

CarAudio Service Manual

1. Ergänzung / Supplement 1

MCD 36

(G.HF 2800)

MCD 40

(G.HF 2900)



Zusätzlich erforderliche Unterlagen für den Komplettservice
Additionally required Service Documents for the Complete Service

Service Manual

MCD 36
MCD 40

Materialnr./Part No.
72010 748 3000

Service Manual

Sicherheit
Safety

Materialnr./Part No.
72010 800 0000

Grundig Service

Hotline Deutschland...
...Mo.-Fr. 8.00-18.00 Uhr

Technik:

TV	0180/52318-41
TV	0180/52318-49
SAT	0180/52318-48
VCR/LiveCam	0180/52318-42
HiFi/Audio	0180/52318-43
Car Audio	0180/52318-44
Telekommunikation	0180/52318-45
Fax:	0180/52318-51
Planatron (8.00-22.00 Uhr)	0180/52318-99

Ersatzteil-Verkauf:

Mo.-Fr. 8.00-19.00 Uhr

Telefon:	0180/52318-40
Fax:	0180/52318-50

Materialnummer/Part Number 72010 748 3100

Änderungen vorbehalten/Subject to alteration • Printed in Germany

E-BS 36 0400 • 9033

<http://www.grundig.com>

Es gelten die Vorschriften und Sicherheitshinweise gemäß dem Service Manual "Sicherheit", Materialnummer 72010 800 0000, sowie zusätzlich die eventuell abweichenden, landesspezifischen Vorschriften!



The regulations and safety instructions shall be valid as provided by the "Safety" Service Manual, part number 72010 800 0000, as well as the respective national deviations.

Dieses Service Manual gilt für die Geräte MCD 36 und MCD 40 ab folgenden Seriennummern:

MCD 36: 01 00995 0 521 284501

MCD 40: 01 00996 0 521 119801

Für Geräte mit niedrigeren Seriennummern verwenden Sie bitte das Service Manual mit der Materialnummer 72010 748 3000.

This Service Manual is valid for MCD 36 and MCD 40 from the following serial numbers on:

MCD 36: 01 00995 0 521 284501

MCD 40: 01 00996 0 521 119801

For sets with lower serial numbers please use the Service Manual with the part number 72010 748 3000.

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Allgemeiner Teil

Messgeräte / Messmittel

Beachten Sie bitte das GRUNDIG Messtechnik-Programm, das Sie unter folgender Adresse erhalten:

GRUNDIG Instruments Test- und Messsysteme GmbH
 Würzburger Str. 150, D-90766 Fürth/Bay
 Tel. 0911/703-4118, Fax 0911/703-4130
 eMail: instruments@grundig.de; Internet: <http://www.grundig.instruments.de>

Technische Daten

D/A-Wandler	1 Bit
Oversampling-Rate	8 fach
Frequenzbereich	20Hz...20kHz
Geräuschspannungsabstand	95dB
Gleichlaufschwankung	unter Meßgrenze
Klirrfaktor (1kHz)	0,008%
Nenn-Ausgangspegel	0,68V
Nenn-Ausgangsimpedanz	1kΩ
Stromaufnahme	400mA
Betriebstemperatur	-10°C ... +50°C
Gewicht ca.	2kg
Abmessungen	
(MCD 36)	25 x 6,4 x 16cm
(MCD 40)	25 x 8,1 x 16cm

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General Section

Test Equipment / Aids

Please note the Grundig Catalog "Test and Measuring Equipment" obtainable from:

Technical Data

D/A Converter	1Bit
Oversampling Rate	8 times
Frequency Range	20Hz...20kHz
Signal/Noise Ratio	95dB
Wow and Flutter	immeasurably low
Distortion Factor (1kHz)	0.008%
Nominal Output Level	0.68V
Nominal Output Impedance	1kΩ
Current Consumption	400mA
Operating Temperature	-10°C ... +50°C
Weigth approx.	2kg
Dimensions	
(MCD 36)	25 x 6.4 x 16cm
(MCD 40)	25 x 8.1 x 16cm

Ausbauhinweise

1a. Zerlegen des Gehäuses (MCD 36)

Gehäuseoberteil abnehmen (Fig. 1a)

- Die 9 Schrauben (A) heraus-schrauben.
- Die 4 Rastnasen (1) ausrasten und die Frontblende (2) nach vorne abziehen.
- Gehäuseoberteil an der rechten Seite ausrasten, nach links hochklappen und abnehmen.

Gehäuseunterteil abnehmen (Fig. 1a)

- Die 2 Schrauben (B) heraus-schrauben und Anschluss-Platte (C) abnehmen.
- Die 4 Klebstreifen (8) abziehen und die 4 Dämpfer (7) nach aussen herausziehen.
- Die Federn (5) und (6) aushängen.
- Gehäuseunterteil abnehmen.

Hebel (4) ausbauen (Fig. 1a)

- Die 2 Schrauben (E) heraus-schrauben.
- Die Hebel (4) bis zur Aussparung drehen und nach aussen herausnehmen.

1b. Zerlegen des Gehäuses (MCD 40)

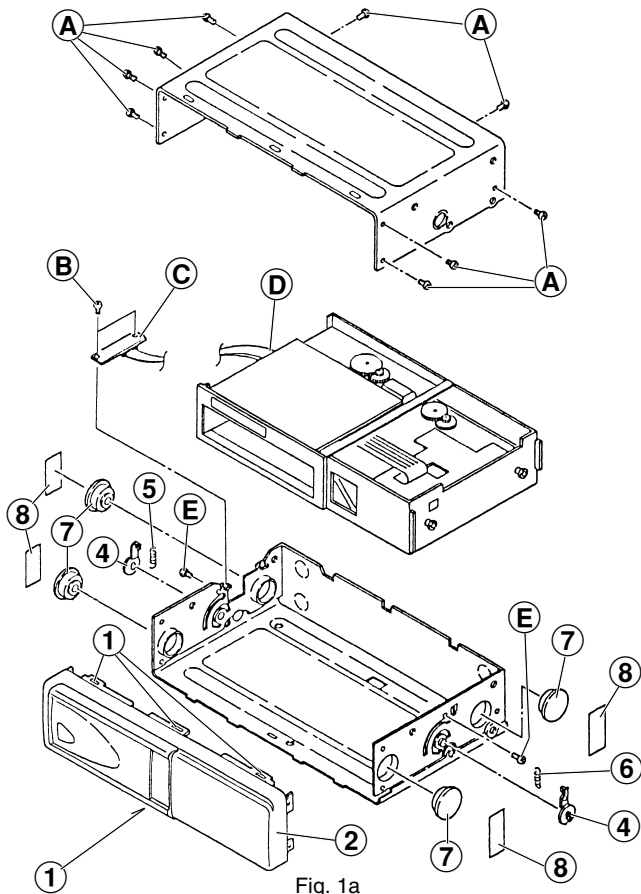
Gehäuseoberteil abnehmen (Fig. 1b)

- Die 6 Schrauben (A) heraus-schrauben.
- Die 10 Rastnasen (1) ausrasten und die Frontblende (2) nach vorne abziehen.
- Gehäuseoberteil an der rechten Seite ausrasten, nach links hochklappen und abnehmen.

Gehäuseunterteil abnehmen (Fig. 1b)

- Die 2 Schrauben (B) heraus-schrauben und Anschluss-Platte (C) abnehmen.
- Die 4 Klebstreifen (8) abziehen und die 4 Dämpfer (7) nach aussen herausziehen.
- Die Federn (5) und (6) aushängen.
- Gehäuseunterteil abnehmen.

MCD 36



Disassembly Instructions

1a. Disassembling of the Cabinet (MCD 36)

Removing the upper part of the cabinet (Fig. 1a)

- Undo 9 screws (A).
- Disengage 4 catches (1) and pull the front panel (2) towards the front.
- Detach the top of the cabinet on the right side and raise it towards the left to remove it.

Removing the bottom part of the cabinet (Fig. 1a)

- Undo 2 screws (B) and remove the Connection Board (C).
- Remove the 4 pieces of adhesive tape (8) and pull out the 4 dampers (7).
- Unhook the springs (5) and (6).
- Remove the bottom part of the cabinet.

Removing the levers (4) (Fig. 1a)

- Undo 2 screws (E).
- Turn the levers (4) to the outcut and take them out.

1b. Disassembling of the Cabinet (MCD 40)

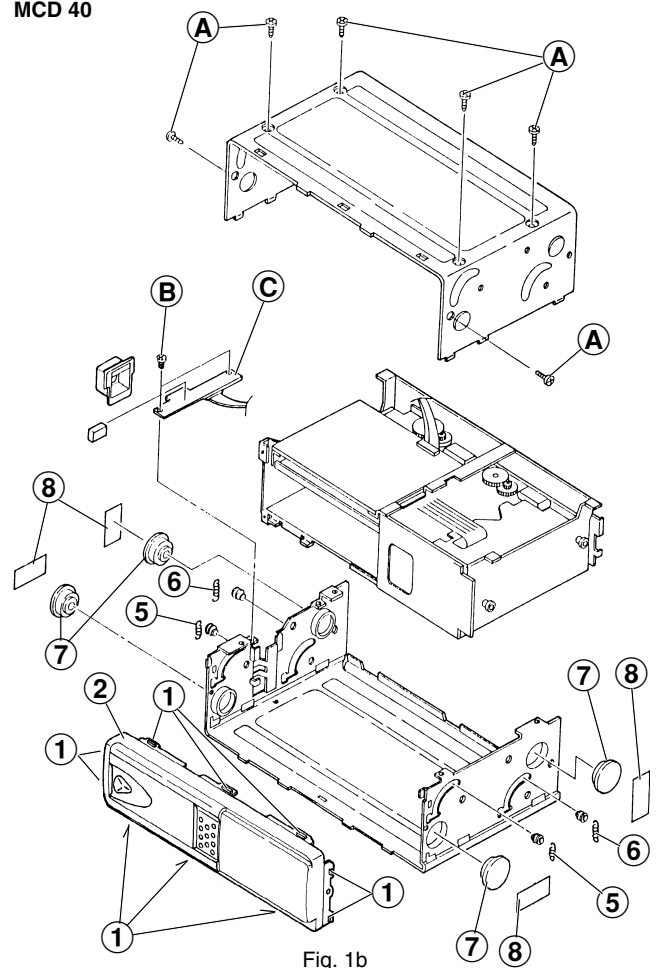
Removing the upper part of the cabinet (Fig. 1b)

- Undo 6 screws (A).
- Disengage 10 catches (1) and pull the front panel (2) towards the front.
- Detach the top of the cabinet on the right side and raise it towards the left to remove it.

Removing the bottom part of the cabinet (Fig. 1b)

- Undo 2 screws (B) and remove the Connection Board (C).
- Remove the 4 pieces of adhesive tape (8) and pull out the 4 dampers (7).
- Unhook the springs (5) and (6).
- Remove the bottom part of the cabinet.

MCD 40



2. Hauptplatte "MAIN PCB" ausbauen (Fig. 2)

- Gehäuseoberenteil abnehmen (Pkt. 1).
- 3 Schrauben **C11** heraus-schrauben.
- Steckverbindungen lösen.
- Leiterplatte herausnehmen.

3. Ausbau des Lift-Motors C7 (Fig. 2)

- Hauptplatte "MAIN PCB" ausbauen (Pkt 2).
- Kunststoffscheiben **C5** abziehen.
- Zahnräder **C2** und **C3** abnehmen.
- 2 Schrauben **C8** heraus-schrauben.
- Lift-Motor **C7** ablöten und herausnehmen.

4. Ausbau des Loading-Motors C48

- Hauptplatte "MAIN PCB" ausbauen (Pkt 2).
- 4 Schrauben **C10** heraus-schrauben und Magazinschacht-Oberteil **C1** herausnehmen (Fig. 2).
- Kunststoffscheiben **C53** abziehen (Fig. 3).
- Zahnräder **C50** und **C51** herausnehmen (Fig. 3).
- 2 Schrauben **C49** heraus-schrauben (Fig. 3).
- Loading-Motor **C48** ablöten und herausnehmen (Fig. 3).

5. Ausbau des Optokopplers J

- Hauptplatte "MAIN PCB" ausbauen (Pkt 2).
- 4 Schrauben **C10** heraus-schrauben und Magazinschacht-Oberteil **C1** herausnehmen (Fig. 2).
- 2 Schrauben **I** heraus-schrauben (Fig. 3).
- Optokoppler **J** ablöten und herausnehmen.

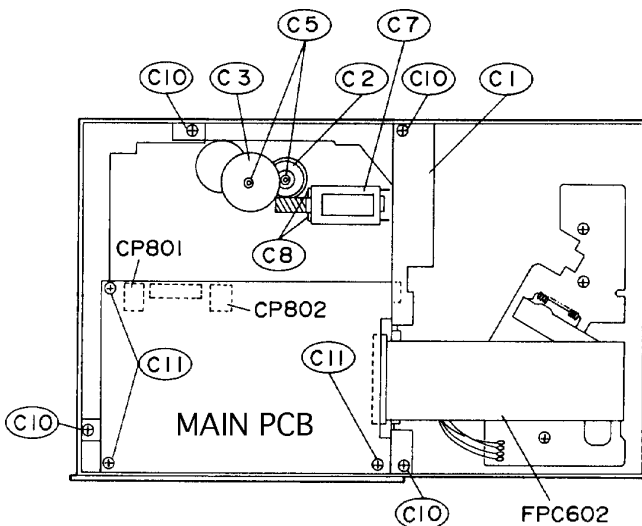


Fig. 2

2. Removing the Main Board (Fig. 2)

- Remove the upper part of the cabinet (para 1).
- Undo 3 screws **C11**.
- Unplug all connectors.
- Take out the PCB.

3. Removing the Lift Motor C7

- Remove the Main Board (para 2).
- Loosen and remove the plastic washers **C5**.
- Pull off the gear wheels **C2** and **C3**.
- Undo 2 screws **C8**.
- Unsolder the Lift Motor **C7** and take it out.

4. Removing the Loading Motor C48

- Remove the Main Board (para 2).
- Undo 4 screws **C10** and remove the cover plate of the CD magazine compartment **C1** (Fig. 2).
- Loosen and remove the plastic washers **C53** (Fig. 3).
- Pull off the gear wheels **C50** and **C51** (Fig. 3).
- Undo 2 screws **C49** (Fig. 3).
- Unsolder the Lift Motor **C48** and take it out (Fig. 3).

5. Removing the Opto Coupler J

- Remove the Main Board (para 2).
- Undo 4 screws **C10** and remove the cover plate of the CD magazine compartment **C1** (Fig. 2).
- Undo 2 screws **I** (Fig. 3).
- Unsolder the Opto Coupler **J** and take it out.

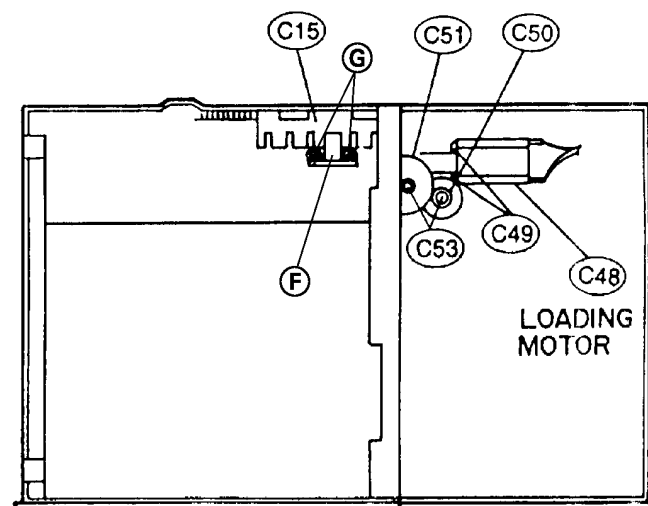


Fig. 3

6. CD-Leiterplatte PCB3 und Pick-Up-Einheit C87 ausbauen

- **Wichtig:** Vor dem Ausbau der Pick-Up-Einheit müssen die beiden Lötstellen auf der Pick-Up-Einheit kurzgeschlossen werden! (Fig. 4)
- Gehäuse zerlegen (Pkt. 1).
- Steckverbindungen **FPC602**, **CS901**, **CP904** und **CP906** lösen (Fig. 5).
- 3 Schrauben **C73** heraus-schrauben (Fig. 5).
- Schraube **C97** und Schraube **C96** heraus-schrauben (Fig. 6).
- Achse **C90** herausziehen (Fig. 6).
- Pick-Up-Einheit herausnehmen.
- Steckverbindung **FPC601** lösen (Fig. 4) und CD-Leiterplatte **PCB3** herausnehmen.

7. Disc-Motor C72 ausbauen (Fig. 6)

- Pick-Up-Einheit ausbauen (Pkt. 6).
- 2 Schrauben **C77** heraus-schrauben und Disc-Motor herausnehmen.

6. Removing the CD Board PCB3 and the Pick Up Unit C87

- **Important:** Before removing the Pick Up Unit the two solder tags on the Pick Up Unit must be connected (Fig. 4).
- Disassemble the cabinet (para 1).
- Unplug the connectors **FPC602**, **CS901**, **CP904** and **CP906** (Fig. 5).
- Undo 3 screws **C73** (Fig. 5).
- Undo screws **C97** and **C96** (Fig. 6).
- Pull out the shaft **C90**.
- Take out the Pick Up Unit.
- Unplug the connector **FPC601** (Fig. 4) and take out the CD Board **PCB3**.

7. Removing the Disc Motor C72 (Fig. 6)

- Remove the Pick Up Unit (para 6).
- Undo 2 screws **C77** and remove the Disc Motor.

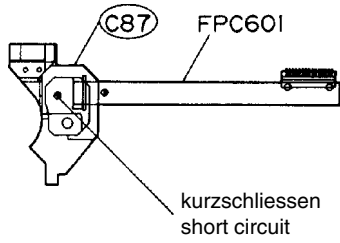


Fig. 4

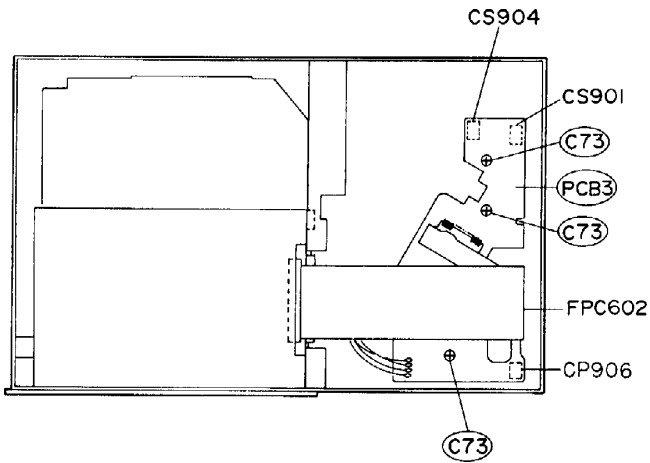


Fig. 5

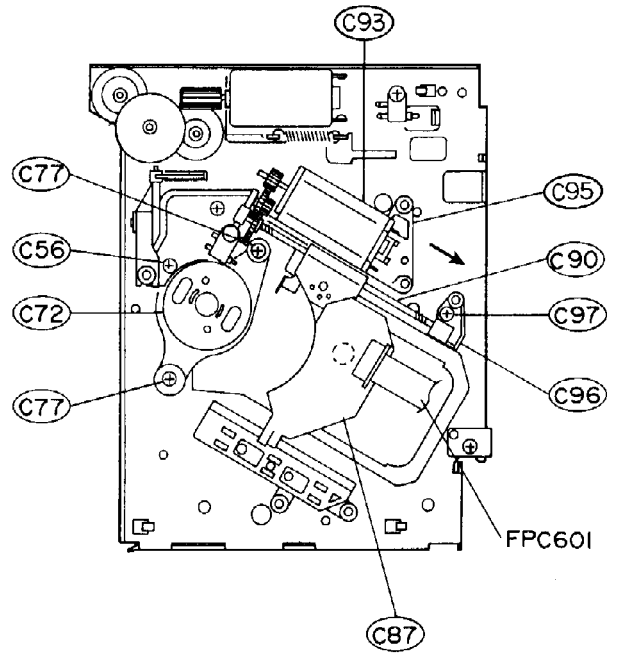
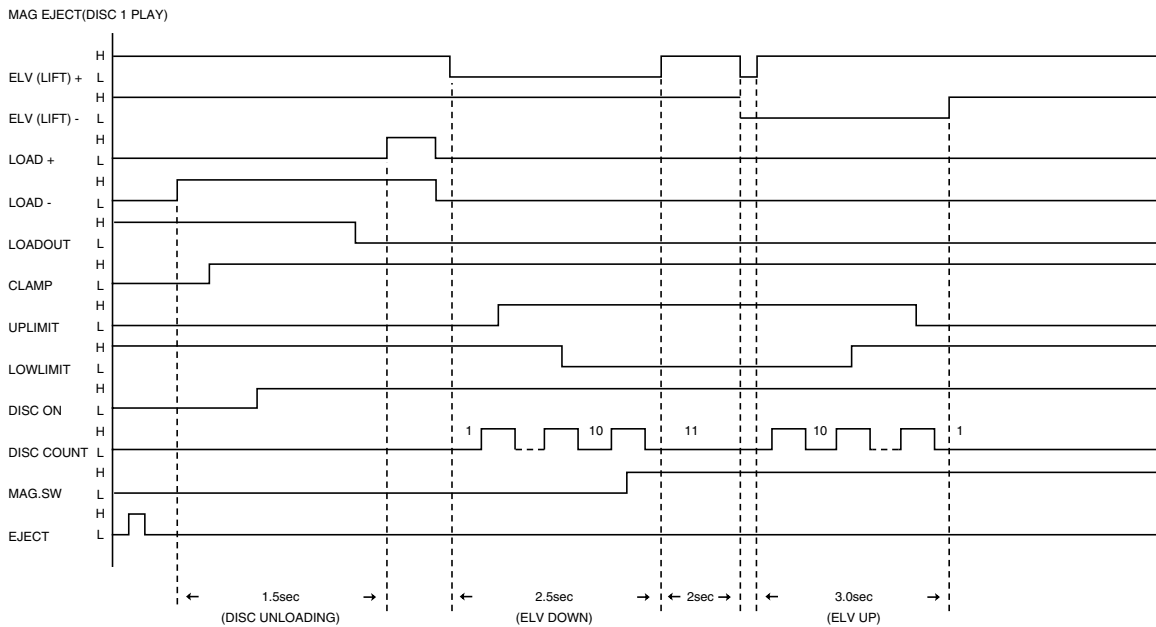
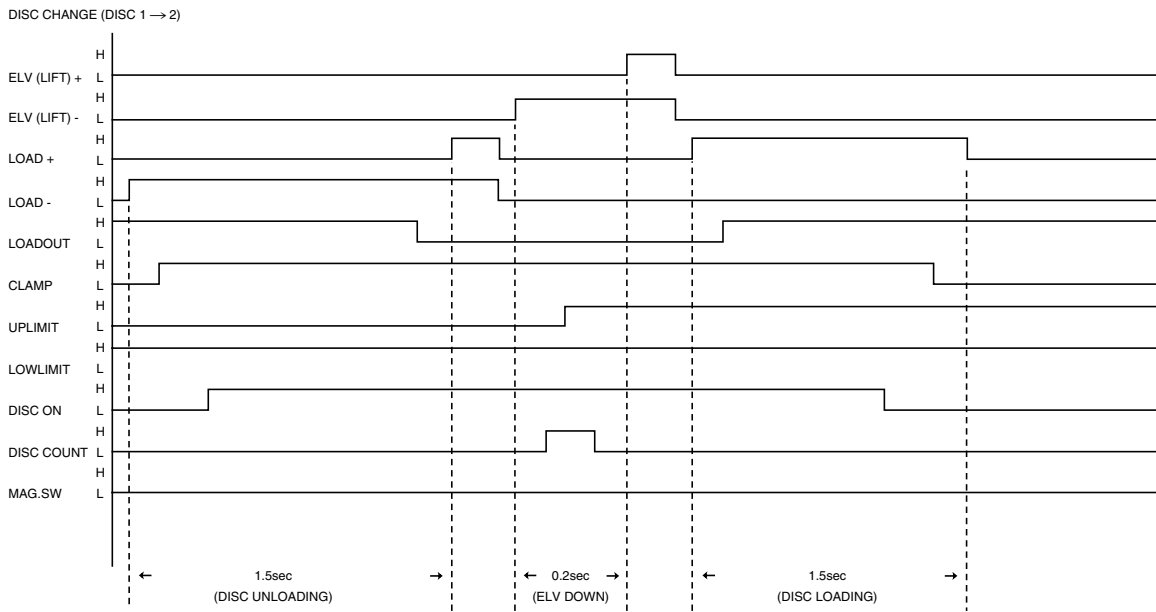
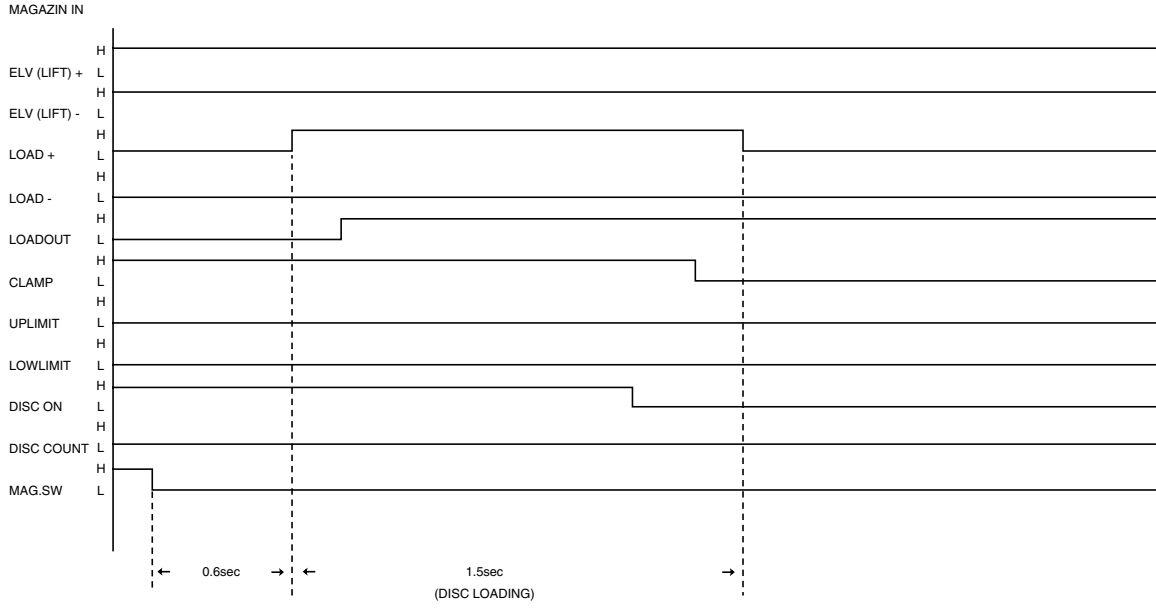


Fig. 6

Steuerungsablauf der Mechanik

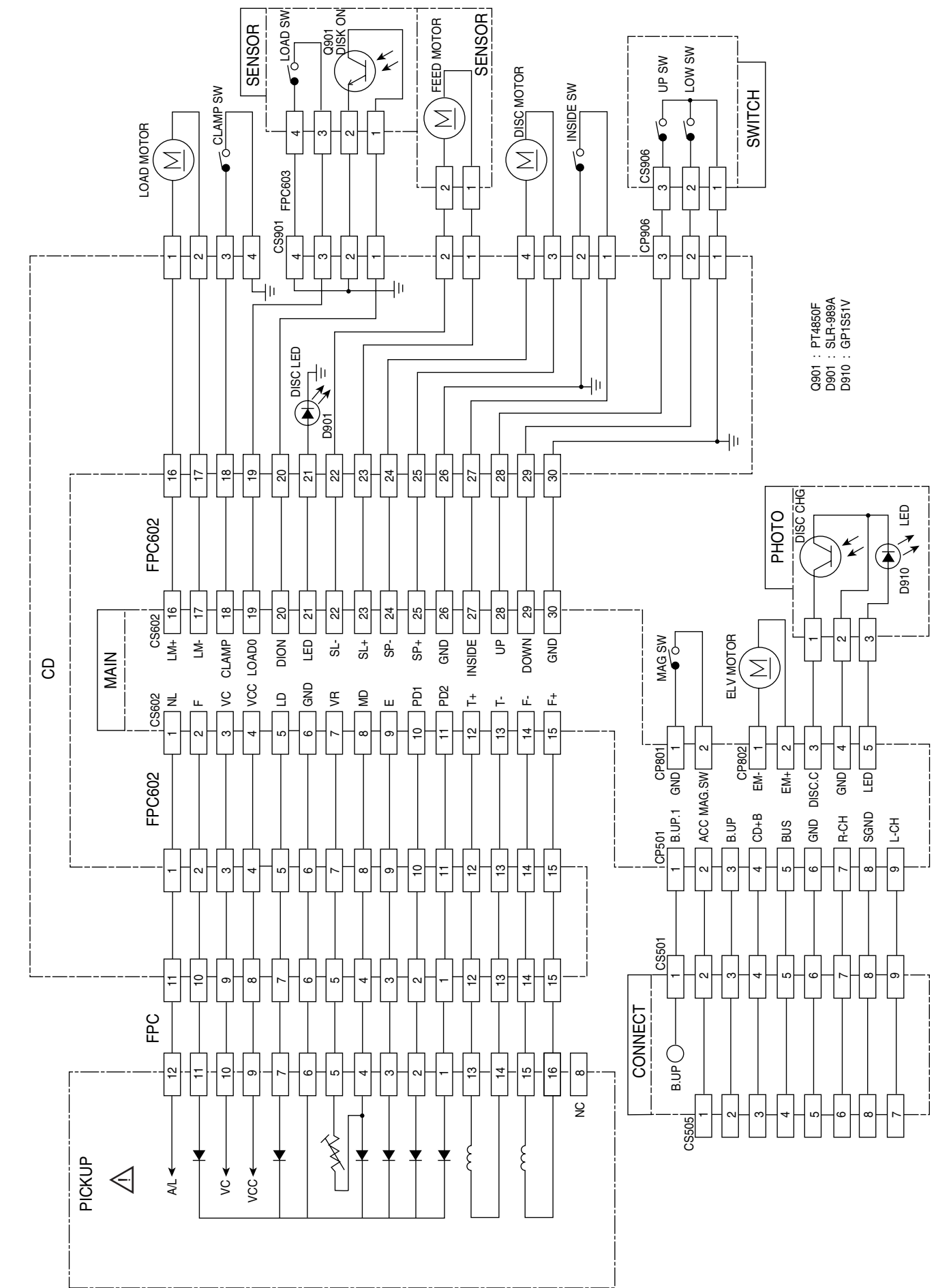
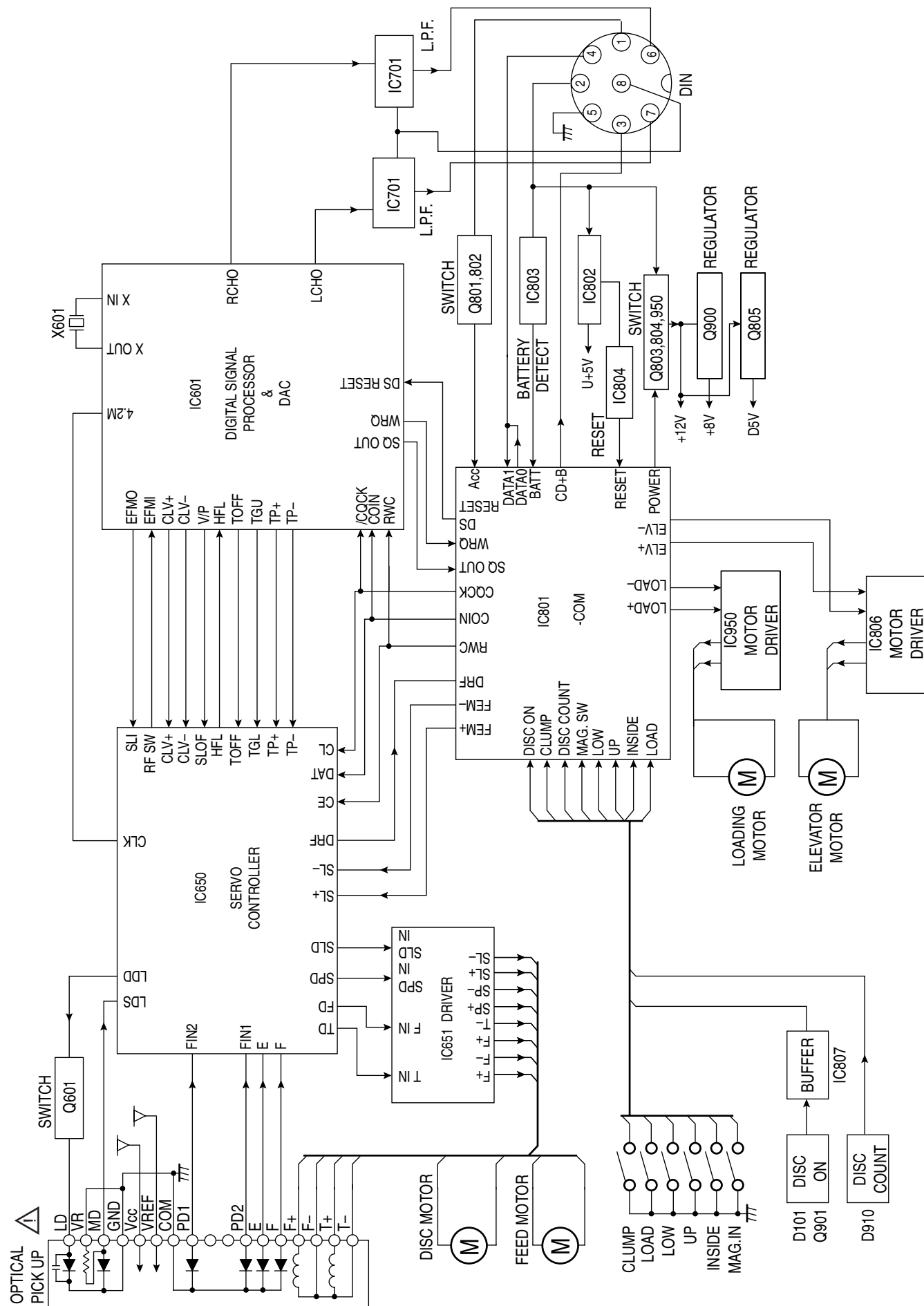
Flowchart of Control Operation of Mechanism



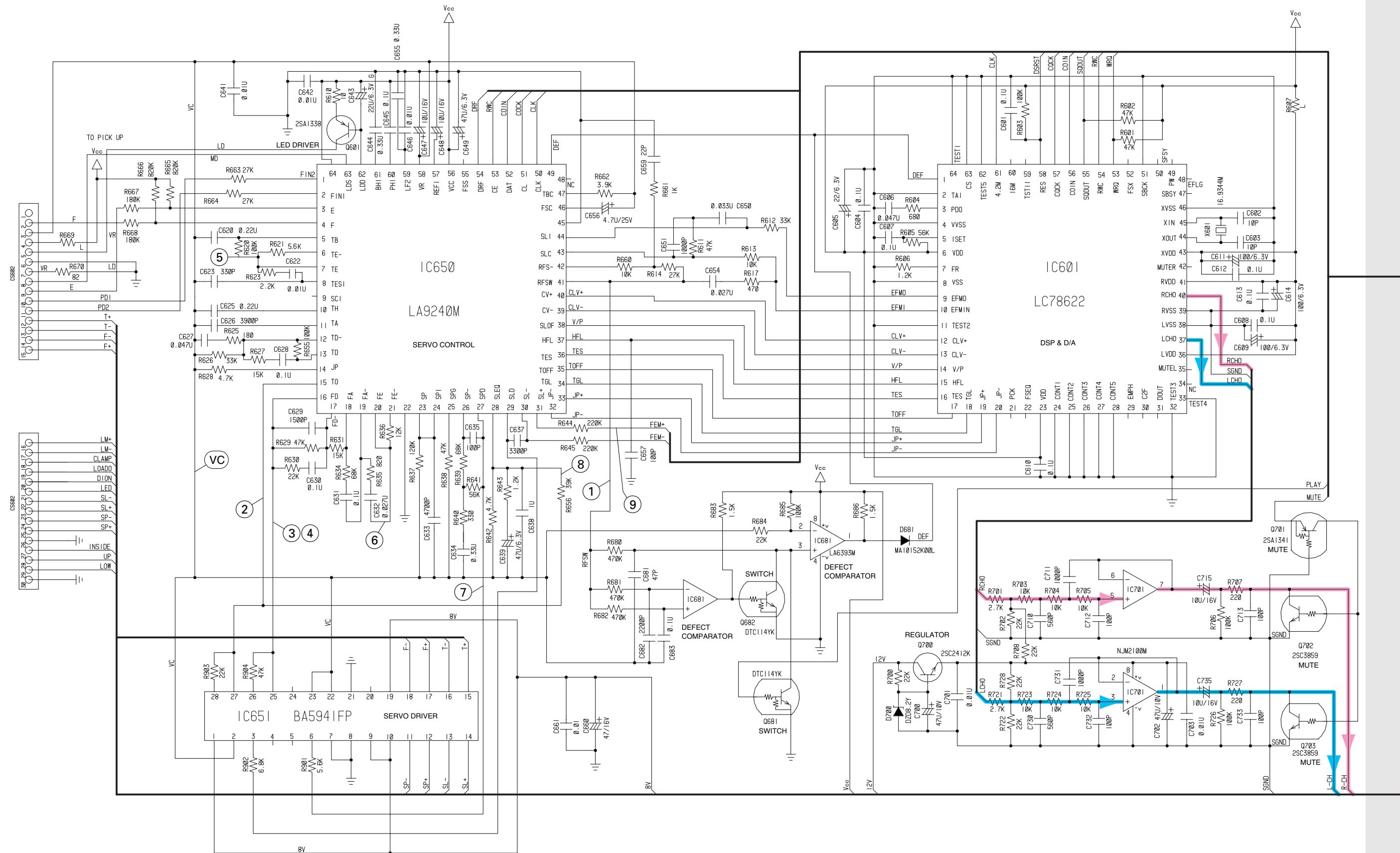
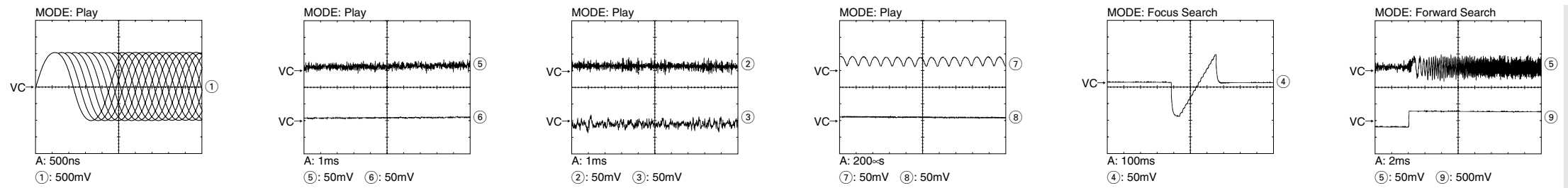
Schaltpläne und Druckplatten-Abbildungen / Circuit Diagrams and Layout of PCBs

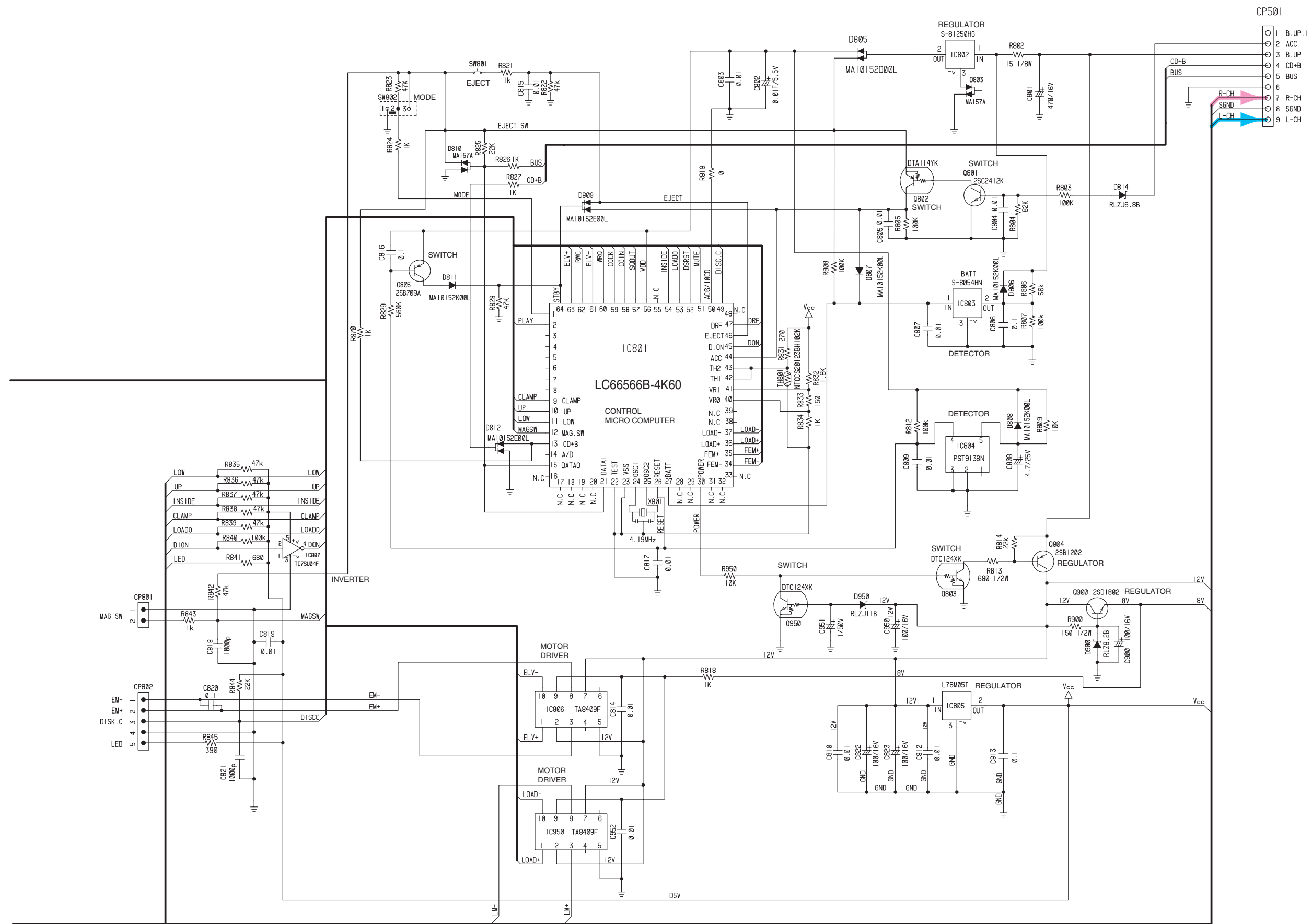
Blockschaltplan / Block Diagram

Verdrahtungsplan / Wiring Diagram

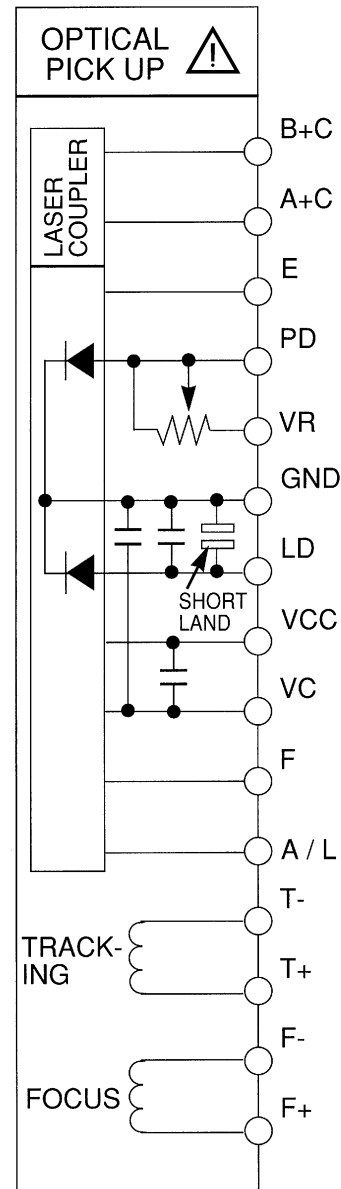


Schaltplan / Circuit Diagram





Schaltplan Pick-Up-Einheit / Circuit Diagram Pick Up Unit



CONNECTOR

PIN	TERMINAL	SYMBOL
1	PDIC	PD2
2	PDIC	PD1
3	PDIC	E
4	LD	PD
5	LD	VR
6	PDIC/LD	GND
7	LD	LD
9	PDIC	VCC
10	PDIC	VC
11	PDIC	F
12	PDIC	A/L
13	TRK(-)	
14	TRK(+)	
15	FCS(-)	
16	FCS(+)	

Spannungen / Voltages (gemessen bei UB = 14V bei PLAY / measured with UB = 14V at PLAY)

IC	PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
IC601		0	0	1.5	0	1.6	5	0.3	0	0/5	1.4/3.3	0	0/5	0	0	0	0/5	
		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
		0	5	0	0	0/5	0/5	5	0	0	0	0	0	0	0	0	0/5	0
		33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
		0	HiZ	0	5	2.2	0	0	2.2	5	0	5	-1/5	0/5	0	0/5	0/5	
		49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	

IC	PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
IC650		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.3	
		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
		2.5	2.6	2.5	2.5	2.5	0	2.4	2.4	2.4	2.5	2.9	2.5	2.6	2.3	2.3	0	
		33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
		0	5	0	0/5	0	0	0	0/5	1.4/3.5	2.4	2.7	2.5	0	2.5	2.5	HiZ	
		49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	

IC	PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
IC801		4.8	0	0	0	0	0	0	0	0	5	0.1	4.8	0	0/4.5	HiZ		
		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
		0	0	0	0	0/4.5	0	0	1.9	1.2/3.6	4.7	4.8	0	0	3.6	0	0	
		33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
		0	0	0	0	0	0	0	1.7	1.9	3.7	3.7	4.8	0	0	4.9	0	
		49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	

IC	PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC651		7.8	2.5	2.5	2.5	2.5	2.8	0	0	7.8	7.8	3.4	4.1	3.5	3.9	3.7	3.7
		17	18	19	20	21	22	23	24	25	26	27	28				
	3.3	4	7.8	HiZ	0	2.5	2.5	0.8	2.3	2.5	2.6	2.5					

IC	PIN	1	2	3	4	5	6	7	8
IC681		0.1	3	2.2	0	2.2	2.2	0.1	5

IC	PIN	1	2	3	4	5	6	7	8
IC701		2.5	2.5	2.5	0	2.5	2.5	2.5	7.5

IC	PIN	1	2	3	4	5	6	7	8	9	10
IC806		0	11.5	HiZ	HiZ	0	HiZ	11.5	HiZ	7.8	0

IC	PIN	1	2	3	4	5	6	7	8	9	10
IC950		0	11.5	HiZ	HiZ	0	HiZ	11.5	HiZ	7.8	0

IC	PIN	1	2	3
IC802		13.2	5.4	0.4

IC	PIN	1	2	3
IC803		4.8	8.2	0

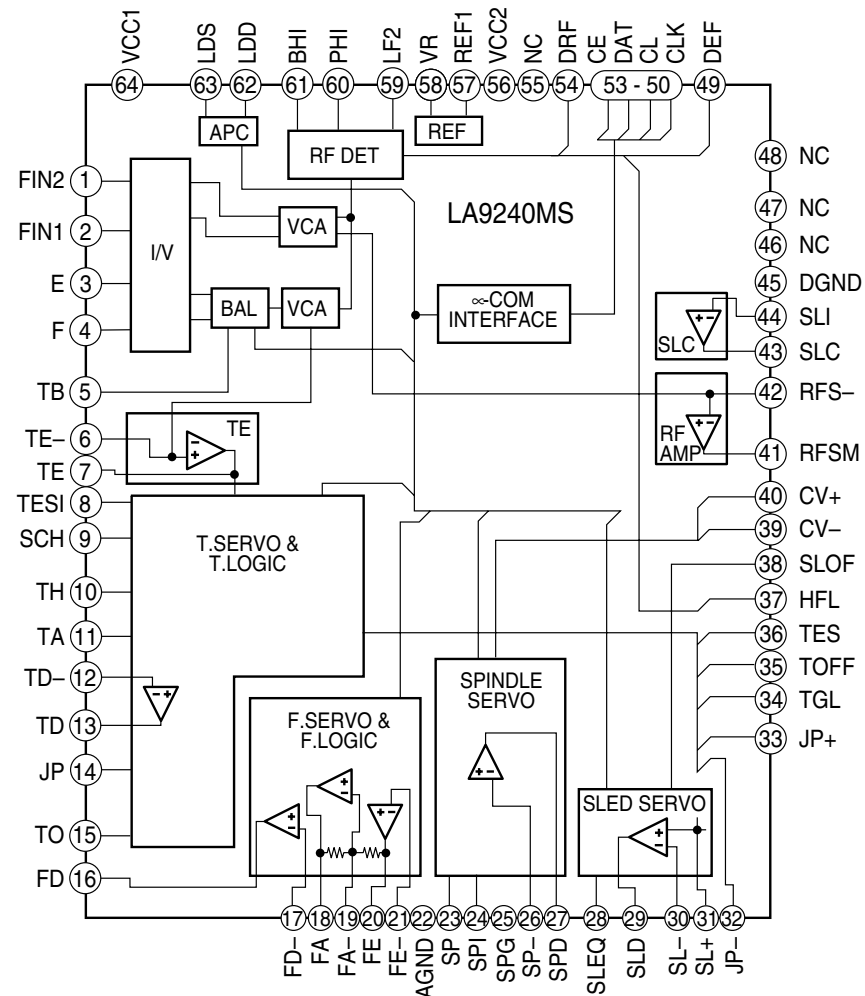
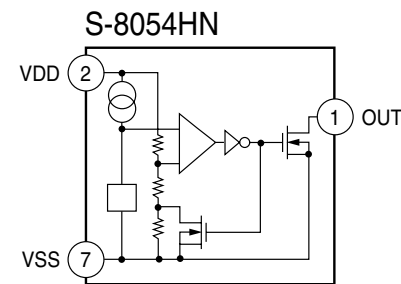
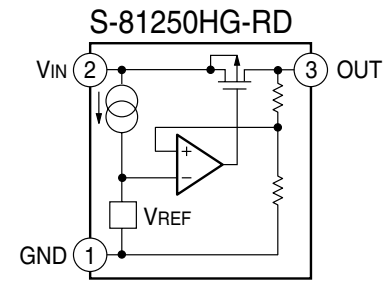
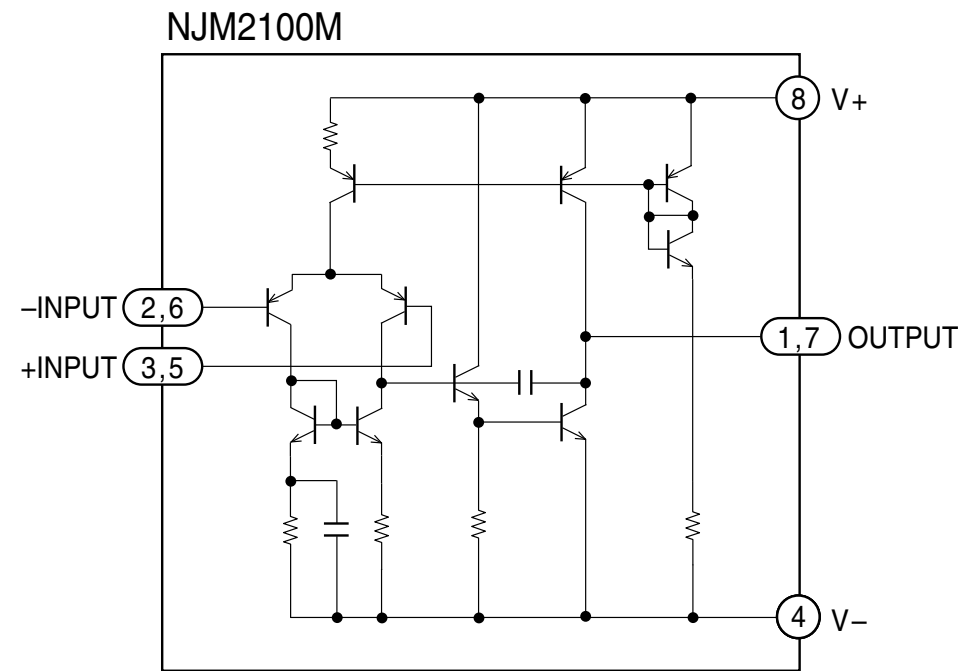
IC	PIN	1	2	3	4	5
IC804		HiZ	0	0	4.7	4.7

IC	PIN	1	2	3
IC805		11.5	5	0

IC	PIN	1	2	3	4	5
IC807		HiZ	4.6	0	0	5

PIN	B	C	E
Q601	3.8	2	4.5
Q681	0	2.2	0
Q682	0.1	2.2	0
Q700	8.2	11.5	7.5
Q701	0	0	0
Q702	0	0	0
Q703	0	0	0
Q801	0.6	0	0
Q802	0	4.8	4.8
Q803	0.9	11.8	0
Q804	12.6	11.5	13.2
Q805	4.3	HiZ	4.8
Q900	8.4	11.5	7.8
Q950	0.8	0.9	0

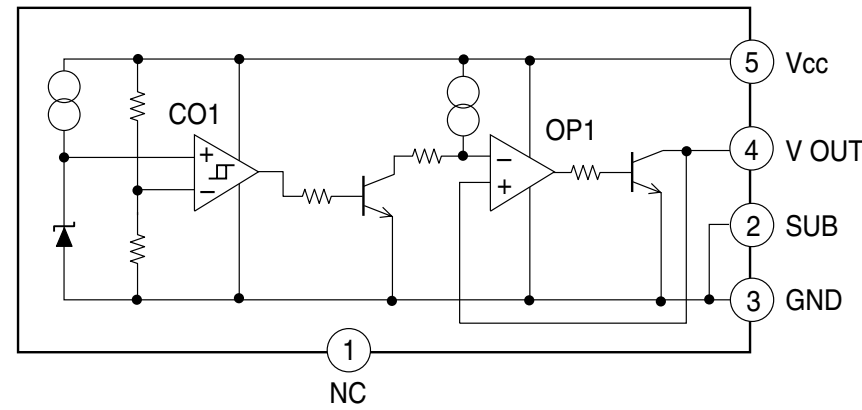
IC-Innen-Beschaltungen / IC Block Diagrams



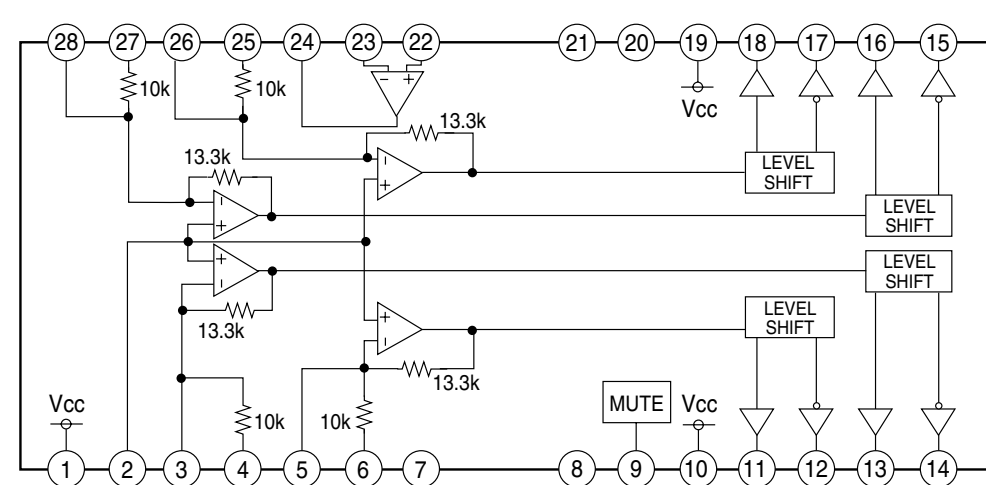
LA 9240 MS

PIN	PORT NAME	DESCRIPTION
1	FIN2	Pickup photo-diode connecting pin. Forms RF signal by addition to FIN1 pin, and FE signal by subtraction.
2	FIN1	Pickup photo-diode connecting pin.
3	E	Pickup photo-diode connecting pin. Forms TE signal by subtraction from F pin.
4	F	Pickup photo-diode connecting pin.
5	TB	Pin for inputting DC constituent of TE signal.
6	TE-	Pin for connecting gain setting resistance of TE signal to TE pin.
7	TE	TE signal output pin.
8	TESI	TES (TRACK ERROR SENCE) comparator input pin. Band pass TE signal, and input.
9	SCI	Input pin for shock detection.
10	TH	Constant setting pin at the time of tracking gain.
11	TA	Pin for connecting high pass elimination condensor of servo.
12	TD-	Pin for constituting tracking phase compensation constant between TD and VR pin.
13	TD	Pin for setting tracking phase compensation.
14	JP	Pin for setting tracking jump signal (kick pulse) amplitude.
15	TO	Tracking control signal output pin.
16	FD	Focusing control signal output pin.
17	FD-	Pin for constituting focussing phase compensation constant between FD and FA pin.
18	FA	Pin for constituting focussing phase compensation constant between FA- and FE- pin.
19	FA-	Pin for constituting focussing phase compensation constant between FA and FE pin.
20	FE	FE signal output pin.
21	FE-	Pin for connecting FE signal gain setting resistance to TE pin.
22	AGND	GND for analog signal.
23	SP	Signal end output of CV+ and CV- pin input signal
24	SPI	Spindle amplifier input.
25	SPG	Connecting pin for gain setting resistance at the time of spindle 12cm mode.
26	SP-	Connecting pin for spindle phase compensation constant together with SPD pin.
27	SPD	Spindle control signal output pin.
28	SLEQ	Connecting pin for sled phase compensation constant.
29	SLD	Sled control signal output pin.
30	SL-	Input pin for sled delivery signal from micro computer.
31	SL+	Input pin for sled delivery signal from micro computer.
32	JP-	Input pin for tracking jump signal from DSP.
33	JO+	Input pin for tracking jump signal from DSP.
34	TGL	Input pin for tracking gain control signal from DSP. Gain low in case of TGL="H".
35	TOFF	Input pin for tracking off control signal from DSP. Off in case of TOFF="H".
36	TES	Output pin of TES signal to DSP.
37	HFL	(HIGH FREQUENCY LEVEL) is used to judge whether main beam is located above pit or above mirror.
38	SLOF	Sled servo off control input pin.
39	CV-	Input pin for CLV error signal from DSP.
40	CV+	Input pin for CLV error signal from DSP.
41	RFSM	RF output pin.
42	RFS-	Pin for setting RF gain and EFM signal 3T compensation constant together with RFSM pin.
43	SLC	(SLICE LEVEL CONTROL) is output pin for controlling data slice level by RF waveshape DSP.
44	SLI	Input pin for controlling data slice level by DSP.
45	DGND	GND pin digital system.
46	FSC	For Focs Smoothing capacita output pin.
47	TBC	Tracking Balance control pin.
48	NC	NO CONNECT.
49	DEF	Output pin for detecting disc defect.
50	CLK	Standard clock input pin. DSP 4.23MHz is input.
51	CL	Micro computer command clock input pin.
52	DAT	Micro computer command data input pin.
53	CE	Micro computer command chip enable input pin.
54	DRF	(DEFECT RF) RF level detecting output.
55	FSS	Focs serch select pin.
56	VCC2	VCC pin for servo system and digital system.
57	REF1	Connection pin for standard voltage capacitor.
58	VR	Standard voltage output pin.
59	LF2	Pin for setting constant at the time of detecting disc defect.
60	PH1	Pin for connecting condensor for RF signal peak hold.
61	BH1	Pin for connecting condensor for RF signal bottom hold.
62	LDD	APC circuit output pin.
63	LDS	APC circuit input pin.
64	VCC1	RF system VCC pin.

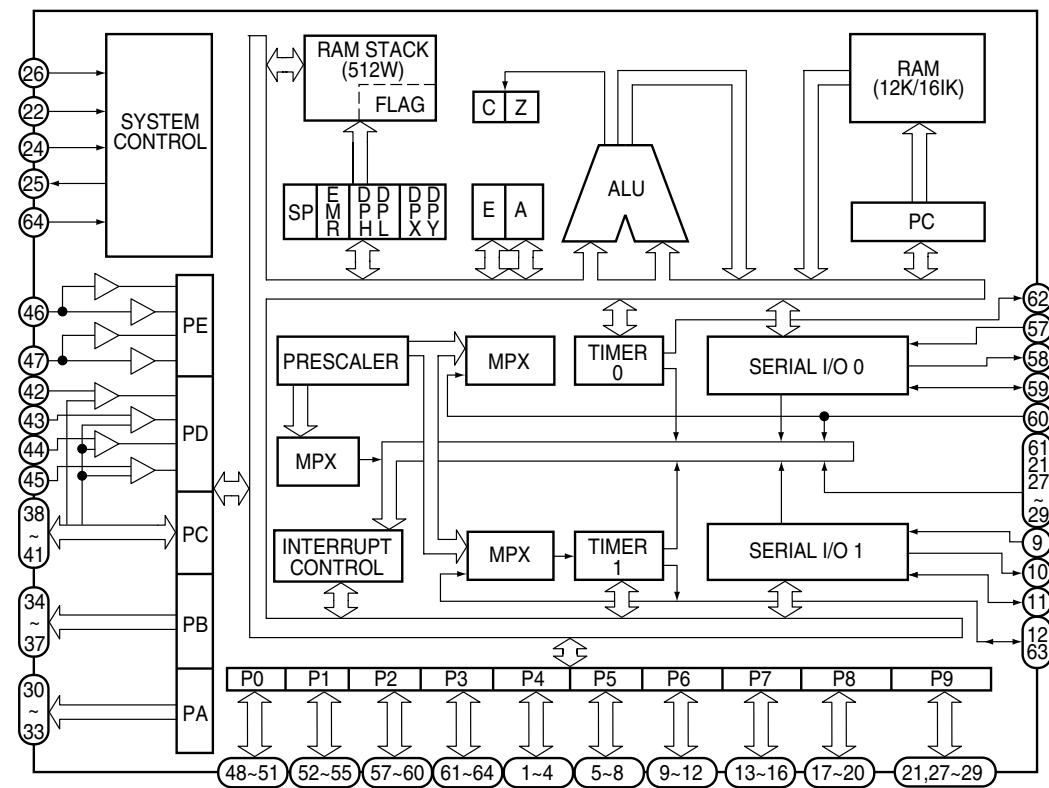
IC-PST9138N



BA5941FP

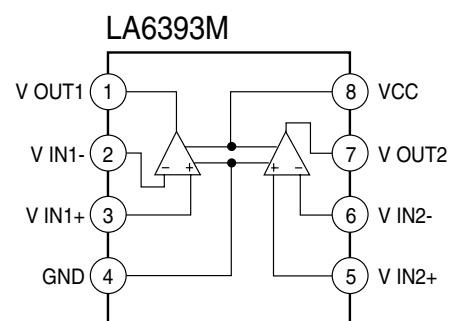
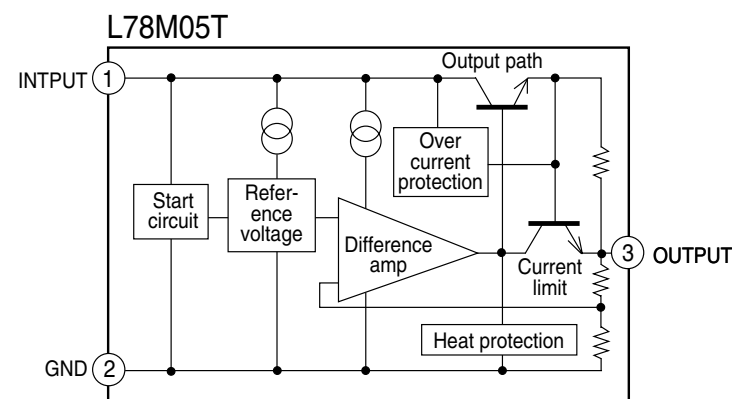


LC66566B-4K60



LC 66566 B-4K60

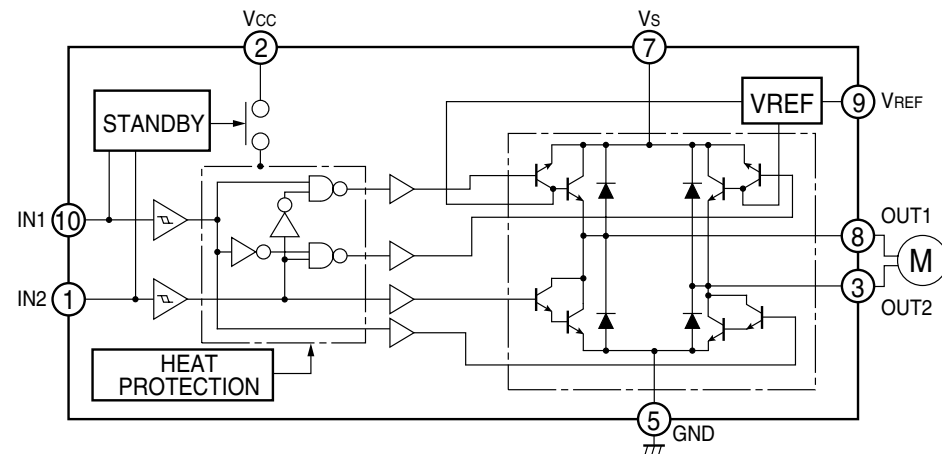
PIN	PORT NAME	I/O	DESCRIPTION
1	MODE	I	Initial setting input terminal for changer 1 or 2 switching
2	PLAY	O	Play mode output H:play mode
3	LD/SP	O	Load/spindle motor switching signal output
4	NC	O	No connection
5	NC	O	No connection
6	NC	O	No connection
7	NC	O	No connection
8	NC	O	No connection
9	CLAMPSW	I	Disc clamp finish SW input
10	UPLIMIT	I	Elevator upper limit SW input
11	LOWLIMIT	I	Elevator lower limit SW input
12	MAGZSW	I	Magazine detection SW input
13	CD+B	O	CD mode signal output
14	NC	O	No connection
15	DATAOUT	O	Status data output
16	NC	O	No connection
17	NC	O	No connection
18	NC	O	No connection
19	NC	O	No connection
20	NC	O	No connection
21	DATAIN	I	Command data input
22	TEST	I	Connection to ground
23	VSS		Ground
24	OSC1		Ceramic oscillator connection terminal for system clock
25	OSC2		Ceramic oscillator connection terminal for system clock
26	RESET	I	Reset signal input
27	BATT	I	Battery LOW detection input
28	NC	O	No connection
29	NC	O	No connection
30	POWER	O	Main & servo system power supply ON/OFF output
31	NC	O	No connection
32	NC	O	No connection
33	NC	O	No connection
34	FEM-	O	Pickup moving-inside signal output
35	FEM+	O	Pickup moving-outside signal output
36	LOAD+	O	Output to move a tray in the direction out of magazine with loading motor
37	LOAD-	O	Output to move a tray in the direction into magazine with loading motor
38	NC	O	No connection
39	NC	O	No connection
40	VREF0	I	Reference voltage for TH1
41	VREF1	I	Reference voltage for TH2
42	TH1	I	Temperature sensor ON signal input
43	TH2	I	Temperature sensor OFF signal input
44	ACC	I	Acc ON/OFF detection signal input
45	DISCON	I	Disc detection photo transistor signal input
46	EJECT	I	Magazine eject key signal input
47	DRF	I	Focus OK signal input
48	NC	O	No connection
49	DISCCOUNT	I	Elevator position detection pulse input
50	6/10CD	I	Initial setting input terminal for 6 discs changer or 10 discs changer
51	MUTE	O	Mute signal output
52	DSPRST	O	Reset signal for DSP(LC78622E)
53	LOADOUT	I	Magazine tray detection SW input
54	INSIDESW	I	Inner circle limit detection SW input
55	NC	O	No connection
56	VDD		Power supply (+5V)
57	SQOUT	I	Interface with DSP(LC78622E)
58	COIN	O	Interface with DSP(LC78622E)
59	CQCK	O	Interface with DSP(LC78622E)
60	WRQ	I	Interface with DSP(LC78622E)
61	ELV-	O	Elevator moving-down signal output
62	RWC	O	Interface with DSP(LC78622E)
63	ELV+	O	Elevator moving-up signal output
64	STBY	I	Stand by position cancellation signal input



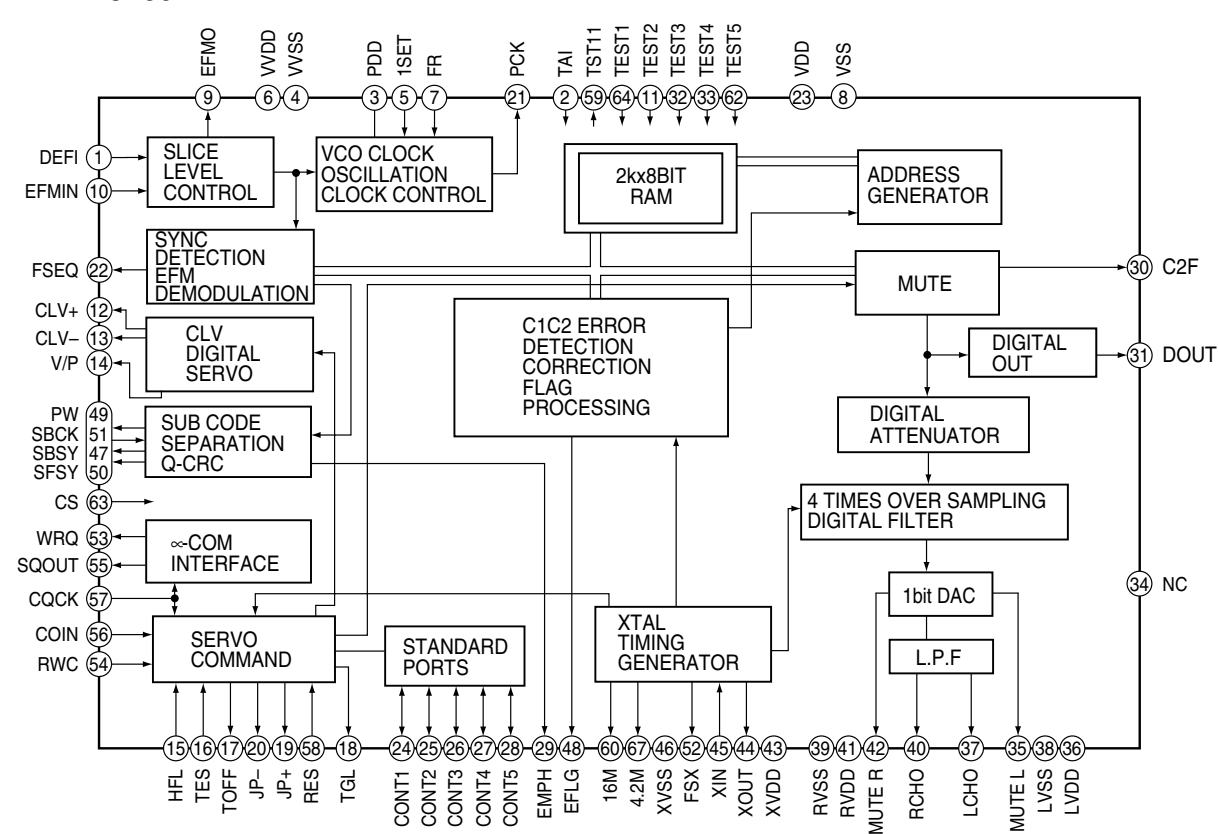
LC 78622 ED

PIN	PORT NAME	I/O	DESCRIPTION
1	DEFI	I	Defect detect signal (DEF) input terminal.
2	TAI	I	PLL Input terminal for testing . Pulldown resistance is self-contained.
3	PDO	O	Phase comparison output terminal for outer VCO control.
4	VVSS	-	Power supply terminal for self-contained VCO. Normally 0V.
5	ISET	AI	Resistance connecting terminal for PDO output current adjustment.
6	VVDD	-	Earthing terminal for self-contained VCO. Normally 5V.
7	FR	AI	For VCO range frequency adjustment.
8	VSS	-	Earthing terminal for digital system. Normally 0V.
9	EFMO	O	For slice EFM signal reverse output terminal.
10	EFMIN	I	level control EFM signal input terminal.
11	TEST2	I	Input terminal for testing. Pulldown resistance is self-contained.
12	CLV+	O	Output terminal for spindle servo control. Accelerates when CLV+ is "H", slows down when CLV- "H".
13	CLV-	O	
14	V/P	O	Output terminal for automatic switchover monitor by rough servo/phase control. "H" causes rough servo, "L" phases control mode.
15	HFL	I	Input terminal for track detecting signal. Schmidt input.
16	TES	I	Input terminal for tracking error signal. Schmidt input.
17	TOFF	O	Output terminal for tracking OFF.
18	TGL	O	Output terminal for tracking gain switchover, "L" raises gain.
19	JP+	O	Output terminal for track jump. When JP+ is "H", accelerates at the time of outer track direction jump, or slows down at the time of inner track direction jump.
20	JP-	O	
21	PCK	O	Clock monitoring terminal for EFM data playback. At the time of phase lock, 4.3218MHz.
22	FSEQ	O	Output terminal for synchronous signal detection. When synchronous signal detected from EFM signal and synchronous signal occurring inside correspond "H".
23	VDD	-	Earthing terminal for digital system.
24	CONT1	I/O	Input / output terminal.
25	CONT2	I/O	
26	CONT3	I/O	
27	CONT4	I/O	
28	CONT5	I/O	
29	EMPH	O	Output terminal for deemphasis monitor. At the time of "H", deemphasis disc is in playback.
30	C2F	O	C2 Frag output.
31	DOUT	O	Digital Out output terminal.
32	TEST3	I	Input terminal for testing. Pulldown resistance is self-contained.
33	TEST4	I	Input terminal for testing. Pulldown resistance is self-contained.
34	NC	-	Not connected
35	MUTEL	O	For 1 bit DAC Mute output terminal.
36	LVDD	-	
37	LCHO	O	L channel output terminal.
38	LVSS	-	Earthing terminal for L channel. Normally 0V.
39	RVSS	-	Earthing terminal for R channel. Normally 0V.
40	RCHO	O	R channel output terminal.
41	RVDD	-	Earthing terminal for R channel. Normally 0V.
42	MUTER	O	Mute output terminal.
43	XVDD	-	Power supply terminal for crystal oscillation. Normally 5V.
44	XOUT	O	Connecting terminal for 16.9344MHz crystal oscillator.
45	XIN	I	
46	XVSS	-	Earthing terminal for crystal oscillation. Normally 0V.
47	SBSY	O	Output terminal for synchronous signal of sub-code block.
48	EFLG	O	Terminal for monitoring C1,C2, single, double correction.
49	PW	O	Output terminal for sub-code P,Q,R,S,T,U,W.
50	SFSY	O	Output terminal for synchronous signal of sub-code frame. When sub-code is in standby, "= L".
51	SBCK	I	Input terminal for sub-code readout clock. Schmidt input.
52	FSX	O	Output terminal for 7.35kHz synchronous signal which is divided frequency from crystal oscillation.
53	WRQ	O	Output terminal for sub-code Q output standby.
54	RWC	I	Input terminal for read/write control.
55	SQOUT	O	Sub-code Q output terminal.
56	COIN	I	Input terminal for command from micro computer.
57	CQCK	I	Input terminal for command input intake clock, or sub-code offtake clock from SQOUT. Schmidt input.
58	RES	I	Chip reset input terminal. When power is supplied, changeover to "L" once.
59	TST11	O	Input terminal for testing. Open (Normally "L" output).
60	16M	O	16.9344MHz output terminal. But outputs 33.8688MHz, only in case of quadruple speed playback mode.
61	4.2M	O	4.2336MHz output terminal.
62	TEST5	I	Input terminal for testing. Pulldown resistance is self-contained.
63	CS	I	Chip select input terminal. Pulldown resistance is self-contained.
64	TEST1	I	Input terminal for testing. Pulldown resistance is self-contained.

TA8409F



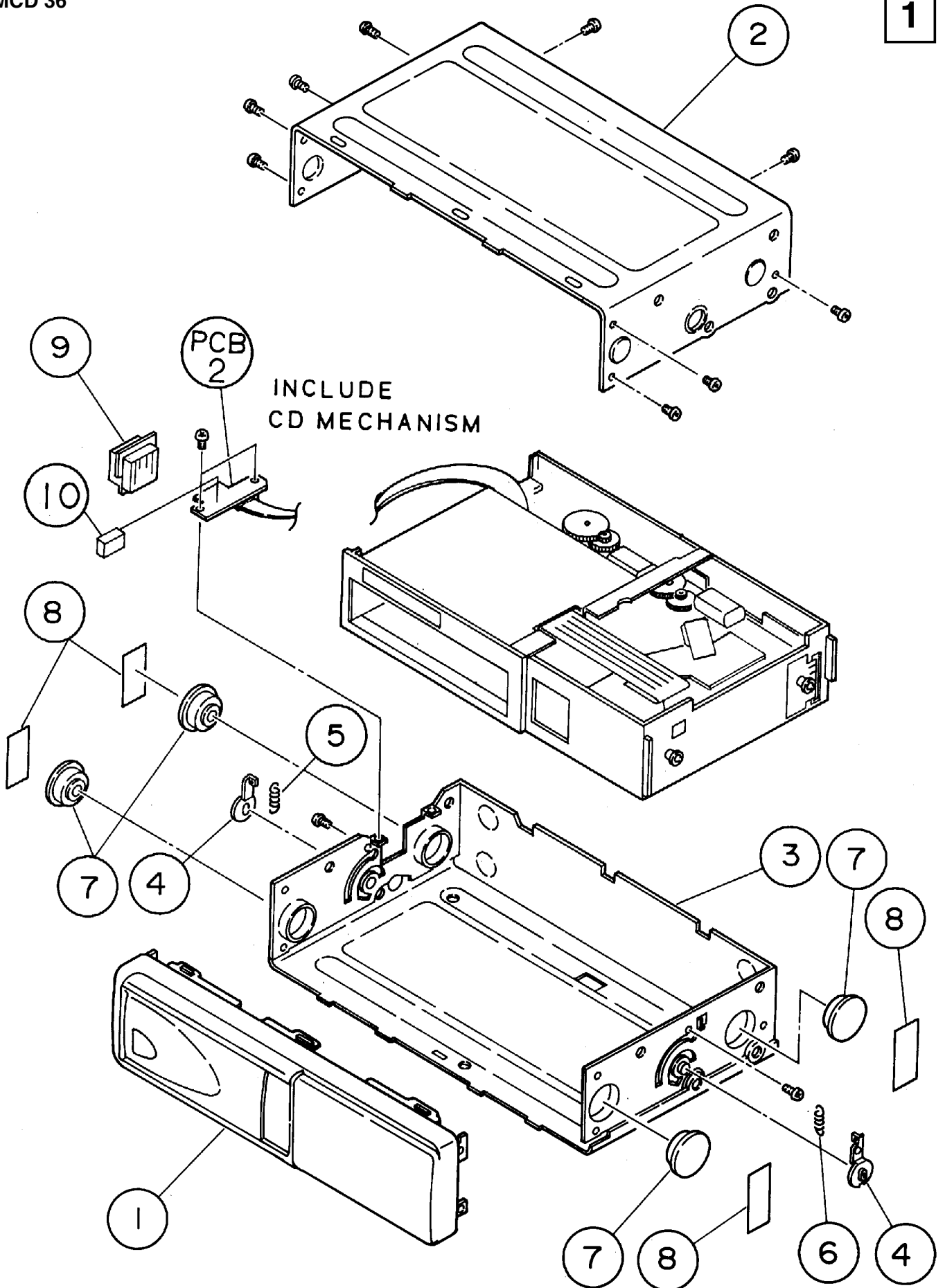
LC78622ED



Explosionszeichnungen und Ersatzteillisten / Exploded Views and Spare Parts Lists

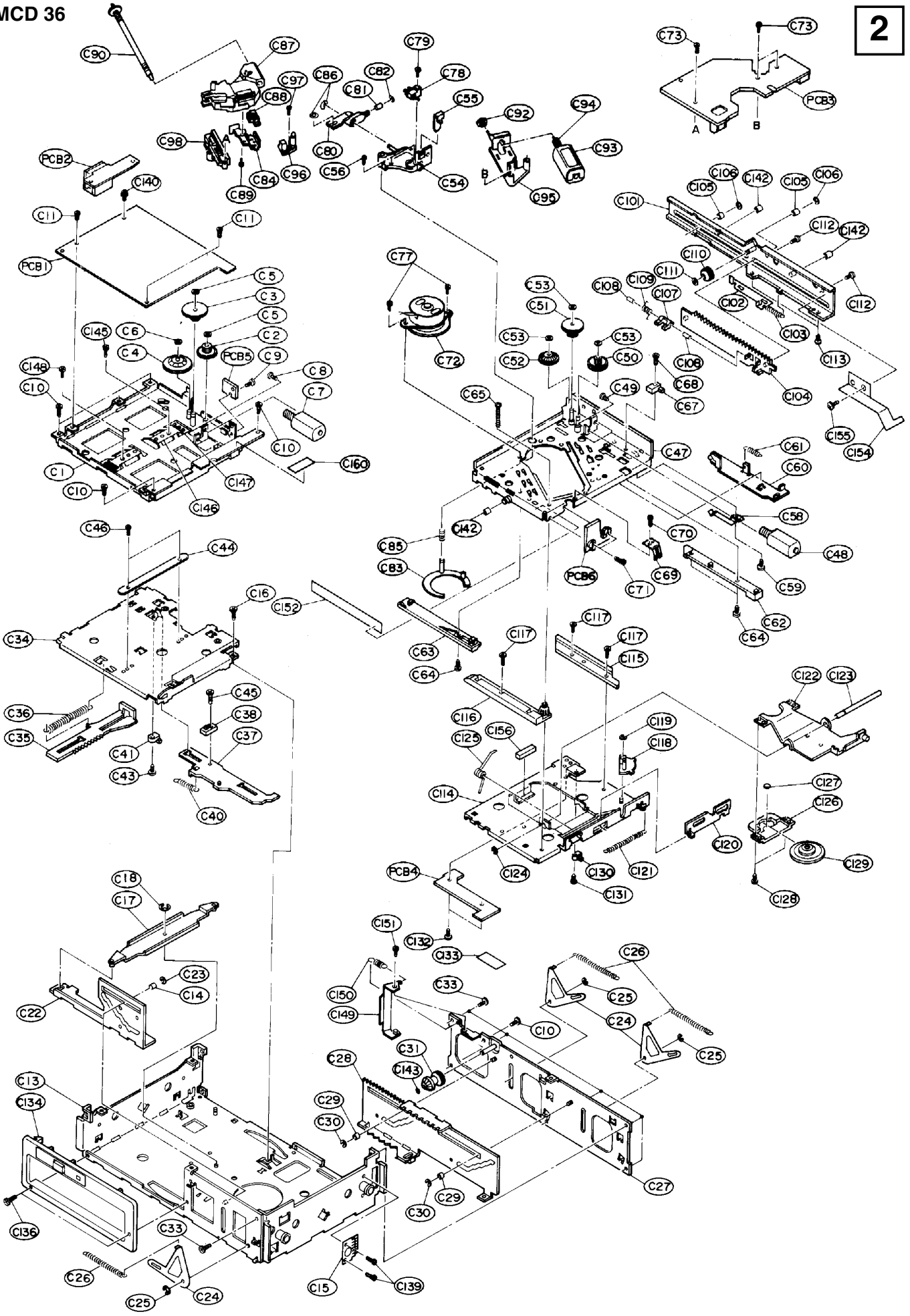
MCD 36

1



MCD 36

2



Ersatzteilliste
Spare Parts List

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GRUNDIG

CAR AUDIO

MCD 36

MATERIAL-NR. / PART NO.: 91833 581 5100
BESTELL-NR. / ORDER NO.: G.HF 28-00 SCHWARZ/BLACK

POS. NR. POS. NO.	ABB. FIG.	MATERIAL-NR. PART NUMBER	ANZ. QTY.	BEZEICHNUNG (D)	DESCRIPTION (GB)
		72008 848 9900		MCD 36 TAUSCHGERAET	MCD 36 EXCHANGE SET
0001.000	1	75954 033 2900		GEH-VORDETEIL	CABINET FRONT
0002.000	1	75952 038 0200		GEH-OBERTEIL	CABINET TOP
0003.000	1	75954 033 3100		GEHAEUSE BODEN	HOUSING BOTTOM
0004.000	1	75952 038 0400	2	HEBEL	LEVER
0005.000	1	75952 038 0500		FEDER, LINKS	SPRING LEFT
0006.000	1	75952 038 0600		FEDER, RECHTS	SPRING RIGHT
0007.000	1	75952 038 0700	4	DAEMPfung	DAMPING
0008.000	1	75952 038 0800	4	ABDECKUNG	COVER
0009.000	1	75952 038 0900		KAPPE	CAP
0012.000		19772 196 0000		CD-WECHSLERKABEL	CD CHANGER CABLE
0015.000		75952 038 6500		MAGAZIN KPL. MCD30	MAGAZINE CPL.
0050.000		75953 506 0100		HALTERUNG LINKS UND RECHTS	HOLDER LEFT AND RIGHT
C002.000	2	75952 038 1600		ZAHNRAD A	GEAR WHEEL A
C003.000	2	75952 038 1700		ZAHNRAD B	GEAR WHEEL B
C004.000	2	75952 038 1800		ZAHNRAD C	GEAR WHEEL C
C005.000	2	75952 038 7600	2	SCHEIBE	WASHER
C006.000	2	75952 038 7700		SCHEIBE	WASHER
C007.000	2	75954 033 0200		MOTOR KPL./DC	MOTOR CPL./DC
C023.000	2	75955 019 0600		SPEZIAL SCHEIBE	SPECIAL WASHER
C030.000	2	75955 019 0600		SPEZIAL SCHEIBE	SPECIAL WASHER
C031.000	2	75954 033 3000		ZAHNRAD, D	GEAR WHEEL D
C048.000	2	75952 038 1900		MOTOR KPL./DC	MOTOR CPL./DC
C050.000	2	75954 033 0400		ZAHNRAD, LA	GEAR LA
C051.000	2	75954 033 0500		ZAHNRAD, LB	GEAR WHEEL LB
C052.000	2	75952 038 2300		ZAHNRAD G	GEAR WHEEL G
C053.000	2	75954 033 0900	3	SPEZIAL SCHEIBE	SPECIAL SCREW
C067.000	2	75953 506 0600		SCHALTER	SWITCH
C072.000	2	75955 019 0800		MOTOR MONTIERT KPL	MOTOR ASSY
C078.000	2	75953 506 0600		SCHALTER	SWITCH
C080.000	2	75954 033 4200		HEBEL, DISC	LEVER, DISC
C087.000	△ 2	75955 019 0900		LASEREINHEIT	LASER UNIT
C092.000	2	75955 019 1000		ZAHNRAD	GEAR WHEEL
C093.000	2	75955 019 1100		MOTOR DC	MOTOR DC
C094.000	2	75955 019 1200		GETRIEBE MOTOR	GEAR MOTOR
C110.000	2	75952 038 1300		ZAHNRAD H	GEAR WHEEL H
C130.000	2	75953 506 0600		SCHALTER	SWITCH
C134.000	2	75954 033 3400		BLLENDE KPL	PANEL CPL
C147.000	2	75955 019 0500		ROLLE	ROLLER
C150.000	2	75955 019 0700		FEDER STOPPER	SPRING STOPPER
		72010 744 7500		BEDIENUNGSANLEITUNG	OPERATING INSTRUCTIONS
		72010 748 3000		D/GB/F/I/P/E/NL/DK/S/FIN	D/GB/F/I/P/E/NL/DK/S/FIN
		72010 748 3100		SERVICE MANUAL MCD 36 D/GB	SERVICE MANUAL MCD 36 D/GB
				SERVICE MANUAL MCD 36 D/GB	SERVICE MANUAL MCD 36 D/GB
				1. ERGAENZUNG	SUPPLEMENT 1

ÄNDERUNGEN VORBEHALTEN / SUBJECT TO ALTERATION

POS. NR. POS. NO.	MATERIAL-NR. PART NUMBER	BEZEICHNUNG DESCRIPTION
D 00681	75981 299 9600	SMD DIODE MA 152 K
D 00700	75952 041 5400	Z DIODE DZD 8.2 Y
D 00803	75952 022 0600	DIODE DCC 010
D 00805	75987 356 2200	SMD DIODE MA 152 WA
D 00806	75981 299 9600	SMD DIODE MA 152 K
D 00807	75981 299 9600	SMD DIODE MA 152 K
D 00808	75981 299 9600	SMD DIODE MA 152 K
D 00809	75955 019 2400	DIODE DAN202K
D 00810	75955 019 1900	DIODE DAN217
D 00811	75981 299 9600	SMD DIODE MA 152 K
D 00812	75955 019 2400	DIODE DAN202K
D 00814	75955 019 1700	Z DIODE MELF R LZ6,8B
D 00900	75955 019 1400	Z DIODE MELF R LZ8,2B
D 00901	75952 041 7500	LE DIODE SLR 989 A
D 00910	75952 041 8500	OPTOKOPPLER GP 1S 5V
D 00950	75955 019 1500	Z DIODE MELF R LZJ11B
IC 00601	75955 019 2100	IC LC78622ED
IC 00650	75954 505 1900	IC LA9240ML
IC 00651	75954 062 2800	IC BA 5941FP
IC 00681	75950 022 1900	SMD IC LA 6393 M MFP 8
IC 00701	75955 019 2200	IC NJM2100M
IC 00801	75955 019 2000	IC LC66566B-4K60
IC 00802	75952 041 4500	IC S 81250 HG-RD-T2
IC 00803	75952 041 5700	IC S 8054 HN-CB
IC 00804	75954 033 1500	IC PST9138N
IC 00805	75955 019 1300	IC L78M05TL
IC 00806	75955 019 1600	IC TA8409F
IC 00807	75952 041 7900	SMD IC TC 7 S 04 F
IC 00950	75955 019 1600	IC TA8409F
PCB 00002	75954 033 3200	BUCHSE KPL M.LP
PCB 00006	75955 019 2300	SCHALTER MONTIERT KPL
Q 00601	75954 033 2100	SMD-TRANS. 2 SA 1338-5
Q 00681	75987 433 8800	TRANS.DTC 114 YK DTC114YK
Q 00682	75987 433 8800	TRANS.DTC 114 YK DTC114YK
Q 00700	75952 023 0900	SMD TRANS. 2 SC 2412 K-R
Q 00701	75952 041 4200	SMD TRANS. 2 SA 1341
Q 00702	75952 023 1000	SMD TRANS. DTC 114 TK
Q 00703	75952 023 1000	SMD TRANS. DTC 114 TK
Q 00801	75952 041 9300	SMD TRANS. 2 SC 2812-6
Q 00802	75987 459 6100	TRANS.-WIDERST.UN 2114 UN
Q 00803	75952 041 6300	SMD TRANS. DTC 124 XK
Q 00804	75952 041 6400	TRANS. 2 SB 1202 S
Q 00805	75953 501 4600	SMD-TRANS. 2 SA 1179 M6
Q 00900	75952 041 6400	TRANS. 2 SB 1202 S
Q 00901	75952 041 8000	FOTO-DIODE PT 4850 F
Q 00950	75952 041 6300	SMD TRANS. DTC 124 XK
SW 00801	75955 019 1800	TAKTSCHALTER 1P-1T/EJECT
SW 00802	75954 033 1600	SCHIEBESCHALTER/MODE
TH 00801	75952 041 8200	NTC CS 20123 BH 102 KCTH1
X 00601	75953 506 2900	QUARZ 16,9344 MHZ
X 00801	75952 041 7900	SMD IC TC 7 S 04 F

Es gelten die Vorschriften und Sicherheitshinweise gemäß dem Service Manual "Sicherheit", Mat.-Nummer 72010 800 0000, sowie zusätzlich die eventuell abweichenden, landesspezifischen Vorschriften!

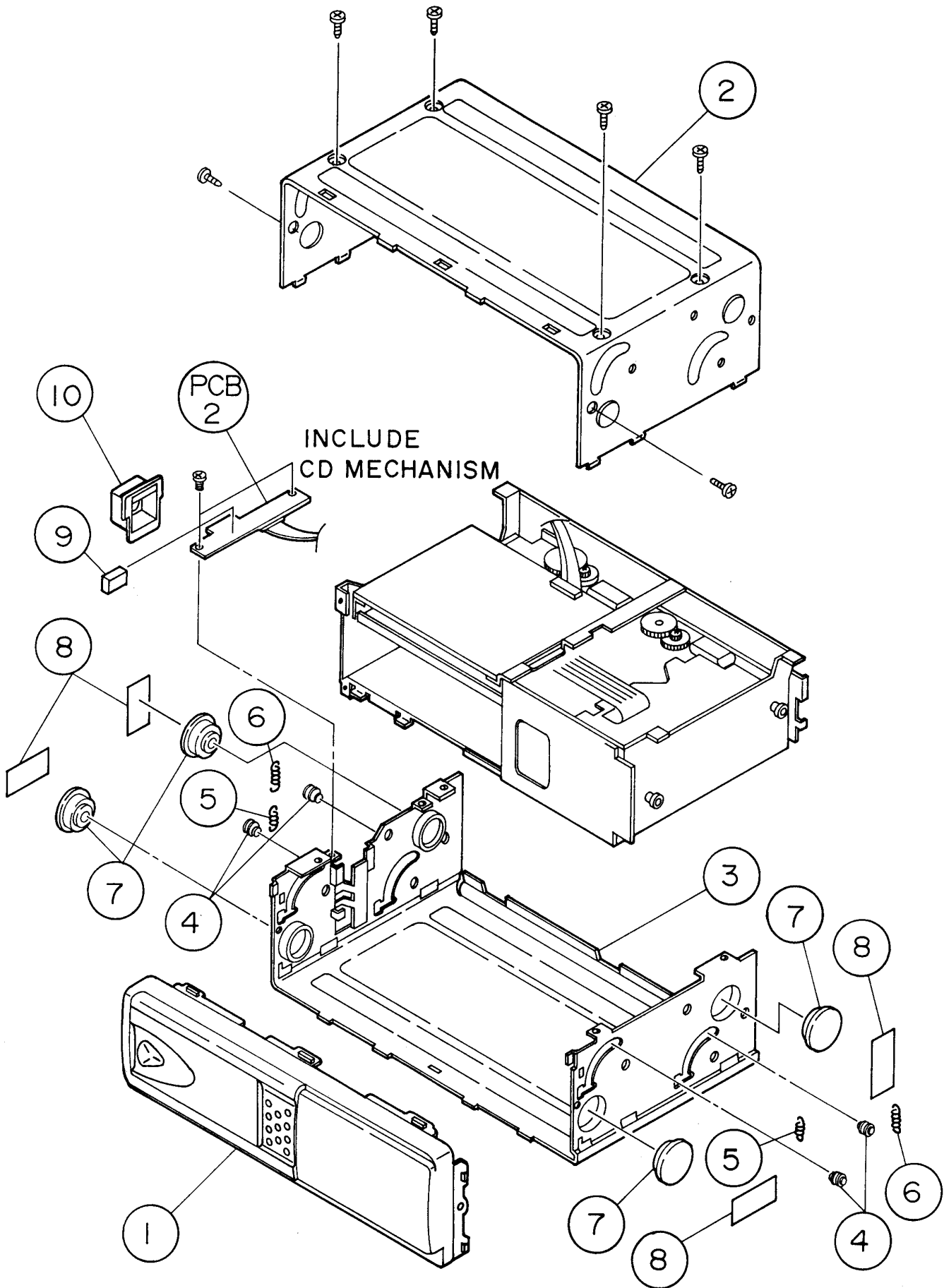


The regulations and safety instructions shall be valid as provided by the "Safety" Service Manual, part number 72010 800 0000, as well as the respective national deviations.

ÄNDERUNGEN VORBEHALTEN / SUBJECT TO ALTERATION

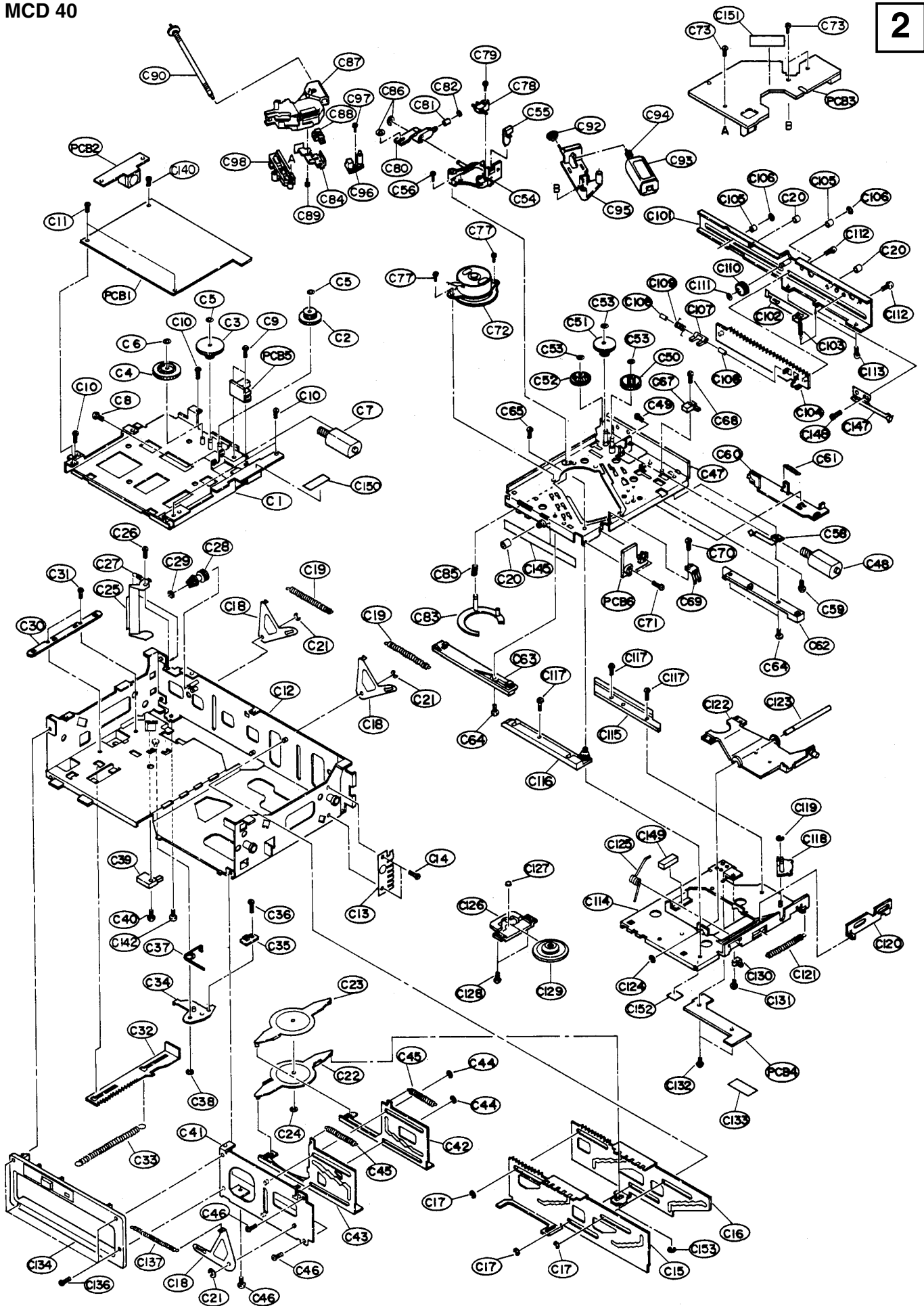
MCD 40

1



MCD 40

2



Ersatzteilliste Spare Parts List

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GRUNDIG

CAR AUDIO

MCD 40

MATERIAL-NR. / PART NO.: 91833 781 5100
BESTELL-NR. / ORDER NO.: G.HF 29-00

POS. NR. POS. NO.	ABB. FIG.	MATERIAL-NR. PART NUMBER	ANZ. QTY.	BEZEICHNUNG (D)	DESCRIPTION (GB)
		72008 849 9900		MCD 40 TAUSCHGERAET	MCD 40 EXCHANGE SET
0001.000	1	75954 033 2200		GEH-VORDERTEIL	HOUSING FRONT
0002.000	1	75954 033 2300		GEH-OBERTEIL	CABINET TOP
0003.000	1	75954 033 2400		GEHAEUSE BODEN	HOUSIN BOTTOM
0004.000	1	75954 033 2500		HEBEL	LEVER
0005.000	1	75954 033 2600		FEDER LINKS	SPRING LEFT
0006.000	1	75954 033 2700		ZUGFEDER RECHTS	ZUG-SPRING RIGHT
0008.000	1	75952 038 0800		ABDECKUNG	COVER
0009.000	1	75954 033 2200		GEH-VORDERTEIL	HOUSING FRONT
0010.000	1	75952 038 0900		KAPPE	COP
0012.000		19772 196 0000		CD-WECHSLERKABEL	CD CHANGER CABLE
0015.000		75954 033 0100		MAGAZIN KPL.	MAGAZINE CPL.
0050.000		75954 033 3600		HALTERUNG LINKS U. RECHTS	HOLDER LEFT AND RIGHT
C002.000	2	75952 038 1600		ZAHNRAD A	GEAR WHEEL A
C003.000	2	75952 038 1700		ZAHNRAD B	GEAR WHEEL B
C004.000	2	75952 038 1800	2	ZAHNRAD C	GEAR WHEEL C
C005.000	2	75952 038 7600		SCHEIBE	WASHER
C006.000	2	75952 038 7700		SCHEIBE	WASHER
C007.000	2	75954 033 0200		MOTOR KPL.	MOTOR CPL.
C017.000	2	75955 019 0600		SPEZIAL SCHEIBE	SPECIAL WASHER
C028.000	2	75954 033 0300		ZAHNRAD, PLATTE	GEAR BOARD
C039.000	2	75953 506 0600		SCHALTER	SWITCH
C044.000	2	75955 019 0600	2	SPEZIAL SCHEIBE	SPECIAL WASHER
C048.000	2	75952 038 1900		MOTOR KPL.	MOTOR CPL.
C050.000	2	75954 033 0400		ZAHNRAD, LA	GEAR LA
C051.000	2	75954 033 0500		ZAHNRAD, LB	GEAR WHEEL LB
C052.000	2	75952 038 2300		ZAHNRAD G	GEAR WHEEL G
C053.000	2	75954 033 0900	3	SPEZIAL SCHEIBE	SPECIAL SCREW
C067.000	2	75953 506 0600		SCHALTER	SWITCH
C072.000	2	75955 019 0800		MOTOR MONTIERT KPL	MOTOR ASSY
C078.000	2	75953 506 0600		SCHALTER	SWITCH
C080.000	2	75954 033 4200		HEBEL, DISC	LEVER, DISC
C087.000	△ 2	75955 019 0900		LASEREINHEIT	LASER UNIT
C092.000	2	75955 019 1000		ZAHNRAD	GEAR WHEEL
C093.000	2	75955 019 1100		MOTOR DC	MOTOR DC
C094.000	2	75955 019 1200		GETRIEBE MOTOR	GEAR MOTOR
C096.000	2	75954 033 3700		MITNEHMER	DRIVER/CARRIER
C106.000	2	75955 019 0600	2	SPEZIAL SCHEIBE	SPECIAL WASHER
C110.000	2	75952 038 1300		ZAHNRAD H	GEAR WHEEL H
C130.000	2	75955 019 0600		SPEZIAL SCHEIBE	SPECIAL WASHER
C134.000	2	75954 033 3900		BLLENDE KPL.	MASK CPL
		72010 744 8000		BEDIENUNGSANLEITUNG	OPERATING INSTRUCTIONS
				D/GB/F/I/P/E/NL/DK/S/FIN	D/GB/F/I/P/E/NL/DK/S/FIN
		72010 748 3000		SERVICE MANUAL MCD 36 D/GB	SERVICE MANUAL MCD 36 D/GB
		72010 748 3100		SERVICE MANUAL MCD 36 D/GB	SERVICE MANUAL MCD 36 D/GB
				1. ERGAENZUNG	SUPPLEMENT 1

ÄNDERUNGEN VORBEHALTEN / SUBJECT TO ALTERATION

POS. NR. POS. NO.	MATERIAL-NR. PART NUMBER	BEZEICHNUNG DESCRIPTION
CS 00505	75954 033 4000	DIN BUCHSE KPL.
D 00681	75955 019 2500	DIODE MA152K
D 00700	75952 041 5400	Z DIODE DZD 8.2 Y
D 00803	75952 022 0600	DIODE DCC 010
D 00805	75987 356 2200	SMD DIODE MA 152 WA
D 00806	75981 299 9600	SMD DIODE MA 152 K
D 00807	75981 299 9600	SMD DIODE MA 152 K
D 00808	75981 299 9600	SMD DIODE MA 152 K
D 00809	75955 019 2400	DIODE DAN202K
D 00810	75955 019 1900	DIODE DAN217
D 00811	75981 299 9600	SMD DIODE MA 152 K
D 00812	75955 019 2400	DIODE DAN202K
D 00814	75955 019 1700	Z DIODE MELF RLZ6,8B
D 00900	75955 019 1400	Z DIODE MELF RLZ8,2B
D 00901	75952 041 7500	LE DIODE SLR 989 A
D 00910	75952 041 8500	OPTOKOPPLER GP 1S 5V
D 00950	75955 019 1500	Z DIODE MELF RLZ11B
FPC 00602	75954 033 3800	FLEXPRINTLEITUNG FBC602
IC 00601	75955 019 2800	IC LC78622ED-U
IC 00650	75954 505 1900	IC LA9240ML
IC 00651	75954 062 2800	IC BA 5941FP
IC 00681	75955 019 2900	IC LA6393ML
IC 00701	75955 019 2200	IC NJM2100M
IC 00801	75955 019 2700	IC LC66566B-4L33
IC 00802	75952 041 4500	IC S 81250 HG-RD-T2
IC 00803	75952 041 5700	IC S 8054 HN-CB
IC 00804	75954 033 1500	IC PST9138N
IC 00805	75955 019 1300	IC L78M05TL
IC 00806	75955 019 1600	IC TA8409F
IC 00807	75952 041 7900	SMD IC TC 7 S 04 F
IC 00950	75955 019 1600	IC TA8409F
PCB 00002	75954 033 3500	ANSCHLUSSBUCHSE KPL
PCB 00006	75954 033 1400	SCHALTER
Q 00601	75954 033 2100	SMD-TRANS. 2 SA 1338-5
Q 00681	75987 433 8800	TRANS.DTC 114 YK DTC114YK
Q 00700	75952 023 0900	SMD TRANS. 2 SC 2412 K-R
Q 00701	75952 041 4200	SMD TRANS. 2 SA 1341
Q 00702	75952 023 1000	SMD TRANS. DTC 114 TK
Q 00703	75952 023 1000	SMD TRANS. DTC 114 TK
Q 00801	75952 041 9300	SMD TRANS. 2 SC 2812-6
Q 00802	75987 459 6100	TRANS.-WIDERST.UN 2114 UN
Q 00803	75952 041 6300	SMD TRANS. DTC 124 XK
Q 00804	75952 041 6400	TRANS. 2 SB 1202 S
Q 00805	75953 501 4600	SMD-TRANS. 2 SA 1179
Q 00900	75955 019 2600	TRANS 2SD1802-S
Q 00901	75952 041 8000	FOTO-DIODE PT 4850 F
Q 00950	75952 041 6300	SMD TRANS. DTC 124 XK
SW 00801	75955 019 1800	TAKTSCHALTER 1P-1T
SW 00802	75954 033 1600	SCHIEBESCHALTER
TH 00801	75952 041 8200	NTC CS 20123 BH 102 KCTH1
X 00601	75953 506 2900	QUARZ 16,9344 MHZ
X 00801	75952 041 7900	SMD IC TC 7 S 04 F

POS. NR. POS. NO.	MATERIAL-NR. PART NUMBER	BEZEICHNUNG DESCRIPTION
<p>The regulations and safety instructions shall be valid as provided by the "Safety" Service Manual, part number 72010 800 0000, as well as the respective national deviations.</p>		
<p>ÄNDERUNGEN VORBEHALTEN / SUBJECT TO ALTERATION</p>		

Es gelten die Vorschriften und Sicherheitshinweise gemäß dem Service Manual "Sicherheit", Mat.-Nummer 72010 800 0000, sowie zusätzlich die eventuell abweichenden, landesspezifischen Vorschriften!



The regulations and safety instructions shall be valid as provided by the "Safety" Service Manual, part number 72010 800 0000, as well as the respective national deviations.

ÄNDERUNGEN VORBEHALTEN / SUBJECT TO ALTERATION