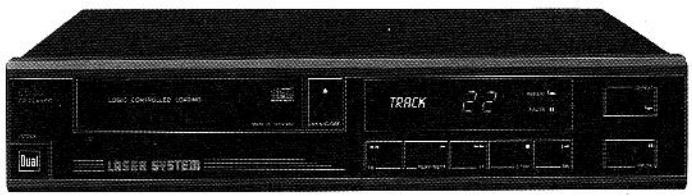
Dual

NEW TECH

CD 20/150
CDP 4500



Service-Anleitung
Service Manual
Instructions de Service

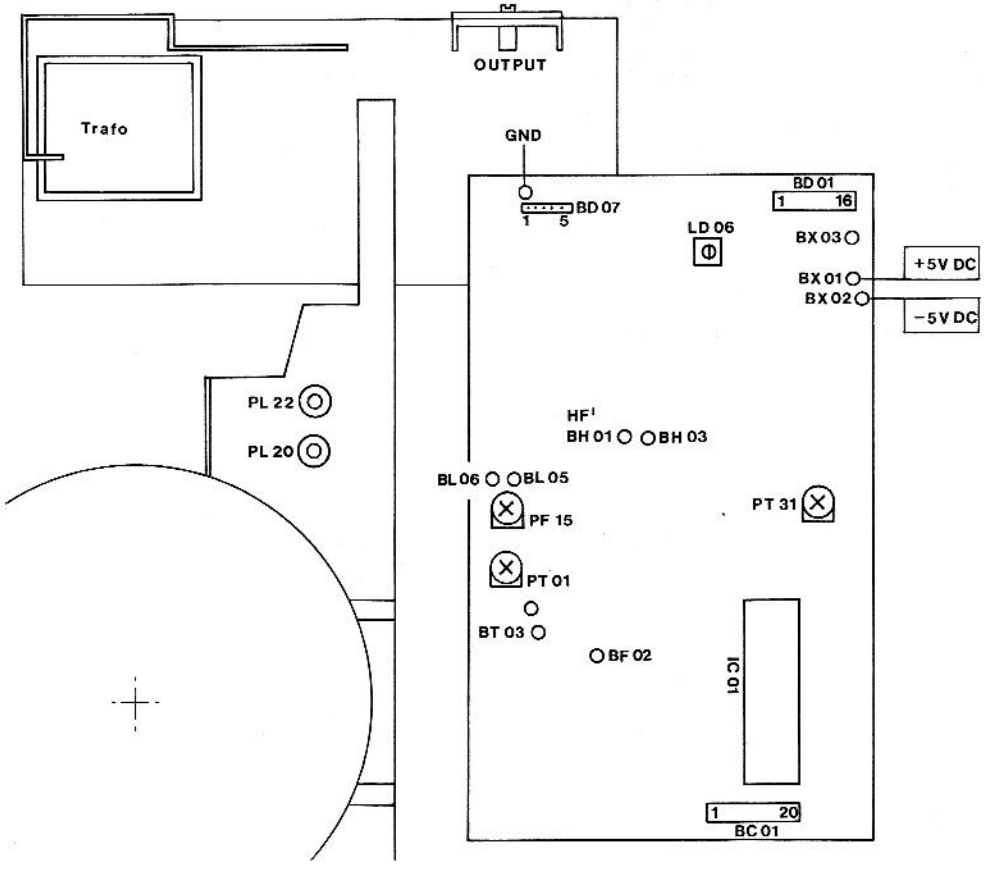
Technische Daten Meßwerte = typische Werte	**Technical data** Measured values = typical values	**Caractéristiques techniques** Valeurs mesurées = valeurs typiques	
Frequenzbereich	**Frequency response**	**Courbe de réponse**	20–20 000 Hz ± 0,5 dB
Geräuschspannungsabstand	**Signal to noise ratio**	**Rapport signal/bruit**	95 dB
Dynamikbereich	**Dynamic range**	**Dynamique**	92 dB
Übersprechdämpfung (1 kHz)	**Crosstalk (1 kHz)**	**Diaphonie (1 kHz)**	90 dB
Klirrfaktor (1 kHz)	**Harmonic distortion (1 kHz)**	**Distorsion harmonique (1 kHz)**	0,005 %
Gleichlaufschwankungen	**Wow and flutter**	**Pleurage et scintillement**	unmeasurable
Intermodulationsverzerrung	**Intermodulation distortion**	**Distorsion d'intermodulation**	0,01 %
Fehlerkorrektur: Unterbrechung **black dot**	**Fault correction: interruption** **black dot**	**Correction d'erreur: interruption** **black dot**	900 µm 800 µm
Zugriffszeiten: Stop – Titel 1 **Titel – Titel**	**Access times: stop – song 1** **song – song**	**Temps d'accès: stop – titre 1** **titre – titre**	2,5 s 0,5 s
Ausgangsspannung (Hochpegelausgang)	**Output voltage**	**Tension de sortie**	2 V
D/A Wandler	**D/A Converter**	**D/A Convertisseur**	16 Bit linear (Single)
Abtastfrequenz	**Pick up frequency**	**Fréquence d'pick-up**	44,1 kHz
Abtastsystem	**Recording system**	**Système d'enregistrement**	3-Strahl-Laser 3-beam optical pick up
Leistungsaufnahme	**Power consumption**	**Consommation**	18 W
Netzspannung	**Mains voltage**	**Tensions secteur**	230 V
Netzfrequenz	**Line frequency**	**Fréquence secteur**	50/60 Hz

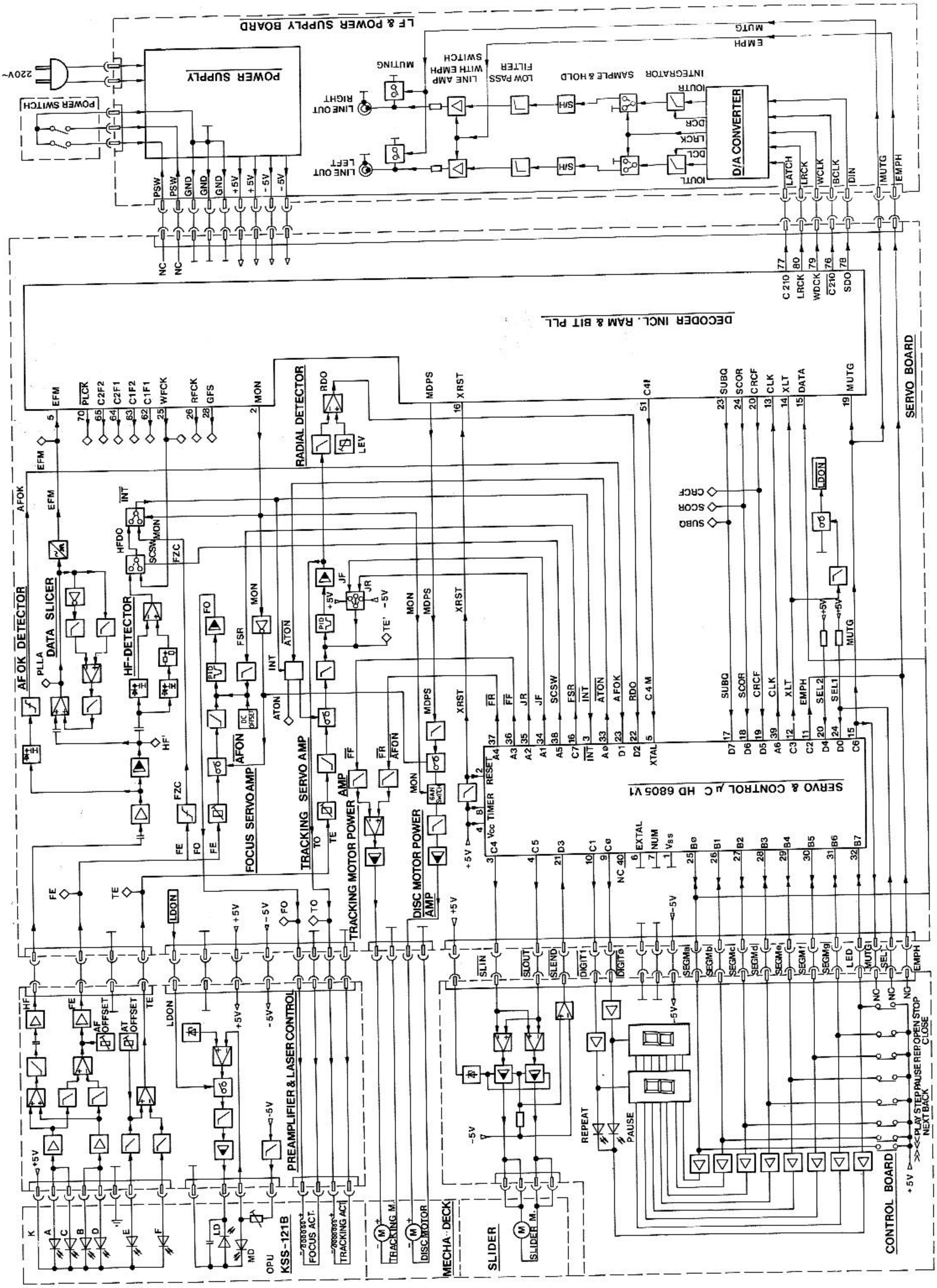
Dual GmbH · Postfach 1144 · 7742 St. Georgen/Schwarzwald

921536 1186

Abgleichanleitung · Alignment Instruction

Signalquelle Signal source	Einstellung Gerät Unit adjustment	Meßgerät Anschluß Testgear connection	Abgleichposition Alignment position	Abgleich – Bemerkung Alignment, Remarks
	Stop	**PLL**		
		1. BH 03 mit BX 03 brücken Bridge over BH 03 with BX 03		
		2. Frequenzzähler an / Frequency counter to BD 07 Pin 5	LD 06 Achtung: CD 08, CD 09 mechanisch nicht verändern! Attention: Do not adjust CD 08 and CD 09!	4,321 MHz ± 3 kHz
		3. Brücke entfernen / Remove jumper		
		Focus Offset		
		DC Voltmeter an / to BL 06	PL 20	0 V DC ± 20 mV
		Tracking Offset		
		DC Voltmeter an / to BL 05	PL 22	0 V DC ± 5 mV
Test Sample 5 A	Play Titel Nr. 2	**Radial Detector**		
		DC Voltmeter an / to BT 03	PT 31	0 V DC ± 10 mV
			Achtung: Spannung wird langsam nachgeregelt. Evtl. Titel neu anwählen. Attention: Align voltage slowly. If necessary, dial titel gain.	
		Focus Gain		
		AC Voltmeter an / to BF 02	PF 15	Max. Rechtsanschlag –3 dB Max. right-hand stop –3 dB
		Tracking Gain		
		AC Voltmeter an / to BT 03	PT 01	150 mV ± 20 mV
Endkontrolle: Titel Nr. 9 und 17 / Final test: Play titel no. 9 and 17				




LF & POWER SUPPLY BOARD
POWER SUPPLY
POWER SWITCH
220V~
D/A CONVERTER
INTEGRATOR
SAMPLE & HOLD
LOW PASS FILTER
LINE AMP WITH EMPH SWITCH
MUTING
LINE OUT RIGHT
LINE OUT LEFT
DECODER INCL. RAM & BIT PLL
SERVO BOARD
SERVO & CONTROL µC HD 6805 V1
AF OK DETECTOR
DATA SLICER
HF-DETECTOR
RADIAL DETECTOR
FOCUS SERVO AMP
TRACKING SERVO AMP
TRACKING MOTOR POWER AMP
DISC MOTOR POWER AMP
PREAMPLIFIER & LASER CONTROL
OPU KSS-121B
FOCUS ACT.
TRACKING ACT.
TRACKING M.
DISC MOTOR
MECHA-DECK
SLIDER
SLIDER M.
CONTROL BOARD
REPEAT
PAUSE
PLAY STEP PAUSE REPEOPEN STOP
NEXT BACK
CLOSE

IC CX 23035 · Pinbelegung · Pin arrangement

Pin	Name	Funktion
1	FSW	Disc motor output filter time constant select output
2	MON	Disc motor ON/OFF control output
3	MDP	Disc motor drive output. Rough control during CLV-S mode and phase control during CLV-P mode
4	MDS	Disc motor drive output. Speed control during CLV-P mode
5	EFM	EFM signal input from data slicer
7	MIRR	Input not used to GND
8	VCOO	VCO output. When locked to EFM signal, f = 8.6432 MHz
9	VCOI	VCO input
10	TEST	Input not used to GND
11	PDO	EFM signal and VCO/2 phase comparison output
12	Vss	GND
13	CLK	Serial data transfer clock input from CPU. Data latching clock rise edge
14	XLT	Latch input from CPU. Latching 8-bit shift register data (serial data from CPU) to respective registers.
15	DATA	Serial data input from CPU
16	XRST	System reset input
19	MUTG	Muting input with internal register A ATTM at low, normal state when MUTG is low and no sound when it is high.
20	CRCF	Output the CRC result of subcode Q
21	EXCK	Input not used to GND
23	SUBQ	Subcode serial output
24	SCOR	Subcode sync SO + S1 output
25	WFCK	Write frame clock output. When frame synch is locked, f=7.35 kHz
26	RFCK	Read frame clock output. Crystal system 7.35 kHz
28	GFS	Frame sync lock state display output
29	DB 08	External RAM data terminal. Data 8 (MSB)
30	DB 07	External RAM data terminal. Data 7
31	DB 06	External RAM data terminal. Data 6
32	DB 05	External RAM data terminal. Data 5
33	VDO	+ 5 V
34	DB 04	External RAM data terminal. Data 4
35	DB 03	External RAM data terminal. Data 3

Pin	Name	Funktion
36	DB 02	External RAM data terminal. Data 2
37	DB 01	External RAM data terminal. Data 1 (LSB)
38	RA 01	External RAM address output ADDR 01 (LSB)
39	RA 02	External RAM address output ADDR 02
40	RA 03	External RAM address output ADDR 03
41	RA 04	External RAM address output ADDR 04
42	RA 05	External RAM address output ADDR 05
43	RA 06	External RAM address output ADDR 06
44	RA 07	External RAM address output ADDR 07
45	RA 08	External RAM address output ADDR 08
46	RA 09	External RAM address output ADDR 09
47	RA 10	External RAM address output ADDR 10
48	RA 11	External RAM address output ADDR 11 (MSB)
49	RAWE	Write enable signal output to external RAM (active when low)
50	RACS	Chip select signal output to external RAM (active when low)
51	C4M	Crystal 1/2 frequency division output. f = 4.2336 MHz
52	Vss	GND
53	XTAI	Crystal oscillation circuit input. f = 8.4672 MHz
54	XTAO	Crystal oscillation circuit output. f = 8.4672 MHz
58	SLOB	Audio data output code select input (Two's complement when low)
59	PSSL	Audio data output mode select input (Serial output when low)
62	C1F1	Error correction state monitor output in C1 decoding
63	C1F2	Error correction state monitor output in C1 decoding
64	C2F1	Error correction state monitor output in C2 decoding
65	C2F2	Error correction state monitor output in C2 decoding
70	PLCK	VCO/2 output. When locking to EFM signal, f = 4.3216 MHz
73	VDO	+ 5 V
76	C210	C210 inversion signal
77	C210	Bit clock output. f = Crystal oscillator frequency / 4 = 2.1168 MHz
78	SDO	Audio signal serial data output
79	WDCK	88.2 KHz strobe signal output
80	LRCK	44.1 KHz strobe signal output

IC HD 6805 V1P · Pinbelegung · Pin arrangement

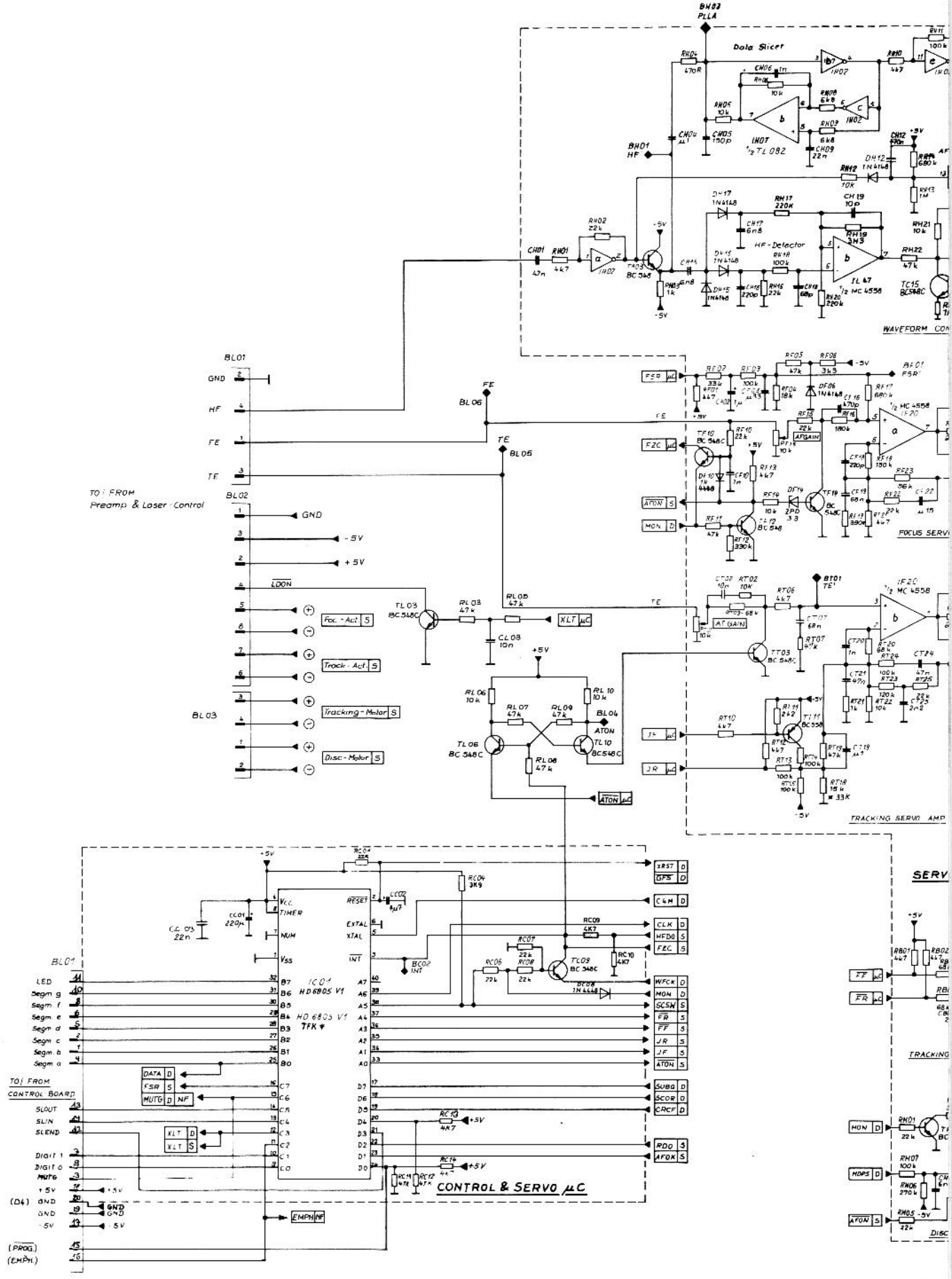
Pin	Name	Funktion
1	Vss	GND (0 V)
2	RESET	System Reset Input (aktiv low)
3	INT	External Interrupt Input Pin
4	Vcc	+ 5 V dc
5	XTAL	External Clock Input – (Digital Signal Processor PIN 51)
6	EXTAL	low-Level (to GND)
7	NUM	low-Level (to GND)
8	TIMER	high-Level (to + 5 V)
9	CO	Digit 0
10	C1	Digit 1
11	C2	EMPH (EMPHasis) – Deemphasis ON/OFF
12	C3	XLT – (Digital Signal Processor PIN 14)
13	C4	SLIN (SLider IN)
14	C5	SLOUT (SLider OUT)
15	C6	MUTG (MUTinG) – (Digital Signal Processor PIN 19)
16	C7	FSR (Focus SeaRch)
17	D7	SUBQ (SUBcode Q-Kanal) – und (Digital Signal Processor PIN 23)
18	D6	SCOR – und (Digital Signal Processor PIN 24)
19	D5	CRCF – und (Digital Signal Processor PIN 20)
20	D4	high-Level (to + 5 V)

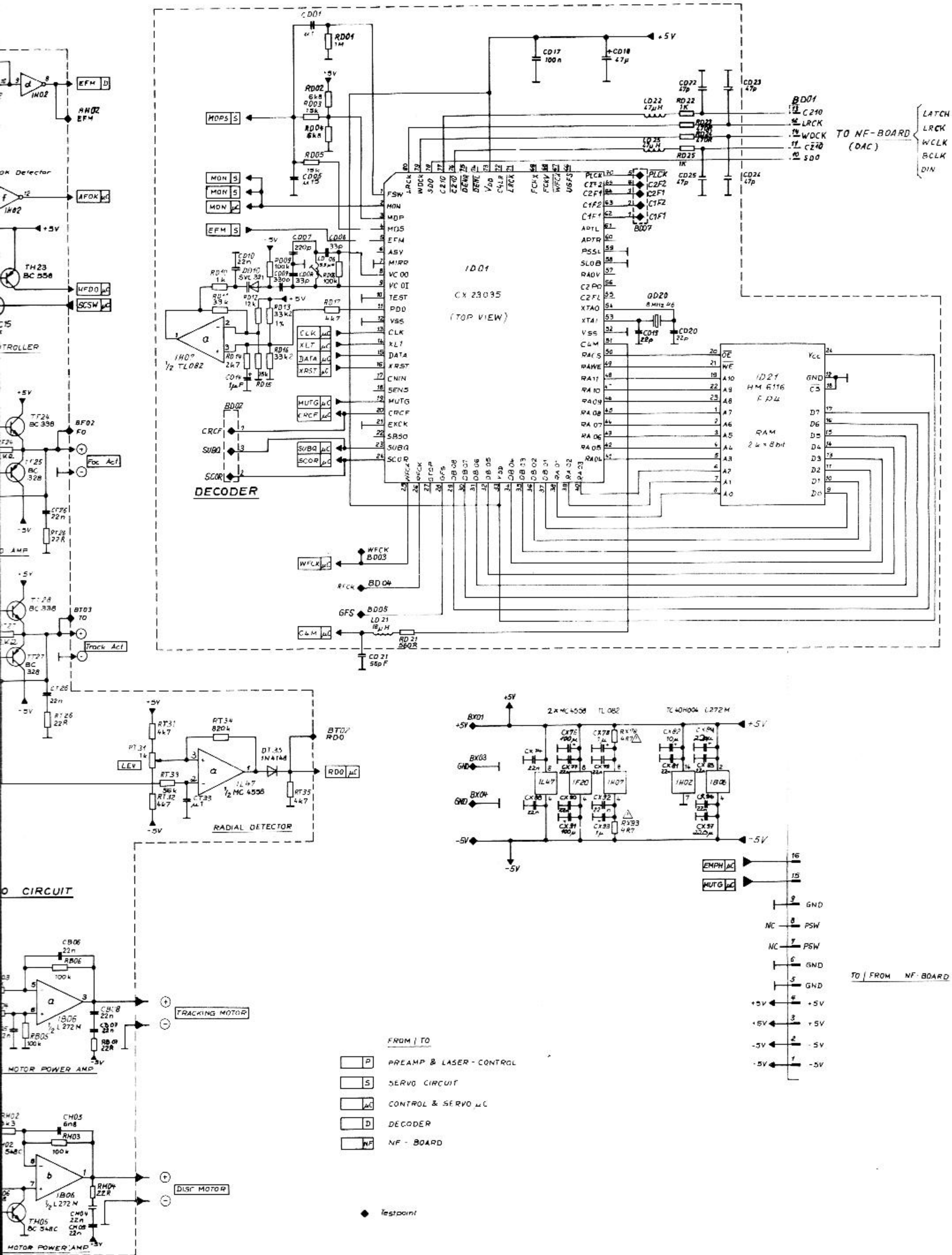
Pin	Name	Funktion
21	D3	SLEND (SLider END)
22	D2	RDO (Radial Detector Output)
23	D1	AFOK (Automatic Focus OK)
24	D0	high-Level (to + 5 V)
25	B0	Segment a
26	B1	Segment b
27	B2	Segment c
28	B3	Segment d
29	B4	Segment e
30	B5	Segment f
31	B6	Segment g
32	B7	LED
33	A0	ATON (Automatic Tracking ON)
34	A1	JF (Jump Forward)
35	A2	JR (Jump Rewind)
36	A3	FF (Fast Forward)
37	A4	FR (Fast Rewind)
38	A5	SCSW (SubCode SWitch)
39	A6	CLK (Clock) – (Digital Signal Processor PIN 13)
40	A7	frei

Abkürzungen

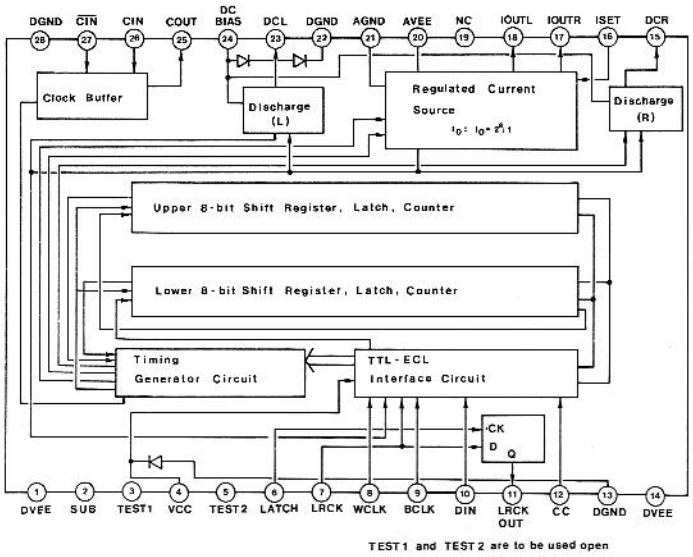
MON	Motor ON
FE	Focus Error Signal
TE	Tracking Error Signal
HF	High Frequency
EFM	Eight to Fourteen Modulation
LDON	Laser-Diode ON
SCSW	Subcode Switch
JF	Jump Forward
JR	Jump Rewind
AFOK	Automatic Focussing
HFDO	HF-Detector Output
AFON	Automatic Focussing ON
SLIN	Slider IN
SLOUT	Slider OUT
SLEND	Slider End (-Position)
FZC	Focus Zero Cross

FSR	Focus Search
RDO	Radial Detector Output
FF	Fast Forward
FR	Fast Rewind
MUTG	Muting (Stummschaltung)
PLLA	PLL-Adjustment
TO	Tracking Servo Output
FO	Focus Servo Output
ATON	Automatic Tracking ON
AF-Offset	Automatic Focussing-Offset
AT-Offset	Automatic Tracking-Offset
AF-Gain	Automatic Focussing-Gain
AT-Gain	Automatic Tracking-Gain
LEV	LEVEL (Radial Detector)
EMPH	Emphasis-Deemphasis


Data Slicer
HF - Detector
WAVEFORM CON
TO / FROM
Preamp & Laser Control
FOCUS SERVI
TRACKING SERVO AMP
CONTROL & SERVO µC
TRACKING
SERV

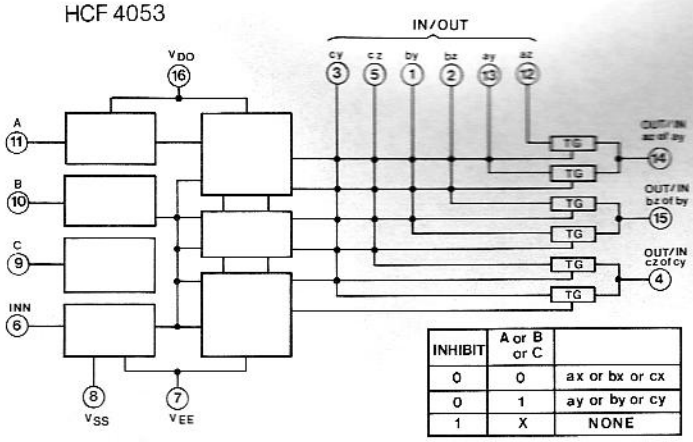

DECODER
ID01
CX 23035
(TOP VIEW)
ID21
HM 6116
FP4
RAM
2k x 8 bit
TO NF-BOARD (DAC)
LATCH
LRCK
WCLK
BCLK
DIN
C210
LRCK
WDCK
C2I0
SDO
RADIAL DETECTOR
CIRCUIT
TRACKING MOTOR
MOTOR POWER AMP
DISC MOTOR
MOTOR POWER AMP
TO / FROM NF-BOARD
FROM / TO
P PREAMP & LASER-CONTROL
S SERVO CIRCUIT
µC CONTROL & SERVO µC
D DECODER
NF NF - BOARD
Testpoint

CX 20017



TEST 1 and TEST 2 are to be used open

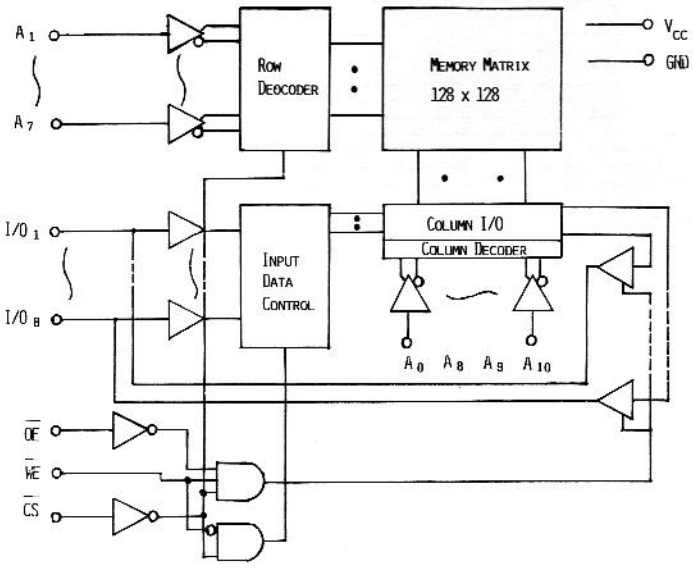
HCF 4053



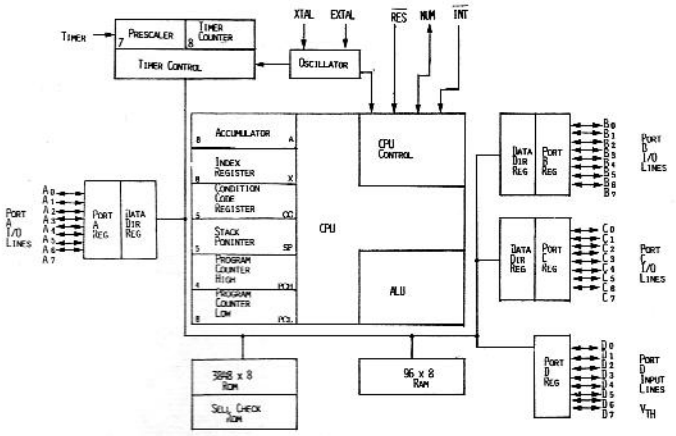
INHIBIT	A or B or C	
0	0	ax or bx or cx
0	1	ay or by or cy
1	X	NONE

X : Don't care

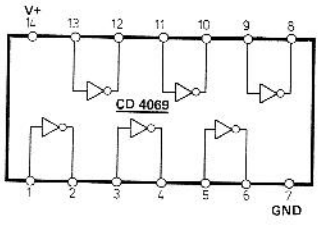
HM 6116



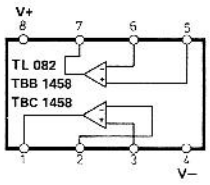
HD 6805 V1

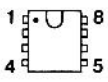


TL 40 H 004 P

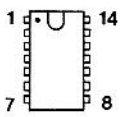


TL 082

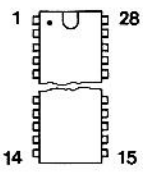




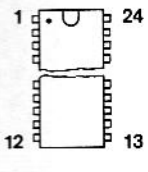
MC 4558
TL 082
L 272
RC 4560
RC 5532



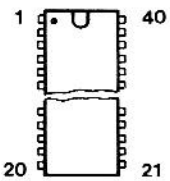
TL 40 H 004



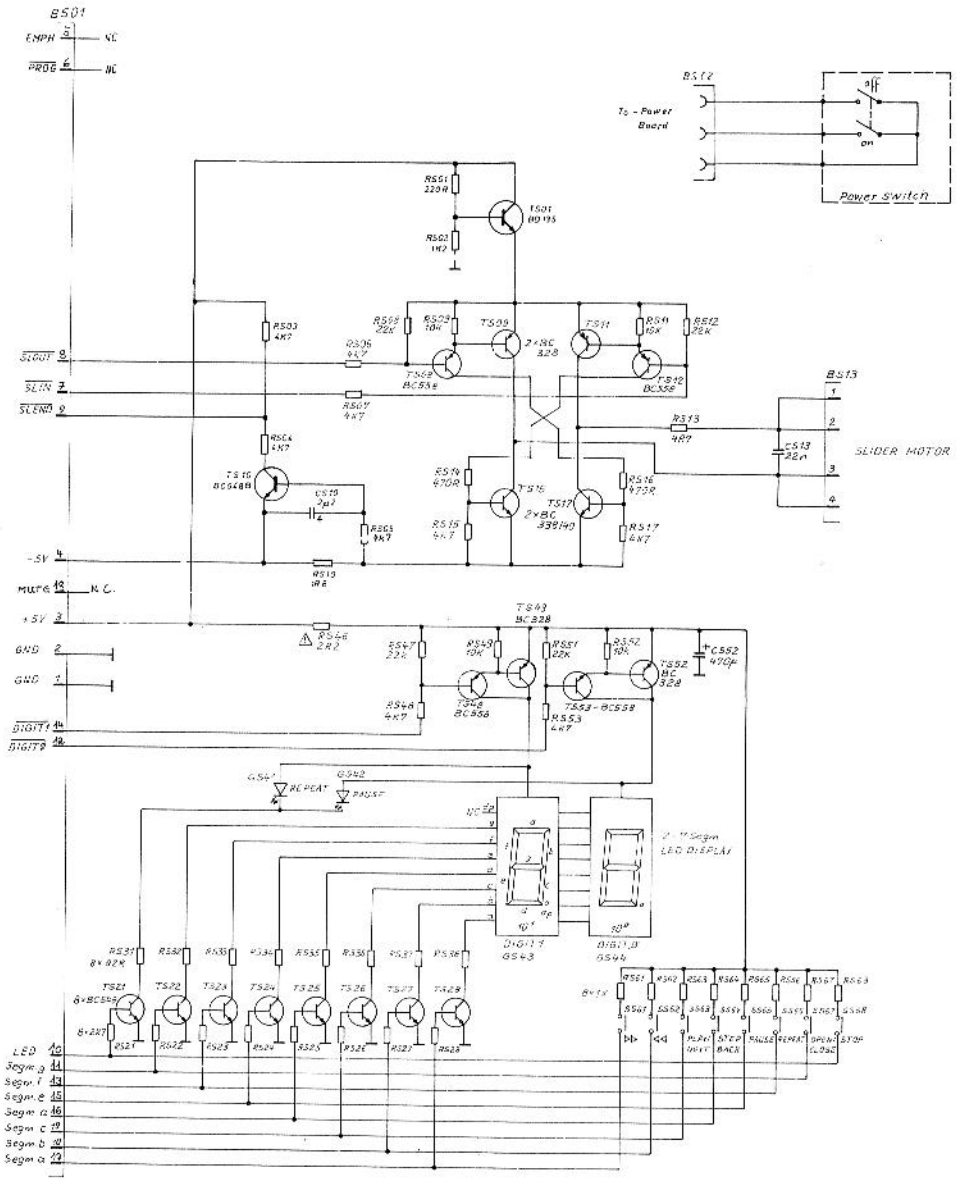
HM 6116

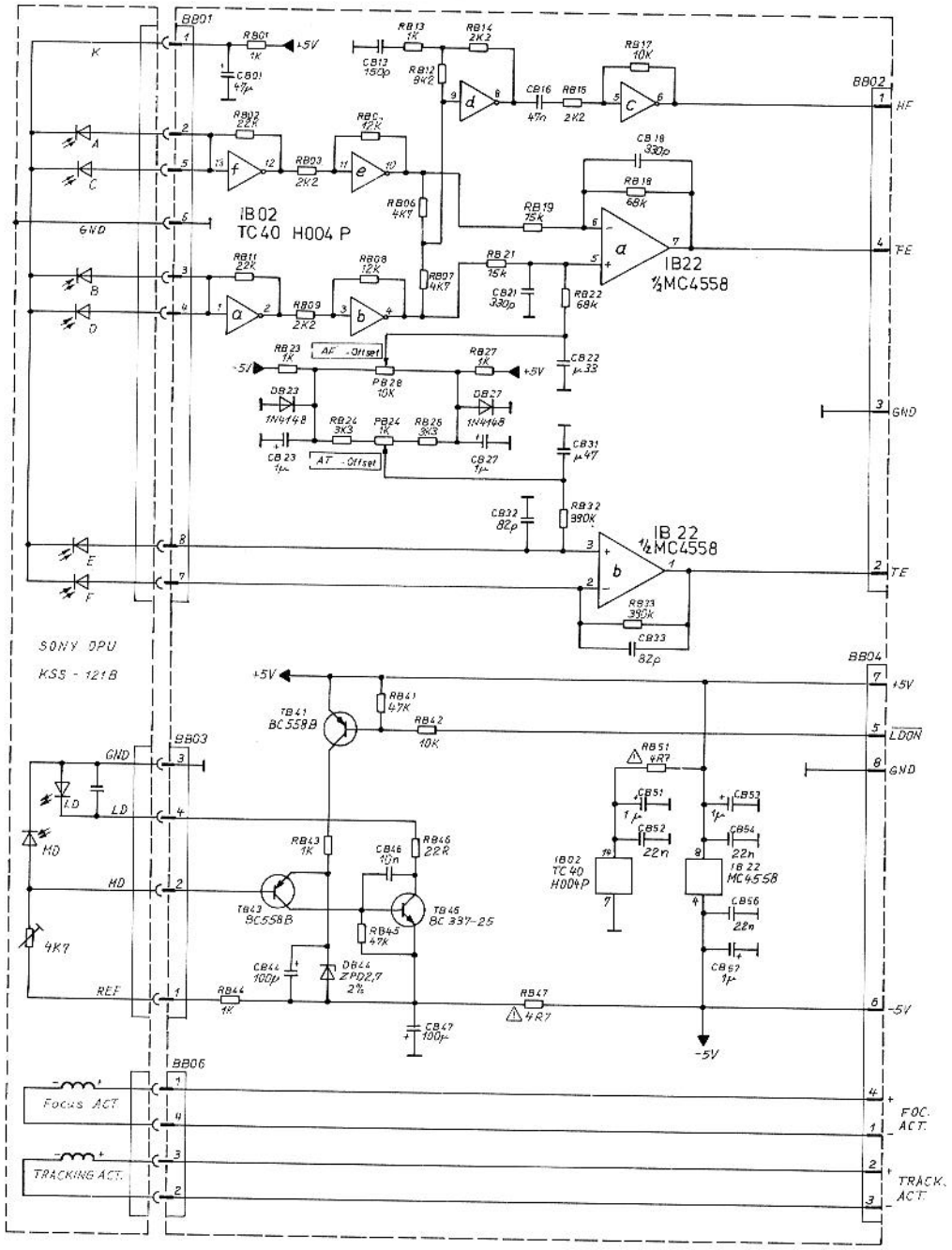


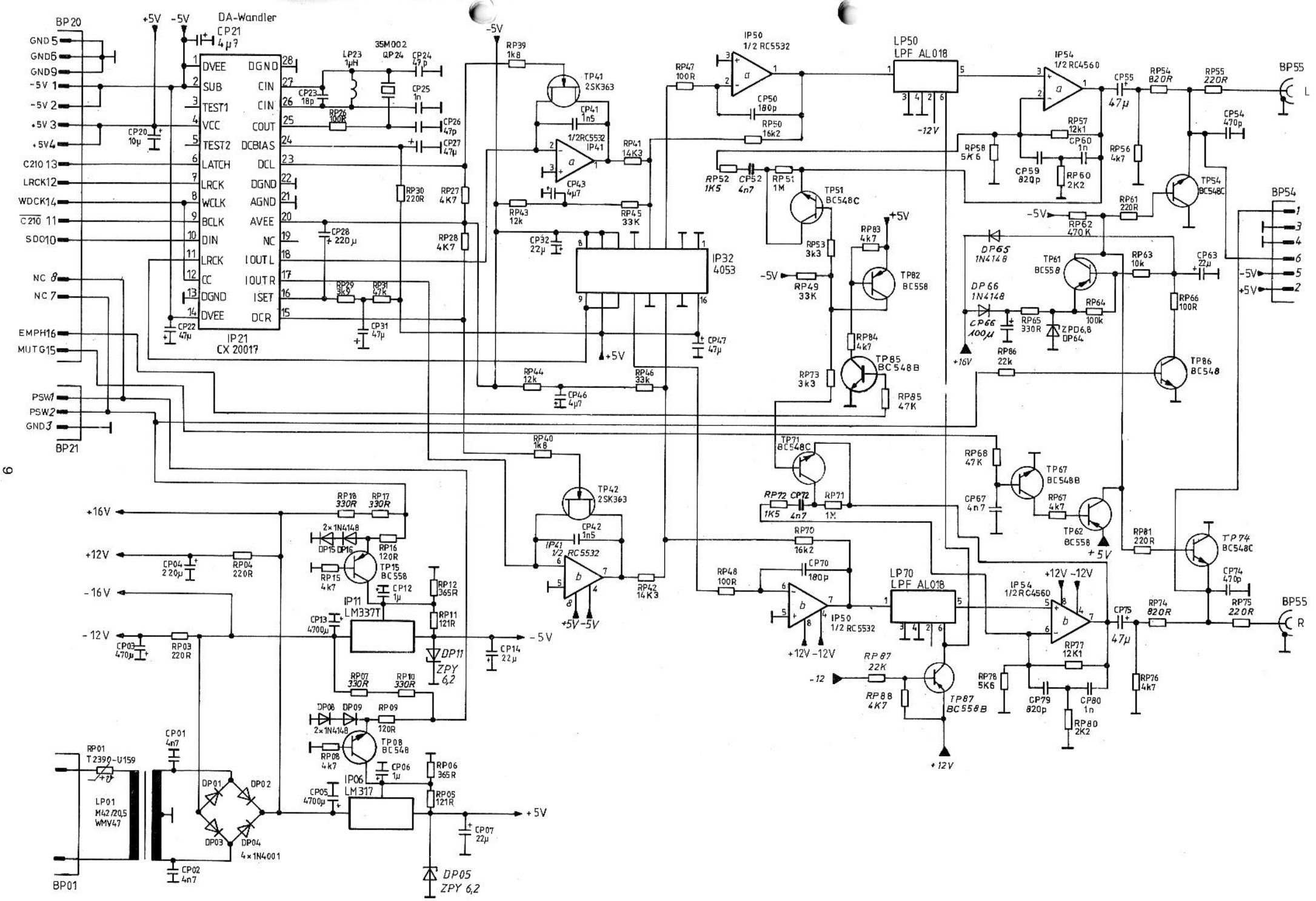
CX 20017



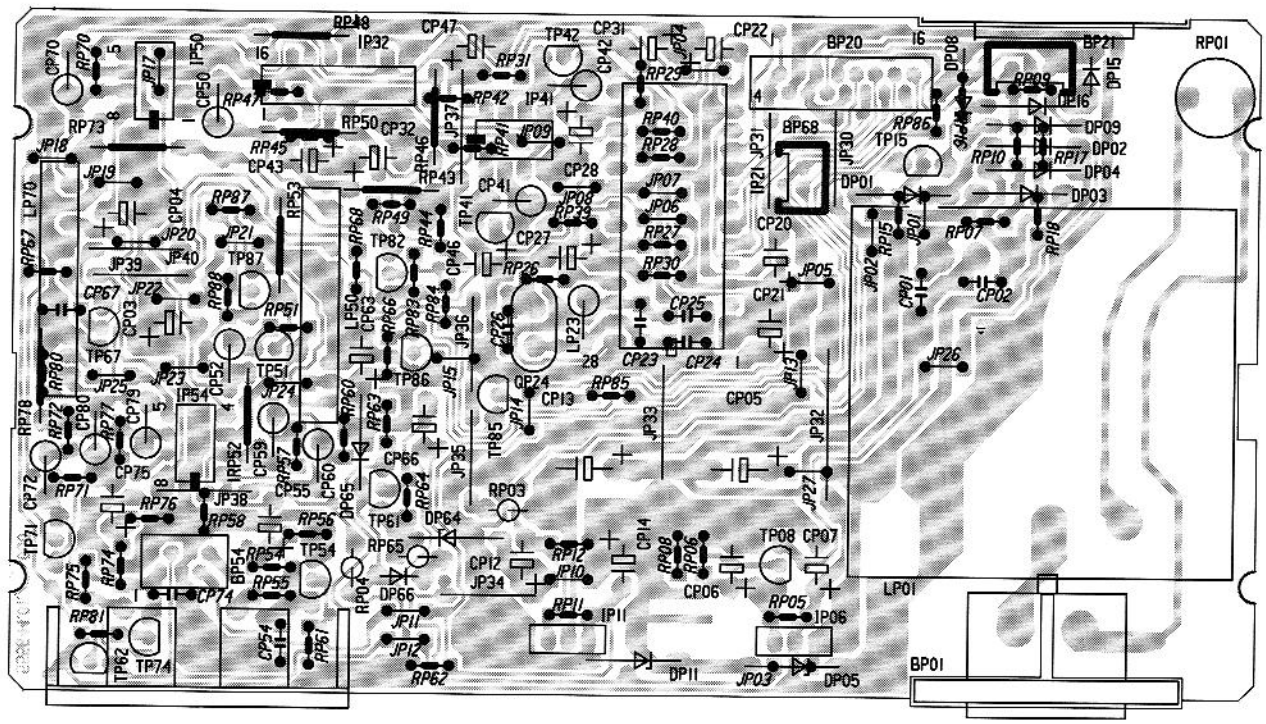
HD 6805


BS01
EMPH
PROG
NC
BS12
To Power Board
Power Switch
SLEDOT
SLIN
SLEND
SLIDER MOTOR
BS13
-5V
MUTE
N.C.
+5V
GND
DIGIT1
DIGIT2
REPEAT
PAUSE
7 Segm LED DISPLAY
DIGIT1 GS43
DIGIT2 GS44
LED
Segm g
Segm f
Segm e
Segm d
Segm c
Segm b
Segm a

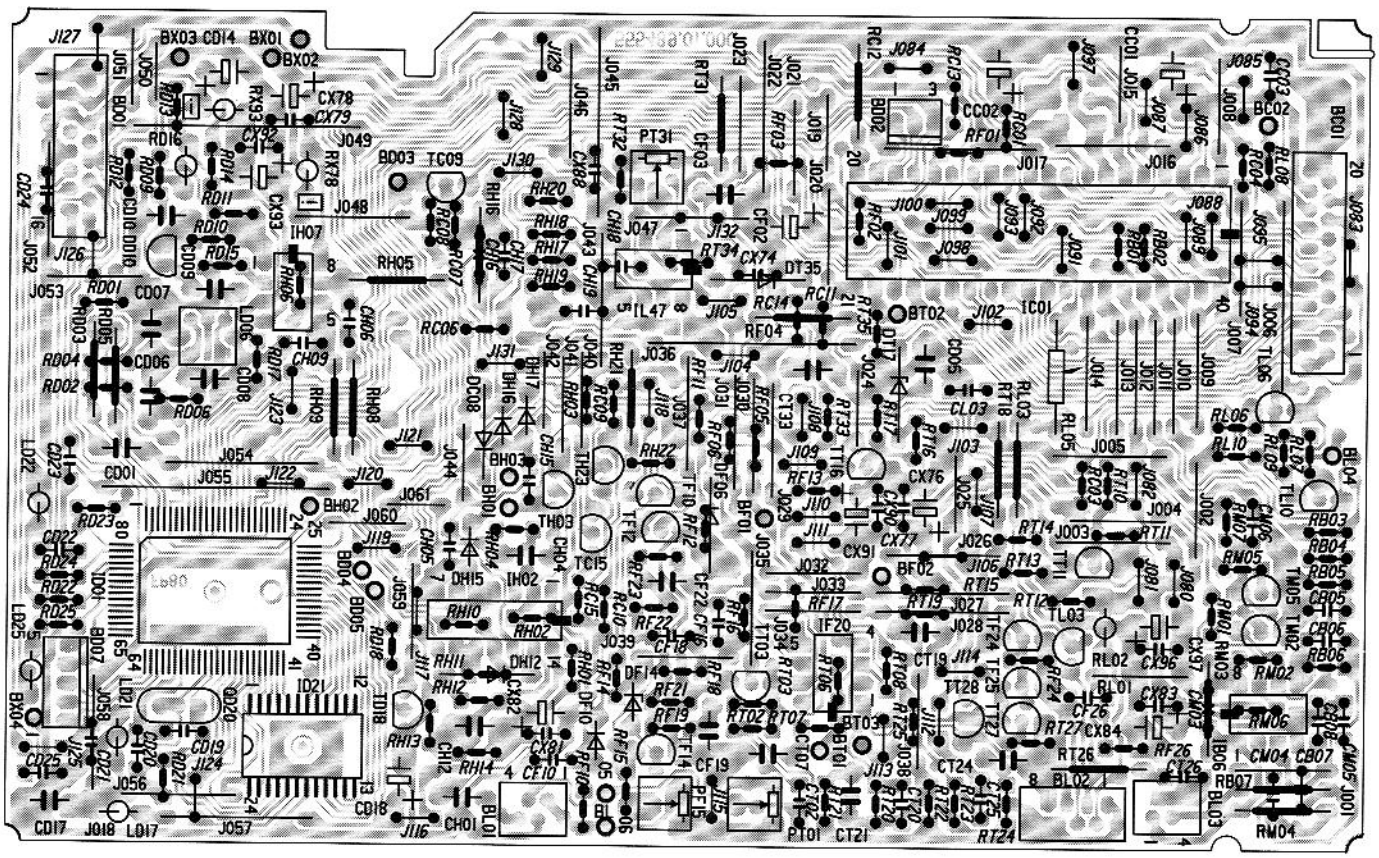

BB01
BB02
BB03
BB04
BB06
IB02
TC40 H004 P
IB22
½MC4558
SONY DPU
KSS-121B
AF - Offset
AT - Offset
HF
FE
TE
GND
LDON
-5V
FOC. ACT.
TRACK. ACT.
FOCUS ACT.
TRACKING ACT.


BP20
GND 5
GND6
GND9
-5V 1
-5V 2
+5V 3
+5V4
C210 13
LRCK12
WDCK14
C210 11
SDO10
NC 8
NC 7
EMPH16
MUTG15
PSW1
PSW2
GND3
BP21
+5V
-5V
DA-Wandler
CP21 4µ7
IP21 CX 20017
DVEE
SUB
TEST1
VCC
TEST2
LATCH
LRCK
WCLK
BCLK
DIN
LRCK
CC
DGND
DVEE
DGND
CIN
CIN
COUT
DCBIAS
DCL
DGND
AGND
AVEE
NC
IOUTL
IOUTR
ISET
DCR
CP20 10µ
CP22 47µ
CP23 18p
LP23 1µH
35M002
QP24
CP24 47p
CP25 1n
CP26 47p
CP27 47µ
RP26 100R
RP30 220R
RP27 4K7
RP28 4K7
CP28 220µ
RP29 3k9
RP31 47k
CP31 47µ
RP39 1k8
TP41 2SK363
CP41 1n5
IP41 1/2RC5532
CP43 4µ7
RP41 14K3
RP43 12k
RP45 33K
CP32 22µ
IP32 4053
CP47 47µ
RP44 12k
CP46 4µ7
RP46 33k
RP47 100R
IP50 1/2 RC5532
CP50 180p
RP50 16k2
RP52 1K5
CP52 4n7
RP51 1M
TP51 BC548C
RP53 3k3
RP49 33K
RP83 4k7
TP82 BC558
RP84 4k7
TP85 BC548B
RP73 3k3
RP85 47K
LP50 LPF AL018
-12V
IP54 1/2 RC4560
CP55 47µ
RP54 820R
RP55 220R
BP55 L
RP57 12k1
CP60 1n
RP58 5K6
CP59 820p
RP60 2K2
RP56 4k7
CP54 470p
TP54 BC548C
BP54
RP61 220R
RP62 470K
DP65 1N4148
DP66 1N4148
TP61 BC558
RP63 10k
CP63 22µ
CP66 100µ
RP65 330R
ZPD6,8 DP64
RP64 100k
RP66 100R
RP86 22k
+16V
TP86 BC548
RP40 1k8
TP42 2SK363
CP42 1n5
IP41 1/2 RC5532
RP42 14K3
TP71 BC548C
RP72 1K5
CP72 4n7
RP71 1M
RP70 16k2
CP70 180p
RP48 100R
LP70 LPF AL018
IP50 1/2 RC5532
+12V -12V
RP87 22K
RP88 4K7
TP87 BC558B
-12
+12V
RP68 47K
TP67 BC548B
CP67 4n7
RP67 4k7
TP62 BC558
+5V
RP81 220R
TP74 BC548C
CP74 470p
RP75 220R
BP55 R
IP54 1/2 RC4560
CP75 47µ
RP74 820R
RP77 12K1
RP78 5K6
CP79 820p
CP80 1n
RP80 2K2
RP76 4k7
+16V
+12V
-16V
-12V
CP04 220µ
RP04 220R
CP03 470µ
RP03 220R
RP18 330R
RP17 330R
2×1N4148
DP15 DP16
RP16 120R
TP15 BC558
RP15 4k7
CP12 1µ
RP12 365R
IP11 LM337T
CP13 4700µ
RP11 121R
DP11 ZPY 6,2
CP14 22µ
RP07 330R
RP10 330R
DP08 DP09
RP09 120R
2×1N4148
TP08 BC548
RP08 4k7
CP06 1µ
RP06 365R
IP06 LM317
CP05 4700µ
RP05 121R
CP07 22µ
DP05 ZPY 6,2
RP01 T2390-U159
LP01 M42/20,5 WMV47
CP01 4n7
DP01 DP02 DP03 DP04
4×1N4001
CP02 4n7
BP01

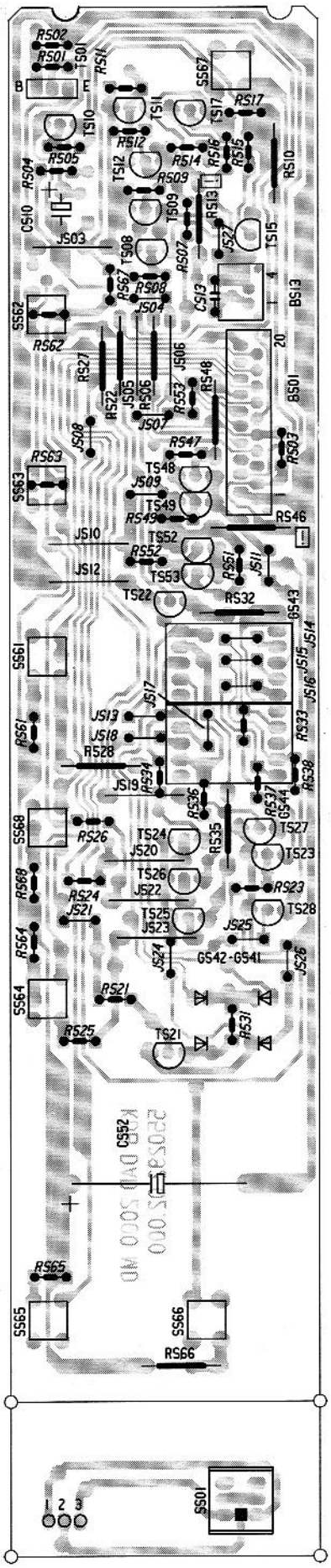
Netz/Filterplatte / Power/Filter board / Platine de secteur/Filtre



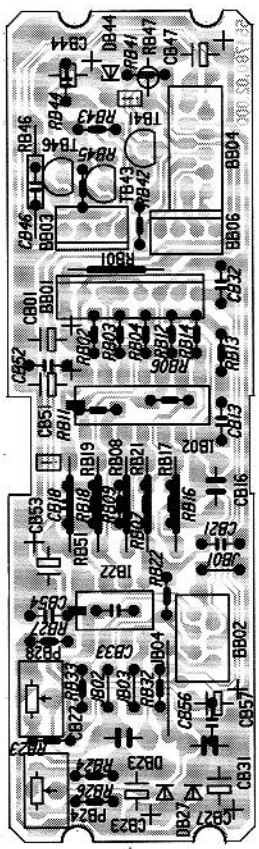
Servoplatte / Servo board / Platine de servo

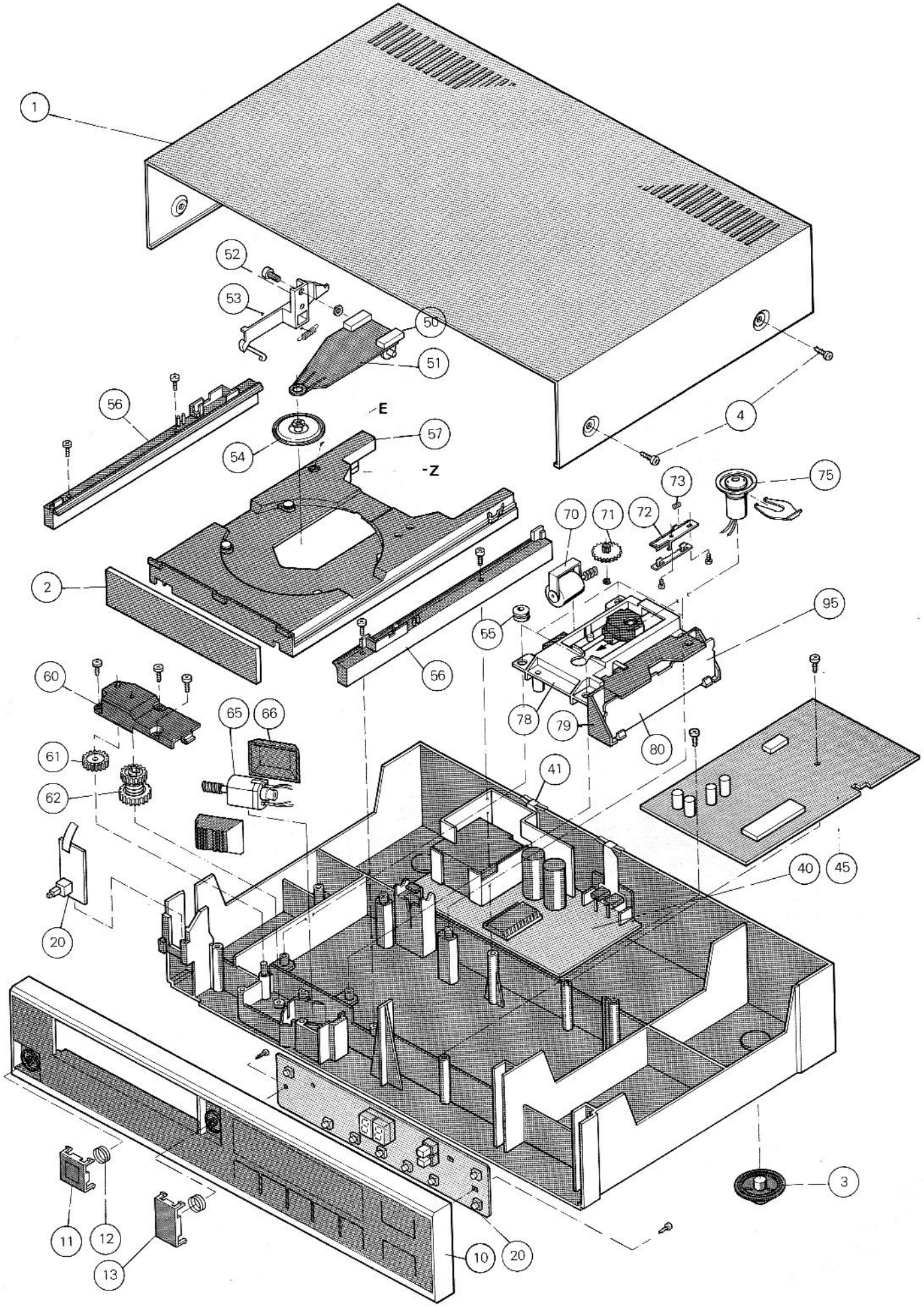


Tastenplatte
Key board
Platine de commande



Pickup-Platte
Pick up board
Platine de pickup

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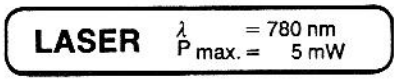
Ersatzteile · Replacement parts · Pièces détachées · CD 20/150

Pos.	Art.-Nr.	Stck	Bezeichnung
1	279271	1	Gehäuseblech GM
1	279358	1	Gehäuseblech PM
2	279346	1	Abdeckung
3	277540	4	Dämpfungsteil
4	279440	4	Linsenschraube 3,5 x 12
10	280875	1	Frontblende GM CD 20
10	280876	1	Frontblende PM CD 20
10	280877	1	Frontblende SI CD 150
10	281407	1	Frontblende CDP 4500
11	279273	1	Powertaste
12	279299	2	Druckfeder
13	279272	1	Taste
20	280885	1	**Tastenplatte**
21	280940	1	Display D 351 PA
GS 41	280886	2	Diode TLFR 1110
GS 42	280886	2	Diode TLFR 1110
RS 46	280887	1	Sicherungswiderstand 2,2/10/0,3
SS 1	280888	1	Schalter
SS 61	276045	8	Schalter
bis			
SS 68	276045	8	Schalter
TS 1	220608	1	Transistor BD 135
TS 8	277937	4	Transistor BC 558
TS 9	231062	1	Transistor BC 328
TS 10	240786	1	Transistor BC 548 B
TS 11	231062	1	Transistor BC 328
TS 12	277937	4	Transistor BC 558
TS 15	280136	2	Transistor BC 338-40
TS 17	280136	2	Transistor BC 338-40
TS 21	244715	7	Transistor BC 548 C
bis			
TS 28	244715	7	Transistor BC 548 C
TS 48	277937	4	Transistor BC 558
TS 49	231062	1	Transistor BC 328
TS 52	231062	1	Transistor BC 328
TS 53	277937	4	Transistor BC 558
40	280889	1	**Netz/Filterplatte**
41	280724	1	Massefeder
BP 1	279625	1	Gerätestecker
BP 55	279894	1	Cinchbuchse
DP 1	227344	4	Diode 1 N 4001
bis			
DP 4	227344	4	Diode 1 N 4001
DP 5	279931	2	Diode ZPY 6,2
DP 8	223906	3	Diode 1 N 4148
DP 9	223906	3	Diode 1 N 4148
DP 11	279931	2	Diode ZPY 6,2
DP 15	223906	1	Diode 1 N 4148
DP 16	223906	3	Diode 1 N 4148
DP 64	280898	1	Diode ZPD 6,8
DP 65	223906	3	Diode 1 N 4148
DP 66	223906	1	Diode 1 N 4148
IP 6	279927	1	IC LM 317 T
IP 11	280897	1	IC LM 337 T
IP 21	280890	1	IC CX 20017
IP 32	280892	1	IC HCF 4053 BE MOS
IP 41	279914	2	IC NE 5532 N/RC 5532 N
IP 50	279914	2	IC NE 5532 N/RC 5532 N
IP 54	279915	1	IC RC 4560 N
LP 1	280893	1	Netztrafo
LP 23	280894	1	Drossel 1 MYH/20
LP 50	280895	1	Filter AL 018
LP 70	280896	2	Quarz 35 M 002
QP 24	280896	1	Quarz 35 M 002
TP 8	244715	3	Transistor BC 548 C
TP 15	277937	1	Transistor BC 558
TP 41	280899	2	Transistor 2 SK 363
TP 42	280899	2	Transistor 2 SK 363
TP 51	244715	3	Transistor BC 548 C
TP 54	244715	3	Transistor BC 548 C
TP 61	277937	2	Transistor BC 558
TP 62	277937	2	Transistor BC 558
TP 67	240786	1	Transistor BC 548 B
TP 71	244715	5	Transistor BC 548 C
TP 74	244715	5	Transistor BC 548 C
TP 82	277937	1	Transistor BC 558
TP 85	240786	1	Transistor BC 548 B
TP 86	244715	5	Transistor BC 548 C
TP 87	240787	1	Transistor BC 558 B
45	280900	1	**Servo-Platte**
DC 8	279930	1	Diode 1 N 4448

Pos.	Art.-Nr.	Stck	Bezeichnung
DD 10	275855	1	Diode SVC 321
DF 6	223906	3	Diode 1 N 4148
DF 10	279930	1	Diode 1 N 4448
DF 14	279895	1	Diode ZPD 3,3/BZX 83 C3V3
DH 12	223906	3	Diode 1 N 4148
DH 15	223906	3	Diode 1 N 4148
DH 16	223906	3	Diode 1 N 4148
DH 17	223906	3	Diode 1 N 4148
DT 35	223906	3	Diode 1 N 4148
IB 6	280901	1	IC L 272 M
IC 1	280903	1	IC MP HD 6805 V 1
ID 1	280905	1	IC CX 23035 MOS
ID 21	280906	1	IC HM 6116 FP 4
IF 20	236299	2	IC RC 4558 D
IH 2	279905	1	IC 40 H 004 P MOS
IH 7	245236	1	IC TL 082 CP
IL 47	236299	2	IC RC 4558 D
LD 6	280907	1	Filter 7 x 7 8,46 MHZ
LD 21	280911	1	Drossel 18 MH
LD 22	280912	2	Drossel 47 MH
LD 25	280912	2	Drossel 47 MH
PF 15	280908	2	Steller 10 K
PT 1	280908	2	Steller 10 K
PT 31	280909	1	Steller 1 K
QD 20	280910	1	Quarz 8467,2 kHz
TC 9	244715	9	Transistor BC 548 C
TC 15	244715	9	Transistor BC 548 C
TF 10	244715	9	Transistor BC 548 C
TF 12	244715	9	Transistor BC 548 C
TF 14	244715	9	Transistor BC 548 C
TF 24	238894	1	Transistor BC 338
TF 25	231062	1	Transistor BC 328
TH 3	244715	9	Transistor BC 548 C
TH 23	277937	1	Transistor BC 558
TL 3	244715	9	Transistor BC 548 C
TL 6	244715	9	Transistor BC 548 C
TL 10	244715	9	Transistor BC 548 C
TM 2	244715	9	Transistor BC 548 C
TM 5	244715	9	Transistor BC 548 C
TT 3	244715	9	Transistor BC 548 C
TT 11	277937	1	Transistor BC 558
TT 27	231062	1	Transistor BC 328
TT 28	238894	1	Transistor BC 338
50	279017	2	Zuschnitt
51	276861	1	Andruckhebel
52	276862	1	Einstellhebel
53	278866	1	Zugfeder
54	280880	1	Magnethalter
55	279267	4	Dämpfungsteil
56	276885	1	Seitenführung
57	280299	1	Schublade
60	280111	1	Deckel
61	277305	1	Antriebsrad
62	280106	1	Kupplung
65	280882	1	Slider-Motor
66	280078	2	Dämpfungsschale
70	280883	1	Pickup-Motor
71	279339	1	Zahnradkupplung
72	280879	1	Zahnstange
73	279318	1	Druckfeder
75	280884	1	Disc-Motor
78	280878	1	**CD-Laufwerk**
79	280302	1	Halter
95	280916	1	**Pickup-Platte**
DB 23	223906	2	Diode 1 N 4148
DB 27	223906	2	Diode 1 N 4148
DB 44	280915	1	Diode ZPD 2,7/2%
IB 2	279905	1	IC 40 H 004 P MOS
IB 22	236299	1	IC RC 4558 D
PB 24	280913	1	Steller 1 K
PB 28	280914	1	Steller 10 K
TB 41	240787	2	Transistor BC 558 B
TB 43	240787	2	Transistor BC 558 B
TB 46	226870	1	Transistor BC 337-25
	279596	1	Netzkabel Euro
	226817	1	Tonabnehmerkabel Cinch
	279348	1	Bedienungsanleitung CD 20
	280640	1	Bedienungsanleitung CD 150
	279027	1	Faltschachtel
	280091	1	Seitenteil

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



Vorsicht

Das Gerät beinhaltet eine Lasercomponente, daher im Servicefall nachfolgende Hinweise unbedingt beachten:

- Das Gerät arbeitet mit unsichtbarer Laserstrahlung. Bei geöffnetem Gerät tritt unterhalb des Plattenhalters Laserstrahlung aus.
- Nicht in den Laserstrahl blicken.
- Hände und reflektierende Gegenstände nicht in den Laserstrahl bringen.
- Laserschutzbrille nach DIN 58 215 für die angegebene Wellenlänge tragen.
- Unbeteiligte Personen vom Arbeitsplatz fernhalten.

Achtung

Die Einstellungen für den Laserstrahl am Laserabtaster und der LP-Platte dürfen nicht verstellt werden. Im Servicefall ist ein komplettes Laufwerk (Art.-Nr. 280878) fertig eingestellt im Austausch erhältlich.

Caution

This CD-player operates with an invisible laser beam. If service is necessary please pay attention to the following notes:

- When the set is open, laser radiation emerges beneath the record holder arm.
- Do not look into beam.
- Do not expose hands or reflecting objects into laser beam.
- Please wear laser protective glasses according to DIN 58 215 for mentioned wave length.
- Please keep unconcerned people away from working place.

Attention

It is not allowed to adjust positioning of laser beam at laser scanning and LP-plate.
If service is necessary a complete adjusted working gear (Art.-No. 280878) is available for exchange.

Justage-Hinweise

Schublade

a) Manuelles Öffnen: Dazu ist die Zahnstange (Z) nach vorne zu schieben.
b) Spiel: Linke Seitenführung (56) festschrauben dann Schublade mit rechter Seitenführung nach links drücken und festschrauben.
c) Anschlag: Mit dem Exzenter (E) wird die Schublade bündig mit der Frontblende eingestellt.

Andruckhebel

Die Höhe des Andruckhebels (51) ist so einzustellen, daß der Konus des Magnethalters (54) (bei eingelegter Platte) frei läuft.

Adjustment points

Drawer

a) Manual opening: The toothed rob (Z) has to be pushed forward.
b) Play: the left side-guidance (56) is fastened by screws, next the drawer has to be pushed to the left side with the right side-guidance and finally it has also to be fastened by screws.
c) Stop: With the eccentric (E) the drawer ended at the same height as the front panel.

Record holder arm

The height of the lever (51) has to be adjusted. So that the cone of the magnetic holder (54) is running free.