
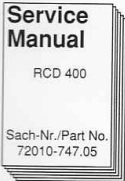


GRUNDIG SERVICE MANUAL

HIFI 

 Btx * 32700 #



Zusätzlich erforderliche Unterlagen für den Komplettservice:

Additionally required Service Manuals for the Complete Service:



RCD 400



GRUNDIG

RCD 400
IR-Geber / IR Remote Control

(9.79805-8151 / G.LF 1751)
(75954-032.17)

Es gelten die Vorschriften und Sicherheitshinweise gemäß dem Service Manual "Sicherheit", Sach-Nummer 72010-800.00, sowie zusätzlich die eventuell abweichenden, landesspezifischen Vorschriften!



The regulations and safety instructions shall be valid as provided by the "Safety" Service Manual, part number 72010-800.00, as well as the respective national deviations.

D Inhaltsverzeichnis

	Seite
Allgemeiner Teil	1 - 2...1 - 16
Meßgeräte / Meßmittel	1 - 2
Technische Daten	1 - 3
Bedienhinweise	1 - 4
Ausbauhinweise	1 - 13
Ableichvorschriften	2 - 1...2 - 3
Platinenabbildungen und Schaltpläne	3 - 1...3 - 21
Display	3 - 1
Verdrahtungsplan	3 - 2
Detailschaltpläne:	
CD	3 - 4
Tuner	3 - 10
Hauptplatte, Kopfhörerplatte, Display- und Tastenplatte, Netzteilplatte, Klangreglerplatte, Lautstärkeplatte	3 - 13
Druckplattenabbildungen:	
CD (IC-Block-Diagramme TDA1313T, SAA6579T)	3 - 6
Tuner	3 - 8
Hauptplatte (IC-Block-Diagramme TDA7294, LC7821)	3 - 16
Kopfhörerplatte, Display- und Tastenplatten, Netzteilplatte, Klangreglerplatte, Lautstärkeplatte	3 - 19
Ersatzteilliste und Explosionszeichnungen	4 - 1...4 - 6
Explosionszeichnung RCD 400	4 - 1
Explosionszeichnung CD-Laufwerk	4 - 3
Ersatzteilliste	4 - 4

Allgemeiner Teil

Meßgeräte / Meßmittel

Digitalvoltmeter, Wobbler, Meßsender, Stereokoder, Tongenerator, Oszilloskop, NF-Voltmeter, Klirrfaktormeßgerät

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

GRUNDIG electronics GmbH
Würzburger Str. 150
D-90766 Fürth/Bay.
Tel. 0911/703-0
Telefax 0911/703-4479

GB Table of Contents

	Page
General Section	1 - 2...1 - 16
Test Equipment / Aids	1 - 2
Specifications	1 - 3
Operating Hints	1 - 8
Disassembly Instructions	1 - 13
Adjustment Procedures	2 - 1...2 - 3
Layout of the PCBs and Circuit Diagrams	3 - 1...3 - 21
Display	3 - 1
Wiring Diagram	3 - 2
Circuit Diagrams:	
CD	3 - 4
Tuner	3 - 10
Main Board, Headphone Board, Display and Key Board, Mains Board, Volume Board	3 - 13
Layout of PCBs:	
CD (IC Block Diagrams TDA1313T, SAA6579T)	3 - 6
Tuner	3 - 8
Main Board (IC Block Diagrams TDA7294, LC7821)	3 - 16
Headphone Board, Display and Key Boards, Mains Board, Volume Board	3 - 19
Spare Parts List and Exploded Views	4 - 1...4 - 6
Exploded View RCD 400	4 - 1
Exploded View CD Drive Mechanism	4 - 3
Spare Parts List	4 - 4

General Section

Test Equipment / Aids

Digital voltmeter, Sweep generator, Test generator, Stereo coder, AF generator, Oscilloscope, AF voltmeter, Distortion meter

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

GRUNDIG electronics GmbH
Würzburger Str. 150
D-90766 Fürth/Bay.
Tel. 0911/703-0
Telefax 0911/703-4479

Technische Daten

Verstärker

Ausgangsleistung (DIN45500)	
Musikleistung (4Ω)	2 x 50W
Sinusleistung (4Ω, 0,7% Klirrfaktor, 1kHz)	2 x 30W
Eingangsempfindlichkeit / Impedanz	
Line IN	180mV / 47kΩ
Klirrfaktor	
Sinusleistung -1dB, 8Ω, 1kHz	≤0,01%
Geräuschspannungsabstand	≥94dB

Tuner

Empfindlichkeit	
Mono (S/N = 26 dB)	≤1,1µV
Stereo (S/N = 46 dB)	35µV
Wellenbereiche	
FM	87,50 ... 108,00MHz
MW	528 ... 1605kHz

CD

Linearität Frequenzgang ±0,1dB	20 ... 20000Hz
Signal- / Rauschspannungsabstand	90dB
Klirrfaktor (1kHz, 0dB)	≤0,01%
Dynamikbereich	≥88dB

Allgemeines

Spannungsversorgung	
Betriebsspannung	230V~
Frequenz	50/60Hz
max. Leistungsaufnahme	150W
Leistungsaufnahme in Standby	≤6W

Abmessungen

B x H x T	435 x 75 (+12) x 300mm
Gewicht	5,3kg

Specifications

Amplifier

Output power (DIN45500)	
Music (4Ω)	2 x 50W
Nominal (4Ω, 0.7% distortion, 1kHz)	2 x 30W
Input sensitivity / impedance	
Line IN	180mV / 47kΩ
Distortion	
Nominal power -1dB, 8Ω, 1kHz	≤0.01%
Signal-to-noise ratio	≥94dB

Tuner

Sensitivity	
Mono (S/N = 26 dB)	≤1.1µV
Stereo (S/N = 46 dB)	35µV
Wave ranges	
FM	87.50 ... 108.00MHz
MW	528 ... 1605kHz

CD

Frequency ranges ±0.1dB	20 ... 20000Hz
Signal-to-noise ratio	90dB
Distortion (1kHz, 0dB)	≤0.01%
Dynamic range	≥88dB

General

Power supply	
Voltage	230V~
Frequency	50/60Hz
max Power consumption	150W
Standby power consumption	≤6W

Dimensions

W x H x D	435 x 75 (+12) x 300mm
Weight	5.3kg

Notizen / Notes

Operating Hints

Note: This chapter contains excerpts from the operating instructions. For further particulars please refer to the appropriate user instructions the part number of which is indicated in the relevant spare parts list.

Uhr und Timer

Uhreinstellung

- Das Gerät verfügt über eine eingebaute Uhr (24 Stunden).
- Mit der Taste **POWER** Betriebsmodus wählen.
- Zweimal **EDIT** drücken. In der Anzeige erscheint **CLCk**.
- In der Anzeige beginnt die Zeit zu blinken.
- Zum Einstellen der Zeit die Tasten **<<>** **SEARCH/TUNING** **>>>** drücken.
- Mit jedem kurzen Tastendruck wird die angezeigte Zahl um 1 erhöht. Durch längeres Drücken der Taste wird die Einstellung im Schrittbereich vergrößert.
- Zum Speichern der Einstellung **MEMORY** drücken.
- Soll der Uhrzeigerbereichs ohne geänderte Einstellung verlassen werden, erneut **EDIT** drücken.

Anmerkung: Bei Stromausfall wird die Zeit gespeichert. Kehrt der Strom wieder, läuft die Uhr an der gespeicherten Zahl weiter.

D

Timer-Funktion

Stellen Sie vor dem Einstellen des Timers sicher, daß die Uhr richtig gestellt ist.

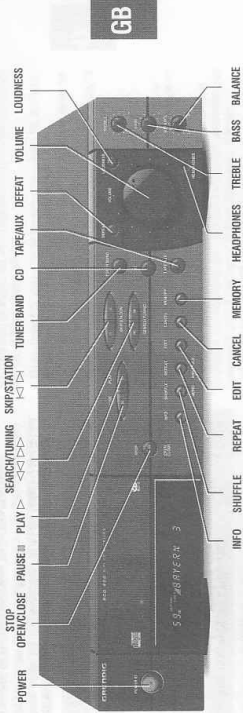
Ein- und Ausschalten des Timers

- Der Timer kann in jeder Betriebsart (selbst bei Bereitschaft) ein- oder ausgeschaltet werden.
- Der Timer kann durch längeres Drücken der Taste **INFO** ein- oder ausgeschaltet werden.
- Ist der Timer eingeschaltet, wird eine Sekunde lang **TIME OFF** angezeigt. Anschließend erscheinen in der Anzeige wieder die ursprünglichen Angaben. Die Leuchtbalken in der **POWER**-Taste beginnt zu blinken.
- Ist der Timer ausgeschaltet (vermeintlich längeres Drücken der **INFO**-Taste), wird eine Sekunde lang **TIME OFF** angezeigt. Anschließend kehren in der Anzeige die ursprünglichen Angaben wieder.

Timereinstellung

- Mit der Taste **POWER** auf Bereitschaft schalten.
- Einmal **EDIT** drücken. In der Anzeige erscheint kurz **T:1:1:0:0**.
- Die Minutenszahl beginnt zu blinken (z. B. **1:32:30:00**).
- Zum Einstellen der Anzeigedaten die Tasten **<<>** **SEARCH/TUNING** **>>>** drücken. Mit jedem kurzen Tastendruck wird die angezeigte Zahl um 1 erhöht. Durch Niederhalten der Taste wird die Einstellung an Schnellverfahren vorgenommen.
- Zum Einstellen der Endzeit **SKIP/STATION** **>** drücken.
- Mit den Tasten **<<>** **SEARCH/TUNING** **>>>** die Endzeit einstellen.
- Zum Speichern der Timereinstellung **MEMORY** drücken.
- Sobald der Timer eingeschaltet ist, beginnt die Leuchtbalken in der Taste **POWER** zu blinken.
- Das Gerät beginnt mit seiner Funktion, die eingestellt war, bevor das Gerät auf Bereitschaft geschaltet wurde (dasselbe Geräterat, derselbe Radiosender oder dieselbe Titelnnummer der CD).
- Wer das Gerät bereits eingeschaltet, als der Timer eingestellt wurde, stellt die Funktion wieder ein und das Gerät schaltet sich bei der eingestellten Endzeit ab.
- Nach dem Timerbetrieb wird das Gerät auf Bereitschaft geschaltet und die Leuchtbalken in der Taste **POWER** hört auf zu blinken.

Operating elements



Front of the CD RECEIVER

- POWER**
This button is used for switching the receiver on and to standby.
- STOP / OPEN/CLOSE**
In CD mode:
This button is used to end all functions and to open and close the CD compartment.
- PAUSE**
This button is used to briefly interrupt CD playback (PAUSE), without changing the unit settings.
- PLAY >**
This button is used to start or restart CD playback.
- SEARCH / TUNING <<>**
In CD mode:
These buttons are used to start backward <<< or forward >>> search.
- IN TUNER mode:**
You use these buttons to select the station search (AUTO) or to change the frequency step by step (MANUAL TUNING).
- SKIP / STATION <<>**
In CD mode:
These buttons are used to skip to the previous or next tracks.
- IN TUNER mode:**
These buttons are used to scroll through the station memory in the direction indicated by the arrows.
- SOURCE SELECTION**
This button is used to select the source: CD, FM and MW bands.
- TUNER BAND**
This button is used to select the TAPE/AUX input.
- CD**
This switch is used to bypass the BASS and TREBLE controls.
- DEFEAT**
This control is used for adjusting the volume level to individual hearing sensitivity.
- VOLUME**
This control is used to adjust the sound balance between the left and right channels.
- LOUDNESS**
This is to adjust the bass tones.
- BALANCE**
This is to adjust the high tones.
- BASS**
This socket is for connecting standard stereo headphones with a 6.3 mm jack.
- TREBLE**
The receiver is supplied with the ready VOLUME knob. A speaker is supplied with the ready VOLUME knob, and some are automatically switched on again when it is removed.
- HEADPHONES**

- MEMORY**
In CD mode:
This button stores a set station at the lowest respective memory location.
- CANCEL**
In CD mode:
This button is used to omit individual tracks from the programme or to delete the complete programme.
- IN TUNER mode:**
This button is used to delete individual memory locations for the selected station. Pressing the button depresses for longer than 10 seconds).
- EDIT**
In CD mode:
This button is used for selecting the station name input mark.
- IN TUNER mode:**
This button is used to adjust the CD playing time to the length of the cassette tape, you are recording to.
- IN STANDBY mode:**
This button is used to call up the timer and clock adjusting mode.
- REPEAT / ANT/CABLE**
In CD mode:
This button is used to switch on the FM antenna and to connect the antenna cable and the reception signal is too strong.
- SHUFFLE / MONO**
In CD mode:
This button is used to turn the shuffle function on and off, which mixes up the track order.
- IN TUNER mode:**
This button is used to select mono reception if, for example, stereo reception exhibits too much disturbing noise.
- INFO**
In CD mode:
This button is used for switching the information shown in the display.
- IN TUNER mode:**
This button is used for switching the display between the RADIO TEXT and station temperature.
- IN any mode**
Pressing this button longer switches the timer on and off.

Amplifier part

Sound control

VOLUME
The volume can be adjusted with the **VOLUME** knob. The volume can also be controlled via the remote control with the **VOLUME +/-** buttons.

MUTING
The volume can be completely muted by pressing the **M** button on the remote control. This is useful, for example, if you want to take a telephone call and do not want to be disturbed by music, news, etc., from your system.

If the muting function is used when recording a tape, this has no effect on the subsequent recording. Volume level is only the speaker's sound.

The click you hear when you press the **M** button comes from the amplifier. The click is muted by pressing the **M** button again or by pressing the **VOLUME +/-** buttons on the remote control or any one of the input selection buttons.

BASS, TREBLE
The **BASS** and **TREBLE** controllers can be used to individually adjust the higher and lower frequencies from the sound of your speakers. In this way, you can compensate for surrounding acoustic irregularities which may be caused, for example, by sound reflection behaviour on walls with relatively large, empty surface areas, or 'clumping' caused by furniture or other objects.

LOUDNESS
Pressing the **LOUDNESS** button slightly accentuates the lower and higher frequencies which renders a more balanced overall sound during quieter passages.

The **LOUDNESS** function is activated by pressing the **LOUDNESS** button on the unit or the **LOUDNESS** button on the remote control. The **LOUDNESS** function is also dependent on the respective volume.

DEFEAT
If you have connected speakers which exhibit a great deal of bass, **LOUDNESS** should always remain off to achieve a more linear acoustic pattern. In this way, you compensate for excessive emphasis of the lower frequencies.

BALANCE
The **DEFEAT** switch can be used to deactivate the bass and treble control without changing the respective settings. This function merely bypasses the signal path through the bass and treble controls ensuring that the original sound is reproduced with the highest fidelity.

For effective stereo playback, it is important that the sound originates equally from both speakers. Acoustic centres can be adjusted by furniture groups or the listener's position in a room. Thus distorting the impression of stereo sound. The **BALANCE** controller can compensate for such distortions.

Switching on and off

You can switch your receiver on, press the **POWER** button. The red LED in the middle of the button indicates that the unit is on.

The receiver will be activated and the last selected source will be selected. When the receiver is switched to active mode (as described below), the LED in the power knob lights up.

The receiver is muted for approximately 3 seconds when it is turned on in order to suppress obscuring initial signal noise. To switch the receiver to stand-by press the **POWER** button again.

Stand By
You can switch the system to **STAND BY** with the **O** button on the remote control or with the **POWER** button. The display shows the clock time.

When you want to switch your system on again, simply press one of the input selection buttons on the unit or on the remote control or the **POWER** button.

Source Selection
To select a listening source, press either the corresponding button on the unit or the corresponding button on the remote control.

Automatic Source Selection
When the receiver is switched on, the receiver automatically switches to the CD input as soon as you press the **CD** player **CD** button.

Remote Control

Changing the batteries

The range of your infrared remote control is not affected if you change the batteries. Certain individual functions can no longer be carried out, you should replace the batteries.

Two 1.5 Volt LR06 size AA are required. 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 compartment). And in the interests of the environment, remember that batteries must always be disposed of properly.



Display

1 STATION NUMBER seven-segment display
This shows the number of the selected memory location (1 to 50) as either one or two digits.

2 CD - This indicates that the tuner is receiving FM stereo broadcasts
3 **CD** - This indicates that the CD is in playback or in pause mode
4 **TUNED** - This indicates that the unit is optimally tuned to a station
5 **Signal strength** - The more dashes you can see, the stronger the reception of the station you have tuned to.

6 **14-segment display** - for frequencies in MHz (FM) or kHz (MW) (RDS) station name, radio text, reminds you have assigned or the selected programme type.
7 **PROGRAM** - This indicates that the CD is in programme mode.
8 **SHUFFLE** - This indicates that the CD is playing tracks in random order.
9 **ANTENNA** - comes on when the antenna attenuator is not switched on.
10 **REPEAT** - This indicates that the CD is in repeat mode.
11 **CABLE** - comes on during broadband cable reception if the antenna attenuator is switched on with the **ANTENNA/ADJUSTABLE** button.
12 **REMAIN** - This lights up when the remaining time indication for the CD player is selected.
13 **TOTAL** - This lights up when the total time indication for the CD player is selected.

GENERAL

O - This button is used to switch the unit to **STAND BY**.
SLEEP - this button is used to call up the sleep timer function.
I - This button is used to toggle the display modes of the active source.
M - This button is used for muting the speakers.
VOLUME +/- - These buttons are used for controlling the volume of the receiver.
TAPE - This button is used for selecting the **TAPE** input.

TUNER

TUNER - This button is used for selecting the tuner (radio).
PTY - These buttons are used to select the programme type.
STATION < > - These buttons are used for selecting stations.

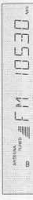
CD

CD - This button is used for selecting the CD player.
II - This button is used to switch the CD player to **PAUSE**.
III - This button is used to switch the CD player to **STOP**.
IV - This button is used to start playback of the CD player.
-DISC - This button is only used for a CD changer.
CD - These buttons are used to select next or previous tracks on a CD.

Radio

Automatic station search

- To activate automatic station search (AUTO TUNING), press **TUNING** <<>> or <>>> until the frequency display begins to run; then release the button.
- The search stops as soon as a station with sufficient reception quality is found and tuned to precisely. The display shows **TUNED**.



- Every time you begin a search, the unit automatically switches to STEREO. After the search begins, the more illuminated LEDs on the display indicate the reception quality.
- The frequency of the stored station is indicated in kHz (MW) or MHz (FM).
- If the search stops, the **AUTO COMPARE** function first verifies whether the station which has been found is already stored in the station memory. If this is the case, the memory location of the station is displayed, as well as the name of the station. If it already exists:
- The station is added to the station memory if the signal strength may be improved.
- These can be used to manually.
- If desired, you can also interrupt the search by pressing **TUNING** <<>>> or <<<<>>

Manual station search (manual tuning)

- Briefly press the **TUNING** <<>> or <>>> button to tune in the corresponding direction in individual steps (FM: 20kHz, MW: 1 kHz).
- If you keep the button depressed, you can rapidly scan large frequency ranges. When you release the button, **AUTO TUNING** is automatically switched to. Tuning is active during **AUTO TUNING**.
- If you briefly press one of the **TUNING** <<>> or <>>> buttons, manual tuning is automatically switched to.
- Just as with automatic tuning, the **TUNED** flag and the number of illuminated LEDs indicate the reception quality.
- The **AUTO COMPARE** function also verifies whether the found frequency is already stored.

LAST STATION MEMORY

LAST STATION MEMORY means that the unit "remembers" the last station that was tuned to. This function ensures that the station which was selected before the radio was switched off is automatically selected again when your radio is switched back on.

Radio

Switching on

- Select the radio input by pressing the **TUNER BAND** button.
- The first time you switch your unit on, it automatically switches to FM, and the display indicates 87.50 MHz. **STEREO** and **CD** is also selected.
- Your unit is provided with the function **"LAST STATION MEMORY"**, which means that the station that was playing when the set was switched off will be selected again when the radio is switched back on.

Selecting the wave band

- Select the desired wave band (FM or MW) by pressing the **TUNER BAND** button. Pressing this button switches to the next wave band in the following order: FM - MW - FM.
- The display shows the selected band.



Adapting the antenna

If you receive broadcasts via broad band cable of a public or private cable service, there may be high signal inputs at your antenna terminal, which may in turn cause reception disturbances.

- If this is the case, press the **ANTENNA** button to switch on the input attenuator. **CABLE** appears in the display. This reduces the antenna input sensitivity, thus reducing disturbances. This setting is automatically stored.

FM reception MONO/STEREO

Normally, your unit is in stereo reception mode, which means that as soon as a stereo signal of sufficient strength is detected, **CD** appears in the display. If stereo reception is disturbed, **CD** disappears. In this way, disturbing background noise is suppressed.

- If noise-free stereo reception is not possible, you can switch your unit to **MONO** reception.
- In this case, press **MONO**.
- **CD** will disappear from the display.
- The **TUNING** function is always switched off for **MONO** reception, allowing the unit to receive even very weak broadcast signals.

RDS Radio Data System

Your tuner is an RDS tuner. RDS (Radio Data System) stands for a new generation of radios that provides the listener/user with more complete information on the broadcast form. But RDS-equipped receivers identify the tuned station (if it transmits RDS signals) and indicate the name of the programme in the 8-place display (e.g. BAYERN 3, SDP 3).

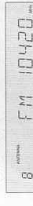
If you are tuned to an RDS station, the name of the station will be indicated after a short time.

For more information, please see page 21.

Radio

Station memory

- **59 memory locations are available for storing stations.**
- Tune to the station you want to store with the station search function or manually.
- Press **MEMORY**.
- The station is stored at the next available memory location.



- The tuner software first checks the station memory for available memory locations. If all the locations are occupied, "9:11" (i.e., "11") appears on the display for approx. 1.5 seconds.
- Assigning a station frequency to two different memory locations is not possible. The selected station is stored at the lowest available memory location, meaning that you need not enter a number for memory locations.
- Every time the settings **STEREO/MONO** and **ANTENNA/CABLE** are changed, they are automatically stored.

Storing stations

- If you want to store a station, press **MEMORY**.
- The first station which is stored is assigned to memory location 1, the second station to memory location 2 and so on.
- If you want to move a stored station to another memory location, press **MEMORY**.
- The station is always assigned to the first available memory location.
- Pressing the button again assigns a station to the next available memory location.
- If you keep the button depressed, the memory locations are scanned one after the other, deleting the previously assigned memory location.

Example:

- You want to move your favourite station from memory location 6 to memory location 1.
- Select memory location 1.
- Press **CANCEL** once.
- This deletes, or clears, memory location 1.
- You can also press **MEMORY** to move the station on location 1 to the next available free memory location.
- Now select position 6, your favourite station, and then press **MEMORY**.
- Your station is now stored on memory location 1.

Calling up a stored station

- When you want to call up a stored station, press **STATION** <<>>. The stations are called up in ascending or descending order.
- Stations can also be selected via the system remote control.
- Select the radio input by pressing the **TUNER BAND** button.
- The display shows the selected memory location number, and the unit switches to this memory location.

GB

- It is not possible to select a memory location which has not (yet) been assigned to a station.
- **Example:** Memory location 6 is not assigned to a station. If you are situated at memory location number 5 and press once **STATION** <>> the unit will jump to memory location 7 (provided this location has been assigned to a station).

Deleting a memory location

- If you want to delete a memory location to which a station is assigned, first call up its number.
- Press **STATION** <<>> until you reach the station you want to delete. You may also use the **STATION** <>> buttons on the remote control.
- Press **CANCEL**.
- The memory location is deleted, and the memory location number does not light up on the display anymore.
- Hold **CANCEL** down for 5 seconds if you want to delete all the memory locations, for example after you move to another location.
- "ERASE ?" appears briefly on the display.
- Keep the button depressed for an additional 5 seconds until the display shows 37.5 MHz.
- The station memory is deleted.
- If you now press one of the **STATION** <<>> buttons, "FREE" is shown on the display.
- If you release the **CANCEL** button before these 5 seconds have elapsed, the erase function is not carried out.

Radio

RDS Radio Data System

Your unit is capable of receiving and evaluating RDS information which is broadcast along with the normal broadcast signal. The channel name is displayed and automatically stored in the unit's memory, overwriting names previously stored.

RADIOTEXT

Some RDS stations broadcast RADIOTEXT, which is additional information on the station and programme being broadcast. RADIOTEXT information appears with the radio station. As a result of this, it may take some time until the entire text has been completely received.

- RADIOTEXT is called up by pressing the INFO several times until the running text of the RADIOTEXT signal can be seen.
- If a station does not broadcast RADIOTEXT, the unit switches automatically to the frequency indication.

Switching displays

- Pressing INFO briefly switches the display (when available) between station name (RDS) or one you have entered, RADIOTEXT (with RDS stations), and frequency.
- When the station name is displayed, only the memory location number is displayed to the left of the name.



Assigning station names

Stations which do not transmit the RDS code can be assigned any name of your choice.

- Press EDIT.
- With TUNING <<<>> you can move the cursor in the desired direction. You can enter up to eight characters.
- With STATION <-> you can move forward and backward through the digits, the numbers 0-9 and to the space key.



- When you are ready to conclude an input and exit the input mode to store a name, press EDIT or MEMORY.

Note: If you attempt to assign a name to a station which transmits the RDS code, RDS-DATA appears in the display, indicating that a name cannot be assigned.

Deleting a name

- If you press CANCEL when the input mode is selected, the previous name is deleted and the cursor jumps to the first (left) position.



Programme type PTY (on the remote control)

RDS allows you to select FM stations according to programme type. There are 16 programme assignments.

- By using the PTY button on the remote control, you can call up the actual programme type. Press the STATION <> buttons.
- The display briefly shows the programme type and then the name of the stations that broadcast this programme type.
- If there are no stations broadcasting a given programme type, the display briefly shows: NONE.

What is meant by programme types?

NEWS - News services
Programmes that usually give brief reports on current events and statements that are of public interest. Also: weather and traffic reports.
AFFAIRS - Politics and current events
Programmes that supplement or give more extensive information on the news, e.g. reports and commentary, news magazine. These programmes also offer detailed accounts on related issues, e.g. documentation and discussions. Also: broadcasts of political and similar events.

INFO - Special informative reports
Programmes that offer special reports, e.g. consumer magazine, health tips, travel tips, special weather service. In addition, there are programmes for individual target groups, e.g. for learners, children, foreign employees.

SPORT - Sports

All types of sports programmes.

EDUCATE - Learning and cultivation of education

Educational programmes for those who wish to broaden or further their knowledge of different fields, e.g. schools, radio, educational radio broadcasts, foreign language courses.

DRAMA - Radio plays, literature

All types of radio plays, e.g. radio thrillers and science fiction programmes; readings from literary works.

CULTURE - Culture, church and society

Programmes that offer reports, commentaries or evaluations on topics from the above-mentioned areas, e.g. discussions on theater, films and books, literary radio series, reports on the school and educational system, church radio, also plays and church services.

SCIENCE

Programmes that deal with methods and findings from the world of science, as well as with issues from the field of technology.

VARIETY

Programmes that mostly offer light entertainment, e.g. talk shows, quiz shows and guessing games, cabaret shows, chat shows etc., often featuring celebrities.

POP M. - Pop music

Programmes with popular and modern hits from home and abroad.

ROCK M. - Rock music

Programmes with international music of the younger generation, often with a heavy emphasis on rhythm.

EASY M. - Light music

Programmes with light music of all types, e.g. folk music, dance music, musicals and operettas.

LIGHT M. - Light classical music

Programmes with light classical music, other abbreviated works of excerpts of works (e.g. overtures, arias, etc.).

CLASSICS - Serious classical music

Programmes with more serious works, e.g. symphonies, chamber music, full-length operas.

MUSIC - Special music programmes

Music programmes that cannot be assigned to one of the above mentioned programme types, e.g. folklore, jazz, experimental music.

General information

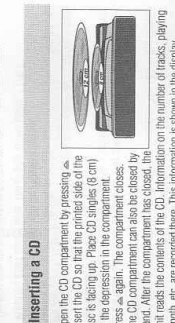
To remove a CD from its case, hold it on its outside edge with the index finger and thumb. Do not touch the surface of a CD with your fingers. Always store a CD in its case when it is not being used.
Press a CD in its case with the label facing up and do not leave CDs for any length of time in direct sunlight or other places where high temperatures may occur, such as in the vicinity of heating apparatus. Do not expose the CD's to humidity or rain.

Switching on

- Select the CD player by pressing the CD button.
- If you have not inserted a CD, "CD 21:52" appears briefly in the display, and then "----".
- After the unit has been switched on, it is always in the STOP mode.

Inserting a CD

Open the CD compartment by pressing the CD button. The CD tray will pop up. The disc is held in place by CD springs (CD clips) in the depression in the compartment. Press the CD compartment can also be closed by hand. After the compartment has closed, the unit reads the contents of the CD. Information on the number of tracks, playing length, etc. are recalled later. This information is shown in the display.



CD playback

- Press > on the unit (or on the remote control) to start playback. The display shows the number of the track being played as well as the elapsed playing time (real-time playing time).



The display can also show you additional information.
Press INFO on the unit or 1 on the remote control and the display shows you the CD's remaining playing time, REMAIN.



- If you press this button once more, the display shows the total playing time and the total number of tracks.



- If you press > again, the running track will be restarted (REPLAY function).
- If you want to stop playback without changing the unit settings, press 11.
- The 11 indicator on the display lights up.
- While playback is interrupted, you can press <> to skip to another track, or press <<< or >>> to search for a certain passage.
- If you want to continue with playback, press 11 or > once more.
- To stop playback, press 11 (STOP).

CD

Changing the display

- You can call up various information in the display by pressing the INFO button on the unit or the 1 button on the remote control.
- The displays change according to the operating mode.

Skip function (TRACK NEXT/PREVIOUS)

- By pressing SKIP > you can skip to the beginning of the next track in the track sequence (NEXT), and by pressing SKIP < 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 SEARCH <<< or >>>, you activate the fast search in the corresponding direction.
- During the search procedure you can listen to the tracks.
- 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 SHUFFLE you activate the shuffle function which mixes up the order of the CD tracks. 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.
- The display shows the function you have selected.



- This function is deactivated by pressing SHUFFLE or CANCEL. In this case the remaining tracks are played in their normal order or playback is stopped.
- The shuffle function is also possible during playback of a programme.

GB

GB

CD

Programming

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 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 **MEMORY** to select the PROGRAM mode.
- At the left, the display shows PROGRAM and the total playing time of programme.



- Select the first track you want to programme with **<** and **>**.
- The track number flashes.
- The display shows the time which will be the total time of your programme when you store the selected track. In this way you can easily search for tracks which fill in your program to a desired total time (e.g. for recording purposes).
- By pressing **MEMORY**, the track is stored in your programme.
- The track number at the left stops flashing.
- Choose the next track you wish to include in your programme and press **MEMORY**.
- The playing time display is updated.
- You can leave the programme mode by pressing the **CD** button.



Programming in PLAY mode

- You can also enter a programme while a CD is playing.
- Press **MEMORY**.
- The number of the current track flashes and the display shows the time which will be the total time of your programme when you store the selected track.
- If you wish to add this track to your programme, press **MEMORY** again.
- The track number stops blinking.
- 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 **MEMORY**.
- You can leave the programme mode by pressing the **CD** button.



The Clock and Timer

Setting the clock

- Your unit has a 24 hour clock.
 - Select STANDBY mode with the **POWER** button.
 - Press the **EDIT** button two times. C.L.C.K. appears on the display.
 - The time starts flashing in the display.
 - Use the **SEARCH/TUNING <>** buttons. Each short pressure of the buttons increases the displayed number by one. Holding the button down increases the setting at high speed.
 - Press the **MEMORY** button to store the setting.
 - If you wish to leave the clock setting mode without changing the settings, press the **EDIT** button again.
- Note:** In case of a power breakdown, the actual clock time is stored in the memory. When power returns the clock start running again from the stored time onwards.

The timer function

- Before setting the timer, ensure that the correct clock time is set.
- Switching the timer on and off.**
- The timer can be switched on or off in any mode of the set, even in standby mode.
- You can activate and deactivate the timer with a long pressure on the **INFO** button.
- If the timer is switched on, the display shows 'TIMER ON' during 1 second and then returns to showing the original information. The LED in the POWER button starts blinking.
- If the timer is switched off (another long pressure on the **INFO** button), the display shows 'TIMER OFF' during 1 second and then returns to showing the original information.

Setting the timer

- Select STANDBY mode with the **POWER** button.
- Press the **EDIT** button once. The display shows briefly 'TIME'.
- The start time starts flashing in the display, e.g. '12:30:00'.
- To set the start time, press the **<>** buttons. Each short pressure of the buttons increases the displayed number by one. Holding the button down increases the setting at high speed.
- Press the **SKIP/STATION >** button to prepare for setting the stop time.
- Adjust the stop time with the **<>** buttons.
- Press the **MEMORY** button to store the timer setting.

- As soon as the timer is activated, the LED in the **POWER** button will start flashing.
- The set will start with the same function that was active before the set was switched to standby (same source, same tuner station or same track number of the CD).
- If the set was already switched on when the timer is activated, the actual function continues and the set switches off at the set stop time.
- After the timer procedure the set will be switched to standby and the LED in the **POWER** button will stop flashing.

CB

The SLEEP function (on the remote control)

- Your unit is provided with a sleep function which switches the unit off after a set time has elapsed.
- After a set time, for example, to fall asleep to music. You don't need to switch the unit to standby as this happens automatically when the time you set has elapsed.
- The **SLEEP** button is on the remote control.
- Press the **SLEEP** button once.
- After one second the set will be switched on and after 60 minutes the unit will automatically switch to standby.
- If you press the **SLEEP** button again within one second you can select the other sleep times: 60 -> 40 -> 30 -> 20 -> 10 -> 5 -> 0.
- During the sleep function the **SLEEP** indication will be shown on the display.

Note:

- While the sleep function is still active, you can reset the sleep time to 60 minutes by pressing the **SLEEP** button.
- Deactivate the **SLEEP** setting by switching the unit to standby with the **CD** button or by pressing the **SLEEP** button until **SLEEP OFF** appears.

Ausbauhinweise

1. Gehäuseoberteil

- 6 Schrauben am Gehäuseoberteil herausschrauben.
- Deckel abnehmen.

2. Tunerplatte

- 2 Schrauben (A) (Fig. 1) herausschrauben.
- 4 Schrauben (B) (Fig. 2) herausschrauben.
- Steckverbindungen lösen.

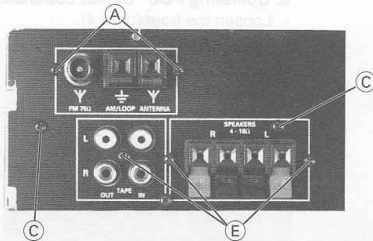


Fig. 1

Disassembly Instructions

1. Cabinet Top

- Undo 6 screws at the cabinet top.
- Remove cover.

2. Tuner PCB

- Undo 2 screws (A) (Fig. 1).
- Undo 4 screws (B) (Fig. 2).
- Disconnect the plug-in connectors.

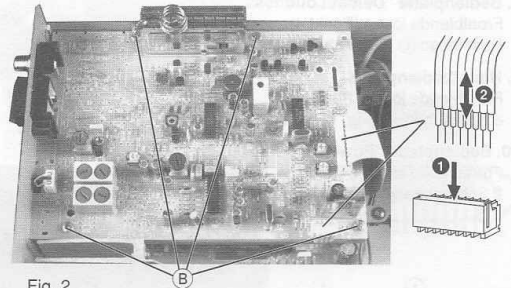


Fig. 2

3. Verstärkerplatte

- 2 Schrauben (C) (Fig. 1) herausschrauben.
- 2 Schrauben (D) (Fig. 3) herausschrauben.
- Die Tunerplatte (Punkt 2) zusammen mit dem Halter ausbauen.
- 3 Schrauben (E) (Fig. 1) herausschrauben.
- 6 Schrauben (F) (Fig. 4) herausschrauben.

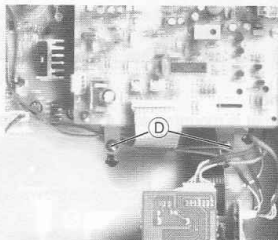


Fig. 3

3. Amplifier PCB

- Undo 2 screws (C) (Fig. 1).
- Undo 2 screws (D) (Fig. 3).
- Remove the Tuner PCB (para 2) together with the holder.
- Undo 3 screws (E) (Fig. 1).
- Undo 6 screws (F) (Fig. 4).

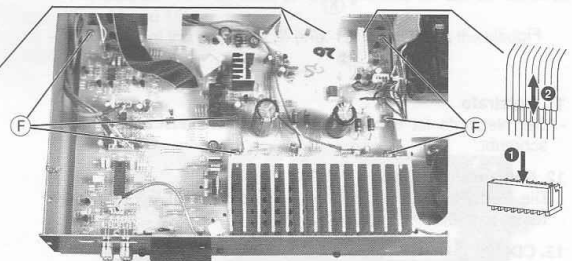


Fig. 4

4. Frontblende

- CD-Schublade öffnen und CD-Fachblende nach oben abziehen.
- Die seitlichen Rastungen (G) (Fig. 5) ausrasten.
- Steckverbinder lösen (Fig. 5).

4. Front

- Open the CD tray and pull up the tray cover to the top.
- Disengage the catches (G) (Fig. 5) at the sides.
- Disconnect the plug-in connections (Fig. 5).

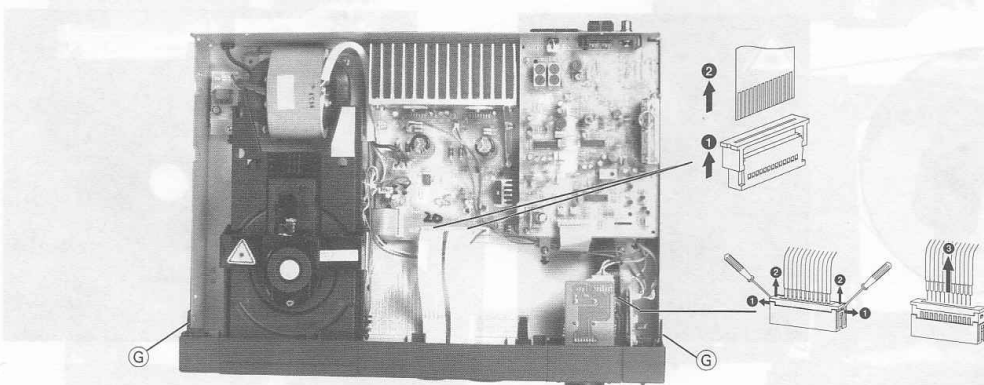


Fig. 5

5. Lautstärkeregerplatte

- Lautstärkeknopf abziehen.
- Mutter (H) (Fig. 6) abschrauben.
- Steckverbinder lösen.

6. Klangreglerplatte

- Frontblende lösen (Punkt 4).
- Schraube (I) (Fig. 7) herausschrauben.

7. Kopfhörerbuchsenplatte

- Frontblende lösen (Punkt 4).
- Schraube (K) (Fig. 7) herausschrauben.

8. Bedienplatte "Defeat/Loudness"

- Frontblende lösen (Punkt 4).
- Rastnasen (L) (Fig. 7) ausrasten.

9. Hauptbedienplatte

- Frontblende lösen (Punkt 4).
- 8 Schrauben (M) (Fig. 7) herausschrauben.

10. Bedienplatte "Power"

- Frontblende lösen (Punkt 4).
- 2 Schrauben (N) (Fig. 7) herausschrauben.

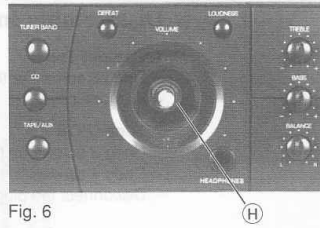


Fig. 6

5. Volume Control PCB

- Pull off the volume control knob.
- Unscrew nut (H) (Fig. 6).
- Disconnect the plug-in connections.

6. Tone Control PCB

- Loosen the front (para 4).
- Undo screw (I) (Fig. 7).

7. Headphone socket PCB

- Loosen the front (para 4).
- Undo screw (K) (Fig. 7).

8. Operating PCB "Defeat/Loudness"

- Loosen the front (para 4).
- Disengage the catches (L) (Fig. 7).

9. Main Operating PCB

- Loosen the front (para 4).
- Undo 8 screws (M) (Fig. 7).

10. Operating PCB "Power"

- Loosen the front (para 4).
- Undo 2 screws (N) (Fig. 7).

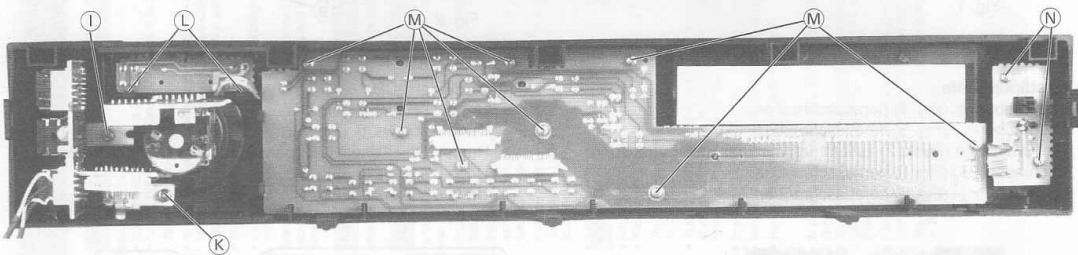


Fig. 7

11. Netztrafo

- Der Netztrafo ist mit 4 Schrauben am Gehäuseboden festgeschraubt.

12. Netzanschlußplatte

- Die Netzanschlußplatte ist mit 2 Schrauben am Gehäuseboden festgeschraubt.

13. CD-Teil

- Schublade öffnen und CD-Fachblende nach oben abnehmen.
- Rastung (O) (Fig. 8) ausrasten und Schublade nach vorne aus dem Gerät ziehen.
- 3 Schrauben (P) (Fig. 9) herausschrauben.

11. Mains Transformer

- The mains transformer is mounted with 4 screws at the bottom.

12. Mains Connection PCB

- The mains connection PCB is mounted with 2 screws at the bottom.

13. CD Part

- Open the disc tray and remove the disc tray cover to the top.
- Disengage catch (O) (Fig. 8) and pull the tray out of the set.
- Undo 3 screws (P) (Fig. 9).

Fig. 8

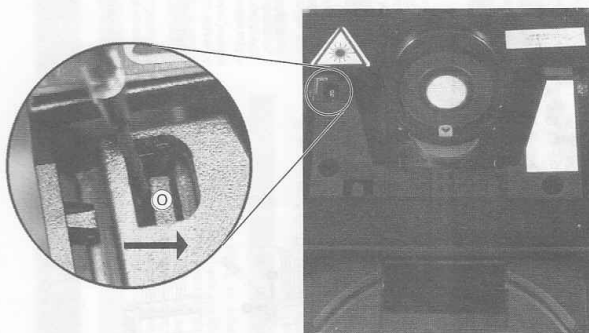
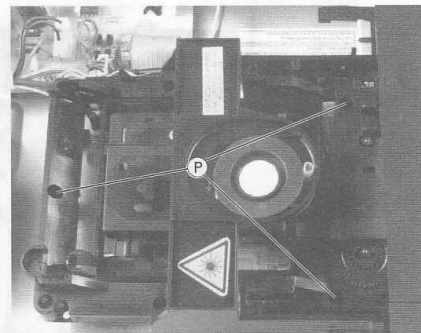


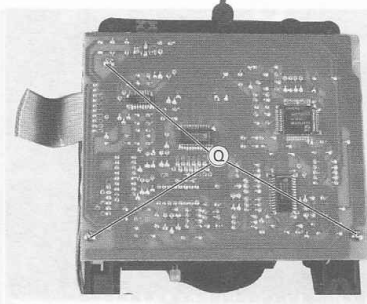
Fig. 9



14. CD-Leiterplatte

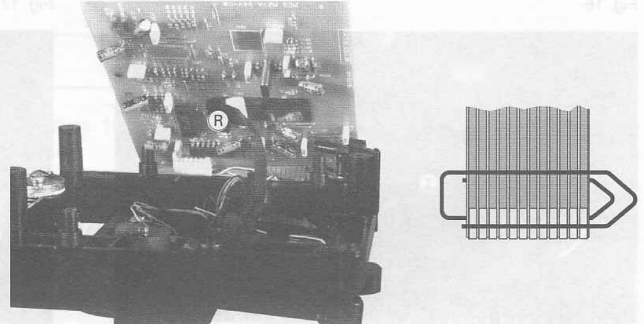
- Die 3 Schrauben ① herausschrauben (Fig.10).
- Die Leiterplatte vorsichtig vom Laufwerk abheben und den Flexprint ② (Fig.11) abziehen.
- **Vor dem Öffnen des Flexprint-Steckers eine Büroklammer über die Flexprint-Leitung schieben. Beim Herausziehen der Flexprint-Leitung diese dann nach unten über die Kontakte schieben (MOS-Bauteile)!**

Fig. 10

**14. Removing the CD PCB**

- Unscrew the 3 screws ① (Fig.10).
- Carefully lift off the PCB from the drive and disconnect the flexprint connector ② (Fig.11).
- **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. 11

**15. Zerlegen des CD-Laufwerks (Fig. 12 - 15)**

- Das CD-Laufwerk ausbauen und Leiterplatte abnehmen (s. Punkt 13-14).
- Den Schlitten nach rechts hochschieben (Fig. 12 und 13).
- Der Schlitten kann jetzt an der rechten Seite angehoben und danach ausgehängt werden (Fig. 14 und 15).
- Beim Wiedereinsetzen auf richtigen Sitz in den Führungen ③ (Fig. 12) achten.

Fig. 12

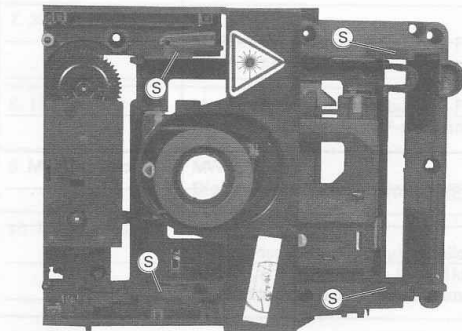
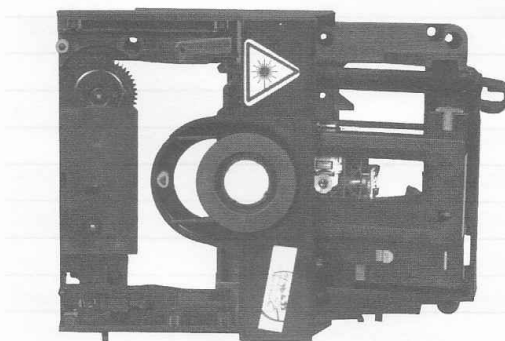


Fig. 14

**15. Disassembling the CD Drive (Fig. 12 - 15)**

- Remove the CD Drive and the PCB (see Para 13-14).
- Move the sled to the right (Fig. 12 and 13).
- The sled can now be lifted on the right side and can be removed (Fig. 14 and 15).
- Take care of the guide rail ③ (Fig. 12) when fitting the sled.

Fig. 13

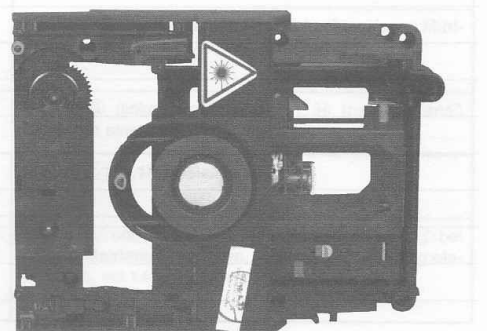
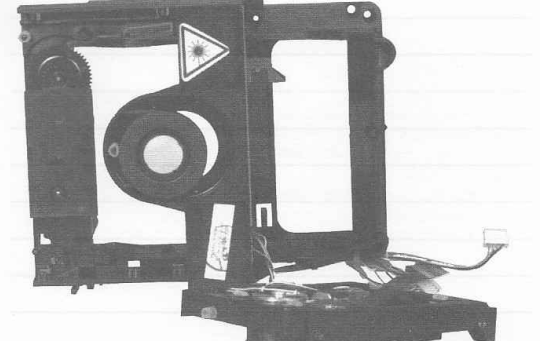


Fig. 15



GB

D

Adjustment Procedures

Test Equipment:

Sweep generator, Test generator, Stereo coder, AF generator, Oscilloscope, Digital voltmeter, AF voltmeter, Distortion meter

Note:

The frontend is a completely preadjusted module. Only the IF filter must be adjusted to the IF amplifier (1). The values of the tuning voltages are:
87.5MHz = typ. 1.6V min 1.3V
108MHz = typ. 8.0V max 9V

Adjustment	Preparation	Adjustment Procedure
1. IF Filter	FM, 98MHz. Sweep generator 98MHz to aerial socket. Level approx. 100 μ V / 75 Ω . Oscilloscope to testpoint (B).	Adjust F1 (A) to maximum and symmetry .
2. Demodulator	FM, 98MHz Test generator 98MHz to aerial socket. Level approx. 100 μ V / 75 Ω , $\Delta f = \pm 40$ kHz. Distortion meter to AF output.	Adjust F7 (I) to K_{min} (typ. 0.12%, max. 0.2%).
3. Field strength indication	FM, 98MHz. Test generator 98MHz, U _{RF} = 300 μ V / 75 Ω to aerial socket. Digital voltmeter to testpoint (E).	Adjust R119 (F) to 1.5 V + 0.05V .
4. Station search	FM, 98MHz. Test generator 98MHz, U _{RF} = 100 μ V / 75 Ω to aerial socket. Digital voltmeter to testpoint (G).	Adjust R123 (S) to 1.2V + 0.05V .
5. Stereo Crosstalk	FM Stereocoder, left channel modulated, to aerial socket. AF voltmeter to AF output, right channel.	Adjust R69 (C) to minimum . Control the left AF output with modulated right channel.
6. Adjacent channel filter	FM AF generator 114kHz, approx. 100mV to the input of F2 (D) (Pin 2). AF voltmeter to the output of F2 (D) (Pin 4).	Adjust F2 (D) to minimum .
7. 38 kHz Filter	FM Test generator to aerial socket; FM, f _{mod} = 38kHz. AF voltmeter to AF output.	Adjust F9 (J) (left channel) and F11 (K) (right channel) to minimum .
8. 19 kHz Filter	Test generator to aerial socket; FM, f _{mod} = 19kHz. AF voltmeter to AF output.	Adjust F9 (G) (left channel) and F11 (H) (right channel) to minimum .
9. MW Oscillator	MW, 531kHz Digital voltmeter to testpoint (E).	Adjust L18 (VI) to 1.1V .
10. MW RF Circuits	MW Test generator via 120-150 μ H parallel to frame aerial; AM, U _{RF} = 3 μ V, m = 30%, f _{mod} = 1kHz. AF voltmeter to AF output.	Adjust C3 (IV) and F6 (VII) at 1449kHz and L1 (III) at 558kHz to maximum . Repeat the adjustment reciprocally, end with 1449kHz.

Abgleichlageplan / Alignment Scheme

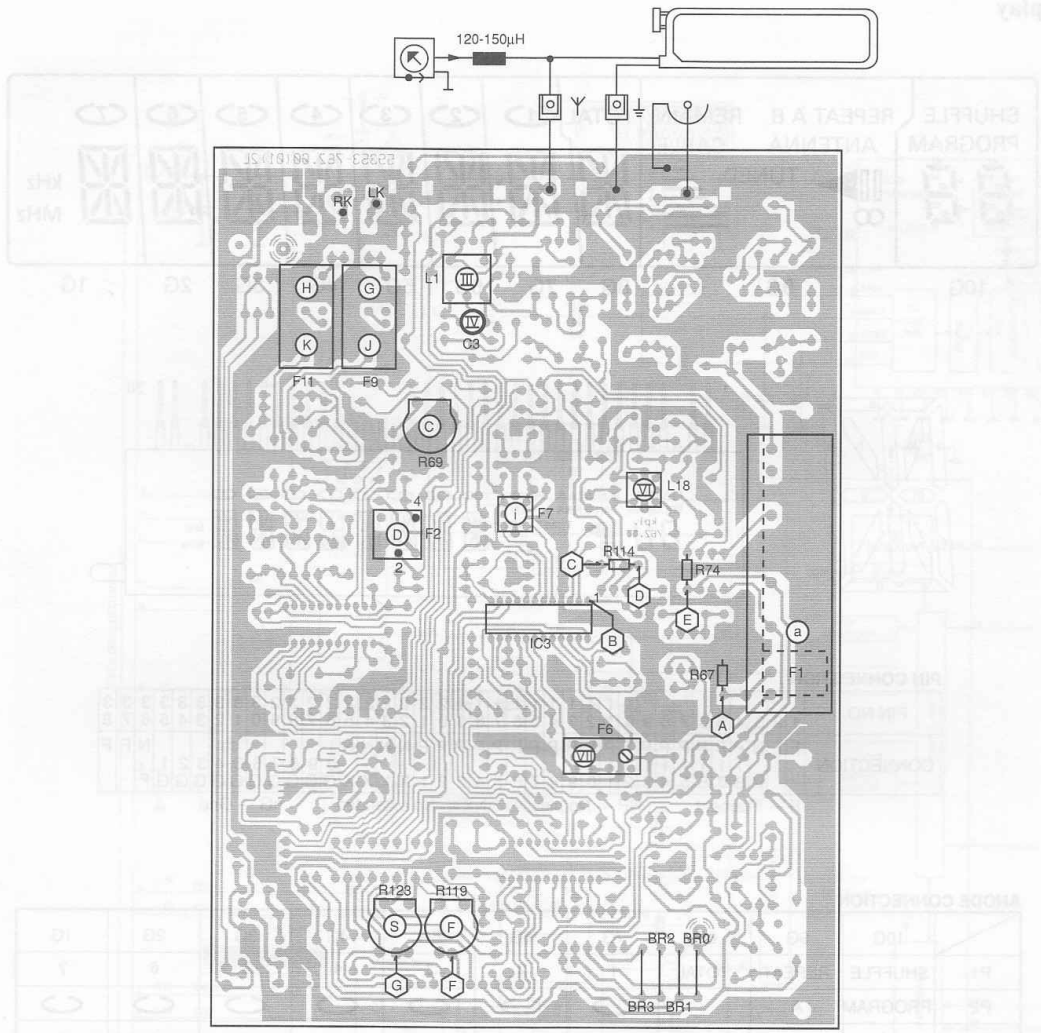


Tabelle für ZF-Programmierung / Table for IF-Programming

0 = Brücke geöffnet / 0 = Bridge opened

1 = Brücke geschlossen / 1 = Bridge closed

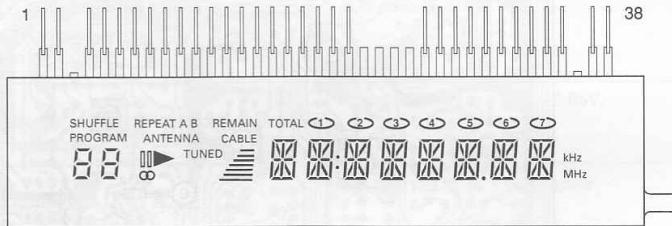
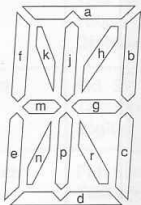
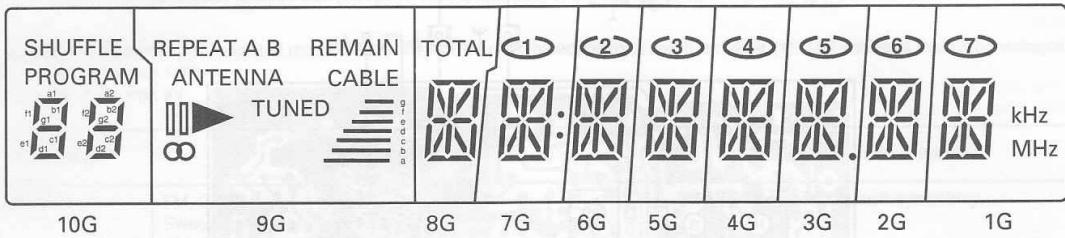
ZF (MHz) IF (MHz)	B3	B2	B1	B0	ZF/IF Filter Kennbuchstabe Ident. letter	ZF/IF Filter Farbe Colour
10,6000	0	0	0	0		
10,6125	0	0	0	1		
10,6250	0	0	1	0		
10,6375	0	0	1	1		
10,6500	0	1	0	0	D	schwarz/black
10,6625	0	1	0	1		
10,6750	0	1	1	0	B	blau/blue
10,6875	0	1	1	1		
10,7000	1	0	0	0	A	rot/red
10,7125	1	0	0	1		
10,7250	1	0	1	0	C	orange
10,7375	1	0	1	1		
10,7500	1	1	0	0	E	weiß/white
10,7625	1	1	0	1		
10,7750	1	1	1	0		
10,7875	1	1	1	1		

Beim Austausch eines der ZF-Filter achten Sie darauf, daß nur Filter mit gleicher Kennfarbe bestückt sind.

When replacing one of the ceramic resonators, take care that the colour codes of all resonators are the same.

Platinenabbildungen und Schaltpläne / Layout of the PCBs and Circuit Diagrams

Display



PIN CONNECTION

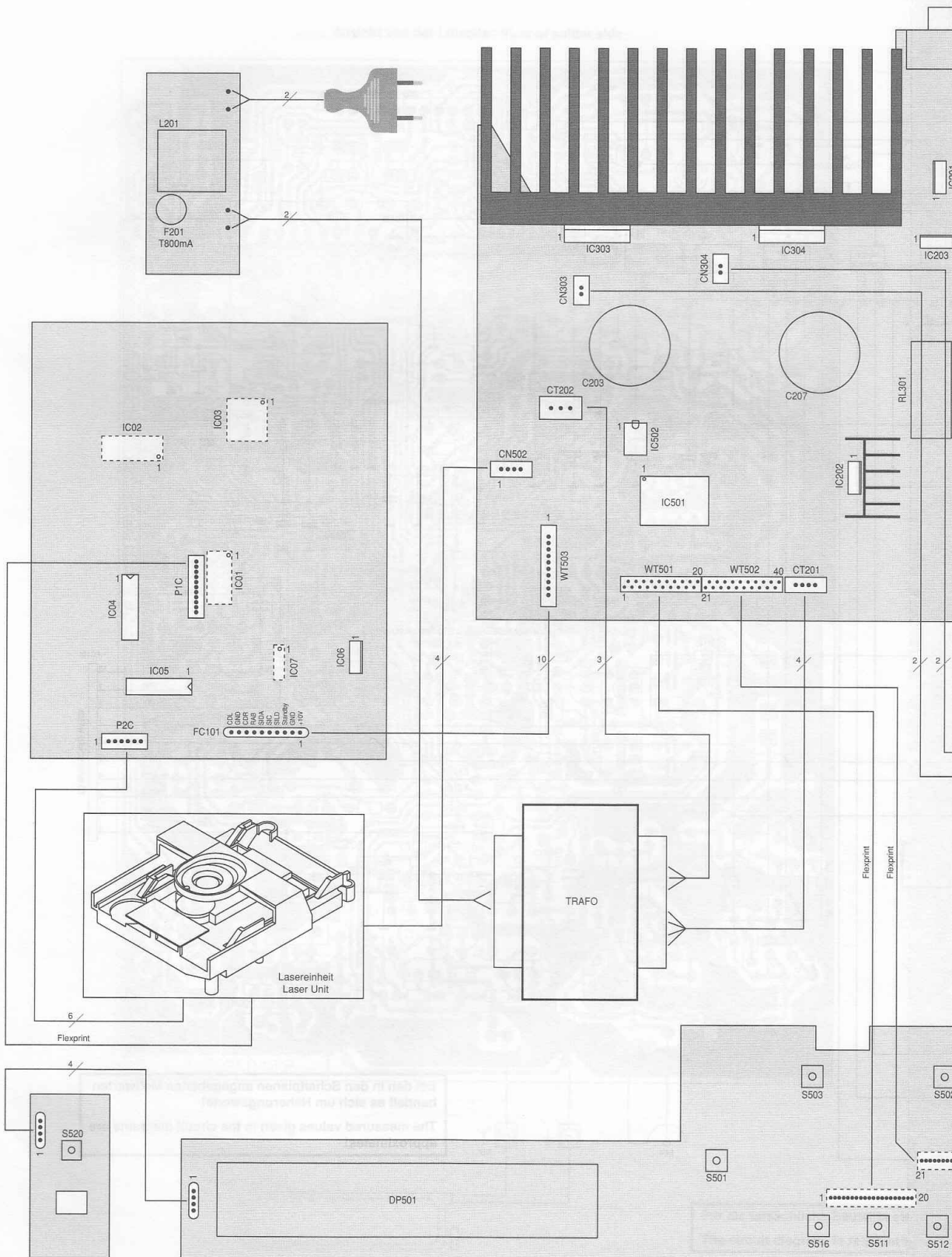
PIN NO.	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8																
CONNECTION	F	F	N	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	N	N	N	N	N	1	0	9	8	7	6	5	4	3	2	1	X	X	X	X	G	G	G	G	G	G	G	G	G	P	N	F	F

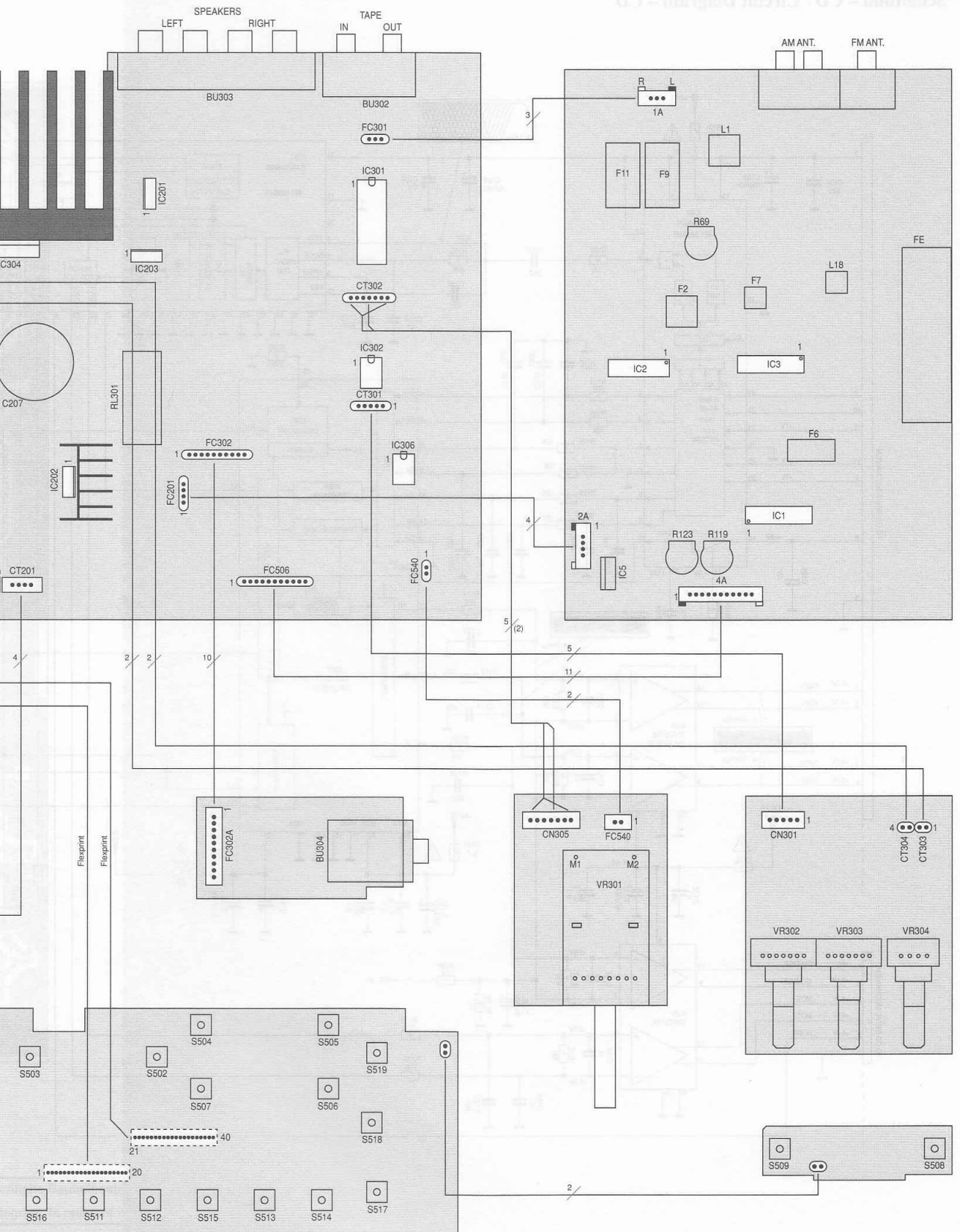
F --- Filament NP --- No pin NX --- No extended nG --- Grid

ANODE CONNECTION

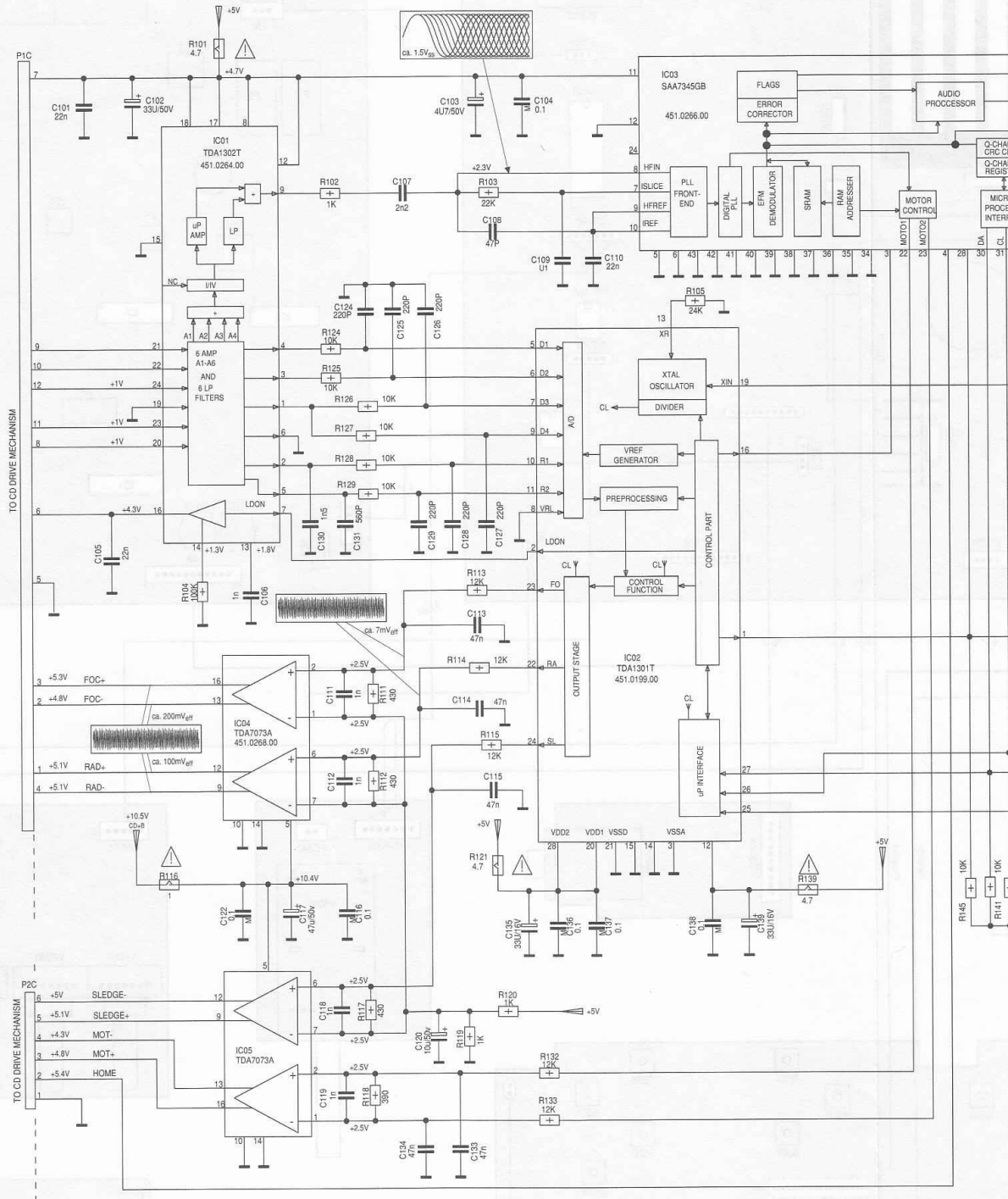
	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	SHUFFLE	REPEAT	TOTAL	1	2	3	4	5	6	7
P2	PROGRAM	A		⊖	⊖	⊖	⊖	⊖	⊖	⊖
P3	a1	B	a	a	a	a	a	a	a	a
P4	b1	REMAIN	b	b	b	b	b	b	b	b
P5	f1	ANTENNA	f	f	f	f	f	f	f	f
P6	g1	CABLE	k	k	k	k	k	k	k	k
P7	c1	⊓	j	j	j	j	j	j	j	j
P8	e1	▶	h	h	h	h	h	h	h	h
P9	d1	∞	m	m	m	m	m	m	m	m
P10	a2	TUNED	g	g	g	g	g	g	g	g
P11	b2	— g	n	n	n	n	n	n	n	n
P12	f2	— f	p	p	p	p	p	p	p	p
P13	g2	— e	r	r	r	r	r	r	r	r
P14	c2	— d	c	c	c	c	c	c	c	c
P15	e2	— c	e	e	e	e	e	e	e	e
P16	d2	— b	d	d	d	d	d	d	d	d
P17		— a		⋮				•		kHz
P18										MHz

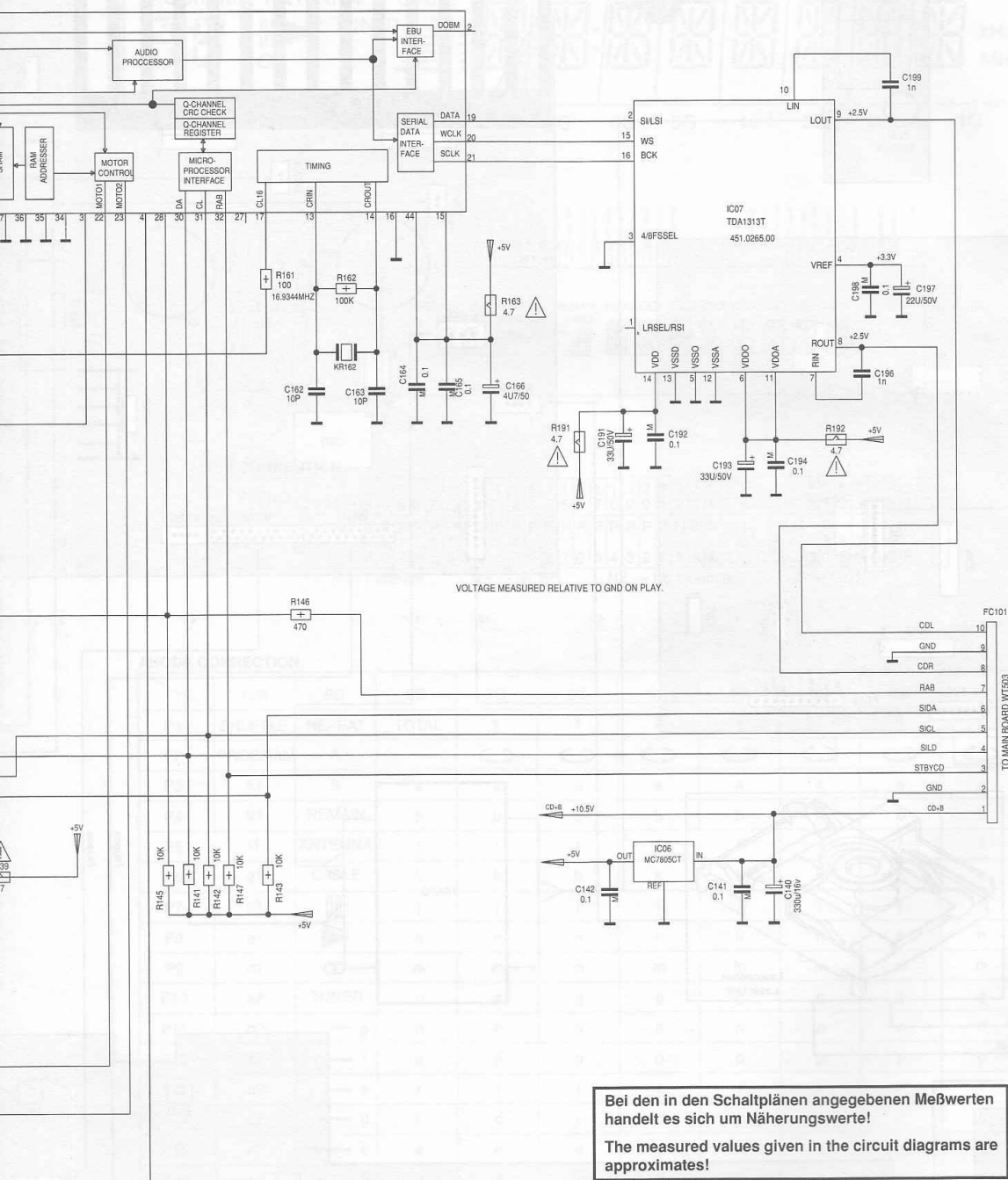
Verdrahtungsplan / Wiring Diagram





Schaltbild – CD / Circuit Diagram – CD



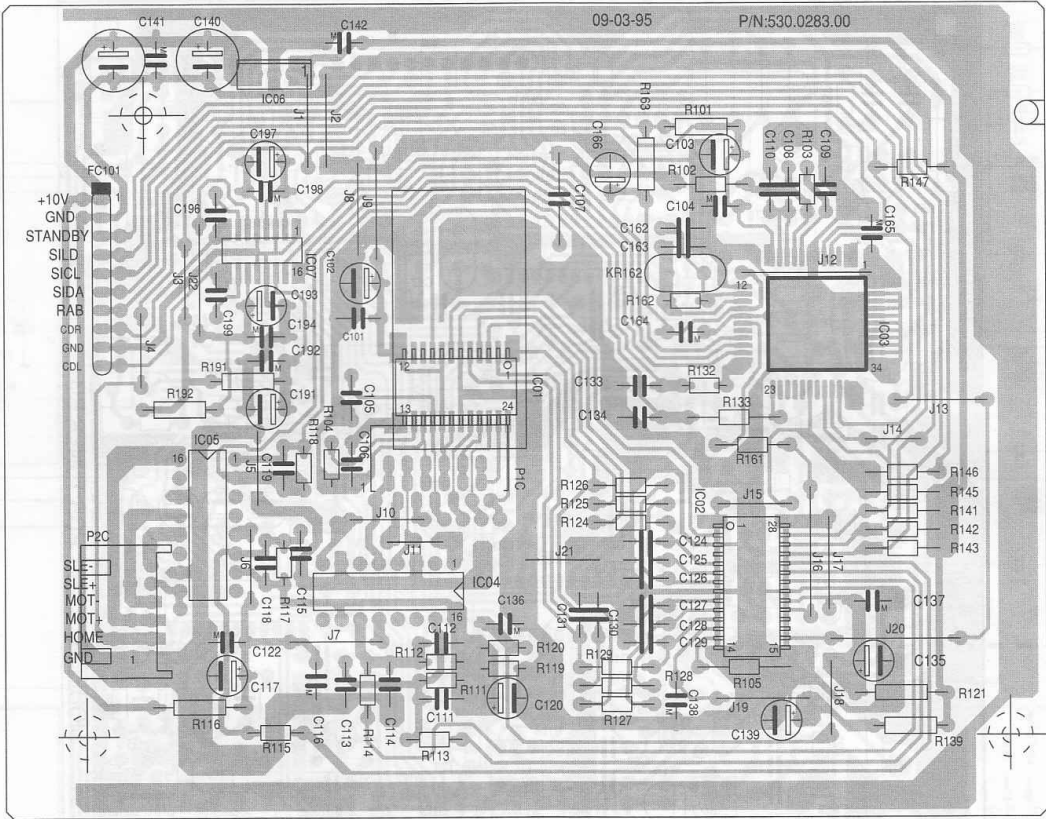


Bei den in den Schaltplänen angegebenen Meßwerten handelt es sich um Näherungswerte!

The measured values given in the circuit diagrams are approximates!

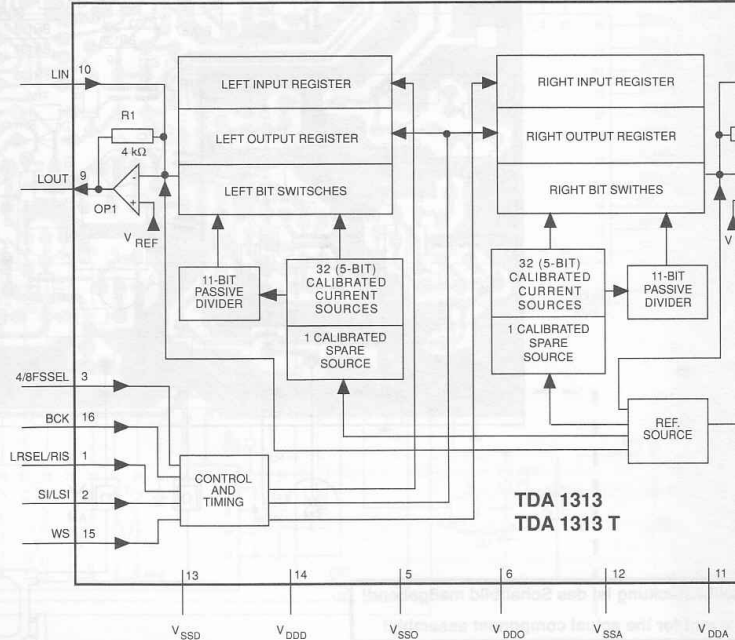
Platinenabbildungen – CD / Layout of the PCBs – CD

Ansicht von der Lötseite / View of solder side

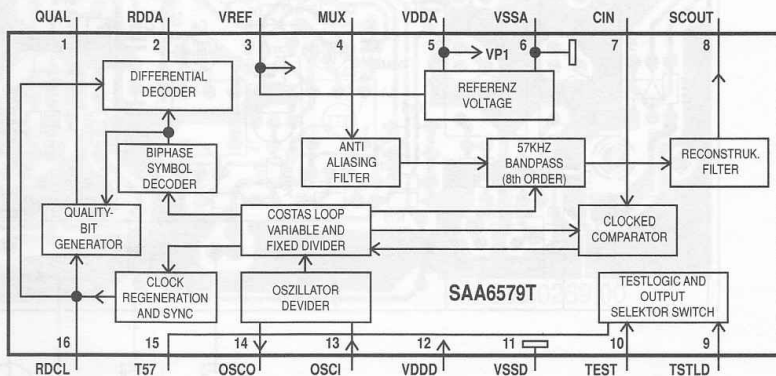
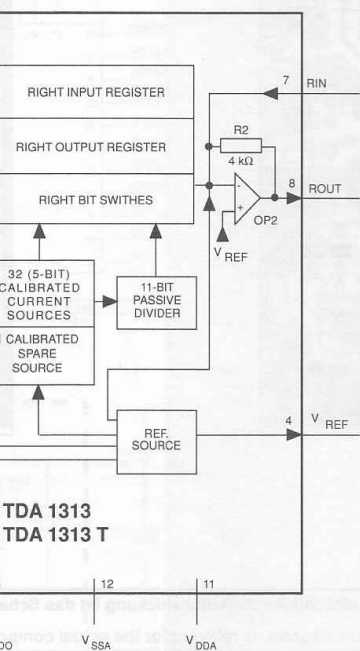
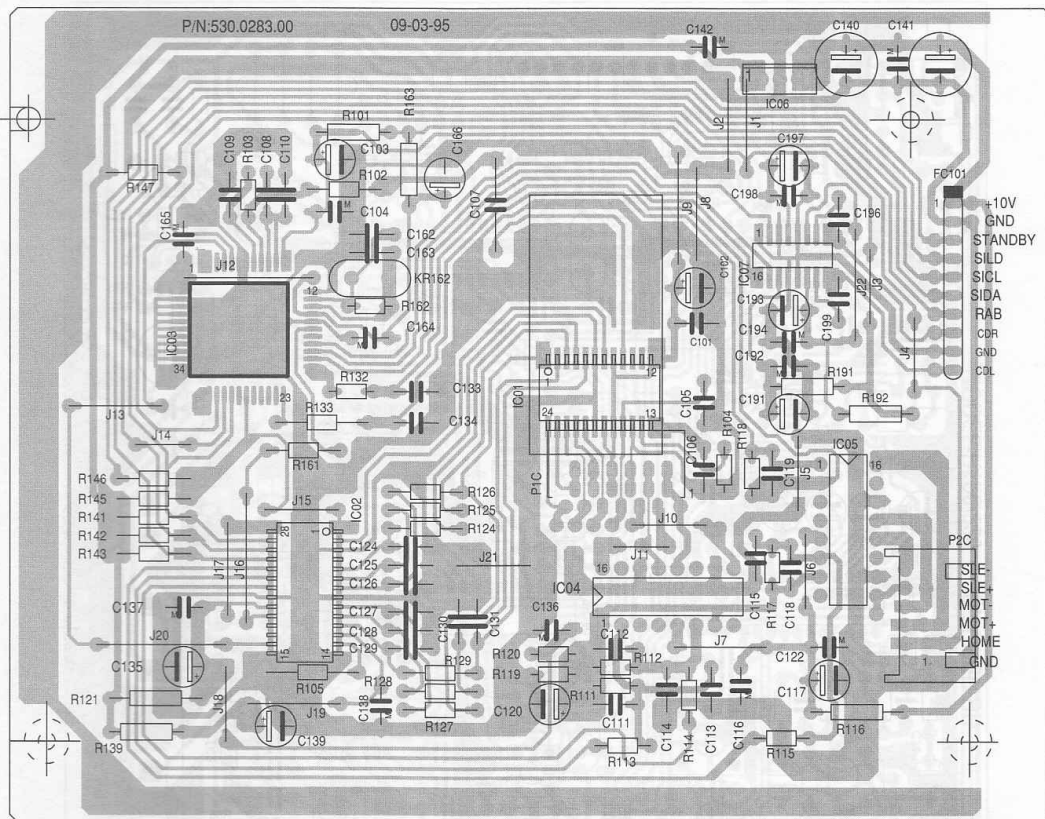


TDA 1313 / TDA 1313 T

Pin	Symbol	Description
1	LRSEL/RSI	left/right select; right serial input
2	SI/LSI	serial input; left serial input
3	4/8FSSEL	4/8 oversampling select
4	V _{REF}	reference voltage output
5	V _{SSO}	operational amplifier ground
6	V _{DDO}	operational amplifier supply voltage
7	RIN	right analog input
8	ROUT	right analog output
9	LOUT	left analog output
10	LIN	left analog input
11	V _{DDA}	analog supply voltage
12	V _{SSA}	analog ground
13	V _{SSD}	digital ground
14	V _{DDD}	digital supply voltage
15	WS	word select
16	BCK	bit clock input

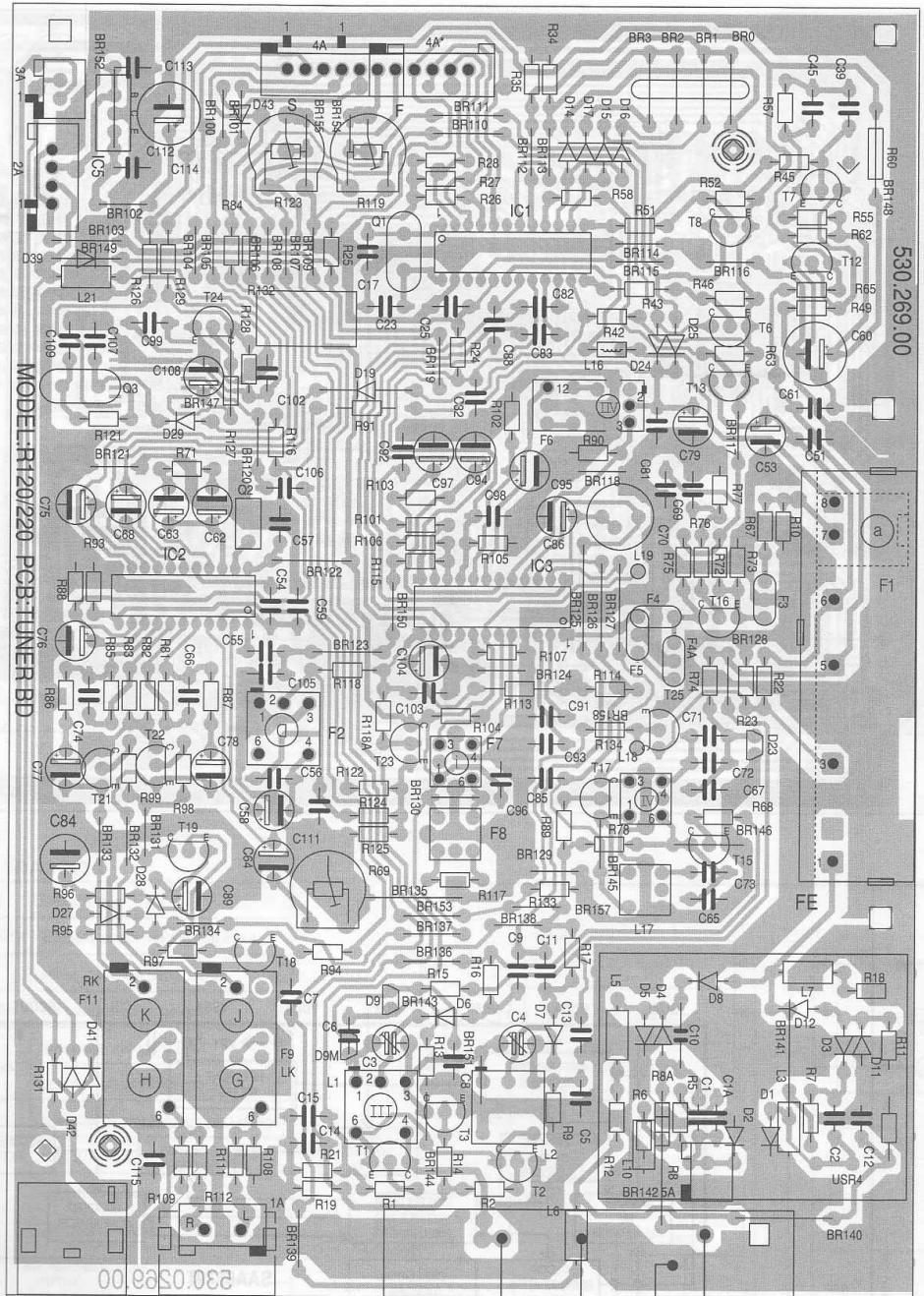


Ansicht von der Bestückungsseite / View of components



Platinenabbildungen – Tuner / Layout of the PCBs – Tuner

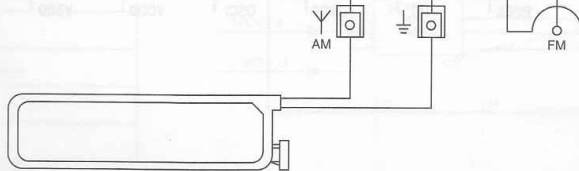
Ansicht von der Lötseite / View of solder side



MODEL:R120/220 PCB-TUNER BD

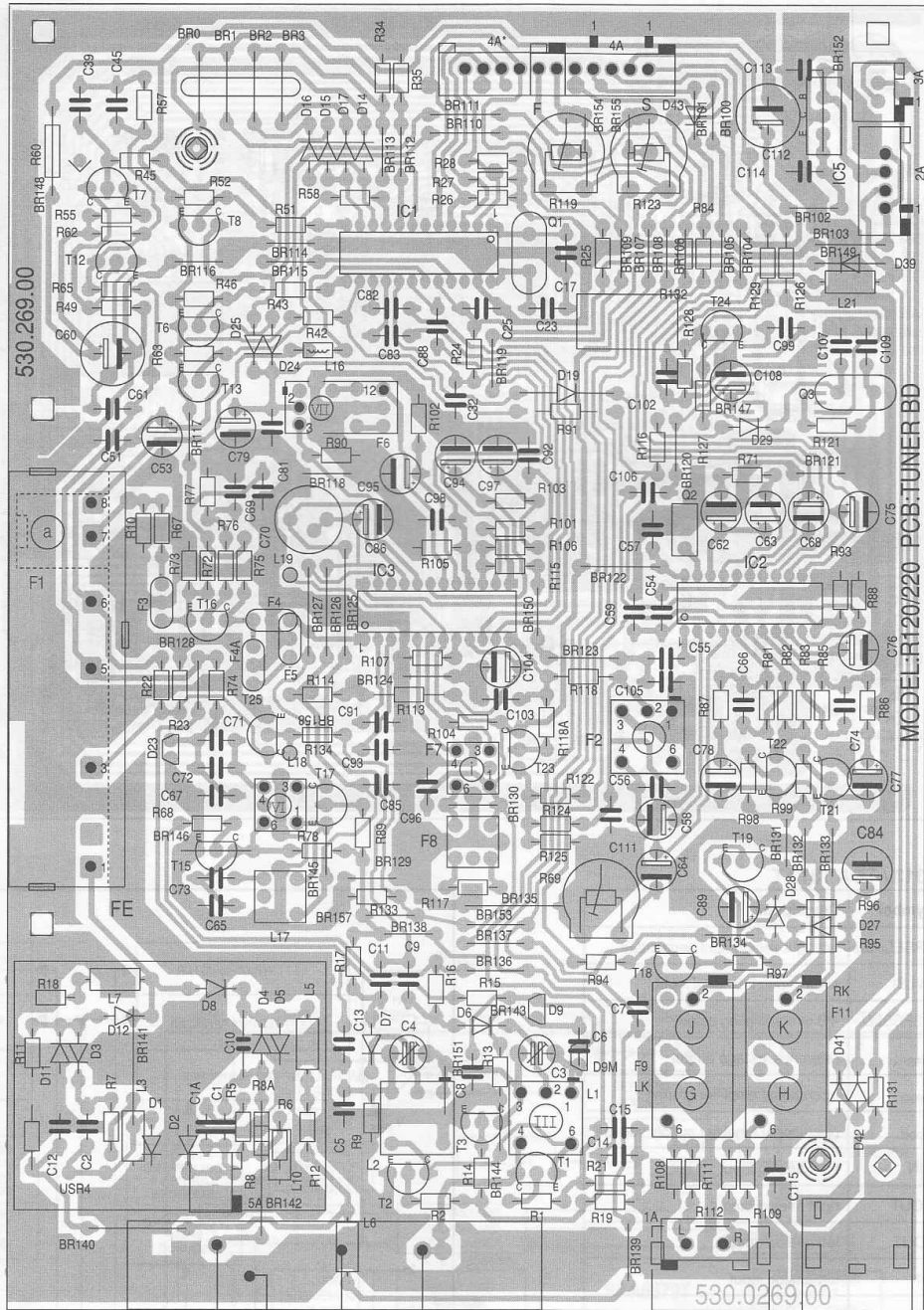
530.209.00

330 05 92 00



Für die tatsächliche Bauteilbest.
The circuit diagram is relevant f

Ansicht von der Bestückungsseite / View of components



530.269.00

MODEL:R120/220 PCB:TUNER BD

530.0269.00

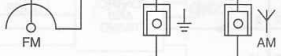
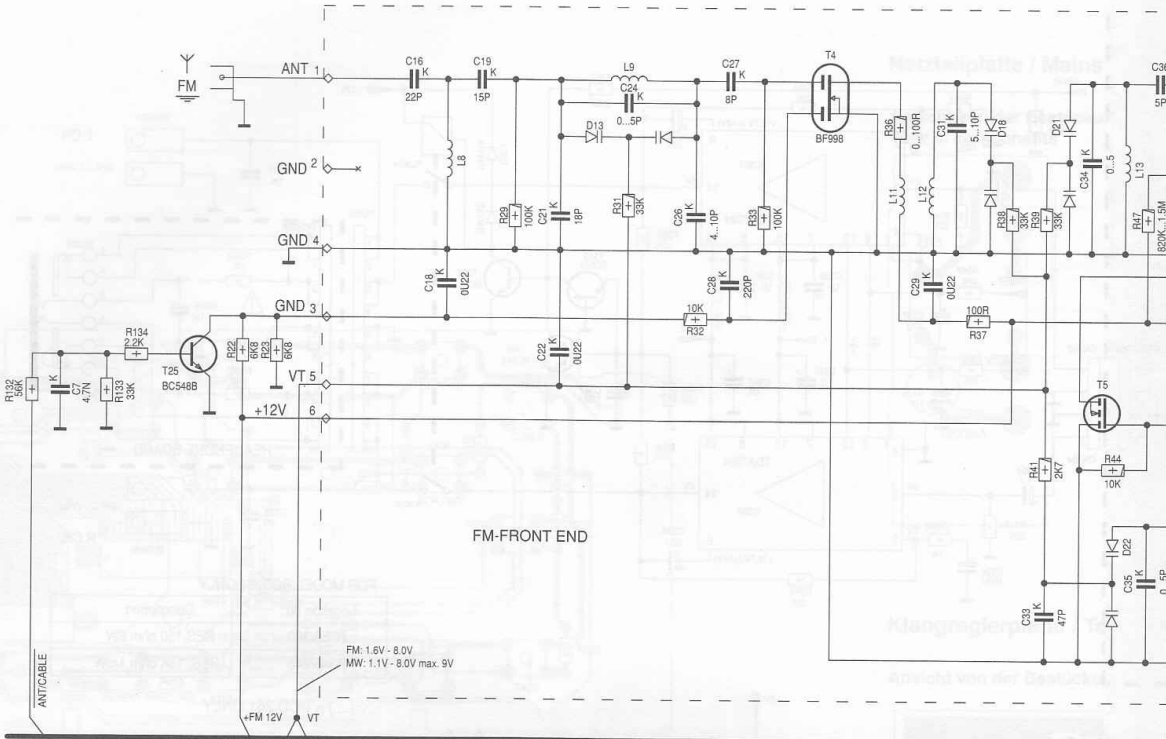


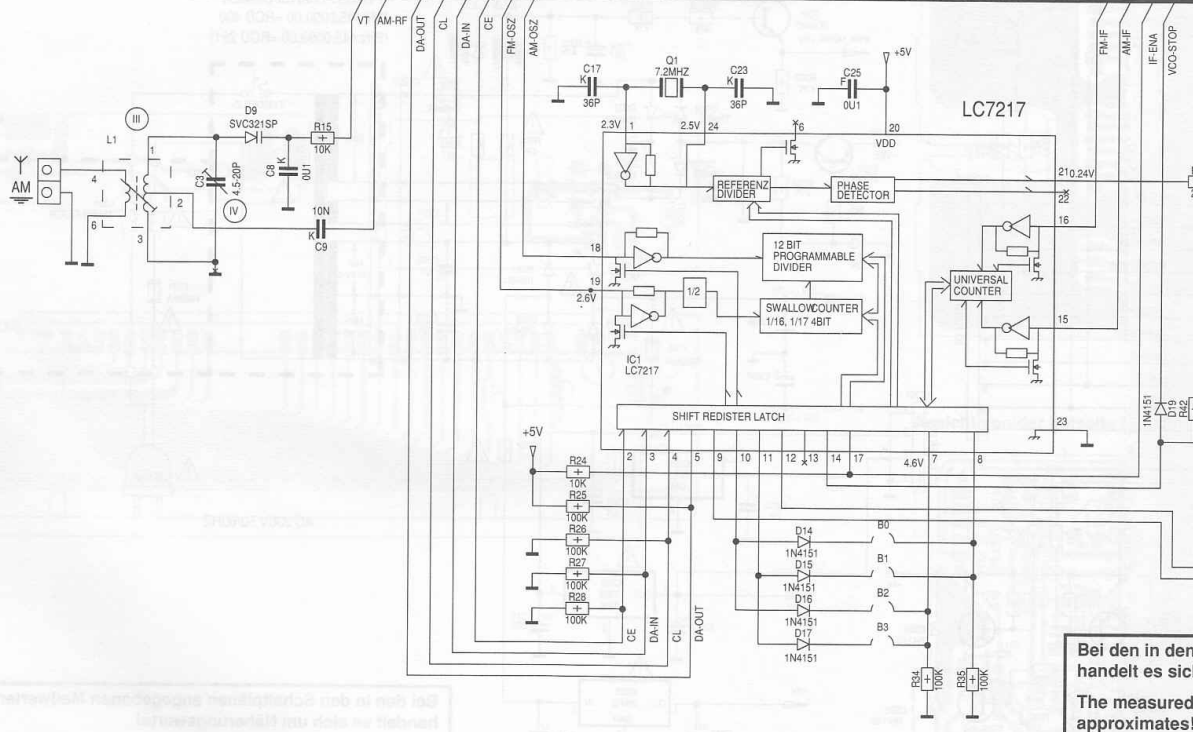
Abbildung ist das Schaltbild maßgebend!
for the actual component assembly!

Schaltbild – Tuner / Circuit Diagram – Tuner

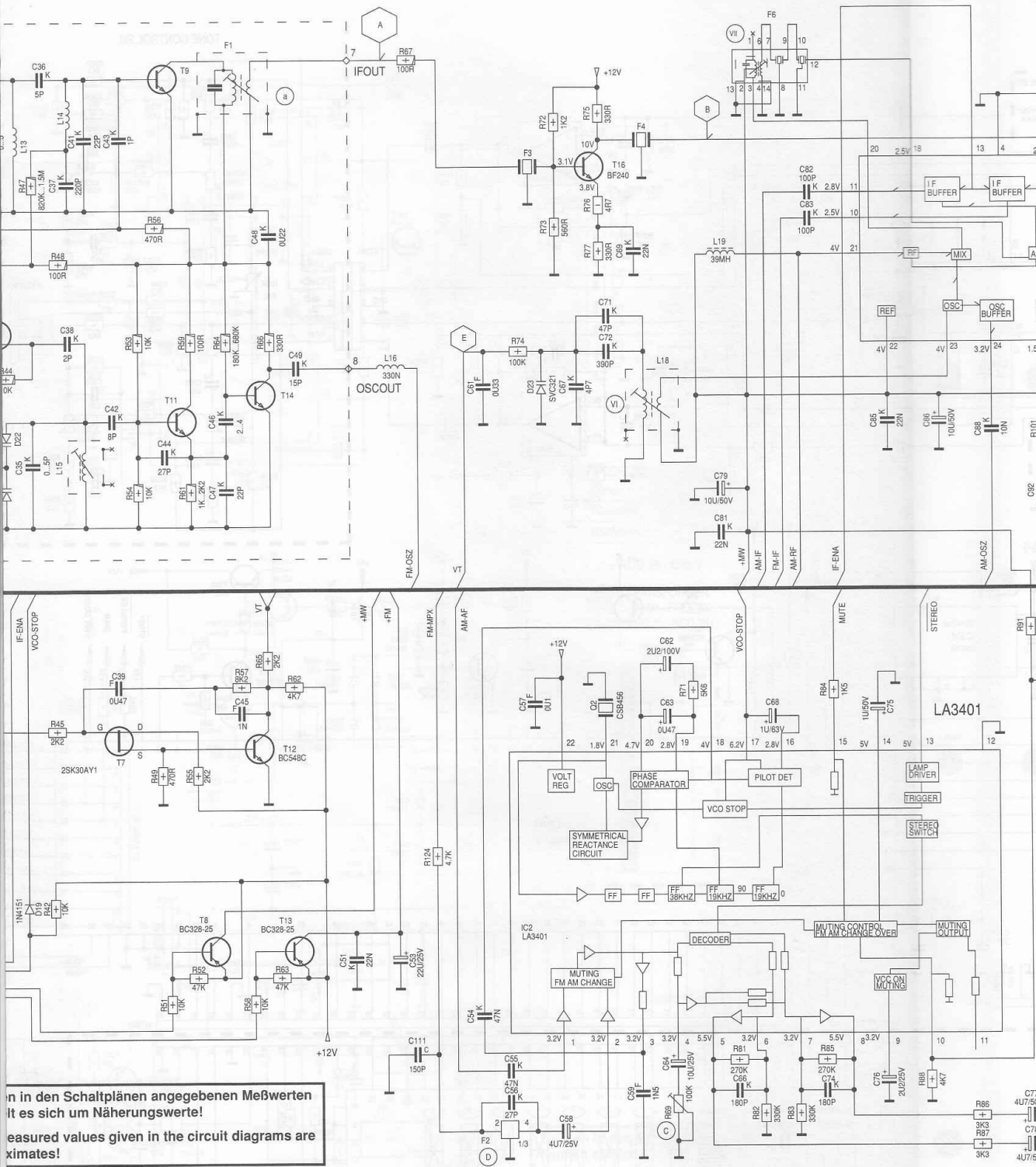


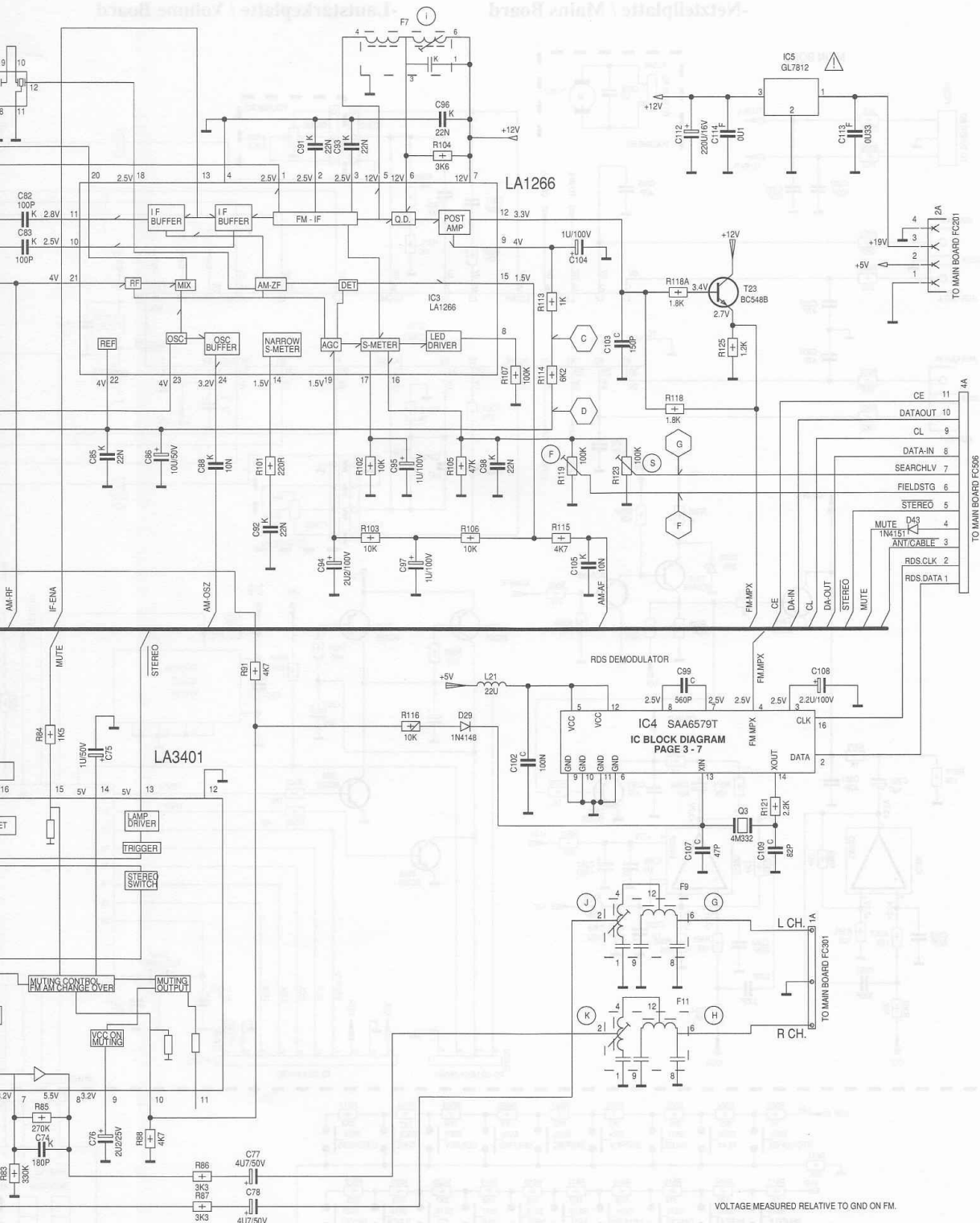
FM-FRONT END

FM: 1.6V - 8.0V
MW: 1.1V - 8.0V max. 9V



Bei den den
handelt es sich
The measured
approximates!





VOLTAGE MEASURED RELATIVE TO GND ON FM.

Schaltbild / Circuit Diagram: -Hauptplatte / Main Board

-Kopfhörerplatte / Headphone Board

-Netzteilplatte / Mains Board

-Klangreglerplatte / Tone Control Board

-Display- und Tastenplatte / Display and Key

-Lautstärkeplatte / Volume Board

