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## TECHNICAL SPECIFICATION

### General

Dimensions (W x H x D) : 128 x 30 x 137.5mm

Weight without batteries : 220g

### Shock resistance

+X/-X direction : ≥5g

+Y/-Y direction : ≥5g

+Z/-Z direction : ≥5g

### Power supply modes

<table>
<thead>
<tr>
<th>SUPPLY MODE</th>
<th>Voltage range</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD/MP3/VCD</td>
<td>3.5 - 6.0V</td>
</tr>
<tr>
<td>DC-IN socket</td>
<td>2.2 - 3.0V</td>
</tr>
<tr>
<td>Primary batteries</td>
<td></td>
</tr>
</tbody>
</table>

### Battery lifetime

<table>
<thead>
<tr>
<th>BATTERY TYPE</th>
<th>CD ESP=on</th>
<th>VCD ESP=on</th>
<th>MP3 ESP=on</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkaline batteries (2x AA)</td>
<td>≥2.8 h (3h typ.)</td>
<td>≥7 h (8h typ.)</td>
<td>≥8 h (9h typ.)</td>
</tr>
</tbody>
</table>

### Battery level detection

<table>
<thead>
<tr>
<th>DETECTION LEVEL</th>
<th>Primary batteries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery empty</td>
<td>2.2V +100/-50mV</td>
</tr>
<tr>
<td>Difference btw. level 1 and battery empty</td>
<td>0.3V ± 100mV</td>
</tr>
<tr>
<td>Difference btw. level 2 and battery empty</td>
<td>0.6V ± 100mV</td>
</tr>
<tr>
<td>Difference btw. level 3 and battery empty</td>
<td>0.9V ± 100mV</td>
</tr>
</tbody>
</table>

### Current consumption

<table>
<thead>
<tr>
<th>OPERATION MODE</th>
<th>CD-IN SUPPLY (4.3V)</th>
<th>BATT. SUPPLY (2.23V)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ESP=on</td>
<td>ESP=off</td>
</tr>
<tr>
<td>Play</td>
<td>≥210mA</td>
<td>n/a</td>
</tr>
<tr>
<td>Jump</td>
<td>≤0.050mA</td>
<td>n/a</td>
</tr>
</tbody>
</table>

### Headphone out

Output power (THD=10%) : 7mW (-1dB)

Frequency response (1mW) : 100Hz-20kHz within 6dB

S/N ratio CD (unwght) : 78dB (81dB typ.)

S/N ratio CD (unw., incl.muting) : 85dB

S/N ratio CD (A-wght) : ≥82dB (84dB typ.)

S/N ratio CD (A-wght, incl.muting) : 85dB

THD+N (1kHz, 1mW) : 1.0% (0.2% typ.)

Crosstalk (1kHz) : ≤-24dB (-44dB typ.)

Channel unbalance (-40dB) : 4dB

Volume attenuation (1kHz) : ≥30dB

### Dynamic Bass Boost DBB

<table>
<thead>
<tr>
<th>DBB STAGE</th>
<th>Frequency response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100 Hz</td>
</tr>
<tr>
<td>DBB 1</td>
<td>+6dB ± 2dB</td>
</tr>
</tbody>
</table>

### Measurement setup CD

Use Audio Signal disc SBC429 4822 397 30184

Low pass filter

S/N and distortion meter

Level meter

### FEATURES

- FEATURES OF CD-PORTABLE/MP3

<table>
<thead>
<tr>
<th>AX6301 (all versions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUNER FM / MW</td>
</tr>
<tr>
<td>CD-REWRITABLE COMPATIBILITY</td>
</tr>
<tr>
<td>ELECTRONIC SKIP PROTECTION</td>
</tr>
<tr>
<td>ESP DRAM SIZE</td>
</tr>
<tr>
<td>HOLD / RESUME FUNCTION</td>
</tr>
<tr>
<td>DUB STAGES</td>
</tr>
<tr>
<td>ACOUSTIC FEEDBACK</td>
</tr>
<tr>
<td>PROGRAM MEMORY</td>
</tr>
<tr>
<td>RECHARGE FUNCTION NICd / NIMH</td>
</tr>
<tr>
<td>CORD REMOTE CONTROL PREPARED</td>
</tr>
</tbody>
</table>

### ACCESSORIES

<table>
<thead>
<tr>
<th>ACCESSORIES FOR CD/VCD PORTABLE</th>
<th>AX6301</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC/DC Adaptor</td>
<td>X</td>
</tr>
<tr>
<td>Stereo Headphone</td>
<td>X</td>
</tr>
<tr>
<td>Remote Control</td>
<td>X</td>
</tr>
<tr>
<td>Cinch Cable</td>
<td>X</td>
</tr>
</tbody>
</table>
### Controls

<table>
<thead>
<tr>
<th></th>
<th>CONTROLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>OPEN     to open the VCD MP3 CD lid</td>
</tr>
<tr>
<td>2</td>
<td>VOL +    to adjust the volume</td>
</tr>
<tr>
<td>3</td>
<td>STOP     to stop playback or clear a program</td>
</tr>
<tr>
<td>4</td>
<td>ESP      to switch on/off ESP function</td>
</tr>
<tr>
<td>5</td>
<td>DBB      to select bass enhancement</td>
</tr>
<tr>
<td>6</td>
<td>+        to select the desired album up for MP3-CD playback</td>
</tr>
<tr>
<td>7</td>
<td>–        to fast forward during VCD playback</td>
</tr>
<tr>
<td>8</td>
<td>DISPLAY  (for CD and VCD) to display the current track number and remaining / elapsed playing time. (for MP3-CD) to display the current album number, track number, remaining/elapsed playing time.</td>
</tr>
<tr>
<td>9</td>
<td>–        to stop playback, clear a program and switch the set off</td>
</tr>
<tr>
<td>10</td>
<td>OSD      (for CD and VCD) to display the current track number and remaining / elapsed playing time. (for MP3-CD) to display the current album number, track number, remaining/elapsed playing time.</td>
</tr>
<tr>
<td>11</td>
<td>MODE     to select the playback options: REPEAT 1, REPEAT ALL, SCAN and SHUFFLE</td>
</tr>
<tr>
<td>12</td>
<td>OFF, RESUME, HOLD OFF switches RESUME and HOLD off - RESUME stores and starts at the last position played - HOLD locks all buttons on the set except the volume control slider</td>
</tr>
<tr>
<td>13</td>
<td>PROGRAM  to program tracks</td>
</tr>
<tr>
<td>14</td>
<td>MODE     to select playback options - REPEAT 1, REPEAT ALL, SCAN and SHUFFLE</td>
</tr>
<tr>
<td>15</td>
<td>LINE OUT to connect - headphones - the set to the audio/video input of your stereo equipment</td>
</tr>
<tr>
<td>16</td>
<td>infrared sensor for the remote control</td>
</tr>
<tr>
<td>17</td>
<td>4.5V DC  to connect the mains adapter</td>
</tr>
<tr>
<td>18</td>
<td>Battery compartment</td>
</tr>
<tr>
<td>19</td>
<td>Type plate</td>
</tr>
</tbody>
</table>

### Remote Control

1. **OSD**
   - (for CD and VCD) to display the current track number and remaining / elapsed playing time. (for MP3-CD) to display the current album number, track number, remaining/elapsed playing time.
2. **MODE**
   - to select the playback options: REPEAT 1, REPEAT ALL, SCAN and SHUFFLE
3. **STOP**
   - to stop playback or clear a program |
4. **PROG**
   - for CD/VCD/MP3-CD, to program disc tracks |
5. **R/L**
   - to toggle between left/right channels and stereo |
6. **Number buttons**
   - to select your desired tracks |
7. **P/N**
   - to toggle between PAL and NTSC |
8. **ZOOM**
   - to view pictures in an enlarged mode |
9. **PBC**
   - to toggle between MENU Play and SEQUENCE PLAY |
10. **GO TO**
    - to set the time from which playback starts |
11. **RETURN**
    - to return to MENU PLAY from SEQUENCE PLAY |
12. **SLOW**
    - to view VCDs at a slower speed |
13. **VIEW**
    - to scan VCD segments |
14. **RESUME**
    - to resume playback in stop mode |
15. **STOP**
    - to stop playback or clear a program |
16. **+**
    - to select the desired album up for MP3-CD playback |
17. **–**
    - to fast forward during VCD playback |
18. **Hi**
    - to start/pause playback / return to normal playback |
19. **+**
    - to select the desired album up for MP3-CD playback |
20. **–**
    - to fast forward during VCD playback |
21. **Hi**
    - to start/pause playback / return to normal playback |
22. **Hi**
    - to select the desired album up for MP3-CD playback |
23. **–**
    - to fast forward during VCD playback |
Batteries (not included)

Inserting batteries
- Open the battery compartment and insert 2 alkaline batteries of type AA (LR6, UM3).
- When using the remote control for the first time, please remove the clear protective tab from the battery.
- Do not mix old and new or different types of batteries.

Indication of empty batteries
- Replace the batteries or connect the mains adapter as soon as \( \text{blinks}. \]
- Remove batteries if they are empty or the set will not be used for a long time.

Average playing time of batteries under normal conditions

<table>
<thead>
<tr>
<th>Alkaline battery</th>
<th>ESP on</th>
<th>ESP off</th>
</tr>
</thead>
<tbody>
<tr>
<td>VCD</td>
<td>3 hours</td>
<td>3.5 hours</td>
</tr>
<tr>
<td>CD</td>
<td>7 hours</td>
<td>7.5 hours</td>
</tr>
<tr>
<td>MP3-CD</td>
<td>9.5 hours</td>
<td></td>
</tr>
</tbody>
</table>

Batteries contain chemical substances, so they should be disposed of properly.

Mains adapter (supplied AY3193)
Use only the AY3193 adapter (DC: 4.5V/800mA; AC: 110V/220V and 50/60Hz). Any other product may damage the player.

1 Make sure the mains voltage matches the voltage requirement of the mains adapter.
2 Connect the mains adapter to the 4.5V DC socket of the player and to the wall socket.

TIP:
- Always disconnect the adapter when you are not using it.
- Once the mains adapter is connected, the power supply from batteries will be switched off automatically.

TV connection
Connecting to your TV System

Use the supplied AV cable to connect the player to your TV system. To ensure uninterrupted viewing, we recommend you use AC mains power for your player during VCD operation.

1 Insert the yellow video cable pin into the VIDEO IN jack on the rear of your TV. Insert the white and red audio cable pins respectively into the left and right AUDIO IN jacks of your TV.
2 Insert the pin on the other end of the AV cable into the LINE OUT jack on your player.
3 Connect the mains adapter to the 4.5V DC socket of the player and to the wall socket.

Playing a disc

With this set, you can play
- Video discs
- Audio discs (pre-recorded audio CDs, finalized audio CDs and CD-RWs)
- MP3-CDs (CD-ROMs with MP3 files)

For VCD playback, you need to connect the player to your TV (see Connecting to your TV system)

1 Push the OPEN slider to open the disc lid.
2 Insert a disc, printed side up, by pressing the CD onto the hub. Close the lid by pressing the lid down.
3 Press \( \text{on the set to start playback.} \]

Playback starts:

Video disc: \( \text{appears. The current track number and the elapsed time are displayed.} \]
Audio disc: The current track number and the elapsed playing time are displayed.
MP3-CD: The current album number, track number and the elapsed playing time are displayed.

4 To stop playback, press \( \text{Video disc: } \]
Audio disc: The number of tracks and the total playing time of the disc are displayed.
MP3-CD: The number of albums and the number of tracks are displayed.

5 Press \( \text{again to switch off the player.} \]

TIP:
- To remove the disc, hold it by its edge and press the hub gently while lifting the disc.

Pause
1 Press \( \text{to interrupt playback.} \]
The track number and the elapsed playing time are displayed.
2 Press \( \text{again to resume playback.} \]

TIP:
- If the set stays in the PAUSE mode for more than 90 seconds, it will enter the STOP mode automatically. After 30 seconds or more in the STOP mode, your set automatically powers down.
**INSTRUCTION FOR USE**

### FEATURES

**Special features for VCD playback only**

**Adjusting your TV System**

Before viewing the Video CD, ensure that the set is switched to the corresponding PAL or NTSC system of your TV set (except multi-system TVs).

1. Connect the audio/video output cable to the corresponding ports of the TV set.
2. Turn on your TV system and adjust the input mode to AV.
3. On the remote control, press P/N to toggle between PAL and NTSC TV systems.

**OSD - On Screen Display**

If you insert a VCD, your TV screen will serve as an additional display for messages (e.g. PLAY, STOP) and information stored in the VCD.

- Press OSD on the remote control or DISPLAY on the set repeatedly to switch OSD on or off.
- When OSD is switched on, your TV screen may for example display the following:
  
  \[XX-MM:SS\] - where:
  - “XX” is the current track
  - “MM” is for minute.
  - “SS” is for second.

**DISPLAY features for VCD, CD and MP3-CD**

- During normal playback, you can press OSD on the remote control or DISPLAY on the set repeatedly to select your desired display.

<table>
<thead>
<tr>
<th>Press OSD or DISPLAY</th>
<th>Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>1x</td>
<td>Track number + track's remaining playing time</td>
</tr>
<tr>
<td>2x</td>
<td>Normal display</td>
</tr>
</tbody>
</table>

**Return**

If you want to return to MENU PLAY (the main menu at the beginning of your VCD) during SEQUENCE PLAY, press RETURN.

**Go to**

1. Press GO TO on the remote control.

   \[GO TO:::\] appears on the TV screen.

   Enter the desired time from which you want to start playback.

2. Press GO TO again to deactivate GO TO.

   \[GO TO CANCEL\] appears.

**View**

This feature allows you to scan through your VCD in 9 segments.

1. Press VIEW to divide the whole movie of the video into 9 segments.

   The 7-second of each segment is played. After the last segment, playback starts from the first segment.

2. Select your desired segment using the number buttons on the remote control.

   Playback continues from the selected segment.

3. Press VIEW again or \[\|\] to resume normal playback.

**Zoom**

1. Press ZOOM on the remote control once to enlarge the picture by 2 times.

   \[ZOOM 2\] appears.

2. Press ZOOM again to quit the zoom feature.

   RESTORE appears and normal playback resumes.

**Slow**

Select from 4 speeds to capture action in slow motion: 1/2, 1/4, 1/8, and 1/16.

1. Press SLOW on the remote control once or more for playback at slow speed.

   Sound is muted and SLOW1/2, SLOW1/4, SLOW1/8 or SLOW1/16 is displayed.

2. To resume normal playback, press \[\|\|\] .

**Playing a VCD V2.0 with PBC**

PBC is a predefined play sequence stored in the CD.

- SEQUENCE PLAY is by default on when VCD playback starts.

Before viewing your VCD, make sure the set is switched to the corresponding PAL or NTSC system of your TV set (except multi-system TVs).

1. Press P/N repeatedly to select PAL or NTSC.

   \[\[\]\] is displayed when you load a VCD with PBC (Playback Control) into your player.

2. You can press PBC to toggle between MENU PLAY and SEQUENCE PLAY.

   If SEQUENCE PLAY is selected, the playback starts from the beginning of the first track.

   If MENU PLAY is selected, a list of tracks is displayed on the TV screen.

**TIP:**

This function is not available for discs without Table of Contents.
GENERAL INFORMATION

General MP3 information

How to get music files
The music compression technology MP3 (MPEG Audio Layer 3) reduces the digital data of an audio CD significantly while maintaining CD-like sound quality. With MP3 you can record up to 10 hours of CD-like music on a single CD-RW.

How to organize music files
Either download legal music files from the Internet to your computer hard disc or create them from your own audio CDs. For this, insert an audio CD into your computer’s CD-ROM drive and convert the music using appropriate encoder software. To achieve good sound quality, a bit rate of 128 kbps or higher is recommended for MP3 music files.

How to make a CD-ROM with MP3 files
In order to easily handle the large number of music files on a CD-ROM, you can organize them in folders (“albums”). The tracks of an album will be played in alphabetical order. If you want to arrange them in a certain order, let the file names start with numbers.

For example:

001-EWORLD.MP3
002-FIRESTARTER.MP3
003-DEEPM.P3

Albums will be arranged in alphabetical order, but subfolders (albums within another album) will be played immediately after the album in which they are located. Albums without MP3 files will be skipped.

If there are MP3 files which you did not put into an album, you will find them in the album VARIOUS with album number 0. VARIOUS is the first album that will be played.

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**GENERAL INFORMATION/FEATURES**

### Volume and sound

**Volume adjustment**
- Adjust the volume by using the volume control `VOL`.

**Sound adjustment**

1. Press DBB for a moderate bass enhancement.
2. Press DBB again to switch off the bass enhancement.

### R/L: Channel and stereo sound selection

It is possible to select the right channel or left channel or stereo from a multi-channel disc when you connect your player to your TV or Hi-Fi system.

1. **For VCDs**, make sure you connect the player correctly to your TV system first.
2. **For music discs**, make sure you connect the player to your Hi-Fi system first.

### Selecting tracks using the number digits

- Press number buttons 0-9 on the remote control to select your desired track. *If more than 10 tracks are stored in a disc, you can use 10+.*
- Press 10+ first, and then the last number.
- Press 10+ once for 10+, twice for 20+, and three times for 30+, and so on.

### Searching VCDs at different fast / slow speeds during playback

- Press + once or several times to select your desired forwarding speed:
  
<table>
<thead>
<tr>
<th>Press</th>
<th>Times of normal speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1x</td>
<td>FORWARD x1</td>
</tr>
<tr>
<td>2x</td>
<td>FORWARD x2</td>
</tr>
<tr>
<td>3x</td>
<td>FORWARD x3</td>
</tr>
<tr>
<td>4x</td>
<td>FORWARD x4</td>
</tr>
<tr>
<td>5x</td>
<td>Normal Play</td>
</tr>
</tbody>
</table>

- Press – once or several times to select your desired rewinding speed:
  
<table>
<thead>
<tr>
<th>Press</th>
<th>Times of normal speed</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>2x</td>
<td>BACKWARD x2</td>
</tr>
<tr>
<td>3x</td>
<td>BACKWARD x3</td>
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<td>4x</td>
<td>BACKWARD x4</td>
</tr>
<tr>
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<td>Normal Play</td>
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</table>

### Selecting and searching on all discs

**Selecting a track during playback**
- Briefly press or or or several times to skip to the beginning of the previous or subsequent track.

**Search for a passage during CD playback**
1. Keep pressed to find a particular passage in a backward or forward direction. Searching is started.
2. Release the button at the desired passage. Normal playback continues.

### Selecting albums and tracks on MP3-CDs

**Selecting an album during playback**
- Briefly press - or + once or several times to skip to the first track of the current, previous or subsequent album.

**Selecting a track during playback**
1. Briefly press or or or several times to select previous or subsequent tracks within the current album.
2. Release the button at the desired track. Playback continues with the selected track.

### Playing tracks repeatedly or in a random order - MODE

Press MODE once or several times to select the desired playback possibility.

- **REPEAT 1:**
  - The current track is played repeatedly.

- **REPEAT ALL:**
  - The entire disc is played repeatedly. But for MP3-CDs, only all the tracks in the current album are played repeatedly.

- **SHUFFLE:**
  - All tracks are played in a random order.

- **SCAN:**
  - The first 10 seconds of each track is played in sequence.
### FEATURES

#### RESUME and HOLD

You can interrupt playback and continue (after a short while at the stop position only) from the position where playback has stopped (RESUME). You can also lock all buttons of the set so that no action will be executed (HOLD). Use the OFF – RESUME – HOLD slider for these functions.

**RESUME – continuing from where you have stopped**

1. Switch the slider to RESUME during playback to activate RESUME. → RESUME is shown.
2. Press ■.
3. Press ▶ or RESUME on the remote control to resume playback. → RESUME is shown and playback continues from where you have stopped.

- To deactivate RESUME, switch the slider to OFF. → RESUME goes off.

**TIP:**
- Resume is also cancelled if you have opened the disc lid or disconnected your player from the power supply.

#### HOLD - locking all buttons

- Switch the slider to HOLD to activate HOLD. HOLD appears and all buttons are locked.
- When any key is pressed, HOLD is displayed.
- To deactivate HOLD, switch the slider to OFF. HOLD disappears.

#### ESP - Electronic Skip Protection

The ESP duration is 120 seconds for CD playback, 400 seconds for MP3 disc playback and 30 seconds for VCD playback.

The **ELECTRONIC SKIP PROTECTION** system prevents sound loss or unstable playback caused by light vibrations and shocks. Continuous playback is thus ensured. **ESP does not prevent playback interruptions during vigorous running.** It does not protect the unit against any damage caused by dropping!

- Press ESP repeatedly during playback to toggle between ESP ON and ESP OFF:
  - When ESP appears, ESP is activated.
  - When ESP disappears, ESP is deactivated

#### Programming track numbers

You can select up to 20 tracks and store them in the memory in a desired sequence. You can store any track more than once.

1. In the stop mode, press PROGRAM on the set or PROG on the remote control.
   - PROGRAM appears and P with the number of stored tracks is displayed.
2. Select a track with ◀ or ▶.
3. Press PROGRAM on the set or PROG on the remote control to store the track.
4. Select and store all desired tracks in this way.
5. Press ◀ to start playback of the program. Playback starts.

**TIP:**
- P-FULL appears when the program memory is full.

#### Clearing the program

You can clear the program by
- pressing ■ again in the stop mode;
- powering off the player;
- opening the disc lid;
- pressing and holding PROGRAM during playback
- pressing PROG on the remote control during playback.

**TIP:**
- P-CLEAR appears on the display of the player for VCD, CD and MP3-CD.
- PROGRAM CANCEL appears on the TV screen for VCD.
TROUBLESHOOTING

WARNING: Under no circumstances should you try to repair the set yourself as this will invalidate the guarantee.

If a fault occurs, first check the points listed below before taking the set for repair. If you are unable to solve a problem by following these hints, consult your dealer or service centre.

Problems

No sound/power
- Check if the player is connected securely.
- Check volume on the player.
- Disconnect headphones when not using headphones.
- Make sure you operate the TV or amplifier correctly.
- Make sure you have selected VCD player position on the amplifier.
- The power circuit in your player is designed with a power shutdown mode. This is activated only during battery power operation of the player when the battery becomes completely drained. When this happens:
  1. Connect your player to AC power with the supplied mains adapter.
  2. Let the player stand idle for 30 seconds before switching on again to resume disc operation on AC power supply.

Loud noise when operating the player
- This is normal and due to mechanical parts. Playback is not affected.

The player feels very warm
- When the player is in use for a long period of time, the surface will be heated. This is normal.

No picture / No color on TV screen
- Connect the cable between the systems and the TV.
- Change the system to the respective PAL or NTSC setting.

My disc cannot play
- Check you have loaded a disc in the player if empty.
- Check you have loaded a disc properly with the label side up.
- Disc dirty/damaged. Clean the disc properly.
- Moisture has condensed in the player. Remove the disc and leave the player to adjust to the surrounding temperature.
- Some audio CDs available on the market are copy protected. These discs will not play on this set. See your retailer for options regarding non-protected audio CDs.
- Make sure the MP3-CD was recorded within 32-320kbps (128kbps preferably) with sampling frequencies at 8-48KHz (44.1KHz preferably).

Remote control does not work
- Remove obstacle between the remote control and the player, and point directly instead of at a wide angle at the infrared sensor on the player.
- The battery may be exhausted. Replace the battery with a new one.
- Try using the remote control with a maximum distance of 3 meters from the sensor on the player.
- Try using the remote control within a maximum angle of 30°

Picture CD cannot be played
- Make sure that the picture CD is JPEG VGA format (640x480 pixels)

CAUTION
Use of controls or adjustments or performance of procedures other than herein may result in hazardous radiation exposure or other unsafe operation.
SAFETY & WARNINGS

WARNING
All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the set via a wristband with resistance. Keep components and tools at this potential.

ATTENTION
Tous les IC et beaucoup d’autre semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévité pourrait être considérablement écourtée par le fait qu’aucune précaution n’est prise à leur manipulation.

WARNUNG

WAARSCHUWING
Alle IC´s en vele andere halbleiders zijn gevoelig voor elektrostatische ontladingen (ESD). Onzorgvuldig behandelen tijdens reparatie kan de levensduur dramatisch beslissend beïnvloed. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat. Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

AVVERTIMENTO
Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD). La loro longevità potrebbe essere fortemente ridotta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa del dispositivo. Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

AVAILABLE ESD PROTECTION EQUIPMENT:
- anti-static table mat
  - large 1200x650x1.25mm
  - small 600x650x1.25mm
- anti-static wristband
- connection box (3 press stud connections, 1MΩ)
- extendible cable (2m, 2MΩ, to connect wristband to connection box)
- connecting cable (3m, 2MΩ, to connect table mat to connection box)
- earth cable (1MΩ, to connect any product to mat or to connection box)
- KIT ESD3 (combining all 6 prior products - small table mat)
- wristband tester

SAFETY & WARNINGS

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used. Safety components are marked by the symbol ☳

Les normes de sécurité exigent que l’appareil soit remis à l’état d’origine et que soient utilisées les pièces de rechange identiques à celles spécifiées. Les composants de sécurité sont marqués ☳

Bei jeder Reparatur sind die geltenden Sicherheitsschutzvorschriften zu beachten. Der Originalzustand des Gerätes darf nicht verändert werden. Für Reparaturen sind Originalersatzteile zu verwenden. Sicherheitsteile sind durch das Symbol ☳ markiert.

Veiligheidsregelingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast. De veiligheidsonderdelen zijn aangeduid met het symbool ☳

Le norme di sicurezza estigono che l’apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati. Componenti di sicurezza sono marcati con ☳

DANGER: Invisible laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM.

Warning ! Osynlig laserstrålning när apparaten är öppnad och spärren är urkopplad. Betrakta ej strålen.

Advarsel ! Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsaettelse for stråling.

Varoitus ! Avattessa laitteessa ja suojalukituksen ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso sääteeseen !

After servicing and before returning the set to customer perform a leakage current measurement test from all exposed metal parts to earth ground, to assure no shock hazard exists. The leakage current must not exceed 0.5mA.

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agrés, seuls habilités à réparer votre appareil en panne".

CLASS 1 LASER PRODUCT

 psychedelic
SERVICE HINTS

REPAIR POSITION COPPERSIDE

To get access to the copperside of the printed board assembly proceed as follows:

1. Remove bottom screws (3x)
2. Lift the bottom-assy-1
3. Supply the unit via external DC-socket
4. Take care that the door switch is closed during measurements

REPAIR POSITION COMPONENTSIDE

To get access to the componentside of the printed board assembly proceed as follows:

1. Remove the bottom screws (3x)
2. Open the CD-door
3. Lift the cabinet-assy-2 and put it backwards on the table
4. Supply the unit via the external DC-socket
5. Take care that the door switch is closed during measurements

DISMANTLING THE CD-DOOR

To dismantle the CD-door proceed as follows:

1. Dismantle bottom and printed board/drive assembly
2. Disconnect the sticker (flex-foil connector on the membrane keyboard)
3. Disconnect membrane keyboard (flex-foil connector on copperside of printed board)
4. Bend the CD-door rightwards downwards as indicated in the picture above

Remark: Do not use screwdrivers or tools. Sharp edges could damage hinge or cabinet part.
HANDLING CHIP COMPONENTS

SERVICE TOOLS

Audio signal disc SBC429 4822 397 30184
Playability test disc SBC444 4822 397 30245
Test disc 5 (disc without errors) + Test disc 5A (disc with dropout errors, black spots and fingerprints) SBC426/ SBC426A 4822 397 30096

ESD PROTECTION EQUIPMENT

Anti-static table mat large 1200x650x1.25mm 4822 466 10953
small 600x650x1.25mm 4822 466 10958
Anti-static wristband 4822 395 10223
Connection box (3 press stud connections, 1MΩ) 4822 320 11307
Extendible cable (2m, 2MΩ, to connect wristband to connection box) 4822 320 11305
Connecting cable (3m, 2MΩ, to connect table mat to connection box) 4822 320 11306
Earth cable (1MΩ, to connect any product to mat or to connection box) 4822 320 11308
KIT ESD3 (combining all 6 prior products - small table mat) 4822 310 10671
Wristband tester 4822 344 13999
COMBI BOARD - CIRCUIT DIAGRAM
PART 3
Note: Only these parts mentioned in the list are normal service parts.
# ELECTRICAL PARTSLIST - COMBI BOARD

## - MISCELLANEOUS -

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<th>Description</th>
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<td>SW1</td>
<td>9965 000 16227</td>
<td>SLIDE SWITCH 1P3T</td>
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<td>SW6</td>
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## - IC & TRANSISTORS -

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Note: Only these parts mentioned in the list are normal service parts.

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