

SERVICE DOCUMENTATION



Tube 50

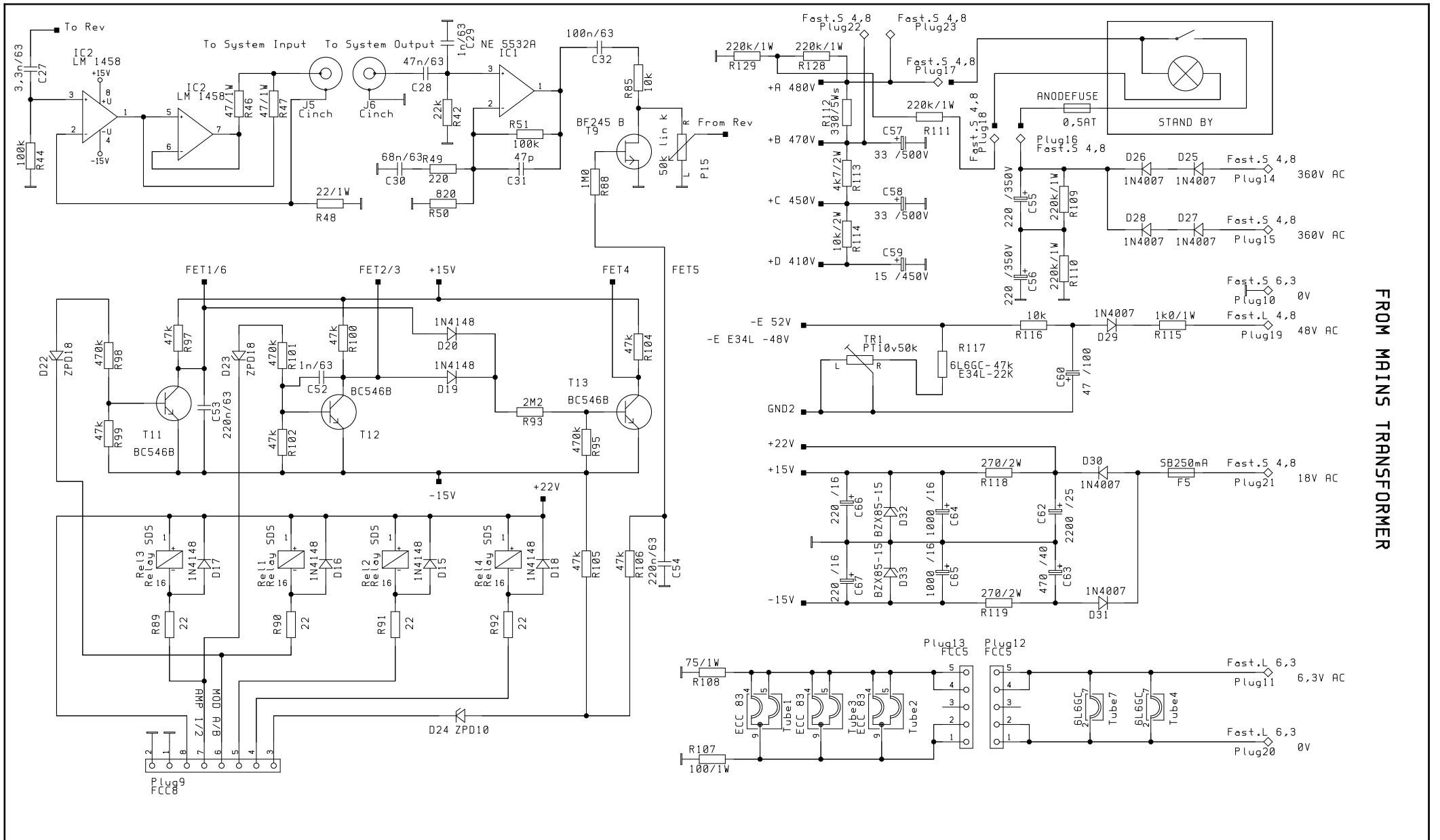
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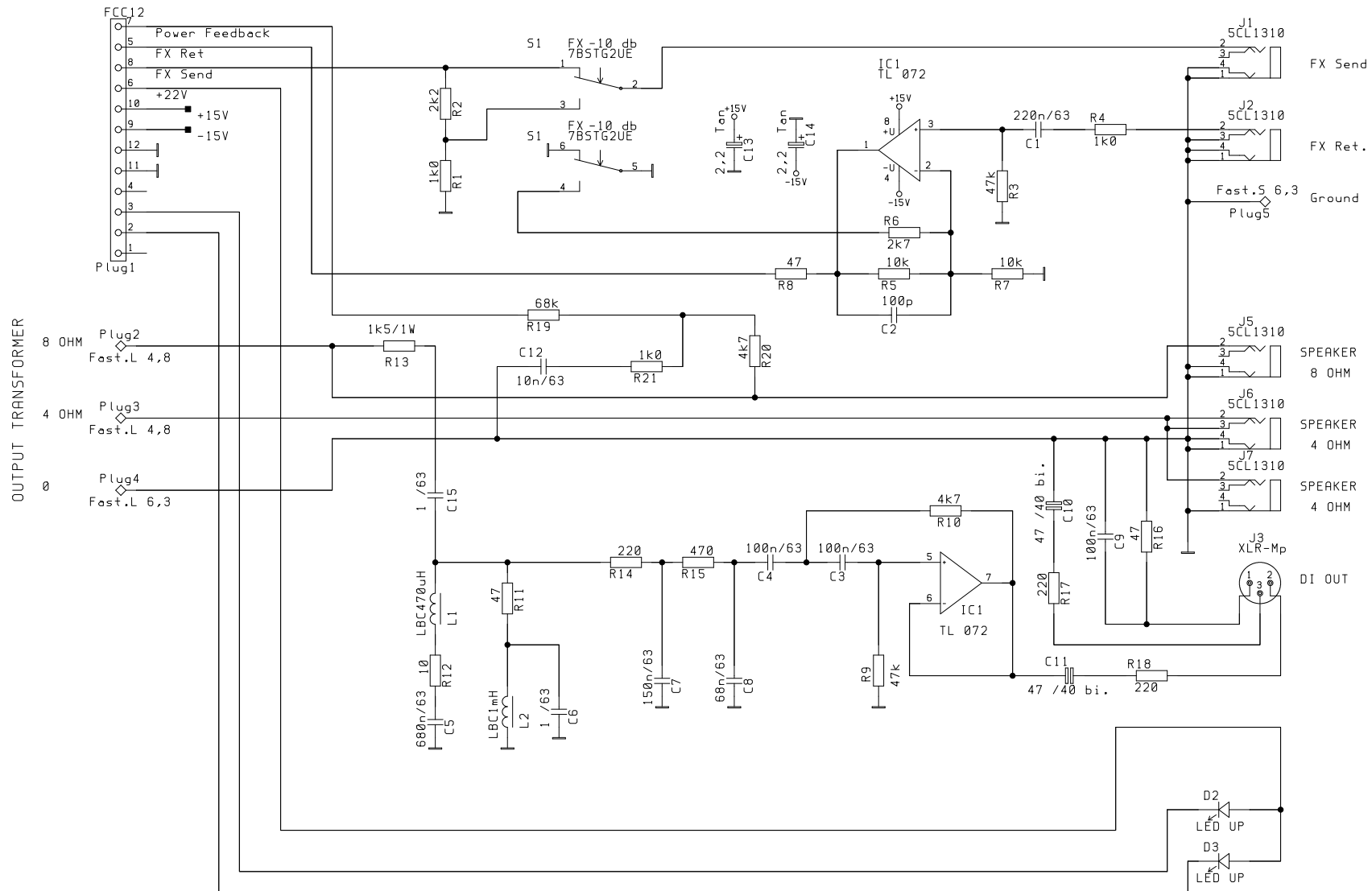
GD/ 18.11. 99

1 Schaltpläne/ schematics

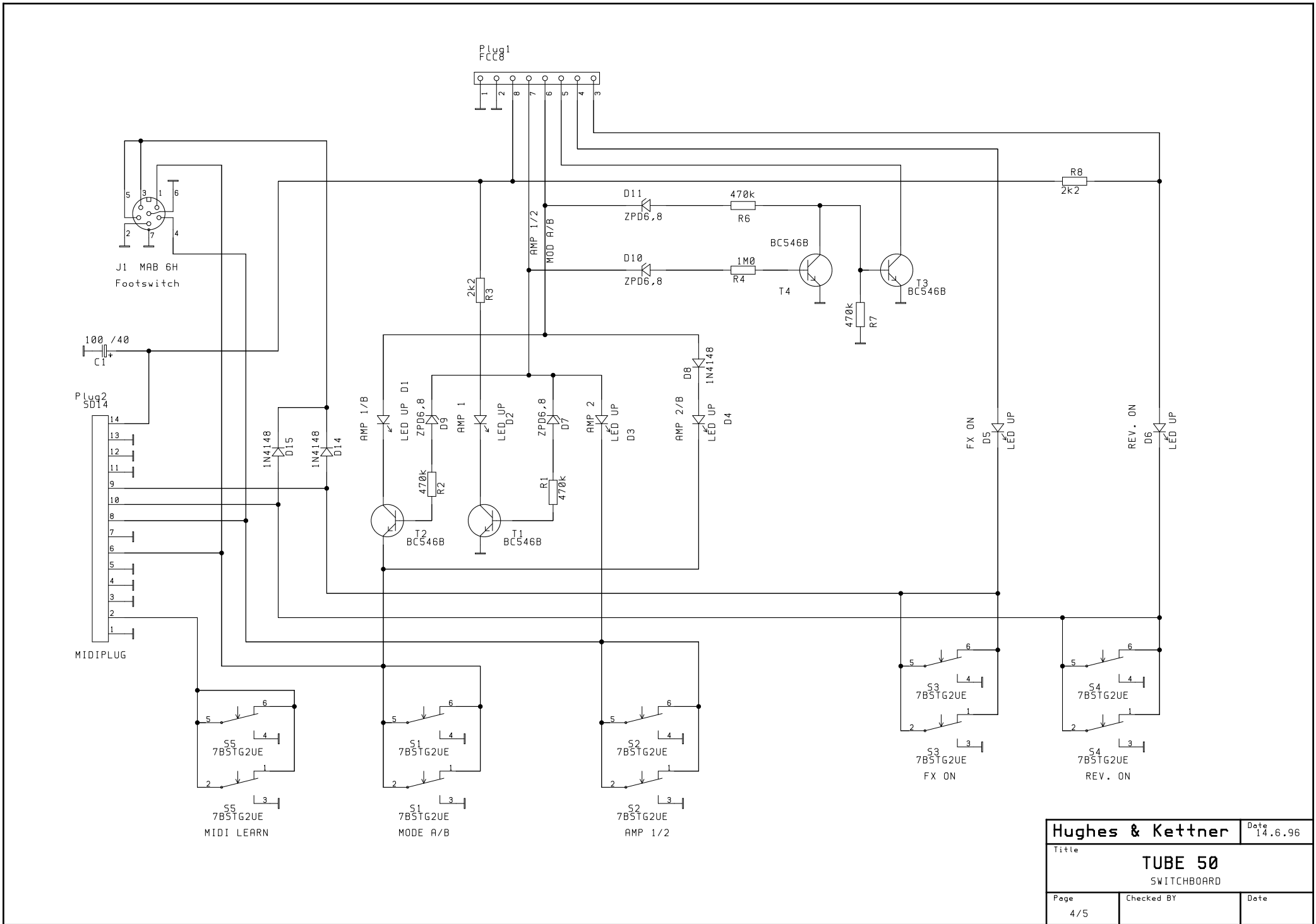
FROM MAINS TRANSFORMER



Hughes & Kettner		Date
		14.6.96
Title		
TUBE 50		
POWERSUPPLY /REV.AMP		
Page	Checked BY	Date
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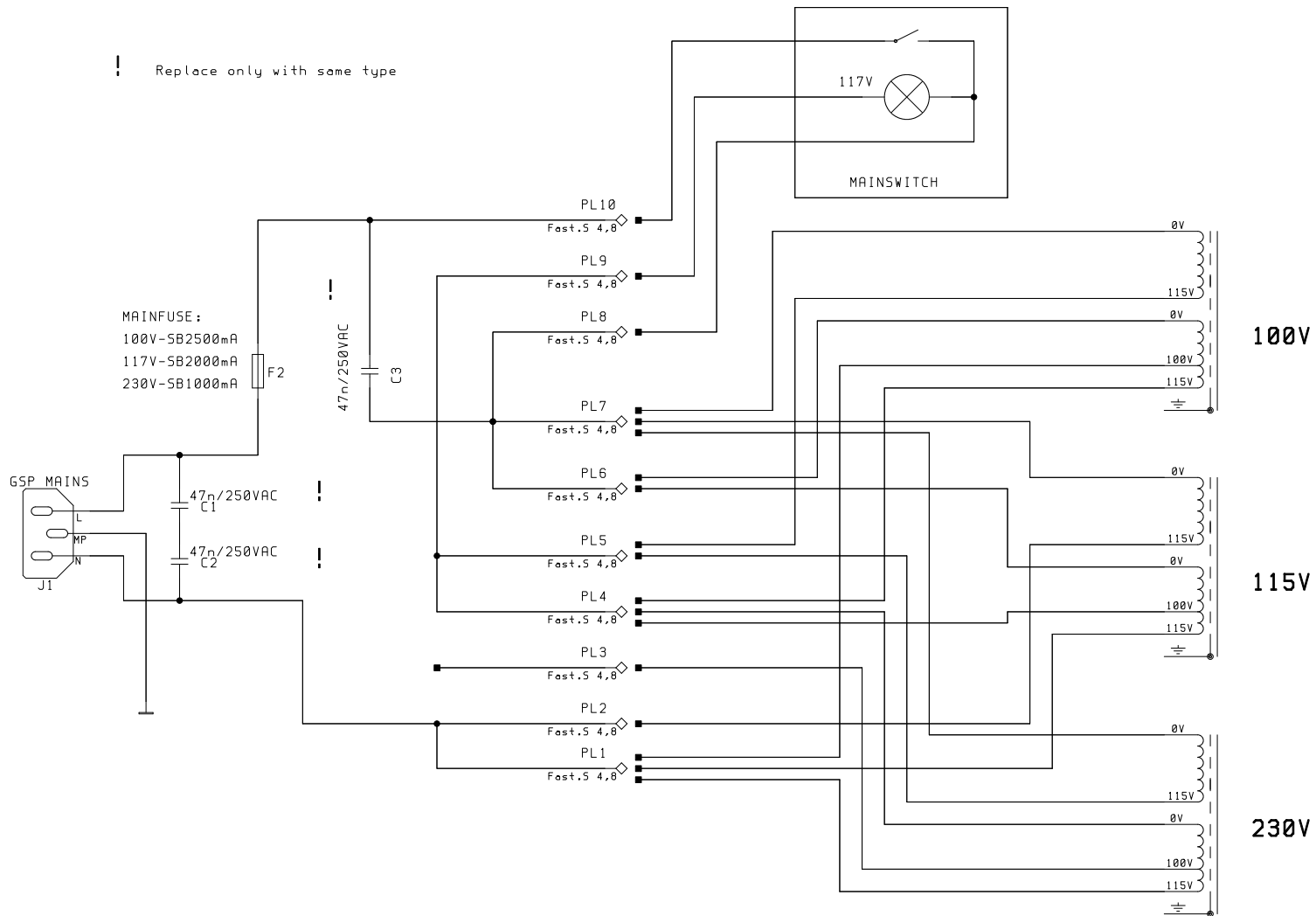


Hughes & Kettner		Date 14.6.96
Title TUBE 50 FX-DI OUT		
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Hughes & Kettner		Date 14.6.96
Title TUBE 50 SWITCHBOARD		
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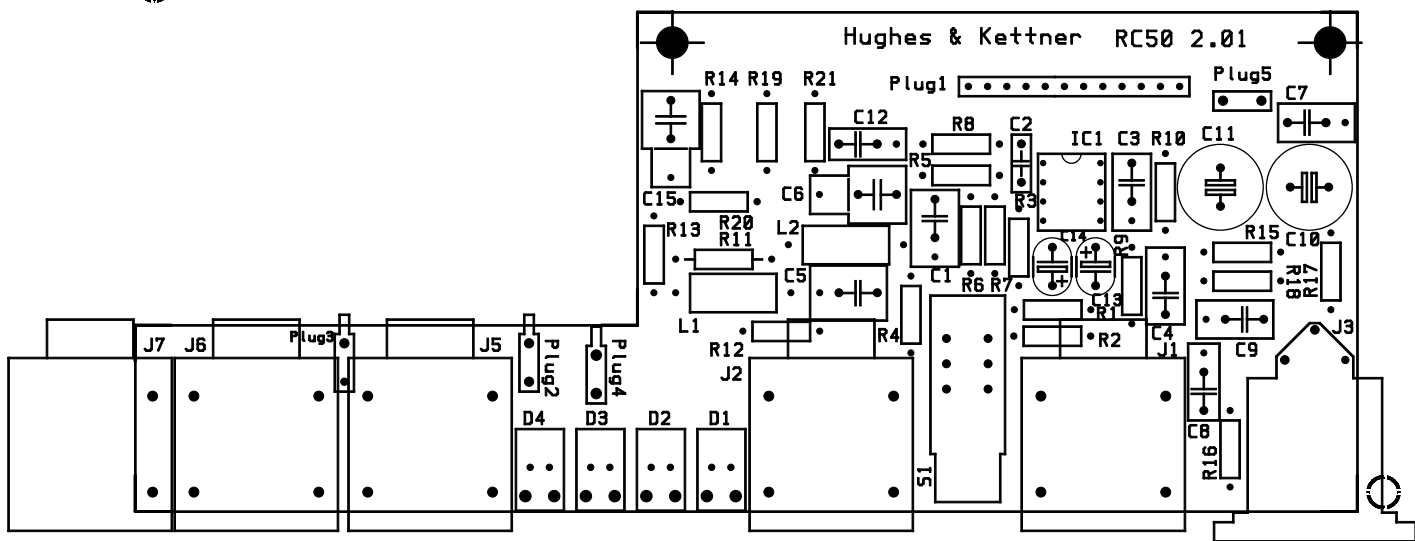


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Title		
TUBE 50 MAINBOARD		
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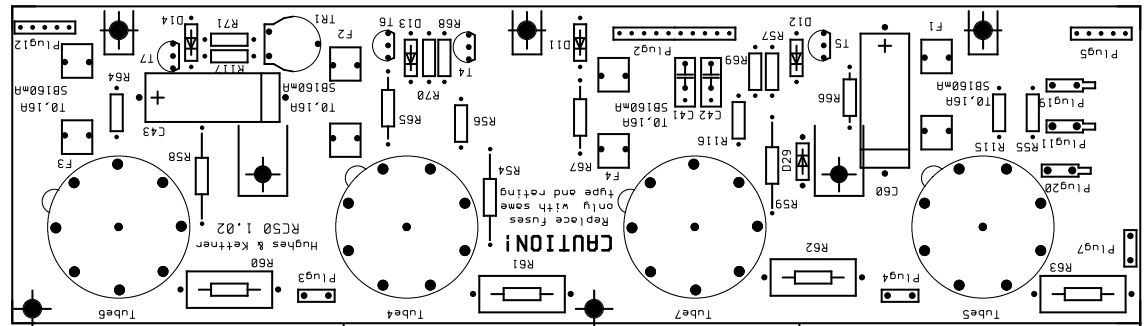
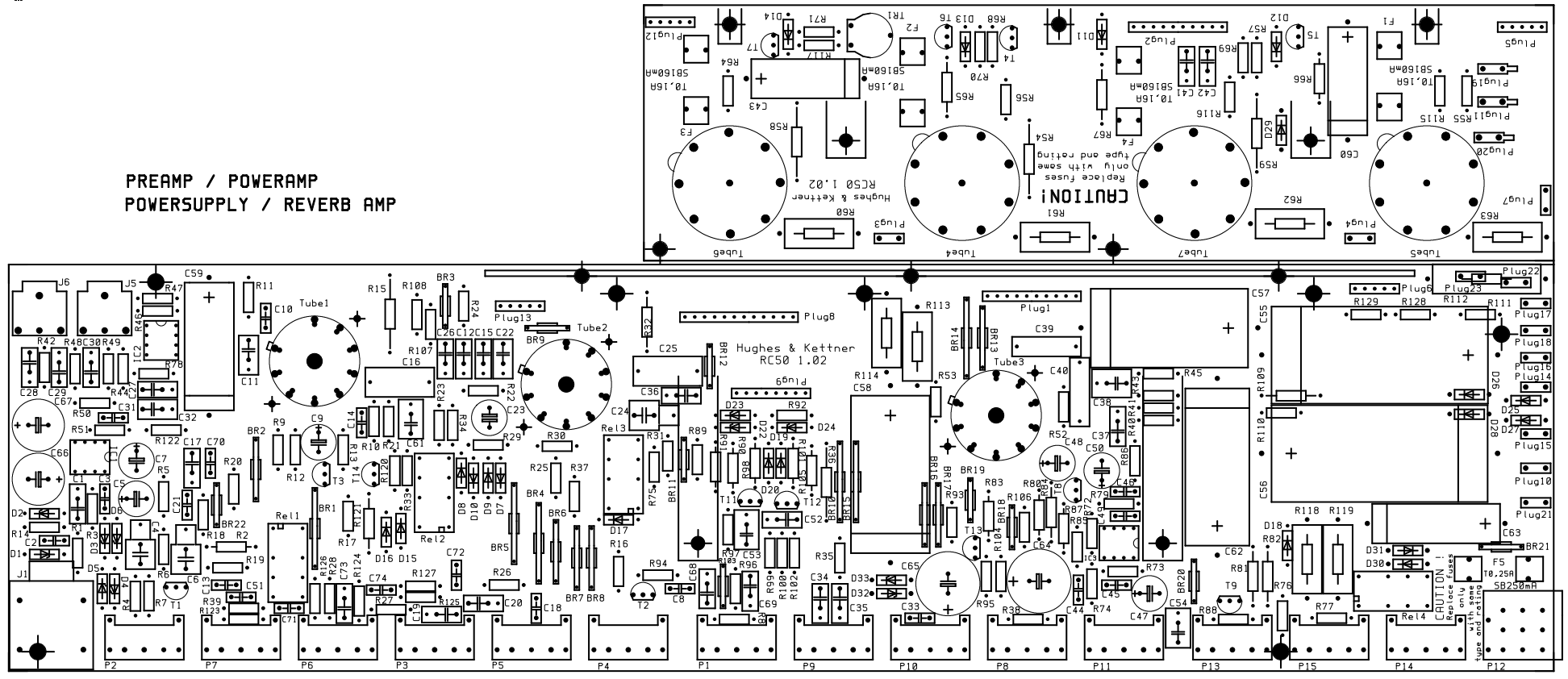
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2 Bestückungspläne/ component parts

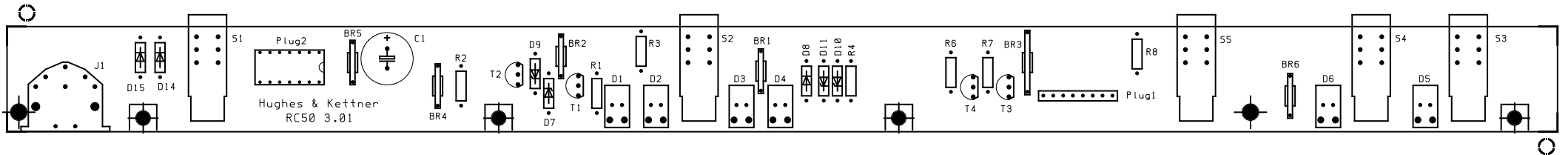
FX - DI OUT



PREAMP / POWERAMP
 POWERSUPPLY / REVERB AMP



SWITCHBOARD



3 Bestellnummern/ order no. Tube 50 Combo + Head

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 958 088
4	output transformer	transformer	TAD TF- 125	E 958 085
5	P1 (CH2 gain A/ B)	pot	250 K Ω log, mono	E 914 044
6	P2 (CH1 volume A)	pot	1 M Ω log, mono	E 914 047
7	P3 (CH1 bass)	pot	1 M Ω log, mono	E 914 047
10	P4 (CH1 treble)	pot	250 K Ω lin, mono	E 914 043
11	P5 (CH1 mid)	pot	25 K Ω lin, mono	E 914 041
12	P6 (CH1 master B)	pot	250 K Ω log, mono	E 914 044
13	P7 (CH1 gain B)	pot	1 M Ω log, mono	E 914 047
14	P8 (CH2 treble)	pot	250 K Ω lin, mono	E 914 043
15	P9 (CH2 bass)	pot	1 M Ω log, mono	E 914 047
16	P10 (CH1 mid)	pot	25 K Ω lin, mono	E 914 041
17	P11 (CH2 master A/ B)	pot	250 K Ω log, mono	E 914 044
18	P12 (power amp)	pot	500 K Ω log, stereo	E 914 046
19	P13 (presence)	pot	500 K Ω lin, mono	E 914 030
20	P14 (fx- mix)	pot	50 K Ω log, mono	E 914 034
21	P15 (reverb)	pot	50 K Ω lin, mono	E 914 035
22	D25- D31	rectifier	1N4007	E 934 023
23	C55, C56	hv cap	220u/ 350V ax	E 926 016
24	C57, C58	hv cap	33u/ 500V ax	E 926 014
25	C59	hv cap	15u/ 450V ax	E 926 006
26	TR1	trim pot	50 K Ω	E 915 012
27	Rel1- Rel4	relay	24Vdc/ 2 x um	E 946 008
25	T1, T2, T3, T8, T9, T14	transistor	BF245B	E 938 028
26	T4- T7, T11- T13	transistor	BC546B	E 938 009
27	IC 1	OP amp	NE5532A	E 940 004
28	IC 2	OP amp	LM1458	E 940 011
29	IC 3	OP amp	TL072CN	E 940 018
30	Tube1- Tube3	tube	ECC83/ 12AX7A	E 944 007
31	tube socket	socket	9pin/ pcb mount	E 944 003
32	Tube4- Tube5	EL34B	DSS matched **	E 944 017
33	tube socket	socket	8pin/ pcb mount	E 944 004
34	J1	jack	1/4" phone jack mono	E 952 038
35	J5, J6	RCA jack	T- 709	E 952 045
			** DSS matched duos available; to order a single tube, please state the PC value indicated on the tube	
	switchboard			
36	S1 (amp mode)	switch	2 x um	E 950 001
37	S2 (channel select)	switch	2 x um	E 950 001
38	S3 (fx)	switch	2 x um	E 950 001
39	S4 (reverb)	switch	2 x um	E 950 001
40	S5 (midi learn)	switch	2 x um	E 950 001
41	J1	jack	MAB 6H	E 952 013
42	T1- T4	transistor	BC546B	E 938 009
	FX- DI board			
43	S1 (fx -10dB)	switch	2 x um	E 950 001
44	J1, J2,J5- J7	jack	1/4" phone jack mono	E 952 038

no.	schematic position	name	specs	part no.
45	J3	jack	XLR jack	E 952 054
46	IC 1	OP amp	TL072CN	E 940 018
47	J1, J2,J5- J7	jack	1/4" phone jack mono	E 952 038
	mains board			
48	J1	mains inlet	GSP	E 952 087
49	C1, C2	MKT cap Y2	47n/ 250V/ Y2*	E 920 121
50	C3	MKT cap X2	47n/ 250V/ X2*	E 920 059
			* replace only with same type	

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

Tube 50 Combo + Head

Eingänge/ inputs:

Input:	Buchse/ connection:	¼" phone jack
	Bauart Eingang/ input type:	unbalanced
	Eingangsimpedanz/ input impedance:	1 MΩ
	Empfindlichkeit/ sensitivity:	- 10 dB
	max. Eingangsspegel/ 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
	max. Eingangsspegel/ max.input level:	+20 dB

Ausgänge/ outputs:

FX- Send:	Buchse/ connection:	¼" phone jack
	Bauart Ausgang/ output type:	unbalanced
	Ausgangsimpedanz/ output impedance:	220 Ω
	Ausgangsspegel/ output level:	0 dB
	max. Ausgangsspegel/ max.output level:	+6 dB
DI Out:	Buchse/ connection:	XLR jack
	Bauart Ausgang/ output type:	unbalanced
	Ausgangsimpedanz/ output impedance:	220 Ω
	Ausgangsspegel/ output level:	-3 dB

Power amp:

50 Watts (RMS) into 4 Ω @ k = 1%

50 Watts (RMS) into 8 Ω @ k = 1%

Bias level:

factory setting: 30 mA per tube (EL34/ 6CA7/ KT77)

allowed range: 25 mA- 32 mA

Speaker out:

Anzahl/ no.: 3 x Klinke/ ¼" phone jack

Impedanz/ impedance: 4 Ω/ 8 Ω/ 16 Ω

Speaker(Combo):

no.\ size:	1 x 12"
type \ name:	Celestion Rock Driver Pro
impedance:	8 Ω
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 1 A
Netzspannung/ mains voltage: 117V	Netzsicherung/ fuse: T 2 A oder SB 2 A
Netzspannung/ mains voltage: 100V	Netzsicherung/ fuse: T 2,5 A
max. Stromaufnahme/ max. current:	0,8 A @ 230V (0,22 A Standby)
max. Leistungsaufnahme/ max. power consumption:	190 VA @ 4 Ω +8 Ω (50,6 VA Standby)
Netzspannungsbereich/ mains voltage range:	+/- 10 %
Umgebungstemperaturbereich/ temperatur range:	- 10 °C bis + 60 ° C
interne Sicherungen/ internal fuses:	2 x 160 mA tubes power amp 1 x 250 mA low voltage

Allgemeine mechanische Daten/ general mechanical data:

Combo:		
Abmessungen/ sizes: Breite/ width: 560 mm	Höhe/ height: 500 mm	Tiefe/ depth: 285 mm
Gewicht/ weight: 20,5 kg		
Head:		
Abmessungen/ sizes: Breite/ width: 690 mm	Höhe/ height: 270 mm	Tiefe/ depth: 270 mm
Gewicht/ weight: 18,5 kg		