

Dual

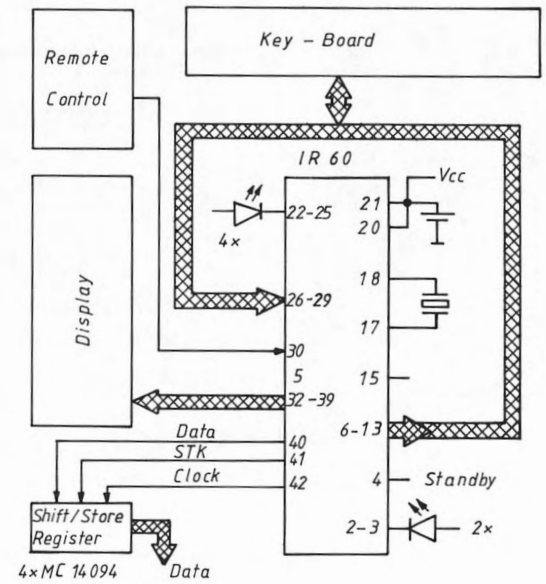
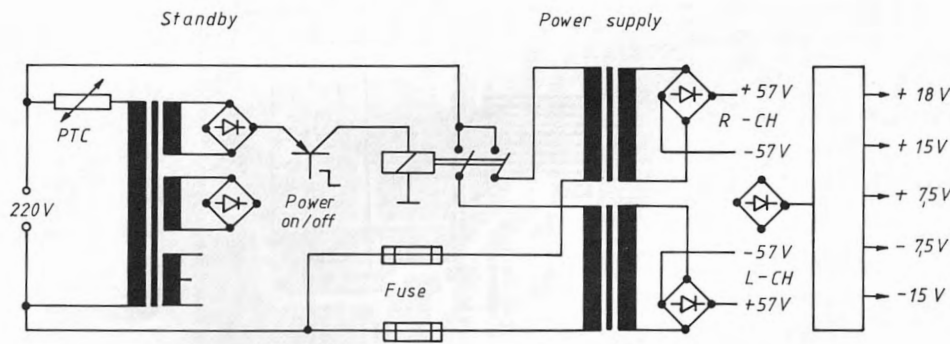
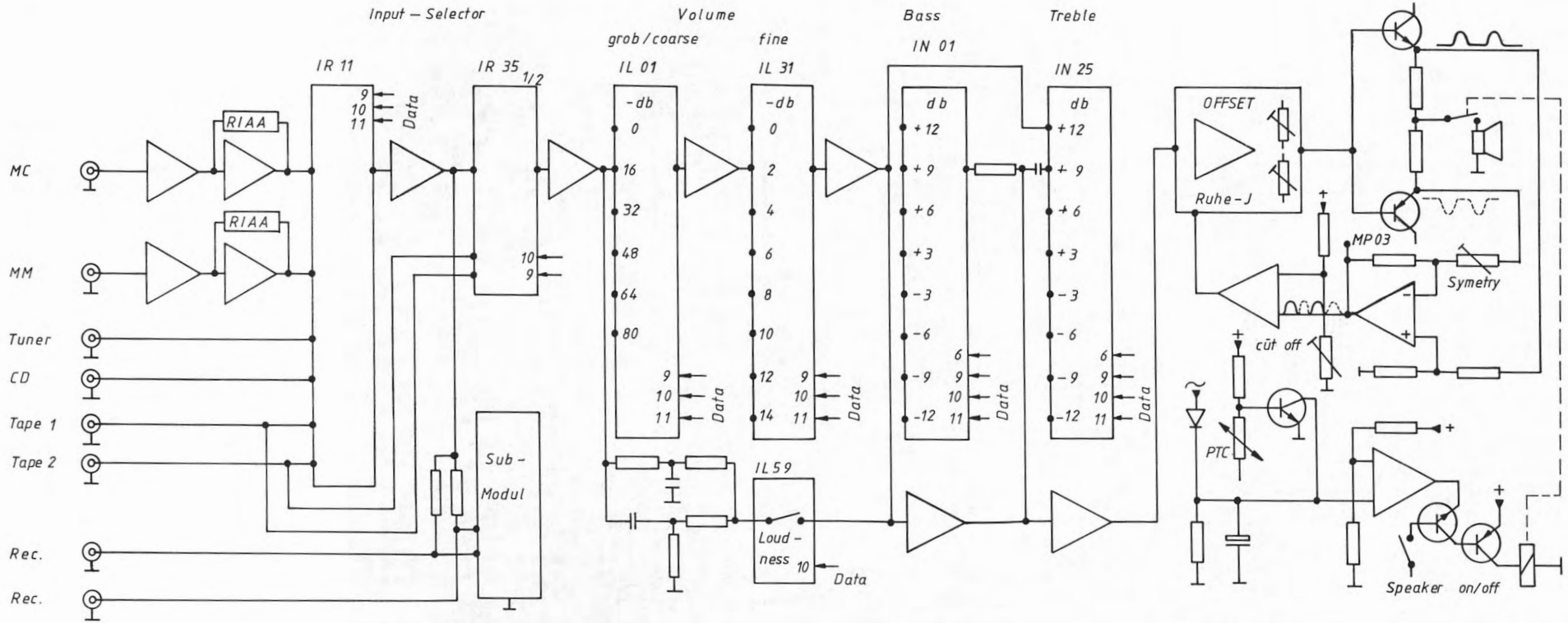
NEW TECH

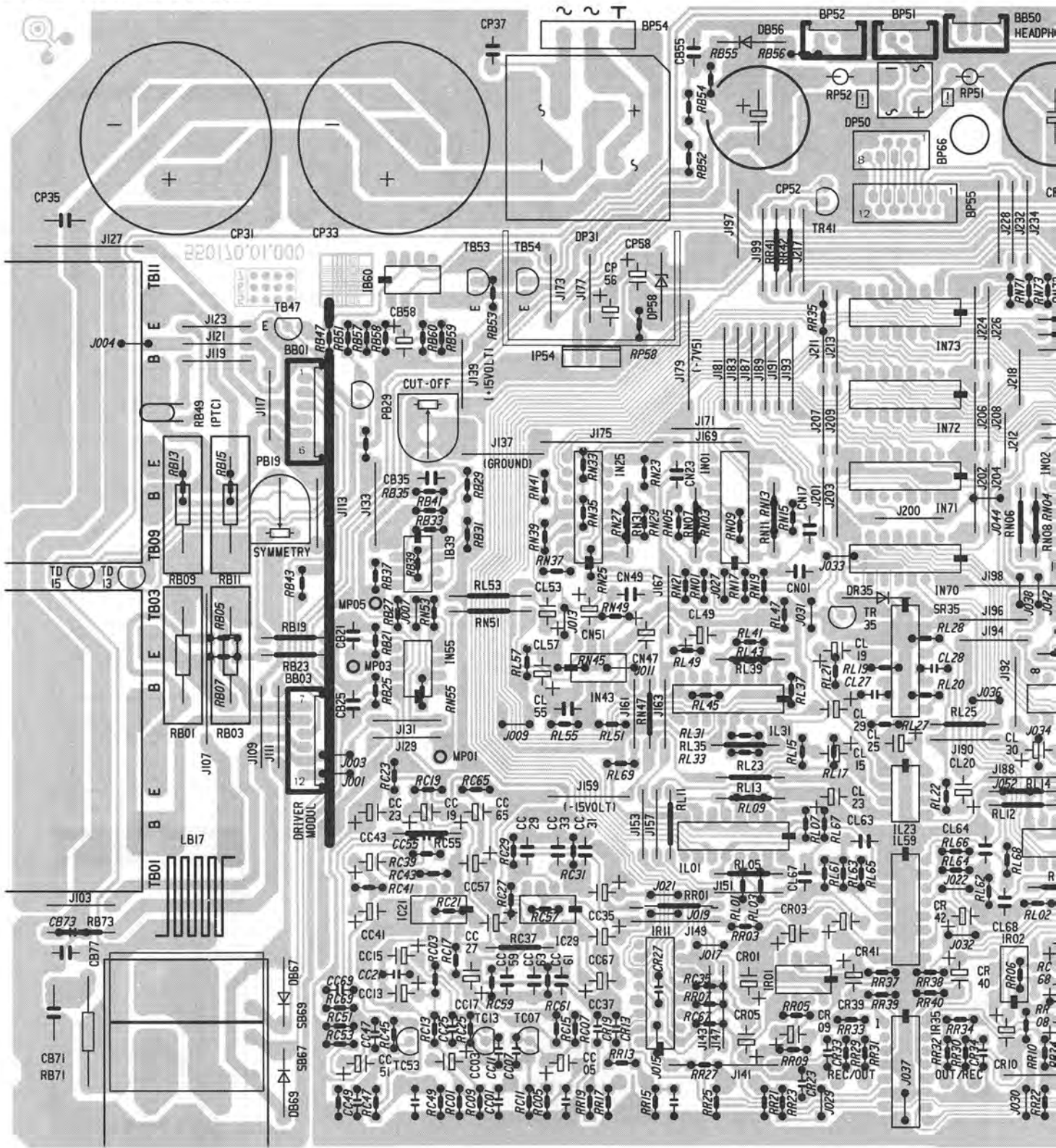


CV 440

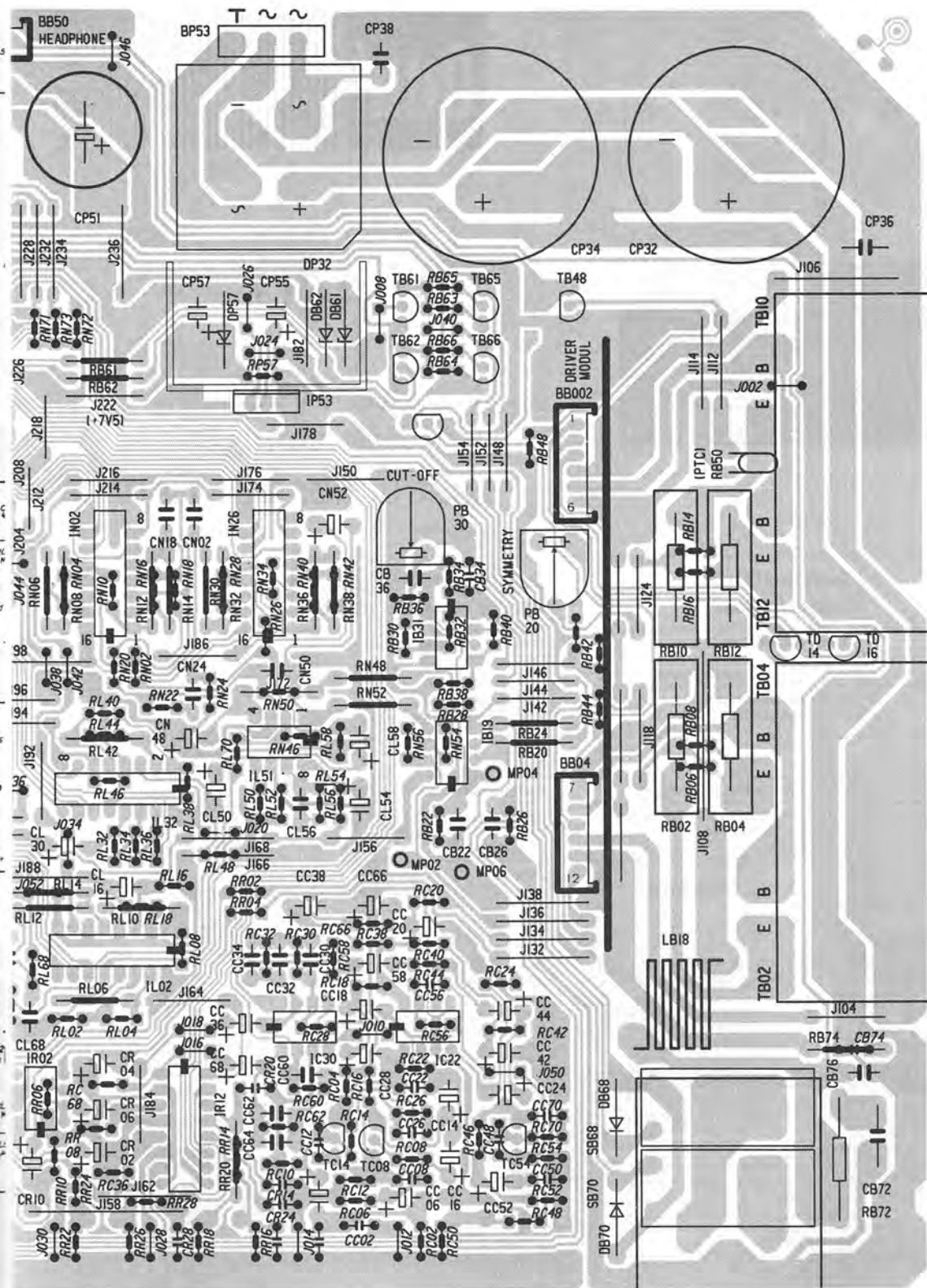
Service-Anleitung
Service Manual
Instructions de Service

Technische Daten (typische Werte)	Technical Data (typical value)	Caractéristiques techniques (valeur caractéristiques)	
Ausgangsleistung (DIN) Musikleistung Sinus-Dauerleistung	Rated output (DIN) Music power Rms continuous power output	Puissance de sortie (DIN) Puissance musicale Puissance efficace	8 Ω 4 Ω 2 × 185 W 2 × 200 W 2 × 145 W 2 × 200 W
Klirrfaktor (bei Nennleistung – 6 dB) 20 Hz 1 kHz 20 kHz	Harmonic distortion (continuous power – 6 dB) 20 Hz 1 kHz 20 kHz	Taux de distortion (puissance efficace – 6 dB) 20 Hz 1 kHz 20 kHz	0,003 % 0,003 % 0,006 %
Leistungsbandbreite (DIN 45500)	Power band width (DIN 45500)	Bande passante (DIN 45500)	5 Hz–100 kHz
Übertragungsbereich 1 Watt–3 dB Tuner, CD, Tape, Video Phono MM/MC	Frequency response 1 Watt–3 dB Tuner, CD, Tape, Video Phono MM/MC	Bande passante 1 Watt–3 dB Tuner, CD, Tape, Video Phono MM/MC	3 Hz–270 kHz 10 Hz– 50 kHz
Eingänge Tuner, CD, Tape 1, Tape 2/Video Phono MM Phono MC	Inputs Tuner, CD, Tape 1, Tape 2/Video Phono MM Phono MC	Entrées Tuner, CD, Tape 1, Tape 2/Video Phono MM Phono MC	280 mV/47 kΩ 3 mV/47 kΩ 250 μV/ 5 kΩ
Ausgänge Druckklemmen für zwei Laut- sprecherpaare, Ausgang 1 und Ausgang 2 schaltbar 1-Koaxialbuchse 1/4 inch für Kopfhörer 1-Line-Ausgang an Tape 1 1-Line-Ausgang an Tape 2/Video	Outputs Press-type terminal strips for two sets of speakers, output 1 and output 2 switched 1 coaxial jack 1/4 inch for headphone 1 Line output to Tape 1 1 Line output to Tape 2/Video	Sorties Barres a ressort pour deux paires de hauts-parleurs, sortie 1 et sortie 2 commutables 1 prise coaxiale de 1/4 inch le raccordement du casque-écouter 1 sortie Line sur la prise Tape 1 1 sortie Line sur la prise Tape 2/Video	8–16 Ohm 8–2000 Ohm 280 mV/2,5 kΩ 280 mV/2,5 kΩ
Fremdspannungsabstand (DIN 45500) bezogen auf Nennleistung Tuner, CD, Tape 1, Tape 2/Video Phono MM Phono MC bezogen auf 2 × 50 mW Tuner, CD, Tape 1, Tape 2, Monitor Phono MM Phono MC	Signal-to-Noise ratio (DIN 45500) related to nominal output Tuner, CD, Tape 1, Tape 2/Video Phono MM Phono MC related to 2 × 50 mW Tuner, CD, Tape 1, Tape 2, Monitor Phono MM Phono MC	Rapport/signal bruit (DIN 45500) rapporté à la nominale Tuner, CD, Tape 1, Tape 2/Video Phono MM Phono MC rapporté à 2 × 50 mW Tuner, CD, Tape 1, Tape 2, Monitor Phono MM Phono MC	100 dB 75 dB 62 dB 70 dB 68 dB 62 dB
Geräuschspannung Tuner, CD, Tape 1, Tape 2/Video Phono MM Phono MC	Noise voltage Tuner, CD, Tape 1, Tape 2/Video Phono MM Phono MC	Tension perturbatrice Tuner, CD, Tape 1, Tape 2/Video Phono MM Phono MC	103 dB 80 dB 70 dB
Übersprechdämpfung bei 1000 Hz zwischen den Kanälen zwischen den Eingängen	Cross-talk attenuation at 1.000 Hz between the channels between the inputs	Rapport de diaphonie à 1000 Hz entre les canaux entre les entrées	75 dB 75 dB
Dämpfungsfaktor (8 Ohm)	Damping factor (8 ohms)	Facteur d'amortissement (8 ohms)	2 kHz/180 20 kHz/160
Regelbereiche Volume (2 dB-Schritte) Pre Volume (2 dB-Schritte) Balance (2 dB-Schritte) Höhen (3 dB-Schritte) Bässe (3 dB-Schritte)	Control range Volume (2 dB steps) Pre Volume (2 dB steps) Balance (2 dB steps) Treble (3 dB steps) Bass (3 dB steps)	Plage de réglage Volume (pas de 2 dB) Pre Volume (pas de 2 dB) Balance (pas de 2 dB) Treble (pas de 3 dB) Bass (pas de 3 dB)	80 dB 20 dB 18 dB ± 12 dB ± 12 dB
Leistungsaufnahme Standby-Betrieb Nennleistung an 8 Ω	Power consumption Standby nominal power (8 Ω)	Consommation de puissance à vide puissance nominale (8 Ω)	ca. 5 W ca. 480 W
Netzspannungen	Line voltages	Tensions secteur	230 V

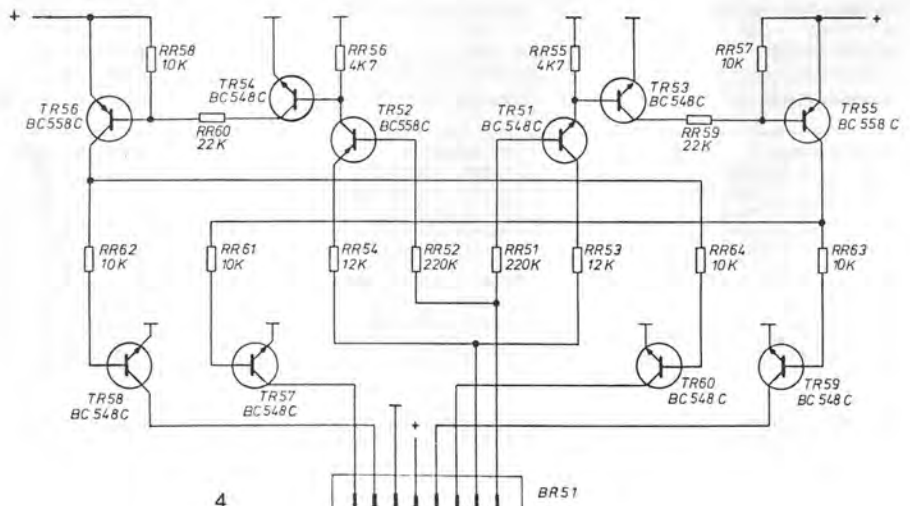
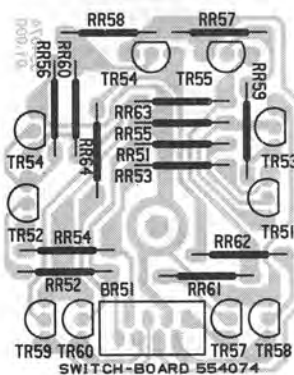


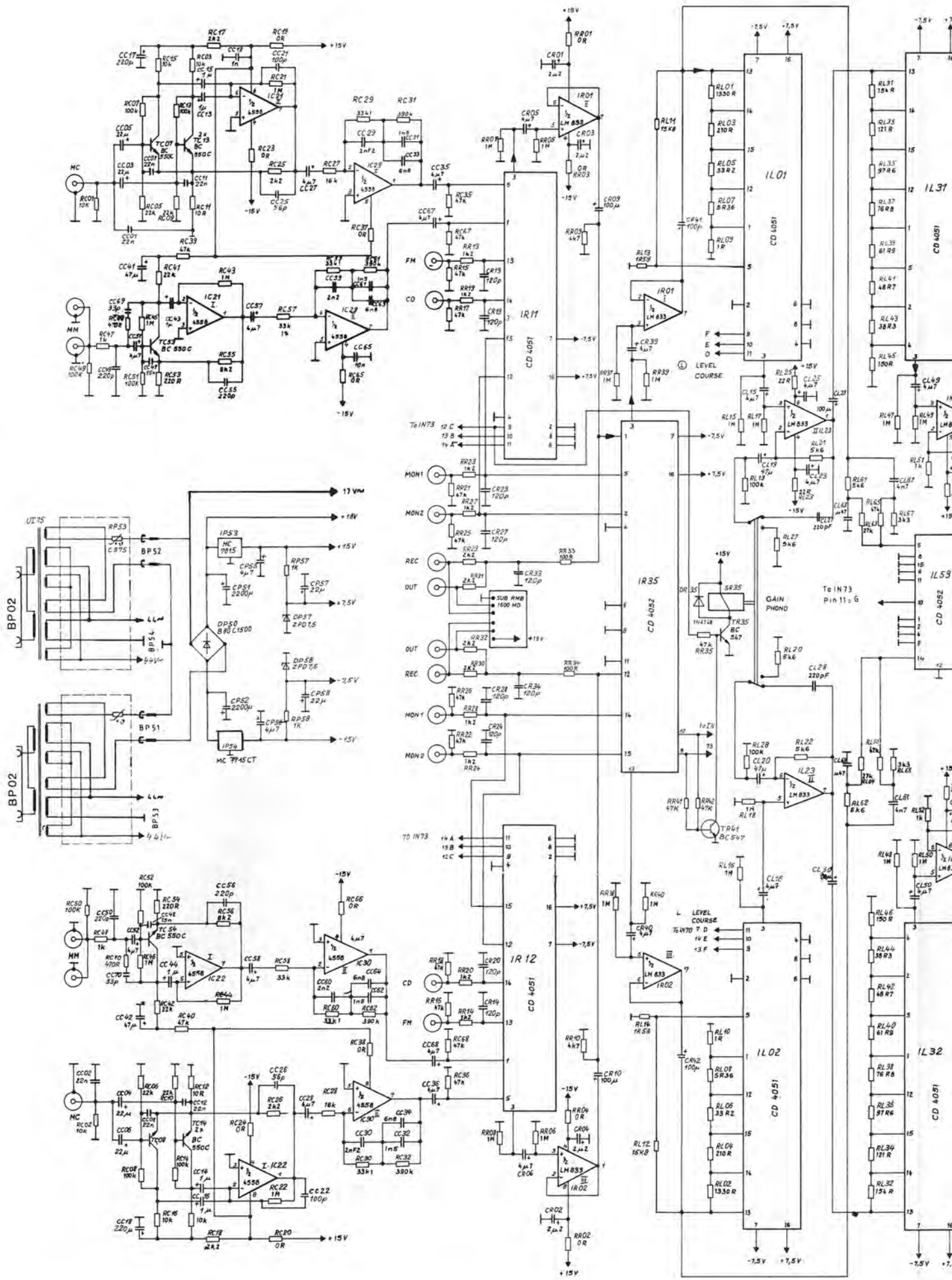


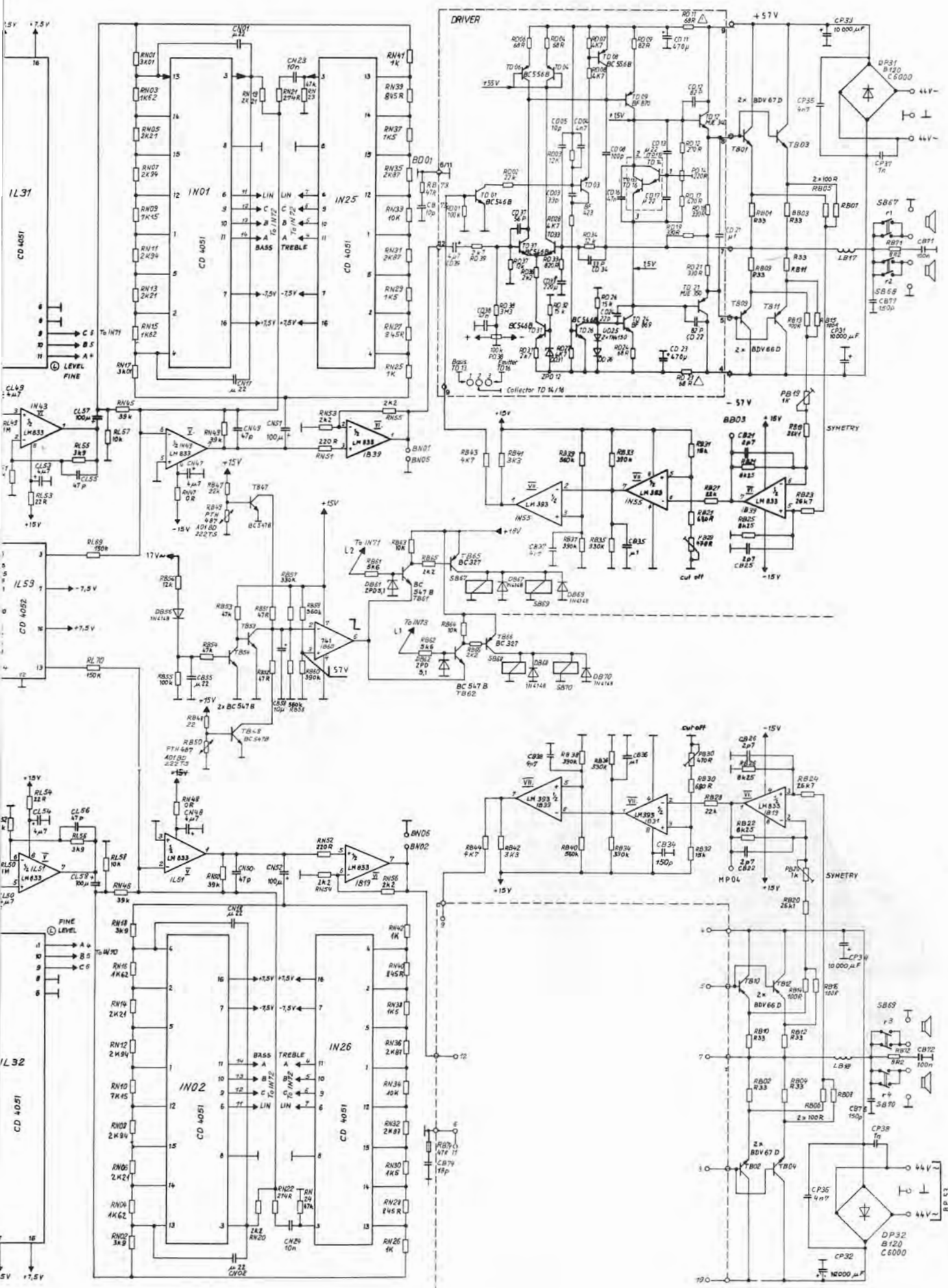
SUB
41
RH59
TR54
TR52
TR55

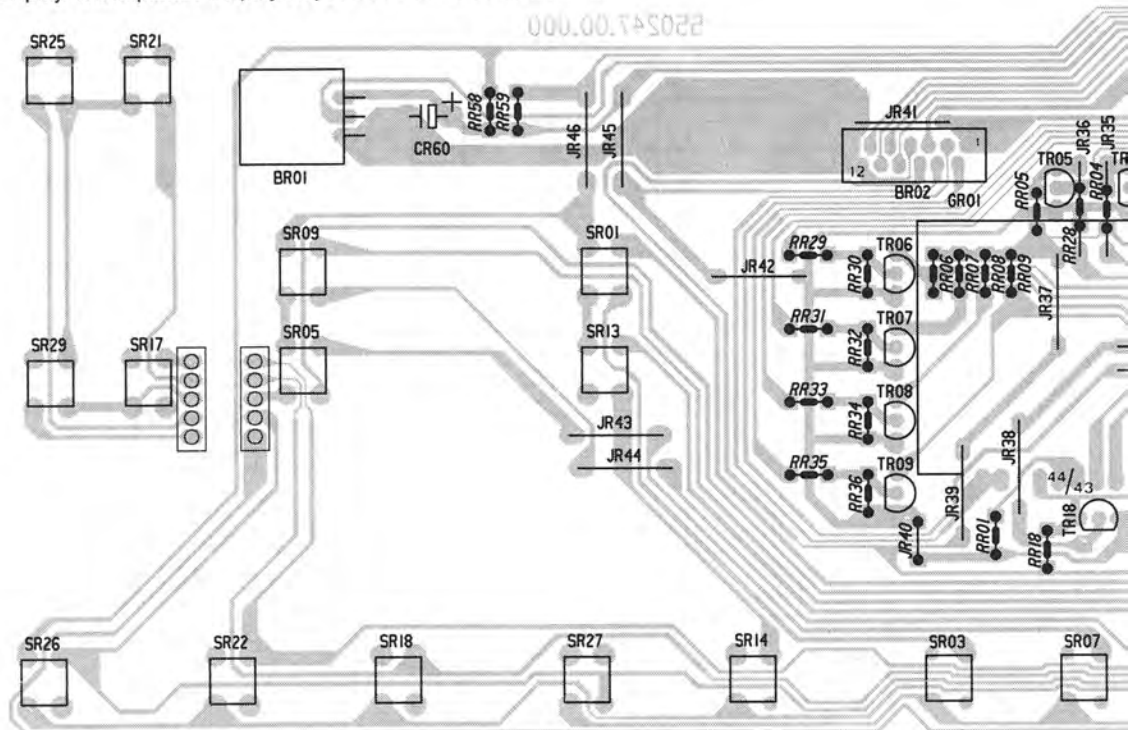


SUB RMB 1600 MD

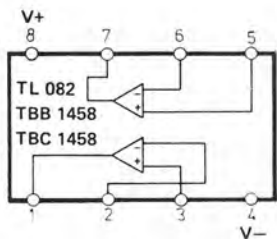
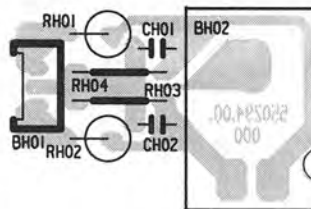
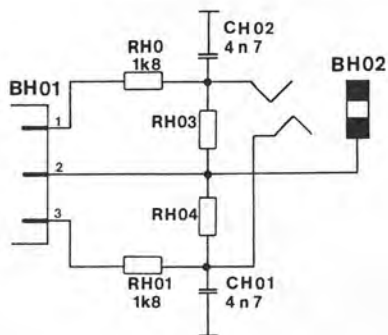




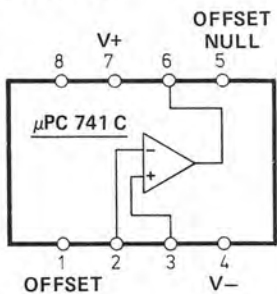




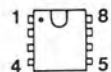
Kopfhörerplatte / Head phone board /
Platine de phones



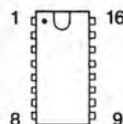
LM 393
LM 833
RC 4558



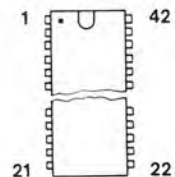
MC 1741



LM 393
LM 833
RC 4558

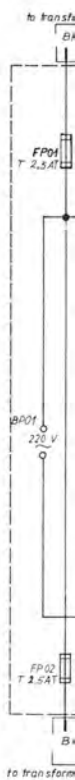


MC 14051
MC 14052

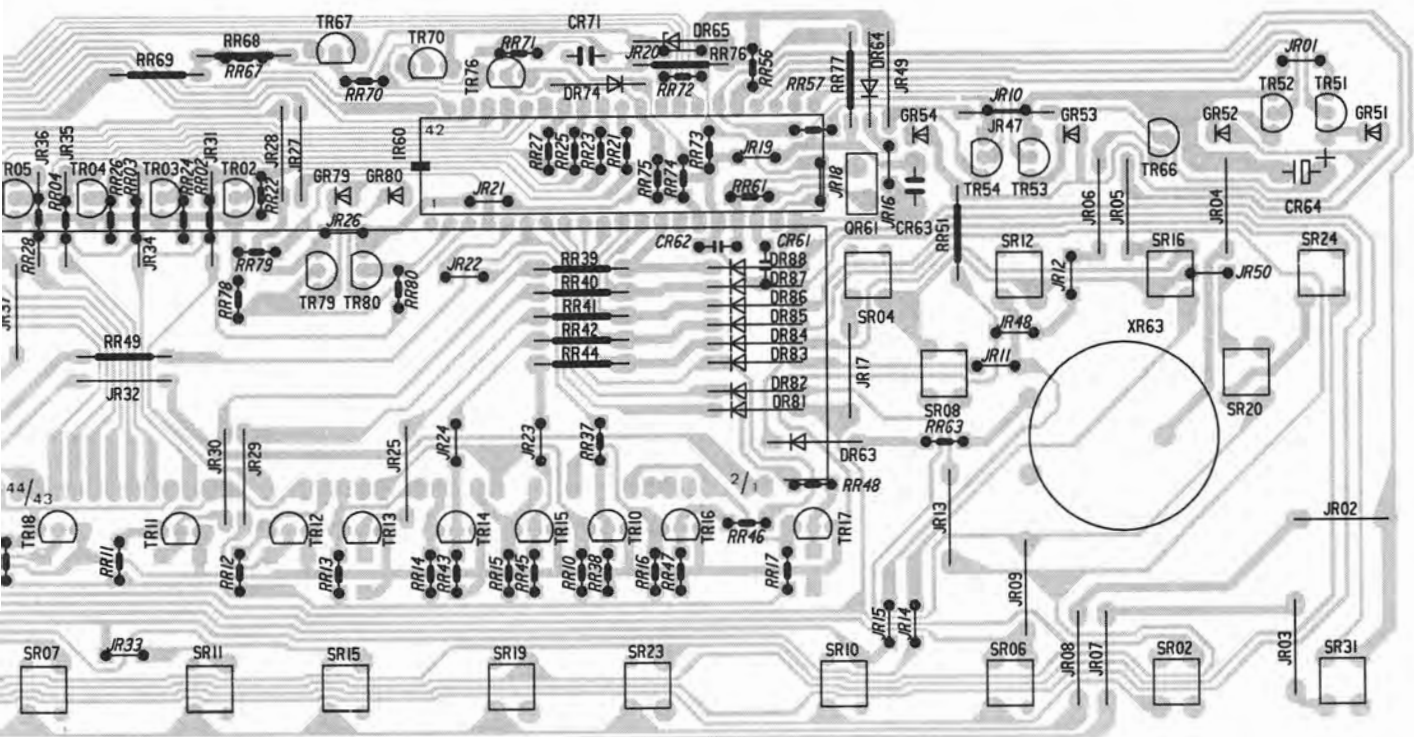


HD 44840

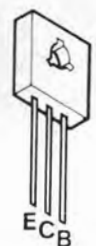
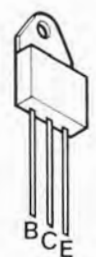
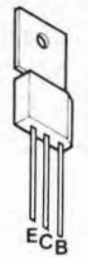
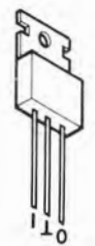
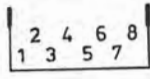
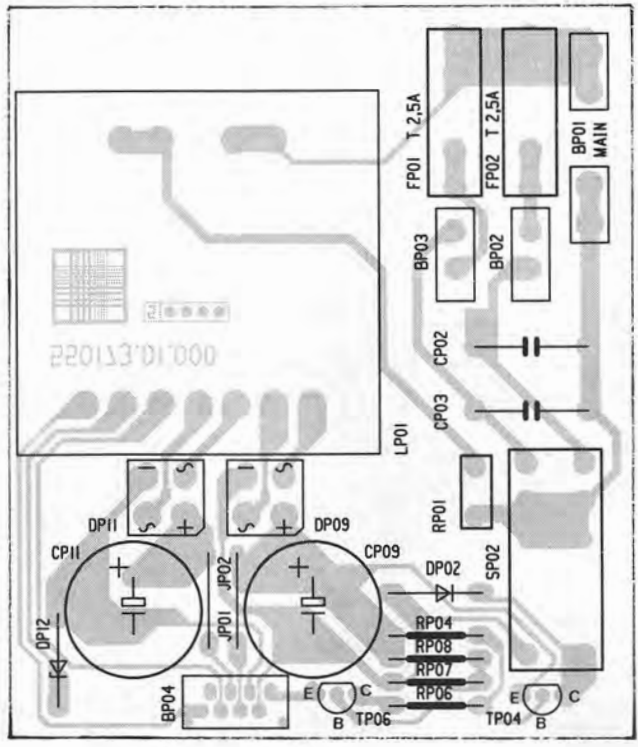
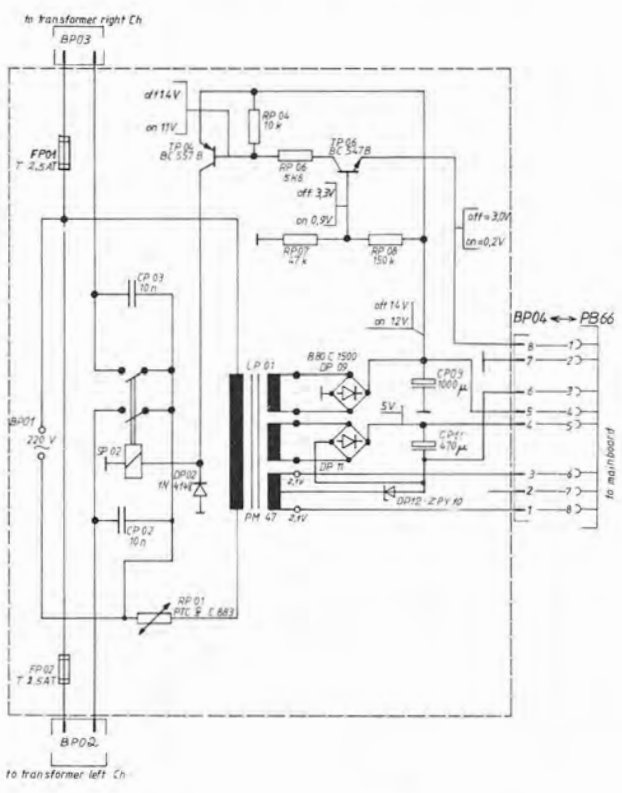
Stand b



BC 3
BC 3
BC 3
BC 5
BC 5
BC 5



Stand by-platte / Stand by board / Platine de secteur



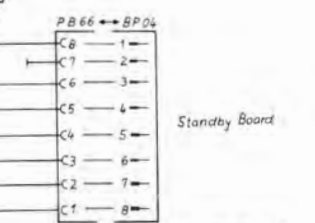
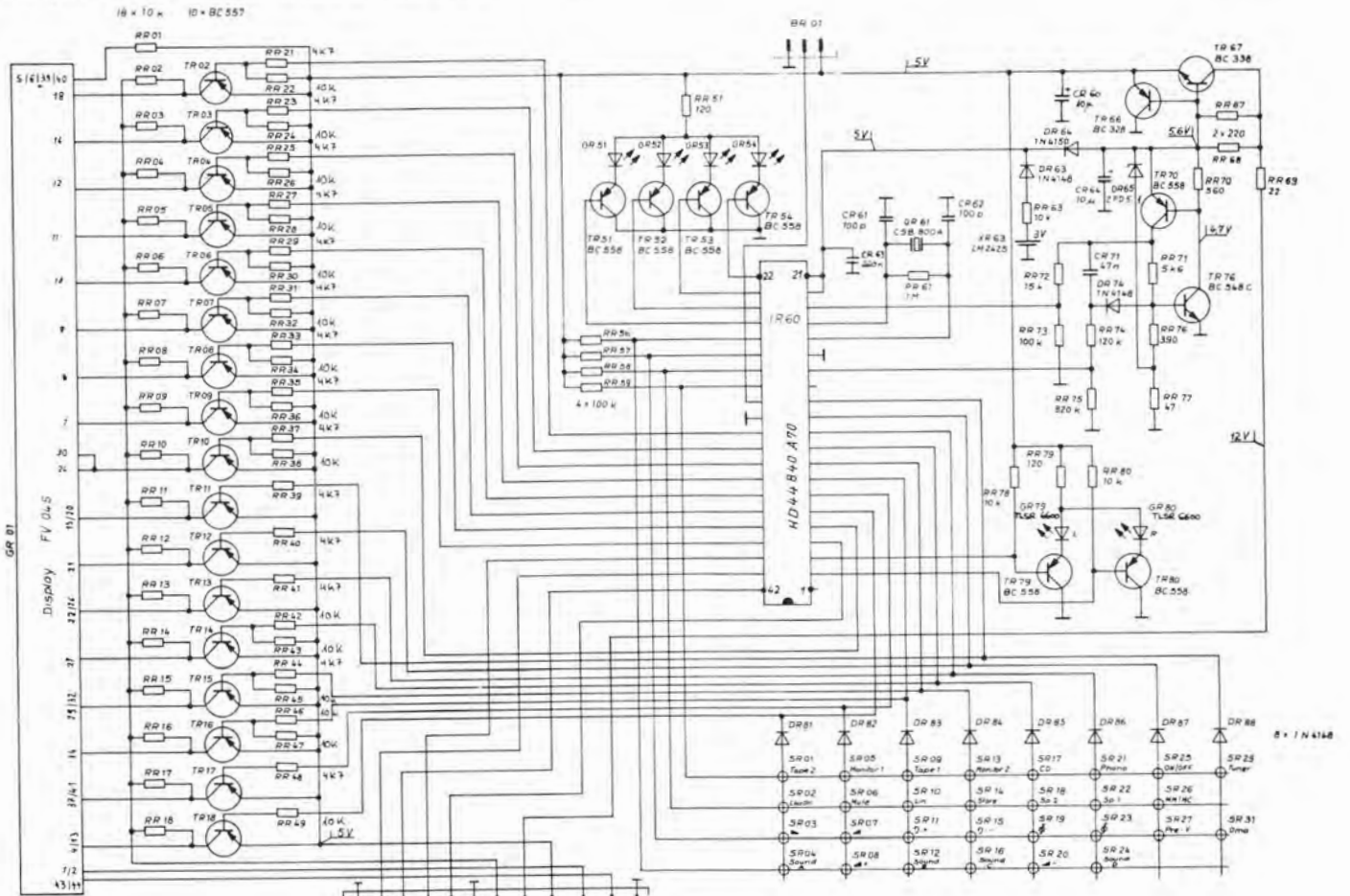
- BC 327
- BC 328
- BC 338
- BC 546
- BC 547
- BC 548
- BC 550
- BC 557
- BC 558
- BF 423
- BF 869
- BF 870

MC 7815

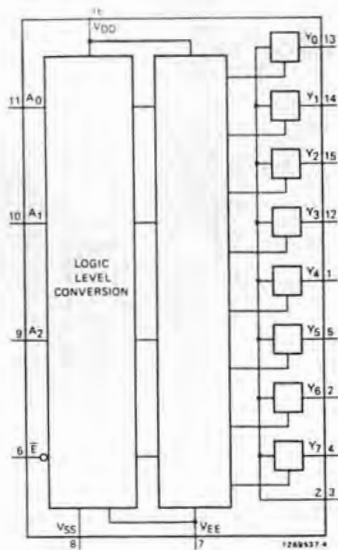
BF 869
BF 870

BDV 66 D
BDV 67 D

MJE 340
MJE 350



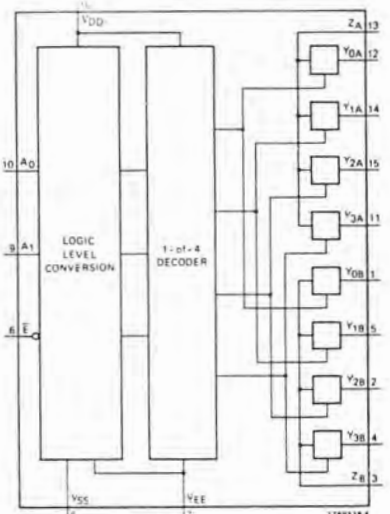
8-channel analogue multiplexer / demultiplexer



MC 14051

Input Pin			Input Channel Pin
9	10	11	
L	L	L	13
L	L	H	14
L	H	L	15
L	H	H	12
H	L	L	1
H	L	H	5
H	H	L	2
H	H	H	4

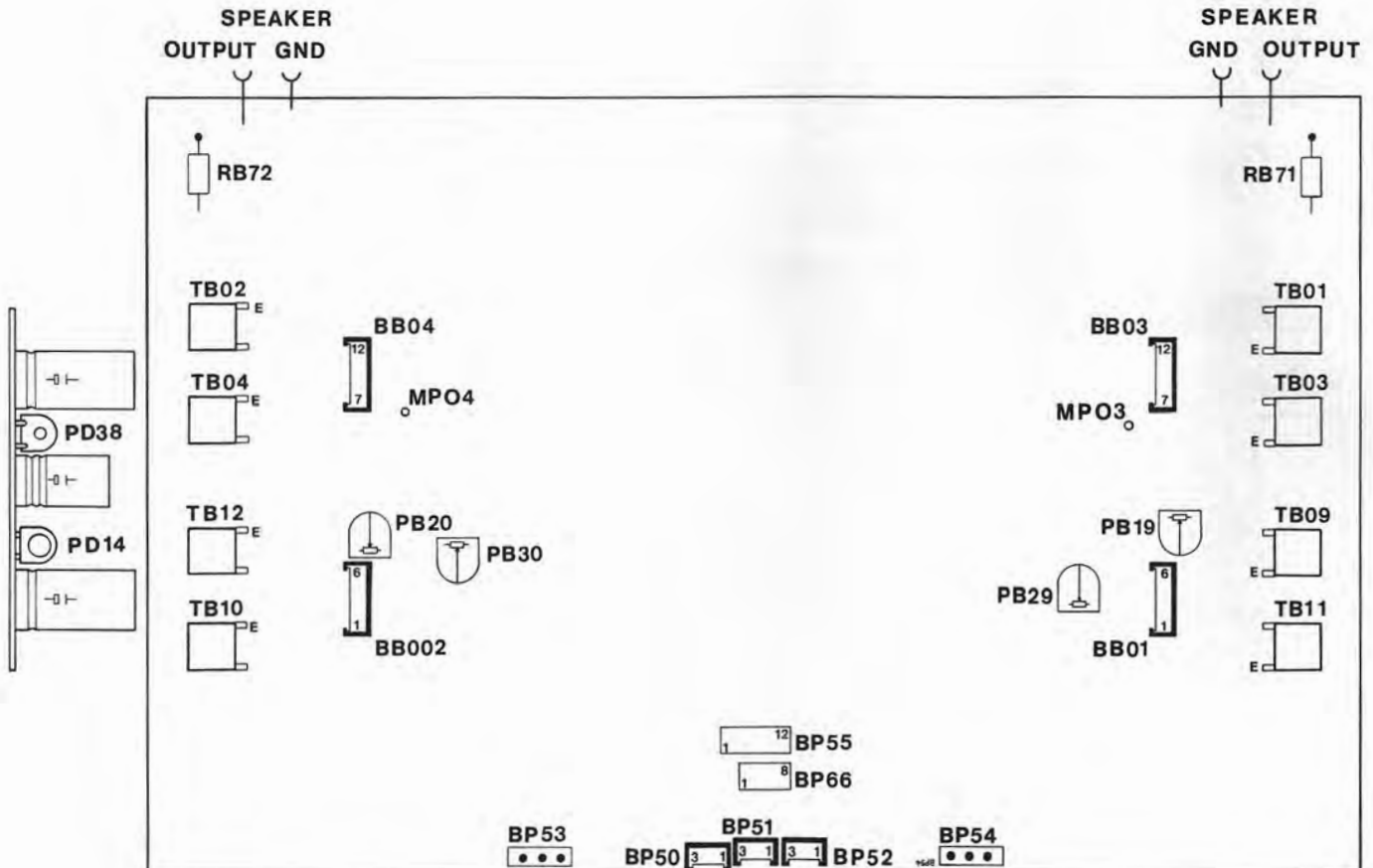
4-channel analogue multiplexer / demultiplexer

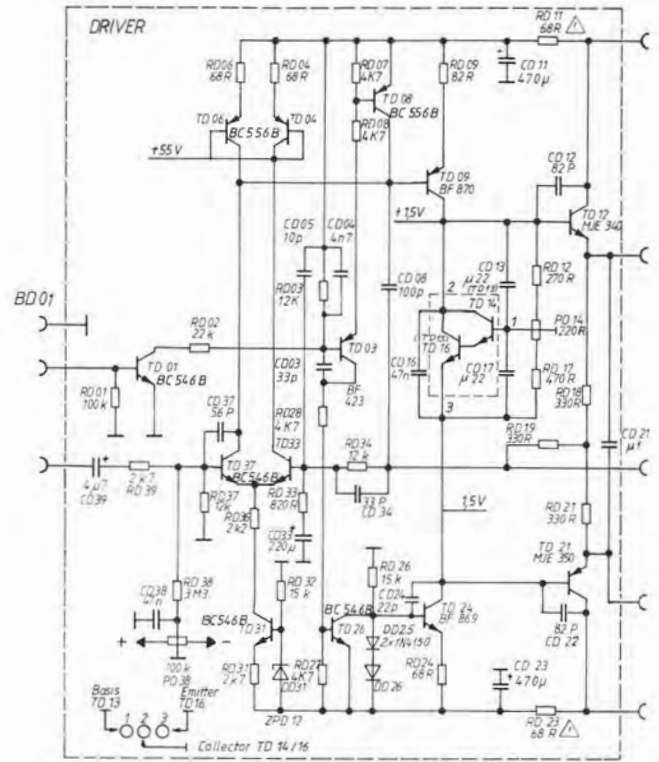
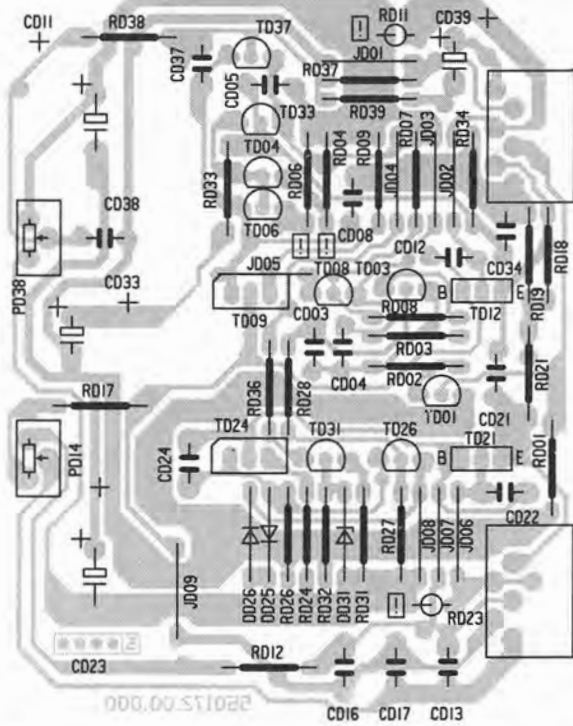


MC 14052

Abgleichanleitung CV 440 · Alignment Instruction CV 440

Signalquelle Signal source	Einstellung Signalquelle Signal source adjustment	Einstellung Gerät Unit adjustment	Anzeigegerät Anschluß Indicator connection	Abgleichposition Adjustment position	Abgleich, Bemerkung Alignment, Remarks
Ruhestrom · Quiescent Current					
		Power: On Tuner: On Volume: Minimum oder/or Muting on – ohne Last-R – without load-R – kalter Zustand – cold-state	DC-Voltmeter an/to RB 71 Emitter: ↑ TB 01 + TB 09 ↓ TB 03 + TB 11	PD 14 rechter Kanal (R-CH) right channel (R-CH)	15 mV 15 mV + 15 mV = 30 mV (Differenz ± 50 % – zwischen den Transistoren – between transistors)
			RB 72 Emitter: ↑ TB 02 + TB 10 ↓ TB 04 + TB 12	PD 14 linker Kanal (L-CH) left channel (L-CH)	
Offset					
		Power: On Tuner: On Volume: Minimum	DC-Voltmeter an/to Speaker output	PD 38 (L-CH) PD 38 (R-CH)	0 mV (± 5 mV)
Symmetrie und Strombegrenzung · Symmetry and Current Limeting					
NF/AF-Generator an/to Tuner	1 kHz ca. 300 mV	Power: On Tuner: On Volume: Maximum Speaker: 8 Ohm Lastwiderstand Load-resistor	Oscilloscope an/to: MP 03 (R-CH) MP 04 (L-CH) Speaker GND	PB 19 (R-CH) PB 20 (L-CH)	– auf gleich hohe Sinushalbwellen, – to same sinus- halfwave – (doppelte Frequenz) – (double frequency)
	0–200 mV	Speaker: 2 Ohm/100 W Lastwiderstand Load-resistor Kalter Zustand Cold-state	NF/AF-Voltmeter to Speaker output	PB 29 (R-CH) PB 30 (L-CH)	16 V – Strombegrenzung – gerade noch nicht abgeschaltet, – current limeting – just not switches off





Prozessor HD 44840 A 70 (IR 60) · Pinbelegung · Pin arrangement

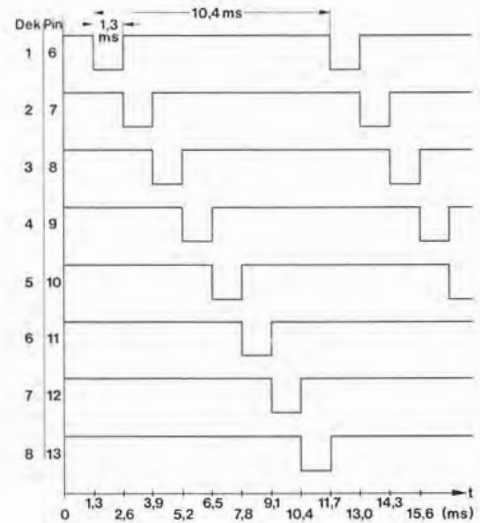
Pin Signal

- 1 No connection
- 2 → Balance L-CH
- 3 → Balance R-CH
- 4 → ON = H, OFF = L
- 5 → TR 10 Display
- 6 → Pulse Dekade 1
- 7 → Pulse Dekade 2
- 8 → Pulse Dekade 3
- 9 → Pulse Dekade 4
- 10 → Pulse Dekade 5
- 11 → Pulse Dekade 6
- 12 → Pulse Dekade 7
- 13 → Pulse Dekade 8
- 14 No connection
- 15 ← Reset
- 16 GND
- 17 Quarz
- 18 Quarz
- 19 ← HTL 5 V
- 20 +5 V V_{cc}
- 21 +5 V V_{cc}
- 22 → TR 54 Sound 1
- 23 → TR 53 Sound 2
- 24 → TR 52 Sound 3
- 25 → TR 51 Sound 4
- 26 ← Volume ±, Sound 1, 2, 3, 4
- 27 ← Balance L/R-CH, Bass ±, Treble ±, Pre-Volume
- 28 ← Loudn., Mute, Lin, Store, Sp. 2, Sp. 1, MM/MC
- 29 ← Tape 2, Monitor 1, Tape 1, Monitor 2, CD, Phono, ON/OFF, Tuner
- 30 ← Remote Control
- 31 GND
- 32 → TR 02
- 33 → TR 03
- 34 → TR 04
- 35 → TR 05
- 36 → TR 06
- 37 → TR 07
- 38 → TR 08
- 39 → TR 09
- 40 → Clock = Pin 3
- 41 → Data = Pin 2
- 42 → STR = Pin 1

Bezeichnung · Signification:

- 2 ← Input
- 7 → Output
- Signal HIGH active
- Signal LOW active

Pulse Diagram



Ersatzteile · Replacement parts · Pièces détachées
CV 440

Pos.	Art.-Nr.	Stck	Bezeichnung
1	280960	1	Frontblende
2	279478	1	Fenster
3	279481	1	Blende
5	279480	1	Feder
6	280852	1	Riegel
7	279482	6	Knopf
8	279483	9	Knopf
9	280963	1	Klappe
10	279486	1	Feder
11	279896	4	Fuss kpl.
12	279489	1	Gehäuseblech
13	279474	1	Rückwand
14	279472	2	Netztrafo
15	279476	1	Netzbuchse
BH 2	279479	1	Kopfhörerbuchse

Ersatzteile · Replacement parts · Pièces détachées · CV 440

Pos.	Art.-Nr.	Stck	Bezeichnung
30	279 475	1	Grundplatte
31	279 510	5	Cinch-Buchsenleiste
32	279 511	2	Anschlußklemme
CP 31	279 495	4	Elyt-Kondensator 10 MY/63 V
bis			
CP 34	279 495	4	Elyt-Kondensator 10 MY/63 V
DB 56	223 906	5	Diode 1 N 4148
DB 61	279 496	2	Diode ZPD 5V1
DB 62	279 496	2	Diode ZPD 5V1
DB 67	223 906	5	Diode 1 N 4148
bis			
DB 70	223 906	5	Diode 1 N 4148
DP 21	279 497	1	Gleichrichter B 80 C 1500
DB 23	279 498	2	Diode ZPD 7V5
DP 27	279 498	2	Diode ZPD 7V5
DP 31	279 499	2	Gleichrichter D5 FB 20
DP 32	279 499	2	Gleichrichter D5 FB 20
DP 50	279 497	1	Gleichrichter B 80 C 1500
DP 57	279 498	4	Diode ZPD 7V5
DP 58	279 498	4	Diode ZPD 7V5
DR 35	223 906	6	Diode 1 N 4148
IB 19	279 500	7	IC LM 833
IB 31	268 409	2	IC LM 393 P
IB 39	268 409	2	IC LM 393 P
IB 60	279 501	1	IC MC 1741 CP 1
IC 21	236 299	4	IC RC 4558 D
IC 22	236 299	4	IC RC 4558 D
IC 29	236 299	4	IC RC 4558 D
IC 30	236 299	4	IC RC 4558 D
IL 1	279 502	8	IC MC 14051 BCP
IL 2	279 502	8	IC MC 14051 BCP
IL 23	279 500	7	IC LM 833
IL 31	279 502	8	IC MC 14051 BCP
IL 32	279 502	8	IC MC 14051 BCP
IL 51	279 500	7	IC LM 833
IL 59	279 503	2	IC MC 14052 BCP
IN 1	279 502	10	IC MC 14051 BCP
IN 2	279 502	10	IC MC 14051 BCP
IN 25	279 502	10	IC MC 14051 BCP
IN 26	279 502	10	IC MC 14051 BCP
IN 43	279 500	7	IC LM 833
IN 55	279 500	7	IC LM 833
IN 70	276 039	4	IC MC 14094 BCP C-MOS
bis			
IN 73	276 039	4	IC MC 14094 BCP C-MOS
IP 53	238 347	3	IC MC 7815
IP 54	280 491	1	IC MC 7915 CT
IR 1	279 500	7	IC LM 833
IR 2	279 500	7	IC LM 833
IR 11	279 502	10	IC MC 14051 BCP
IR 12	279 502	10	IC MC 14051 BCP
IR 35	279 503	2	IC MC 14052 BCP
PB 19	279 504	2	Steller 1 kΩ
PB 20	279 504	2	Steller 1 kΩ
PB 29	279 505	2	Steller 470 Ω
PB 30	279 505	2	Steller 470 Ω
RB 49	279 506	2	Thermoschalter
RB 50	279 506	2	Thermoschalter
SB 67	279 507	4	Relais AZ 732
SB 70	279 507	4	Relais AZ 732
SR 35	279 529	1	Relais
TB 1	279 508	4	Transistor BDV 67 D
bis			
TB 4	279 508	4	Transistor BDV 67 D
TB 9	279 509	4	Transistor BDV 66 D
bis			
TB 12	279 509	4	Transistor BDV 66 D
TB 48	244 891	8	Transistor BC 547 B
TB 53	244 891	8	Transistor BC 547 B
TB 54	244 891	8	Transistor BC 547 B
TB 61	244 891	8	Transistor BC 547 B
TB 62	244 891	8	Transistor BC 547 B
TB 65	224 729	2	Transistor BC 327
TB 66	224 729	2	Transistor BC 327
TC 7	280 964	6	Transistor BC 650 S
TC 8	280 964	6	Transistor BC 650 S
TC 13	280 964	6	Transistor BC 650 S
TC 14	280 964	6	Transistor BC 650 S
TC 53	280 964	6	Transistor BC 650 S
TC 54	280 964	6	Transistor BC 650 S
TD 14	240 782	2	Transistor BC 546 B
bis			
TD 16	240 782	2	Transistor BC 546 B

Pos.	Art.-Nr.	Stck	Bezeichnung
TR 35	244 891	1	Transistor BC 547 B
TR 41	244 891	1	Transistor BC 547 B
TR 51	244 715	7	Transistor BC 548 C
TR 52	276 032	3	Transistor BC 558 C
TR 53	244 715	7	Transistor BC 548 C
TR 54	244 715	7	Transistor BC 548 C
TR 55	276 032	3	Transistor BC 558 C
TR 56	276 032	3	Transistor BC 558 C
TR 57	244 715	7	Transistor BC 548 C
bis			
TR 60	244 715	7	Transistor BC 548 C
40	279 484	1	Display/Tastenplatte
DR 63	223 906	10	Diode 1 N 4148
DR 64	279 521	1	Diode 1 N 4150
DR 65	279 496	1	Diode ZPD 5V1
DR 74	223 906	10	Diode 1 N 4148
DR 81	223 906	10	Diode 1 N 4148
bis			
DR 88	223 906	10	Diode 1 N 4148
GR 1	279 522	1	Display FV-045
GR 51	279 523	6	LED TLHR 6200
bis			
GR 54	279 523	6	LED TLHR 6200
GR 79	280 970	2	LED TLSR 5601
GR 80	280 970	2	LED TLSR 5601
IR 60	279 524	1	IC UP HD 44840 A70 HMSC 4
QR 61	279 525	1	Keramikfilter 800 kHz
SR 1	276 045	29	Schalter
bis			
SR 31	276 045	29	Schalter
TR 2	244 892	17	Transistor BC 557 B
bis			
TR 18	244 892	17	Transistor BC 557 B
TR 51	277 937	7	Transistor BC 558
bis			
TR 54	277 937	7	Transistor BC 558
TR 66	231 062	1	Transistor BC 328
TR 67	238 894	1	Transistor BC 338
TR 70	277 937	7	Transistor BC 558
TR 76	244 715	1	Transistor BC 548 C
TR 79	277 937	7	Transistor BC 558
TR 80	277 937	7	Transistor BC 558
XR 63	279 527	1	Akku LM 2425
50	279 473	1	Standby-Platte
DP 2	223 906	1	Diode 1 N 4148
DP 9	279 497	2	Gleichrichter B 80 C 1500
DP 11	279 497	2	Gleichrichter B 80 C 1500
DP 12	280 969	1	Diode ZPY 10/BZX 85/C10
DR 2	223 906	1	Diode 1 N 4148
FP 1	247 842	2	Sicherung 2,5 A/250 V T
FP 2	247 842	2	Sicherung 2,5 A/250 V T
LP 1	280 965	1	Trafo
RP 1	280 967	1	Kaltleiter C 883
SP 2	280 966	1	Relais 12 V
TP 4	244 892	2	Transistor BC 557 B
TP 6	244 891	1	Transistor BC 547 B
60	280 492	1	Treiberplatte
DD 25	279 521	2	Diode 1 N 4150
DD 26	249 521	2	Diode 1 N 4150
DD 31	249 857	1	Diode ZPD 12
PD 14	279 520	1	Steller 220 kΩ
PD 38	280 968	1	Steller 100 kΩ
TD 1	240 782	4	Transistor BC 546 B
TD 3	279 515	1	Transistor BF 423
TD 4	262 496	3	Transistor BC 556 B
TD 6	262 496	3	Transistor BC 556 B
TD 8	262 496	3	Transistor BC 556 B
TD 9	279 516	1	Transistor BF 870
TD 12	279 517	1	Transistor MJE 340
TD 21	279 518	1	Transistor MJE 350
TD 24	279 519	1	Transistor BF 869
TD 26	240 782	4	Transistor BC 546 B
TD 31	240 782	4	Transistor BC 546 B
TD 33	240 782	4	Transistor BC 546 B
TD 37	240 782	4	Transistor BC 546 B
70	279 490	1	IR-Empfänger
279 491		1	Netzkabel
279 830		1	Bedienungsanleitung CV 440
279 493		1	Faltschachtel
279 494		2	Seitentell

Änderungen vorbehalten! Subject to change! Sous réserve de modification!

Allgemeine Information
General Information
Information générale



Datum-Date-Date	Zeichen-Ref.-N/réf.	Geräte Nr. Serial number No. de l'appareil	Gerät-Model Appareil
14.11.1989	KD/Di-hk		A/195

CV440/441

124 NOV. 1989

Erscheinung: Aus dem Stand by-Modus schaltet das Gerät ab und läßt sich nicht mehr einschalten.

Ursache: Statische Aufladung des Gehäuses und Entladung über die Frontplatte.

Abhilfe: Massewiderstand von 1 kOhm mit einer Leitung überbrücken (Widerstand von Mitte-Geräterückwand zur Eingangsbuchse).

Symptom: In function "stand by", amplifier switches self-sustained off. After that, it is impossible to switch on.

Cause: Static charging of the cover and discharging about the front board.

Remedy: Bridge over resistor 1 kOhm (resistance from center of back panel to input jack).

Allgemeine Information
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Datum-Date-Date	Zeichen Ref.-N/réf.	Geräte Nr. Serial number No. de l'appareil	Gerät-Model Appareil
14.11.1989	KD/Di-hk		A/196

CV440/441

24. NOV. 1989

Erscheinung: Kurz nach dem Einschalten des Gerätes entsteht beim Programmwechsel ein Schaltimpuls.

Ursache: Zeitkonstante für die Einschaltverzögerung ist zu klein.

Abhilfe: Einen Kondensator von 4,7 μF parallel zu Kondensator CB 58 (10 μF) löten.

Symptom: Just after switching on the unit a noise impuls comes into being at changing the program.

Cause: Time constant too short for switch in delay.

Remedy: Solder a capacitor 4,7 μF parallel to CB 58 (10 μF).