Thank you for buying this Pioneer product. Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.

**IMPORTANT**

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

**CAUTION:**

TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

**CAUTION**

RISK OF ELECTRIC SHOCK DO NOT OPEN

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**Information to User**

Alterations or modifications carried out without appropriate authorization may invalidate the user’s right to operate the equipment.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la Classe B est conforme à la norme NMB-003 du Canada.

**CAUTION:** This product satisfies FCC regulations when shielded cables and connectors are used to connect the unit to other equipment. To prevent electromagnetic interference with electric appliances such as radios and televisions, use shielded cables and connectors for connections.

**CAUTION:** USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

**CAUTION:** THE USE OF OPTICAL INSTRUMENTS WITH THIS PRODUCT WILL INCREASE EYE HAZARD.
IMPORTANT SAFETY INSTRUCTIONS

1) Read these instructions.
2) Keep these instructions.
3) Heed all warnings.
4) Follow all instructions.
5) Do not use this apparatus near water.
6) Clean only with dry cloth.
7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11) Only use attachments/accessories specified by the manufacturer.
12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13) Unplug this apparatus during lightning storms or when unused for long periods of time.
14) Refer all servicing to qualified service personnel.

WARNING
To prevent a fire hazard, do not place any naked flame sources (such as a lighted candle) on the equipment.

Operating Environment
Operating environment temperature and humidity:
+5 °C to +35 °C (+41 °F to +95 °F); less than 85 %RH (cooling vents not blocked)
Do not install this unit in a poorly ventilated area, or in locations exposed to high humidity or direct sunlight (or strong artificial light)

WARNING
This equipment is not waterproof. To prevent a fire or shock hazard, do not place any container filled with liquid near this equipment (such as a vase or flower pot) or expose it to dripping, splashing, rain or moisture.

WARNING
Before plugging in for the first time, read the following section carefully.

The voltage of the available power supply differs according to country or region. Be sure that the power supply voltage of the area where this unit will be used meets the required voltage (e.g., 230 V or 120 V) written on the rear panel.
If the AC plug of this unit does not match the AC outlet you want to use, the plug must be removed and appropriate one fitted. Replacement and mounting of an AC plug on the power supply cord of this unit should be performed only by qualified service personnel. If connected to an AC outlet, the cut-off plug can cause severe electrical shock. Make sure it is properly disposed of after removal.

The equipment should be disconnected by removing the mains plug from the wall socket when left unused for a long period of time (for example, when on vacation).

**CAUTION**
The STANDBY/ON switch on this unit will not completely shut off all power from the AC outlet. Since the power cord serves as the main disconnect device for the unit, you will need to unplug it from the AC outlet to shut down all power. Therefore, make sure the unit has been installed so that the power cord can be easily unplugged from the AC outlet in case of an accident. To avoid fire hazard, the power cord should also be unplugged from the AC outlet when left unused for a long period of time (for example, when on vacation).

**WARNING:** Handling the cord on this product or cords associated with accessories sold with the product will expose you to chemicals listed on proposition 65 known to the State of California and other governmental entities to cause cancer and birth defect or other reproductive harm.

*Wash hands after handling*

This product is for general household purposes. Any failure due to use for other than household purposes (such as long-term use for business purposes in a restaurant or use in a car or ship) and which requires repair will be charged for even during the warranty period.

**POWER-CORD CAUTION**
Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause a fire or give you an electrical shock. Check the power cord once in a while. If you find it damaged, contact the Pioneer service center on the back cover, or your dealer for a replacement.

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

This product contains mercury. Disposal of this material may be regulated due to environmental considerations. For disposal or recycling information, please contact your local authorities or the Electronics Industries Alliance : www.eiae.org.
Dear Customer:

Selecting fine audio equipment such as the unit you’ve just purchased is only the start of your musical enjoyment. Now it’s time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association’s Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion-and, most importantly, without affecting your sensitive hearing.

Sound can be deceiving. Over time your hearing “comfort level” adapts to higher volumes of sound. So what sounds “normal” can actually be loud and harmful to your hearing. Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.

To establish a safe level:
• Start your volume control at a low setting.
• Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:
• Set the dial and leave it there.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

We Want You Listening For A Lifetime

Since hearing damage from loud noise is often undetectable until it is too late, this manufacturer and the Electronic Industries Association’s Consumer Electronics Group recommend you avoid prolonged exposure to excessive noise. This list of sound levels is included for your protection.

<table>
<thead>
<tr>
<th>Decibel Level</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>Quiet library, soft whispers</td>
</tr>
<tr>
<td>40</td>
<td>Living room, refrigerator, bedroom away from traffic</td>
</tr>
<tr>
<td>50</td>
<td>Light traffic, normal conversation, quiet office</td>
</tr>
<tr>
<td>60</td>
<td>Air conditioner at 20 feet, sewing machine</td>
</tr>
<tr>
<td>70</td>
<td>Vacuum cleaner, hair dryer, noisy restaurant</td>
</tr>
<tr>
<td>80</td>
<td>Average city traffic, garbage disposals, alarm clock at two feet.</td>
</tr>
</tbody>
</table>

THE FOLLOWING NOISES CAN BE DANGEROUS UNDER CONSTANT EXPOSURE

<table>
<thead>
<tr>
<th>Decibel Level</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td>Subway, motorcycle, truck traffic, lawn mower</td>
</tr>
<tr>
<td>100</td>
<td>Garbage truck, chain saw, pneumatic drill</td>
</tr>
<tr>
<td>120</td>
<td>Rock band concert in front of speakers, thunderclap</td>
</tr>
<tr>
<td>140</td>
<td>Gunshot blast, jet plane</td>
</tr>
<tr>
<td>180</td>
<td>Rocket launching pad</td>
</tr>
</tbody>
</table>

Information courtesy of the Deafness Research Foundation.
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**Chapter 1**

**Before you start**

**What’s in the box**

- Remote control x 1
- Audio cable (white/red plugs) x 1
- Video cable (yellow plugs) x 1
- BNC-RCA adapter x 3
- Use this to connect an RCA pin type cable to the **COMPONENT VIDEO** terminal.
- AA/R6 dry cell batteries x 2
- LAN cable x 1
- Power cord x 1
- Warranty card
- Operating instructions (this manual)

**Putting the batteries in the remote control**

1. **Open the rear cover.**

   ![Open rear cover](image)

   Press lightly on this part and slide into the direction of the arrow.

2. **Insert the batteries (AA/R6 x 2).**

   Insert as indicated by the \(\oplus/\ominus\) marks into the battery compartment.

   ![Insert batteries](image)

   Insert the negative \(\ominus\) side first.

3. **Close the rear cover.**

   Close securely (a click should be heard).

   ![Close rear cover](image)

**Caution**

- Do not mix new and old batteries together.
- Batteries may have different voltages, even if they look similar. Do not use different kinds of batteries together.
- To prevent leakage of battery fluid, remove the batteries if you do not plan to use the remote control for a long period of time (1 month or more). If the fluid should leak, wipe it carefully off the inside of the case, then insert new batteries.
- When disposing of used batteries, please comply with governmental regulations or environmental public instruction’s rules that apply in your country/area.

**WARNING**

Do not use or store batteries in direct sunlight or other excessively hot place, such as inside a car or near a heater. This can cause batteries to leak, overheat, explode or catch fire. It can also reduce the life or performance of batteries.

---

*D3-4-2-3-3_En*
## Types of discs/files that can be played

### Playable discs

Disks with the logo marks below indicated on the disc label, package or jacket can be played.

<table>
<thead>
<tr>
<th>Disc type</th>
<th>Logo</th>
<th>Application format</th>
</tr>
</thead>
<tbody>
<tr>
<td>BD-ROM</td>
<td>![BD-ROM Logo]</td>
<td>✓</td>
</tr>
<tr>
<td>BD-R</td>
<td>![BD-R Logo]</td>
<td>✓</td>
</tr>
<tr>
<td>BD-RE</td>
<td>![BD-RE Logo]</td>
<td>✓</td>
</tr>
<tr>
<td>DVD-ROM</td>
<td>![DVD-ROM Logo]</td>
<td>✓</td>
</tr>
<tr>
<td>DVD-R</td>
<td>![DVD-R Logo]</td>
<td>✓</td>
</tr>
<tr>
<td>DVD</td>
<td>![DVD Logo]</td>
<td>✓</td>
</tr>
<tr>
<td>DVD-R DL</td>
<td>![DVD-R DL Logo]</td>
<td>✓</td>
</tr>
<tr>
<td>DVD-RW</td>
<td>![DVD-RW Logo]</td>
<td>✓</td>
</tr>
<tr>
<td>DVD+R</td>
<td>![DVD+R Logo]</td>
<td>✓</td>
</tr>
<tr>
<td>DVD+RW</td>
<td>![DVD+RW Logo]</td>
<td>✓</td>
</tr>
<tr>
<td>CD-DA (Audio CD)</td>
<td>![CD-DA Logo]</td>
<td>✓</td>
</tr>
<tr>
<td>CD</td>
<td>![CD Logo]</td>
<td>✓</td>
</tr>
<tr>
<td>CD-R</td>
<td>![CD-R Logo]</td>
<td>✓</td>
</tr>
<tr>
<td>CD-RW</td>
<td>![CD-RW Logo]</td>
<td>✓</td>
</tr>
<tr>
<td>CD-ROM</td>
<td>![CD-ROM Logo]</td>
<td>✓</td>
</tr>
</tbody>
</table>

1. Including the AVCHD format.
2. Discs on which video, image or audio files are recorded

*Blu-ray Disc* and * are trademarks.

* is a trademark of DVD Format/Logo Licensing Corporation.
Discs that cannot be played
- Non-finalized (Non-closed) BD-R discs in the BDMV format
- HD DVDs
- DVD Audio discs
- DVD-RAM discs
- Non-finalized DVD-R/-RW/+R/+RW discs in the DVD-Video format and AVCHD format
- Non-finalized Dual Layer DVD-R discs in the DVD VR format
- Non-finalized CD-R/-RW discs
- SACDs
- Video CDs
- SVCDs
This player conforms to NTSC standards. Discs for which “NTSC” is indicated on the disc label, package or jacket can be played.

Note
- Some discs cannot be played, even if one of the logo marks on the previous page is indicated.
- To play 8 cm discs, set the disc in the 8 cm disc depression in the center of the disc tray. No adapter is necessary. 8 cm BD-ROMs cannot be played.

About audio formats
The following audio formats are supported on this player:
- Dolby TrueHD
- Dolby Digital Plus
- Dolby Digital
- DTS-HD Master Audio
- DTS-HD High Resolution Audio
- DTS Digital Surround
- MPEG
- MPEG-2 AAC
- Linear PCM
To enjoy the surround sound of Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio and DTS-HD High Resolution Audio, it is recommended to connect the player to an AV receiver or amplifier compatible with these audio formats using an HDMI cable. After loading a BD containing sound in one of these audio formats, select the audio format on the menu screen.

Playing BDs
- BDs (BDMV) compatible with the formats below can be played.
  - Blu-ray Disc Read-Only (ROM) Format Version 2
  - Blu-ray Disc Recordable (R) Format Version 2 (finalize (close) them before playing them on this player)
  - Blu-ray Disc Rewritable (RE) Format Version 3
This player supports BD-ROM Profile 1 Version 1.1. BONUSVIEW Functions such as playback of secondary video (Picture-in-Picture) and secondary audio can be used. For details on secondary video and secondary audio playback, refer to the disc’s instructions.

BONUSVIEW™
“BONUSVIEW” is trademark of Blu-ray Disc Association.

When a BD-ROM is played, additional data may be stored in the player’s memory area (local storage). If the message indicating low memory (local storage) appears, erase the BDMV data (page 51).
- BDs (BDAV) compatible with the formats below can be played.
  - Blu-ray Disc Recordable (R) Format Version 1
  - Blu-ray Disc Rewritable (RE) Format Version 2
- Dual Layer BDs can be played.
- Video, image and audio files recorded on BDs cannot be played.
- 8 cm BD-ROMs cannot be played.

Playing DVDs
- DVD-Video can be played.
- DVD-R/-RW/+R/+RW discs recorded in the DVD-Video format can be played (finalize them before playing them on this player).
- DVD-R/-RW discs recorded in the VR format (Video Recording format) can be played.

This label indicates playback compatibility with DVD-RW discs recorded in VR format (Video Recording format). However, for discs recorded with a record-only-once encrypted program, playback can only be achieved using a CPRM compatible device.

Manufactured under license under U.S. Patent #: 5,451,942; 5,966,674; 5,974,380; 5,978,762; 6,487,535 & other U.S. and worldwide patents issued & pending. DTS is a registered trademark and the DTS logo, Symbol, DTS-HD and DTS-HD Advanced Digital Out are trademarks of DTS, Inc. © 1996-2007 DTS, Inc. All Rights Reserved.
• DVDs recorded in the AVCHD format can be played (finalize them before playing them on this player).

AVCHD™

“AVCHD” and the “AVCHD” logo are trademarks of Panasonic Corporation and Sony Corporation.

• Video, image and audio files recorded on DVD-R/RW/+R/+RW discs can be played. See Playable files below.

• Dual Layer DVDs can be played. However, non-finalized Dual Layer DVD-R discs recorded in the VR format cannot be played (finalize them before playing them on this player).

• HD DVD, DVD Audio and DVD-RAM discs cannot be played.

❖ About region numbers
Blu-ray Disc Player and BD-ROM or DVD-Video discs are assigned region numbers according to the region in which they are sold. This player’s region numbers are:

• BD-ROM: A
• DVD-Video: 1

Discs not including these numbers cannot be played. Discs playable on this player are as shown below.

• BDs: A (including A) and ALL

• DVDs: 1 (including 1) and ALL

❖ Playing CDs
Audio CDs (CD-DAs and DTS-CDs) can be played.

• Video, image and audio files recorded on CDs can be played. See Playable files below.

• CD-R/RW discs that are not finalized cannot be played.

• SACD, Video CD and Super VCD discs cannot be played.

• Regarding copy protected CDs: This player is designed to conform to the specifications of the Audio CD format. This player does not support the playback or function of discs that do not conform to these specifications.

❖ DualDisc playback
A DualDisc is a new two-sided disc, one side of which contains DVD content — video, audio, etc. — while the other side contains non-DVD content such as digital audio material.

The DVD side of a DualDisc can be played on this player (excluding any DVD-Audio content).

The non-DVD, audio side of the disc is not compatible with this player.

It is possible that when loading or ejecting a DualDisc, the opposite side to that being played will be scratched. Scratched discs may not be playable.

For more detailed information on the DualDisc specification, please refer to the disc manufacturer or disc retailer.

❖ Playing discs created on computers or BD/DVD recorders
It may not be possible to play discs recorded using a computer due to the application settings or computer’s environment settings. Record discs in a format playable on this player. For details, contact the dealer.

It may not be possible to play discs recorded using a computer or a BD/DVD recorder, if burn quality is not good due to characteristics of the disc, scratches, dirt on the disc, dirt on the recorder’s lens, etc.

❖ Supported video file formats
• DivX
DivX is a media technology created by DivX, Inc. DivX media files contain not only video but also advanced media features like subtitles and alternate audiotacks, etc.

Conform to the size under 720 x 480 pixels.

DivX files encoded with GMC/Qpel option cannot be played.

Only audio signals with MP3 or Dolby Digital (AC3) format are output.

Note that files other than the ones containing DivX video cannot be played, even if they have the extension “.avi”.

Official DivX® Certified product.

Plays all versions of DivX® video (including DivX® 6) with standard playback of DivX® media files.

DivX, DivX Certified, and associated logos are trademarks of DivX, Inc. and are used under license.
Note

- DivX VOD files are protected by DRM. They can only be played on registered devices.
  - You may be requested by the file distributor to input the DivX VOD registration code for authorization of the player in order to play DivX VOD files. This player’s DivX VOD registration code can be checked at Initial Setup → Playback → DivX VOD → Registration Code (page 45).
  - DivX VOD files for which the player’s DivX VOD registration code is not authorized cannot be played (Authorization Error is displayed).
  - The number of views is restricted for some DivX VOD files. When such files are played on this player, the remaining number of views is displayed. Files for which the remaining number of views has reached 0 cannot be played (Rental Expired is displayed). Files for which the number of views is not restricted can be played as many times as you like (the remaining number of views is not displayed).

- Supported image file formats
  - JPEG
    File format: JFIF Ver1.02/Exif Ver.2.2
    Resolution: Up to 4096 x 4096 pixels
    Only baseline JPEG files are supported.

- Supported audio file formats
  - Windows Media™ Audio 9 (WMA9)
    Bit rate: Up to 192 kbps
    Sampling frequencies: 22.05 kHz, 32 kHz, 44.1 kHz and 48 kHz
    Windows Media is either a registered trademark or trademark of Microsoft Corporation in the United States and/or other countries.
    This product includes technology owned by Microsoft Corporation and cannot be used or distributed without a license from Microsoft Licensing, Inc.
  - MPEG-1 Audio Layer 3 (MP3)
    Bit rate: Up to 320 kbps
    Sampling frequencies: 8 kHz, 11.025 kHz, 12 kHz, 16 kHz, 22.05 kHz, 24 kHz, 32 kHz, 44.1 kHz and 48 kHz

- Playable file extensions
  - Video files
    .divx and .avi
  - Image files
    .jpg and .jpeg
  - Audio files
    .wma and .mp3

Part Names and Functions

Remote Control

1  ⊘ STANDBY/ON
   Press to turn the power on and off.

2  TV CONTROL
   Your TV can be controlled using the player’s remote control (page 23).
   ⊘ – Press to turn the TV’s power on and off.
   INPUT SELECT – Press to switch the TV’s input.
   CH +/- – Press to select the TV channel.
   VOL +/- – Press to adjust the volume.

3  AUDIO
   Press to switch the audio streams/channels (page 30).

4  SUBTITLE
   Press to switch the subtitles (page 29).
Number buttons – Use these to select and play the title/chapter/track you want to view or listen to and to select items from menus.

CLEAR – Press to clear the numeric number, etc.

ENTER – Press to execute the selected item or enter a setting that has been changed, etc.

SECONDARY AUDIO – When playing a BD-ROM on which secondary audio is recorded, press to switch to the secondary audio (page 30).

SECONDARY VIDEO – When playing a BD-ROM on which secondary video (Picture-in-Picture) is recorded, press to switch to the secondary video (page 30).

VIDEO SELECT
Press to switch the video output signal to be viewed between the one output from the HDMI OUT (MAIN) terminal, the HDMI OUT (SUB) terminal and an analog output terminal (COMPONENT VIDEO, S-VIDEO or VIDEO output terminals) (page 25).

HOME MEDIA GALLERY
Press to display/hide the Home Media Gallery screen (page 35).

TOP MENU
Press to display the top menu of the BD-ROM or DVD-Video.

↑/↓/←/→ – Use to select items, change settings and move the cursor.

ENTER – Press to execute the selected item or enter a setting that has been changed, etc.

HOME MENU
Press to display/hide the Home Menu.

PLAY – Press to start playback.

PAUSE – Press to pause playback. Press again to restart playback.

STOP – Press to stop playback.

PREV/NEXT – Press to skip to the beginning of the previous/next title/chapter/track/file (page 28).

– Press during playback to start reverse scanning. While playback is paused, press for step reverse playback. Press and hold while playback is paused for reverse slow motion playback (pages 27 and 28).

– Press during playback to start forward scanning. While playback is paused, press for step forward playback. Press and hold while playback is paused for forward slow motion playback (pages 27 and 28).

RED/GREEN/BLUE/YELLOW
Use these to navigate BD-ROM menus.

VIDEO ADJUST
Press to display/hide the Video Adjust menu (page 40).

OPEN/CLOSE
Press to open and close the disc tray.

FL DIMMER
Press to switch the brightness of the front panel display. The FL OFF indicator lights when Off is selected.

ANGLE
Press to switch the BD-ROM or DVD-Video camera angles (page 29).

OUTPUT RESOLUTION
Use these to switch the output video resolution from the HDMI OUT or COMPONENT VIDEO output terminals (page 25).
Front Panel

1 ♻ STANDBY/ON
Press to turn the power on and off.

2 PURE AUDIO – High quality audio signals with any extraneous noise eliminated are output (page 53).

3 Front panel display

4 Remote control sensor
Point the remote control to this, then operate it within approximately 23 feet.

The player may have trouble capturing remote control signals if there is a fluorescent light nearby. If this happens, move the player away from the fluorescent light.

5 ▲ OPEN/CLOSE – Press to open and close the disc tray.

6 ➤ Press to start playback.

7 HDMI indicator
This lights when an HDMI-compatible device is connected to an HDMI OUT (MAIN) or HDMI OUT (SUB) terminal (page 15).

8 FL OFF indicator
This lights when Off is selected with FL DIMMER.

9 Disc tray

10 HD indicator
This lights when an HDMI cable is connected and video signals are being output with a resolution of 1080/24p, 1080/60i, 1080/60p or 720/60p. It also lights when a component video cable is connected and video signals are being output with a resolution of 1080/60i or 720/60p.

11 PURE AUDIO indicator
This lights when PURE AUDIO is set to Mode 1 or Mode 2 (page 53).

Front Panel Display

1 ➤ Lights during playback.

2 II Lights when playback is paused.

3 LAN Lights when there is an active local area network (LAN) connection (page 20).

4 PQLS Lights when the PQLS function is activated (page 16).

5 Character display
Displays the title/chapter/track number, elapsed time, etc.

6 24HZ/50HZ/60HZ
The frequency of the video frame or field being output lights.

7 CONTROL
Lights when the KURO LINK function is activated (page 16).

8 HDMI 1 2
HDMI 1 lights when VIDEO SELECT is pressed and the HDMI OUT (MAIN) terminal is selected. HDMI 2 lights when the HDMI OUT (SUB) terminal is selected (page 25).
Rear Panel

1 AUDIO OUT (7.1 ch) terminals
Connect with the multi-channel (7.1- or 5.1-channel) audio input terminals on an AV receiver or amplifier, etc. (page 19). To connect to the 2-channel audio input terminals on a TV, etc., connect to FRONT (L/R).

2 AC IN
Connect the power cord here.

3 VIDEO OUT terminals
  VIDEO – Connect with the video input terminal on a TV, AV receiver or amplifier, etc. (page 18).
  S-VIDEO – Connect with the S-Video input terminal on a TV, AV receiver or amplifier, etc. (page 18).
  COMPONENT VIDEO (BNC jacks) – Connect with the component video input terminals on a TV, AV receiver or amplifier, etc. (page 18).

4 RS-232C terminal
This terminal is not used.

5 HDMI OUT terminals
  MAIN (KURO LINK) – Connect with an HDMI-compatible TV, AV receiver or amplifier, etc. (page 16).
  SUB – Connect with an HDMI-compatible TV, projector, etc. (page 16). This terminal outputs linear PCM 2-channel audio signals. Do not connect an AV receiver or amplifier to this terminal. Also note that the KURO LINK function will not work for devices connected to this terminal (page 16).

6 DIGITAL OUT (COAXIAL/OPTICAL) terminals
Connect with the digital audio input terminal on an AV receiver or amplifier, etc. (page 19).

7 LAN (100) terminal
Ethernet port for 100BASE-TX (100 Mbps) network connection (page 20).

8 CONTROL IN terminal
Use to control this player from the remote sensor of another Pioneer component with a CONTROL OUT terminal and bearing the mark. Connect the CONTROL OUT terminal of the other component to CONTROL IN on this player using a mini-plug cord (commercially available).

Caution
- Be sure to connect cables for outputting the audio and video signals.
- When connected via System Control, point the remote control toward the connected component (such as an AV receiver or amplifier). The remote will not work correctly when pointed at this player.
- You cannot use System Control with components that do not have a System Control terminal or with components manufactured by companies other than Pioneer.
Chapter 2
Connecting up

Be sure to turn off the power and unplug the power cord from the power outlet whenever making or changing connections.

After connecting, make the settings at the Setup Navigator menu according to the type of cable connected (page 21).

Also refer to the operating instructions of the device being connected.

Connecting using an HDMI cable

The audio and video signals can be transferred to HDMI-compatible devices as digital signals with no loss of sound or video quality.

Note

- Make the settings at the Setup Navigator menu according to connected HDMI-compatible device (page 21).
- The HDMI indicator on the player’s front panel lights when an HDMI-compatible device is connected to an HDMI OUT (MAIN) or HDMI OUT (SUB) terminal (page 13).
- 1080p video signals may not be output, depending on the HDMI cable being used.

About HDMI

This player incorporates High-Definition Multimedia Interface (HDMI™) technology.

HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

The player supports Deep Color.

The conventional players can transmit a video signal with 8 bit color depth in the YCrCb 4:2:2 or RGB formats, the players supporting Deep Color can transmit a video signal with a color bit depth of greater than 8 bits per color component. Subtle color gradations can be reproduced when connected to a TV that supports Deep Color.

This product is compatible with “x.v.Color” that have the capability to realize a wide-gamut color space based on the xYCC specifications.

Playing video signals conforming to “xYCC” standards on this player when connected to an “x.v.Color”-compatible TV, etc., expands color reproduction capabilities, allowing natural colors to be reproduced more faithfully than ever.

“x.v.Color” is a promotion name given to the products that have the capability to realize a wide-gamut color space based on the international standard specifications defined as xYCC.

Audio signals that can be transferred with the player’s HDMI OUT (MAIN) terminal

- Dolby TrueHD
- Dolby Digital Plus
- Dolby Digital
- DTS-HD Master Audio
- DTS-HD High Resolution Audio
- DTS Digital Surround
- MPEG-2 AAC
- Linear PCM

Linear PCM audio signals meeting the following conditions can be output:
- Sampling frequency: 32 kHz to 192 kHz
- Number of channels: Up to 8 (up to 6 for a 192 kHz sampling frequency)

For details, see About the audio output settings on page 54.

About the HDMI High Speed Transmission

This player outputs 1080/60p and Deep Color video signals. If your TV supports 1080/60p or Deep Color signals, use a High Speed HDMI™ cable in order to take advantage of the maximum performance the player and TV can offer. Also set HDMI High Speed Transmission to On. HDMI High Speed Transmission can be set separately for the HDMI OUT (MAIN) and HDMI OUT (SUB) terminals (page 45).

High Speed HDMI™ cables are tested to carry signals up to 1080p, 1080/24p, 1080/60i, 1080/60p and 720/60p video signals that are capable of Deep Color can also be carried.

Note

- Set HDMI High Speed Transmission to Off when using an HDMI cable other than a High Speed HDMI™ cable (a Standard HDMI™ cable).
- The following restrictions apply when HDMI High Speed Transmission is set to Off:
  - Deep Color signals are not output.
  - If the output video resolution is set to Auto, the signals are output with a resolution of 1080/60i when TV’s preferred resolution is 1080/60p.
  - If the output video resolution is set to 480i or 480p when HDMI High Speed Transmission is set to Off for the HDMI OUT (MAIN) terminal, the Dolby TrueHD and DTS-HD Master Audio audio signals are output as DTS Digital Surround or linear PCM signals. 96 kHz or 192 kHz multi-channel audio signals are output as linear PCM 2-channel audio signals (page 54).
  - When an HDMI cable with a built-in equalizer is connected, it may not operate properly.
When connected to a DVI device
- It is not possible to connect DVI devices (computer displays, for example) that are not compatible with HDCP. HDCP is a specification to protect audiovisual content across the DVI/HDMI interface.
- No audio signals are output. Connect using an audio cable, etc.
- This player is designed for connection with HDMI-compatible devices. When connected to a DVI device, it may not operate properly depending on the DVI device.

About KURO LINK function
When the player is connected to a Pioneer Flat Panel TV or AV system (AV receiver or amplifier, etc.) supporting the KURO LINK function, it can be operated from the Flat Panel TV.
The input switches automatically on the Flat Panel TV and AV system (AV receiver or amplifier, etc.) when playback is started on the player or the Home Menu or the Home Media Gallery is displayed. When the input is switched, the playback picture, the Home Menu or the Home Media Gallery appears on the Flat Panel TV (Auto-select function). If the Flat Panel TV’s power is being turned off at this time, it may turn on automatically (Simultaneous power function). When the language information from a connected Flat Panel TV is received, you can have the player’s on-screen display language change automatically to that of the Flat Panel TV (Unified language function). This function is available only when playback is stopped and the menu screen is not displayed.
Also refer to the operating instructions of the Flat Panel TV and AV system (AV receiver or amplifier, etc.).

Caution
- To use the KURO LINK function, connect the Flat Panel TV and AV system (AV receiver or amplifier, etc.) to the HDMI OUT (MAIN) terminal. The KURO LINK function will not work if connected to the HDMI OUT (SUB) terminal.

To use the KURO LINK function
- The KURO LINK function operates when KURO LINK is set to On for all devices connected to the HDMI OUT (MAIN) terminal. Once connections and the settings of all the devices are finished, be sure to check that the player’s picture is output to the Flat Panel TV. (Also check after changing the connected devices and reconnecting HDMI cables.) The KURO LINK function may not operate properly if the player’s picture is not properly output to the Flat Panel TV.
- Use High Speed HDMI™ cables when using the KURO LINK function. The KURO LINK function may not operate properly if other HDMI cables are used.
- For some models, the KURO LINK function may be referred to as “HDMI Control”.

About PQLS function
The PQLS (Precision Quartz Lock System) is a transfer control technology using the KURO LINK function. The player’s output signals are controlled from the AV receiver or amplifier to achieve high quality sound playback using the quartz oscillator of AV receiver or amplifier. This eliminates the influence of the jitter generated upon transfer which can adversely affect the sound quality.

- The PQLS function is only activated when a Pioneer AV receiver or amplifier compatible with the PQLS function is connected directly to the player’s HDMI OUT (MAIN) terminal using an HDMI cable.
- The PQLS function is only activated when playing an audio CD (CD-DA).
- The PQLS function is activated when the player is set as follows (page 45):
  - KURO LINK: On
  - PQLS: Auto
- Also refer to the operating instructions of AV receiver or amplifier.

Caution
- If the output video resolution is switched when playing an audio CD (CD-DA), the PQLS function does not work. This function will work again after playback stops and restarts.

Connecting a TV
Connect a TV to the HDMI OUT (MAIN) terminal. Another TV or a projector can be connected to HDMI OUT (SUB). See Connecting an AV receiver or amplifier on page 17 to connect an AV receiver or amplifier using an HDMI cable.

Caution
- Hold the plug when connecting and disconnecting the cable.
- Placing a load on the plug could result in faulty contact and no video signals being output.
- The KURO LINK function will not work if connected to the HDMI OUT (SUB) terminal. To use the KURO LINK function, connect the TV to the HDMI OUT (MAIN) terminal.
Connecting an AV receiver or amplifier

Connect to an AV receiver or amplifier in order to enjoy the surround sound of Dolby TrueHD, Dolby Digital Plus, Dolby Digital, DTS-HD Master Audio, DTS-HD High Resolution Audio or DTS Digital Surround. For instructions on connecting the TV and speakers to the AV receiver or amplifier, refer to the operating instructions of AV receiver or amplifier.

**Caution**
- Hold the plug when connecting and disconnecting the cable.
- Placing a load on the plug could result in faulty contact and no video signals being output.
- To use the KURO LINK function, connect the AV receiver or amplifier to the HDMI OUT (MAIN) terminal. The KURO LINK function will not work if connected to the HDMI OUT (SUB) terminal.
- The HDMI OUT (SUB) terminal outputs linear PCM 2-channel audio signals. Be sure to connect the AV receiver or amplifier to the HDMI OUT (MAIN) terminal.

**Note**
- When DTS-HD Master Audio and DTS-HD High Resolution Audio signals are output as linear PCM signals, the DTS Digital Surround signals are converted to linear PCM for output (page 54).
- See Stretching widescreen pictures vertically (Anamorphic Zoom) on page 52 for instructions on viewing 2.35:1 movies with a front projector equipped with an anamorphic lens.

**Achieving better sound quality**

When connecting one TV (or projector) and AV amplifier to the player, connect in such a way that the video and audio signals are transferred separately in order to achieve higher quality sound.

**Note**
- Using the Pure Audio function provides high quality sound with extraneous noise eliminated (page 53).
Connecting video and audio cables

Note
- Make the settings in the Setup Navigator menu according to the type of cable connected (page 21).
- To output video signals from this player, connect using one of the following (not including when connected using an HDMI cable): a component video cable, an S-Video cable or a video cable.

Connecting a TV using a component video cable and an audio cable

Note
- When connected to the TV using a component video cable, video signals are not output with a resolution of 1080/24p or 1080/60p.
- Depending on the output video resolution setting, the picture may not be output (page 25).

Caution
- Connect the player’s video output directly to your TV. This player supports analog copy protection technology. Therefore the picture may not be displayed properly if connected to a TV via a DVD recorder/video deck or when playing the player’s output material that is recorded by a DVD recorder/video deck. Furthermore, the picture may not be displayed properly due to the copy protection when the player is connected to a TV with a built-in video deck. For details, contact the manufacturer of your TV.

Note
- Video signals are output with a resolution of 480/60i when connected using a video cable or an S-Video cable.
Connecting an AV receiver or amplifier using audio cables

When connecting to a 7.1-channel compatible AV receiver or amplifier – Connect using 4 audio cables (diagram below).

When connecting to a 5.1-channel compatible AV receiver or amplifier – Connect using 3 audio cables (do not connect to the surround back left and right terminals).

- After connecting, set Audio Output Mode to Multi-channel (page 45).

Connecting an AV receiver or amplifier using a digital audio cable

Connect either an optical digital audio cable or a coaxial digital audio cable.

- Dolby TrueHD signals are output as Dolby Digital signals or signals converted from Dolby TrueHD to linear PCM (page 54).
- Dolby Digital Plus signals are output as Dolby Digital signals or signals converted from Dolby Digital to linear PCM (page 54).
- DTS-HD Master Audio and DTS-HD High Resolution Audio signals are output as the DTS Digital Surround signals or signals converted from DTS Digital Surround to linear PCM (page 54).

Note

- For DTS-HD Master Audio and DTS-HD High Resolution Audio signals, the DTS Digital Surround signals are converted to linear PCM for output (page 54).
Network connection

The player’s software can be updated over the Internet (page 52). Connect an Ethernet hub (or a router with hub functionality) that is connected to the Internet to the player.

Be sure to use a 100BASE-TX compatible Ethernet hub or router.

Connecting via an Ethernet hub

If you already operate one or more PCs on a local area network, you can integrate this player by connecting it to the Ethernet hub using a LAN cable.

Connecting the power cord

Connect the power cord after all the connections between devices have been completed.

Note

- If there is an available DHCP server in your local area network, the IP address is obtained automatically. Otherwise, set IP address manually (page 50).
- For some Internet service providers, you may have to set the individual network configuration manually. In this case, see page 50.
- Pioneer is not responsible for any malfunction of the player due to communication error/ malfunctions associated with your network connection and/or your connected equipment. Please contact your Internet service provider or network device manufacturer.
Chapter 3
Getting Started

Making settings using the Setup Navigator menu

Be sure to perform these settings when using the player for the first time.

Caution

• Before turning on the power, check that the connections between the player and other devices are correct. Also, turn on the power of the devices connected to the player before turning on the player’s power.

1 Turn on the TV’s power and switch the input.

See the TV’s operating instructions for instructions on operating the TV.

If TV Control is set, the TV can be operated with the player’s remote control (page 23).

2 Turn on the player’s power.

Press the STANDBY/ON button.

Check that the Setup Navigator menu is displayed.

If the Setup Navigator menu is not displayed

Press HOME MENU to display the Home Menu, select Initial Setup → Setup Navigator → Start, then press ENTER.

3 Select the OSD language.

Use the UP/DOWN buttons to select, then press ENTER.

When a Pioneer Flat Panel TV that is compatible with KURO LINK is connected to this player’s HDMI OUT (MAIN) terminal, language settings are imported from the Pioneer Flat Panel TV’s language settings before Setup Navigator begins.

4 Select and set the video and audio output terminals.

Select the actually connected video and audio output terminals.

Use the UP/DOWN buttons to select, then press ENTER.

<table>
<thead>
<tr>
<th>Setting item</th>
<th>Output terminal name</th>
</tr>
</thead>
<tbody>
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<td>HDMI MAIN</td>
<td>HDMI OUT (MAIN)</td>
</tr>
<tr>
<td>HDMI SUB</td>
<td>HDMI OUT (SUB)</td>
</tr>
<tr>
<td>COMPONENT/ S-VIDEO</td>
<td>VIDEO OUT COMPONENT VIDEO S-VIDEO VIDEO</td>
</tr>
<tr>
<td>DIGITAL AUDIO</td>
<td>DIGITAL OUT COAXIAL OPTICAL</td>
</tr>
<tr>
<td>ANALOG AUDIO</td>
<td>AUDIO OUT (7.1 ch)</td>
</tr>
</tbody>
</table>

Caution

• The video and audio signals output from the set output terminals are output synchronously (lip synchronization).

• When HDMI MAIN or DIGITAL AUDIO is selected at Audio, linear PCM audio signals (2 channels) are output from all terminals other than the ones selected at Audio.

• When ANALOG AUDIO is selected at Audio, no audio signals are output from the HDMI OUT or DIGITAL OUT terminals.

• The HDMI OUT (SUB) terminal outputs linear PCM 2-channel audio signals. HDMI SUB cannot be selected for Audio. To listen to the device connected to the HDMI OUT (SUB) terminal, select HDMI MAIN.
For steps 5 to 8, the step to which you should proceed depends on the combination of the Video and Audio settings.

5 Select and set the HDMI High Speed Transmission setting for the HDMI OUT (MAIN) terminal.
Use ‹› to select, then press ENTER.

When HDMI High Speed Transmission for the HDMI OUT (MAIN) terminal is set to On, use a High Speed HDMI™ cable. The picture and sound may not be output properly if any other HDMI cable (for example a standard HDMI™ cable) or an HDMI cable with built-in equalizer is used.

6 Select and set the HDMI High Speed Transmission setting for the HDMI OUT (SUB) terminal.
Use ‹› to select, then press ENTER.

When HDMI High Speed Transmission for the HDMI OUT (SUB) terminal is set to On, use a High Speed HDMI™ cable. The picture and sound may not be output properly if any other HDMI cable (for example a standard HDMI™ cable) or an HDMI cable with built-in equalizer is used.

7 Select the output video resolution from the COMPONENT VIDEO output terminals.
Use ‹› to select, then press ENTER.

For details on the resolution settings, see Switching the output video resolution on page 25.

8 Select the aspect ratio of your TV.
Use ‹› to select, then press ENTER.

9 Check the settings.
Select Proceed, then press ENTER.

10 Output test tones.
Use ‹› to select Yes, then press ENTER.

Caution
- The screen in step 11 and test tones are output simultaneously according to the settings in steps 4 to 8. Lower the volume of the devices connected with the player.
To redo the settings from the start, select **Go Back**.
Depending on the output terminal setting of step 4 or the HDMI cable being used, it may happen that no picture and/or sound is output. If this happens, the setup returns to step 4. If there is no operation for over 30 seconds. Once the setup returns to step 4, redo the settings according to the connected devices and the HDMI cable being used.

**Operating the TV with the player’s remote control**

When the manufacturer code for your brand of TV is set on the player’s remote control, the TV can be operated using the player’s remote control.

**Caution**
- For some models it may not be possible to operate the TV with the player’s remote control, even for TVs of brands listed on the manufacturer code list.
- The setting may be restored to the default after the batteries are replaced. If this happens, reset it.

1. **Input the 2-digit manufacturer code.**
Press the number buttons (0 to 9) to input the code while pressing **TV CONTROL**. 

2. **Check that the TV can be operated.**

**Manufacturer Code(s)**

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<th>Code(s)</th>
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**Note**
- The factory setting is **PIONEER 00**.
- If you make a mistake when inputting the code, release **TV CONTROL** and then start over from the beginning.
- When there are multiple codes for a manufacturer, try inputting them in the indicated order until the TV can be operated.
Using the TOOLS menu

Various functions can be called out according to the player’s operating status.

1 Display the TOOLS menu.
   Press \( \text{
\text{TOOLS}} \).

2 Select and set the item.
   Use \( \text{\uparrow}/\downarrow \) to select, then press \( \text{ENTER} \).

---

**Note**
- Items that cannot be changed are displayed in gray. The items that can be selected depend on the player’s status.

- **To change the setting of the selected item**
  Use \( \text{\leftarrow}/\rightarrow \) to change.

- **To close the TOOLS menu**
  Press \( \text{\MODULE{RETURN}} \).

---

**TOOLS menu item list**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Play from Beginning</td>
<td>Play the selected title, track or file from the start.</td>
</tr>
<tr>
<td>Slideshow</td>
<td>Play a slideshow of the image files on the selected disc or folder.</td>
</tr>
<tr>
<td>Play Mode</td>
<td>Display the Play Mode screen (page 31).</td>
</tr>
<tr>
<td>Video Adjust</td>
<td>Display the picture quality adjustment screen (page 40).</td>
</tr>
<tr>
<td>Secondary Video</td>
<td>Switch the BD-ROM’s secondary video (Picture-in-Picture) (page 30).</td>
</tr>
<tr>
<td>Subtitle</td>
<td>Switch the subtitles (page 29).</td>
</tr>
<tr>
<td>Angle</td>
<td>Switch the BD-ROM/DVD-Video disc’s camera angles (page 29).</td>
</tr>
<tr>
<td>Rotate</td>
<td>Rotate the image while playing a slideshow (page 37).</td>
</tr>
<tr>
<td>Anamorphic Zoom</td>
<td>Use to view 2.35:1 movies with a front projector equipped with an anamorphic lens (page 52).</td>
</tr>
<tr>
<td>Audio Adjust</td>
<td>Display the audio adjustment menu (page 41).</td>
</tr>
<tr>
<td>Audio</td>
<td>Switch the audio streams/channels (page 30).</td>
</tr>
<tr>
<td>Secondary Audio</td>
<td>Switch the BD-ROM’s secondary audio streams/channels (page 30).</td>
</tr>
<tr>
<td>Now Playing</td>
<td>Display the playback screen of the currently playing track or file.</td>
</tr>
<tr>
<td>Original/Play List</td>
<td>Switch the DVD-R/RW’s (VR format) list screen between the original list and the playlist.</td>
</tr>
<tr>
<td>Add to HMG Playlist</td>
<td>Add the selected track or file to the HMG Playlist (page 38).</td>
</tr>
<tr>
<td>Delete from HMG Playlist</td>
<td>Delete the selected track or file from the HMG Playlist (page 39).</td>
</tr>
<tr>
<td>Output Video Resolution</td>
<td>Switch the output video resolution from the various output terminals (page 25).</td>
</tr>
</tbody>
</table>
Switching the video output terminal to be viewed

Use the procedure below to switch the video output signal to be viewed between the one output from the HDMI OUT (MAIN) terminal, the HDMI OUT (SUB) terminal and an analog output terminal (COMPONENT VIDEO, S-VIDEO or VIDEO output terminals).

The settings below are valid for the selected video output terminal.
- The output video resolution (below)
- The Lip Sync function (page 42)
- The Pure Audio function (page 53)
- Press VIDEO SELECT.

- The current video output terminal is displayed on the TV screen and on the player’s front panel display.
  To switch the video output terminals, press VIDEO SELECT again or press †/‡.

Example: Output video resolution setting of selected video output terminal

<table>
<thead>
<tr>
<th>Video Output Terminal</th>
<th>HDMI MAIN</th>
<th>Source Direct</th>
</tr>
</thead>
</table>

Caution
- The picture may not be displayed for a while when the video output terminal is switched.
- Depending on the player’s settings, the picture of a TV connected to a terminal other than the selected video output terminal may not be properly displayed.
- When Pure Audio is set to Mode 2, no picture will be output from any video output terminal other than the selected one (page 53).

Switching the output video resolution

Use the procedure below to switch the output video resolution from the various video output terminals.

- Press OUTPUT RESOLUTION.

- The current output video resolution setting is displayed on the TV screen and on the player’s front panel display.
  To switch the output video resolution, press OUTPUT RESOLUTION again or press †/‡.

- The output video resolution depends on the video output terminal. (page 26)

Example:

<table>
<thead>
<tr>
<th>Output Video Resolution</th>
<th>Source :</th>
<th>Current Output :</th>
</tr>
</thead>
<tbody>
<tr>
<td>1080/60i</td>
<td>Auto</td>
<td>1080/60i</td>
</tr>
</tbody>
</table>

- The output video resolution setting can also be switched by pressing RESOLUTION on the player’s front panel.
- The output video resolution setting can also be switched by selecting Output Video Resolution from the TOOLS menu.

Caution
- On some devices (TV, AV receiver or amplifier, etc.), the video or audio may not be output properly when the resolution is switched. If this happens, use OUTPUT RESOLUTION to set a resolution at which the video and audio are properly output.
- When video signals are being output with a resolution of 1080/24p, 1080/60i, 1080/60p or 720/60p from the HDMI OUT terminals or COMPONENT VIDEO output terminals, the picture may be output with an aspect ratio of 16:9, even if the TV Aspect Ratio is set to 4:3 (Standard).
- The picture may not be displayed for a while when the resolution is switched.

About Film material

The film material is a video signal with a frame rate of 24 frames/second. For example, these materials include 1080/24p, 720/24p, etc.

Example:

Output video resolution

<table>
<thead>
<tr>
<th>Output Video Resolution</th>
<th>Source :</th>
<th>Current Output :</th>
</tr>
</thead>
<tbody>
<tr>
<td>1080/24p</td>
<td>Auto</td>
<td>1080/24p</td>
</tr>
</tbody>
</table>

To output film material

To output 1080/24p film material from HDMI OUT terminals, set the output video resolution to either Auto, 1080/24p or Source Direct.

Caution
- 1080/24p signals can only be output from the HDMI OUT terminals. They cannot be output from other video terminals.
- When Auto is selected, the picture is output at 60 frames/second if your TV is not compatible with 1080/24p signals.
- When 1080/24p or Source Direct is selected, the signals are output as such, even if your TV is not compatible with 1080/24p signals. If the picture is not displayed properly, use OUTPUT RESOLUTION to set an output video resolution at which the video and audio signals are properly output.
- Even if Auto, 1080/24p or Source Direct is selected, 720/24p video signals are output at 60 frames/second.
- When 1080/24p is selected, the motion may be unnatural or the picture may not be clear, depending on the source. In this case, set the resolution to something other than 1080/24p.
### About the output video resolution

The resolution setting and the resolution of the picture that is actually output differ for the different terminals. See the table below.

<table>
<thead>
<tr>
<th>Output video resolution setting</th>
<th>HDMI MAIN, HDMI SUB</th>
<th>COMPONENT/S/VIDEO</th>
<th>S-VIDEO/VIDEO output terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HDMI OUT terminals</td>
<td>COMPONENT VIDEO output terminals</td>
<td>HDMI OUT terminals</td>
</tr>
<tr>
<td>Auto３</td>
<td>Resolution preferred by TV４,5</td>
<td>480/60i</td>
<td>—</td>
</tr>
<tr>
<td>480i</td>
<td>480/60i</td>
<td>480/60i</td>
<td>480/60i</td>
</tr>
<tr>
<td>480p</td>
<td>480/60p</td>
<td>480/60p</td>
<td>480/60p</td>
</tr>
<tr>
<td>720p</td>
<td>720/60p</td>
<td>720/60p</td>
<td>720/60p</td>
</tr>
<tr>
<td>1080i</td>
<td>1080/60i</td>
<td>1080/60i</td>
<td>1080/60i</td>
</tr>
<tr>
<td>1080p³</td>
<td>1080/60p³</td>
<td>Resolution recorded on disc５,8,10</td>
<td>Resolution recorded on disc５,10,11</td>
</tr>
<tr>
<td>1080/24p³</td>
<td>1080/24p³</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

1. The video output terminal set at **Video** in the **Setup Navigator** (page 21) or the video output terminal selected with **VIDEO SELECT** (page 25).
2. Depending on the BD, the pictures may not be output.
3. This cannot be selected when the video output terminal is set to **COMPONENT/S/VIDEO**.
4. The pictures are output with the preferred output resolution of the device (TV, AV receiver or amplifier, etc.) connected to the selected video output terminal. However, if devices are connected to both **HDMI MAIN** and **HDMI SUB**, the pictures are output with a resolution which both devices support. If the devices connected to **HDMI MAIN** and **HDMI SUB** support different resolutions, turn off the power of the device not being used so that the picture is output with the optimum resolution for the device to be viewed.
5. For details on the output of film material (1080/24p or 720/24p video signals), see **To output film material** on page 25.
6. DVD-Video or DVD VR format may be output at 480/60p. BDs format may be output at 480/60p. At this time, the video signals from the **HDMI OUT** terminals are output at the same resolution of 480/60p as the video signals output from the **COMPONENT VIDEO** terminals.
7. Depending on the connected HDMI cable, the video signals may not be output.
8. Depending on the connected TV, the video signals may not be output.
9. Sources recorded in 480/60p, 720/60p or 720/24p are output at 1080/60i.
10. 720/24p film material is output at 720/60p.
11. 1080/24p film material is output at 1080/60i.
Chapter 4
Playback

Playing discs or files

This section describes the player's main operations.
For the types of discs that can be played, see Playable discs on page 8. For the types of files that can be played, see Playable files on page 10. Video, image and audio files recorded on discs are played with Home Media Gallery (page 35).

1 Press ○ STANDBY/ON to turn on the power.
Turn the TV's power on and switch its input beforehand.

2 Press ▲ OPEN/CLOSE to open the disc tray and load the disc.

Note
• Load the disc with the printed side facing up.
• Several dozen seconds are required to read the disc. Once reading is completed, the type of disc is displayed on the player's front panel display.

3 Press ► PLAY to play the disc.

To pause, press ◄ PAUSE during playback.
To stop, press ■ STOP during playback.

Note
• Some discs start playing automatically when the disc tray is closed.
• DVD-Video discs have parental lock features. Input the password registered in the player’s settings to unlock the parental lock. For details, see page 49.
• For some BD-R/-RE, playback protection is set for the disc or titles. Input the code number set for the disc to unlock the protection.
• Check Troubleshooting on page 65 if video or audio signals are not being output properly.

If the disc menu is displayed
For some discs, the disc menu is displayed automatically when playback starts. The contents of the disc menu and the way to operate differ from disc to disc.

Resuming playback from where it was stopped (resume playback function)
• When ■ STOP is pressed during playback, the point at which the disc stopped is stored in the memory. When ► PLAY is pressed, playback resumes from that point.
• For audio CDs and audio files, playback starts from the beginning of the track/file that was playing.
• If the stop mode was set while playing a slideshow of image files, playback starts from the image file last displayed.
• To cancel the resume playback function, press ■ STOP while playback is stopped.

Note
• The resume playback function is canceled automatically in the following cases:
  – When the disc tray is opened.
  – When the file list window is switched.
  – When the power is turned off. (For BDs and DVDs this does not cancel the resume playback function.)
• The resume playback function cannot be used for some discs.

Forward and reverse scanning

1 During playback, press ◄ or ►.

• The scanning speed switches each time the button is pressed. The speed steps depend on the disc or file (the speed is displayed on the TV screen).
• Forward or reverse scanning is also possible by holding the button down. Normal playback resumes when the button is released.

Note
• No sound is output when scanning BDs, DVDs and video files.
• Sound is output when scanning audio CDs and audio files.
• For some discs, normal playback resumes automatically when the chapter switches.
To resume normal playback

Press ➤ PLAY.

Playing specific titles, chapters or tracks

Input the number of the title, chapter or track you want to play.
- Use the number buttons (0 to 9) to input the number, then press ENTER.

Note
- For some discs, it is not possible to specify and play titles, chapters or tracks.
- Press CLEAR to clear the values you have input.

Skipping content

Press ◄ PREV or ► NEXT.

- When ► NEXT is pressed, the playback skips ahead to the beginning of the next title/chapter/track/file.
- When ◄ PREV is pressed, the playback skips back to the beginning of the currently playing title/chapter/track/file. Press twice to skip back to the beginning of the previous title/chapter/track/file.

Note
- There are some discs for which skipping is not possible.

Playing in slow motion

While playback is paused, press and hold ◄◄/◄ or ►►/►►.

- The speed switches each time the button is pressed (the speed is displayed on the TV screen). The speed steps depend on the disc or file.

Note
- It is not possible to switch the speed during reverse slow motion playback.
- No sound is output during slow motion playback.
- For some discs, normal playback resumes automatically when the chapter switches.
- Reverse slow motion playback is not possible with video files.
- There are some discs for which slow motion playback is not possible.

To resume normal playback

Press ➤ PLAY.

Step forward and step reverse

While playback is paused, press ◄◄/◄ or ►►/►►.

- The picture moves a step forward or reverse each time the button is pressed.

Note
- For some discs, normal playback resumes automatically when the chapter switches.
- Reverse step playback is not possible with video files.
- There are some discs for which step forward/reverse playback is not possible.

To resume normal playback

Press ➤ PLAY.
Switching the camera angles

For BD-ROM and DVD-Video discs on which multiple angles are recorded, the angles can be switched during playback.

During playback, press ANGLE.

- The current angle and total number of recorded angles are displayed on the TV screen and on the player’s front panel display.

To switch the angles, press ANGLE again or press \(\uparrow\) / \(\downarrow\).

Example:

<table>
<thead>
<tr>
<th>Angle</th>
<th>1/4</th>
</tr>
</thead>
</table>

- The angles can also be switched by selecting Angle from the TOOLS menu.

Note

- For some discs, the angle can also be switched on the menu screen.
- Angle mark \(\bigcirc\) is displayed for scenes at which multiple angles are recorded if Angle/Secondary Indicator is set to On (page 45).

Switching the subtitles

For discs or files on which multiple subtitles are recorded, the subtitles can be switched during playback.

During playback, press SUBTITLE.

- The current subtitle and total number of recorded subtitles are displayed on the TV screen and on the player’s front panel display.

To switch the subtitle, press SUBTITLE again or press \(\uparrow\) / \(\downarrow\).

Example:

<table>
<thead>
<tr>
<th>Subtitle</th>
<th>1/2 English</th>
</tr>
</thead>
</table>

- The subtitles can also be switched by selecting Subtitle from the TOOLS menu.

Note

- In some cases the subtitle may switch or the switching screen provided on the disc may be displayed immediately, without the current subtitle or the total number of subtitles recorded on the disc being displayed.
- The types of recorded subtitles depend on the disc and file.
- If the subtitles are not switched when SUBTITLE is pressed, switch them from the menu screen.

Turning the subtitles off

- Press SUBTITLE, then press CLEAR.

About displaying external subtitle files while playing DivX media files

In addition to the subtitles recorded in DivX media files, this player also supports the display of external subtitle files. If a file has the same name as a DivX media file aside from the file extension and the extension is one of the extensions listed below, the file is treated as an external subtitle file. Note that DivX media files and external subtitle files must be located in the same folder.

Only one external subtitle file can be displayed on this player. Use a computer, etc., to delete any external subtitle files you do not want to display from the disc.

.srt, .sub, .txt, .smi, .ssa, .ass

If the language code is specified for the external subtitle file, the subtitles are displayed with the font corresponding to that language code. If no language code is specified, the subtitles are displayed with the font corresponding to the language code set at Subtitle Language (page 46). The same font is used for all the languages in each of the groups below.

Group 1
Afrikaans(afr), Basque(eus), Catalan(ca/cat), Danish(da/dan), Dutch(nl/nld), English(en/eng), Faroese(fo/fao), Finnish(fi/fin), French(fr/fra), Galician(gl/glg), German(de/deu), Guarani(gn/grn), Icelandic(is/isl), Irish(ga/gle), Italian(it/ita), Latin(la/lat), Norwegian(no/nor), Portuguese(pt/por), Rhaeto-Romance(ra/roh), Scots-Gaelic(ga/gla), Spanish(es/esp), Swahili(sw/swa), Swedish(sv/swe), Zulu(zu/zul)

Group 2
Albanian(sq/sqi), Croatian(hr/hrv), Czech(cs/ces), Hungarian(hu/hun), Polish(pl/pol), Romanian(ro/ron), Slovak(sk/slk), Slovenian(sl/slo)

Group 3
Belarusian(be/ber), Bulgarian(bg/bul), Macedonian(mk/mkd), Moldavian(mo/moi), Russian(ru/ru), Serbian(sr/sr), Ukrainian(uk/ukr)

Group 4
Greek(el/ell)

Group 5
Estonian(en/est), Kurdish(ku/kur), Turkish(tr/trk)

Note

- Depending on the file, the external subtitles may not be displayed properly.
Switching the audio streams/channels

For discs or files on which multiple audio streams/channels are recorded, audio streams/channels can be switched during playback. Also use this procedure to switch the secondary audio for BD-ROMs on which secondary audio is recorded.

- During playback, press AUDIO.
- The current audio stream/channel and total number of recorded audio streams/channels are displayed on the TV screen and on the player’s front panel display.
- To switch the audio streams/channels, press AUDIO again or press ↑/↓.
- To switch the secondary audio, press SECONDARY AUDIO.
- The audio streams/channels can also be switched by selecting Audio or Secondary Audio from the TOOLS menu.

Note
- The types of recorded audio streams/channels depend on the disc and file.
- If the audio stream/channel is not switched when AUDIO is pressed, switch it from the menu screen.
- In some cases the secondary audio may switch or the switching screen provided on the disc may be displayed immediately, without the current secondary audio or the total number of secondary audio streams recorded on the disc being displayed.
- Some BD-ROMs do not include secondary audio.
- Secondary audio mark [S] is displayed for scenes at which secondary audio is recorded if Angle/Secondary Indicator is set to On (page 45).

- Turning the Secondary Audio off
  - Press SECONDARY AUDIO, then press CLEAR.

Switching the secondary video

Use the procedure below to switch the secondary video (Picture-in-Picture) recorded on the BD-ROM.

- During playback, press SECONDARY VIDEO.
- The current secondary video stream and total number of recorded secondary video streams are displayed on the TV screen and on the player’s front panel display.
- To switch the secondary video streams, press SECONDARY VIDEO again or press ↑/↓.
- The secondary video streams can also be switched by selecting Secondary Video from the TOOLS menu.

Note
- In some cases the secondary video may switch or the switching screen provided on the disc may be displayed immediately, without the current secondary video or the total number of secondary video streams recorded on the disc being displayed.
- Some BD-ROMs do not include secondary video.
- Secondary video mark [S] is displayed for scenes at which secondary video is recorded if Angle/Secondary Indicator is set to On (page 45).

- Turning the Secondary Video off
  - Press SECONDARY VIDEO, then press CLEAR.

Displaying the disc information

- Press DISPLAY.
- The disc information appears on the TV screen. The information switches each time the button is pressed.
- The information display differs during playback and when playback is stopped.
Using the Play Mode functions

Playing from a specific time (Time Search)

1. During playback, press PLAY MODE to display the Play Mode screen.

The Play Mode screen can also be displayed by selecting Play Mode from the TOOLS menu.

2. Select Time Search.
   Use ↑/↓ to select, then press ENTER.

3. Input the time.
   Use the number buttons (0 to 9) or ↑/↓ to input the time.
   Use ←/→ to move the cursor.

   ![Time Search Input Example]

   ```
   Time Search 1 2 : 4 5 : 0 0
   Search
   ```

   **Note**
   - To play from 45 minutes, input 0, 0, 4, 5, 0 and 0, then press ENTER.
   - To play from 1 hour 20 minutes, input 0, 1, 2, 0, 0 and 0, then press ENTER.
   - Press CLEAR to clear the values you have input.

4. Starting playback from the specified time.
   Use ←/→ to select Search, then press ENTER.

**Closing the Play Mode screen**

Press PLAY MODE or HOME MENU.

**Note**
- There are some discs for which Time Search is not available.

Playing a specific title, chapter or track (Search)

1. Press PLAY MODE to display the Play Mode screen.

The Play Mode screen can also be displayed by selecting Play Mode from the TOOLS menu.

2. Select the type of search.
   Use ↑/↓ to select, then press ENTER.
See the table on page 34 for the search types.

3 Input the number.
Use the number buttons (0 to 9) or †/‡ to input the number.
Use †/‡ to move the cursor.

4 Starting playback from the specified title, chapter or track.
Use †/‡ to select Search, then press ENTER.

Note
• To search for title 32, input 0, 3 and 2, then press ENTER.
• There are some discs for which searching is not available.
• Press CLEAR to clear the values you have input.

Playing a specific section within a title or track repeatedly (A-B Repeat)

Use this procedure to play a specific section within a title or track repeatedly.

1 During playback, press PLAY MODE to display the Play Mode screen.

The Play Mode screen can also be displayed by selecting Play Mode from the TOOLS menu.

2 Select A-B Repeat.
Use †/‡ to select, then press ENTER.

3 Select the starting point for A-B Repeat.
Use †/‡ to select A (Start), then press ENTER.

4 Select the end point for A-B Repeat.
Use †/‡ to select B (End), then press ENTER.
A-B Repeat playback starts.

To cancel A-B Repeat play
• Select Off from the Repeat/Random screen, then press ENTER.
• During playback, press ■ STOP or CLEAR.

Note
• There are some discs for which A-B Repeat play is not available.
• A-B Repeat play is canceled in the following cases:
  – When the angle is switched (for BD-ROM and DVD-Video discs only).
  – When you search outside the repeat range.
  – When you start other Repeat Play or Random Play.

Playing repeatedly (Repeat Play)

Use this procedure to play the currently playing disc, title, chapter, track or file repeatedly.

1 During playback, press PLAY MODE to display the Play Mode screen.

The Play Mode screen can also be displayed by selecting Play Mode from the TOOLS menu.
2 Select Repeat/Random. Use † ‡ to select, then press ENTER.

3 Select the type of Repeat Play. Use † ‡ to select, then press ENTER.
See the table on page 34 for the types of Repeat Play.

- To cancel Repeat Play
  - Select Off from the Repeat/Random screen, then press ENTER.
  - During playback, press ■ STOP or CLEAR.

- Note
  - There are some discs and files for which Repeat Play is not available.
  - The type of repeat modes depends on the disc and file being played. See the table on page 34.
  - Repeat Play is canceled in the following cases:
    - When the angle is switched (for BD-ROM and DVD-Video discs only).
    - When you search outside the repeat range.
    - When you start other Repeat Play or Random Play.

### Playing in random order (Random Play)

Use this procedure to play the tracks or files in random order.

1 During playback, press PLAY MODE to display the Play Mode screen.

The Play Mode screen can also be displayed by selecting Play Mode from the TOOLS menu.

2 Select Repeat/Random. Use † ‡ to select, then press ENTER.

3 Select the Random Play. Use † ‡ to select, then press ENTER.

- To cancel Random Play
  - Select Off from the Repeat/Random screen, then press ENTER.
  - During playback, press ■ STOP or CLEAR.

- Note
  - There are some discs and files for which Random Play is not available.
  - Random Play is canceled in the following cases:
    - When you use the search function.
    - When you start Repeat Play.
### About Play Mode types

The functions that can be used differ according to the type of disc and file. In some cases, some of the functions cannot be used. Check the usable functions on the table below.

<table>
<thead>
<tr>
<th>Play Mode type</th>
<th>Disc/file type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BD-ROM</td>
</tr>
<tr>
<td>Repeat Play</td>
<td></td>
</tr>
<tr>
<td>Playing a specific section within a title or track repeatedly (A-B Repeat)</td>
<td>A-B</td>
</tr>
<tr>
<td>Playing a title repeatedly (Title Repeat)</td>
<td>✓</td>
</tr>
<tr>
<td>Playing a chapter repeatedly (Chapter Repeat)</td>
<td>✓</td>
</tr>
<tr>
<td>Playing a track or file repeatedly (Track Repeat)</td>
<td>✓</td>
</tr>
<tr>
<td>Playing all the titles, tracks or files on the disc repeatedly (All Repeat)</td>
<td>✓</td>
</tr>
<tr>
<td>Random Play</td>
<td></td>
</tr>
<tr>
<td>Playing the tracks or files in random order (Random Track)</td>
<td>✓</td>
</tr>
<tr>
<td>Playing the tracks or files in random order (Random File)</td>
<td>✓</td>
</tr>
<tr>
<td>Search</td>
<td></td>
</tr>
<tr>
<td>Playing from a specific time (Time Search)</td>
<td>✓</td>
</tr>
<tr>
<td>Playing a specific title (Title Search)</td>
<td>✓</td>
</tr>
<tr>
<td>Playing a specific chapter (Chapter Search)</td>
<td>✓</td>
</tr>
<tr>
<td>Playing a specific track (Track Search)</td>
<td>✓</td>
</tr>
</tbody>
</table>

1. The type of Play Mode is indicated by the mark.
2. For BD-ROM and DVD-Video discs, some of the functions cannot be used with some titles.
3. The original titles are played repeatedly. However, the playlist titles cannot be played repeatedly.
4. The files in the folder are played repeatedly.
5. The files in the folder or HMG Playlist are played repeatedly.
6. The tracks in the disc or HMG Playlist are played repeatedly.
Playing from the Home Media Gallery

The Home Media Gallery lets you display a list of the titles, tracks or files recorded on the disc. The discs that can be played from the Home Media Gallery are as shown below (see also page 8).

- BD-R/RE discs
- DVDs recorded in VR format
- Audio CDs (CD-DA and DTS-CDs)
- DVDs/CDs on which only data files of video, image or audio files, etc. are recorded

Playing discs

1. Press HOME MEDIA GALLERY to display the Home Media Gallery.

The Home Media Gallery can also be displayed by selecting Home Media Gallery from Home Menu then pressing ENTER.

2. Select the disc.
   Use ‼ / ‼ to select, then press ENTER.

3. Select the title or track to be played.
   Use ‼ / ‼ to select, then press ENTER.

Playback starts.

Closing the Home Media Gallery

Press HOME MEDIA GALLERY or ‼ HOME MENU.

Note

- When playing an audio CD (CD-DA or DTS-CD), the Now Playing screen is displayed.
- Some BD-R/RE discs have playback protection. To cancel the protection, input the password set for the disc.
- To play DVD-R/RW (VR format) playlists, switch to the playlist using the Original/Play List command on the TOOLS menu (page 24).

Playing video files

1. Press HOME MEDIA GALLERY to display the Home Media Gallery.

The Home Media Gallery can also be displayed by selecting Home Media Gallery from Home Menu then pressing ENTER.

2. Select the disc.
   Use ‼ / ‼ to select, then press ENTER.

Search for the part you want to play from a list of the disc’s content.
3 Select Movies.
Use / to select Movies, then press ENTER.

4 Select Folders or All Movies.
Use / to select, then press ENTER.
- Folders – The files in the selected folder are displayed.
- All Movies – All the recorded files are displayed.

If you have selected All Movies, proceed to step 6.

5 Select the folder containing the file you want to play.
Use / to select, then press ENTER.

A list of the files and folders in the selected folder is displayed.

6 Select and set the file you want to play.
Use / to select, then press ENTER.

Playback starts from the selected file, and continues until the end of the list is reached. Use  to play the previous or next file.

Note
- It may take a few seconds before playback starts. This is normal.
- It may not be possible to play some files properly.
- The number of views may be restricted (page 10).

Playing image files

1 Press HOME MEDIA GALLERY to display the Home Media Gallery.

The Home Media Gallery can also be displayed by selecting Home Media Gallery from the Home Menu then pressing ENTER.

2 Select the disc.
Use / to select, then press ENTER.

3 Select Photos.
Use / to select Photos, then press ENTER.
4 Select Folders or All Photos.
Use ↑/↓ to select, then press ENTER.
- Folders – The files in the selected folder are displayed.
- All Photos – All the recorded files are displayed.

If you have selected All Photos, proceed to step 6.

5 Select the folder containing the file you want to play.
Use ↑/↓/←→ to select, then press ENTER.

A list of the files and folders in the selected folder is displayed.

6 Select and set the file you want to play.
Use ↑/↓/←→ to select, then press ENTER.

A slideshow starts from the selected file, and continues until the end of the list is reached. Use ◀▶ to display the previous or next file.

About Slideshow
A display of the files on the disc or in the folder that switches automatically.

Rotating images
- Press ANGLE while playing a slideshow.

The image rotates each time the button is pressed (90° → 180° → 270° → 0° → ...).
The image can also be rotated by selecting Rotate from the TOOLS menu.

Playing audio files

1 Press HOME MEDIA GALLERY to display the Home Media Gallery.

The Home Media Gallery can also be displayed by selecting Home Media Gallery from Home Menu then pressing ENTER.

2 Select the disc.
Use ↑/↓ to select, then press ENTER.

3 Select Music.
Use ↑/↓ to select Music, then press ENTER.
4 Select Folders or All Songs.
   Use † / ‡ to select, then press ENTER.
   • Folders – The files in the selected folder are displayed.
   • All Songs – All the recorded files are displayed.

If you have selected All Songs, proceed to step 6.

5 Select the folder containing the file you want to play.
   Use † / ‡ to select, then press ENTER.

A list of the files and folders in the selected folder is displayed.

6 Select and set the file you want to play.
   Use † / ‡ to select, then press ENTER.

Playback starts from the selected file, and continues until the end of the list is reached. Use ◄ ► to play the previous or next file. The Now Playing screen (shown below) is displayed.

Playing in the desired order (HMG Playlist)

The discs that can add tracks and files to the HMG (Home Media Gallery) Playlist are as shown below.
• Audio CDs (CD-DAs and DTS-CDs)
• DVDs/CDs on which audio files are recorded

Adding tracks/files

Use this procedure to add tracks and files, and create the HMG Playlist.

1 Press HOME MEDIA GALLERY to display the Home Media Gallery.

The Home Media Gallery can also be displayed by selecting Home Media Gallery from Home Menu pressing ENTER.

2 Select the disc.
   Load the disc beforehand.
   Use † / ‡ to select, then press ENTER.

3 Select the track/file to be added.
   Use † / ‡ to select.
4 Press \textit{TOOLS} to display the TOOLS menu.

5 Select Add to HMG Playlist.
Use \textit{\swarrow} / \textit{\searrow} to select, then press \textit{ENTER}.

The track or file selected in step 3 is added to the HMG Playlist. To add more tracks or files, repeat steps 3 to 5.

\textbf{To add the currently playing track/file to the HMG Playlist}

- While the track/file is playing, press \textit{TOOLS} to display the TOOLS menu.
- Use \textit{\swarrow} / \textit{\searrow} to select Add to HMG Playlist, then press \textit{ENTER}.

\textbf{Note}

- A maximum of 24 tracks/files can be added to the HMG Playlist.
- The HMG Playlist is cleared in the following cases:
  - When the power is turned off.
  - When the disc tray is opened.

\textbf{Playing the HMG Playlist}

1 Press HOME MEDIA GALLERY to display the Home Media Gallery.

The Home Media Gallery can also be displayed by selecting Home Media Gallery from Home Menu pressing \textit{ENTER}.

2 Select HMG Playlist.
Use \textit{\swarrow} / \textit{\searrow} to select, then press \textit{ENTER}.

3 Select the track/file to be played.
Use \textit{\swarrow} / \textit{\searrow} to select, then press \textit{ENTER}.

Playback starts from the selected track/file, and continues until the end of the list is reached. Use \textit{\swarrow} / \textit{\searrow} / \textit{\toright} / \textit{\topleft} to play the previous or next track/file. The Now Playing screen (shown below) is displayed.

\textbf{Deleting tracks/files from the HMG Playlist}

- Select the track/file to be deleted, then press \textit{TOOLS} to display the TOOLS menu.
- Use \textit{\swarrow} / \textit{\searrow} to select Delete from HMG Playlist, then press \textit{ENTER}.

Press \textit{STOP} to stop playback. When playback of an audio CD is stopped, the Now Playing screen turns off. When playback of an audio file is stopped, the HMG Playlist screen reappears.
Chapter 5
Adjusting audio and video

Adjusting the video

The quality of the playback picture can be adjusted according to the TV you are using.

1. During playback, press VIDEO ADJUST to display the Video Adjust screen.

The Video Adjust screen can also be displayed by selecting Video Adjust from the TOOLS menu.

2. Select a preset.

Select using ‹/› according to the TV being used.

LCD – Select this when connected to a liquid crystal display TV.

PDP – Select this when connected to a plasma TV of another brand.

Pioneer PDP – Select this when connected to a Pioneer plasma TV.

Projector – Select this when connected to a front projector.

Professional – With this setting, video signal processing is restrained. Select this when connected to a professional monitor.

Memory1 to 3 – Picture quality settings with adjusted parameters can be stored in the memory. For a description of the parameters, see When Memory1, 2 or 3 is selected below.

When Memory1, 2 or 3 is selected

1. Select Adjustments.
   Use ‹ to select Adjustments, then press ENTER.
   A detailed settings screen appears.

2. Select the item to be adjusted.
   Use ‹‹/›› to select.

3. Adjust the picture quality.
   When ‹› are pressed, the adjustments can be made viewing the picture. The detailed settings screen reappears when ENTER is pressed.

- Prog.Motion – Adjust according to the type of image (moving or still image). This is effective mainly when outputting video materials as progressive images.
- Pure Cinema – This setting optimizes the operation of the progressive scanning circuit for playing film materials. Normally set it to Auto1. If the picture seems unnatural, switch this to Auto 2. On or Off (page 41).
- YNR – Reduces noise in the luminance (Y) signal.
- CNR – Reduces noise in the chroma (C) signal.
- BNR – Reduces the block noise (block-shaped distortion generated upon MPEG compression).
- MNR – Reduces the mosquito noise (distortion along the contours of the picture generated upon MPEG compression).
- Sharpness High – Adjusts the sharpness of the high-frequency (detailed) elements in the picture.
- Sharpness Mid – Adjusts the sharpness of the mid-frequency (less detailed) elements in the picture.
- Detail – Adjusts the picture’s contours.
- White Level – Adjusts the level of the white portions.
- Black Level – Adjusts the level of the black portions.
- Black Setup – Select the black level as the setup level. Normally select 7.5 IRE. If the black level is too bright due to the combination with the connected TV, select 0 IRE.
- Gamma Correction – Adjusts how the dark portions of the picture look.
- Hue – Adjusts the balance between green and red.
- Chroma Level – Adjusts the density of the colors.

Note
- Prog.Motion and Pure Cinema have the effect only for pictures recorded in the interlaced scan format (480i or 1080i signals).
- Prog.Motion is disabled when Pure Cinema is set to On.
- Black Setup has the effect only for pictures output from the VIDEO and S-VIDEO output terminals.
• The items below do not apply to video signals output from the VIDEO and S-VIDEO output terminals, nor to 480i video signals output from the COMPONENT VIDEO output terminal (except when the Output Video Resolution is set to 480i (page 25)).
  - Sharpness High
  - Sharpness Mid
  - Detail
  - White Level
  - Black Level
  - Gamma Correction
  - Hue
  - Chroma Level

Starting the Video Adjust screen
Press HOME MENU.

About Pure Cinema
There are two types of video signals:
  - Video material – Video signals recorded at 30 frames/second
  - Film material – Video signals recorded at 24 frames/second

“Pure Cinema” uses signal processing suited for “film material” when converting 480i or 1080i interlaced video signals into progressive video signals, resulting in clear picture reproduction without losing the quality of the material.

is displayed on the disc information screen when playing the “film material” pictures of BD-ROM, BD-R/-RE and DVD-Video discs (page 30).

Adjusting the audio

Adjusting the Audio DRC

Audio DRC (Dynamic Range Control) has the effect of playing loud sounds softly and soft sounds loudly. Adjust the setting for example when viewing movies late at night and the dialogs are difficult to hear.

1 During playback, display the TOOLS menu.
Press TOOLS.

2 Select and set Audio Adjust.
Use ↑/↓ to select, then press ENTER.

3 Select and set Audio DRC.
Use ↑/↓ to select, then press ENTER.

4 Adjust the setting.

Note
• This only affects the Dolby TrueHD, Dolby Digital Plus and Dolby Digital audio signals of BDs, DVDs and video files.
• When Auto is selected, the setting has the same effect as High or Off for Dolby TrueHD signals, depending on the content. For Dolby Digital Plus and Dolby Digital, the setting has the same effect as Off.
• Audio DRC affects the audio signals output from the following audio output terminals:
  - Analog audio signals output from the AUDIO OUT (7.1 ch) terminals.
  - Linear PCM audio signals output from the DIGITAL OUT terminals or HDMI OUT terminals.
• The effect may be weak for some discs.

Adjusting the output level of the different speakers during BD/DVD playback (Channel Level)

Caution
• Channel Level of the speakers set to None or No at Speaker Setup cannot be adjusted (page 47).

1 During playback, display the TOOLS menu.
Press TOOLS.
2 Select and set Audio Adjust.
Use ‹/› to select, then press ENTER.

3 Select and set Channel Level.
Use ‹/› to select, then press ENTER.

4 Adjust the output level.
Use ‹/› to select, ‼/‼ to adjust.
The output levels of the L, C, R, SL, SR, SBL, SBR, and SW speakers can be adjusted within the range of –6.0 dB to +6.0 dB.

5 Press ENTER to set.

Note
• The adjustment of Channel Level is only applicable to the sound output from AUDIO OUT (7.1 ch).
• This cannot be adjusted when in the following cases:
  – Output Terminal is set to HDMI MAIN or DIGITAL AUDIO (page 44).
  – Audio Output Mode is set to 2 Channel (page 45).
  – Channel Level is set to Fix (page 45).

Closing the Channel Level screen
Press HOME MENU.

Adjusting the audio delay (Lip Sync)

Adjust the audio delay for the selected video output terminal if the video and audio are not synchronized.

1 During playback, display the TOOLS menu.
Press TOOLS.

2 Select and set Audio Adjust.
Use ‹/› to select, then press ENTER.

3 Select and set Lip Sync.
Use ‹/› to select, then press ENTER.

4 Select Auto or Manual.
Use ‼/‼ to select.

• Auto – The player automatically adjusts the timing of the video and audio when connected to a device equipped with the HDMI Auto Lip Sync Correction feature using an HDMI cable.
• Manual – Adjust manually while viewing the video.
  If you have selected Manual, proceed to step 5.

5 Adjusting the amount of audio delay.
Press ‼, then use ‼/‼ to adjust.

The audio delay can be adjusted from 0 to 250 ms in steps of 5 ms.

Note
• The Lip Sync adjustment is only applicable to the output terminal set at Output Terminal (page 44).
• The sound may be interrupted while setting the delay.

Closing the Lip Sync screen
Press ENTER or HOME MENU.
Chapter 6
Advanced settings
Changing the settings

Operating the Initial Setup screen

1 When playback is stopped, display the Home Menu screen.
Press HOME MENU.

2 Select and set Initial Setup.
Use \(\uparrow/\downarrow\) to select, then press ENTER.

3 Select the item and change the setting.
Use \(\uparrow/\downarrow/\leftarrow/\rightarrow\) to select, then press ENTER.

Closing the Initial Setup screen
Press HOME MENU.
Note

- Items that cannot be changed are indicated in gray. The items that can be selected depend on the player’s status.
- In Options, the factory default settings are indicated in bold.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Options</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video Out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TV Aspect Ratio</td>
<td>16:9 (Widescreen)</td>
<td>Select this when connected to a wide (16:9) TV.</td>
</tr>
<tr>
<td></td>
<td>4:3 (Standard)</td>
<td>Select this when connected to a conventional TV.</td>
</tr>
<tr>
<td>4:3 Video Out</td>
<td>Full</td>
<td>4:3 pictures are displayed over the entire screen.</td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td>4:3 pictures are displayed with vertical black bars along the sides. Select this when you cannot switch the aspect ratio to 4:3 on the TV.</td>
</tr>
</tbody>
</table>

**4:3 Video Out** is only valid when **TV Aspect Ratio** is set to **16:9 (Widescreen)**.

| DVD 16:9 Video Out | Letter Box 16:9 pictures are displayed with black bars at the top and bottom when viewing on a 4:3 screen. |
|                   | Pan & Scan The picture is displayed over the entire screen, with the left and right sides of the 16:9 picture cropped. Select this to view 4:3 pictures over the entire screen. For some discs, the picture will be displayed in the Letter Box mode even if Pan & Scan is set. |

- **DVD 16:9 Video Out** is only valid when **TV Aspect Ratio** is set to **4:3 (Standard)**.
- **DVD 16:9 Video Out** is only valid when playing 16:9 pictures of DVD-Video discs. When other 16:9 pictures are played, they are output in the Letter Box mode.

| Audio Out        | HDMI MAIN                | Select this to output audio signals from the HDMI OUT (MAIN) terminal.     |
|                 | DIGITAL AUDIO            | Select this to output audio signals from the DIGITAL OUT terminals.        |
|                 | ANALOG AUDIO             | Select this to output audio signals from the AUDIO OUT (7.1 ch) terminals. |

- The optimum audio signals for the audio format and the player’s settings are output from the output terminal(s) set here.
- When **HDMI MAIN** or **DIGITAL AUDIO** is selected at **Output Terminal**, linear PCM audio signals (2 channels) are output from all terminals other than the ones selected at **Output Terminal**.
- When **ANALOG AUDIO** is selected at **Output Terminal**, no audio signals are output from the HDMI OUT or DIGITAL OUT terminals.
- To listen to the device connected to the HDMI OUT (SUB) terminal, select HDMI MAIN and turn off the power of the device connected to the HDMI OUT (MAIN) terminal.

| Dolby Digital Out | Dolby Digital 1 | Dolby Digital audio signals are output. With BD-ROMs, the secondary audio and interactive audio are mixed for output. |
|                  | Dolby Digital 2  | Dolby Digital audio signals are output. With BD-ROMs, the signals are output without mixing the secondary audio and interactive audio signals. |
|                  | Dolby Digital → PCM | Select this when the connected AV receiver or amplifier, etc., is not compatible with Dolby Digital audio signals. The Dolby Digital audio signals are converted into linear PCM audio signals for output. |

| DTS Out          | DTS 1              | DTS Digital Surround audio signals are output. With BD-ROMs, the secondary audio and interactive audio are mixed for output. |
|                  | DTS 2              | DTS Digital Surround audio signals are output. With BD-ROMs, the signals are output without mixing the secondary audio and interactive audio signals. |
|                  | DTS → PCM          | Select this when the connected AV receiver or amplifier, etc., is not compatible with DTS Digital Surround audio signals. The DTS Digital Surround audio signals are converted into linear PCM audio signals for output. |

| AAC Out          | AAC                | Select this when the connected AV receiver or amplifier, etc., is compatible with AAC audio signals. The AAC audio signals are output. |
|                  | AAC → PCM          | Select this when the connected AV receiver or amplifier, etc., is not compatible with AAC audio signals. The AAC audio signals are converted into linear PCM audio signals for output. |

| DTS Downmix      | Stereo             | DTS-HD Master Audio signals, DTS-HD High Resolution Audio signals or DTS Digital Surround audio signals converted to linear PCM audio signals are converted into 2-channel (stereo) signals for output. |
|                  | Lt/Rt              | DTS-HD Master Audio signals, DTS-HD High Resolution Audio signals or DTS Digital Surround audio signals converted to linear PCM audio signals are converted into 2-channel signals compatible with Dolby Surround for output (when the connected AV receiver or amplifier, etc., is compatible with Dolby Pro Logic, the AV receiver or amplifier outputs the linear PCM audio signals as surround audio signals). |
### Setting Options Explanation

#### Audio Output Mode
- **2 Channel**
  - Select this when the TV’s analog 2-channel (stereo) audio input terminals are connected to the player’s AUDIO OUT (7.1 ch) terminals.

- **Multi-channel**
  - Select this when the multi-channel audio input terminals of an AV receiver or amplifier, etc., are connected to the player’s AUDIO OUT (7.1 ch) terminals.

#### Speaker Setup
- **2 Channel**
  - Select this when the TV’s analog 2-channel (stereo) audio input terminals are connected to the player’s AUDIO OUT (7.1 ch) terminals.

- **Multi-channel**
  - Select this when the multi-channel audio input terminals of an AV receiver or amplifier, etc., are connected to the player’s AUDIO OUT (7.1 ch) terminals.

#### Speaker Distance
- **Specify the distance of your speakers from your listening position (page 47).**

#### Channel Level
- **Fix**
  - The output for the various speakers is set to the maximum.

- **Variable**
  - The output level of the various speakers is set within the range of –6.0 dB to +6.0 dB (in 0.5 dB steps) (page 47).

#### HDMI High Speed Transmission
- **On**
  - Select this when connected with a High Speed HDMI™ cable (page 15).

- **Off**
  - Select this when connected with a Standard HDMI™ cable (page 15).

#### HDMI Color Space
- **Auto**
  - Select this to automatically switch the video output between YCbCr and RGB signals according to the connected equipment.

- **YCbCr 4:4:4**
  - Select this to output the video signals as YCbCr 4:4:4 signals.

- **YCbCr 4:2:2**
  - Select this to output the video signals as YCbCr 4:2:2 signals.

- **RGB (16 to 235)**
  - Select this to output the video signals as RGB signals. Choose this if the colors seem too dense and all the dark colors are displayed in a uniform black when RGB (0 to 255) is selected.

- **RGB (0 to 255)**
  - Select this to output the video signals as RGB signals. Choose this if the colors seem too faint and the black seems too bright when RGB (16 to 235) is selected.

#### HDMI Audio Out
- **Auto**
  - The signals are output with as many audio channels as possible. In cases when the number of channels does not decrease when the signals are output as such without converting them to linear PCM, they are output as such (page 54).

- **PCM**
  - Select this when you want the secondary audio and interactive audio signals to be mixed for output or when you want to output prioritizing sampling frequency over the number of channels (page 54).

#### PQLS
- **Auto**
  - Enables PQLS function (page 16).

- **Off**
  - Disables PQLS function (page 16).

#### DivX VOD
- **Registration Code**
  - Displays the player’s registration code required to play DivX VOD files (page 11).

#### Hybrid Disc Playback
- **BD**
  - The BD layer of hybrid discs with two or more layers (BD and DVD or CD) is played.

- **DVD**
  - The DVD layer of hybrid discs with two or more layers (BD and DVD) is played. If there is no DVD layer, the BD layer is played.

- **CD**
  - The CD layer of hybrid discs with two or more layers (BD and CD) is played. If there is no CD layer, the BD layer is played.

#### BDMV/BDAV Playback Priority
- **BDMV**
  - Select this to play the BDMV format on BD-R/-RE discs containing both BDMV and BDAV formats.

- **BDAV**
  - Select this to play the BDAV format on BD-R/-RE discs containing both BDMV and BDAV formats.
<table>
<thead>
<tr>
<th>Setting</th>
<th>Options</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OSD Language</strong></td>
<td><strong>English</strong></td>
<td>Select this to set the language of the on-screen displays to English.</td>
</tr>
<tr>
<td></td>
<td><strong>available languages</strong></td>
<td>Choose a language for the on-screen displays from the listed languages.</td>
</tr>
<tr>
<td><strong>Audio Language</strong></td>
<td><strong>English</strong></td>
<td>Select this to set both the BD-ROM and DVD-Video default audio language to English.</td>
</tr>
<tr>
<td></td>
<td><strong>available languages</strong></td>
<td>Choose a language from the listed languages to set the default audio language for BD-ROM and DVD-Video playback.</td>
</tr>
<tr>
<td></td>
<td><strong>Other</strong></td>
<td>Continue to the next screen to set the default audio language for BD-ROM and DVD-Video playback. You can select the language name or enter the code number (see on page 55 for the code table).</td>
</tr>
<tr>
<td><strong>Subtitle Language</strong></td>
<td><strong>English</strong></td>
<td>Select this to set the default subtitle language for BD-ROM and DVD-Video playback to English.</td>
</tr>
<tr>
<td></td>
<td><strong>available languages</strong></td>
<td>Choose a language from the listed languages to set the default subtitle language for BD-ROM and DVD-Video playback.</td>
</tr>
<tr>
<td></td>
<td><strong>Other</strong></td>
<td>Continue to the next screen to set the default subtitle language for BD-ROM and DVD-Video playback. You can select the language name or enter the code number (see on page 55 for the code table).</td>
</tr>
<tr>
<td><strong>BDMV/DVD-Video Menu Lang.</strong></td>
<td><strong>w/Subtitle Language</strong></td>
<td>Sets the language of BD-ROM and DVD-Video menus to the same as that set for the subtitle language.</td>
</tr>
<tr>
<td></td>
<td><strong>available languages</strong></td>
<td>Choose a language from the listed languages to set the default language for BD-ROM and DVD-Video menus.</td>
</tr>
<tr>
<td></td>
<td><strong>Other</strong></td>
<td>Continue to the next screen to set the default menu language for BD-ROM and DVD-Video menu playback. You can select the language name or enter the code number (see on page 55 for the code table).</td>
</tr>
<tr>
<td><strong>Subtitle Display</strong></td>
<td><strong>On</strong></td>
<td>Select this to display the subtitles.</td>
</tr>
<tr>
<td></td>
<td><strong>Off</strong></td>
<td>Select this if you do not want to display the subtitles. Note that on some discs the subtitles are displayed by force.</td>
</tr>
<tr>
<td><strong>Set Password (Change Password)</strong></td>
<td><strong>On</strong></td>
<td>Register (change) the password for parental lock settings or for unlocking to play DVD-Video with parental lock feature (page 48).</td>
</tr>
<tr>
<td><strong>DVD-Video Parental Lock</strong></td>
<td><strong>Off</strong></td>
<td>Change the player’s parental lock level (page 49).</td>
</tr>
<tr>
<td><strong>BDMV Parental Lock</strong></td>
<td><strong>Off</strong></td>
<td>Change the restricted age (page 49).</td>
</tr>
<tr>
<td><strong>Country Code</strong></td>
<td><strong>Off</strong></td>
<td>Change the Country/Area code (page 50).</td>
</tr>
<tr>
<td><strong>NetworkIP Address</strong></td>
<td><strong>Off</strong></td>
<td>Select this to set the IP address of the player and DNS server (page 50).</td>
</tr>
<tr>
<td><strong>Proxy Server</strong></td>
<td><strong>Off</strong></td>
<td>Only set the proxy server if so instructed by your Internet service provider (page 50).</td>
</tr>
<tr>
<td><strong>Display Network Configuration</strong></td>
<td><strong>Off</strong></td>
<td>Select this to display a list of the network settings (page 51).</td>
</tr>
<tr>
<td><strong>Connection Test</strong></td>
<td><strong>Off</strong></td>
<td>Select this to test the network connection (page 51).</td>
</tr>
<tr>
<td><strong>On Screen Display</strong></td>
<td><strong>On</strong></td>
<td>Select this to display the operation indicators (Play, Stop, etc.) on the TV screen.</td>
</tr>
<tr>
<td></td>
<td><strong>Off</strong></td>
<td>Select this if you do not want to display the operation indicators (Play, Stop, etc.) on the TV screen.</td>
</tr>
<tr>
<td><strong>Screen Saver</strong></td>
<td><strong>On</strong></td>
<td>The screen saver is automatically activated if there is no operation for over 1 minute after playback is stopped or paused.</td>
</tr>
<tr>
<td></td>
<td><strong>Off</strong></td>
<td>The screen saver is not activated.</td>
</tr>
<tr>
<td><strong>Auto Power Off</strong></td>
<td><strong>On</strong></td>
<td>Select this to turn the power off automatically (the power turns off automatically if no operation is performed for over 30 minutes).</td>
</tr>
<tr>
<td></td>
<td><strong>Off</strong></td>
<td>Select this if you do not want the power to turn off automatically.</td>
</tr>
<tr>
<td><strong>BDMV Data Erase</strong></td>
<td><strong>On</strong></td>
<td>When a BD-ROM is played, additional data may be stored in the player’s memory (local storage). If the message indicating low memory (local storage) appears, erase the BDMV data (page 51).</td>
</tr>
<tr>
<td><strong>Software Update</strong></td>
<td><strong>Off</strong></td>
<td>The Software Update function can check for and download updated system software from the network server (page 52).</td>
</tr>
<tr>
<td><strong>Setup Navigator</strong></td>
<td><strong>Off</strong></td>
<td>Start making the settings using the Setup Navigator menu. For details, see Making settings using the Setup Navigator menu on page 21.</td>
</tr>
</tbody>
</table>
Changing the speaker setup

Set whether or not speakers are connected to the AV receiver or amplifier, as well as the size of the speakers. This setting is only valid for the AUDIO OUT (7.1 ch) terminals.

Caution
- The Speaker Setup cannot be selected when Audio Output Mode is set to 2 Channel. Change the setting to Multi-channel (page 45).

1. Select and set Speakers → Speaker Setup → Next Screen. Use ↑/↓ to select, then press ENTER.

2. Select the speaker and change the setting. Use ↑/↓ to select, then use ←/→ to change the setting.

- L/R (front left and right speakers): Large/Small
- C (center speaker): Large/Small/None
- SL/SR (left and right surround speakers): Large/Small/None
- SBL/SBR (left and right surround back speakers): Large/Small/None
- SW (subwoofer): Yes/No

Note
- Depending on the combination of settings of the different speakers, the settings of speakers other than the one you have changed may also change automatically.

Adjusting the distance of the different speakers

Adjust the distance between you and the different speakers. This setting is only valid for the AUDIO OUT (7.1 ch) terminals.

Caution
- This cannot be selected when Audio Output Mode is set to 2 Channel. Change the setting to Multi-channel (page 45).
- Speaker Distance of the speakers set to None or No at Speaker Setup cannot be adjusted (above).

1. Select and set Speakers → Speaker Distance → Next Screen. Use ↑/↓ to select, then press ENTER.

2. Select the speaker and adjust the distance. Use ↑/↓ to select, then use ←/→ to adjust.

- The distance of all the speakers can be set to between 1 inch and 45 feet, in units of 1 inch.

Adjusting the output level of the different speakers (Channel Level)

Adjust each output level of the different speakers by using test tones. This setting is only valid for the AUDIO OUT (7.1 ch) terminals.

Caution
- This cannot be selected when Audio Output Mode is set to 2 Channel. Change the setting to Multi-channel (page 45).
- Channel Level of the speakers set to None or No at Speaker Setup cannot be adjusted (above).
- Test tones are output. Lower the volume of the device connected to the player.

1. Select and set Speakers → Channel Level, then Fix or Variable. Use ↑/↓ to select, then press ENTER.

   - Fix – The output level of all the speakers is set to the maximum.
   - Variable – The output level of all the speakers is set 6.0 dB lower than when Fix is selected. From this point, the output levels of the L, C, R, SL, SR, SBL, SBR and SW speakers can be adjusted within the range of –6.0 dB to +6.0 dB.

If you have selected Variable, proceed to step 2.

2. Select and set the method for switching the speaker to be adjusted. Use ←/→ to select, then press ENTER.

   - Auto – Switch the speaker to be adjusted automatically.
   - Manual – Switch the speaker to be adjusted manually.
3 Adjust the output level.
Use \( \uparrow / \downarrow \) to select, \( \leftrightarrow \) to adjust.

<table>
<thead>
<tr>
<th>Channel Level</th>
<th>BD PLAYER</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>( 0.0 \text{ dB} )</td>
</tr>
<tr>
<td>C</td>
<td>0.0 dB</td>
</tr>
<tr>
<td>R</td>
<td>0.0 dB</td>
</tr>
<tr>
<td>SR</td>
<td>0.0 dB</td>
</tr>
<tr>
<td>SBR</td>
<td>0.0 dB</td>
</tr>
<tr>
<td>SBL</td>
<td>0.0 dB</td>
</tr>
<tr>
<td>SL</td>
<td>0.0 dB</td>
</tr>
<tr>
<td>SW</td>
<td>0.0 dB</td>
</tr>
</tbody>
</table>

\( \text{Note} \)
- You can also adjust while listening to the sound being played (page 41).
- The volume of the test tones output from the subwoofer may seem lower than the tones output from the other channels. Adjust the subwoofer based on the sound during playback (page 41).
- When Auto is selected, the speaker cannot be selected with \( \uparrow / \downarrow \). In this case, test tones are not output from the subwoofer.

\( \text{Changing to other language at language setting} \)

1 Select and set Language.
Use \( \uparrow / \downarrow \) to select, then press ENTER.

2 Select and set Audio Language, Subtitle Language or BDMV/DVD-Video Menu Lang.
Use \( \uparrow / \downarrow \) to select, then press ENTER.

3 Select and set Other.
Use \( \uparrow / \downarrow \) to select, then press ENTER.

4 Change the language.
Use \( \leftrightarrow \) to change, then press ENTER.

- The language can also be changed using the number buttons. Use \( \uparrow / \downarrow \) to move the cursor to Number, use the number buttons (0 to 9) to input the number, then press ENTER. Refer to Language Code Table and Country/Area Code Table on page 55.

\( \text{Note} \)
- If a language not recorded on the BD/DVD is set, one of the recorded languages is automatically selected and played.

\( \text{Registering or Changing the password} \)
Use this procedure to register or change the code number required for the Parental Lock settings.

1 Select and set Parental Lock → Set Password → Next Screen.
Use \( \uparrow / \downarrow \) to select, then press ENTER.

2 Input the password.
Use the number buttons (0 to 9) or \( \uparrow / \downarrow \) to input the number, then press ENTER to set.
Use \( \leftrightarrow \) to move the cursor.

3 Re-input the password.
Use the number buttons (0 to 9) or \( \uparrow / \downarrow \) to input the number, then press ENTER to set.
Use \( \leftrightarrow \) to move the cursor.

- To change the password, input the previously registered password, then input the new password.

\( \text{Note} \)
- We recommend making a note of the password.
- If you forget the password, reset the player to the factory default setting, then register the password again (page 53).
Changing the Parental Lock level for viewing DVDs

Some DVD-Video discs containing scenes of violence, for example, have Parental Lock levels (check the indications on the disc’s jacket or elsewhere). To restrict viewing these discs, set the player’s level to the level lower than the discs.

1. Select and set Parental Lock → DVD-Video Parental Lock → Next Screen.
   Use ↑ / ↓ to select, then press ENTER.

2. Input the password.
   Use the number buttons (0 to 9) or ↑ / ↓ to input the number, then press ENTER to set.
   Use ← → to move the cursor.

3. Change the level.
   Use ← → to change, then press ENTER to set.

Note

• The level can be set to Off or between Level1 and Level8. When set to Off, viewing is not restricted.

Changing the Age Restriction for viewing BD-ROMs

For BD-ROMs containing scenes of violence, for example, viewing can be restricted by setting an age restriction for the BD-ROMs.

1. Select and set Parental Lock → BDMV Parental Lock → Next Screen.
   Use ↑ / ↓ to select, then press ENTER.

2. Input the password.
   Use the number buttons (0 to 9) or ↑ / ↓ to input the number, then press ENTER to set.
   Use ← → to move the cursor.

3. Change the age.
   Use the number buttons (0 to 9) or ↑ / ↓ to input the number, then press ENTER to set.
   Use ← → to move the cursor.

Note

• When Age Restriction is set to 255, viewing is not restricted.
Changing the Country/Area code

1 Select and set Parental Lock → Country Code → Next Screen.
   Use ↑/↓ to select, then press ENTER.

2 Input the password.
   Use the number buttons (0 to 9) or ↑/↓ to input the number, then press ENTER to set.
   Use ←/→ to move the cursor.

3 Change the country/area code.
   Use ←/→ to change, then press ENTER to set.

   • The country/area code can also be changed using the number buttons. Use ↑/↓ to move the cursor to Number, use the number buttons (0 to 9) to input the number, then press ENTER. Refer to Language Code Table and Country/Area Code Table on page 55.

Setting the IP address

1 Select and set Network → IP Configuration → Next Screen.
   Use ↑/↓ to select, then press ENTER.

2 Set IP address.
   Use ↑/↓/←/→ to set the IP address of the player or DNS server, then press ENTER.

   • Auto Set IP Address
     On – The player’s IP address is obtained automatically. Select this when using a broadband router or broadband modem that has a DHCP (Dynamic Host Configuration Protocol) server function. This player’s IP address will automatically be allocated from the DHCP server.
     Off – The player’s IP address must be set manually. Use the number buttons (0 to 9) to input the IP address, subnet mask and default gateway.

   • Auto Set DNS Server Address
     On – The DNS server’s IP address is obtained automatically.
     Off – The DNS server’s IP address must be set manually. Use the number buttons (0 to 9) to input the DNS server’s IP address stipulated by your Internet service provider.

   Note
   • When Auto Set IP Address is set to Off. Auto Set DNS Server Address is also set to Off.
   • For information on DHCP server function, refer to the network device’s operating instructions.
   • You may need to contact your Internet service provider or network administrator when inputting the IP address manually.

Setting the proxy server

Only set the proxy server if so instructed by your Internet service provider.

1 Select and set Network → Proxy Server → Next Screen.
   Use ↑/↓ to select, then press ENTER.

2 Select and set Use or Not use at Proxy Server.
   Use ←/→ to change, then press ↓.

   • Use – Select this when using a proxy server.
   • Not use – Select this when not using a proxy server.

   If you have selected Use, proceed to step 3.
3 Select and set Server Select Method.
Use /  to change, then press .

- IP Address – Input the IP address.
- Server Name – Input the server name.

4 Input IP Address or Server Name
Use the number buttons (0 to 9) to input the number if you select IP address by step 3. Use /  to move the cursor.

Use the number buttons (0 to 9) to input characters if you select Server Name by step 3.
The characters that can be input for the server name are listed on the table below. Pressing a button repeatedly cycles through the characters shown.
- If you want to enter two characters in succession that are both on the same button (for example a P and an R), press  after inputting the first character then input the second character.
- Use CLEAR to delete the last character.
- Use /  to move the displayed characters when all the input characters cannot be displayed.

<table>
<thead>
<tr>
<th>Key</th>
<th>Characters</th>
<th>Key</th>
<th>Characters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 . –</td>
<td>6</td>
<td>m n o 6</td>
</tr>
<tr>
<td>2</td>
<td>a b c 2</td>
<td>7</td>
<td>p q r s 7</td>
</tr>
<tr>
<td>3</td>
<td>d e f 3</td>
<td>8</td>
<td>t u v 8</td>
</tr>
<tr>
<td>4</td>
<td>g h i 4</td>
<td>9</td>
<td>w x y z 9</td>
</tr>
<tr>
<td>5</td>
<td>j k l 5</td>
<td></td>
<td>0 0</td>
</tr>
</tbody>
</table>

5 Input Port Number.
Press , use the number buttons (0 to 9) to input the number.

6 Press ENTER to set.

Displaying the network settings
1 Select and set Network → Display Network Configuration → Next Screen.
Use /  to select, then press ENTER.
The MAC address, IP address, subnet mask, default gateway and DNS server (primary and secondary) settings are displayed.

When Auto Set IP Address is set to On, the values obtained automatically are displayed.

<table>
<thead>
<tr>
<th>Network BD PLAYER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display Network Config.</td>
</tr>
<tr>
<td>MAC Address</td>
</tr>
<tr>
<td>IP Address</td>
</tr>
<tr>
<td>Subnet Mask</td>
</tr>
<tr>
<td>Default Gateway</td>
</tr>
<tr>
<td>DNS Server (Primary)</td>
</tr>
<tr>
<td>DNS Server (Secondary)</td>
</tr>
</tbody>
</table>

Note
- “0.0.0.0” is displayed when each IP address has not been set.

Testing the network connection
1 Select and set Network → Connection Test → Start.
Use /  to select, then press ENTER.
“Network connection test completed successfully.” is displayed once the test is completed. If any other message is displayed, check the connections and/or settings (pages 20 and 50).

Erasing the additional data from BD-ROMs
When a BD-ROM is played, additional data may be stored in the player’s memory (local storage).
If the message indicating low memory (local storage) appears, erase the BDMV data.

Caution
- When the BDMV data is erased, all the data of secondary video (Picture-in-Picture), secondary audio, bookmark, etc. that has been stored is erased.
- It takes time to erase the BDMV data for a while. Do not unplug the power cord while the data is being erased.

1 Select and set Options → BDMV Data Erase → Next Screen.
Use /  to select, then press ENTER.

2 Erase the data.
Use /  to select Yes, then press ENTER.
Software updating
The software of the player can be updated by connecting it to the Internet using a LAN cable.

Before updating the software, make sure that you have connected the player to the network and made the necessary settings (pages 20 and 50).

Caution
• Do not unplug the power cord during software updating. Otherwise, the updating will be aborted and malfunction may occur with the player.
• There are two processes for software updating, downloading and updating. Both processes may take a certain period of time.
• Depending on the Internet connection conditions, downloading may take a long time.
• Other operations are defeated during software updating. Furthermore, updating process cannot be canceled.
• When the front panel display is off, turn it on with FL DIMMER. When updating the player’s software with the front panel display off, do not unplug the power cord until the FL OFF indicator turns off.

Note
• Steps 1 to 2 are the operations performed by the user (they are intended to download the software from the Internet).
• Steps 3 to 5 are the operations performed (automatically) by the player (they are intended to update the software).

1 Select and set Options → Software Update → Start.
Use ↑/↓/←/→ to select, then press ENTER.
• If the player is already running the latest software, the message “The player’s software is up to date and does not need updating.” is displayed.

2 Select and set Yes.
Use ←/→ to select Yes, then press ENTER.

OK to start downloading new software?
Current version X.XX
Latest version X.XX
Downloading takes about XX minutes.

Yes No

• The help menu is displayed if the player cannot connect to the Internet. Check the connections and settings (pages 20 and 50).

3 Downloading of the software start.
The software download status is displayed on the screen.
• Depending on the Internet connection conditions, software downloading may take a certain period of time.

4 Updating starts.
The front panel display shows messages such as “DATA CHECK”, “WRT SYS1”, “WRT DRV” and “WRT FLC”.
• Software updating may take a certain period of time.

5 Updating completes.
The front panel display shows “DOWNLOAD OK” and the player turns off automatically.

Stretching widescreen pictures vertically (Anamorphic Zoom)
Some discs include movies, etc., with a vertical-to-horizontal picture rate of 2.35:1 recorded as 16:9 pictures with black bars at the top and bottom of the screen. Turn this function on when projecting this type of picture with a front projector equipped with an anamorphic lens.

1 During playback, display the TOOLS menu. Press tools.

2 Select and set Anamorphic Zoom.
Use ↑/↓ to select, then use ←/→ to change the setting.

On – 16:9 pictures are stretched vertically, cropping the black bars at the top and bottom of the 2.35:1 picture for output.
• Off – 16:9 pictures are output as such, without stretching them vertically.

Note
• This is valid when TV Aspect Ratio is set to 16:9 (Widescreen) (page 44).
• When set to On, the top and bottom of 16:9 pictures with no black bars at the top and bottom are also cropped.
• Even when set to On, the vertical stretch is canceled and the original picture with the black bars reappears temporarily when the Video Adjust screen is displayed. For other operation screens, the top and bottom may be cropped, making the screen hard to see.

To close the TOOLS menu
Press tools or RETURN.
Eliminating extraneous noise to play with high quality sound (Pure Audio)

This function suppresses unnecessary signals to reduce noise and output high quality audio signals.

The Pure Audio function includes the following modes:

- **Mode 1** – Select this when listening to audio CDs and audio files. This mode also provides higher quality sound than **Mode 2** when playing only the audio portion of such video sources as BDs, DVDs and video files.
- **Mode 2** – Select this when also viewing the video portion of such video sources as BDs, DVDs and video files.
- **Off** – Select this to disable the Pure Audio function.

**Caution**

- When **Mode 1** or **Mode 2** is set, the operation is as described below.
  - When **Mode 1** is set, only audio signals are output during playback (except when an operation is being performed and the disc menus are being displayed).
  - Video signals are only output from the output terminal selected with **VIDEO SELECT** (page 25).
  - Audio signals are only output from the output terminal set at **Output Terminal** (page 44).
  - The player’s front panel display turns off during playback (except when an operation is being performed and the disc menus are being displayed).
  - The **PURE AUDIO** indicator on the player’s front panel lights.

### Switching the Pure Audio Mode

- Press **PURE AUDIO** on the front panel.

The currently set Pure Audio mode is indicated on the player’s front panel display.

The Pure Audio mode changes each time the button is pressed.

“PURE MODE1” → “PURE MODE2” → “PURE OFF”

**Note**

- The Pure Audio mode cannot be changed during playback.

AIR Studios Audio Tuning

With the cooperation of the world-class studio engineers at AIR Studios, this player has been AIR Studios certified:

Restoring all the settings to the factory default settings

1. Check that the player’s power is turned on.
2. When a disc is playing, press ■ to stop playback.
3. Eject the disc from the player.
4. While pressing ■, press STANDBY/ON.
5. Operate using the buttons on the player’s front panel.

**Note**

- After restoring all the settings to the factory default settings, use **Setup Navigator** to reset the player (page 21).
- When all the settings are restored to the factory defaults, all the data for the secondary video (Picture-in-Picture), secondary audio, bookmarks, etc., is erased.
About the audio output settings

The audio signals that are output differ according to the audio format recorded on the disc and the player’s settings. Check on the table below.

**Caution**
- When **ANALOG AUDIO** is selected at **Output Terminal**, no audio signals are output from the **HDMI OUT** or **DIGITAL OUT** terminals (page 44).
- When **HDMI MAIN or DIGITAL AUDIO** is selected at **Output Terminal**, linear PCM audio signals (2 channels) are output from all terminals other than the ones selected at **Output Terminal** (page 44).
- The **HDMI OUT (SUB)** terminal outputs linear PCM 2-channel audio signals.

<table>
<thead>
<tr>
<th>Audio format</th>
<th>AUDIO OUT (7.1 ch) terminals</th>
<th>DIGITAL OUT terminals</th>
<th>HDMI OUT (MAIN) terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2ch¹</td>
<td>Multi-channel¹</td>
<td>Converted to linear PCM audio¹</td>
</tr>
<tr>
<td>BD-ROM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dolby Digital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dolby Digital Plus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dolby TrueHD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DTS Digital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surround</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DTS-HD High</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resolution Audio</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DTS-HD Master</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Audio</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linear PCM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BD-R/RE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPEG-2 AAC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPEG</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DVD-Video</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dolby Digital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DTS Digital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surround</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPEG</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linear PCM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DVD (VR format)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dolby Digital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DTS Digital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surround</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPEG</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. When **Audio Output Mode** is set to **2 Channel** or **Multi-channel** (page 45).
2. When **Dolby Digital Out** is set to **Dolby Digital → PCM, DTS Out is set to DTS → PCM, or AAC Out is set to AAC → PCM** (page 44).
3. When **Dolby Digital Out** is set to **Dolby Digital 1/Dolby Digital 2, DTS Out is set to DTS 1/DTS 2 or AAC Out is set to AAC** (page 44).
4. When **HDMI Audio Out** is set to **PCM** or **Auto** (page 45).
5. When outputting Dolby Digital or DTS Digital Surround bitstream with settings of **Dolby Digital 2 at Dolby Digital Out, DTS 2 at DTS Out, the secondary audio and interactive audio signals are not mixed**.
6. When outputting the bitstream of Dolby TrueHD, Dolby Digital Plus, Dolby Digital, DTS-HD Master Audio, DTS-HD High Resolution Audio or DTS Digital Surround, the secondary audio and interactive audio signals are not mixed.
7. If the connected HDMI device is not compatible with Dolby TrueHD or Dolby Digital Plus bitstream, the signals are output in linear PCM (7.1 channels) or Dolby Digital bitstream.
8. If the connected HDMI device is not compatible with Dolby Digital bitstream, the signals are output in linear PCM (2 channels).
9. When the output video resolution is set to 480i or 480p, the signals may be output in linear PCM (2 channels) or Dolby Digital bitstream, depending on **HDMI High Speed Transmission** setting and/or the connected HDMI device (page 15).
10. If the connected HDMI device is not compatible with DTS-HD Master Audio or DTS-HD High Resolution Audio, the signals are output in DTS Digital Surround bitstream.
11. If the connected HDMI device is not compatible with DTS Digital Surround bitstream, the signals are output in linear PCM (2 channels).
### Language Code Table and Country/Area Code Table

#### Language Code Table

<table>
<thead>
<tr>
<th>Language name</th>
<th>Language code, input code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afar</td>
<td>aa,aa, 0101</td>
</tr>
<tr>
<td>Afrikaans</td>
<td>af,af, 0106</td>
</tr>
<tr>
<td>Albanian</td>
<td>sq,sq, 1917</td>
</tr>
<tr>
<td>Amharic</td>
<td>am,am, 0118</td>
</tr>
<tr>
<td>Arabic</td>
<td>ar,ar, 0116</td>
</tr>
<tr>
<td>Armenian</td>
<td>hy/hye, 0825</td>
</tr>
<tr>
<td>Assamese</td>
<td>as/as, 0119</td>
</tr>
<tr>
<td>Aymara</td>
<td>ay/aym, 0125</td>
</tr>
<tr>
<td>Azerbaijani</td>
<td>az/aze, 0126</td>
</tr>
<tr>
<td>Bashkir</td>
<td>ba/bak, 0201</td>
</tr>
<tr>
<td>Basque</td>
<td>eu/eus, 0521</td>
</tr>
<tr>
<td>Belarusian</td>
<td>be,be, 0205</td>
</tr>
<tr>
<td>Bengali</td>
<td>bn/ben, 0214</td>
</tr>
<tr>
<td>Bikini</td>
<td>bk/bik, 0208</td>
</tr>
<tr>
<td>Breton</td>
<td>br/br, 0218</td>
</tr>
<tr>
<td>Bulgarian</td>
<td>bg/bul, 0207</td>
</tr>
<tr>
<td>Burundese</td>
<td>my/my, 1225</td>
</tr>
<tr>
<td>Catalan</td>
<td>ca/cat, 0301</td>
</tr>
<tr>
<td>Chinese</td>
<td>zh/zh, 2608</td>
</tr>
<tr>
<td>Corsican</td>
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- Only compatible with 7.1-channel surround back. 6.1-channel surround back is output in 7.1 channels. In other cases, output as audio signals of 5.1-channels or less.
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### Country/Area Code Table

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Chapter 7

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A somewhat less technical, more leisurely introduction to JPEG can be found in The Data Compression Book by Mark Nelson and Jean-loup Gailly, published by M&T Books (New York), 2nd ed, 1996, ISBN 1-55851-434-1. This book provides good explanations and example C code for a multitude of compression methods including JPEG. It is an excellent source if you are comfortable reading C code but don’t know much about data compression in general. The book’s JPEG sample code is far from optimal in terms of strength, but when you are ready to look at a full implementation, you’ve got one here...

The best full description of JPEG is the textbook "JPEG Still Image Data Compression Standard" by William B. Pennebaker and Joan L. Mitchell, published by Van Nostrand Reinhold, 1993, ISBN 0-442-01275-1. Price US$59.95, 638 pp. The book includes the complete test of the ISO JPEG standards (D10918-1 and draft D10918-2). This is by far the most complete exposition of JPEG in existence, and we highly recommend it. The JPEG standard itself is not available electronically; you must order a paper copy through ISO or ITU. (Unless you feel a need to own a certified official copy, we recommend buying the Pennebaker and Mitchell book instead; it’s much cheaper and includes a great deal of useful explanatory material.) In the USA, copies of the standard may be ordered from ANSI Sales at (212) 642-4900, or from Global Engineering Documents at (800) 854-7179. (ANSI doesn’t take credit card orders, but Global does.) It’s not cheap: as of 1992, ANSI was charging $15 for Part 1 and $47 for Part 2, plus 7% shipping/handling. The standard is divided into two parts, Part 1 being the actual specification, while Part 2 covers compliance testing methods. Part 1 is titled “Digital Compression and Coding of Continuous-tone Still Images, Part 1: Elements and guidelines” and has document numbers ISO/IEC IS 10918-1, ITU-T T.81. Part 2 is titled “Digital Compression and Coding of Continuous-tone Still Images, Part 2: Compliance testing” and has document numbers ISO/IEC IS 10918-2, ITU-T T.83.

Some extensions to the original JPEG standard are defined in JPEG Part 3, a newer ISO standard numbered ISO/IEC IS 10918-3 and ITU-T T.84. Currently, JPEG does not support any Part 3 extensions.

The JPEG standard does not specify all details of an interchangeable file format. For the omitted details we follow the “JFIF” conventions, revision 1.02. A copy of the JFIF specification is available from:

- Literature Department
- C-Cube Microsystems, Inc.
- 1718 McCarthy Blvd.
- Milpitas, CA 95035
- phone (408) 944-6300, fax (408) 944-6314

A patch to the original JFIF specification has been available for FTP at ftp://ftp.uu.net/~graphics/jpeg/jfif.ps.gz. There is also a plain text version at ftp://ftp.uu.net/~graphics/jpeg/jfif.txt.gz, but it is missing the figures.

The TIFF 6.0 file format specification can be obtained by FTP from ftp://ftp.sgi.com graphtools/tiff/tiff-6.0.tar.gz. The JFIF incorporation scheme found in the TIFF 6.0 spec of 3-June-92 has a number of serious problems. USG does not recommend use of the TIFF 6.0 design (TIFF Compression tag 6). Instead, we recommend the JPEG design proposed by TIFF Technical Note #2 (Compression tag 7). Copies of this Note can be obtained from ftp.sgi.com or from ftp://www.cs.cornell.edu. It is expected that the next revision of the TIFF spec will replace the 6.0 JPEG design with the Note’s design. Although USG’s own code does not support TIFF/JPEG, the free libtiff library uses our library to implement TIFF/JPEG per the Note. libtiff is available from ftp://ftp.sgi.com/graphtools/gifs/thrift.

ARCHIVE LOCATIONS

The “official” archive site for this software is ftp.uu.net (Internet address 192.48.96.9). The most recent released version can always be found there in directory graphics/jpeg. This particular version will be archived as ftp://ftp.uu.net/~graphics/jpeg/jpegsrc.v6b.tar.gz. If you don’t have direct Internet access, UNIXNET’s archives are also available via UUCP, contact help@unixet.uu.net for information on retrieving files that way.

Numerous Internet sites maintain copies of the UUNET files. However, only ftp.uu.net is guaranteed to have the latest official version. You can also obtain this software in DOS-compatible “zip” archive format from the SimTel archives (ftp://ftp.simtel.net/pub/simtelnet/mdos/graphicstools/), or on CompuServe in the Graphics Support forum (GO CIS:GRAPHSUP), library 12 JPEG Tools. Again, these versions may sometimes lag behind the ftp.uu.net release.

The JPEG FAQ (Frequently Asked Questions) article is a useful source of general information about JPEG. It is updated constantly and therefore is not included in this distribution. The FAQ is posted every two weeks to Usenet newsgroups comp.graphics.misc, news.answers, and other groups. It is available on the World Wide Web at http://www.faqs.org/faqs/jpeg/jfif/ and other news.answers archives, including the official news.answers archive at rtfm.mit.edu: ftp://rtfm.mit.edu/pub/usenet/news.answers/jpeg-faq/. If you don’t have Web or FTP access, send e-mail to mail-server@rtfm.mit.edu with body

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send usenet/news.answers/jpeg-faq/part2

RELATED SOFTWARE

Numerous viewing and image manipulation programs now support JPEG. (Quite a few of them use this library to do so.) The JPEG FAQ described above lists some of the more popular free and shareware viewers, and tells where to obtain them on Internet.

If you are on a Unix machine, we highly recommend Jef Poskanzer’s free PBMPLUS software, which provides many useful operations on PPM-format image files. In particular, it can convert PPM images to and from a wide range of other formats, thus making cjpeg/djpeg considerably more useful. The latest version is distributed by the NetPBM group, and is available from numerous sites, notably ftp://wuarchive.wustl.edu/graphics/Graphics/packages/NetPBM/. Unfortunately PBMPLUS/NETPBM is not nearly as portable as the USG software is; you are likely to have difficulty making it work on any non-Unix machine.

A different free JPEG implementation, written by the PVRG group at Stanford, is available from ftp://harvnet.stanford.edu/pub/pjpeg/. This program is designed for research and experimentation rather than production use; it is slower, harder to use, and less portable than the libraries, but it is easier to understand and modify. Also, the PVRG code supports lossless JPEG, which we do not. (On the other hand, it doesn’t do progressive JPEG.)

FILE FORMAT WARS

Some JPEG programs produce files that are not compatible with our library. The root of the problem is that the ISO JPEG committee failed to specify a concrete file format. Some vendors “filled in the blanks” on their own, creating proprietary formats that no one else could read. (For example, none of the early commercial JPEG implementations for the Macintosh were able to exchange compressed files.) The file format we have adopted is called JIFF (see REFERENCES). This format has been agreed to by a number of major commercial JPEG vendors, and it has become the de facto standard. JIFF is a minimal or “low end” representation. We recommend the use of TIFF/JPEG (Tiff revision 6.0 as modified by TIFF Technical Note #2) for “high end” applications that need to record a lot of additional data about an image. TIFF/JPEG is fairly new and not yet widely supported.

The upcoming JPEG Part 3 standard defines a file format called SPiFF. SPiFF is interoperable with JIFF, in the sense that most JIFF decoders should be able to read the most common variant of SPiFF. SPiFF has some technical advantages over JIFF, but its major claim to fame is simply that it is an official standard rather than an informal one. At this point it is unclear whether SPiFF will supersede JIFF or whether JIFF will remain the de-facto standard. JIFF intends to support SPiFF once the standard is frozen, but we have not decided whether it should become our default output format or not. (In any case, our decoder will remain capable of reading JIFF indefinitely.)

Various proprietary file formats incorporating JPEG compression also exist. We have little or no sympathy for the existence of these formats. Indeed, one of the original reasons for developing this free software was to help force convergence on common, open format standards for JPEG files. Don’t use a proprietary file format! TO DO

The major thrust for v7 will probably be improvement of visual quality. The current method for scaling the quantization tables is known not to be very good at low Q values. We also intend to investigate block boundary smoothing, “poor man’s variable quantization”, and other means of improving quality-vs-file-size performance for low-end representations. We look forward to hearing from you at http://www.faqs.org/comp.graphics.misc/jpeg-faq/.

In future versions, we are considering supporting some of the upcoming JPEG Part 3 extensions – principally, variable quantization and the SPiFF file format. As always, speeding things up is of great interest.

Please send bug reports, offers of help, etc. to jpeg-info@unixet.uu.net.

libupnp

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d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you already sent this user a copy.

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END OF TERMS AND CONDITIONS

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Moving the player

If you need to move this unit, first remove the disc if there's one loaded, and close the disc tray. Next, press the STANDBY/ON switch to the power to standby, checking that the POWER OFF indication on the front panel display goes off. Wait at least 10 seconds. Lastly, disconnect the power cord.

Never lift or move the unit during playback — discs rotate at a high speed and may be damaged.

Place of installation

Select a stable place near the TV and AV system to which the unit is connected.

Do not place the player on top of a TV or color monitor. Keep it away from cassette decks or other components easily affected by magnetism.

Avoid the following types of places:
- Places exposed to direct sunlight
- Humid or poorly ventilated places
- Extremely hot or cold places
- Places subject to vibration
- Dusty places
- Places exposed to soot, steam or heat (in kitchens, etc.)

Do not place objects on top

Do not place objects on top of the player.

Do not obstruct the ventilation holes

Do not use the player on a shaggy rug, bed, or sofa, and do not cover the player with a cloth, etc. Doing so will prevent heat dissipation and could lead to damage.

Keep away from heat

Do not place the player on top of an amplifier or other device generating heat. When installing in a rack, to avoid the heat generated by the amplifier and other devices, place it on a shelf below the amplifier whenever possible.

Turn the power off when not using the player

Depending on the conditions of the TV broadcast signals, striped patterns may appear on the screen when the TV is turned on while the player’s power is turned on. This is not a malfunction with the player or TV. If this happens, turn the player’s power off. In the same way, noise may be heard in the sound of a radio.

Condensation

If the player is moved suddenly from a cold place into a warm room (in winter, for example) or if the temperature in the room in which the player is installed rises suddenly due to a heater, etc., water droplets (condensation) may form inside (on operating parts and the lens). When condensation is present, the player will not operate properly and playback is not possible. Let the player stand at room temperature for 1 or 2 hours with the power turned on (the time depends on the extent of condensation). The water droplets will dissipate and playback will become possible.

Condensation can also occur in the summer if the player is exposed to the direct wind from an air-conditioner. If this happens, move the player to a different place.

Cleaning the player

Normally, wipe the player with a soft cloth. For tough dirt, apply some neutral detergent diluted in 5 to 6 parts water to a soft cloth, wring out thoroughly, wipe off the dirt, then wipe again with a dry cloth.

Note that getting alcohol, thinner, benzene or insecticide on the player could cause the print and coating to peel off. Also, avoid leaving rubber or vinyl products in contact with the player for long periods of time, as this could damage the cabinet.

When using chemical-impregnated wipes, etc., read the wipe’s cautions carefully.

Unplug the power cord from the power outlet when cleaning the player.

Caution for when the unit is installed in a rack with a glass door

Do not press the OPEN/CLOSE on the remote control to open the disc tray while the glass door is closed. The door will hamper the movement of the disc tray, and the unit could be damaged.
Cleaning the pickup lens

The player’s lens should not become dirty in normal use, but if for some reason it should malfunction due to dust or dirt, consult your nearest Pioneer authorized service center. Although lens cleaners for players are commercially available, we advise against using them since some may damage the lens.

Handling discs

Do not use damaged (cracked or warped) discs. Do not scratch the disc’s signal surface or let it get dirty. Do not load more than one disc into the player at a time. Do not glue paper or put stickers onto the disc, or use a pencil, ball-point pen or other sharp-tipped writing instrument. These could all damage the disc.

Cleaning discs

It may not be possible to play the disc if there are fingerprints or dust on it. In this case, using a cleaning cloth, etc., to wipe the disc gently from the center toward the outer edge. Do not use a dirty cleaning cloth.

Do not use benzene, thinner or other volatile chemicals. Also do not use record spray or antistatic agents. For tough dirt, apply some water to a soft cloth, wring out thoroughly, wipe off the dirt, then wipe off the moisture with a dry cloth.

Specially shaped discs

Specially shaped discs (heart-shaped, hexagonal, etc.) cannot be used on this player. Never use such discs, as they will damage the player.

Condensation on discs

If the disc is moved suddenly from a cold place into a warm room (in winter, for example), water droplets (condensation) may form on the disc surface. Discs will not play properly if there is condensation on them. Carefully wipe off the water droplets from the disc surface before using the disc.

Troubleshooting

Incorrect operation is often mistaken for trouble or malfunction. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Inspect the other components and electrical appliances being used. If the trouble cannot be rectified after checking the items below, please contact customer services. In the US, call Toll Free (800) 421-1404. (Telephone lines are open Monday through Friday 6:00 AM to 4:30 PM (Pacific Time).) In Canada, call Local (905) 479-4411, or Long distance +1(877) 283-5901. (Telephone lines are open Monday through Friday 9:00 AM to 5:30 PM (EST).)

<table>
<thead>
<tr>
<th>Problem</th>
<th>Check</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disc does not play.</td>
<td>Is the disc one that is playable on this player?</td>
<td>Check whether the disc is one that can be played on this player (page 8).</td>
</tr>
<tr>
<td>Disc tray opens automatically.</td>
<td>Is the file one that is playable on this player?</td>
<td>• Check whether the file is one that can be played on this player (page 10).</td>
</tr>
<tr>
<td>Is the disc scratched?</td>
<td></td>
<td>• Check whether or not the file is damaged.</td>
</tr>
<tr>
<td>Is the disc dirty?</td>
<td></td>
<td>It may not be possible to play scratched discs.</td>
</tr>
<tr>
<td>Is there a piece of paper or sticker attached to the disc?</td>
<td></td>
<td>Clean the disc (above).</td>
</tr>
<tr>
<td>Is the disc properly set in the disc tray?</td>
<td></td>
<td>The disc may be warped and unplayable.</td>
</tr>
<tr>
<td>Is the region number correct?</td>
<td></td>
<td>• Set the disc with the printed side facing up.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Set the disc properly in the depression in the disc tray.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>See About region numbers on page 10 for the region numbers of discs that can be played on this player.</td>
</tr>
</tbody>
</table>

Playback
No picture is displayed or the picture is not displayed properly.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Check</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>No picture is displayed or the picture is not displayed properly.</td>
<td>Is the video cable properly connected?</td>
<td>• Connect the cable properly according to the connected devices (page 15). • Insert the cable firmly and all the way in.</td>
</tr>
<tr>
<td></td>
<td>Is the video cable damaged?</td>
<td>If the cable is damaged, replace it with a new one.</td>
</tr>
<tr>
<td></td>
<td>Is the input setting on the connected TV or AV receiver or amplifier right?</td>
<td>Read the operating instructions of the connected components and switch to the proper input.</td>
</tr>
<tr>
<td></td>
<td>Are you viewing the picture from the video output terminal selected with VIDEO SELECT?</td>
<td>Press VIDEO SELECT to switch the video output terminal to be viewed (page 25). If Pure Audio is set to Mode 2, video signals are only output from the selected output terminal (page 53).</td>
</tr>
<tr>
<td></td>
<td>Is the output video resolution properly set?</td>
<td>Use OUTPUT RESOLUTION to switch to a resolution at which the video and audio signals are output (page 25).</td>
</tr>
<tr>
<td></td>
<td>• Is the player connected with an HDMI cable other than a High Speed HDMI™ cable (with a Standard HDMI™ cable)?</td>
<td>1080p or Deep Color video signals may not be output properly, depending on the HDMI cable being used or the player’s settings. Press ■ while pressing ► on the player’s front panel to restore the video outputs to the factory default settings. After this, if you wish to output the video signals with 1080p or Deep Color, connect the TV using a High Speed HDMI™ cable without built-in equalizer, then reset the player using the Setup Navigator (page 21).</td>
</tr>
<tr>
<td></td>
<td>• Are you using an HDMI cable with built-in equalizer?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Is Pure Audio set to Mode 1?</td>
<td>When set to Mode 1, no picture is displayed during playback (page 53).</td>
</tr>
<tr>
<td></td>
<td>Is a DVI device connected?</td>
<td>The picture may not be displayed properly if a DVI device is connected.</td>
</tr>
<tr>
<td>Picture freezes and the front panel and remote control buttons stop working.</td>
<td>Is HDMI Color Space properly set?</td>
<td>Change the HDMI Color Space setting (page 45).</td>
</tr>
<tr>
<td>Motion is unnatural or picture is not clear.</td>
<td>Is the output video resolution set to 1080/24p?</td>
<td>• The picture may not be displayed properly, depending on the source. Set the resolution to something other than 1080/24p. • Change the Pure Cinema setting (page 40).</td>
</tr>
<tr>
<td>No picture is displayed or picture is not output in high definition when playing BDs.</td>
<td></td>
<td>• This player supports Macrovision analog copy protection technology. With some TVs (such as with built-in video deck), the picture will not be displayed properly when the copy protected DVD title is played. This is not a malfunction. • If the player and TV are connected via a DVD recorder/video deck, etc., the picture will not be displayed properly due to analog copy protection. Connect the player and TV directly.</td>
</tr>
<tr>
<td></td>
<td>• Picture is disturbed during playback.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Picture is dark.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Picture is stretched.</td>
<td>Is the TV’s aspect ratio properly set?</td>
</tr>
<tr>
<td></td>
<td>• Picture is cropped.</td>
<td>Is TV Aspect Ratio properly set?</td>
</tr>
<tr>
<td></td>
<td>• Aspect ratio cannot be switched.</td>
<td>Is 4:3 Video Out properly set?</td>
</tr>
<tr>
<td></td>
<td>Is Anamorphic Zoom set to On?</td>
<td>Set Anamorphic Zoom to Off (page 52).</td>
</tr>
<tr>
<td>Picture is interrupted.</td>
<td></td>
<td>The picture may be interrupted when the resolution of the recorded video signal switches. Press OUTPUT RESOLUTION to select a setting other than Auto, 1080/24p or Source Direct (page 25).</td>
</tr>
<tr>
<td>Problem</td>
<td>Check</td>
<td>Remedy</td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
<td>--------</td>
</tr>
<tr>
<td>Sound and picture are not synchronized.</td>
<td><strong>Output Terminal</strong> properly set?</td>
<td>Set <strong>Output Terminal</strong> properly (pages 21 and 44).</td>
</tr>
<tr>
<td>Sound is not output.</td>
<td><strong>Lip Sync</strong> properly set?</td>
<td>Adjust the amount of audio delay with the <strong>Lip Sync</strong> setting (page 42).</td>
</tr>
<tr>
<td>No sound is output.</td>
<td>Is the disc played back in slow motion?</td>
<td>No sound is output during slow motion play and forward and reverse scanning.</td>
</tr>
<tr>
<td>Sound and picture are not synchronized.</td>
<td>Is the disc played back in fast forward or fast reverse?</td>
<td>• Connect the cable properly according to the connected devices (page 15).</td>
</tr>
<tr>
<td></td>
<td>Are the audio cables properly connected?</td>
<td>• Insert the cable firmly and all the way in.</td>
</tr>
<tr>
<td></td>
<td>Is the audio cable damaged?</td>
<td>If the cable is damaged, replace it with a new one.</td>
</tr>
<tr>
<td></td>
<td>Are the connected components (AV receiver or amplifier, etc.) properly set?</td>
<td>Read the operating instructions of the connected components and check the volume, input, speaker settings, etc.</td>
</tr>
<tr>
<td></td>
<td><strong>Output Terminal</strong> properly set?</td>
<td>When <strong>ANALOG AUDIO</strong> is selected at <strong>Output Terminal</strong>, no audio signals are output from the <strong>HDMI OUT</strong> or <strong>DIGITAL OUT</strong> terminals (page 44).</td>
</tr>
<tr>
<td></td>
<td>Is the output video resolution properly set?</td>
<td>Use <strong>OUTPUT RESOLUTION</strong> to switch to the resolution at which the video and audio signals are output (page 26).</td>
</tr>
<tr>
<td></td>
<td>Is the AV receiver or amplifier, etc., connected to the <strong>AUDIO OUT (7.1 ch)</strong> terminals?</td>
<td>To listen to 2-channel analog audio, connect to <strong>FRONT (L/R)</strong> of the <strong>AUDIO OUT (7.1 ch)</strong> terminals (page 14) and set <strong>Audio Output Mode</strong> to <strong>2 Channel</strong> (page 45).</td>
</tr>
<tr>
<td></td>
<td>Are the speakers properly set?</td>
<td>When the AV receiver or amplifier, etc., is connected to the <strong>AUDIO OUT (7.1 ch)</strong> terminals and <strong>Audio Output Mode</strong> is set to <strong>Multi-channel</strong>, set <strong>Speaker Setup</strong> properly (page 47).</td>
</tr>
<tr>
<td></td>
<td>Is Pure Audio set to <strong>Mode 1</strong> or <strong>Mode 2</strong>?</td>
<td>If set to <strong>Mode 1</strong> or <strong>Mode 2</strong>, signals are only output from the output terminal set at <strong>Output Terminal</strong> (page 53).</td>
</tr>
<tr>
<td></td>
<td>Is a DVI device connected?</td>
<td>The sound will not be output from the <strong>HDMI OUT</strong> terminals if a DVI device is connected. Connect the device to the <strong>DIGITAL OUT</strong> terminals or the <strong>HDMI OUT (7.1 ch)</strong> terminals (page 18).</td>
</tr>
<tr>
<td></td>
<td>Are you playing a DTS-CD?</td>
<td>To output the sound of DTS-CDs from the <strong>HDMI OUT (SUB)</strong> terminal, set <strong>HDMI Audio Out</strong> to <strong>PCM</strong> (page 45).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>For some BDs, audio signals are only output from <strong>DIGITAL OUT</strong> terminals or the <strong>HDMI OUT</strong> terminals.</td>
</tr>
<tr>
<td>Multi-channel sound is not output.</td>
<td><strong>Output Terminal</strong> properly set?</td>
<td>Linear PCM (2-channel) audio signals are output from output terminals other than the one set at <strong>Output Terminal</strong> under <strong>Audio Out</strong>. Set <strong>Output Terminal</strong> properly (page 44).</td>
</tr>
<tr>
<td></td>
<td>Is the AV receiver or amplifier connected to the <strong>HDMI OUT (SUB)</strong> terminal?</td>
<td>The <strong>HDMI OUT (SUB)</strong> terminal outputs linear PCM 2-channel audio signals. Be sure to connect the AV receiver or amplifier to the <strong>HDMI OUT (MAIN)</strong> terminal.</td>
</tr>
<tr>
<td></td>
<td>Is the audio output of the connected AV receiver or amplifier, etc., properly set?</td>
<td>Read the operating instructions of the connected AV receiver or amplifier and check the audio output settings of AV receiver or amplifier.</td>
</tr>
<tr>
<td></td>
<td>Is multi-channel sound selected?</td>
<td>Use the menu screen or <strong>AUDIO</strong> to switch the disc’s sound to multi-channel.</td>
</tr>
<tr>
<td></td>
<td>Is the AV receiver or amplifier, etc., connected to the <strong>AUDIO OUT (7.1 ch)</strong> terminals?</td>
<td>When the AV receiver or amplifier, etc., is connected to the <strong>AUDIO OUT (7.1 ch)</strong> terminals, set <strong>Audio Output Mode</strong> to <strong>Multi-channel</strong> (page 45). Also, set <strong>Speaker Setup</strong> properly (page 47).</td>
</tr>
<tr>
<td>Noise can be heard when outputting DTS Digital Surround signals from the <strong>DIGITAL OUT</strong> terminals.</td>
<td>Is the connected AV receiver or amplifier compatible with DTS Digital Surround?</td>
<td>If an AV receiver or amplifier that is not compatible with DTS Digital Surround is connected to the <strong>DIGITAL OUT</strong> terminals, set <strong>DTS Out to PCM</strong> (page 44).</td>
</tr>
<tr>
<td>192 kHz or 96 kHz digital audio signals cannot be output from the <strong>DIGITAL OUT</strong> terminals.</td>
<td></td>
<td>It is not possible to output 192 kHz or 96 kHz digital audio signals from this player’s <strong>DIGITAL OUT</strong> terminals. The signals are automatically converted to 48 kHz or less for output.</td>
</tr>
<tr>
<td>Secondary audio or interactive audio is not output.</td>
<td><strong>HDMI Audio Out</strong> properly set?</td>
<td>When listening to the sound from an <strong>HDMI OUT (MAIN)</strong> terminal, set <strong>HDMI Audio Out</strong> to <strong>PCM</strong> (page 45).</td>
</tr>
<tr>
<td></td>
<td>Are <strong>Dolby Digital Out</strong> and <strong>DTS Out</strong> properly set?</td>
<td>When listening to the sound from an <strong>DIGITAL OUT</strong> terminal, set <strong>Dolby Digital Out</strong> to <strong>Dolby Digital 1, DTS Out to DTS 1</strong> (page 44).</td>
</tr>
</tbody>
</table>
### Problem: Sound is fast or slow.

When an HDMI cable is connected, are audio signals being output from devices connected with cables other than HDMI cables?

When a Pioneer AV receiver or amplifier compatible with the PQLS function is connected directly to the player’s HDMI OUT (MAIN) terminal using an HDMI cable, the PQLS function is activated when playing an audio CD (CD-DA). Because of this, the sound output from components other than the ones connected by HDMI cable may be fast or slow. If this happens, set **PQLS to Off** (page 45).

### Problem: After a disc is inserted, Loading stays displayed and playback does not start.

Are there too many files recorded on the disc?

When a disc on which files are recorded is inserted, depending on the number of files recorded on the disc, loading may take several dozen minutes.

### Problem: A message indicating low memory (local storage) appears while playing a BD-ROM disc.

Is **Hybrid Disc Playback** properly set?

Erase the BDMV data (page 51).

### Problem: The DVD layer of BD and DVD hybrid discs cannot be played.

Is **Hybrid Disc Playback** properly set?

Set **Hybrid Disc Playback to DVD** (page 45).

### Problem: The CD layer of BD and DVD hybrid discs cannot be played.

Is **Hybrid Disc Playback** properly set?

Set **Hybrid Disc Playback to CD** (page 45).

### Problem: The BDMV format on BD-R/-RE discs cannot be played.

To play the BDMV format on BD-R/-RE discs containing both BDMV and BDAV formats, set **BDMV/BDAV Playback Priority to BDMV** (page 45).

### Software updating

<table>
<thead>
<tr>
<th>Problem</th>
<th>Check</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Connection to the software updating server failed&quot; is displayed when you try to update the software.</td>
<td><strong>Perform Connection Test</strong> (page 51). If &quot;Network connection test completed successfully,&quot; is displayed, check the proxy server settings (page 50). Also there may be a problem with the Internet connection. Contact your Internet service provider.</td>
<td></td>
</tr>
<tr>
<td>Software updating is slow.</td>
<td></td>
<td>Depending on the Internet connection and other conditions, some time may be required to update the software.</td>
</tr>
<tr>
<td>• &quot;WRT NG <em><strong><strong>&quot; is displayed on the front panel display during software updating. (</strong></strong></em> meaning any characters) • &quot;WRT FAILED&quot; is displayed on the front panel display during software updating.</td>
<td></td>
<td>The message is displayed when software updating has failed. Check again whether it can be updated properly.</td>
</tr>
<tr>
<td>A message other than “Network connection test completed successfully” is displayed when <strong>Connection Test</strong> is performed.</td>
<td>Is &quot;LAN cable not connected&quot; displayed?</td>
<td>Check that this player and Ethernet hub (or router with hub functionality) are properly connected.</td>
</tr>
<tr>
<td>• Is &quot;IP address cannot be obtained,&quot; displayed? • Is &quot;No response from the gateway,&quot; displayed?</td>
<td></td>
<td>• If the IP address is obtained using the DHCP server function, check the setting is correct at the <strong>Display Network Configuration</strong> (page 51). For details on the DHCP server function, see the operating instructions of the Ethernet hub (or router with hub functionality). • Set the IP address manually.</td>
</tr>
<tr>
<td>• Is &quot;IP address is overlapped,&quot; displayed?</td>
<td></td>
<td>• Check the operation and settings of the DHCP server function of the Ethernet hub (or router with hub functionality). For details on the DHCP server function, see the operating instructions of the Ethernet hub (or router with hub functionality). • If this player’s has been set manually, reset the IP address of this player or other components.</td>
</tr>
<tr>
<td>Is the Ethernet hub (or router with hub functionality) operating properly?</td>
<td></td>
<td>• Check the settings and operation the Ethernet hub (or router with hub functionality). For details, see the operating instructions of the Ethernet hub. • Reboot the Ethernet hub (or router with hub functionality).</td>
</tr>
</tbody>
</table>
### KURO LINK

<table>
<thead>
<tr>
<th>Problem</th>
<th>Check</th>
<th>Remedy</th>
</tr>
</thead>
</table>
| KURO LINK function does not work. | - Is the HDMI cable properly connected?  
- Are you connected to the HDMI OUT (SUB) terminal? | To use the KURO LINK function, connect the Flat Panel TV and AV system (AV receiver or amplifier, etc.) to the HDMI OUT (MAIN) terminal (page 16).  
- Is the HDMI cable you are using a High Speed HDMI™ cable?  
- Is KURO LINK set to On on the player?  
- Does the connected device support the KURO LINK function? | Use a High Speed HDMI™ cable. The KURO LINK function may not work properly if HDMI cable other than a High Speed HDMI™ cable is used.  
- Set KURO LINK to On on the player (page 45). |
| The player's power turns off automatically. | Is Auto Power Off set to On? | If Auto Power Off is set to On, the player’s power turns off automatically if no operation is performed for over 30 minutes (page 46). |
| The player's power turns on or off automatically. | Is KURO LINK set to On? | The player’s power may turn on and off together with the power of the TV connected to the HDMI OUT (MAIN) terminal. If you do not want the player’s power to turn on and off when the TV’s power is turned on and off, set KURO LINK to Off (page 45). |
| Player cannot be operated with remote control. | Is an AV receiver or amplifier connected to the CONTROL IN terminal on the player’s rear panel?  
Are you operating the remote control from a point too far away from the player?  
Are the batteries dead? | Operate with the remote control of the device connected to the CONTROL IN terminal.  
Operate from within 23 feet of the remote control sensor.  
Replace the batteries (page 7). |
| Input of connected TV and AV system switches automatically. | Is KURO LINK set to On? | The input of the TV and AV system (AV receiver or amplifier, etc.) connected to the HDMI OUT (MAIN) terminal may automatically switch to the player when playback starts on the player or the menu screen (Home Media Gallery, etc.) is displayed. If you do not want the inputs of the connected TV and AV system (AV receiver or amplifier, etc.) to switch automatically, set KURO LINK to Off (page 45). |

### Others

<table>
<thead>
<tr>
<th>Problem</th>
<th>Check</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>The player’s power turns off automatically.</td>
<td>Is Auto Power Off set to On?</td>
<td>If Auto Power Off is set to On, the player’s power turns off automatically if no operation is performed for over 30 minutes (page 46).</td>
</tr>
<tr>
<td>The player’s power turns on or off automatically.</td>
<td>Is KURO LINK set to On?</td>
<td>The player’s power may turn on and off together with the power of the TV connected to the HDMI OUT (MAIN) terminal. If you do not want the player’s power to turn on and off when the TV’s power is turned on and off, set KURO LINK to Off (page 45).</td>
</tr>
</tbody>
</table>
| Player cannot be operated with remote control. | Is an AV receiver or amplifier connected to the CONTROL IN terminal on the player’s rear panel?  
Are you operating the remote control from a point too far away from the player?  
Are the batteries dead? | Operate with the remote control of the device connected to the CONTROL IN terminal.  
Operate from within 23 feet of the remote control sensor.  
Replace the batteries (page 7). |
| Input of connected TV and AV system switches automatically. | Is KURO LINK set to On? | The input of the TV and AV system (AV receiver or amplifier, etc.) connected to the HDMI OUT (MAIN) terminal may automatically switch to the player when playback starts on the player or the menu screen (Home Media Gallery, etc.) is displayed. If you do not want the inputs of the connected TV and AV system (AV receiver or amplifier, etc.) to switch automatically, set KURO LINK to Off (page 45). |
Glossary

Aspect ratio
The ratio of a TV screen’s width to its height. Conventional TVs have an aspect ratio of 4:3, while high definition (HD) and widescreen TVs have an aspect ratio of 16:9.

Audio language
Multiple audio tracks, for example the original sound and the dubbed sound, can be recorded on BD-ROM or DVD-Video discs. Up to 32 languages (32 audio tracks) can be recorded on BD-ROM discs, up to 8 languages (8 audio tracks) on DVD-Video discs, so you can select the desired language when viewing the disc.

AVCHD (Advanced Video Codec High Definition)
The AVCHD is a high definition (HD) digital video camera recorder format recording high-definition onto certain media by using highly efficient codec technologies.

BD-J
With BD-ROMs, it is possible to use Java applications to create highly interactive titles, for example including games.

Component video output
This video output terminal provides clearer pictures when connected to a TV equipped with component inputs. Component video signals consist of three signals, Y, PB and PR.

Composite video output
Signals mixing the luminance signal (Y) and the color signal (C) so they can be transferred on a single cord are output from this terminal.

Deep Color
This is one of the capabilities of HDMI™. The players supporting Deep Color can transmit a video signal with a color bit depth of greater than 8 bits per color component. Subtle color gradations can be reproduced when connected to a TV that supports Deep Color.

Default Gateway
A default gateway is a communication device such as a router which passes data between networks. It is used to direct data to networks on which the destination gateway is not explicitly specified.

DHCP (Dynamic Host Configuration Protocol)
This protocol provides configuration parameters (IP address, etc.) for computers and other devices connected to the network.

DivX
DivX is a media technology developed by DivX Inc. DivX media files include moving picture data.

DNS (Domain Name System)
This is a system for associating Internet host names with IP addresses.

Dolby Digital
Dolby Digital is an audio format to record the sound in up to 5.1 channels with a fraction of the amount of data as compared to linear PCM audio signals.

Dolby Digital Plus
Dolby Digital Plus is an audio format for high-definition media. Built on Dolby Digital, it combines the efficiency and flexibility to provide high quality multi-channel audio. With BD-ROMs, up to 7.1 channels of digital sound can be recorded.

Dolby TrueHD
Dolby TrueHD is an audio format using lossless coding. With BD-ROMs, up to 8 channels can be recorded at 96 kHz/24 bits, or up to 6 channels at 192 kHz/24 bits.
DRM
A technology for protecting copyrighted digital data. Digitized videos, images and audio retain the same quality even when they are copied or transferred repeatedly. DRM is a technology for restricting the distribution or playback of such digital data without the authorization of the copyright holder.

DTS Digital Surround
DTS Digital Surround is an audio format to record 48 kHz/24 bits audio signals in 5.1 channels.

DTS-HD High Resolution Audio
DTS-HD High Resolution Audio is an audio format using lossy coding. It can record 7.1 channels at 96 kHz/24 bits.

DTS-HD Master Audio
DTS-HD Master Audio is an audio format using lossless coding. With BD-ROMs, 7.1 channels can be recorded at 96 kHz/24 bits, or 5.1 channels at 192 kHz/24 bits.

Dynamic range
This refers to the difference between the maximum and minimum level of the sound. The dynamic range is measured in units of decibels (dB).
When the dynamic range is compressed (Audio DRC), the minimum signal level is increased and the maximum signal level decreased. This way, the volume of loud sounds such as explosions is reduced, while the sounds with a low level, such as human voices, are easier to listen to.

Ethernet
A standard for local area networks (LANs) used to connect multiple computers, etc. in the same location. This player supports 100BASE-TX.

Frames and fields
A frame is the unit for one of the still pictures which compose motion pictures. One frame consists of a picture of odd lines and a picture of even lines called fields in video signal with interlaced scan method (480i, 1080i, etc.).

HDCP (High-bandwidth Digital Content Protection)
HDCP is a specification to protect audiovisual content across the DVI/HDMI interface.

HDMI (High-Definition Multimedia Interface)
A digital interface standard for next-generation TVs expanding the DVI (Digital Video Interface) terminal used for example for computer displays. It allows transfer of non-compressed digital video and audio signals (Dolby TrueHD, Dolby Digital Plus, Dolby Digital, DTS-HD Master Audio, DTS-HD High Resolution Audio, DTS Digital Surround, MPEG-2 AAC, linear PCM, etc.) with a single connector.

Interactive audio
The audio signals recorded in the titles of BD-ROMs. They include for example the clicking sound made when the menu screen is operated.

Interlaced scan
With this method, one picture is displayed by scanning it twice. The odd lines are displayed in the first pass, the even lines are displayed in the second, to form a single picture (frame). Interlaced scan is indicated in this player and operating instructions by an "i" after the resolution value (for example, 480i).

IP address
An address that identifies a computer or other device connected to the Internet or local area network. It is represented a number in four sections.

Linear PCM
This is referred as the audio signals that are not compressed, frequently used for DVD-Video discs containing musicals or music concerts. This can also be indicated "48 kHz/16 bit", "96 kHz", etc.

MAC (Media Access Control) address
A hardware identification number assigned specifically to the network device (LAN card, etc.).

MPEG (Moving Picture Experts Group)
The name of a family of standards used to encode video and audio signals in a digital compressed format. The video encoding standards include MPEG-1 Video, MPEG-2 Video, MPEG-4 Visual, MPEG-4 AVC, etc. The audio encoding standards include MPEG-1 Audio, MPEG-2 Audio, MPEG-2 AAC, etc.

Multi angle
Up to 9 camera angles can be recorded simultaneously on BD-ROM or DVD-Video discs, letting you view the same scene from different angles.

Parental Lock
Playback of the contents of some BD-ROM or DVD-Video discs can be restricted, for example for discs containing scenes of violence. With BD-ROM discs, an age restriction can be set to restrict playback. Playing DVD-Video title can be restricted by setting the parental lock level.

Picture-in-Picture (P-in-P)
This is a function for superimposing a sub video on the main video. Some BD-ROMs include secondary video, which can be superimposed on the primary video.

Port number
This is a sub-address provided below the IP address for simultaneously connecting to multiple parties during Internet communications.

Progressive scan
With this method, one picture is consisted of a single picture, without dividing it in two pictures. Progressive scan provides clear pictures with no flicker, in particular for still pictures that contain much text, graphics, or horizontal lines. Progressive scan is indicated in this player and operating instructions by a "p" after the resolution value (for example, 480p).

Proxy server
This is a relay server for ensuring fast access and safe communications when connecting to the Internet from an internal network.
**Region number**
A number assigned to Blu-ray Disc Players, BD-ROM and DVD-Video discs according to the region in which they are sold. A disc can be played if the region numbers indicated on the disc include the number set for the player or if "ALL" is indicated.

**S-Video output**
An output terminal for transmitting separate luminance (Y) and color (C) signals over a single cord. It offers clearer pictures than the composite video output.

**Secondary audio**
Some BD-ROMs include sub audio streams mixed with the main audio. These sub audio streams are called "secondary audio". On some discs this secondary audio is recorded as the audio for the secondary video.

**Secondary video**
Some BD-ROMs include sub videos superimposed on the main videos using the Picture-in-Picture function. These sub videos are called "secondary video".

**Subnet mask**
This is used to identify which part of the IP address corresponds to the subnet (a separately managed network). The subnet mask is expressed as ‘255.255.255.0’.

**Subtitle language**
This refers to the language of the subtitles often used on movies. Up to 255 languages (255 types of subtitles) can be recorded on BD-ROM discs, 32 languages (32 types of subtitles) on DVD-Video discs, so you can select the desired subtitle when viewing the disc.

**VC-1**
A video codec developed by Microsoft and standardized by the Society of Motion Picture and Television Engineers (SMPTE). Some BDs include videos encoded in this codec.

**x.v.Color**
"x.v.Color" is a promotion name given to the products that have the capability to realize a wide-gamut color space based on the international standard specifications defined as xvYCC. A wider range of colors than before can be reproduced by playing video signals conforming to "xvYCC" standards on this player when connected to an "x.v.Color"-compatible TV, etc.
## Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>BDP-09FD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Blu-ray Disc PLAYER</td>
</tr>
<tr>
<td>Rated voltage</td>
<td>AC 120V</td>
</tr>
<tr>
<td>Rated frequency</td>
<td>60 Hz</td>
</tr>
<tr>
<td>Power consumption</td>
<td>58 W</td>
</tr>
<tr>
<td>Power consumption (standby)</td>
<td>0.3 W</td>
</tr>
<tr>
<td>Weight</td>
<td>14.9 lb (31 lb 9 oz)</td>
</tr>
<tr>
<td>External dimensions (including projecting parts)</td>
<td>400 mm (W) x 143 mm (H) x 365 mm (D) (16 9/16 in. (W) x 5 11/16 in. (H) x 14 6/6 in. (D))</td>
</tr>
<tr>
<td>Tolerable operating temperature</td>
<td>+5 °C to +35 °C (+41 °F to +95 °F)</td>
</tr>
<tr>
<td>Tolerable operating humidity</td>
<td>5 % to 85 % (no condensation)</td>
</tr>
</tbody>
</table>

**Video outputs**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video</td>
<td>1 set, RCA jack: 1.0 Vp-p (75 Ω)</td>
</tr>
<tr>
<td>S-Video</td>
<td>1 set, S-Video jack:&lt;br&gt;Y (luminance): 1.0 Vp-p (75 Ω)&lt;br&gt;C (color): 0.286 Vp-p (75 Ω)</td>
</tr>
<tr>
<td>Component video</td>
<td>1 set, BNC jacks:&lt;br&gt;Y: 1.0 Vp-p (75 Ω)&lt;br&gt;Pb, Pr: 0.7 Vp-p (75 Ω)</td>
</tr>
</tbody>
</table>

**Audio outputs**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1-channel (multi-channel): front left/right, surround left/right, center, surround back left/right, subwoofer</td>
<td>1 set, Number of channels: 8, RCA jacks&lt;br&gt;Audio output level: 200 mVrms (1 kHz, –20 dB)</td>
</tr>
<tr>
<td>Audio output level</td>
<td>200 mVrms (1 kHz, –20 dB)</td>
</tr>
<tr>
<td>Frequency response</td>
<td>4 Hz to 88 kHz (192 kHz sampling)</td>
</tr>
<tr>
<td>S/N ratio</td>
<td>115 dB</td>
</tr>
<tr>
<td>Dynamic range</td>
<td>104 dB</td>
</tr>
<tr>
<td>Total harmonic distortion</td>
<td>0.0015 %</td>
</tr>
<tr>
<td>Wow &amp; flutter</td>
<td>Below measurable limits (±0.001 %, W, PEAQ)</td>
</tr>
</tbody>
</table>

**Digital audio outputs**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optical</td>
<td>1 set, Optical digital jack</td>
</tr>
<tr>
<td>Coaxial</td>
<td>1 set, RCA jack</td>
</tr>
</tbody>
</table>

**LAN**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethernet</td>
<td>1 set, Ethernet jack: 100BASE-TX</td>
</tr>
</tbody>
</table>

**Control**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>1 set, Minijack (3.5 ø)</td>
</tr>
</tbody>
</table>

**Note**

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- This product includes FontAvenue® fonts licensed by NEC Corporation. FontAvenue is a registered trademark of NEC Corporation.
Should this product require service in the U.S.A. and you wish to locate the nearest Pioneer Authorized Independent Service Company, or if you wish to purchase replacement parts, operating instructions, service manuals, or accessories, please call the number shown below.

1-800-421-1404

Please do not ship your product to Pioneer without first calling the Customer Support at the above listed number for assistance.

Pioneer Electronics Service, Inc.
P.O. BOX 1780, Long Beach,
CA 90801-1780, U.S.A.

For warranty information please see the Limited Warranty sheet included with your product.

Should this product require service in Canada, please contact a Pioneer Canadian Authorized Dealer to locate the nearest Pioneer Authorized Service Company in Canada.
Alternatively, please contact the Customer Satisfaction Department at the following address:

Pioneer Electronics of Canada, Inc.
Customer Satisfaction Department
300 Allstate Parkway, Markham, Ontario L3R 0P2
1-877-283-5901
905-479-4411

For warranty information please see the Limited Warranty sheet included with your product.

Si ce produit doit être réparé au Canada, veuillez vous adresser à un distributeur autorisé Pioneer du Canada pour obtenir le nom du Centre de Service Autorisé Pioneer le plus près de chez-vous. Vous pouvez aussi contacter le Service à la clientèle de Pioneer:

Pioneer Électroniques du Canada, Inc.
Service Clientèle
300, Allstate Parkway, Markham, Ontario L3R 0P2
1-877-283-5901
905-479-4411

Pour obtenir des renseignements sur la garantie, veuillez vous reporter au feuillet sur la garantie restreinte qui accompagne le produit.