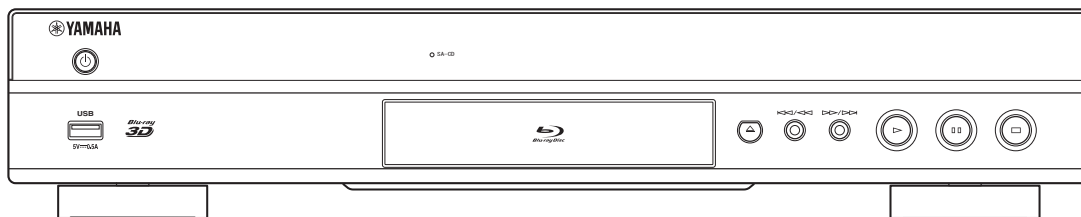




Blu-ray Disc Player

# BD-S677

*Owner's Manual*



### Information for Users on Collection and Disposal of Old Equipment and Used Batteries



These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste.



For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC.



By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.



For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

**Pb**

#### [Information on Disposal in other Countries outside the European Union]

These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.

#### Note for the battery symbol (bottom two symbol examples):

This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

### ■ For U.K. customers

If the socket outlets in the home are not suitable for the plug supplied with this appliance, it should be cut off and an appropriate 3 pin plug fitted. For details, refer to the instructions described below.

#### Note

- The plug severed from the mains lead must be destroyed, as a plug with bared flexible cord is hazardous if engaged in a live socket outlet.

### ■ Special Instructions for U.K. Model

#### IMPORTANT

THE WIRES IN MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE:

Blue: NEUTRAL

Brown: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

Make sure that neither core is connected to the earth terminal of the three pin plug.

The laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

**LASER Specification:**

Class 1 LASER Product

Wave length: 790 nm (CDs)/658 nm (DVDs)/405 nm (BDs)

Laser output: max. 1 mW

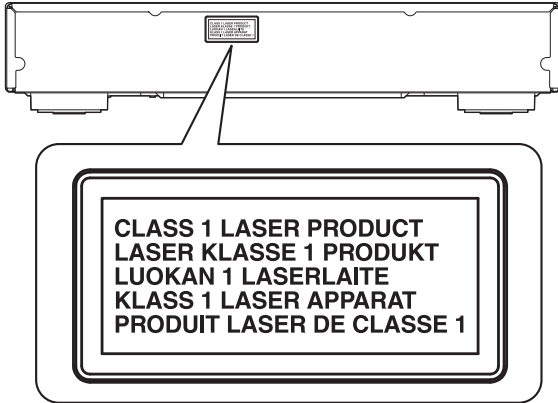
- Hereby, Yamaha Music Europe GmbH, declares that this BD-S677 is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
- This product is limited to indoor use only.



**Yamaha Music Europe GmbH**

Siemensstr. 22-34 25462 Rellingen, Germany

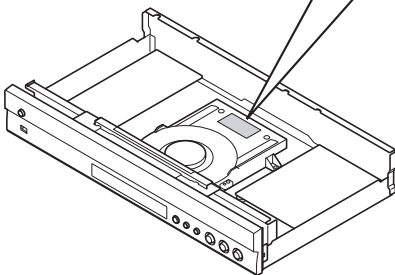
Tel: +49-4101-303-0



**CAUTION**

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

CAUTION: INVISIBLE LASER RADIATION WHEN OPEN.  
DO NOT STARE INTO BEAM.  
DANGER: INVISIBLE LASER RADIATION WHEN OPEN.  
AVOID DIRECT EXPOSURE TO THE BEAM.



## Caution: Read this before operating your unit.

- 1 To assure the finest performance, please read this manual carefully. Keep it in a safe place for future reference.
- 2 Install this sound system in a well ventilated, cool, dry, clean place—away from direct sunlight, heat sources, vibration, dust, moisture, and/or cold. For proper ventilation, allow the following minimum clearances.  
Top : 10 cm (4 in)  
Rear: 10 cm (4 in)  
Side: 10 cm (4 in)
- 3 Locate this unit away from other electrical appliances, motors, or transformers to avoid humming sounds.
- 4 Do not expose this unit to sudden temperature changes from cold to hot, and do not locate this unit in an environment with high humidity (i.e. a room with a humidifier) to prevent condensation inside this unit, which may cause an electrical shock, fire, damage to this unit, and/or personal injury.
- 5 Avoid installing this unit where foreign object may fall onto this unit and/or this unit may be exposed to liquid dripping or splashing. On the top of this unit, do not place:
  - Other components, as they may cause damage and/or discoloration on the surface of this unit.
  - Burning objects (i.e. candles), as they may cause fire, damage to this unit, and/or personal injury.
  - Containers with liquid in them, as they may fall and liquid may cause electrical shock to the user and/or damage to this unit.
- 6 Do not cover this unit with a newspaper, tablecloth, curtain, etc. in order not to obstruct heat radiation. If the temperature inside this unit rises, it may cause fire, damage to this unit, and/or personal injury.
- 7 Do not plug in this unit to a wall outlet until all connections are complete.
- 8 Do not operate this unit upside-down. It may overheat, possibly causing damage.
- 9 Do not use force on switches, knobs and/or cords.
- 10 When disconnecting the power cable from the wall outlet, grasp the plug; do not pull the cable.
- 11 Do not clean this unit with chemical solvents; this might damage the finish. Use a clean, dry cloth.
- 12 Only voltage specified on this unit must be used. Using this unit with a higher voltage than specified is dangerous and may cause fire, damage to this unit, and/or personal injury. Yamaha will not be held responsible for any damage resulting from use of this unit with a voltage other than specified.
- 13 To prevent damage by lightning, keep the power cable disconnected from a wall outlet or this unit during a lightning storm.
- 14 Do not attempt to modify or fix this unit. Contact qualified Yamaha service personnel when any service is needed. The cabinet should never be opened for any reasons.
- 15 When not planning to use this unit for long periods of time (i.e. vacation), disconnect the AC power plug from the wall outlet.
- 16 Be sure to read the “Troubleshooting” section on common operating errors before concluding that this unit is faulty.
- 17 Before moving this unit, press  $\mathcal{P}$  to set this unit to the standby mode, and disconnect the AC power plug from the wall outlet.
- 18 Condensation will form when the surrounding temperature changes suddenly. Disconnect the power cable from the outlet, then leave this unit alone.
- 19 When using this unit for a long time, this unit may become warm. Turn the power off, then leave this unit alone for cooling.
- 20 Install this unit near the AC outlet and where the AC power plug can be reached easily.
- 21 The batteries shall not be exposed to excessive heat such as sunshine, fire or the like.

Do not use this unit within 22 cm (9 inches) of persons with a heart pacemaker implant or defibrillator implant.

Radio waves may affect electro-medical devices. Do not use this unit near medical devices or inside medical facilities.

This unit is not disconnected from the AC power source as long as it is connected to the wall outlet, even if this unit itself is turned off by  $\mathcal{P}$ . This state is called the standby mode. In this state, this unit is designed to consume a very small quantity of power.

Where the mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

**WARNING**  
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

### LASER SAFETY

This unit employs a laser. Due to possible eye injury, only a qualified service person should remove the cover or attempt to service this device.

### DANGER

This unit emits visible laser radiation when open. Avoid direct eye exposure to beam. When this unit is plugged into the wall outlet, do not place your eyes close to the opening of the disc tray and other openings to look into inside.

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### (at the end of this manual)

#### Information about third party software licenses...i

New software that provides additional features or product improvements will be released as needed. We recommend upgrading the software of this Player to the latest version periodically. For details, refer to “Software upgrade” (p. 37).

### ■ About this manual

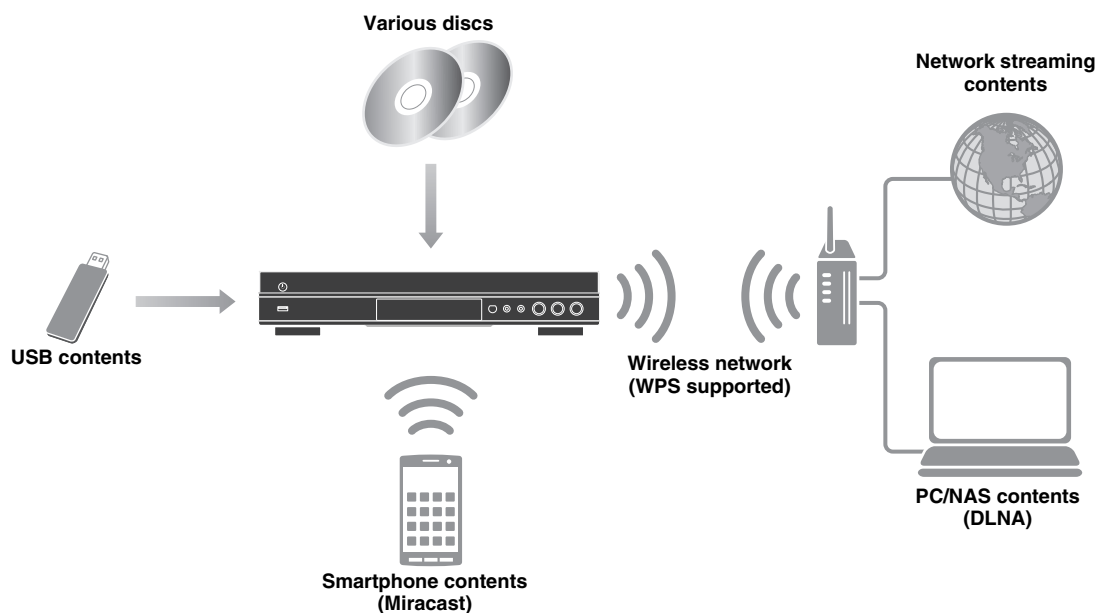
- This manual describes how to operate this Player using a remote control except when it is not available. Some of these operations are also available using the front panel buttons.
- Notes contain important information about safety and operating instructions. Hint(s) indicates a tip for your operation.
- This manual is printed prior to production. Design and specifications are subject to change in part as a result of improvements, etc. In case of differences between the manual and the product, the product has priority.

### The icons used in this manual

Icons are used to indicate available buttons/functions for a particular format. For details on playable discs and formats, see page 3.

<b>BD</b>	: BD-Video
<b>DVD</b>	: DVD-Video, DVD-VR, DVD+VR
<b>CD</b>	: Audio CD, Super Audio CD
<b>VIDEO</b>	: Video files
<b>MUSIC</b>	: Audio files
<b>PHOTO</b>	: Photo files

# What you can do with this Player



## ■ Wide variety of supported discs and file formats

- Blu-ray Disc™, DVDs, SA-CDs and CDs (p. 23)
- Blu-ray 3D™ (p. 11), BONUSVIEW™ and BD-Live™ (p. 25)
- Video, music and photo files on DVD-R/RW discs, CD-R/RW discs and USB memory devices (p. 19)

## ■ Enhanced network features

- Enjoying DLNA server (PC or NAS) contents (p. 19)
- Enjoying streaming contents on the network services (p. 21)
- Operating this player from mobile devices (AV CONTROLLER) via network (p. 22)
- Enjoying smartphone pictures and videos on the TV screen (Miracast™) (p. 22)

## ■ Easy setup and operations

- Quick and easy initial setup (p. 18)
- Automatic wireless setup with the WPS (Wi-Fi Protected Setup) (p. 18)
- Software upgrade via network or USB (p. 37)
- Sequential operations of the TV, AV receiver and this Player (HDMI Control) (p. 30)

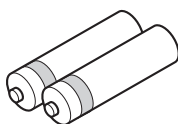
# Supplied parts

Make sure the following accessories are provided with the product.

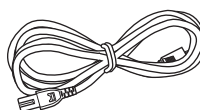
### Remote control



### Batteries (x2) (AAA, R03, UM-4)



### Power cable



## Types of discs/files that can be used with this Player

- 12 cm (5") and 8 cm (3") discs can be played back in this Player. Do not use an 8 cm (3") to 12 cm (5") adapter.
- Use discs that conform to compatible standards as indicated by the presence of official logos on the disc label. Playback of discs not complying with these standards is not guaranteed. In addition, the image quality or sound quality is not guaranteed even if the discs can be played back.

Media Type	Recording Format
BD-ROM/BD-R/ BD-RE	BD-Video/Data files
DVD-ROM	DVD-Video
DVD-R/DVD-R DL/DVD-RW	DVD-Video/DVD-VR/AVCHD/Data files
DVD+R/DVD+R DL/DVD+RW	DVD-Video/DVD+VR/AVCHD/Data files
CD-ROM	CDDA/HDCD
CD-R/CD-RW	CDDA/Data files
SA-CD	SA-CD
USB*	Data files
DLNA	Data files

\* This Player is compatible with a USB memory device formatted with FAT 16/32 and NTFS.

Playable audio file formats <b>MUSIC</b>	Playable video file formats <b>VIDEO</b>	Playable photo file formats <b>PHOTO</b>
MP3 (.mp3) *1 WMA (.wma) *2 AAC (.aac/m4a) WAV (.wav) *3 FLAC (.flac) *3 ALAC (.m4a) *3	DivX (.divx) MKV with DivX format (.mkv) MKV with H.264 (.mkv) MPEG PS (.mpeg/.mpg) MPEG TS (.ts) MPEG-4 (.mp4) VOB (.vob) AVI (.avi) ASF (.asf) WMV (.wmv) *4	JPEG (.jpeg/.jpg) GIF (.gif) PNG (.png)











- \*1 Sampling frequency within 32-48 kHz (Stereo) and bitrate within 8-320 kbps
- \*2 Sampling frequency within 32-48 kHz (Stereo) and bitrate within 32-192 kbps
- \*3 Sampling frequency of up to 192 kHz/24 bit (LPCM/ Stereo)
- \*4 WMV9 (maximum resolution: 1,920 x 1,080)







### Notes

- Playback of a file listed in the chart above is not guaranteed depending on methods of file creation or codecs used.
- Playback of all files on the disc, USB memory device and network is not guaranteed.
- A copyright protected file cannot be played back.
- When using DLNA, a file needs to meet the DLNA sever requirement.

## Region management information for Blu-ray Disc/DVD videos

- Blu-ray Disc/DVD video players and discs have region codes, which dictate the regions in which a disc can be played. Verify the region code mark on the rear panel of this Player.
- For a Blu-ray Disc, the disc can be played back on this Player with the same region code mark, or the region code "ABC" mark.
- For a DVD disc, the disc can be played back on this Player with the same region code mark, or the region code "ALL" mark.

Region management information		
Destination	BD-Video	DVD-Video
U.S.A. and Canada	Region code "A" or "ABC" 	Region number "1" or "ALL" 
Europe	Region code "B" or "ABC" 	Region number "2" or "ALL" 
Asia, Taiwan and Korea	Region code "A" or "ABC" 	Region number "3" or "ALL" 
Central and South America	Region code "A" or "ABC" 	Region number "4" or "ALL" 
Australia	Region code "B" or "ABC" 	Region number "4" or "ALL" 

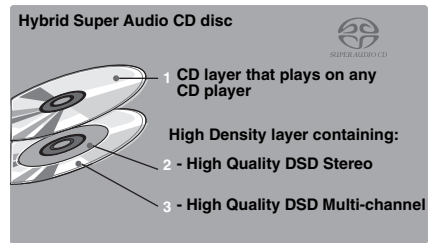
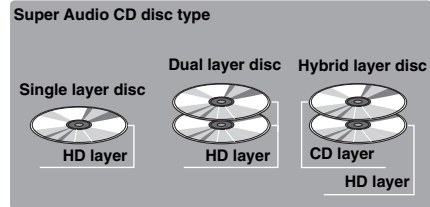
Region management information		
Destination	BD-Video	DVD-Video
Russia	Region code "C" or "ABC"    	Region number "5" or "ALL"  

**Notes**

- Blu-ray Disc/DVD video operations and functions may be different from the explanations in this manual and some operations may be prohibited due to disc manufacturer's settings.
- If a menu screen or operating instructions are displayed during playback of a disc, follow the operating procedure displayed.
- Playback for some of the discs may not be possible depending on the disc.
- Finalize all recording media that is played back in this Player.
- "Finalize" refers to a recorder processing a recorded disc so that it will play in other players/recorders as well as this Player. Only finalized discs can be played back in this Player. (This Player does not have a function to finalize discs.)

**About Super Audio CD (SA-CD)**

- Audio format based upon the current CD standards but includes a greater amount of information that provides higher quality sound. There are three types of discs: single layer, dual layer and hybrid discs. The hybrid disc can be played on existing CD players as well as Super Audio CD players since it contains both standard audio CD and Super Audio CD information.

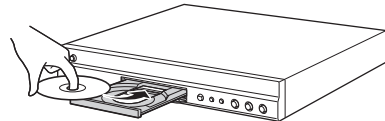


**Note**

- This unit does not show the text data included in the discs on the front panel display.

**■ Loading a disc**

- Insert the disc with the label facing up.
- In case of the disc recorded on both sides, face down the side to play back.



**Notes**

- Playback may begin automatically, depending on the disc and setting of this Player.
- The menu may be displayed first, depending on the disc.
- The disc load time may vary depending on the disc.







## ■ Disc precautions

### Be careful of scratches and dust

- Blu-ray Disc, DVD and CD discs are sensitive to dust, fingerprints and especially scratches. A scratched disc may not be able to be played back. Handle discs with care and store them in a safe place.

### Proper disc storage

Place the disc in the center of the disc case and store the case and disc upright.	
Avoid storing discs in locations subject to direct sunlight, close to heating appliances or in locations of high humidity.	
Do not drop discs or subject them to strong vibrations or impacts.	
Avoid storing discs in locations where there are large amounts of dust or moisture.	

### Handling precautions



- If the surface is soiled, wipe gently with a soft, damp (water only) cloth. When wiping discs, always move the cloth from the center hole toward the outer edge.



- Do not use record cleaning sprays, benzene, thinner, static electricity prevention liquids or any other solvent.

- Do not touch the surface.
- Do not stick paper or adhesive labels to the disc.
- If the playing surface of a disc is soiled or scratched, the Player may decide that the disc is incompatible and eject the disc tray, or it may fail to play the disc correctly. Wipe any dirt off the playing surface with a soft cloth.

### Cleaning the pick up lens

- Never use commercially available cleaning discs. The use of these discs can damage the lens.
- Request the nearest service center approved by Yamaha to clean the lens.

## ■ Notice for watching 3D video images

- Some people may experience discomfort (such as eye strain, fatigue, or nausea) while watching 3D video images. We recommend that all viewers take regular breaks while watching 3D video images.
- If you experience any discomfort, stop watching the 3D video images until the discomfort subsides. Consult a doctor if you experience severe discomfort.
- Read the owner's manuals (Blu-ray Disc and TV) and/or the caution messages that appear on the TV carefully.
- The vision of young children (especially those under six years old) is still under development. Consult your doctor (such as a pediatrician or eye doctor) before allowing young children to watch 3D video images.
- Adults should supervise young children to ensure they follow the recommendations described above.

## ■ Cinavia technology

- Cinavia technology is a part of the content protection system included in your Blu-ray Disc Player.

### Note

- The following messages may be displayed and playback stopped or audio outputs temporarily muted by your Blu-ray Disc player if you are playing an unauthorized copy of content that is protected by Cinavia technology.

These messages are displayed in English only.

Playback stopped. The content being played is protected by Cinavia® and is not authorized for playback on this device.  
For more information, see <http://www.cinavia.com>.  
Message Code 1.

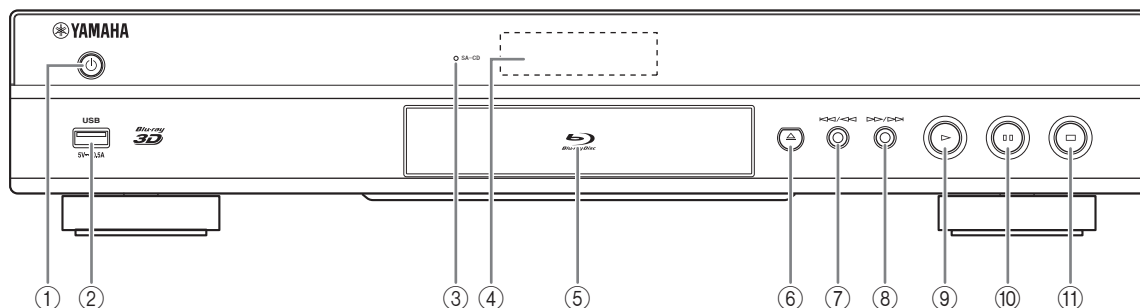
Audio outputs temporarily muted. Do not adjust the playback volume. The content being played is protected by Cinavia® and is not authorized for playback on this device.  
For more information, see <http://www.cinavia.com>.  
Message Code 3.

### Cinavia Notice

This product uses Cinavia technology to limit the use of unauthorized copies of some commercially-produced film and videos and their soundtracks. When a prohibited use of an unauthorized copy is detected, a message will be displayed and playback or copying will be interrupted. More information about Cinavia technology is provided at the Cinavia Online Consumer Information Center at <http://www.cinavia.com>. To request additional information about Cinavia by mail, send a postcard with your mailing address to: Cinavia Consumer Information Center, P.O. Box 86851, San Diego, CA, 92138, USA.

# Controls and functions

## ■ Front panel

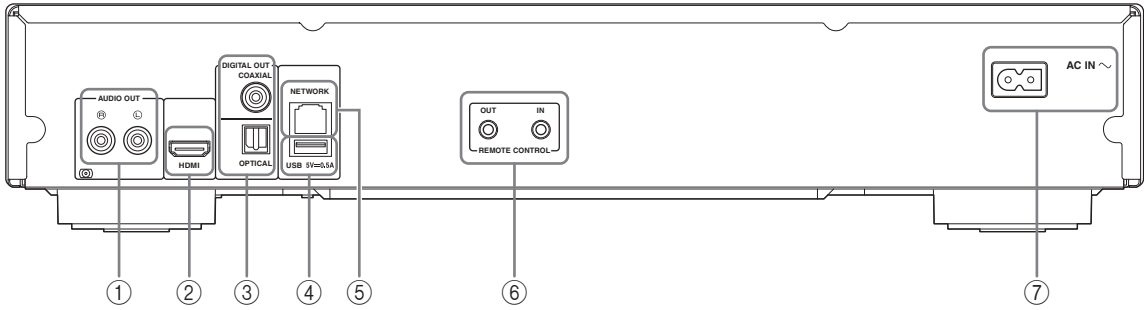


- ① **⏻ (On/Standby)**  
Turns this Player on/Sets to standby mode.  
Press and hold **⏻** on the front panel for more than 5 seconds to reset this Player (system reset).
- ② **USB connector (p. 16)**
- ③ **SA-CD indicator**  
Lights up when an SA-CD is loaded and the SA-CD layer (p. 4) is selected.
- ④ **Front panel display**  
Displays various information for operational status.
- ⑤ **Disc tray door**
- ⑥ **▲ (Eject)**  
Opens/Closes the disc tray.
- ⑦ **⏮/⏮ (Search backward/Skip backward)**  
Press to skip backward, and press and hold to search backward.
- ⑧ **⏭/⏭ (Search forward/Skip forward)**  
Press to skip forward, and press and hold to search forward.
- ⑨ **▶ (Play)**  
Starts a playback.
- ⏸ **(Pause)**  
Pauses a playback.
- ⏹ **(Stop)**  
Stops a playback.

### Note

- Remove the protective film from the front panel before operating the Player.

## ■ Rear panel



① **AUDIO OUT (L/R)** (p. 13)

② **HDMI** (p. 11)

③ **DIGITAL OUT (COAXIAL/OPTICAL)** (p. 13)

④ **USB** (p. 16)


⑤ **NETWORK** (p. 14)

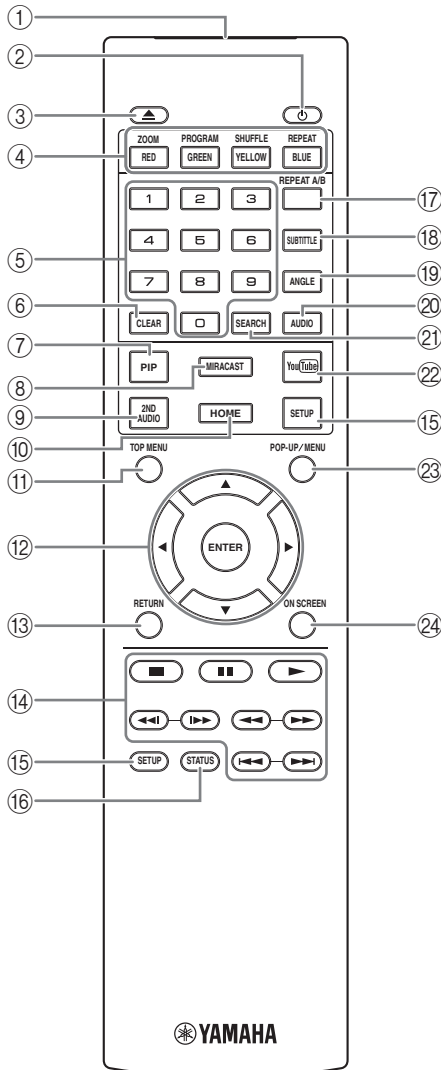
⑥ **REMOTE CONTROL (OUT/IN)** (p. 17)



⑦ **AC IN** (p. 17)

## Remote control

### Note

-  will appear on the top left corner of the screen when the pressed button is not available.



- ① **Infrared signal transmitter:** Outputs infrared signal. Aim this window to the remote control sensor (p. 10).
- ② : Turns this Player on or sets it to standby mode.
- ③ : Opens/closes the disc tray.
- ④ **Color buttons [BD]:** Use these buttons according to on-screen instructions.


**ZOOM [DVD] [VIDEO] [PHOTO]:** Zooms in/out. The size of the screen will change each time you press the button (zoom in/out: 3 steps each).


**PROGRAM [DVD] [CD]:** Sets the order of playback (p. 25). You can set up to 15 tracks (for an audio disc) or titles/chapters (DVD-Video).


**SHUFFLE [DVD] [CD] [VIDEO] [MUSIC] [PHOTO]:** Selects shuffle play mode (p. 23).

**REPEAT [BD] [DVD] [CD] [VIDEO] [MUSIC]**

**[PHOTO]:** Changes repeat mode. Repeat mode shown below will change each time you press the button.


: Repeats the title being played back.

: Repeats the chapter being played back.

: Repeats the folder being played back.


: Repeats all tracks/files on the disc.

: Repeats the track/file being played back.

- ⑤ **Number buttons:** Enters numbers, or during playback, jumps to the track/chapter corresponding to the number you input. These buttons may not be available depending on the disc type and playback condition.
- ⑥ **CLEAR:** Clears entered number/set item.
- ⑦ **PIP [BD]:** Turns on/off the Picture in Picture (p. 26). PIP Mark () is displayed on the screen when this function is available. You can also select this item from On Screen menu (p. 23).

### Note

- PIP Mark is displayed only when the PIP Mark is set to on (p. 31).

- ⑧ **MIRACAST:** Starts Miracast (p. 22).
- ⑨ **2ND AUDIO [BD]:** Selects the secondary audio of the Picture in Picture (p. 26) or audio commentaries. The Secondary Audio Mark () is displayed on the screen when this function is available (p. 34). You can also select this item from On Screen menu (p. 23).

### Note

- Secondary Audio Mark is displayed only when Secondary Audio Mark is set to on (p. 31).

- ⑩ **HOME:** Displays the HOME menu screen (p. 19).

- ⑪ **TOP MENU** **BD** **DVD**: Displays the top menu screen if the disc contains a menu. Select the desired item using **▲/▼/◀/▶** and **ENTER**.

**Note**

– Specific operations may be different depending on the disc. Follow the instructions of each menu screen.

- ⑫ **Cursor buttons (▲/▼/◀/▶)**: Moves the focus in the menu screen.

**ENTER**: Selects the focused menu/item.

- ⑬ **RETURN**: Returns to the previous menu or screen, etc.

- ⑭ **Control buttons**

**BD** **DVD** **CD** **VIDEO** **MUSIC** **PHOTO**

■: Stops playback.

■ ■: Pauses playback.

▶: Plays back contents.

◀◀/▶▶: Skips backward/forward.

◀◀/▶▶

**BD** **DVD** **CD** **VIDEO** **MUSIC**:

Searches backward/forward. The search speed will change each time you press the button (search backward/forward: 5 steps each). Press ▶ to resume normal playback.

**PHOTO**: Changes the speed of a slide show (slower/faster: 3 steps).

◀◀/|/▶▶

**BD** **DVD** **CD** **VIDEO** **MUSIC**:

Press for instant search/replay. Instant search skips the content 30 seconds. Instant replay replays the content from 10 seconds before.

- ⑮ **SETUP**: Displays SETUP menu screen (p. 27).

- ⑯ **STATUS**: Displays the playback information (p. 24).

- ⑰ **REPEAT A/B** **BD** **DVD** **CD** **VIDEO** **MUSIC**: Plays back a specific part you want to repeat.

1 Press **REPEAT A/B** at the scene where you want to set the start point. “A-” is displayed on the screen.


2 Press **REPEAT A/B** again at the scene where you want to set the end point. “A-B” is displayed on the screen. Repeat playback starts.

3 To cancel the repeat playback, press **REPEAT A/B**. “A-B” disappears and the repeat playback is finished.

**Note**

– This function cannot be performed depending on the specifications of the disc.

- ⑱ **SUBTITLE** **BD** **DVD** **VIDEO**: Changes subtitle languages (p. 42) if available. You can also select this item from On Screen menu (p. 23).

- ⑲ **ANGLE** **BD** **DVD**: Changes the camera angle if video is recorded with multiple angles. The Angle Mark () is displayed on the screen when this function is available. You can also select this item from On Screen menu (p. 23).

**Note**

– Angle Mark is displayed only when the Angle Mark is set to on (p. 31).

- ⑳ **AUDIO** **BD** **DVD**: Changes the audio language or format. You can also select this item from On Screen menu (p. 23).

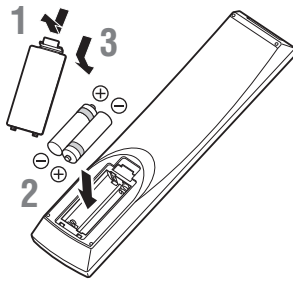
- ㉑ **SEARCH** **BD** **DVD** **CD** **VIDEO** **MUSIC**: Jumps to a specified point during playback. For details on this function, refer to “Using Search” (p. 25). You can also select this item from status menu (p. 24).

- ㉒ **YouTube**: Starts YouTube (p. 21).

- ㉓ **POP-UP/MENU** **BD** **DVD**: Displays pop-up menu. The menu contents displayed vary depending on the disc. For details on how to see and operate the pop-up menu, refer to the manual for the disc. The top menu screen may be displayed by pressing **POP-UP/MENU** depending on the DVD.

- ㉔ **ON SCREEN**: Displays On Screen menu (p. 23).

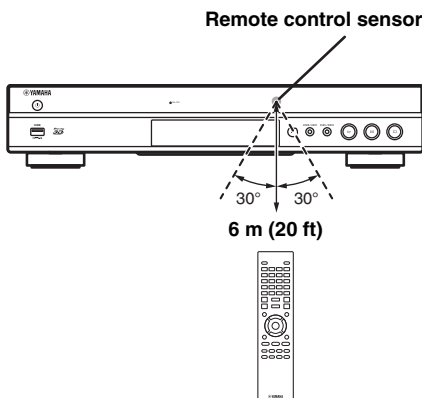
## Loading the batteries in the remote control



### Notes

- Change both batteries when the operation range of the remote control decreases.
- Use AAA, R03, UM-4 batteries.
- Make sure that the polarities are correct. Refer to the illustration inside the battery compartment.
- Remove the batteries if the remote control is not to be used for an extended period of time.
- Do not use old batteries together with new ones.
- Do not use different types of batteries (such as alkaline and manganese batteries) together. Read the packaging carefully as these different types of batteries may have the same shape and color.
- If the batteries have leaked, dispose of them immediately. Avoid touching the leaked material or letting it come into contact with clothing, etc. Clean the battery compartment thoroughly before installing new batteries.
- Do not throw away batteries with general house waste; dispose of them correctly in accordance with your local regulations.
- Keep batteries away from children. If a battery is accidentally swallowed, contact your doctor immediately.
- When not planning to use the remote control for long periods of time, remove the batteries from the remote control.
- Do not charge or disassemble the supplied batteries.

## Approximate operating range of remote control



## ID function

When using multiple Yamaha products, the remote control may work on another Yamaha product or another remote control may work on this Player. In this case, change the remote control ID to prevent unwanted operation. If you have changed the remote control ID, make sure that you select the same ID for the main unit. The default setting is ID1.

### 1 Remote control setting

To change the ID from ID1 to ID2, press and hold the red color button and **2** of number button simultaneously for 7 seconds. To change the ID from ID2 to ID1, press and hold the red color button and **1** of number button simultaneously for 7 seconds.

### 2 Main unit setting

Press and hold **◀◀/◀◀** and **▶▶/▶▶** on the front panel simultaneously for 2 seconds to display current ID when:

- No disc is inserted in this Player.
- The disc tray is closed.
- Playback is stopped.
- "NO DISC" is displayed on the front panel display.

Keep pressing and holding the keys for another 2 seconds to change the ID between ID1 and ID2.

### Notes

- If the remote control is without batteries for a few minutes or if exhausted batteries remain in the remote control, the remote control ID is automatically set to ID1. If you want to use the remote control in ID2 setting, install new batteries and set the remote control ID again.
- When this Player is reset, its remote control ID will be ID1.

# Video/audio connections

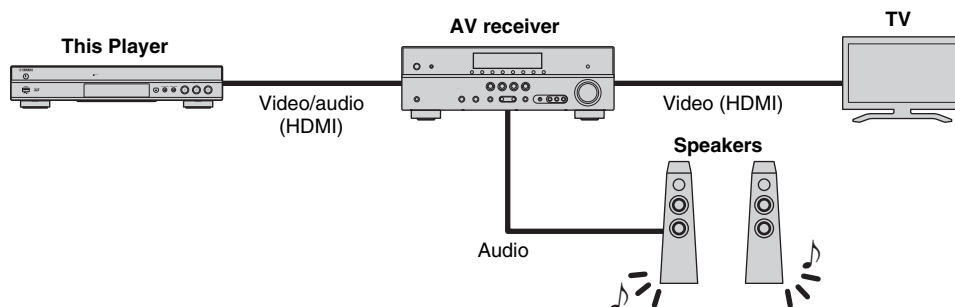
Make the corresponding video/audio cable connections depending on the equipment you want to use.

## Hints

- See page 35 for information on the audio/video output formats.
- Prepare commercially available cables required for connections. The type and number of cables you need vary depending on the equipment to be connected.

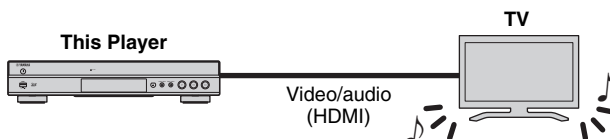
## Enjoying video/audio using a TV and an AV receiver

Refer to “Connecting to a TV via an AV receiver” (p. 12).



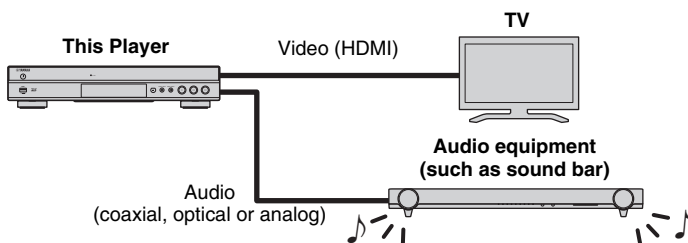
## Enjoying video/audio using only a TV

Refer to “Connecting to a TV directly” (p. 12).



## Enjoying video/audio using a TV and audio equipment

Refer to “Connecting to a TV and audio equipment” (p. 13).



## About HDMI

To enjoy high quality video and digital sound through the HDMI terminal, use commercially available HIGH SPEED HDMI cables that have the HDMI logo (as shown on the back cover).

## Hints

- For information on the HDMI Control function, refer to “HDMI Control” (p. 30).
- To change the output mode of HDMI terminal, configure “HDMI” (p. 34) in Audio Setting.

## Connection for the playback of Blu-ray 3D Discs

To enjoy Blu-ray 3D Discs on this Player, your system must meet the following conditions.

- Your TV and AV receiver (if available) must support the 3D feature.
- 3D Output in Display Setting (p. 32) is set to “Auto”.

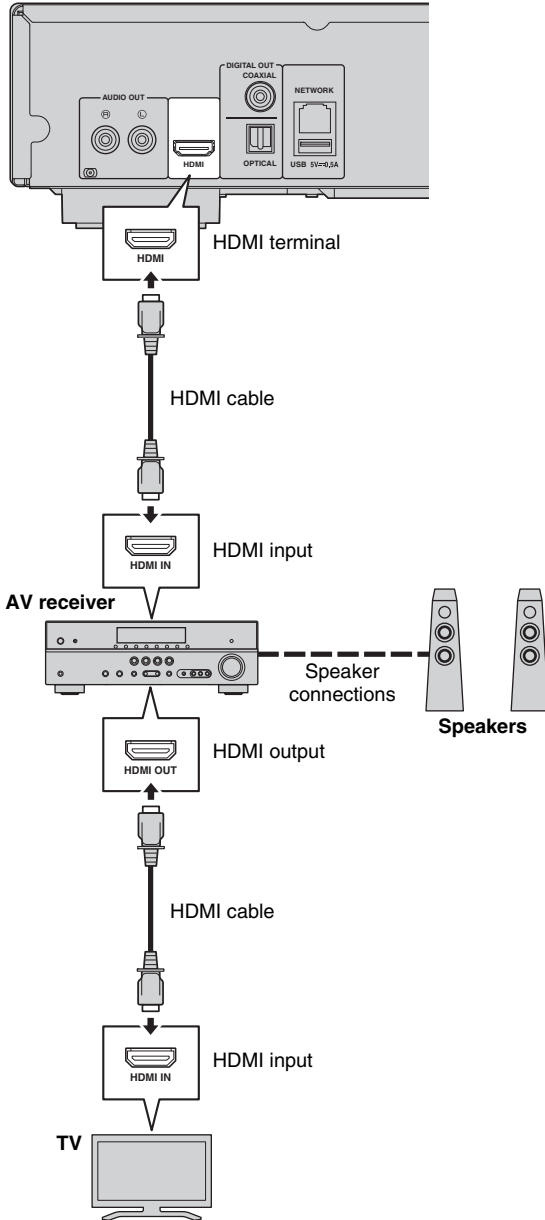
### ■ Connecting to a TV via an AV receiver

Connect this Player to the AV receiver and the AV receiver to the TV with HDMI cables. For details on speaker connections, refer to the owner's manuals of the AV receiver and speakers.

#### Caution!

**Do not connect the power cable of this Player until all connections are completed.**

This Player



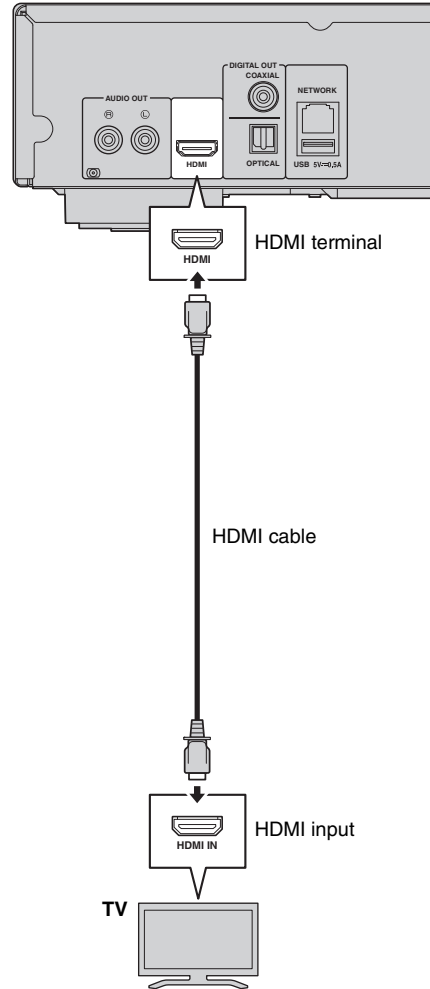
### ■ Connecting to a TV directly

Connect this Player to the TV with an HDMI cable.

#### Caution!

**Do not connect the power cable of this Player until all connections are completed.**

This Player



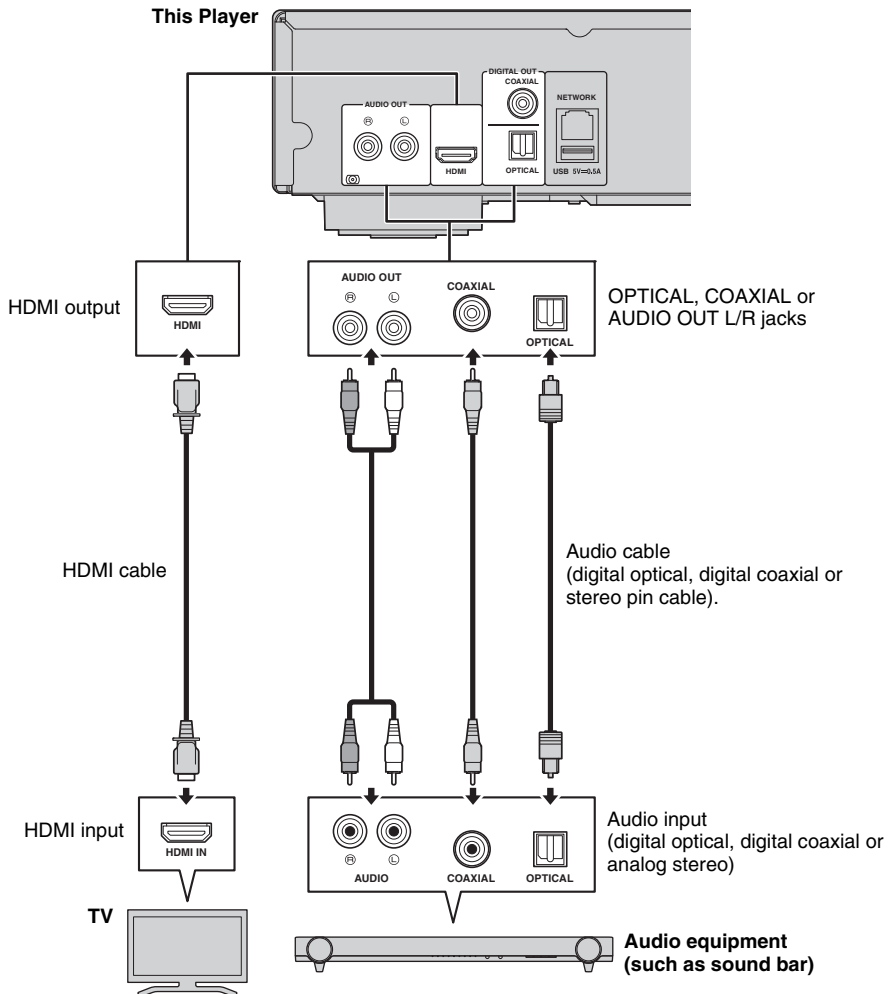


## ■ Connecting to a TV and audio equipment

Connect this Player to the TV with an HDMI cable, and this Player to the audio equipment with an audio cable (digital optical, digital coaxial or stereo pin cable).

### Caution!

**Do not connect the power cable of this Player until all connections are completed.**



### Hints

- To change the output mode of COAXIAL/OPTICAL jacks, configure “Coaxial/Optical” (p. 34) in Audio Setting.
- If the playback audio is output from both the TV speakers and audio equipment, set HDMI in Audio Setting to Off to disable the audio output to the TV.
- Audio signals of SACDs cannot be output from the COAXIAL or OPTICAL jack (p. 35).

# Network connection

By connecting this Player to the network (wireless or wired), you can use the following features.

- Playing back DLNA server (PC or NAS) contents (p. 19)
- Playing back various network service contents (p. 21)
- Playing BD-Live compatible discs (p. 25)
- Operating this Player from mobile devices (AV CONTROLLER) (p. 22)

## Notes

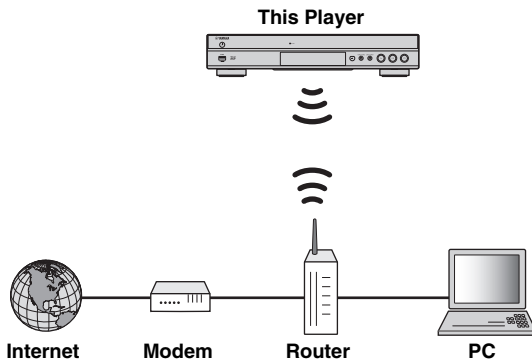
- To use the network services or BD-Live feature, a broadband internet connection is required.
- Refer to the operation manual of the equipment you have as the connected equipment and connection method may differ depending on your network environment.
- Use a network cable/router supporting 10BASE-T/100BASE-TX.

## Hint

- If you are using a router that supports DHCP, you do not need to configure any network settings for this Player, as the network parameters (such as the IP address) will be assigned automatically to it. You only need to configure the network settings if your router does not support DHCP or if you want to configure the network parameters manually (p. 32).

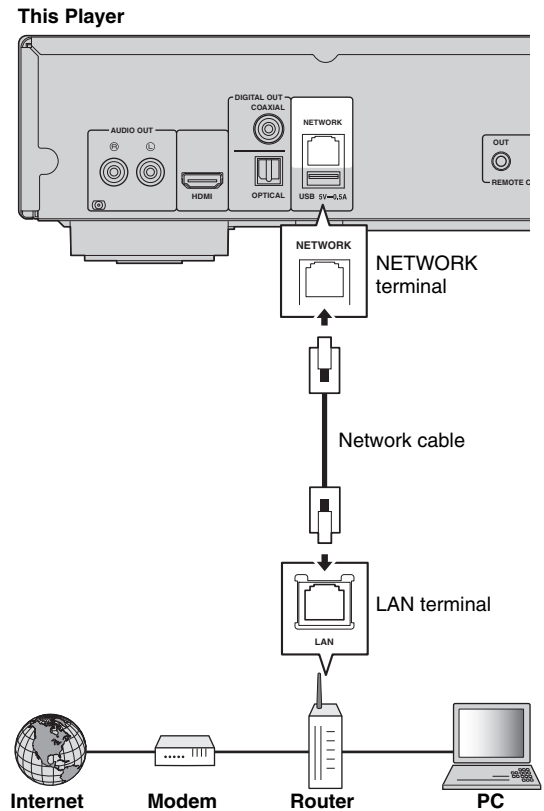
## ■ Wireless connection

By using the Wi-Fi feature of this Player, you can connect this Player to your network (router) wirelessly. To use the Wi-Fi feature, refer to “Wireless connection setting” (p. 18) and configure the wireless connection setting.



## ■ Wired connection

Connect this Player to your network (router) with a commercially available Shielded Twisted Pair (STP) network cable.



## DLNA server setup

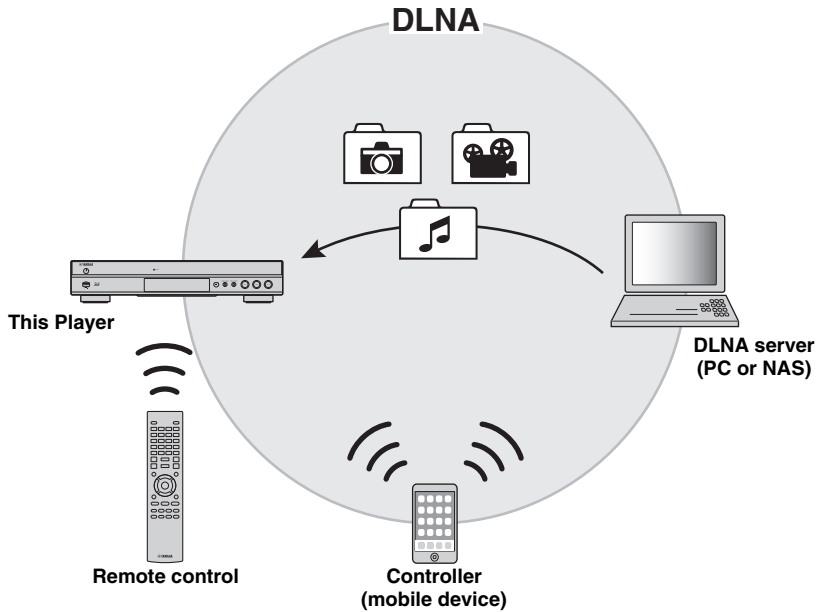
By using DLNA, you can share multimedia contents (such as videos, music and photos) stored on your DLNA server (PC or NAS) connected to your network, and enjoy those contents with this Player.

In addition, you can use your mobile device (such as a smartphone and a tablet) as a wireless controller to operate this Player through the network.

To use the DLNA features, perform the following DLNA server setup after making the network connection (p. 14).

### Notes

- To use DLNA features, all the devices must be connected to the same network.
- To use a NAS as a DLNA server, the NAS must be compatible with DLNA.



### Media sharing setting on DLNA server

To play back multimedia contents stored on your DLNA server (PC or NAS), first you need to configure the media sharing setting on the DLNA server software installed on the DLNA server.

#### Hint

- For information about DLNA server setting or file formats supported by DLNA server, refer to the owner's manuals of your DLNA server and its software.

- 1 Turn on your DLNA server (PC or NAS) and this Player.
- 2 If you are using a PC as a DLNA server, check that DLNA server software (such as Windows Media Player 12) is installed on your PC.
- 3 On your DLNA server, enable media sharing and allow media to be shared with this Player.  
Now the DLNA server setting is complete. To enjoy the DLNA server contents on this Player, select a DLNA server and multimedia file from the HOME menu (p. 19).

### Using a mobile device as a media controller

If you have a mobile device (such as smartphone and tablet) that supports the Digital Media Controller (DMC) feature, you can operate this Player from your smart phone or tablet through the network.

#### Hints

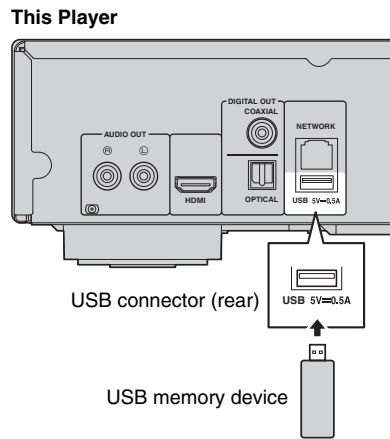
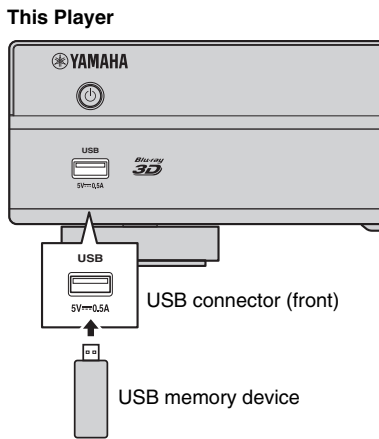
- To allow the mobile device to control this Player, set DMC Control (p. 32) in the SETUP menu to Enable (default).
- To check that your mobile device supports the DMC feature, refer to the owner's manuals of your mobile device and its software.

# USB connection

By connecting a USB memory device to the USB connector on the front or the rear panel of this Player, you can play multi-media files stored on the USB memory device (p. 19).

## Notes

- Yamaha cannot guarantee that all brands' USB memory devices will operate with this Player.
- Connect a USB memory device to one of the USB connectors (front/rear) of this Player when using BD-Live feature (p. 26).



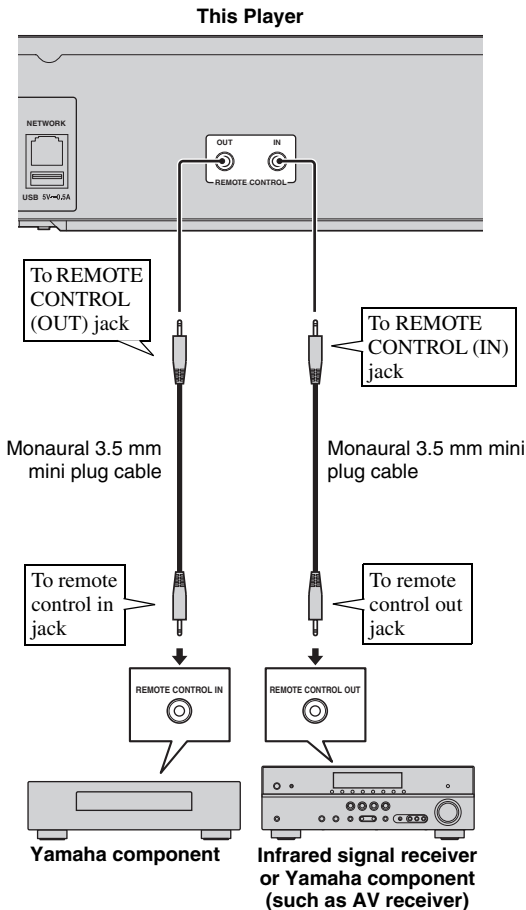
## Other connections

### ■ Connecting to the REMOTE CONTROL jacks

- You can transmit and receive the remote control signals by connecting to the REMOTE CONTROL (OUT/IN) jacks.
- Firmly connect monaural 3.5 mm mini plug cables (commercially available) to the REMOTE CONTROL (OUT/IN) jacks.
- If your AV receiver is a Yamaha product and has the capability to transmit SCENE control signals from the REMOTE OUT jack, you can control the Player with the SCENE function.

### Caution!

**Do not connect the power cable of this Player until all connections are completed.**

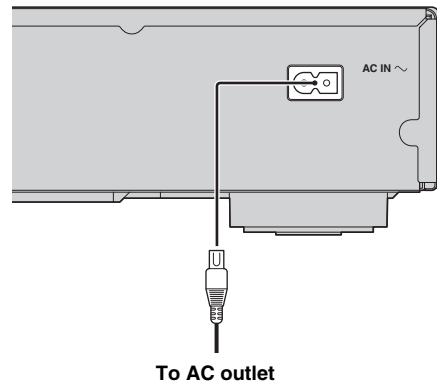


### Hints

- For details about the SCENE function, refer to the owner's manual supplied with your Yamaha AV receiver.
- You can connect a Yamaha component (such as CD player) supports the SCENE function to the REMOTE CONTROL (OUT) jack of this Player.

### ■ Connecting the power cable

- After all connections are completed, plug the supplied power cable into the AC IN on the rear of the Player. Then plug into AC outlet.

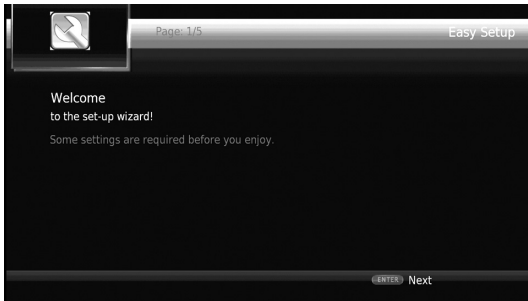


# Initial settings

## ■ Setting with the Easy Setup

Easy Setup allows you to set language, resolution, and screen aspect ratio easily. Easy Setup screen is displayed when you turn this Player on for the first time after purchase. Same setting can be performed from SETUP menu → System → Easy Setup.

- 1 When Easy Setup screen is displayed, press **ENTER** to start Easy Setup.



- 2 Set the language, resolution, and screen aspect ratio by following the on-screen messages.

### Notes

- When no picture is displayed after Easy Setup is completed, refer to “Troubleshooting” (p. 39).
- A warning message concerning 3D video playback appears when this Player is turned on. Press **ENTER** to dismiss the message or **CLEAR** to disable it (p. 30).

## ■ Wireless connection setting

To connect this Player to your network (router) wirelessly, follow the procedure below to configure the wireless connection setting.

If your router (access point) supports the WPS (Wi-Fi Protected Setup) function, you can use the auto setup method to connect this Player to the router without entering network information (such as SSID) manually.

- 1 Press **SETUP** to display the SETUP menu screen.
- 2 Select General Setting → Network → Connection setting → Wireless.



- 3 Press **◀/▶** to select Yes, then press **ENTER**.



- 4 Press **◀/▶** to select one of the following setup methods, then press **ENTER**.



**Scan:** Select this option to search for available wireless networks. When the network list is displayed, select the SSID to be connected and enter the password.

**Manual:** Select this option to enter the network information (such as SSID) manually.

**Auto:** Select this option to use the WPS function. Select PBC (Push Button Configuration) or PIN code method, then follow the on-screen messages.

### Notes

- For details on operations of your router (access point), refer to the owner’s manual of it.
- When the WPS function does not work, select “Scan” or “Manual” to configure the wireless connection settings.
- Devices that use a 2.4 GHz frequency band, such as a microwave, Bluetooth, or digital cordless device, may interrupt the wireless communication. Move this Player away from such devices, or turn off such devices.
- The speed of a wireless network connection depends on your network environment (router type, distance between the router and this Player, installation places, etc.). In case the sound or video is interrupted during playback, move this Player closer to the router or change the orientation of this Player or the antenna of the router.

# HOME menu

The HOME menu allows you to perform the following basic operations of this Player.

- Browsing and playing multi-media files on various discs, USB memory devices and your DLNA servers (PC or NAS)
- Accessing to various network services (p. 21)
- Displaying the SETUP menu (p. 27)

## Hints

- For details on playable discs and formats, see page 3.
- To play DLNA server contents on this Player, the media sharing setting (p. 15) on the DLNA server should be configured.

## ■ Playing back photo/music/video

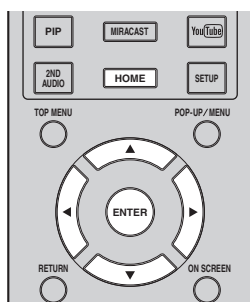
### Basic operation

◀/▶/▲/▼: Moves the focus.

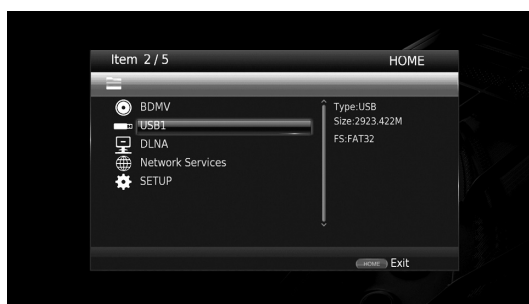
◀: Returns to the parent folder.

HOME: Moves to/exits HOME menu screen.

ENTER: Confirms the folder/file.



- 2 Press ▲/▼ to select the item which contains the file you want to play back, then press **ENTER**.

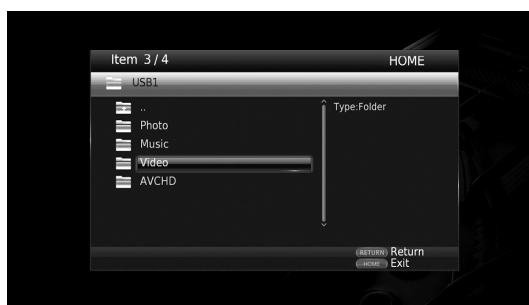


### Note

- If your DLNA server is not listed, check that the DLNA server is turned on and select DLNA Search to update the list.

- 3 Select the Photo, Music, Video or AVCHD folder you want to play back, then press **ENTER**.

To return to the parent folder, press **RETURN** or select



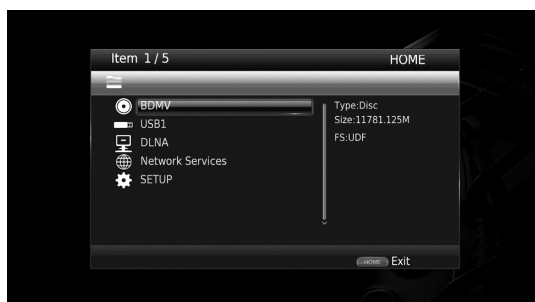
### Common operations for playing back files in a selected folder

**Example:** Selecting a movie file on a USB memory device

### Note

- Stop the playback of the video before you move to HOME menu screen.

- 1 Press **HOME** to move to HOME menu screen.

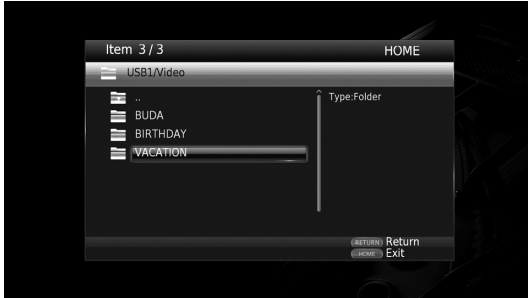


Continued to the next page. →

**Note**

- Note that the only the file type selected on this step will be displayed in the following step. For example, if you selected Photo folder in this step, only photo files are displayed after this step.

- 4 Select the folder containing the file you want to play back.

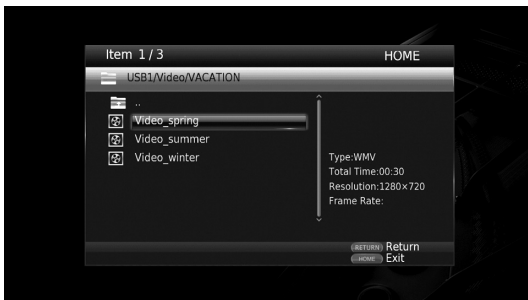


- 5 Select the file you want to play back, then press **ENTER**.

When a video file is selected, playback starts.

When a music file is selected, status screen is displayed and playback starts.

When a photo file is selected, slide show starts.

**Hint**

- To enjoy slide show with music, press **HOME** to return to the HOME menu screen while music is played back, and select photo file.

**Note**

- The displayed file may not be played back depending on the content.

**Operations for viewing photos**

While viewing photos, the buttons on the remote control work as shown below.

- : Stops slide show and returns to the file browser.
- : Pauses a slide show.
- ▶: Plays a slide show.
- ▶▶: Moves to a next photo.
- ◀◀: Moves to a previous photo.
- ▶▶▶: Makes a slide show faster in 3 steps.
- ◀◀◀: Makes a slide show slower in 3 steps.
- ▲: Inverts a photo.
- ▼: Reflects a photo.
- ◀: Rotates a photo counterclockwise.
- ▶: Rotates a photo clockwise.
- ZOOM**: Zooms in/out a photo (zoom in/out: 3 steps each).
  - ▲/▼/◀/▶: Pans in zoom mode when a photo is larger than the screen.



# Using network services

You can enjoy multimedia contents (such as photos and videos) using the following network services.

- Dropbox
- Picasa Web Albums
- YouTube

## Notes

- Access to content provided by third parties requires a high speed internet connection and may also require account registration and a paid subscription.
- Third party content services may be changed, suspended, interrupted, or discontinued at any time without notice, and Yamaha disclaims any liability in connection with such occurrences.
- Some content may only be available for specific countries and may be presented in specific languages.
- Yamaha does not represent or warrant that content services will continue to be provided or available for a particular period of time, and any such warranty, express or implied, is disclaimed.

1 Press **HOME** to move to HOME menu screen.

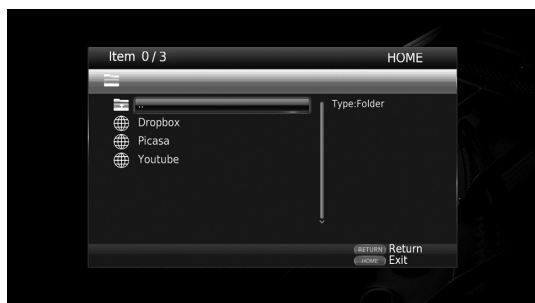
## Hint

- To directly move to the YouTube menu screen, press **YouTube**.

2 Press **▲/▼** to select Network Services, then press **ENTER**.



3 Press **◀/▶/▲/▼** to select the desired network service, then press **ENTER**.



4 Press **◀/▶/▲/▼** to select an item, then press **ENTER** to confirm the selection (or start playback).

## Hint

- To exit from each network service, press **HOME**.

## Note

- Operation procedures after step 4 vary depending on the menu items provided by each service.

## ■ About Dropbox™

Dropbox is a network service that allows you to put your stuff in Dropbox and get it from your computers, phones, or tablets. Automatically add photos and show off video from anywhere.

More information at [www.dropbox.com](http://www.dropbox.com)



Dropbox is a trademark of Dropbox Inc.

## ■ About Picasa™ Web Albums

Picasa Web Albums is a network service that allows users to share photos with friends and family, or explorer public photos.

More information at [picasaweb.google.com](http://picasaweb.google.com)



Picasa and the Picasa logo are trademarks of Google. Inc.

## ■ About YouTube™

YouTube is a network service that allows users to discover, watch and share originally-created videos over the Internet.

More information at [www.youtube.com](http://www.youtube.com)



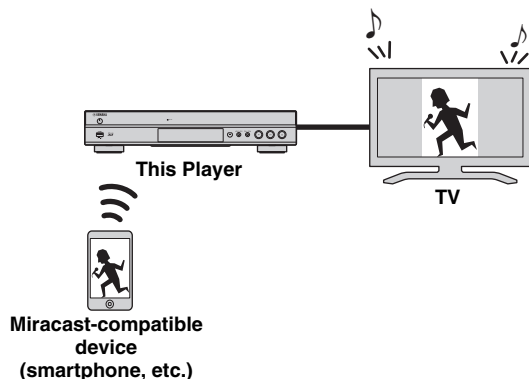
YouTube and the YouTube logo are trademarks of Google. Inc.

## Enjoying smartphone pictures and videos on the TV screen (Miracast™)

Miracast is a solution for seamlessly displaying video between devices, without cables or a network connection via an access point (Wi-Fi Direct). You can do things like view pictures from a Miracast-compatible device (smartphone, etc.) on the screen of the TV connected to this Player.

### Notes

- To check if your device is Miracast compliant, refer to the owner's manual of the device.
- When Miracast is enabled on this Player, other network functions (such as DLNA) are not available.



- 1 Press **MIRACAST**.
- 2 Within 60 seconds, operate your smartphone to enable Miracast and select this Player as the device to be connected.  
For details on operations of your smartphone, refer to the owner's manual of it.
- 3 To exit from Miracast, press **MIRACAST**.

### Hint

- You can also exit from Miracast by pressing **HOME** or **RETURN**.

Depending on the environment, audio/video may be interrupted or noise may appear on the TV screen. In this case, try the following solutions.

- Move the Miracast device closer to this Player.
- Turn off other wireless devices not in use.
- Move the Miracast device and this Player away from microwave ovens, Bluetooth devices or other wireless devices.

## Operating this Player from mobile devices (AV CONTROLLER)

By using the application “AV CONTROLLER” on your mobile device, you can use the mobile device as a remote control and operate this Player from it.



### AV CONTROLLER

- You can control the basic functions of Yamaha Blu-ray Disc™ players such as Play, Pause, Skip, Power and cursor navigations.
- The application “AV CONTROLLER” is available in many languages.
- For more information about “AV CONTROLLER”, visit the Yamaha website.

# Advanced playback operation

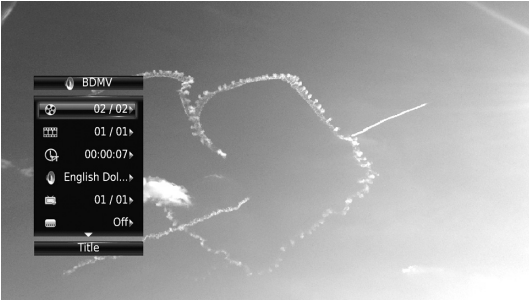
This chapter explains playback of commercially available Blu-ray Discs, DVDs, SA-CDs, CDs, and recorded DVD-RW/R discs.

## Note

- For the basic playback operation, see page 8.

## ■ On Screen menu

To display On Screen menu, press **ON SCREEN**. After that, press **▲/▼/◀/▶** to select an item, then press **ENTER** to operate the desired function.



On Screen menu contains following items.

**Title** **BD** **DVD** **VIDEO** : Shows the title number being played back. You can skip to the desired title by selecting it from this item.

**Chapter** **BD** **DVD** **VIDEO** : Shows the chapter number being played back. You can skip to the desired chapter by selecting it from this item.

**Track/File** **CD** **VIDEO** **MUSIC** **PHOTO** : Shows track/file number being played back. You can skip to the desired track/file by selecting it from this item.

**Time** **BD** **DVD** **CD** **VIDEO** **MUSIC** : Shows the playback time. Select display type from the following:

- Elapsed playback time of the title, chapter, disc, track or file
- Remaining playback time of the title, chapter, disc, track or file

## Mode/Play Mode

**DVD** **CD** **VIDEO** **MUSIC** **PHOTO** : Shows current playback mode. You can select playback mode from the following:

### CD

- Normal: Normal playback.
- Shuffle: Random playback without repetition.
- Random: Random playback with repetition.

### DVD

- Normal
- Shuffle CH (chapter)
- Shuffle TT (title)
- Shuffle All
- Random CH (chapter)
- Random TT (title)
- Random All

### VIDEO MUSIC PHOTO

- Normal
- Shuffle F (folder)
- Random F (folder)

**Audio** **BD** **DVD** **VIDEO** : Shows audio language/signal of a Blu-ray Disc/DVD currently selected. You can select the desired type of audio.

**Angle** **BD** **DVD** : Shows the currently-selected angle number. If the video is recorded with multiple angles, you can change the angle.

**Subtitle** **BD** **DVD** **VIDEO** : Shows the currently-selected subtitle language when the subtitle is provided.

**Subtitle Style** **BD** : Shows the currently-selected subtitle style. This function is available only for Video-file external subtitle. You can select the desired text style of subtitle.

**Bitrate** **BD** **DVD** **CD** **VIDEO** **MUSIC** : Shows bitrate of the audio/video signal.

**Second Video** **BD** : Turns the PIP on/off (p. 8).

**Second Audio** **BD** : Turns the secondary audio on/off (p. 8).

## Ins Search

**BD** **DVD** **CD** **VIDEO** **MUSIC** : Skips 30 seconds.

## Ins Replay

**BD** **DVD** **CD** **VIDEO** **MUSIC** : Replays the content from 10 seconds before.

## CC Select

**BD** **DVD** **VIDEO** : Sets the displayed closed caption.

## Slide Show PHOTO :

Shows slide show speed. You can select the slide show speed from Slow/Medium/Fast.

**Transition** **PHOTO** : Shows how photo appears on the screen. You can select the transition type.

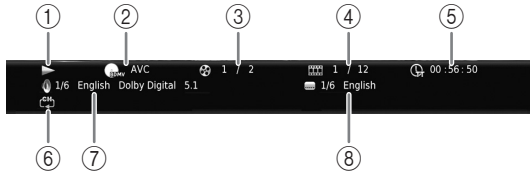
**Code Page** **VIDEO** : Selects character code of subtitle you added to DivX video (p. 41).

## ■ Status menu

This shows various settings, such as subtitles, angle settings and the title/chapter/track number currently played back. To display status menu, press **STATUS**. Status menu contains following menus.

**BD DVD VIDEO**

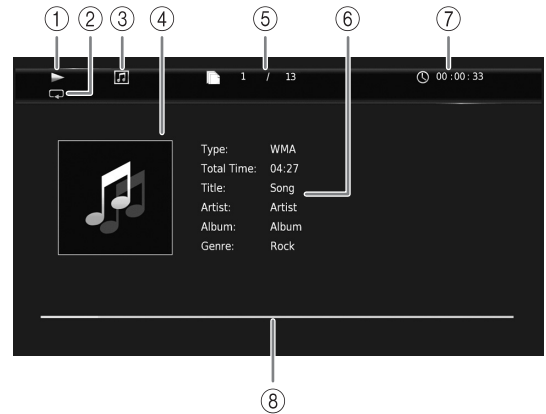
**Example:** Icons when playing a Blu-ray Disc



- ① **(Playback status)**
- ② **(Disc type/video file icon)**
- ③ **(Title number being played):** You can jump to specified title with **SEARCH** button (p. 9).
- ④ **(Chapter number being played):** You can jump to specified chapter with **SEARCH** button (p. 9).
- ⑤ **(Elapsed playback time):** You can jump to specified point with **SEARCH** button (p. 9).
- ⑥ **(Repeat mode):** Shows current repeat mode (p. 8).
- ⑦ **(Audio currently selected):** You can change the audio language with **AUDIO** button.
- ⑧ **(Subtitle currently selected):** You can change the subtitle language with **SUBTITLE** button.

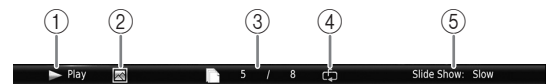
**DVD CD MUSIC**

**Example:** Icons when playing a music file



- ① **(Playback status)**
- ② **(Repeat mode):** Shows current repeat mode (p. 8).
- ③ **(Disc type/music file icon)**
- ④ **(Artwork) MUSIC:** Displays artwork if the file contains it.
- ⑤ **(Track/file number being played):** You can jump to specified track with **SEARCH** button (p. 9).
- ⑥ **(Information) MUSIC:** Displays music information if the file contains them.
- ⑦ **(Elapsed playback time):** You can jump to specified point with **SEARCH** button (p. 9).
- ⑧ **(Progress bar) MUSIC:** Shows progress status of current song.

**PHOTO**



- ① **(Playback status)**
- ② **(Photo file icon)**
- ③ **(File number being displayed)**
- ④ **(Repeat mode):** Shows current repeat mode (p. 8).
- ⑤ **(Slide show speed)**

## ■ Program play **DVD** **CD**

This allows you to program playback order of audio disc tracks or DVD chapters.

Press **PROGRAM** during playback to display the **PROGRAM** window to program playback order. You can program up to 15 tracks/chapters.

**Example:** Programming the playback order of CD tracks

- 1 Press **PROGRAM** during playback.



- 2 Press **ENTER** to program playback order. For audio disc, press **▲/▼** to select a desired track then press **ENTER**. For DVD-Video disc, select a desired title (shown as **TT**) and chapter (shown as **CH**) instead of a track. To clear a set track, select the track you want to clear, then press **CLEAR**. Press **RETURN** to cancel the Program play.



- 3 After programming is finished, press **▶** to set and start program playback.
- 4 To cancel program play, stop playback completely by pressing **■**.





## ■ Using Search

**BD** **DVD** **CD** **VIDEO** **MUSIC** **PHOTO**




This allows you to jump to the specified point during playback.

- 1 Press **SEARCH** during playback. Status bar appears.
- 2 Press **▲/▼/◀/▶** to select one of the item below, then press **ENTER**.



**BD** **DVD** :

- Title number (shown as )
- Chapter number (shown as )
- Elapsed title time (shown as )
- Elapsed chapter time (shown as )


**CD** :

- Track number (shown as )
- Elapsed track time (shown as )
- Elapsed disc time (shown as )

**VIDEO** **MUSIC** :

- File number (shown as )
- Elapsed file time (shown as )

**PHOTO** :

- File number (shown as )

- 3 Press **▲/▼** or number buttons to set/adjust the value of the focused item, and press **ENTER** to jump to the specified point.
- 4 To close the status bar, press **STATUS**.

## ■ Enjoying BONUSVIEW™ and BD-Live™

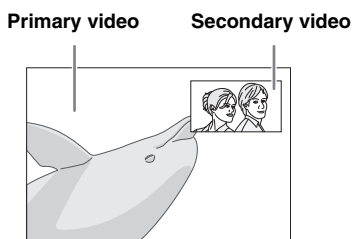
This Player supports BONUSVIEW (p. 41) (BD-ROM Profile 1 Version 1.1) and BD-Live (p. 41) (BD-ROM Profile 2) playback functions.



### Note

- Functions and playback method vary depending on the disc. See the guidance on the disc or the supplied user's manual.

## ■ Using Picture in Picture function (secondary audio/video playback)

BD-Video that includes secondary audio and video compatible with Picture in Picture can be played back with secondary audio and video simultaneously as a small video in the corner.



**While PIP Mark (  ) or Secondary Audio Mark (  ) is displayed, press PIP to turn the Picture in Picture function on/off.**

### Notes

- To listen to secondary audio, make sure that the Audio Output setting (Coaxial / Optical or HDMI) is set to PCM or Reencode (p. 34).
- Depending on the disc, to listen to secondary audio, you may need to set secondary audio to on from the top menu of the disc (p. 9).
- The secondary audio and video for Picture in Picture may automatically play back and be removed depending on the content. Also, playable areas may be restricted.

## ■ Using the feature of BD-Live™

### 1. Set the Network setting (p. 31).

### 2. Connect the USB memory device to this Player (p. 16).

BD-Live data is saved in a USB memory device connected to this Player. To enjoy these functions, connect a USB memory device supporting USB 2.0 High Speed (480 Mbit/s) to one of the USB connectors (front/rear) of this Player to use the USB memory device as Local Storage.

- Local Storage is used as an auxiliary memory when Blu-ray Disc is played back.
- Use a USB memory device with at least 2GB of free space.
- BUDA folder is created automatically in the USB memory device when necessary.
- If there is insufficient storage space, the data will not be copied/downloaded. Delete unneeded data or use a new USB memory device.
- Some time may be required for the data to load (read/write).

### Notes

- Yamaha cannot guarantee that all brands' USB memory devices will operate with this Player.
- Do not use a USB extension cable when connecting a USB memory device to the USB connector of the Player. Using a USB extension cable may prevent the Player from performing correctly.

### 3. Play back the disc.


### 4. Run BD-Live according to the instructions on the disc.




### Notes

- Do not remove the USB memory device or disconnect unplug the power cable during BD-Live operations.
- Regarding playback method of BD-Live contents, etc., perform the operations in accordance with the instructions in the Blu-ray Disc manual.
- To enjoy BD-Live functions, perform the network connection (p. 14) and Network settings (p. 31).
- Refer to "BD-Live Connection" (p. 32) regarding the setup to restrict access to BD-Live contents.
- The time required to download the provided programs into the USB memory device connected to this Player varies depending on the internet connection speeds and the data volume of the programs.
- BD-Live programs provided through the internet may not be able to display the connection depending on the status (upgrading) of the provider. In such cases, take out the disc and try again.
- If the BD-Live screen does not appear for a while after you select the BD-Live function in the Blu-ray Disc menu, the USB memory device may not have enough free space. In such cases, eject the disc from the Player, and then erase the data in the USB memory device using the "Format" menu in the "Local Storage" (p. 30).

# SETUP menu

The SETUP menu enables various audio/visual settings and adjustments for functions using the remote control unit.

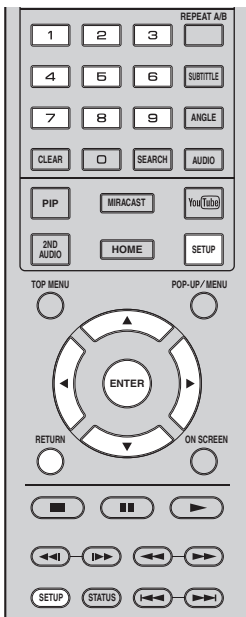
Menu/Submenu	Item	Function	Page	
 <b>General Setting</b>	<b>System</b>			
	Auto Power Standby	Sets the power-saving function to on/off.	30	
	HDMI Control	Sets this Player to receive control signal from the remote control of your TV/AV receiver.	30	
	Load Default	Resets all settings to the default setting except Security setting.	30	
	Upgrade	Performs upgrade of this Player.	30	
	Upgrade Notification	Selects whether to display the message on the screen when this Player detects newer software over the Internet.	30	
	3D Playback Message	Displays a warning message concerning 3D video playback when this Player is turned on.	30	
	Local Storage	Displays the free space of USB memory device connected to this Player, or formats the "BUDA" folder in the USB memory device.	30	
	Easy Setup	Sets language, resolution, screen aspect ratio.	30	
	<b>Language</b>			
	OSD	Selects the language for On Screen Display.	30	
	Menu	Prioritizes the language for disc menu.	31	
	Audio	Prioritizes the language for audio.	31	
	Subtitle	Prioritizes the language for subtitle.	31	
	<b>Playback</b>			
	Disc Auto Playback	Sets this Player to start disc playback automatically.	31	
	Angle Mark	Sets to display the Angle Mark when Blu-ray Disc/DVD with multiple angles is played back.	31	
	PIP Mark	Sets to display the PIP Mark when Blu-ray Disc/DVD with Picture in Picture is played back.	31	
	Secondary Audio Mark	Sets to display the Secondary Audio Mark when Blu-ray Disc/DVD with secondary audio is played back.	31	
	Last Memory	Sets this Player to remember the last playback position of a disc (Blu-ray or DVD video) when it is set to standby mode or the disc tray is opened.	31	
	DivX(R) VOD DRM	Displays registration code for DivX(R) video.	31	
	DivX Subtitle	Selects whether to display a subtitle for DivX(R) video.	31	
	<b>Security</b>			
	Change Password	Changes password for Parental Control and Country Code.	31	
	Parental Control	Sets the Parental Control depending on the disc content.	31	
	Country Code	Sets your Country Code.	31	
	<b>Network</b>			
	Connection Setting	Sets a network connection method.	31	
	Information	Displays network information screen.	31	
	Connection Test	Performs the network connection test.	32	
	IP Setting	Sets the IP setting to Auto/Manual.	32	
	Proxy Setting	Sets the proxy setting.	32	
	Network Control	Sets the control for devices, which are connected via Ethernet, to On/Off.	32	
	Network Standby	Selects whether this Player can be turned on from other network devices.	32	
DMC Control	Selects whether to allow DLNA-compatible Digital Media Controller (DMC) (p. 15) to control this Player.	32		
BD-Live Connection	Sets the BD-Live connection to Permitted/Partial Permitted/Prohibited.	32		

Menu/Submenu	Item	Function	Page	
 <b>Display Setting</b>	<b>TV</b>	3D Output	Selects 3D or 2D videos.	32
		TV Screen	Sets the screen aspect ratio of the connected TV, and adjust the video output.	32
		HDMI Resolution	Selects the HDMI video output resolution.	33
		TV System	Selects the TV System from NTSC/PAL/Multi.	33
		Color Space	Selects Color Space from YCbCr 4:4:4/YCbCr 4:2:2/Full RGB/RGB.	33
		HDMI Deep Color	Selects HDMI Deep Color from 30 bits/36 bits/48 bits/Off.	33
		HDMI 1080p 24Hz	Sets HDMI 1080p 24Hz to auto/off.	33
	<b>Video Process</b>	Noise Reduction	Sets the level of Noise Reduction.	33
		De-interlacing Mode	Sets how to detect the video signal.	33
	<b>Closed Caption</b>	CC Attribute	Sets the appearance of closed captions.	33
		Font color Font size Font style Font opacity Font edge Font edge color BG color BG opacity Window color Window opacity	Customize the font, background and window used for closed captions when CC Attribute is set to Custom.	33
	 <b>Audio Setting</b>	<b>Audio Output</b>	Coaxial / Optical	Selects the output mode of COAXIAL jack/OPTICAL terminal from Bitstream/PCM/Reencode/Off.
HDMI			Selects the output mode of HDMI terminal from Bitstream/PCM/Reencode/Off.	34
Downsampling			Selects the digital audio signal down sampling frequency from 48K/96K/192K.	34
DRC			Sets the DRC (Dynamic Range Compression).	34
<b>SACD Output</b>		SACD Priority	Selects the playing back priority for 2-channel contents or multi-channel contents, when the disc contains both types of contents.	34
		SACD/CD Layer	Selects the layer to be played when an SA-CD/CD hybrid disc is played back.	34
<b>Speaker Setting</b>		2ch Downmix	Sets the audio output from AUDIO OUT L/R jack.	34
<b>Post Process</b>		UpMix	Multi-channelizes the 2-channel audio signal.	34
 <b>System Information</b>		Displays software version and MAC address (p. 42).	34	




## ■ Example of SETUP menu operation

You need to call up the SETUP menu screen to perform settings for this Player. The following is the explanation for basic operations of the SETUP menu.






**Example:** Setting Disc Auto Playback




### Note

- Some items cannot be set during playback. In this case, press  to stop playback completely before setting.




### 1. Display the SETUP menu screen.

Press **SETUP** to display the SETUP menu screen. Press   to select General Setting, then press **ENTER** or .

### 2. Select a Submenu.



Press   to select Playback, then press **ENTER** or cursor .

### 3. Select a menu item.

Press   to select Disc Auto Playback, then press **ENTER** or cursor .



### 4. Select a desired setting.


Press   to select On or Off, then press **ENTER**.



### Hint

- You need to use the number buttons to enter numbers (such as password) for some menu items.

### 5. Exit the menu screen.

Press  to return to the previous menu.

## ■ General Setting



The default settings are marked with “\*”.

### System

#### Auto Power Standby

Sets the power-saving function to on/off.

When set to on, this Player will switch to screen saver mode if there is no operation for 5 minutes. After that, this Player will turn to standby mode when there is no operation for 15 minutes.

On\*, Off

#### HDMI Control

You can set the Player to receive control signal from a TV/AV receiver compatible with the HDMI Control function via an HDMI cable (p. 11).

On, Off\*

#### Using HDMI Control function

Using the HDMI Control function, you can interactively operate this Player with your TV (HDMI Control function supported).

When you connect this Player to the TV compatible with the HDMI Control function using an HDMI cable and set HDMI Control in the SETUP menu to on (p. 30), you can perform the function listed below.

- Automatic input select function  
When you start playback of this Player, the input selector of the TV (and an AV receiver if this Player is connected to the TV via the AV receiver) is switched to this Player automatically. TV Power is turned on automatically depending on the TV.
- Automatic power off function  
When you turn off the TV while this Player is in stop mode and the SETUP menu screen is not displayed, the power of this Player is also turned off automatically.

#### Notes

- HDMI Control function may not work properly depending on the TV.
- Functions other than ones shown above may work depending on the TV or AV receiver.
- In order to make the HDMI Control function available, set up settings for the HDMI Control function on ALL components (this Player, TV, and AV receiver). Certain operation may also be required.
- Each function may be set independently to activate/deactivate depending on the TV.
- Refer to the operation manuals supplied with the TV and/or AV receiver for details regarding setup.
- When set to on, power consumption during standby mode increases due to HDMI Control function.

#### Load Default

You can reset all settings of this Player to default setting except Security setting (p. 31). For details on default settings, see pages 27–34.

#### Upgrade

You can upgrade the software manually from USB Storage or Network. For details on software upgrade, refer to “Software upgrade” (p. 37).

#### Upgrade Notification

You can select whether to display the message on the screen when this Player detects newer software over the Internet.

On\*, Off

#### 3D Playback Message

You can turn on or off a warning message concerning 3D video playback that appears on the TV when this Player is turned on.

On\*, Off

#### Local Storage

You can check the free space of USB memory device connected to this Player, or format (empty) the “BUDA” folder in the USB memory device connected to this Player by selecting Format.

#### Hint

- To enjoy the BD-Live feature (p. 26), you need to connect a USB memory device (with at least 2GB of free space) to one of the USB connectors (front/rear) of this Player to use the USB memory device as Local Storage.

#### Easy Setup

You can perform Easy Setup (p. 18).

### Language

#### OSD

You can select the language for On Screen Display which is the messages or menu displayed on the screen such as SETUP menu.

English, Français, Español, Deutsch, Italiano, Svenska, Nederlandse, Polski, Русский, 中文

## Menu

You can prioritize the language for disc menu.

English, Français, 中文, Español, Deutsch, Italiano, Nederlandse, Portuguese, Danish, Svenska, Finnish, Norwegian, Polski, Русский, Korean, Japanese, More

## Audio

You can prioritize the audio language for Blu-ray Disc/DVD playback. For details on setting items, see “Menu” (p. 31).

## Subtitle

You can prioritize the language for Subtitle.

English, Français, 中文, Español, Deutsch, Italiano, Nederlandse, Portuguese, Danish, Svenska, Finnish, Norwegian, Polski, Русский, Korean, Japanese, More, Off

(The default settings in [Language] differ depending on your model.)


## Playback

### Disc Auto Playback

You can set Disc Auto Playback to on/off. When set to on, a disc will play back automatically after loading.


On\*, Off

### Angle Mark

You can set to display the Angle Mark () when Blu-ray Disc/DVD with multiple angles is played back.


On\*, Off

### PIP Mark

You can set to display the PIP Mark () when Blu-ray Disc with picture in picture (p. 26) is played back.

On\*, Off

### Secondary Audio Mark

You can set to display the Secondary Audio Mark () when Blu-ray Disc with secondary audio is played back.

On\*, Off

### Last Memory

You can set whether this Player remembers the last playback position of a disc (Blu-ray or DVD video) when it is set to standby mode or the disc tray is opened.

On\*, Off

#### Note

- Some discs are not compatible with this function.

### DivX(R) VOD DRM

You can display registration code for DivX(R) video.

### DivX Subtitle

You can select whether to display a subtitle for DivX(R) video.

On, Off\*

## Security

### Change Password

You can set the password for changing the Parental Control Level and Country Code. Refer to “Parental Control” (p. 31) and “Country Code” (p. 31).

#### Notes

- The default password is 0000.
- If you forget the password, refer to “Troubleshooting” (p. 38) and set all the Security settings to their default settings.

### Parental Control

In some Blu-ray Discs/DVDs, a control level for disc viewing is set depending on the age of the viewer. You can set the Parental Control shown on the screen depending on the disc content.

The password (see “Change Password” on p. 31) needs to be entered before the Parental Control Levels is set. After you set the Parental Control, when you play back a disc with level higher than current Parental Control Level, or you want to change the Parental Control Level, a dialog box will pop up to ask you to enter the password.

Off\*, 1–8

### Country Code

You can set the Country Code you live in. The password (see “Change Password” on p. 31) needs to be entered before the Country Code is set. This setting may be used for rating of Parental Control and disc playback.

## Network

### Connection Setting

You can select a network connection method.

**Wired\*** Connects the network using Ethernet.

**Wireless** Connects the network using a wireless LAN. You can select settings for a wireless LAN connection. Follow the on-screen instructions to proceed.

#### Scan

Searches for an access point. You can connect the access point that is found.

#### Manual

You can manually set information for an access point.

#### Auto

If your access point supports the WPS (Wi-Fi Protected Setup) function, you can use the auto setup method to connect this Player to the access point without entering information manually. Select PBC (Push Button Configuration) or PIN code method.

### Information

You can display network information screen. On this screen, you can view the information of Interface (Ethernet), Address Type, IP Address, Subnet Mask, Default Gateway, and DNS.

### Connection Test

You can perform an internet connection test. If the test is failed, please check “IP Setting” (p. 32) and perform the test again.

### IP Setting

You can configure the network settings.

- Auto\*** Select to automatically configure the network settings of this Player with the DHCP server.
- Manual** Select to configure the network settings (IP Address, Subnet Mask, Default Gateway, and DNS) manually.

#### Hints

- **Numeric keys** Enters characters.
- **◀▶** Moves the highlight.
- **CLEAR** Deletes a character.
- **ENTER** Saves the settings and exits from the menu.

### Proxy Setting

You can set Proxy Setting. Set to Disable for normal use. Set to Enable to set the proxy setting.

- Disable\*** Sets proxy server to disable. Select this item when proxy server is not used.
- Enable** Enables proxy host and proxy port setting.
- Proxy Host** Sets proxy host.
- Proxy Port** Sets proxy port.

### Network Control

Sets the control for devices, which are connected via Ethernet, to On/Off. When On with filter is selected, you can specify the MAC addresses of the network devices that will be permitted access to this Player. This Player employs Yamaha Network Control protocol (YNC).

**On\*, On with filter, Off**

#### Notes

- When Network Control is enable, power consumption during standby mode increases due to network control function.
- When set to On, the system startup time is decreased.

### Network Standby

You can select whether this Player can be turned on from other network devices such as “AV CONTROLLER” (p. 22).

**On, Off\***

#### Note

- This setting is available only when Network Control is enabled.

### DMC Control

You can select whether to allow DLNA-compatible Digital Media Controller (DMC) (p. 15) to control this Player.

**Enable\*, Disable**

### BD-Live Connection

You can set access restriction to BD-Live contents.

- Permitted** Allows all BD-Live discs to connect the network.
- Partial Permitted\*** Allows only discs with owner certification.
- Prohibited** Prohibits all BD-Live discs to connect the network.

### Display Setting



The default settings are marked with “\*”.

### TV

#### 3D Output

You can select 3D or 2D video output from this Player.

- Auto\*** This Player automatically selects 3D or 2D videos.
- Off** This Player always selects 2D videos.

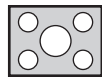
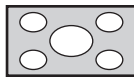
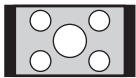
#### Note

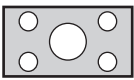


- Even if you set “3D Output” to “Auto” and play back a Blu-ray 3D Disc, this Player selects 2D images depending on the setting of TV, etc.

### TV Screen

You can set the screen aspect ratio of the connected TV, and adjust the video output. If you switch your TV (i.e. because you have bought a new one) and the screen aspect ratio of the connected TV changes, you will have to change the TV Screen setting.

- 16:9 Full** Select this when this Player is connected to a TV with a 16:9 screen. When a 4:3 aspect ratio video is played back, the video is displayed as shown below.
- 16:9 Normal\*** Select this when this Player is connected to a TV with a 16:9 screen. When a 4:3 aspect ratio video is played back, the video is displayed as shown below.
- 4:3 Pan Scan** Select this when this Player is connected to a TV with a 4:3 screen. When a 16:9 aspect ratio video is played back, the video is displayed as shown below.
- 4:3 Letter Box** Select this when this Player is connected to a TV with a 4:3 screen. When a 16:9 aspect ratio video is played back, the video is displayed as shown below.

Original image size	On 16:9 (wide screen) TV	
	16:9 Full	16:9 Normal
 4:3		

Original image size	On 4:3 TV	
	4:3 Pan Scan	4:3 Letter Box
 16:9		

## HDMI Resolution

You can select the HDMI video output resolution. For more details on output formats, refer to “About the HDMI video output formats” (p. 36).

When set to Auto, resolution is set to the maximum resolution according to the connected TV.

When set to Disc Native, the original resolution and video frequency, recorded in the Blu-ray Disc or DVD that is played back, are used. You can use a video up-converter function of an external device.

When other than a Blu-ray Disc or DVD is played back, the resolution and video frequency will work as Auto. If a Blu-ray Disc or DVD whose resolution and video frequency are not compatible with the connected TV, no image will be output. In this case, stop playback, and select an option other than Disc Native.

**Auto\*, Disc Native, 480i/576i, 480p/576p, 720p, 1080i, 1080p**

### Note

- To output HD audio (Dolby TrueHD or DTS-HD Master Audio) from HDMI terminal, set HDMI Resolution to Auto or more than 720p.

## TV System

You can select TV System from PAL, NTSC and Multi. Set the same TV System as your TV set. For more details on output formats, refer to “About the HDMI video output formats” (p. 36).

**NTSC, PAL, Multi**

(The default setting differs depending on your model.)

## Color Space

You can select the Color Space (p. 41) output from HDMI. This function is available when this Player is connected with an HDMI cable.

**YCbCr 4:4:4\*** Sets Color Space to YCbCr 4:4:4.

**YCbCr 4:2:2** Sets Color Space to YCbCr 4:2:2.

**Full RGB** When RGB is set and white and black on the screen are too faint, select this item. This setting is effective when a connected component supports RGB 0–255 range.

**RGB** Outputs video signal at normal signal range.

### Note

- This function is only available on TVs that support this function.

## HDMI Deep Color

When your TV and/or AV receiver is compatible with Deep Color (p. 41), set this item according to your TV/AV receiver. This function is available when this Player is connected with an HDMI cable.

**30 bits, 36 bits, 48 bits, Off\***

## HDMI 1080p 24Hz

This outputs the BD-Video encoded in 24Hz frame rate in HDMI 1080p 24Hz. Smoother video playback may be available with this function. This function is available when your TV/AV receiver support this function. For more details on output formats, refer to “About the HDMI video output formats” (p. 36).

**Auto\*, Off**

### Note

- This setting is disabled when output resolution is other than 1080p.

## Video Process

### Noise Reduction

You can set the Noise Reduction to a level of 0 to 3. 0 is off, and 3 is the maximum level.

**0, 1, 2\*, 3**

### De-interlacing Mode

You can select how to detect the video signal. Set to Auto for normal use. When horizontal stripping noise appears on the screen, set this to Film/Video to remove the noise.

**Auto\*, Film, Video**

## Closed Caption

### CC Attribute

You can set the appearance of closed captions. When Auto is selected, digital closed captions will be displayed in default settings. When Custom is selected, you can customize the appearance of closed captions (Font color, Font size, etc.) manually.

**Auto, Custom**

**Font color, Font size, Font style, Font opacity, Font edge, Font edge color, BG color, BG opacity, Window color, Window opacity**

Customize the font, background and window used for closed captions when CC Attribute is set to Custom.

## ■ Audio Setting



The default settings are marked with “\*”.

### Audio Output

#### Coaxial / Optical

You can select the output mode of COAXIAL jack and OPTICAL terminal. For more details on output formats, refer to “About the audio output formats” (p. 35).

<b>Bitstream</b>	Outputs digital signal without any processing. Secondary Audio is not output.
<b>PCM</b>	Outputs 2-channel PCM.
<b>Reencode*</b>	Outputs Bitstream with Secondary Audio.
<b>Off</b>	Mutes sound.

#### HDMI

You can select the output mode of HDMI terminal. For details on setting items, see “Coaxial / Optical” (p. 34). For more details on output formats, refer to “About the audio output formats” (p. 35).

**Bitstream\*, PCM, Reencode, Off**

#### Note

- To output HD audio (Dolby TrueHD or DTS-HD Master Audio) from HDMI terminal, set HDMI Resolution to Auto or more than 720p (p. 33).

#### Downsampling

You can select digital audio signal down-sample frequency. This function is effective for the audio signal output from the COAXIAL jack/OPTICAL terminal.

<b>48K*</b>	The highest sampling rate of digital PCM output is 48 kHz.
<b>96K</b>	The highest sampling rate of digital PCM output is 96 kHz.
<b>192K</b>	The highest sampling rate of digital PCM output is 192 kHz.

#### DRC

You can set the DRC (Dynamic Range Compression) (p. 41) to on/off/Auto. When set to Auto, DRC is automatically turned on for a source with DRC information in Dolby TrueHD format. DRC makes the strong sound such as plosive sound lower, and conversations more audible. It is useful when you watch movies in the night.

**Off, On, Auto\***

### SACD Output

#### SACD Priority

Selects the playing back priority for 2-channel contents or multi-channel contents, when the disc contains both types of contents.

**Multi-ch\*, 2-ch**

### SACD/CD Layer

Selects the layer to be played when an SA-CD/CD hybrid disc is played back.

**SACD\*, CD**

#### Hint

- The SA-CD indicator on the front panel lights up when an SA-CD is loaded and the SA-CD layer is selected.

#### Notes

- This setting is only available when no disc is loaded.
- Audio signals are not output from the COAXIAL or OPTICAL jack (p. 13) when the SA-CD layer is selected.

### Speaker Setting

#### 2ch Downmix

You can select down mix method to analog 2-ch from Stereo or Lt/Rt.

<b>Stereo*</b>	Changes channel output to stereo, which only delivers sound from the two front speakers.
<b>Lt/Rt</b>	Select this item if this unit is connected to a Dolby Pro Logic decoder. Sound from rear speakers is mixed to the 2-ch stereo sound.

### Post Process

#### UpMix

You can multi-channelize the 2-channel audio signal. To multi-channelize, select DTS NEO:6, then select Cinema or Music mode.

**Off\*, DTS NEO:6**

## ■ System Information



Software version and MAC address (p. 42) are displayed.

## About the audio output formats

Source format		HDMI			COAXIAL / OPTICAL			MIXED 2CH
		Bitstream	PCM	Reencode	Bitstream	PCM	Reencode	–
PCM 2ch	with SA or BCS*1	PCM 2ch		Dolby Digital	PCM 2ch		Dolby Digital	2ch
	without SA or BCS*1	PCM 2ch			PCM 2ch			2ch
PCM 5.1ch	with SA or BCS*1	PCM 5.1ch		Dolby Digital	PCM 2ch		Dolby Digital	2ch
	without SA or BCS*1	PCM 5.1ch			PCM 2ch			2ch
PCM 7.1ch	with SA or BCS*1	PCM 7.1ch		Dolby Digital	PCM 2ch		Dolby Digital	2ch
	without SA or BCS*1	PCM 7.1ch			PCM 2ch			2ch
Dolby Digital	with SA or BCS*1	Dolby Digital	PCM up to 5.1ch	Dolby Digital	Dolby Digital	PCM 2ch	Dolby Digital	2ch
	without SA or BCS*1							
Dolby Digital Plus	with SA or BCS*1	Dolby Digital Plus	PCM up to 7.1ch	Dolby Digital	Dolby Digital	PCM 2ch	Dolby Digital	2ch
	without SA or BCS*1							
Dolby TrueHD	with SA or BCS*1	Dolby TrueHD	PCM up to 7.1ch	Dolby Digital	Dolby Digital	PCM 2ch	Dolby Digital	2ch
	without SA or BCS*1							
DTS	with SA or BCS*1	DTS	PCM up to 5.1ch*2	DTS*3	DTS	PCM 2ch*2	DTS*3	2ch*2
	without SA or BCS*1							
DTS HD High Resolution	with SA or BCS*1	DTS-HD High Resolution	PCM up to 7.1ch*2	DTS*3	DTS	PCM 2ch*2	DTS*3	2ch*2
	without SA or BCS*1							
DTS-HD Master Audio	with SA or BCS*1	DTS-HD Master Audio	PCM up to 7.1ch*2	DTS*3	DTS	PCM 2ch*2	DTS*3	2ch*2
	without SA or BCS*1							

\*1 “SA” is a Secondary Audio. “BCS” is a button click sound, the sound effect for pop-up menus, etc.

\*2 For USB, DLNA and network services, PCM and mixed 2ch are not available (muted).

\*3 For USB, DLNA and network services, Reencode is not available (output audio will be same format as bitstream).

### Notes

- When Coaxial / Optical or HDMI is set to Bitstream, secondary audio is not output. (p. 34)
- To output HD audio (Dolby TrueHD or DTS-HD Master Audio) from HDMI terminal, set HDMI Resolution to Auto or more than 720p (p. 33).

## SA-CD output formats

SACD Priority setting (p. 34)	HDMI	COAXIAL / OPTICAL	MIXED 2CH
Multi-ch	PCM up to 5.1ch	No output	2ch
2-ch	PCM up to 2ch	No output	2ch

## ■ About the HDMI video output formats

### When TV System is set to NTSC

Contents	HDMI Resolution						
	Auto	Disc Native	1080p	1080i	720p	480p/576p	480i/576i
BD-Video with 1080p/24Hz content	*1	1080p 24Hz	1080p 24Hz/60Hz *3	1080i 60Hz	720p 60Hz	480p	480i
BD-Video without 1080p/24Hz content	*1	*2	1080p 60Hz	1080i 60Hz	720p 60Hz	480p	480i
DVD-Video	*1	*2	1080p 60Hz	1080i 60Hz	720p 60Hz	480p	480i
Others	*1	*1	1080p 60Hz	1080i 60Hz	720p 60Hz	480p	480i

### When TV System is set to PAL

Contents	HDMI Resolution						
	Auto	Disc Native	1080p	1080i	720p	480p/576p	480i/576i
BD-Video with 1080p/24Hz content	*1	1080p 24Hz	1080p 24Hz/50Hz *3	1080i 50Hz	720p 50Hz	576p	576i
BD-Video without 1080p/24Hz content	*1	*2	1080p 50Hz	1080i 50Hz	720p 50Hz	576p	576i
DVD-Video	*1	*2	1080p 50Hz	1080i 50Hz	720p 50Hz	576p	576i
Others	*1	*1	1080p 50Hz	1080i 50Hz	720p 50Hz	576p	576i

\*1 Resolution will be set to the maximum resolution supported by the connected TV. For example, when the maximum resolution supported by the connected TV is 1080p, the resolution will be set to 1080p.

\*2 Resolution and frequency will be that of the source disc.

\*3 If Auto is set for HDMI 1080p 24Hz and the connected TV supports 1080p 24Hz content, 1080p 24 Hz will be output instead of 1080p 50/60 Hz.

### When TV System is set to Multi

When TV System is set to Multi, video signal is output at the same frequency as the source. Refer to the tables above for details on the frequency setting of the TV and resolution of the output video signal.

#### Notes

- HDMI 1080p 24Hz setting is disabled when output resolution is other than 1080p.
- When TV System is set to NTSC and video source is not 60 Hz, the video output signal is converted to 60 Hz.
- When TV System is set to PAL and video source is not 50 Hz, the video output signal is converted to 50 Hz.



# Software upgrade

New software that provides additional features or product improvements will be released as needed. We recommend upgrading the software of this Player to the latest version periodically.

To check for the availability of a software upgrade, visit <http://download.yamaha.com/>

## Note

- Do not remove the USB memory device, set this Player to standby mode or unplug the power cable/network cable while the software upgrade is being performed.

## ■ Upgrading the software

### 1. Prepare for the software upgrade.

When you upgrade the software from USB Storage:

- ① Save the upgrade file package to the appropriate folder on the USB memory device. For more details, refer to the procedure document attached with the upgrade file package.
- ② Connect the USB memory device.

When you upgrade the software from Network:  
Confirm that this Player is connected to the network.

### 2. Select the upgrade method and start upgrade from **SETUP** menu.

- ① Press **SETUP** to display SETUP menu screen.
- ② Select General Setting → System → Upgrade.
- ③ Select the item which contains the upgrade file package from USB Storage/Network.




The system will search for upgrade file package.







# Troubleshooting

Refer to the table below when this Player does not function properly. If the problem you are experiencing is not listed below or if the instruction below does not help, turn off this Player, disconnect the power cable, and contact the nearest authorized Yamaha dealer or service center.

## ■ Power

Problem	Possible causes and solutions
No power.	<ul style="list-style-type: none"> <li>– Connect the AC power cable properly.</li> <li>– Press  on the front panel to turn on the power.</li> </ul>
The Player power is turned off.	<ul style="list-style-type: none"> <li>– This Player will be automatically turned off after 20 minutes of inactivity (no playback) when Auto Power Standby (p. 30) is set to on.</li> </ul>






## ■ Basic operation

Problem	Possible causes and solutions
The remote control does not work.	<ul style="list-style-type: none"> <li>– Use the remote control within its operating range. (p. 10)</li> <li>– Replace the batteries. (p. 10)</li> <li>– Check the ID settings for the main unit and the remote control. The remote control ID on the main unit may be changed after the main unit is reset. In this case, verify the remote control ID on the main unit, and set it again if needed. (p. 10)</li> </ul>
Buttons do not work.	<ul style="list-style-type: none"> <li>– Press and hold  on the front panel for more than 5 seconds to reset this Player.</li> <li>– To completely reset this Player, unplug the power cable from the AC outlet for 30 seconds or more, plug the power cable to the AC outlet again, and then turn on this Player.</li> </ul>
Password is forgotten.	<ul style="list-style-type: none"> <li>– Press and hold , ,  and  on the front panel simultaneously when no disc is inserted and playback is stopped to set all the settings including Security settings (p. 31) of this Player to their default settings. After the power is turned off automatically, press  to turn on the power again.</li> </ul>

## ■ Disc playback

Problem	Possible causes and solutions
The Player cannot play a disc.	<ul style="list-style-type: none"> <li>– Take out the disc and clean it. (p. 5)</li> <li>– Make sure that the disc is loaded properly (aligned in disc tray and label-side up). (p. 5)</li> <li>– Use a disc supported by the Player. (p. 3)</li> <li>– Remove the disc and then check whether the Player supports the disc or not. (p. 3)</li> <li>– Check the region code. (p. 3)</li> <li>– Check whether the disc is defective by trying another disc.</li> <li>– The CD-R/RW, DVD+R/RW/R DL, and DVD-R/RW/R DL must be finalized. (p. 3)</li> </ul>
Video stops.	<ul style="list-style-type: none"> <li>– The Player will stop if it senses shock or vibration.</li> </ul>
The Player makes a snapping sound when starting playback or loading a disc.	<ul style="list-style-type: none"> <li>– These sounds are not malfunctions of the Player but are normal operating conditions.</li> </ul>
It takes time to start Blu-ray disc playback.	<ul style="list-style-type: none"> <li>– This player searches for a USB memory device used as Local Storage for BD-Live feature (p. 26) when a Blu-ray disc is loaded. To reduce the waiting time, keep a USB memory device connected to the one of the USB connectors (front/rear) of this Player (p. 16).</li> </ul>

## Picture

Problem	Possible causes and solutions
No picture.	<ul style="list-style-type: none"> <li>- Make sure that the cables are connected correctly. (p. 11)</li> <li>- Make sure that the connected TV or the AV receiver is set to the correct input.</li> <li>- With no disc inserted, or playback stopped, press and hold  and  on the front panel simultaneously to set video resolution to the default value. If a picture is still not output, press and hold  on the front panel for approximately 5 seconds to switch NTSC/PAL.</li> <li>- When set to Disc Native, a signal that is not compatible with the connected TV is output. Change the setting to output a signal that is compatible with the connected TV. (p. 33)</li> <li>- Make sure that the disc or file you are trying to play back is compatible with this Player (p. 3).</li> </ul>
Screen freezes and operation buttons do not work.	<ul style="list-style-type: none"> <li>- Press , then restart playback.</li> <li>- Turn off the power and turn on the power again.</li> <li>- Press and hold  on the front panel for more than 5 seconds to reset this Player.</li> </ul>
Video is not output with the desired resolution.	<ul style="list-style-type: none"> <li>- Set to the desired resolution. (p. 33)</li> </ul>
Wide-screen video appears vertically stretched, or black bands appear at the top and bottom of the screen. Or 4:3 video appears horizontally stretched.	<ul style="list-style-type: none"> <li>- Change the aspect ratio of your TV. (p. 32)</li> </ul>
Square noise (mosaic) appears on the screen.	<ul style="list-style-type: none"> <li>- Blocks in images may be visible in scenes with rapid movement due to the characteristics of digital image compression technology.</li> </ul>

## Sound

Problem	Possible causes and solutions
No sound, or sound is distorted.	<ul style="list-style-type: none"> <li>- Check that the audio cable is connected correctly. (p. 11)</li> <li>- Turn the volume of TV or AV receiver up.</li> <li>- There is no sound during still mode, fast forward, and fast reverse. (p. 9)</li> <li>- Audio may not be output depending on the audio recording status, such as when audio other than an audio signal or non-standard audio is recorded for the audio content. (p. 3)</li> <li>- Make sure that the disc or file you are trying to play back is compatible with this Player (p. 3).</li> </ul>
Left and right channels of audio are reversed, or sound comes out of only one side.	<ul style="list-style-type: none"> <li>- Check the audio connection. (p. 13)</li> </ul>
Cannot hear the desired audio type and/or number of channels.	<ul style="list-style-type: none"> <li>- Refer to Audio Output setting and "About the audio output formats". (p. 34, p. 35)</li> </ul>
Cannot hear the sound of PIP (secondary audio).	<ul style="list-style-type: none"> <li>- Set Coaxial / Optical or HDMI to PCM/Reencode. (p. 34)</li> <li>- To hear secondary audio, press <b>2ND AUDIO</b>. (p. 8)</li> <li>- Depending on the disc, you may need to set secondary audio on the top menu of the disc. (p. 9)</li> </ul>

## Network

Problem	Possible causes and solutions
Cannot connect to the Internet.	<ul style="list-style-type: none"> <li>- When connecting to the Internet by selecting Wired in Connection Setting, connect the Network cable properly. (p. 31)</li> <li>- Turn on the connected equipment, such as broadband router or modem.</li> <li>- Connect the broadband router and/or modem properly.</li> <li>- If Wireless is selected in Connection Setting, and when you want to connect to the Internet using Ethernet, select Wired properly. (p. 31)</li> <li>- Properly select Wireless in Connection Setting when you want to connect to the Internet using a wireless LAN. (p. 31)</li> </ul>

Problem	Possible causes and solutions
<b>Cannot download BD-Live contents.</b>	<ul style="list-style-type: none"> <li>- Verify that this Player can connect to the Internet normally. Refer to "Connection Test". (p. 32)</li> <li>- Connect USB memory device properly. Check that the USB memory device is connected to the USB connector of this Player. (p. 16)</li> <li>- Check if the Blu-ray Disc supports BD-Live.</li> <li>- Connect the USB memory device formatted in FAT16, FAT32, or NTFS.</li> <li>- It is recommended to connect the USB memory device with at least 2 GB of free space. If there is not enough free space, format the USB memory device. (p. 30)</li> <li>- Refer to the supplied user's manual of the disc or consult the disc manufacturer.</li> </ul>
<b>Cannot detect the DLNA server.</b>	<ul style="list-style-type: none"> <li>- Verify that this Player can connect to the network normally. Refer to "Connection Test". (p. 32)</li> <li>- Turn on the connected equipment, such as broadband router or the server.</li> <li>- Confirm the Player and the server are connected to the same router (or access point).</li> <li>- Depending on the DLNA server, the Player may need to be permitted from the server.</li> <li>- Depending on the DLNA server, it needs to change a firewall setting.</li> </ul>
<b>Cannot play the file on the DLNA server.</b>	<ul style="list-style-type: none"> <li>- Make sure the file is playable. (p. 3)</li> <li>- Check your DLNA server's setting.</li> <li>- The playback and operating quality may be affected by your home network condition.</li> </ul>
<b>Cannot connect to the Internet via Wireless LAN.</b>	<ul style="list-style-type: none"> <li>- Make sure that the wireless LAN router is turned on.</li> <li>- Depending on the surrounding environment, such as the wall material, radio wave receiving condition, or obstacles between the Player and the wireless LAN router, the communication distance may be shortened. Move the Player and the wireless LAN router closer to each other.</li> <li>- Devices that use a 2.4 GHz frequency band, such as a microwave, Bluetooth, or digital cordless device, may interrupt the communication. Move the Player away from such devices, or turn off such devices.</li> <li>- If the Internet connection using a wireless LAN is still not successful by the above solutions, try using Ethernet by selecting Wired in Connection Setting. (p. 31)</li> </ul>
<b>Wireless network is not found or distorted.</b>	<ul style="list-style-type: none"> <li>- Make sure that the wireless LAN router is turned on.</li> <li>- Move this Player closer to the router or change the orientation of this Player or the antenna of the wireless LAN router.</li> <li>- If the wireless connection cannot be configured using the WPS function, select another option (Scan or Manual) (p. 18).</li> <li>- Make sure that the wireless network is not disturbed by microwave ovens, digital cordless phones, or other neighboring Wi-Fi devices.</li> <li>- Microwave ovens, digital cordless phones or other wireless devices in your neighborhood might disturb the wireless network. Turn off these devices.</li> <li>- Make sure that the firewalls in your network allow access to the wireless connection of this Player.</li> <li>- If the wireless network does not work properly in your home, try the wired network connection.</li> </ul>

## ■ Messages on the screen

- The following messages appear on the TV screen in case the disc you tried to play back is not appropriate or the operation is not correct.

Error message	Possible causes and solutions
<b>Unsupported File</b>	- The file is not supported with this Player. See "Types of discs/files that can be used with this Player" (p. 3).
<b>Wrong region code!</b>	- The disc is an incompatible region code. See "Region management information for Blu-ray Disc/DVD videos" (p. 3).
<b>Network has FAILED.</b>	- This Player cannot be connected to the network. Check connection (p. 14) and Network setting (p. 31).
<b>Network is OK, proxy has FAILED.</b>	- This Player cannot be connected to the proxy server. See "Proxy Setting" (p. 32).
<b>BD-Live connection is prohibited in SETUP menu.</b>	- BD-Live connection is prohibited. See "BD-Live Connection" (p. 32).
<b>Upgrade has failed for some reason!</b>	- Upgrade is failed. Check if the upgrade file is corrupted or unreadable.
<b>IP Setting is not valid! Please reset...</b>	- The IP Setting entered is not valid. Enter the correct information again.

# Glossary

## **AVCHD**

AVCHD is a new format (standard) for high definition video cameras that can be used to record and play high-resolution HD images.

## **BD-Live™**

BD-Live is a Blu-ray Disc standard that utilizes a network connection, enabling this Player to go online to download promotional videos and other data.

## **BDMV**

BDMV (Blu-ray Disc Movie) refers to one of the application formats used for BD-ROM which is one of the Blu-ray Disc specifications. BDMV is a recording format equivalent to DVD-Video of the DVD specification.

## **Blu-ray 3D™**

Blu-ray 3D enables you to view full high definition 3D images.

## **BONUSVIEW™**

BONUSVIEW compatible discs let you simultaneously enjoy video sub-channel for two screens, audio sub-channel and sub-titles. A small screen appears within the main screen during playback (Picture in Picture).

## **Closed Caption**

Closed captions are kind of subtitle, and the difference between subtitles and captions is that subtitles are intended for hearing persons and captions are for the hearing impaired. Subtitles rarely show all of the audio. For example, captions show sound effects (e.g., “phone ringing” and “footsteps”), while subtitles do not. Before you select this setting, please ensure that the disc contains closed caption information.

## **Color Space**

Color Space is a color range that can be represented. RGB is a color space based on the RGB color model (red, green and blue) and is typically used for PC monitors. YCbCr is a color space based on a luminance signal (Y) and two color difference signals (Cb and Cr).

## **Deep Color**

Deep Color refers to the use of various color depths in displays, up from the 24-bit depths in previous versions of the HDMI specification. This extra bit depth allows HDTVs and other displays go from millions of colors to billions of colors and eliminate on-screen color banding for smooth tonal transitions and subtle gradations between colors. The increased contrast ratio can represent many times more shades of gray between black and white. Also Deep Color increases the number of available colors within the boundaries defined by the RGB or YCbCr color space.

## **DLNA**

DLNA (Digital Living Network Alliance) provides easy sharing of digital media through network in the home, and you can enjoy digital contents stored on your DLNA-server-software-installed PC or other DLNA compatible device with your TV via this Player. To connect this Player to your DLNA servers, some settings for the DLNA server or device are required. For details, refer to your DLNA server software or DLNA device.

## **DivX®**

DivX® is a digital video format created by DivX, LLC, a subsidiary of Rovi Corporation. This is an official DivX Certified® device that plays DivX video. Visit [divx.com](http://divx.com) for more information and software tools to convert your files into DivX videos.

## **Dolby Digital**

A sound system developed by Dolby Laboratories Inc. that gives movie theater ambience to audio output when the product is connected to a Dolby Digital processor or amplifier.

## **Dolby Digital Plus**

A sound system developed as an extension to Dolby Digital. This audio coding technology supports 7.1 multi-channel surround sound.

## **Dolby TrueHD**

Dolby TrueHD is a lossless coding technology that supports up to 8 channels of multi-channel surround sound for the next generation optical discs. The reproduced sound is true to the original source bit-for-bit.

## **DRC (Dynamic Range Control)**

DRC lets you adjust the range between the loudest and softest sounds (dynamic range) for playback at average volume. Use this when it is hard to hear dialog, or during times when playback may disturb neighbors.

## **DTS**

This is a digital sound system developed by DTS, Inc. for use in cinemas.

## **DTS-HD High Resolution Audio**

DTS-HD High Resolution Audio is a new technology developed for the next generation high definition optical disc format.

## **DTS-HD Master Audio**

DTS-HD Master Audio is a lossless audio compression technology developed for the next generation high definition optical disc format.

**FLAC**

FLAC (Free Lossless Audio Codec) is an open file format for lossless audio data compression. While inferior in compression rate to other lossy compressed audio formats, it can often provide higher audio quality.

**HDMI**

HDMI (High-Definition Multimedia Interface) is an interface that supports both video and audio on a single digital connection. The HDMI connection carries standard to high definition video signals and multi-channel audio signals to AV components such as HDMI equipped TVs, in digital form without degradation.

**Letterbox (LB 4:3)**

A screen size with black bars on the top and bottom of the image to allow viewing of wide-screen (16:9) material on a connected 4:3 TV.

**Linear PCM Sound**

Linear PCM is a signal recording format used for Audio CDs and on some DVD and Blu-ray Discs. The sound on Audio CDs is recorded at 44.1 kHz with 16 bits. (Sound is recorded between 48 kHz with 16 bits and 96 kHz with 24 bits on DVD discs and between 48 kHz with 16 bits and 192 kHz with 24 bits on Blu-ray Discs.)

**Mac address**

The Mac address is a unique value assigned to a network device for identification purposes.

**Pan Scan (PS 4:3)**

A screen size that cuts off the sides of the image to allow viewing of wide-screen (16:9) material on a connected 4:3 TV.

**Subtitles**

These are the lines of text appearing at the bottom of the screen which translate or transcribe the dialog. They are recorded on many DVDs and Blu-ray Discs.

**x.v.Color**

x.v.Color reproduces a greater range of color than before, showing almost all of the colors that the human eye can detect.

# Specifications

■ **General**

Power supply	
[U.K., Europe, Russia and Australia models]	AC 110–240 V, 50 Hz
[Asia, and Central and South America models]	AC 110–240 V, 50/60 Hz
[Other models]	AC 110–240 V, 60 Hz
Power consumption	17 W
Standby power consumption	
HDMI Control Off, Network Standby Off	0.2 W (typical)
HDMI Control On, Network Standby Off	0.3 W (typical)
HDMI Control Off, Network Standby On	5.5 W (typical)
HDMI Control On, Network Standby On	5.5 W (typical)
Dimensions (W × H × D, including protrusions)	435 × 86 × 257 mm (17-1/8 × 3-3/8 × 10-1/8 in)
Weight	2.7 kg (6.0 lbs.)

■ **Audio performance**

Audio output level (1 kHz, 0 dB)	
Blu-ray Disc/DVD/CD-DA	2 ± 0.3 V
Signal to noise ratio	
Blu-ray Disc/DVD/CD-DA	115 dB
Dynamic range	
Blu-ray Disc/DVD	105 dB
CD-DA	100 dB
Harmonic distortion (1 kHz)	
Blu-ray Disc/DVD/CD-DA	0.003%
Frequency Response	
Blu-ray Disc/DVD	4 Hz to 22 kHz (48 kHz Sampling) 4 Hz to 44 kHz (96 kHz Sampling)
CD-DA	4 Hz to 20 kHz

■ **Input/output**

HDMI output	Type A connector × 1 480i/576i/480p/576p/720p/1080i/1080p/1080p@24Hz, Deep Color, x.v. Color support
Digital output	Optical × 1, Coaxial × 1
Analog audio output	Mixed 2 ch × 1
USB	Type A connector × 2
Wireless LAN	Standard: IEEE 802.11 b/g/n Frequency range: 2.4GHz band
Other equipment	Remote IN/OUT × 1 Ethernet × 1

Specifications are subject to change without notice.

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Version 3.1, 31 March 2009

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## ■ About glibc, libmtp, libusb, libusb-compat, DirectFB, SaWMan, Qt

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(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

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5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

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- c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.
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- e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

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That's all there is to it!

## ■ About Live555, procps (ps, top), libavformat, libavutil, libavcodec, zziplib

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Version 2, June 1991

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Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a “work based on the library” and a “work that uses the library”. The former contains code derived from the library, while the latter only works together with the library.

Note that it is possible for a library to be covered by the ordinary General Public License rather than by this special one.

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A “library” means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

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2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

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- You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
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(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

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6. As an exception to the Sections above, you may also compile or link a “work that uses the Library” with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer’s own use and reverse engineering for debugging such modifications.

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- Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable “work that uses the Library”, as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)
- Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.
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3DES

Des3Cipher - the triple-DES encryption method

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DES

DesCipher - the DES encryption method

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