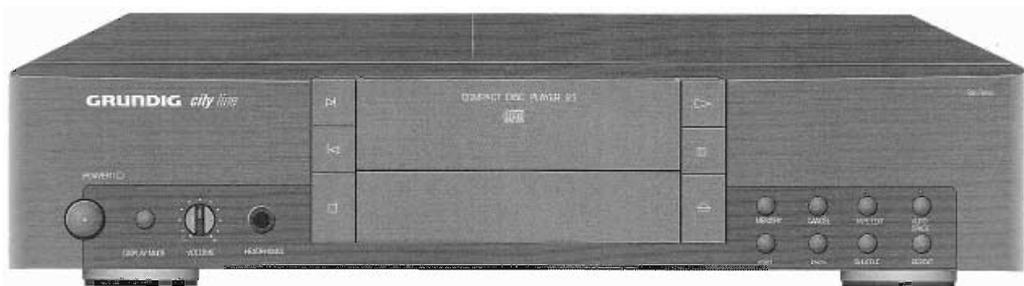


CD 210 (9.54706-8151 / G.LD 1951)



cityline SAN REMO CD 21 (9.54707-8151 / G.LE 2051)

D

Inhaltsverzeichnis

	Seite
Allgemeiner Teil	1-2 ... 1-24
Meßgeräte	1-2
Technische Daten	1-2
Sicherheitshinweise	1-3
LASER Sicherheit	1-5
MOS-Bauelemente	1-6
Testmodus	1-8
Ausbauhinweise	1-9
Bedienhinweise	1-13

Platinenabbildungen und Schaltpläne

Verdrahtungsplan	2-1
Platinenabbildungen	2-2, 2-5
Schaltpläne	2-3, 2-4

Explosionszeichnungen und Ersatzteillisten

Explosionszeichnungen	3-1
Ersatzteilliste CD 210	3-2
Ersatzteilliste SAN REMO CD 21	3-3

Allgemeiner Teil

Meßgeräte / Meßmittel

Test-CD (Sach-Nr. 72008-376.00)

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

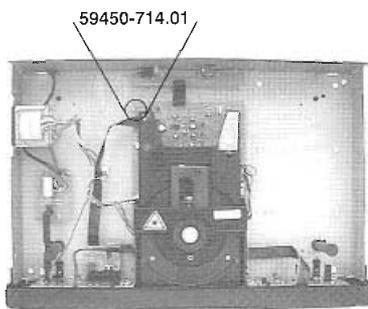
GRUNDIG AG, Geschäftsbereich Industrieelektronik
Würzburger Str. 150, D-90766 Fürth/Bay, Tel. 0911/7330-0
Telefax 0911/7330-479

Technische Daten

Linearität Frequenzgang (20 - 20 000 Hz)	$< \pm 0,5$ dB
Signal- / Rauschspannungsabstand (RMS, DIN A, 22 kHz LPF)	> 95 dB
Klirrfaktor (0 dB, 1 kHz)	$< 0,01$ %
Intermodulation (DIN 60 Hz / 7 kHz; 4 : 1)	$< 0,02$ %
Ausgangswiderstand	500 Ω
Ausgangsspannung	2 V
Netzspannung, Netzfrequenz	230 - 240 V~, 50 - 60 Hz
Leistungsaufnahme	ca. 9,5 W

WICHTIG:

Bedingt durch Lieferengpässe bei Halbleiterherstellern werden in diesen Geräten zwei verschiedene Chassisplatten eingebaut. Bitte beachten Sie bei der Reparatur die korrekte Zuordnung von Leiterplatte und Schaltplan. Die beiden Leiterplatten sind zu unterscheiden an einem Aufdruck auf der Platte (siehe Bild). Für die Chassisplatte mit dem Aufdruck 59450-714.01 gelten die Druckplattenabbildungen auf Seite 2-2 und der Schaltplan auf Seite 2-3. Für die andere Platte ohne diesen Aufdruck gelten entsprechend die Seiten 2-4 und 2-5.



GB

Table of Contents

	Page
General Section	1-2 ... 1-24
Test Equipment	1-2
Technical Data	1-2
Safety Requirements	1-3
LASER Safety	1-5
MOS Components	1-6
Testmode	1-8
Disassembly Instructions	1-9
Operating Hints	1-19

Layout of the PCBs and Circuit Diagrams

Wiring Diagram	2-1
Layout of PCBs	2-2, 2-5
Circuit Diagrams	2-3, 2-4

Exploded Views and Lists of Spare Parts

Exploded Views	3-1
List of Spare Parts CD 210	3-2
List of Spare Parts SAN REMO CD 21	3-3

General section

Test Equipment / Aids

Test CD (Part No. 72008-376.00)

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

GRUNDIG AG, Geschäftsbereich Industrieelektronik
Würzburger Str. 150, D-90766 Fürth/Bay, Tel. 0911/7330-0
Telefax 0911/7330-479

Technical Data

Linear frequency response (20 - 20 000 Hz)	$< \pm 0,5$ dB
Signal-noise ratio (RMS, DIN A, 22 kHz LPF)	> 95 dB
Distortion factor (0 dB, 1 kHz)	$< 0,01$ %
Intermodulation (DIN 60 Hz / 7 kHz; 4 : 1)	$< 0,02$ %
Output resistance	500 Ω
Output voltage	2 V
Supply voltage, mains frequency	230 - 240 V~, 50 - 60 Hz
Power consumption	ca. 9.5 W

IMPORTANT:

As a result of bottlenecks in delivery from semiconductor manufacturers these players are fitted with two different chassis boards. When repairing take care of the correct allocation of circuit board and circuit diagram. The two circuit boards can be distinguished by a print (see figure). For the chassis board with 59450-714.01 printed on it the relevant circuit boards are illustrated on page 2-2 and the circuit diagram on page 2-3. For the other board without this print, see the circuit boards and the diagram on page 2-4 and 2-5 respectively.

Testmodus

Starten des Testmodus

- Eine Disc einlegen.
- Gerät ausschalten.
- Die Tasten ▷ und ◀ gedrückt halten und das Gerät einschalten.
- Display zeigt 00 TEST.

Displaytest

- Taste ▷ drücken.
- Es werden jetzt die einzelnen Segmente des Displays der Reihe nach ein- und ausgeschaltet.

Servotests

• Schlitten

- Taste ▷ drücken bis 01 TEST angezeigt wird.

- Taste ▷ bewegt den Schlitten nach vorne.
- Taste ◀ bewegt den Schlitten nach innen.

• Focus

- Taste ▷ drücken bis 02 TEST angezeigt wird.

- Bei Drehen der Disc per Hand ist ein Geräusch hörbar.

• Disc Motor

- Taste ▷ drücken bis 03 TEST angezeigt wird.

- Der Disc Motor läuft mit einer konstanten Geschwindigkeit.

• Tracking

- Taste ▷ drücken bis 04 TEST angezeigt wird.

- Mit der Taste ▷ kann jetzt in kleinen Sprüngen vorwärts gesprungen werden. Nach einiger Zeit ist dann Musik zu hören.

Verlassen des Testmodus

- Gerät ausschalten.

Test Mode

Start the Test Mode

- Load a disc.
- Switch off the unit.
- Hold the buttons ▷ and ◀ depressed and switch on the unit.
- Display shows 00 TEST.

Display Test

- Press button ▷.
- The segments of the display are now being switched on and off.

Servo Tests

• Sledge

- Press the button ▷ until 01 TEST is been displayed.

• Focus

- Press the button ▷ until 02 TEST is been displayed.

• Disc Motor

- Press the button ▷ until 03 TEST is been displayed.

• Tracking

- Press the button ▷ until 04 TEST is been displayed.

- With the button ▷ small jumps can be done. Music will be heard after a while.

Exit Test mode

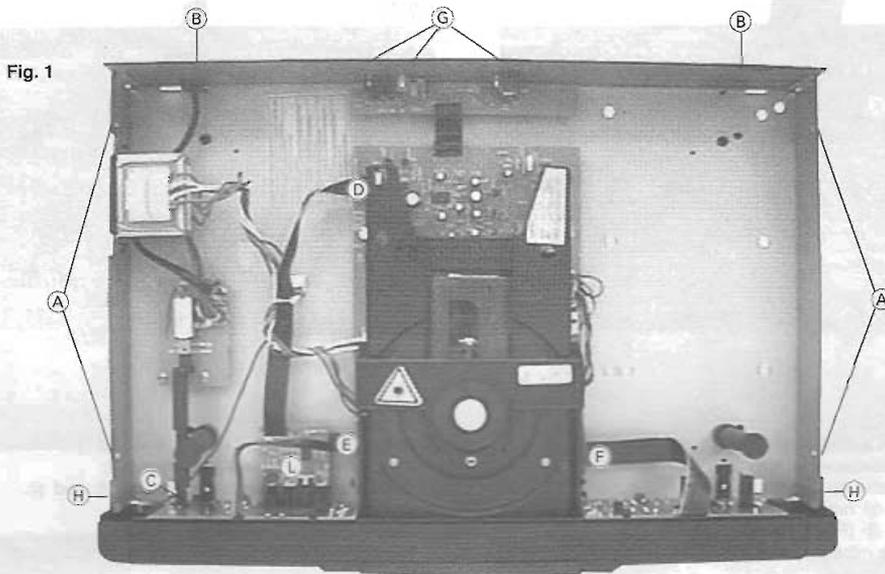
- Switch off the unit.

Notizen / Notes

Ausbauhinweise

1. Öffnen des Gehäuses (Fig. 1)

- Die 4 Schrauben (A) und die 2 Schrauben (B) heraus-schrauben.
- Den Deckel abheben.



Disassembly Instructions

1. Opening the Cover (Fig. 1)

- Undo the 4 screws (A) and the 2 screws (B).
- Remove the top of the cabinet.

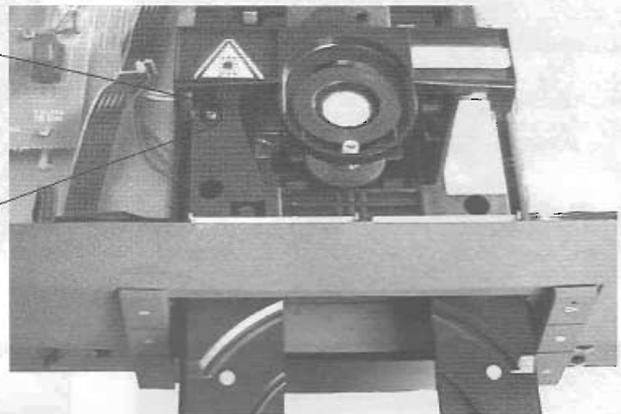
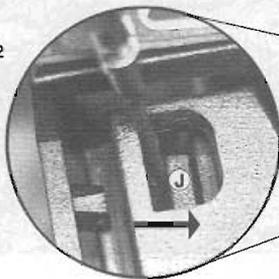
2. Ausbau der CD-Schublade (Fig. 2)

- Die CD-Schublade vorsichtig bis zum Anschlag herausziehen.
- Mit einem kleinen Schraubendreher die Rastung (J) nach rechts drücken und dadurch austrasten.
- Die CD-Schublade kann jetzt ganz herausgezogen werden.

2. Removing the CD Tray (Fig. 2)

- Pull out the CD tray until its stop.
- Using a small screw driver, push the catch (J) to the right to disengage it.
- The CD tray can now be removed completely.

Fig. 2



3. Ausbau der Frontplatte

- Die CD-Schublade ausbauen (s. Kap. 2).
- Die Schraube (L) heraus-schrauben.
- Die Rastung (C) (Fig. 1) der Netztaсте austrasten.
- Die 3 Steckverbinder (D), (E) und (F) (Fig. 1) abziehen.
- Die 2 Rastnasen (H) (Fig. 1) austrasten.

3. Removing the Front Panel

- Remove the CD Tray (see chapter 2).
- Undo the screw (L).
- Disengage the mains button (C) (Fig. 1).
- Disconnect the 3 plug-in-connections (D), (E) and (F) (Fig. 1).
- Disengage the 2 catches (H) (Fig. 1).

4. Zerlegen der Frontplatte (Fig. 3 und 4)

- Die 5 Schrauben (K) heraus-schrauben.
- Die Leiterplatte (M) kann jetzt abgenommen werden.
- Die 4 Schrauben (N) heraus-schrauben.
- Die Leiterplatte (P) kann jetzt abgenommen werden.

4. Disassembling of the Front Panel (Fig. 3 and 4)

- Undo the 5 screws (K).
- The PCB (M) can now be removed.
- Undo the 4 screws (N).
- The PCB (P) can now be removed.

Fig. 3

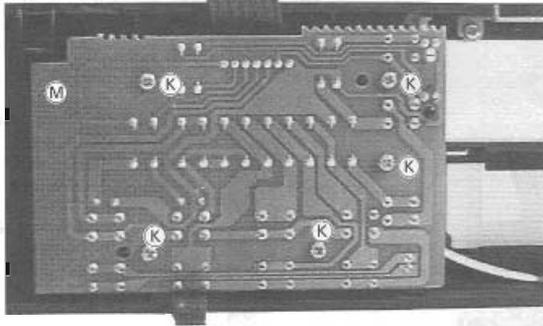
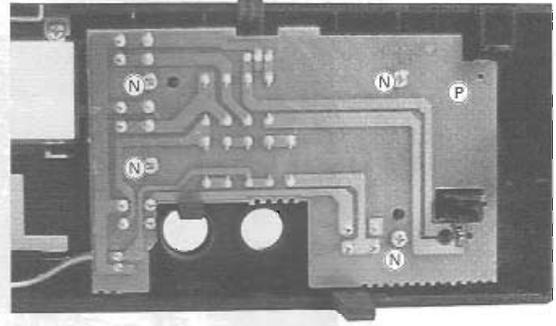


Fig. 4



5. Ausbau des CD-Laufwerks (Fig. 5, 6 und 7)

- Die Frontblende ausbauen (s. Kap. 3).
- Die 2 Steckverbinder (Q) und (R) abziehen.
- Die 3 Schrauben (S) heraus-schrauben.
- Die 3 Schrauben (G) (Fig. 1) heraus-schrauben.
- Das CD-Laufwerk mit der Chassisplatte und der Ausgangsplatte herausnehmen.
- Die 2 Steckverbinder (T) und (U) abziehen.
- Die 3 Schrauben (V) heraus-schrauben.
- Die Leiterplatte vorsichtig vom Laufwerk abheben und den Flexprint-Stecker (W) abziehen.
- Vor dem Öffnen des Flexprint-Steckers eine Büroklammer über die Flexprint-Leitung schieben. Beim Herausziehen der Flexprint-Leitung diese dann nach unten über die Kontakte schieben (MOS-Bauteile)!

5. Removing the CD-Drive (Fig. 5, 6 and 7)

- Remove the front panel (see chapter 3).
- Disconnect the 2 plug-in-connections (Q) and (R).
- Unscrew the 3 screws (S).
- Unscrew the 3 screws (G) (Fig. 1).
- Remove the CD drive together with the chassis board and the output board.
- Disconnect the 2 plug-in-connections (T) and (U).
- Unscrew the 3 screws (V).
- Carefully lift off the PCB from the drive and disconnect the flexprint connector (W).
- Before opening the flexprint connector, put a paper clip on the flexprint. When pulling out the flexprint, push the paper clip over the contacts (MOS components)!

Fig. 5

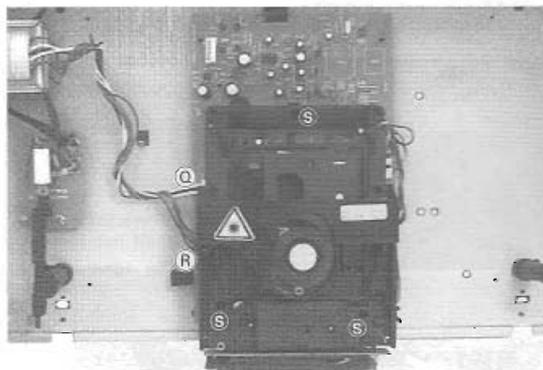


Fig. 6

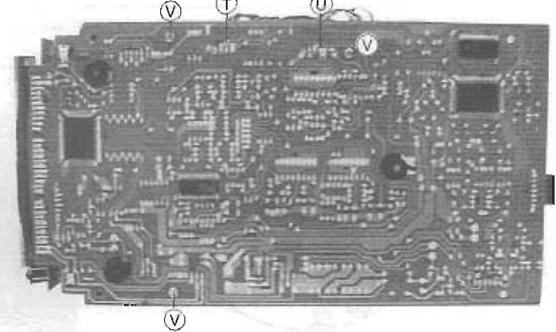
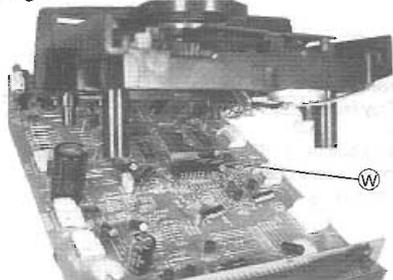
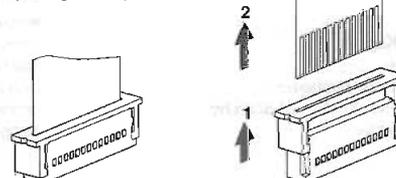


Fig. 7



Öffnen eines Flexprint-Steckers
Opening a Flexprint Connector



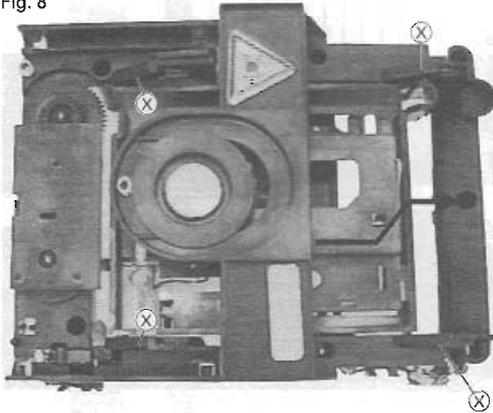
Kurzschließen einer Flexprint
Leitung
Shortening of a Flexprint



6. Zerlegen des CD-Laufwerks (Fig. 8 - 11)

- Das CD-Laufwerk ausbauen (s. Kap. 5).
- Den Schlitten nach rechts hochschieben (Fig. 9).
- Der Schlitten kann jetzt an der rechten Seite angehoben und danach ausgehängt werden (Fig. 10).
- Beim Wiedereinsetzen auf richtigen Sitz in den Führungen (X) achten.

Fig. 8

**6. Disassembling the CD Drive (Fig. 8 - 11)**

- Remove the CD Drive (see Chapter 5).
- Move the sled to the right (Fig. 9).
- The sled can now be lifted on the right side and can be removed (Fig. 10).
- Take care of the guide rail (X) when fitting the sled.

Fig. 9

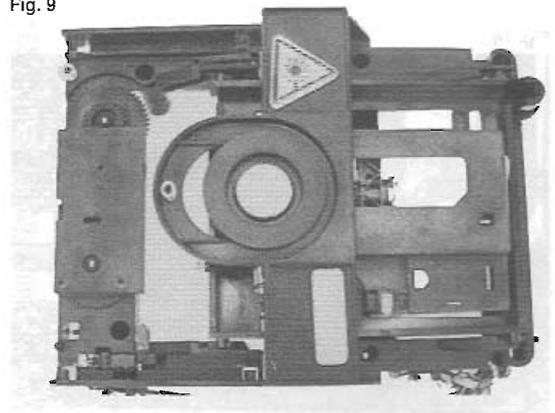


Fig. 10

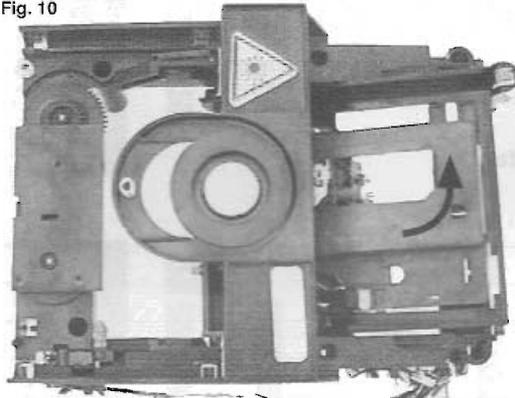
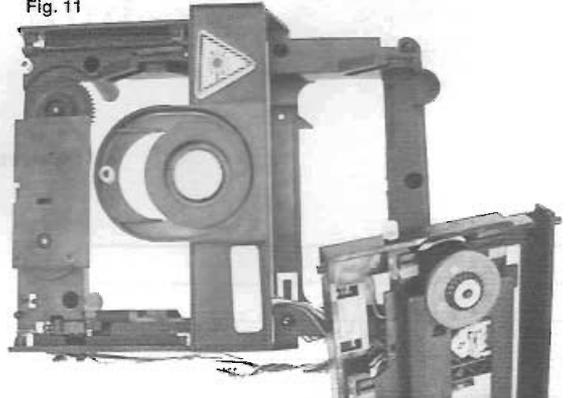


Fig. 11

**7. Ausbau der Tasten ◀, ▶, □, ▷, ⏪ und ⏩ (Fig. 12)**

- Die Frontblende ausbauen und zerlegen (s. Kap. 3 und 4).
- Die Rastnasen (Y) zusammen ausrasten. Die Tasteneinheit kann jetzt nach außen entnommen werden.

8. Ausbau der Tasten unter der Klappe (Fig. 13)

- Die Frontblende ausbauen und zerlegen (s. Kap. 3 und 4).
- Mit einem kleinen Schraubendreher die Tasten heraushebeln. Ein Abbrechen der Nase (Z) ist für die Funktion ohne Bedeutung.

7. Disassembling the ◀, ▶, □, ▷, ⏪ and ⏩ Buttons (Fig. 12)

- Remove and disassemble the front panel (see chapter 3 and 4).
- Disengage the catches (Y) together. The button unit can now be removed towards the outside.

8. Disassembling the Buttons under the Flap (Fig. 13)

- Remove and disassemble the front panel (see chapter 3 and 4).
- Lift off the button with a small screw driver. Breaking the nose (Z) does not affect the function.

Fig. 12

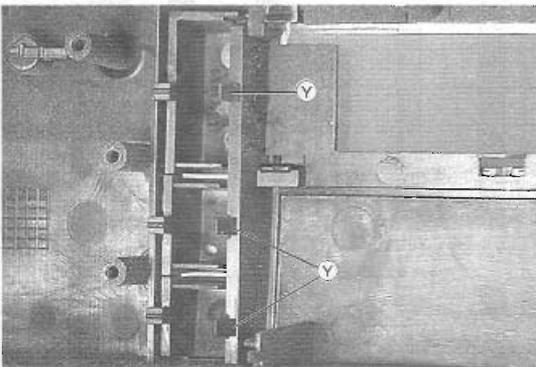
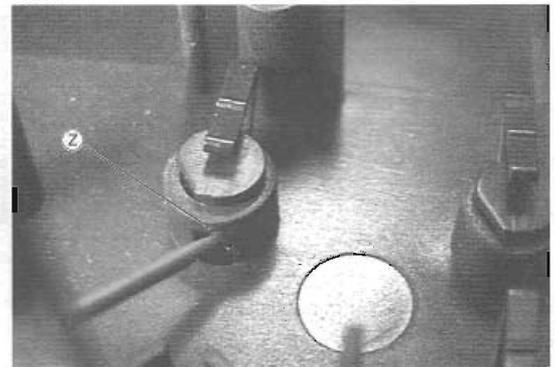


Fig. 13



Note:
This chapter contains excerpts from the operating instructions. For further particulars please refer to the corresponding operating instructions (part number indicated in the spare parts list).

Contents **Page**

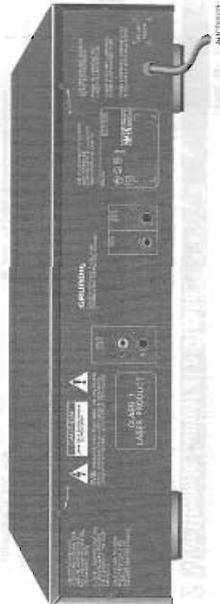
Language GB	
English	1 - 12
1 Your Unit at a Glance	
Illustration	3
CD player operating buttons	4
Operation elements	4
Connections on the back of the unit	5
2 Your Remote Control at a Glance	
Illustration	6
3 Setting up and Connection	
Setting up	7
Power supply connection	7
Sound signal connection	7
Digital output	7
Connection of bus line	7
Important information	7

Contents **Page**

4 Operation	
Switching on and off	8
Inserting a CD	8
Switching off the display	8
Playing a CD	8
Interrupting playback	8
Stopping playback	9
Skipping a track (TRACK NEXT/PREVIOUS)	9
Fast search (SEARCH)	9
Repeat function (REPEAT)	9
Shuffle function (SHUFFLE)	9
Changing the display	9
Programming mode	10
Programming in STOP mode	10
Programming in PLAY mode	10
Changing the programme	10
Playing back the programme	11
Deleting the programme	11
Recording from a CD to a cassette	11
Adjusting to cassette length (TAPE EDIT)	11
Automatic recording pauses (AUTO SPACE)	11

5 Important Information	
Technical data	12
Direct Operation Technique D.O.T.	12
Caring for your unit	12
Handling CD's	12

Your Unit at a Glance



1. Your Unit at a Glance

POWER I/O button

The yellow LED display in the middle of the button indicates that the unit is switched on.

Display

This displays all of the important information.

CD player operating buttons

▷

This skip button is used to skip to the next track (NEXT).

◁

This skip button is used to skip to the previous track (PREVIOUS).

□ (STOP) button

This button is used to end all functions.

▷ button

This button is used to start playback.

◁ button

This button is used to briefly interrupt playback (PAUSE), without changing the unit settings.

⏏ button

This button is used to open the CD compartment.

Operating elements

○ **AUTO SPACE** button

This button is used to insert pauses between recordings that are necessary for the MUSIC SEARCH function on cassette decks.

○ **TAPE EDIT** button

This button is used to adjust the CD playing time to the length of the cassette you are recording to.

○ **SHUFFLE** button

This button is used to turn the shuffle function on and off, which mixes up the track order.

○ **CANCEL** button

This button is used to omit individual tracks from the playback.

○ ▷▷ button

This button is used to start forward search.

○ ◁◁ button

This button is used to start backward search.

○ **MEMORY** button

This is used to call up the programming mode or to save individual tracks.

HEADPHONES socket

Connect suitable stereo headphones with a 6.3 mm-jack to the socket.

VOLUME adjustment

This is used to adjust the volume of the headphones.

○ **DISPLAY MODE** button

This is used to change the information shown in the display.

○ **REPEAT** button

This button is used to turn the CD or programmer repeat on and off.

1. Your Unit at a Glance

Connections on the back of the unit

Power supply connection

This is used to connect your unit to a 230 – 240 V-, 50/60 Hz power source.

DIGITAL OUTPUT cinch socket

Connect the cinch cable to the digital input of an amplifier, DCC or DAT recorder.

RC-BUS cinch socket

Here, connect the connection cable (orange jack) for the bus line (see also 5. Important information).

ANALOG OUTPUT cinch socket

Here, connect the cinch cable to the amplifier or receiver.

2. Your Remote Control at a Glance

Ten button key pad for the direct selection of tracks.

If you wish to select a track number from 1...9, briefly press the corresponding button. In the case of two-digit track numbers, first enter the first digit by keeping the corresponding button depressed. Then enter the second digit.

Operating buttons: L, >, <, III, ><, <>>

VOLUME +/- buttons

These buttons are used to adjust the volume of the connected amplifier or receiver of this series (+ louder, - softer). The + button is used to cancel the mute function (M - button).

⏪ button

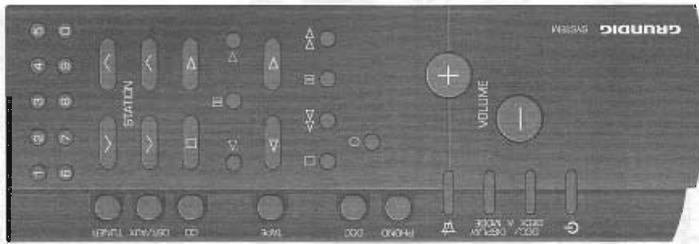
This button is used to switch your amplifier or receiver to the STAND BY mode.

DISPLAY MODE button

This button is used to change the display.

M - button

This button is used to interrupt the playback from a receiver or amplifier (mute mode) without changing the unit settings.



Changing the battery

If the range of your infrared remote control seems to decrease or if certain individual functions can no longer be carried out, you should replace the batteries.

Use two magnesium 1.5 Volt LR03, size AAA batteries. To change the batteries, open the compartment on the back of the remote control. Ensure that the batteries are inserted properly (note the markings in the battery compartment).

A note concerning the environment.

When changing the batteries never forget: Batteries must be disposed of properly.

4. Operation

Stopping playback

Press the **STOP** button.

Skip function (TRACK NEXT/PREVIOUS)

By pressing the **▷** button you can skip to the beginning of the next track in the track sequence (NEXT), and by pressing the **◀** button you can skip to the beginning of the preceding track (PREVIOUS). While in STOP mode you can choose a certain track. Playback begins immediately.

Fast search (SEARCH)

By pressing the **◀◀** or **▶▶** button, you activate the fast search (SEARCH) in the corresponding direction. During the fast search procedure you can listen to the tracks, even with the volume turned down. After approx. 5 seconds the unit's mute function is activated.

REPEAT function

The repeat function allows you to repeat the entire CD (or your programme). By pressing the **REPEAT** button, you activate the repeat function; by pressing the button again you deactivate the repeat function. The display shows you the function you have chosen.



SHUFFLE function

By pressing the **SHUFFLE** button you activate the shuffle function which mixes up the order of the CD tracks or the tracks you have selected for your programme. A random number generator selects the order of the tracks to be played.

All operating functions continue to function as during normal playback. The random number generator also controls the skip function (button).

The display shows the function you have selected.



The function is deactivated by pressing the **STOP**, **▷**, or **◀** **SHUFFLE** button; in this case the remaining tracks are played in their normal order.

The **SHUFFLE** function can also be used together with the **REPEAT** function.

Changing display

You can call up various information in the display by pressing the **DISPLAY MODE** button. The displays change according to the operating mode.

4. Operation

Programme mode

You can programme your own track sequence for each CD. The order of the programmed tracks determines the order in which they are played. Each track can be stored as often as you like. The time display shows you the total playing time of the programme.

There are two methods of programming: the desired track sequence. You can enter a programme in the STOP mode or in the PLAY mode.

You can store a sequence of up to 30 tracks.

Programming in STOP mode

Insert a CD and close the compartment. The CD player reads the contents of the CD. The display shows the total playing time and the number of tracks.

Press the **MEMORY** button. You have now selected the PROGRAM mode. At the left, the display shows the number of the track you have selected, next to it the total playing time of programme, and at the right it shows the track grid. Here you can see which tracks you have stored in the sequence.



Select the first track you want to programme with the **◀** and **▶** buttons. The track number flashes in the track grid. By pressing the **MEMORY** button, the track is stored in your programme. The track number at the right stops flashing; instead, it is now marked with a dash.



Choose the next track you wish to include in your programme. Use the **MEMORY** button to save it. The playing time display is updated and the track number is marked with a dash.

Leaving the programme mode

You can leave the programme mode by pressing the **STOP** or **▷** button.

Programming in PLAY mode

You can also enter a programme while a CD is playing. Press the **MEMORY** button. The number of the current track flashes. If you wish to add this track to your programme, press the **MEMORY** again, the track number stops blinking and is now marked with a dash.



If you wish to add a track to your programme other than the one currently being played, press the **◀** or **▶** button. Save your selection by pressing the **MEMORY** button.

Leaving the programme mode

You can leave the programme mode by pressing the **STOP** button.

Changing the programme

It is possible to change the programme you have created, you can add additional tracks or delete tracks from your programme.

If you wish to add an additional track, select it by pressing the **◀** or **▶** buttons on the keypad of your remote control. The corresponding track number flashes. Use the **MEMORY** button to add the track to your programme.

If you wish to delete a track you can do so by selecting the track and then pressing the **CANCEL** button. The playing time display is continually updated.

4. Operation

Programme playback

To play the programme you have created, press the **[>] (PLAY)** button. All functions of the playback mode continue to function.

Deleting a programme

To delete the entire programme, press the **[O] (CANCEL)** button while in the **STOP** mode. Opening the compartment (**[A]** button) or shutting off the unit also deletes the programme.

Recording from a CD to a cassette (CD-COPY)

If you have a cassette deck of this series, you can record from a CD to a cassette by pressing just one button. In addition, you can also optically record individual CD tracks or programmes on both sides of the cassette so that no tracks are cut off in the middle, so that there is not an excessive amount of blank tape on one side of the cassette.

First there must be a cassette in the cassette compartment and a CD in the CD player. Both units must be connected via bus lines (see **5. Important information**).

During the recording procedure, you can only use the **[O] (STOP)** or **[A] (OPEN/CLOSE)** buttons. All other functions are deactivated. If the CD player is the first unit to stop, playback, if automatically sends a corresponding command to the cassette deck and recording is stopped.

If the respective side of the tape reaches the end first, the CD player switches to **PAUSE**. If you want to continue recording on the other side of the cassette, turn the cassette over and press the **[O] (CD-COPY)** button again. The tape leader is taken up, and the CD starts at the beginning of the track just played.

For digital Recordings (such as **DAT**, **DCC**, etc.), you must start the CD player from the **PAUSE** mode to ensure optimum synchronization. The **CD-COPY** function is the same as that for analog recording.

TAPE EDIT function

This function notifies the CD player as to the playing time of a cassette tape. Press the **[O] (TAPE EDIT)** button, call up the entries **C 46**, **C 60**, **C 90**, **C 100**, **C 110**, **C 120** one after another.



Select the corresponding playing time of the cassette. After a brief pause the unit will show you the total playing time and which tracks will be recorded onto the A side of the cassette.



By pressing the **[O] (DISPLAY MODE)** button you can change the display so that it shows you the tracks to be recorded onto the B side of the tape.

Start the **CD COPY** function on the cassette deck. It starts to record on side A. When it is finishing, the display shows the tracks that will be recorded onto the B side.

This function can also be used to record a programme that you have saved.

AUTO SPACE function

If you are using a cassette deck that is accordingly equipped, you can use the **MUSIC SEARCH** function. In order to do so, you must leave pauses between the tracks. By pressing the **[O] (AUTO SPACE)** button, the CD player automatically generates a 4-second recording pause.

Technical data

The unit meets the **CEE** regulations concerning interference radiation.

This set complies with the safety regulations according to **VDE 0860/BS 415** and thus with the international safety regulation according to **IEC 65**.

Linear frequency response (20 - 20,000 Hz)	< ±1.05 dB
Signal-noise ratio (RMS, DIN A, 22 kHz LPF)	> 95 dB
Distortion factor (0 dB, 1 kHz)	< 0.01 %
Intermodulation (DIN 60767, kHz, 4:1)	< 0.02%
Output resistance/voltage	500 Ω / 2 V
Supply voltage, mains frequency	230 - 240 V~ 50 - 60 Hz
Power consumption	ca. 9.5 W

Direct Operation Technique D.O.T.

Direct Operation Technique is an intelligent database system which makes it possible for individual components of your system to «communicate» with each other. To take advantage of this capacity, all of the components of your system must be connected with each other via the bus connection and the unit must be connected with the CD socket on the amplifier or receiver.

The **D.O.T.** function allows you to automatically select any programme source via the amplifier or receiver. This means that it is not necessary to first select the CD and then start playback with **D.O.T.**, as soon as you initiate the playback function (to do so, press the **[>]** button on the CD player), the amplifier automatically selects the correct input source, and the playback begins.

Caring for the unit

Wipe the housing clean with a soft, antistatic cloth. Polishing and cleaning agents can damage the surface of the housing. If you have problems with your unit, consult your dealer.

Handling CD's

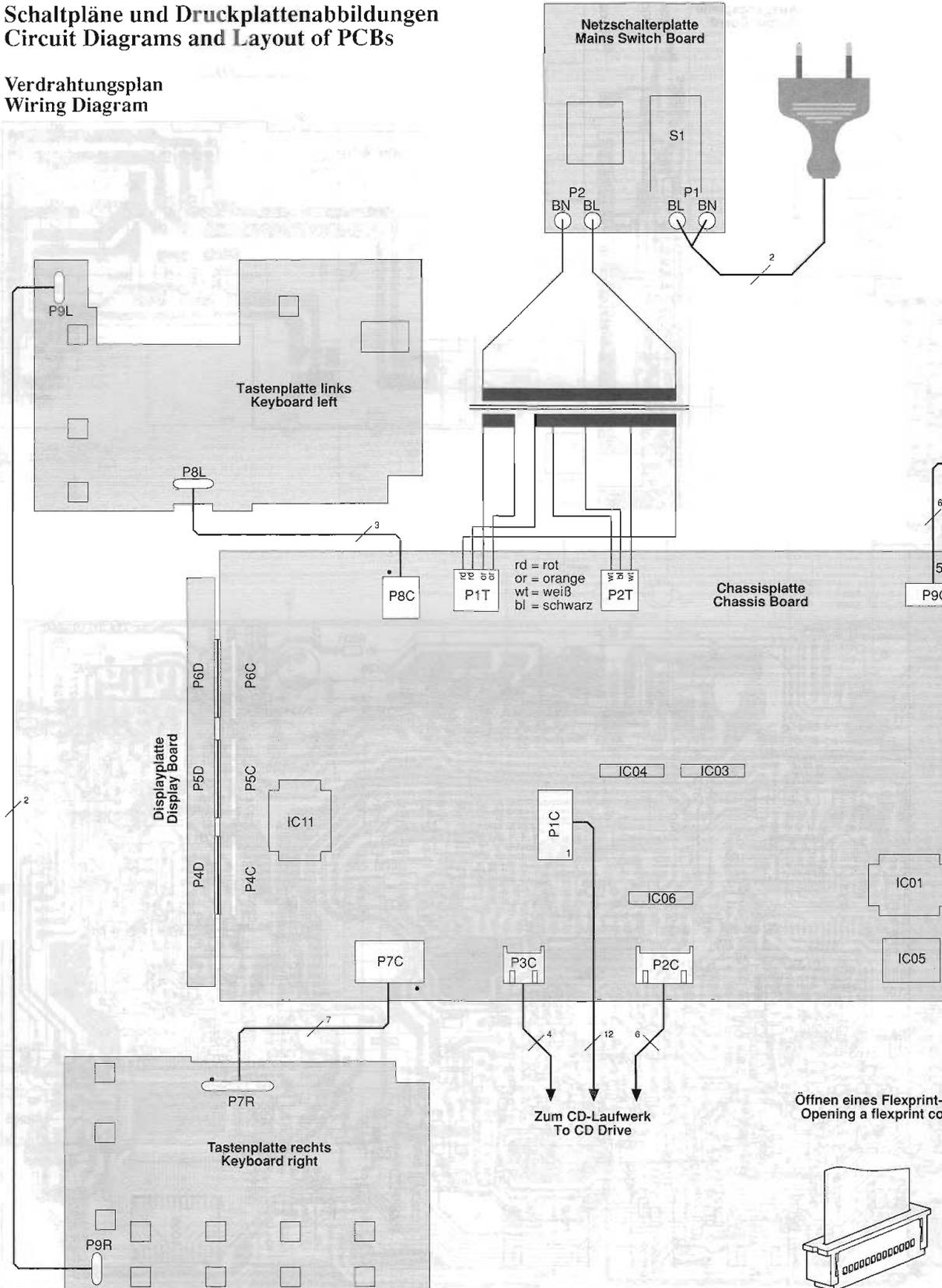
Although the tracks on the CD are protected by a special coating, we recommend that you handle your CD's carefully. The «printed side» is especially sensitive.

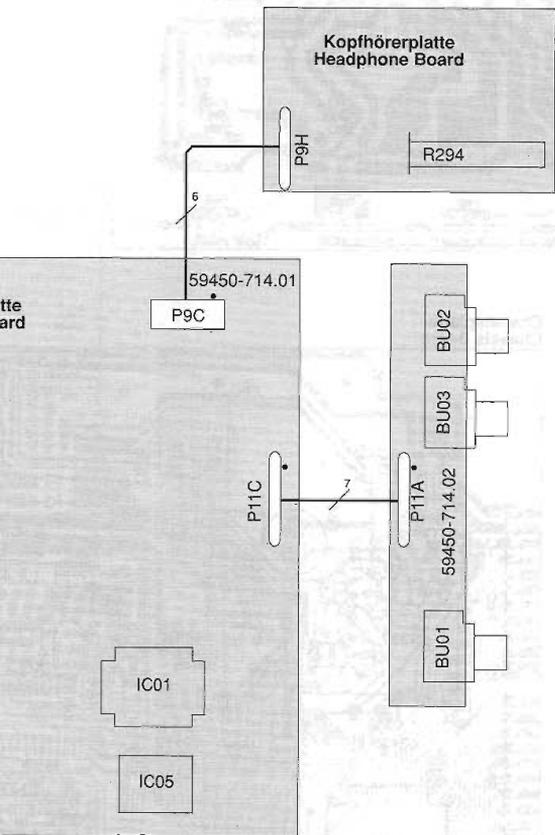
Always hold your CD's by the edges and always return them to their case when you have finished listening to them. You can use a cloth to wipe off fingerprints, dust, or dirt. In order to do so, wipe them starting in the middle and wipe straight towards the edge. Should it be necessary, breathe on the CD. Never use grease dispersing or scratchy cleaning agents intended for ordinary records.

Subject to technical alterations and alterations in styling. E and O.E.

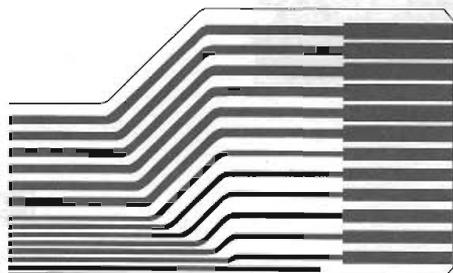
Schaltpläne und Druckplattenabbildungen Circuit Diagrams and Layout of PCBs

Verdrahtungsplan Wiring Diagram



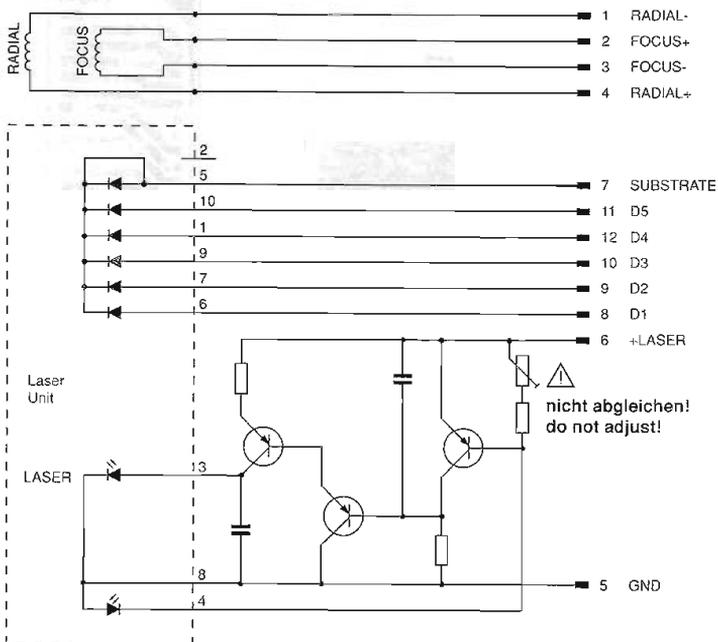


Belegung der Flexprintleitung in P1C
Flexfoil Connections in P1C

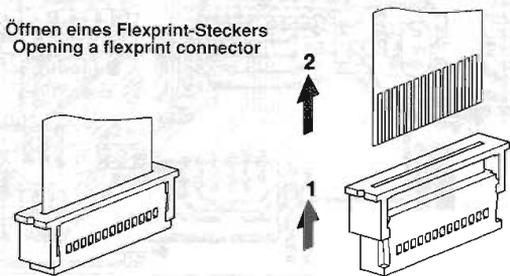


- 1: Radial -
- 2: Focus +
- 3: Focus -
- 4: Radial +
- 5: GND
- 6: + Laser
- 7: Substrate
- 8: D1
- 9: D2
- 10: D3
- 11: D4
- 12: D5

Schaltbild der Laser-Einheit
Circuit Diagram of Laser Unit

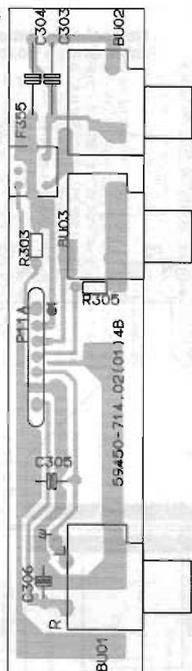


Öffnen eines Flexprint-Steckers
Opening a flexprint connector

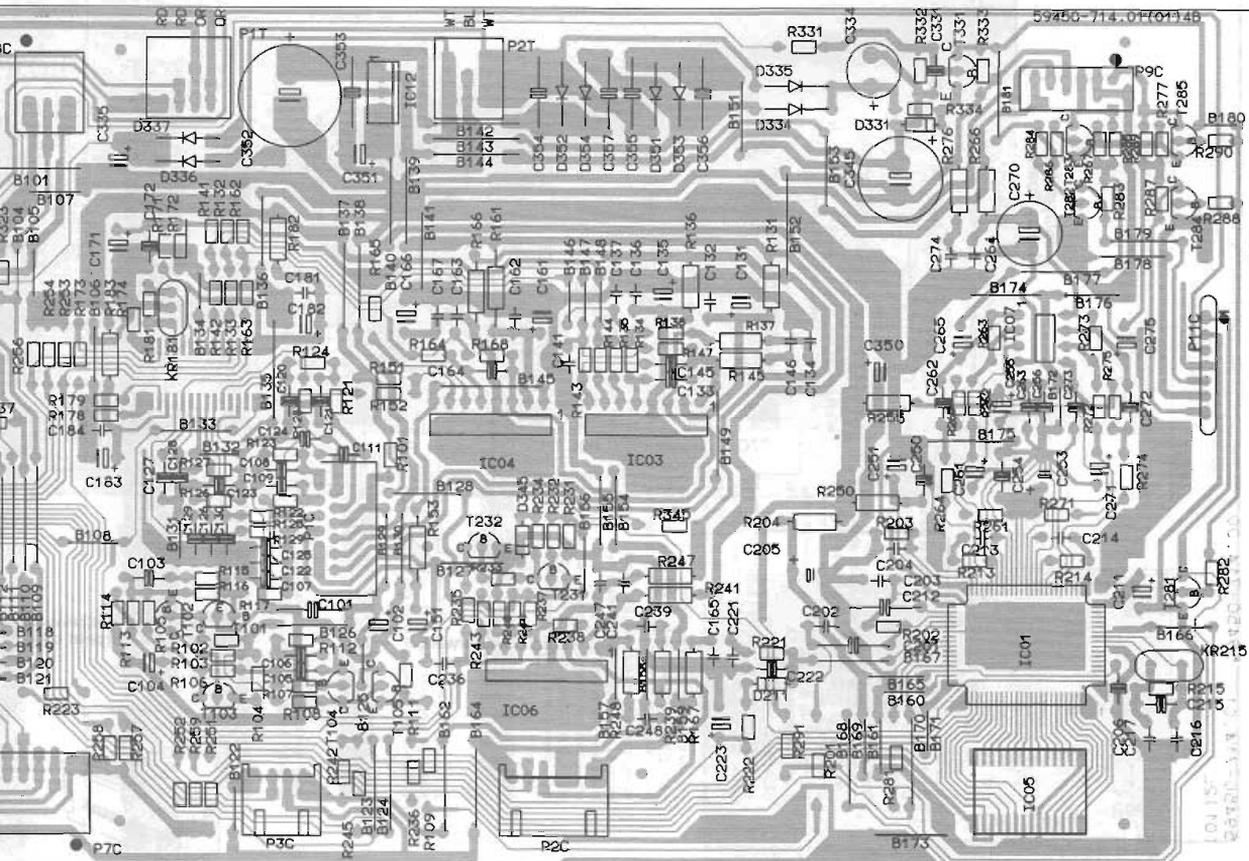
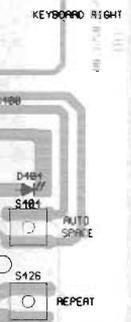
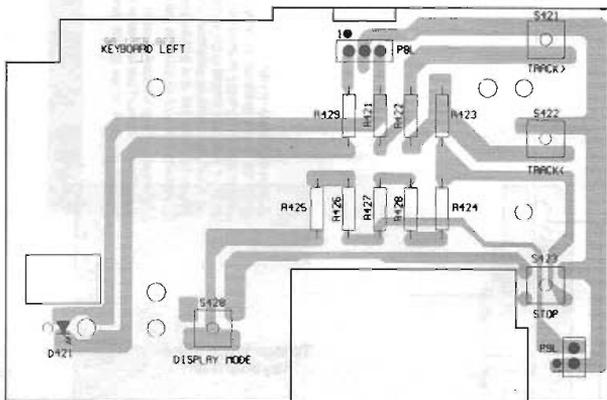


nicht abgleichen!
do not adjust!

Ausgangsplatte
Output Board

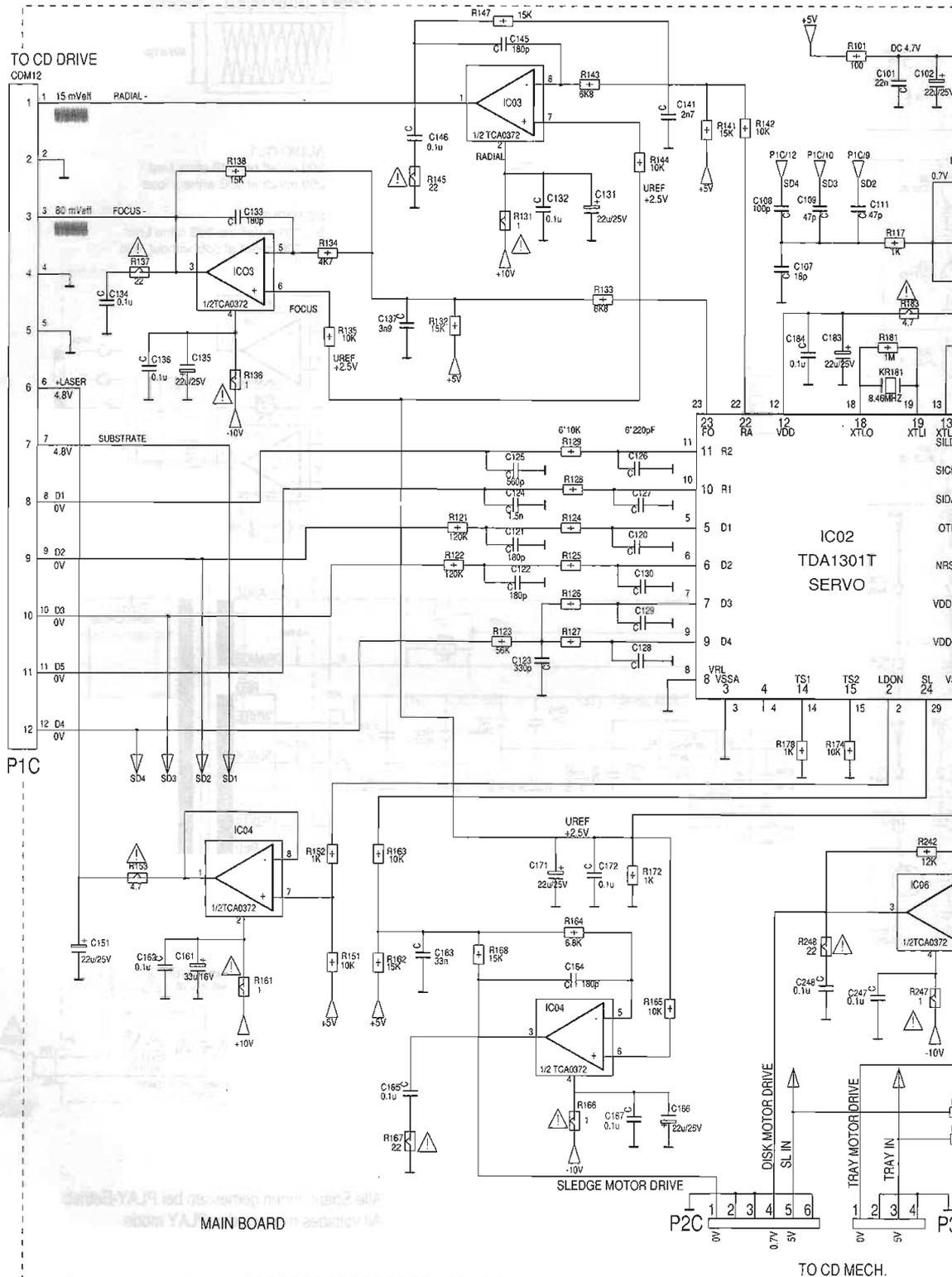


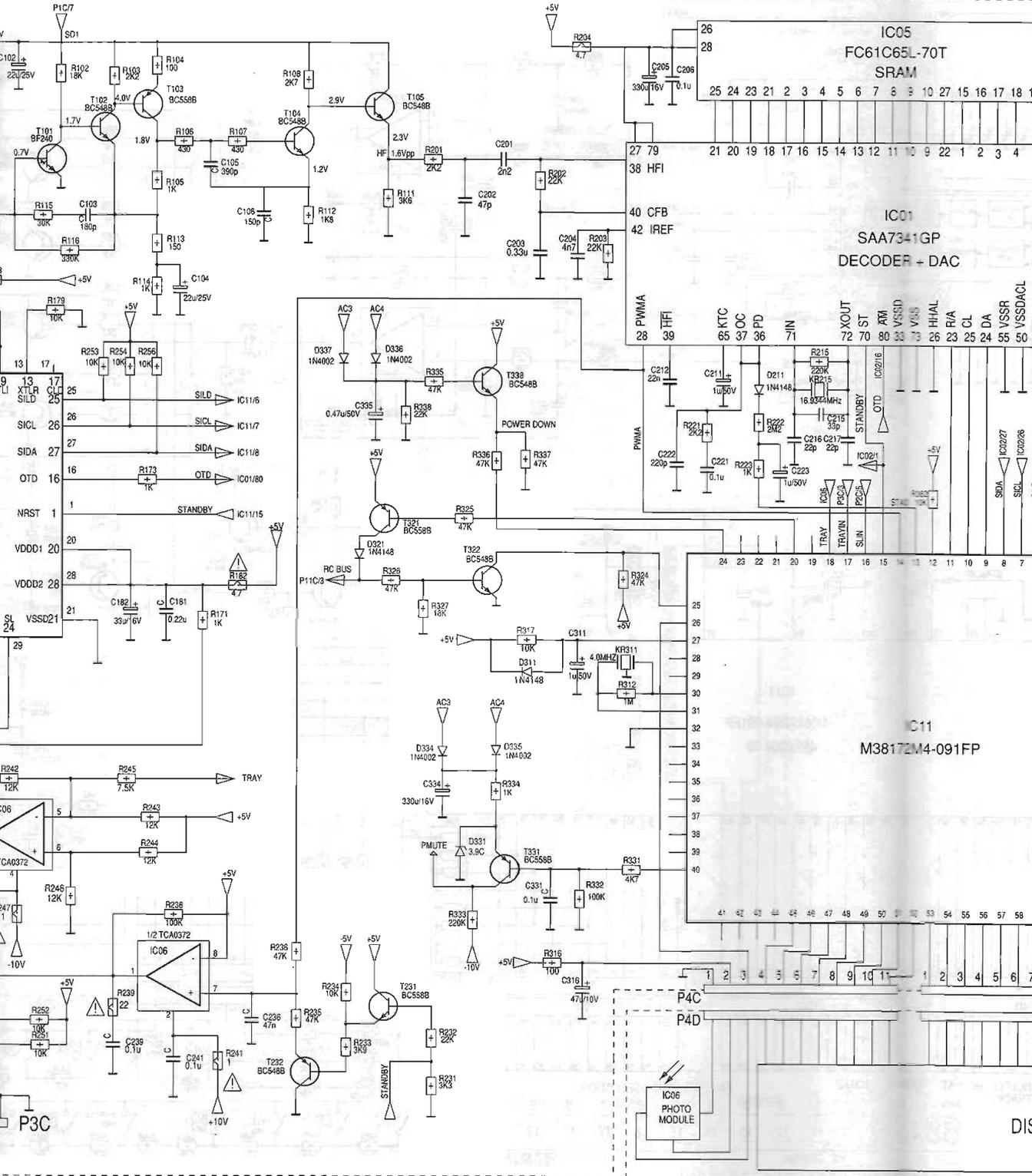
Tastenplatte links
Keyboard left

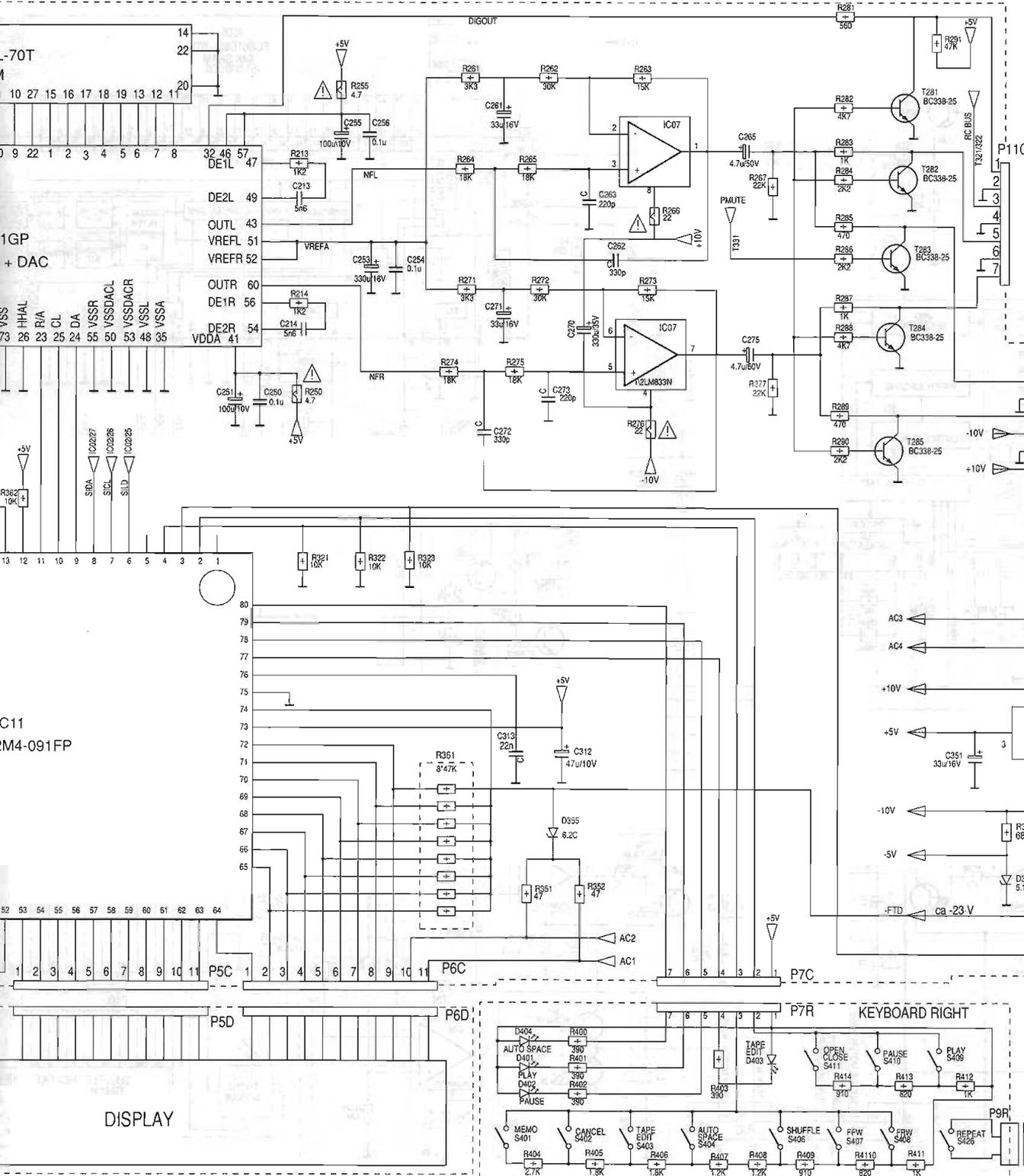


Schaltplan für Geräte mit der Leiterplatte 59450-714.01

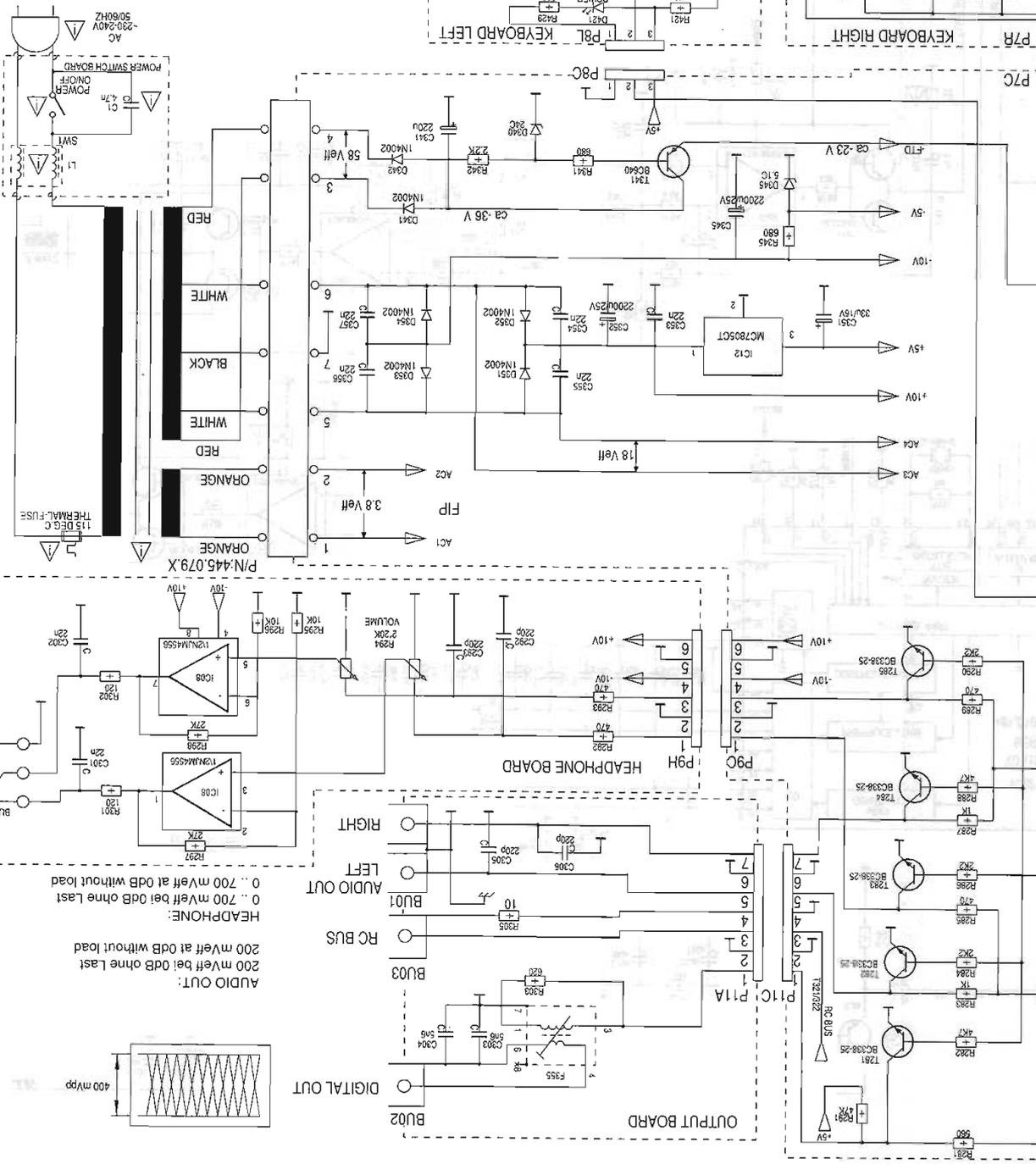
Circuit Diagram for Players with the PCB 59450-714.01

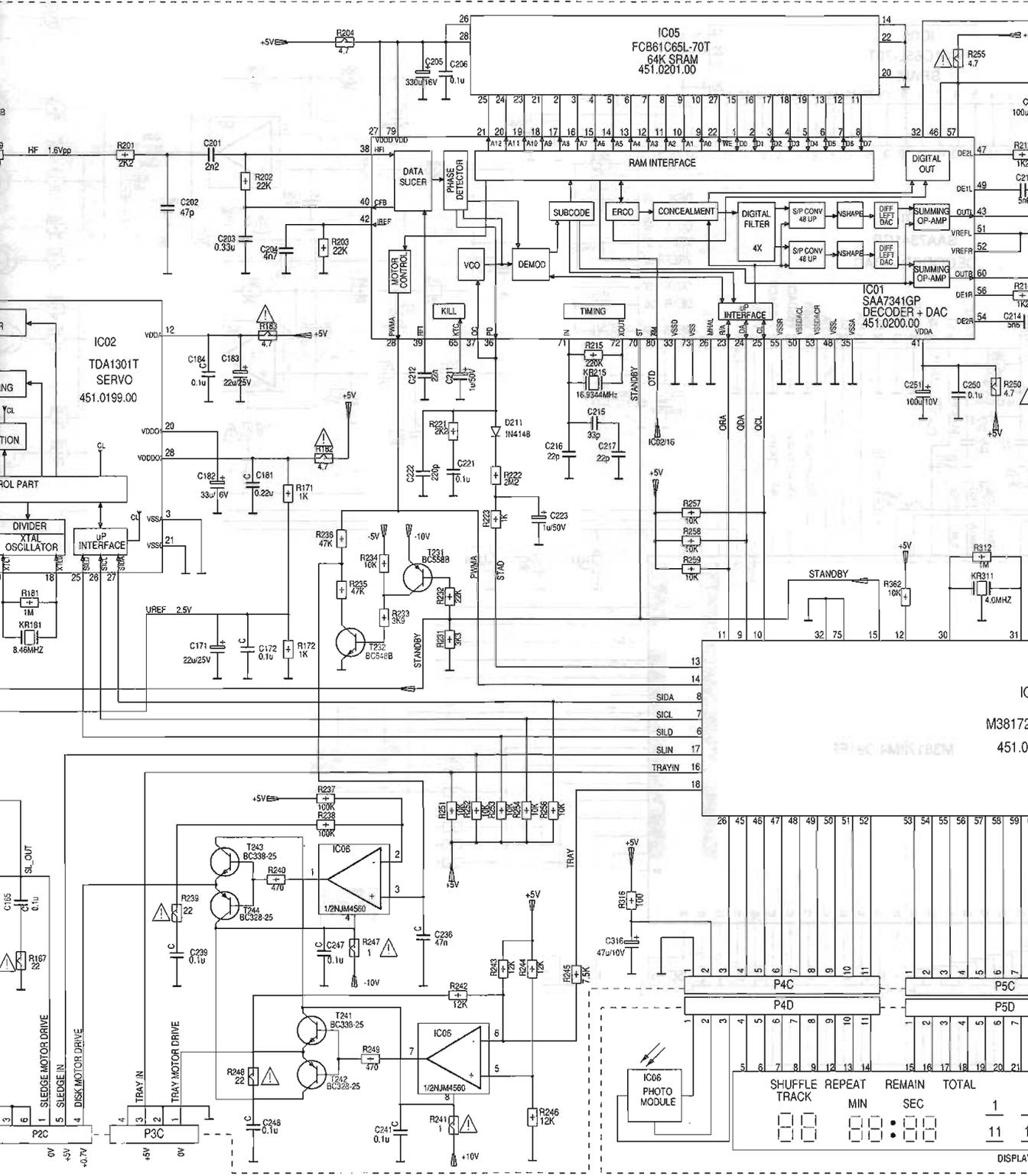




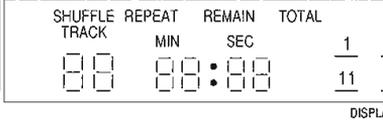


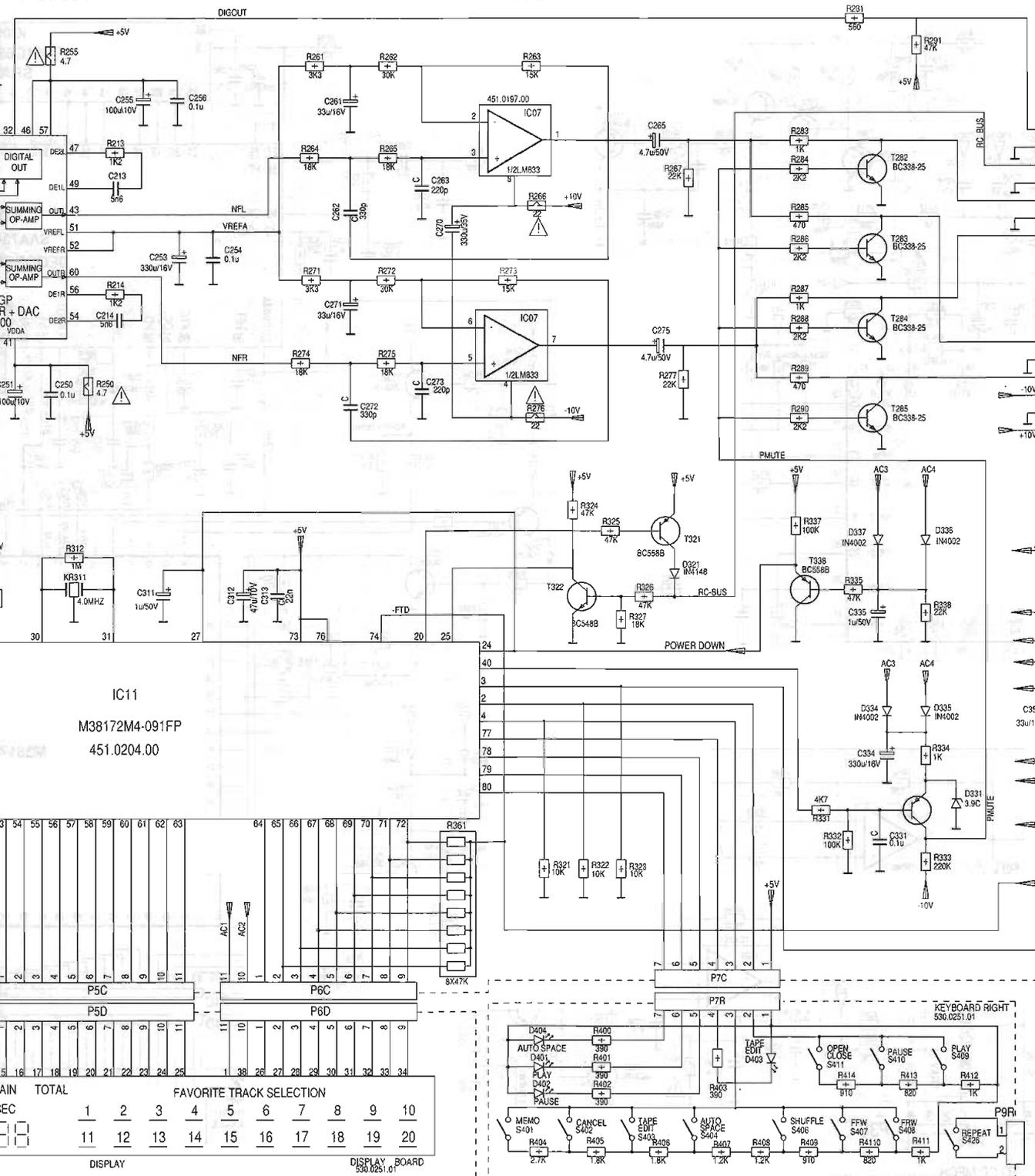
Alle Spannungen gemessen bei PLAY-Betrieb
All voltages measured in PLAY mode

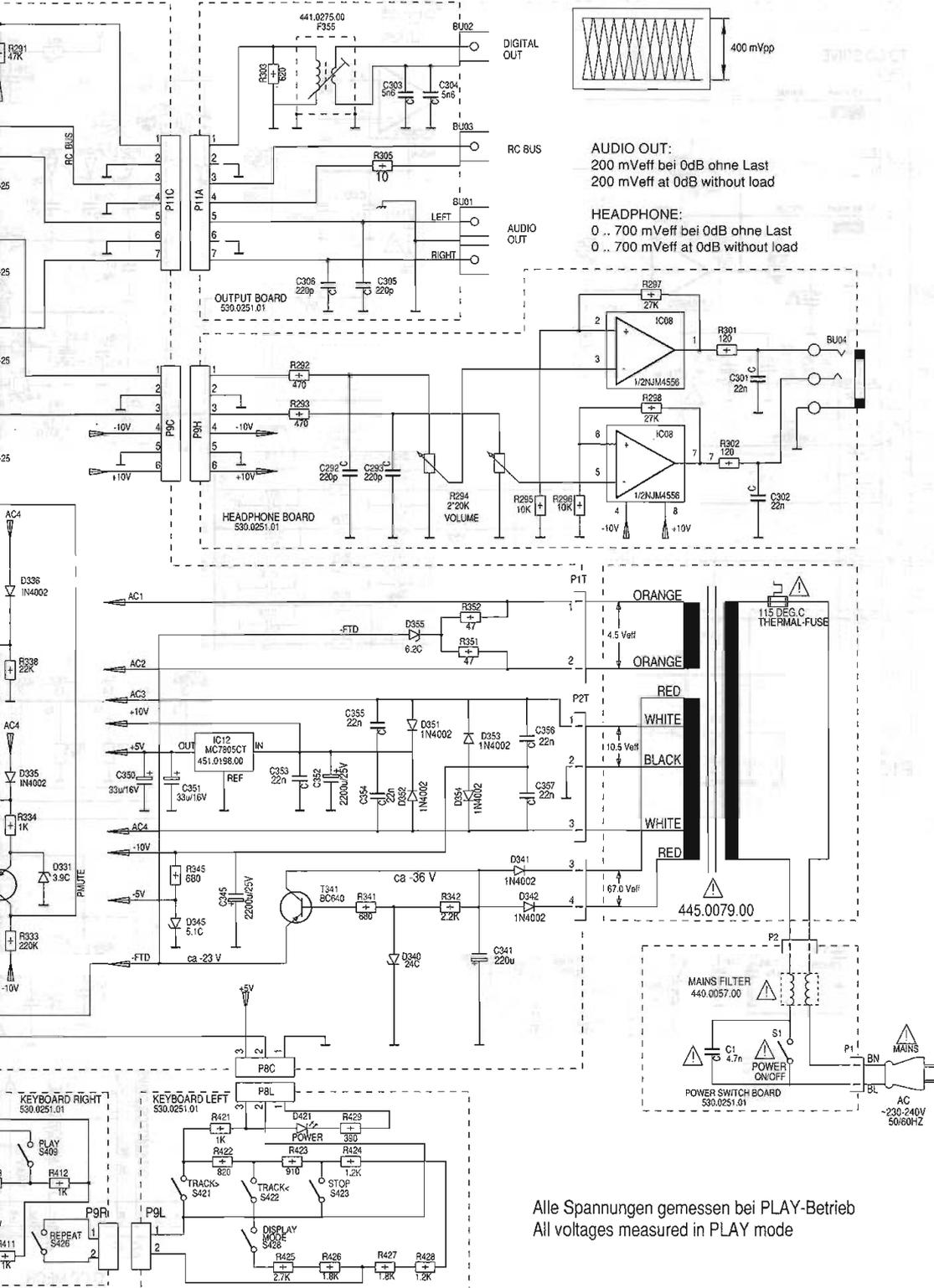




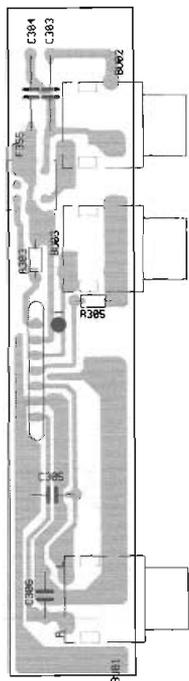
TO CD DRIVE CDM 12



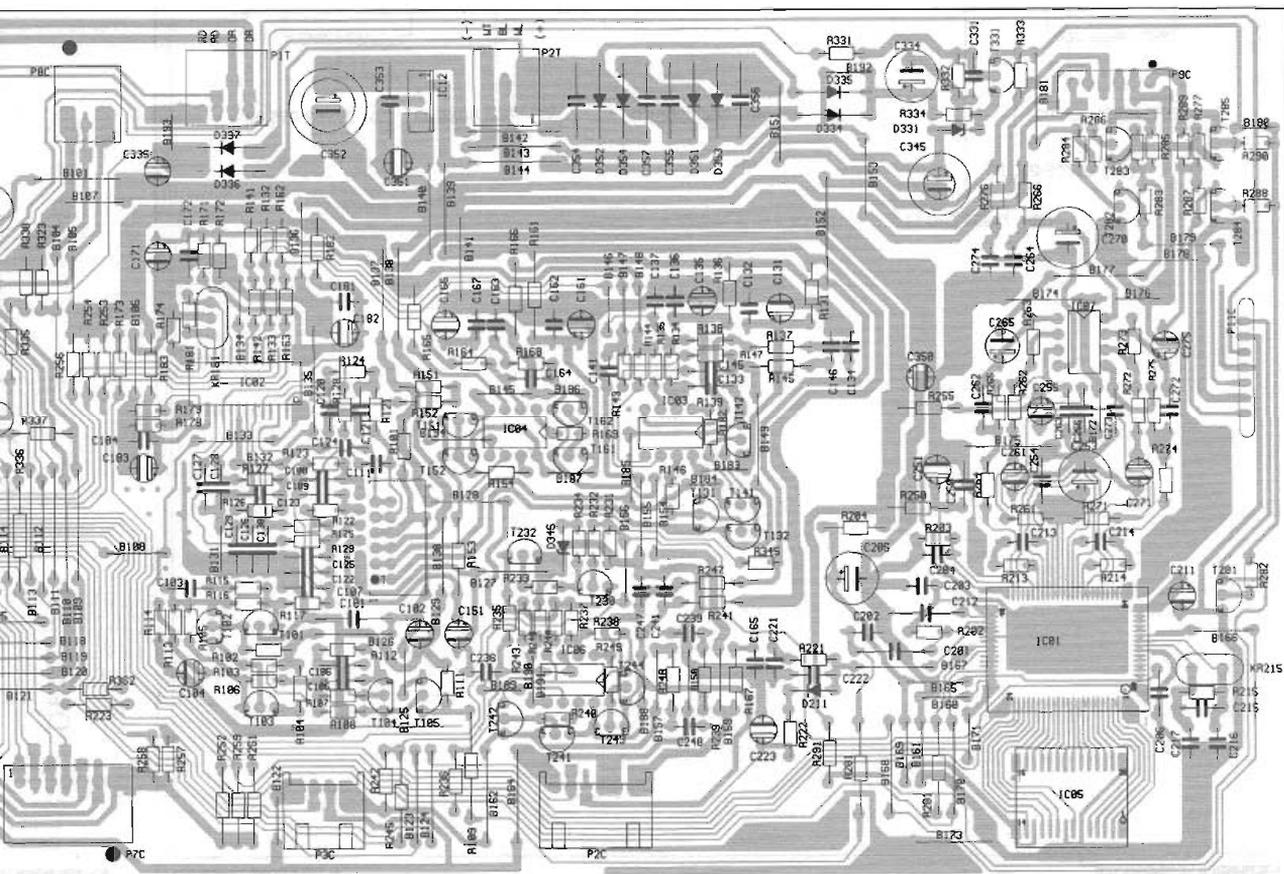
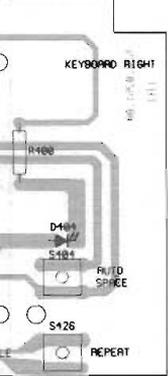
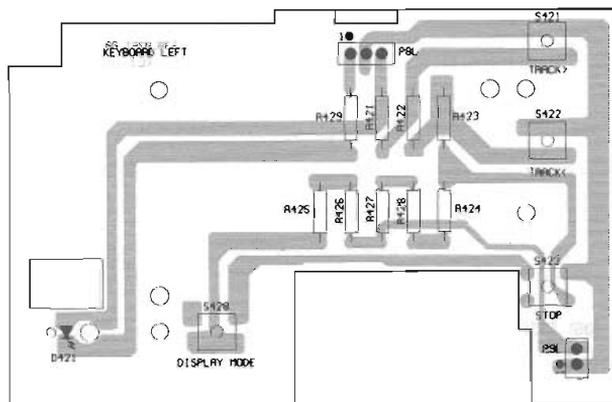




Ausgangsplatte
Output Board

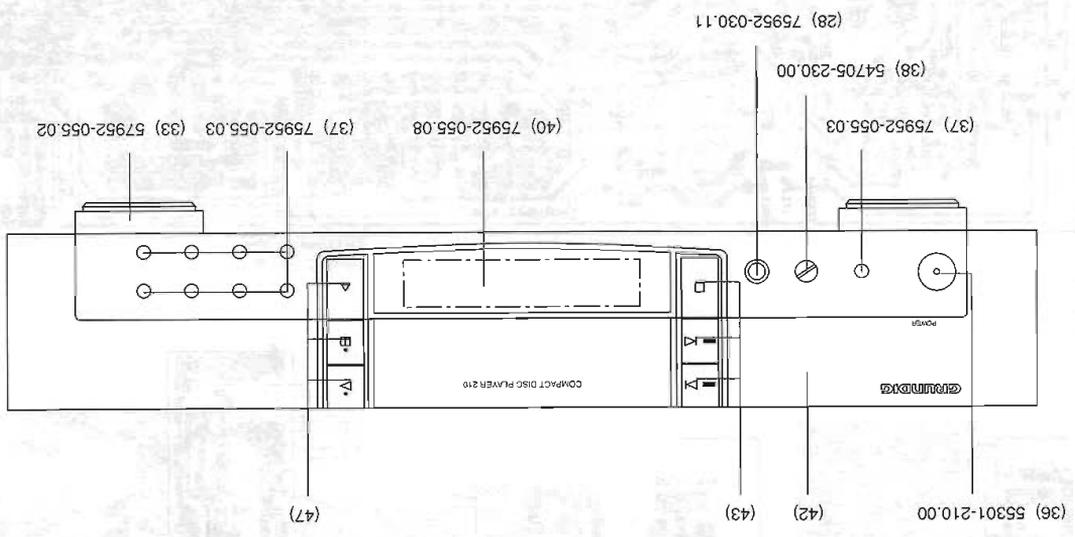


Tastenplatte links
Keyboard left

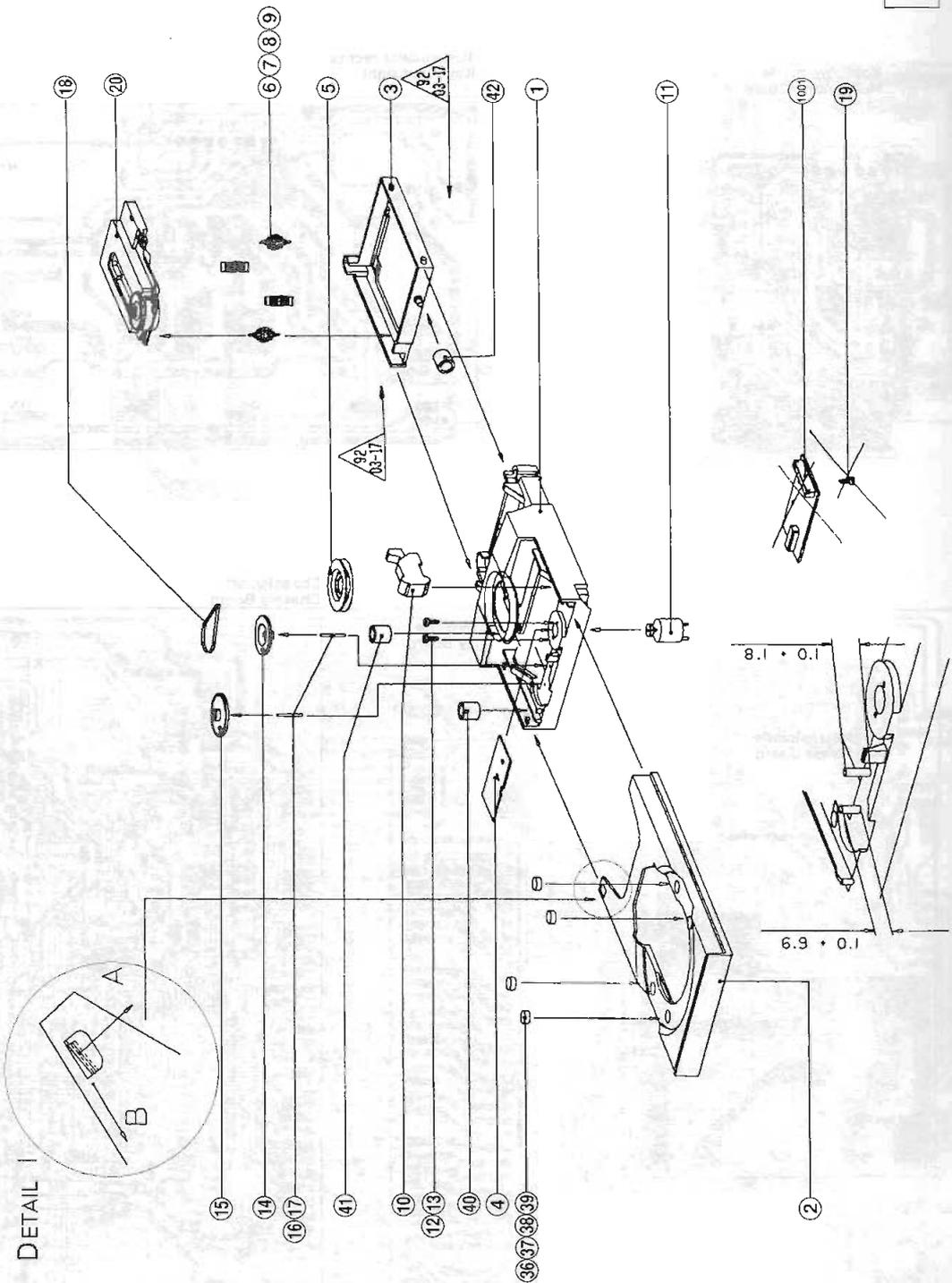


Explosionszeichnungen / Exploded Views

1



2



GRUNDIGErsatzteilliste
List of spare parts

D Btx * 32700 #

9 / 93

CD 210

SACH-NR. / PART NO.: 9.54706-8151

BESTELL-NR. / ORDER NO.: G.LD 1951

SCHWARZ/BLACK

POS. NR. POS. NO.	ABB. NR. FIG. NO.	SACHNUMMER PART NUMBER	ANZ. QUA.	BEZEICHNUNG D	DESCRIPTION GB
002.000	1 Δ	75952-030.02		NETZKABEL	POWER CABLE
004.000	1	75952-030.32		CINCH-BUCHSE	CINCH SOCKET
005.000	1	75952-030.31		CINCH-BUCHSE / RC	CINCH SOCKET
006.000	1	75952-030.33		CINCH-BUCHSE	CINCH SOCKET
008.000	1	55301-206.01		STOESSEL	PUNCH SLIDE
011.000	1	54527-347.01		FILTERFOLIE	FILTER FOIL
012.000	1	75952-030.10		DISPLAY	DISPLAY
019.000	1 Δ	75952-030.01		NETZTRAFO	POWER TRANSFORMER
024.000	1	55135-215.01		DISPLAYHALTER	DISPLAY HOLDER
028.000	1	75952-030.11		KOPFHÖRERBUCHSE	HEADPHONE JACK
030.000	1	75952-030.03		POTI.LAUTST. 20 KHOM	POTI VOLUME. 20 KOHM
033.000	1	75952-055.02	4	FUSS	FOOT
034.000	1	59752-069.00	4	ANTI-RUTSCH FILZ	ANTI SLIP FELT
035.000	1	75952-055.11		LED LINSE / NETZTASTE	LED LENS
036.000	1	55301-210.00		NETZTASTE	POWER KEY
037.000	1	75952-055.03	9	TASTE, FUNKTION	PUSH BUTTON, FUNCTION
038.000	1	54705-230.00		KNOPF / LAUTST.	KNOB
039.000	1	54706-202.00		CD-ABDECKUNG	CD DRAWER
040.000	1	75952-055.08		FENSTER, DISPLAY	WINDOW, DISPLAY
042.000	1	75952-055.01		FRONTBLLENDE	FRONT MASK
043.000	1	75952-055.06		TASTENSATZ, LINKS	PUSH BUTTON, LEFT
044.000	1	75952-055.04		GRUNDIG LOGO	GRUNDIG LOGO
046.000	1	54706-251.00		LED-LINSE / TASTEN L/R	LED LENS
047.000	1	75952-055.07		TASTENSATZ, RECHTS	PUSH BUTTON, RIGHT
001.000		75952-030.50		<u>LAUFWERK KPL.</u>	<u>TAPE DRIVE</u>
001.100		59726-010.00		LOADER 1210	LOADER 1210
002.000	2	75952-030.51		SCHUBLADE	DRAWER
005.000	2	75952-030.52		ZAHNRAD	GEAR WHEEL
011.000	2	75952-030.57		MOTOR	MOTOR
014.000	2	75952-030.53		ZAHNRAD	GEAR WHEEL
015.000	2	75952-030.54		ZAHNRAD	GEAR WHEEL
018.000	2	75952-030.56		RIEMEN	BELT
020.000	2	75952-030.55		LASEREINHEIT	LASERUNIT
		54706-941.01		BEDIENUNGSANLEITUNG	INSTRUCTION BOOK
		72010-738.05		SERVICE MANUAL	SERVICE MANUAL
				Δ = SICHERHEITSAUTEIL	Δ = SAFETY COMPONENT

POS. NR. POS. NO.	SACHNUMMER PART NUMBER	BEZEICHUNG DESCRIPTION	(D) (GB)
C 345 C 352	8452-097-006 8452-097-006	ELKO 2200UF 16V ELKO 2200UF 16V	
D 311 Δ D 321 Δ D 331 D 334 Δ D 335 Δ D 336 Δ D 337 Δ D 340 D 341 Δ D 342 Δ D 345 D 351 Δ D 352 Δ D 353 Δ D 354 Δ D 355 D 401 D 402 D 403 D 404 D 421	75952-030.43 75952-030.43 75952-030.46 75952-030.44 75952-030.44 75952-030.44 75952-030.44 75952-030.49 75952-030.44 75952-030.44 75952-030.48 75952-030.44 75952-030.44 75952-030.44 75952-030.44 75952-030.47 75952-030.04 75952-030.04 75952-030.13 75952-030.13 75952-030.04	SI-DIODE 1 N 4148 SI-DIODE 1 N 4148 Z DIODE 3,9 V 500MW SI-DIODE 1N4002 SI-DIODE 1N4002 SI-DIODE 1N4002 SI-DIODE 1N4002 Z DIODE 24 C BZX 79 C 34V SI-DIODE 1N4002 SI-DIODE 1N4002 Z DIODE 5,1 C D035 0,5W SI-DIODE 1N4002 SI-DIODE 1N4002 SI-DIODE 1N4002 SI-DIODE 1N4002 Z DIODE HZS 6 C 2 LE DIODE LE DIODE LE DIODE TLMY 4405 BT 12 LE DIODE TLMY 4405 BT 12 LE DIODE	
F 000 F 355	75952-030.62 75952-030.21	AC-FILTER FILTER	
IC 01 IC 02 IC 03 IC 04 IC 05 IC 06 IC 07 IC 08 IC 11 IC 12 IC 601	75952-030.28 75952-030.27 75952-030.22 75952-030.22 75952-030.29 75952-030.22 75952-030.24 75952-030.06 75952-030.69 75952-030.26 75952-030.09	IC SAA 7341 GP IC TDA 1301 T IC TCA 0372 DP 2 IC TCA 0372 DP 2 IC FCB 61 C 65L-70T IC TCA 0372 DP 2 IC LM 833 N IC NJM 4556 D IC M 38172 M 4-091 FP IC MC 7805 CT IC TFM 5360	
KR 215 KR 361 KR 181 KR 311	75952-030.14 75952-055.09 75952-030.18 75952-030.19	QUARZ 16.934 MHZ WIDERST.47KOHM CER. RESONATOR 8,46 MHZ CER. RESONATOR 4,00 MHZ	
R 131 Δ R 136 Δ R 137 Δ R 145 Δ R 153 Δ R 161 Δ R 166 Δ R 167 Δ R 182 Δ R 183 Δ R 204 Δ R 239 Δ R 247 Δ R 248 Δ R 250 Δ R 255 Δ R 266 Δ R 276 Δ R 441 Δ	75952-030.34 75952-030.34 75952-030.36 75952-030.36 75952-030.42 75952-030.34 75952-030.34 75952-030.36 75952-030.42 75952-030.42 75952-030.42 75952-030.36 75952-030.34 75952-030.36 75952-030.42 75952-030.42 75952-030.36 75952-030.36 75952-030.36 75952-030.34	SI.-WIDERST.1.0+-5% 0.25W SI.-WIDERST.1.0+-5% 0.25W SI.-WIDERST.22+-5% 0.25W SI.-WIDERST.22+-5% 0.25W SI.-WIDERST.4,7+-5% 0,25W SI.-WIDERST.1.0+-5% 0.25W SI.-WIDERST.1.0+-5% 0.25W SI.-WIDERST.22+-5% 0.25W SI.-WIDERST.4,7+-5% 0,25W SI.-WIDERST.4,7+-5% 0,25W SI.-WIDERST.4,7+-5% 0,25W SI.-WIDERST.22+-5% 0.25W SI.-WIDERST.1.0+-5% 0.25W SI.-WIDERST.22+-5% 0.25W SI.-WIDERST.4,7+-5% 0,25W SI.-WIDERST.4,7+-5% 0,25W SI.-WIDERST.22+-5% 0.25W SI.-WIDERST.22+-5% 0.25W SI.-WIDERST.22+-5% 0.25W SI.-WIDERST.1.0+-5% 0.25W	

POS. NR. POS. NO.	SACHNUMMER PART NUMBER	BEZEICHUNG DESCRIPTION	(D) (GB)
S 1 Δ S 401-404 S 406-411 S 421-424 S 426	75952-030.12 75952-030.07 75952-030.07 75952-030.07 75952-030.07	NETZSCHALTER TAKTSCHALTER TAKTSCHALTER TAKTSCHALTER TAKTSCHALTER	
T 101 T 102 T 103 T 104 T 105 T 231 T 232 T 282 T 283 T 284 T 285 T 321 T 322 T 331 T 338 T 341	75952-030.75 75952-030.39 75952-030.38 75952-030.39 75952-030.39 75952-030.38 75952-030.39 75952-030.41 75952-030.41 75952-030.41 75952-030.38 75952-030.39 75952-030.38 75952-030.39 75952-030.76	TRANS.BF 240 TRANS.BC 548 B TRANS.BC 558 B TRANS.BC 548 B TRANS.BC 548 B TRANS.BC 558 B TRANS.BC 548 B TRANS.BC 338-25 TRANS.BC 338-25 TRANS.BC 338-25 TRANS.BC 558 B TRANS.BC 548 B TRANS.BC 338-25 TRANS.BC 558 B TRANS.BC 548 B TRANS.BC 548 B TRANS.PNP BC 640	
NEUTEILE FUER NEUE CHASSISPLATTE			
IC 03 IC 04 IC 06	75952-030.45 75952-030.45 75952-030.45	IC NJM 4560D JRC IC NJM 4560D JRC IC NJM 4560D JRC	
T 131 T 132 T 141 T 142 T 151 T 152 T 161 T 162 T 241 T 242 T 243 T 244 T 338	75952-030.41 8302-200-295 8302-200-295 75952-030.41 8302-200-295 75952-030.41 75952-030.41 8302-200-295 75952-030.41 8302-200-295 75952-030.41 8302-200-295 75952-030.38	TRANSISTOR BC 338-25 BC 328-25 PNP TRANSISTOR BC 328-25 PNP TRANSISTOR TRANSISTOR BC 338-25 BC 328-25 PNP TRANSISTOR TRANSISTOR BC 338-25 TRANSISTOR BC 338-25 BC 328-25 PNP TRANSISTOR TRANSISTOR BC 338-25 BC 328-25 PNP TRANSISTOR TRANSISTOR BC 338-25 BC 328-25 PNP TRANSISTOR SI -PNP TRANS BC 558 B	

GRUNDIGErsatzteilliste
List of spare parts

D Btx * 32700 #

9 / 93

SAN REMO CD 21SACH-NR. / PART NO.: 9.54707-8151
BESTELL-NR. / ORDER NO.: G.LE 2051 SCHWARZ/BLACK

POS. NR. POS. NO.	ABB. NR. FIG. NO.	SACHNUMMER PART NUMBER	ANZ. QUA.	BEZEICHNUNG D	DESCRIPTION GB
002.000	1 Δ	75952-030.02		NETZKABEL	POWER CABLE
004.000	1	75952-030.32		CINCH-BUCHSE	CINCH SOCKET
005.000	1	75952-030.31		CINCH-BUCHSE / RC	CINCH SOCKET
006.000	1	75952-030.33		CINCH-BUCHSE	CINCH SOCKET
008.000	1	55301-206.01		STOESSEL	PUNCH SLIDE
011.000	1	54527-347.01		FILTERFOLIE	FILTER FOIL
012.000	1	75952-030.10		DISPLAY	DISPLAY
019.000	1 Δ	75952-030.01		NETZTRAFO	POWER TRANSFORMER
024.000	1	55135-215.01		DISPLAYHALTER	DISPLAY HOLDER
028.000	1	75952-030.11		KOPFHOEHRERBUCHSE	HEADPHONE JACK
033.000	1	75952-055.02	4	FUSS	FOOT
034.000	1	59752-069.00	4	ANTI-RUTSCH FILZ	ANTI SLIP FELT
035.000	1	75952-055.11		LED LENS / F.NETZTASTE	LED LENS
036.000	1	55301-210.00		NETZTASTE	POWER KEY
037.000	1	75952-055.03	9	TASTE, FUNKTION	PUSH BUTTON, FUNCTION
038.000	1	54705-230.00		KNOPF / LAUTST.	KNOB
039.000	1	75952-055.13		CD-ABDECKUNG	CD DRAWER
040.000	1	75952-055.08		FENSTER, DISPLAY	WINDOW/DISPLAY
042.000	1	75952-055.18		FRONTBLENDE	FRONT MASK
043.000	1	75952-055.16		TASTENSATZ, LINKS	PUSH BUTTON, LEFT
044.000	1	75952-055.14		GRUNDIG LOGO	GRUNDIG LOGO
046.000	1	54706-251.00		LED-LINSE / TASTEN S. L/R	LED LENS
047.000	1	75952-055.17		TASTENSATZ, RECHTS	PUSH BUTTON, RIGHT
100.000		59802-608.01		IR-FERNBEDIENUNG	IR REMOTE CONTROL
001.000		75952-030.50		<u>LAUFWERK KPL.</u>	<u>TAPE DRIVE</u>
001.100		59726-010.00		LOADER 1210	LOADER 1210
002.000	2	75952-030.51		SCHUBLADE	DRAWER
005.000	2	75952-030.52		ZAHNRAD	GEAR WHEEL
011.000	2	75952-030.57		MOTOR	MOTOR
014.000	2	75952-030.53		ZAHNRAD	GEAR WHEEL
015.000	2	75952-030.54		ZAHNRAD	GEAR WHEEL
018.000	2	75952-030.56		RIEMEN	BELT
020.000	2	75952-030.55		LASEREINHEIT	LASER UNIT
		72010-738.05		SERVICE MANUAL	SERVICE MANUAL
		54707-941.01		BEDIENUNGSANLEITUNG	INSTRUCTION BOOK
				Δ = SICHERHEITSBAUTEIL	Δ = SAFETY COMPONENT

POS. NR. POS. NO.	SACHNUMMER PART NUMBER	BEZEICHNUNG DESCRIPTION	 
C 345	8452-097-006	ELKO 2200UF 16V	
C 352	8452-097-006	ELKO 2200UF 16V	
D 211 	75952-030.43	SI-DIODE 1 N 4148	
D 311 	75952-030.43	SI-DIODE 1 N 4148	
D 321 	75952-030.43	SI-DIODE 1 N 4148	
D 331	75952-030.46	Z DIODE 3,9 V 500MW	
D 334 	75952-030.44	SI-DIODE 1N4002	
D 335 	75952-030.44	SI-DIODE 1N4002	
D 336 	75952-030.44	SI-DIODE 1N4002	
D 337 	75952-030.44	SI-DIODE 1N4002	
D 340 	75952-030.49	Z DIODE 24 C BZX 79 C 34V	
D 341 	75952-030.44	SI-DIODE 1N4002	
D 342 	75952-030.44	SI-DIODE 1N4002	
D 345	75952-030.48	Z DIODE 5,1 C D035 0,5W	
D 351 	75952-030.44	SI-DIODE 1N4002	
D 352 	75952-030.44	SI-DIODE 1N4002	
D 353 	75952-030.44	SI-DIODE 1N4002	
D 354 	75952-030.44	SI-DIODE 1N4002	
D 355	75952-030.47	Z DIODE HZS 6 C 2	
D 401	75952-030.04	LE DIODE	
D 402	75952-030.04	LE DIODE	
D 403	75952-030.13	LE DIODE TLMY 4405 BT 12	
D 404	75952-030.13	LE DIODE TLMY 4405 BT 12	
D 421	75952-030.04	LE DIODE	
F 000	75952-030.62	AC-FILTER	
F 355	75952-030.21	FILTER	
IC 01	75952-030.28	IC SAA 7341 GP	
IC 02	75952-030.27	IC TDA 1301 T	
IC 03	75952-030.22	IC TCA 0372 DP 2	
IC 04	75952-030.22	IC TCA 0372 DP 2	
IC 05	75952-030.29	IC FCB 61 C 65L-70T	
IC 06	75952-030.22	IC TCA 0372 DP 2	
IC 07	75952-030.24	IC LM 833 N	
IC 08	75952-030.06	IC NJM 4556 D	
IC 11	75952-030.69	IC M 38172 M 4-091 FP	
IC 12	75952-030.26	IC MC 7805 CT	
IC 601	75952-030.09	IC TFM 5360	
KR 181	75952-030.18	CER RESONATOR 8.46MHZ	
KR 215	75952-030.14	QUARZ 16.934 MHZ	
KR 311	75952-030.19	CER RESONATOR 4,00 MHZ	
KR 361	75952-055.09	WIDERST.47KOHM	
R 131 	75952-030.34	SI.-WIDERST.1.0+-5% 0.25W	
R 136 	75952-030.34	SI.-WIDERST.1.0+-5% 0.25W	
R 137 	75952-030.36	SI.-WIDERST.22+-5% 0.25W	
R 145 	75952-030.36	SI.-WIDERST.22+-5% 0.25W	
R 153 	75952-030.42	SI.-WIDERST.4,7+-5% 0,25W	
R 161 	75952-030.34	SI.-WIDERST.1.0+-5% 0.25W	
R 166 	75952-030.34	SI.-WIDERST.1.0+-5% 0.25W	
R 167 	75952-030.36	SI.-WIDERST.22+-5% 0.25W	
R 182 	75952-030.42	SI.-WIDERST.4,7+-5% 0,25W	
R 183 	75952-030.42	SI.-WIDERST.4,7+-5% 0,25W	
R 204 	75952-030.42	SI.-WIDERST.4,7+-5% 0,25W	
R 239 	75952-030.36	SI.-WIDERST.22+-5% 0.25W	
R 241 	75952-030.34	SI.-WIDERST.1.0+-5% 0.25W	
R 247 	75952-030.34	SI.-WIDERST.1.0+-5% 0.25W	
R 248 	75952-030.36	SI.-WIDERST.22+-5% 0.25W	
R 250 	75952-030.42	SI.-WIDERST.4,7+-5% 0,25W	
R 255 	75952-030.42	SI.-WIDERST.4,7+-5% 0,25W	
R 266 	75952-030.36	SI.-WIDERST.22+-5% 0.25W	
R 276 	75952-030.36	SI.-WIDERST.22+-5% 0.25W	
R 294	75952-030.03	POTI.LAUTST. 20 KHOM	

POS. NR. POS. NO.	SACHNUMMER PART NUMBER	BEZEICHNUNG DESCRIPTION	 
S 1 	75952-030.12	NETZSCHALTER	
S 401-404	75952-030.07	TAKTSCHALTER	
S 406-411	75952-030.07	TAKTSCHALTER	
S 421-424	75952-030.07	TAKTSCHALTER	
S 426	75952-030.07	TAKTSCHALTER	
T 101	75952-030.75	TRANS.BF 240	
T 102	75952-030.39	TRANS.BC 548 B	
T 103	75952-030.38	TRANS.BC 558 B	
T 104	75952-030.39	TRANS.BC 548 B	
T 105	75952-030.39	TRANS.BC 548 B	
T 231	75952-030.38	TRANS.BC 558 B	
T 232	75952-030.39	TRANS.BC 548 B	
T 282	75952-030.41	TRANS.BC 338-25	
T 283	75952-030.41	TRANS.BC 338-25	
T 284	75952-030.41	TRANS.BC 338-25	
T 285	75952-030.41	TRANS.BC 338-25	
T 321	75952-030.38	TRANS.BC 558 B	
T 322	75952-030.39	TRANS.BC 548 B	
T 331	75952-030.38	TRANS.BC 558 B	
T 338	75952-030.39	TRANS.BC 548 B	
T 341	75952-030.76	TRANS.PNP BC 640	
NEUTEILE FUER NEUE CHASSISPLATTE			
IC 03	75952-030.45	IC NJM 4560D JRC	
IC 04	75952-030.45	IC NJM 4560D JRC	
IC 06	75952-030.45	IC NJM 4560D JRC	
T 131	75952-030.41	TRANSISTOR BC 338-25	
T 132	8302-200-295	BC 328-25 PNP TRANSISTOR	
T 141	8302-200-295	BC 328-25 PNP TRANSISTOR	
T 142	75952-030.41	TRANSISTOR BC 338-25	
T 151	8302-200-295	BC 328-25 PNP TRANSISTOR	
T 152	75952-030.41	TRANSISTOR BC 338-25	
T 161	75952-030.41	TRANSISTOR BC 338-25	
T 162	8302-200-295	BC 328-25 PNP TRANSISTOR	
T 241	75952-030.41	TRANSISTOR BC 338-25	
T 242	8302-200-295	BC 328-25 PNP TRANSISTOR	
T 243	75952-030.41	TRANSISTOR BC 338-25	
T 244	8302-200-295	BC 328-25 PNP TRANSISTOR	
T 338	75952-030.38	SI -PNP TRANS BC 558 B	

