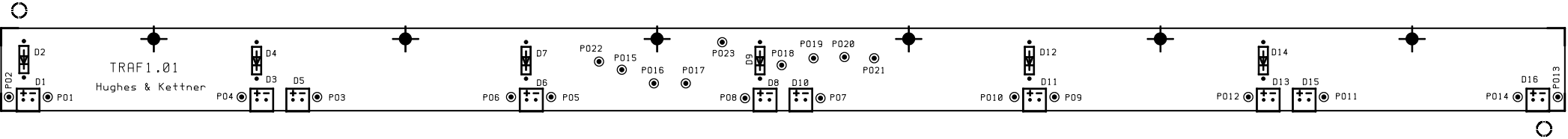
LOOPBOARD



FUSE BOARD



Footswitch



3 Bestellnummern/ order no. Triamp

no.	schematic position	name	specs	part no.
1	mains switch	switch	230V/ illum.:117V lampe	E 950 030
2	standby switch	switch	230V/ illum.:117V lampe	E 950 030
3	mains transformer	transformer	230V/ 117V/ 100V	E 958 056
4	output transformer	transformer	ÜA100101	E 958 057
5	inductor	coil	ND 60	E 958 058
	main board			
6	P1 (AMP1 gain A)	pot	1 M Ω log, mono	E 914 047
7	P2 (AMP1 gain B)	pot	250 K Ω log, mono	E 914 044
8	P3 (AMP2 gain A)	pot	1 M Ω log, mono	E 914 047
9	P4 (AMP2 gain B)	pot	250 K Ω log, mono	E 914 044
10	P5 (AMP1 treble)	pot	250 K Ω lin, mono	E 914 043
11	P6 (AMP1 bass)	pot	1 M Ω log, mono	E 914 047
12	P7 (AMP1 mid)	pot	25 K Ω log, mono	E 914 048
13	P8 (AMP1 master)	pot	500 K Ω lin, mono	E 914 030
14	P9 (AMP2 treble)	pot	250 K Ω log, mono	E 914 044
15	P10 (AMP2 bass)	pot	1 M Ω log, mono	E 914 047
16	P11 (AMP2 mid)	pot	25 K Ω lin, mono	E 914 041
17	P12 (AMP2 master)	pot	250 K Ω log, mono	E 914 044
18	P13 (AMP3 gain B)	pot	250 K Ω log, mono	E 914 044
19	P14 (AMP3 gain A)	pot	500 K Ω log, mono	E 914 042
20	P15 (AMP3 treble)	pot	250 K Ω lin, mono	E 914 043
21	P16 (AMP3 bass)	pot	1 M Ω log, mono	E 914 047
22	P17 (AMP3 mid)	pot	25 K Ω lin, mono	E 914 041
23	P18 (AMP3 master)	pot	250 K Ω log, mono	E 914 044
24	P19 (fx- mix)	pot	500 K Ω log, stereo	E 914 046
25	P20 (master)	pot	250 K Ω lin, mono	E 914 043
26	P21 (presence)	pot	1 M Ω log, mono	E 914 047
27	D5	diode	1N4007	E 934 023
28	D8- D11	diode	1N5404/ 3A/ 400V	E 934 025
29	C61, C62	hv cap	220u/ 350V ax	E 926 016
30	C63, C64	hv cap	47u/ 350V ax	E 926 015
31	C65,	hv cap	33u/ 500V ax	E 926 014
32	C67, C69	hv cap	33u/ 450V ax	E 926 009
33	C66, C68	hv cap	15u/ 450V ax	E 926 006
34	TR1	trim pot	250 Ω	E 915 010
35	TR2 (EL34)	trim pot	50 K Ω	E 915 012
36	TR2 (6L6GC)	trim pot	100 K Ω	E 915 005
37	Rel 1- Rel 8	relay	TFA 002/ 24Vdc	E 946 008
38	IC1- IC8	opto coupler	LT3011/2 ACC	E 940 037
39	T1	transistor	BF245B	E 938 028
40	Tube1	tube	ECC83/ 12AX7A highgrade	E 944 008
41	Tube2- Tube9	tube	ECC83/ 12AX7A	E 944 007
42	tube socket	socket	9pin/ pcb mount	E 944 003
43	Tube4- Tube7	EL34B	DSS matched **	E 944 017
44	Tube4- Tube7	6L6GC	DSS matched **	E 944 005
45	tube socket	socket	8pin/ pcb mount	E 944 004
46	tube shielding	shielding	for 9pin socket	E 944 010
			** DSS matched quartets available; to order a single tube, please state the PC value indicated on the tube	

no.	schematic position	name	specs	part no.
	switch board			
1	S1- S9	switch	2 x um	E 950 001
2	T1- T4, T6, T7, T12	transistor	BC640	E 938 014
3	T5, T8- T11, T13, T14	transistor	BC546B	E 938 009
4	D46, D47, D52	LED green	5 mm/ green/ flat top	E 936 006
5	D48, D49	LED yellow	5 mm/ yellow/ flat top	E 936 008
6	D50, D51	LED red	5 mm/ red/ flat top	E 936 007
7	IC1	OP Amp	MC33079P	E 940 051
	fx board			
8	S1	switch	2 x um	E 950 001
9	B1	rectifier	B80C1500	E 934 027
10	D1, D2	z- diode	15V/ 1,3W	E 934 004
11	IC 1	OP Amp	TL074	E 940 019
12	J1, J2	jack	¼" phone jack mono	E 952 038
	reverb board			
13	P1	pot	10 KΩ lin, mono	E 914 033
14	IC 1	OP Amp	TL081	E 940 020
15	IC 2	OP Amp	TL072	E 940 018
16	T1	transistor	BD237	E 938 019
17	T2	transistor	BD238	E 938 022
18	J1, J2	jack	RCA/ cinch T- 709	E 952 045
	loop board			
19	IC 8	OP Amp	NE5532A	E 940 004
20	J1, J2	jack	¼" phone jack mono	E 952 038
	DI board			
21	IC 1	OP Amp	TL074	E 940 019
22	J1	jack	XLR jack	E 952 054
23	J2, J3	jack	¼" phone jack mono	E 952 038
	fuse board			
24	D5- D8	LED	LED/ red/ standard	E 936 003
25	T1- T4	transistor	BC546B	E 938 009
26	F1- F4	fuse holder	print, with fuse carrier	E 948 003
	stage board			
27	D1- D6	diode	1N4007	E 934 023
28	LED green	LED	LED/ green/ standard	E 936 010
29	LED yellow	LED	LED/ yellow/ standard	E 936 012
30	LED red	LED	LED/ red/ standard	E 936 011
31	S1- S6	switch	momentary switch DS133	E 950 010
32	S2 (fx on)	switch	tristage	E 950 011

4 Bestellinformationen/ ordering informations

Bestellinformationen und Ersatzteilbestellungen

Deutschland:

Music & Sales

Leipziger Straße 3

D- 66606 St. Wendel

Service

Tel.: 06851/ 905 333

Fax: 06851/ 905 100

E-mail: service@musicandsales.com

Technische Fragen

Tel.:06851/ 905 330

E-mail: service@musicandsales.com

Sparepart orders and technical questions for all other countries:

contact your local distributor or

Hughes & Kettner

Leipzigerstr. 3

66606 St. Wendel

Germany

Tel.: +49 6851/905 210

Fax: +49 6851/905 200

Email: intlservice_handk@musicandsales.com

5 Technische Daten/ technical data

Triamp

Eingänge/ inputs:

Input:	Buchse/ connection:	¼ phone jack
	Bauart Eingang/ input type:	unbalanced
	Eingangsimpedanz/ input impedance:	1 MΩ
	Empfindlichkeit/ sensitivity:	- 10 dB
	max. Eingangspegel/ max.input level:	+10 dB
FX- Return:	Buchse/ connection:	¼ phone jack
	Bauart Eingang/ input type:	unbalanced
	Eingangsimpedanz/ input impedance:	47 kΩ
	Empfindlichkeit/ sensitivity:	0 dB (- 10dB switchable)
	max. Eingangspegel/ max.input level:	+6 dB

Ausgänge/ outputs:

FX- Send:	Buchse/ connection:	¼ phone jack
	Bauart Ausgang/ output type:	unbalanced
	Ausgangsimpedanz/ output impedance:	1 kΩ
	Ausgangspegel/ output level:	0 dB (- 10dB switchable)
	max. Ausgangspegel/ max.output level:	+6 dB
DI- Out:	Buchse/ connection:	XLR
	Bauart Ausgang/ output type:	balanced
	Ausgangsimpedanz/ output impedance:	400 Ω
	min. Ausgangspegel/ min.output level:	- 40 dB
	max. Ausgangspegel/ max.output level:	- 10 dB

Power amp:

100 Watts (RMS) into 4 Ω @ k = 1%
100 Watts (RMS) into 8 Ω @ k = 1%
80 Watts (RMS) into 16 Ω @ k = 1%

Bias level:

factory setting: 30 mA per tube (EL34/ 6L6GC)
allowed range: 28 mA- 38 mA

Speaker out:

Anzahl/ no.: 4 x Klinke/ ¼ phone jack
Impedanz/ impedance: 4 Ω / 8 Ω / 16 Ω

Speaker (Combo):

no.\ size: 2 x 12"
type \ name: Celestion Rock Driver Pro 100
impedance: 2 x 8 Ohm
power handling: 100 Watt
power handling programm: 200 Watt

Allgemeine elektrische Daten/ general electrical data:

Schutzklasse I/ protection class 1 (protectively earthed)

Netzspannung/ mains voltage: 230V	Netzsicherung/ fuse: T 2,5 A
Netzspannung/ mains voltage: 117V	Netzsicherung/ fuse: T 5 A oder SB 5 A
Netzspannung/ mains voltage: 100V	Netzsicherung/ fuse: T 6,3 A
	Anode fuse: 1 x T 1 A
	Cathode fuse: 4 x T 200 mA

max. Stromaufnahme/ max. current:	1,9 A @ 230V
max. Leistungsaufnahme/ max. power consumption:	440 VA
Netzspannungsbereich/ mains voltage range:	+/- 10 %
Umgebungstemperaturbereich/ temperatur range:	- 10 °C bis + 60 ° C
interne Sicherungen/ internal fuses:	2 x T 1 A (low voltage)

Allgemeine mechanische Daten/ general mechanical data:

Combo:

Abmessungen/ sizes: Breite/ width: 540 mm Höhe/ height: 740 mm Tiefe/ depth: 295 mm
Gewicht/ weight: 40 kg

Head:

Abmessungen/ sizes: Breite/ width: 290 mm Höhe/ height: 740 mm Tiefe/ depth: 275 mm
Gewicht/ weight: 27 kg