YAMAHA

RX-V559

AV Receiver
Ampli-tuner audio-vidéo

OWNER'S MANUAL
MODE D'EMPLOI
BEDIENUNGSANLEITUNG
BRUKSANVISNING
GEBRUIKSAANWIJZING
ИНСТРУКЦИЯ ПО ЭКСПЛУАТАЦИИ

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. Allow ventilation space of at least 30 cm on the top, 20 cm on the left and right, and 20 cm on the back of this unit.

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 a 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 cord.

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 and outdoor antennas 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 Install this unit near the AC wall outlet where the power cable plug can be reached easily.

17 Be sure to read the "TROUBLESHOOTING" section on common operating errors before concluding that this unit is faulty.

18 Before moving this unit, press MASTER ON/OFF to release it outward to the OFF position to turn off this unit, and then disconnect the power cable from the AC wall outlet.

19 VOLTAGE SELECTOR (Asia and General models only) The VOLTAGE SELECTOR on the rear panel of this unit must be set for your local main voltage BEFORE plugging into the AC wall outlet. Voltages are:
    Asia model .... 220/230–240 V AC, 50/60 Hz
    General model .... 110/120/220/230–240 V AC, 50/60 Hz

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WARNING

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

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. In this state, this unit is designed to consume a very small quantity of power.

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

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INTRODUCTION

PREPARATION

BASIC
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SOUND FIELD
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FEATURES

Built-in 6-channel power amplifier
◆ Minimum RMS output power
(0.06% THD, 20 Hz to 20 kHz, 8 Ω)
Front: 95 W + 95 W
Center: 95 W
Surround: 95 W + 95 W
Surround back: 95 W

Sound field programs
◆ Proprietary YAMAHA technology for the creation of sound fields
◆ Dolby Digital/Dolby Digital EX decoder
◆ DTS/DTS-ES Matrix 6.1, Discrete 6.1, DTS Neo:6, DTS 96/24 decoder
◆ Dolby Pro Logic/Dolby Pro Logic II/Dolby Pro Logic IIx decoder
◆ Virtual CINEMA DSP
◆ SILENT CINEMA™

Sophisticated AM/FM tuner
◆ 40-station random and direct preset tuning
◆ Automatic preset tuning
◆ Preset station shifting capability (preset editing)

Radio Data System
(U.K. and Europe models only)
◆ Radio Data System tuning capability

iPod controlling capability
◆ DOCK terminal to connect a YAMAHA iPod universal dock (such as YDS-10 sold separately), which supports iPod (Click and Wheel), iPod nano, and iPod mini

Other features
◆ 192-kHz/24-bit D/A converter
◆ OSD (on-screen display) menus that allow you to optimize this unit to suit your individual audiovisual system
◆ 6 additional input jacks for discrete multi-channel input
◆ S-video signal input/output capability
◆ Component video input/output capability (3 COMPONENT VIDEO INs and 1 MONITOR OUT)
◆ Digital video signal conversion (composite video ↔ S-video → component video) capability for monitor out
◆ Optical and coaxial digital audio signal jacks
◆ Sleep timer
◆ Cinema and music night listening modes
◆ Remote control with preset remote control codes, backlighting input selector buttons, and an iPod (stationed in a YAMAHA iPod universal dock connected to the DOCK terminal) controlling capability
◆ Zone 2 custom installation facility
◆ Zone switching capability between the main zone and Zone 2 using ZONE CONTROL
◆ PORTABLE mini analog input jack on the front panel for a portable audio player
◆ Compressed Music Enhancer mode to improve the sound quality of compression artifacts (such as the MP3 format) to that of a high-quality stereo

Notes
• ☼ indicates a tip for your operation.
• Some operations can be performed by using either the buttons on the front panel or the ones on the remote control. In case the button names differ between the front panel and the remote control, the button name on the remote control is given in parentheses.
• 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 product, the product has priority.

GETTING STARTED

Supplied accessories

Check that you received all of the following parts.

Remote control
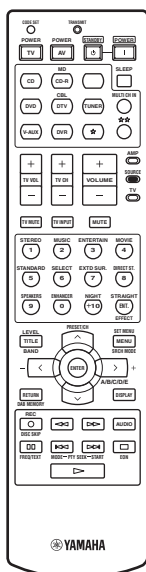
**Batteries (2)
(AA, R6, UM-3)**
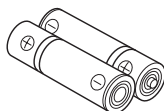
AM loop antenna
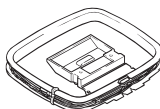
**75-ohm/300-ohm antenna
adapter (U.K. model only)**
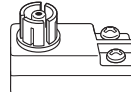
**Indoor FM antenna
(U.S.A., Canada, China, Asia
and General models)**
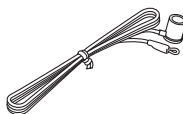
**Indoor FM antenna
(U.K., Europe, Australia
and Korea models)**
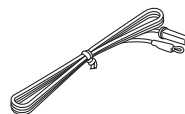
Installing batteries in the remote control
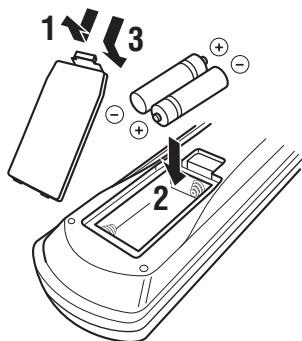
1   Take off the battery compartment cover.

**2   Insert the two supplied batteries
    (AA, R6, UM-3) according to the polarity
    markings (+ and –) on the inside of the
    battery compartment.**

**3   Snap the battery compartment cover back
    into place.**

Notes

• Change all of the batteries if you notice the following
  conditions:
  – the operation range of the remote control decreases.
  – the TRANSMIT indicator does not flash or its light becomes
    dim.
• Do not use an old battery together with a new one.
• 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.
• If the remote control is without batteries for more than 2
  minutes, or if exhausted batteries remain in the remote control,
  the contents of the memory may be cleared. When the memory
  is cleared, insert new batteries, set up the remote control code
  and program any acquired functions that may have been
  cleared.

Front panel
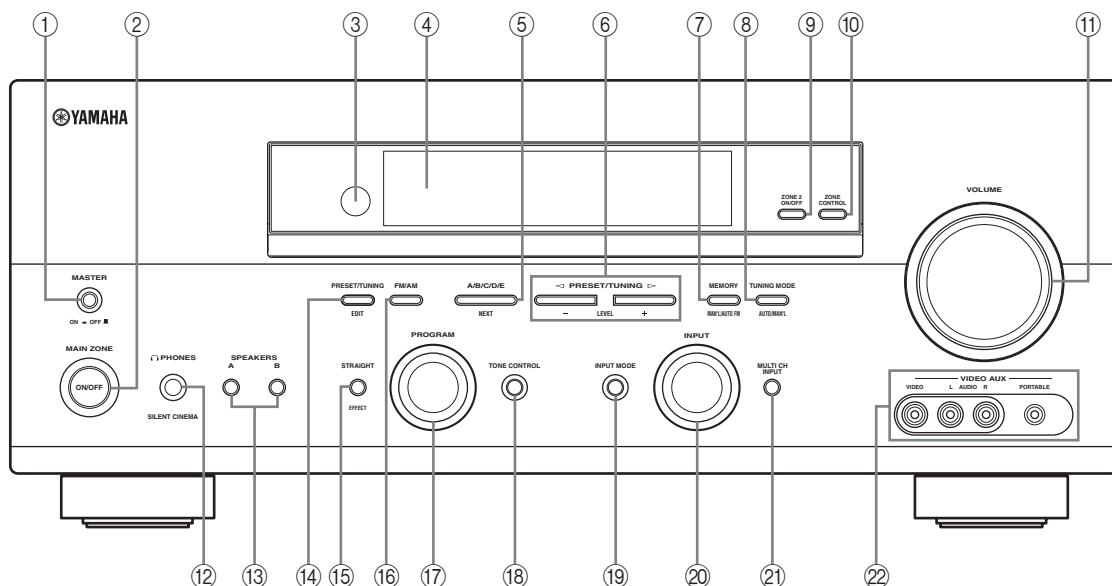
① **MASTER ON/OFF**

Turns on or off this unit (see page 28).

② **MAIN ZONE ON/OFF**

Turns on the main zone or sets it to the standby mode (see page 28).

Notes

- In the standby mode, this unit consumes a small amount of power in order to receive infrared signals from the remote control.
- When you turn on this unit, there will be a 4 to 5-second delay before this unit can reproduce sound.
- This button is operational only when MASTER ON/OFF is pressed inward to the ON position.

③ **Remote control sensor**

Receives signals from the remote control (see page 8).

④ **Front panel display**

Shows information about the operational status of this unit (see page 9).

⑤ **A/B/C/D/E, NEXT**

- Selects one of the 5 preset station groups (A to E) when "TUNER" is selected as the input source (see page 46).
- Selects the speaker channel whose output level you want to adjust when "TUNER" is not selected as the input source (see page 36).

⑥ **PRESET/TUNING ◁ / ▷, LEVEL +/−**

- Selects one of the 8 preset station numbers (1 to 8) when "TUNER" is selected as the input source. The colon (:) is displayed in the front panel display (see page 46).
- Selects the tuning frequency when "TUNER" is selected as the input source. The colon (:) is not displayed in the front panel display (see page 46).
- Adjusts the level of the speaker channel selected using NEXT when "TUNER" is not selected as the input source (see page 36).

⑦ **MEMORY (MAN'L/AUTO FM)**

Stores a preset station in the memory. Hold down this button for more than 3 seconds to start automatic preset tuning (see page 48).

⑧ **TUNING MODE (AUTO/MAN'L)**

Switches between automatic tuning (the AUTO indicator is turned on) and manual tuning (the AUTO indicator is turned off) (see page 46).

⑨ **ZONE 2 ON/OFF**

Turns on Zone 2 or sets it to the standby mode (see page 90).

Note

This button is operational only when MASTER ON/OFF is pressed inward to the ON position.

⑩ **ZONE CONTROL**

Switches the zone you want to control between the main zone and Zone 2 (see page 90).

☀

When Zone 2 is selected, the ZONE2 indicator flashes in the front panel display for approximately 5 seconds. While the indicator is flashing, perform the desired operation.

⑪ **VOLUME**

Controls the output level of all audio channels.

☀

This does not affect the AUDIO OUT (REC) level.

⑫ ⌒ **PHONES (SILENT CINEMA) jack**

Outputs audio signals for private listening with headphones (see page 34).

Notes

• When you connect headphones, no signals are output at the SUBWOOFER OUTPUT jack or the speaker terminals.
• All Dolby Digital and DTS audio signals are mixed down to the left and right headphone channels.

⑬ **SPEAKERS A/B**

Turns on or off the set of front speakers connected to the FRONT A and/or B terminals on the rear panel each time the corresponding button is pressed.

⑭ **PRESET/TUNING, EDIT**

• Switches the function of PRESET/TUNING ◁ / ▷ between selecting preset station numbers and selecting the tuning frequency.
• Edits the assignments of preset stations (see page 51).

⑮ **STRAIGHT (EFFECT)**

Turns the sound field programs off or on. When the "STRAIGHT" mode is selected, 2-channel or multi-channel input signals are output directly from their respective speakers without effect processing (see page 39).

⑯ **FM/AM**

Switches the reception band between FM and AM when "TUNER" is selected as the input source (see page 46).

⑰ **PROGRAM selector**

Selects sound field programs or adjusts the bass/treble balance in conjunction with TONE CONTROL (see page 33).

⑱ **TONE CONTROL**

Adjusts the bass/treble balance of the front left and right speakers in conjunction with the PROGRAM selector (see page 33).

⑲ **INPUT MODE**

Selects either digital or analog input signals exclusively or sets this unit to automatically detect the type of input signals and select the corresponding input signals when one component is connected via both digital and analog connections (see page 35).

⑳ **INPUT selector**

Selects the desired input source.

㉑ **MULTI CH INPUT**

Selects the component connected to the MULTI CH INPUT jacks as the input source (see page 38).

Note

The input source connected to the MULTI CH INPUT jacks takes priority over the source selected with the INPUT selector on the front panel (or the input selector buttons on the remote control).

㉒ **VIDEO AUX jacks**

Input audio and video signals from a portable external source such as a game console, a video camera or a portable audio player (see page 23).

☀

To reproduce the source signals input at these jacks, select "V-AUX" as the input source.

Notes

• The audio signals input at the PORTABLE mini jack take priority over the ones input at the AUDIO L/R jacks.
• The audio signals input at the DOCK terminal on the rear panel take priority over the ones input at the VIDEO AUX jacks.

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Remote control

This section describes the function of each control on the remote control used to control this unit. To operate other components, see "REMOTE CONTROL FEATURES" on page 84.

Note

The operation mode of the remote control buttons in the shaded areas below depends on the component selector switch position. Set the component selector switch to AMP to control this unit. To control the TUNER functions, set the component selector switch to SOURCE and then press TUNER to select "TUNER" as the input source.
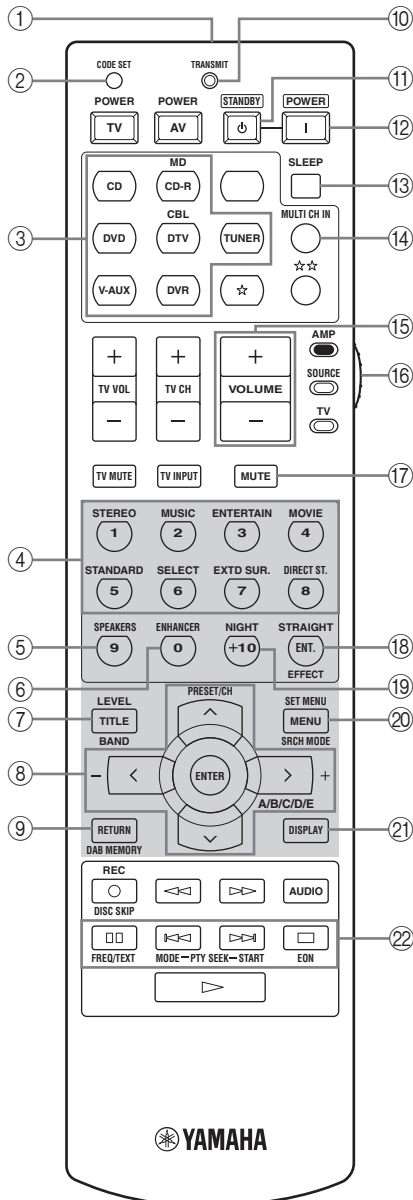
■ Controlling this unit

Set the component selector switch to AMP to control this unit.

① Infrared window

Outputs infrared control signals. Aim this window at the component you want to operate (see page 8).

② CODE SET

Use to set up remote control codes (see page 86).

③ Input selector buttons

Select the input source you want to control.

Note

The corresponding input selector button for the currently selected input source lights up for approximately 5 seconds after you press any buttons on the remote control, showing which source component is currently being operated.

④ Sound field program selector buttons

Select sound field programs (see page 57).
– Use SELECT to play back 2-channel sources in surround (see page 43).
– Use EXTD SUR. to switch between 5.1 and 6.1-channel playback of multi-channel sources (see page 42).
– Use DIRECT ST. to play back 2-channel sources in hi-fi stereo sound (see page 39).

⑤ SPEAKERS

Turns on or off the set of front speakers connected to the FRONT A and/or B terminals on the rear panel. Press this button repeatedly to toggle as follows:
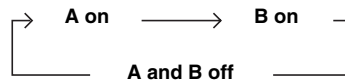
⑥ ENHANCER

Turns on or off the Compressed Music Enhancer mode (see page 37).

⑦ LEVEL

Selects the speaker channel to be adjusted and sets the output level (see page 36).

⑧ Cursor buttons ∧ / ∨ / ⟨ / ⟩, ENTER

Select and adjust the sound field program parameters or the "SET MENU" parameters.

⑨ RETURN

Returns to the previous menu level when adjusting the "SET MENU" parameters.

⑩ TRANSMIT indicator

Flashes while the remote control is sending infrared signals.

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⑪ **STANDBY**

Sets this unit to the standby mode (see page 28).

Note

This button is operational only when MASTER ON/OFF on the front panel is pressed inward to the ON position.

⑫ **POWER**

Turns on this unit (see page 28).

Note

This button is operational only when MASTER ON/OFF on the front panel is pressed inward to the ON position.

⑬ **SLEEP**

Sets the sleep timer (see page 35).

⑭ **MULTI CH IN**

Selects the component connected to the MULTI CH INPUT jacks as the input source when using an external decoder, etc. (see page 38).

⑮ **VOLUME +/–**

Increases or decreases the volume level.

⑯ **Component selector switch**

Selects the operation mode of the remote control buttons in the shaded areas.

AMP

Operates this unit.

SOURCE

Operates the component selected with an input selector button (see page 85).

TV

Operates the TV assigned to either DTV/CBL or ☆☆ (see page 84).

Notes

• To set the remote control codes for other components, see page 86.
• When you set the remote control codes for both DTV/CBL and ☆☆ (see page 86), priority is given to the one set for DTV/CBL.

⑰ **MUTE**

Mutes the audio output. Press again to restore the audio output to the previous volume level (see page 34).

⑱ **STRAIGHT (EFFECT)**

Turns the sound field programs off or on. When the "STRAIGHT" mode is selected, 2-channel or multi-channel input signals are output directly from their respective speakers without effect processing (see page 39).

⑲ **NIGHT**

Turns on or off the night listening modes (see page 34).

⑳ **SET MENU**

Enters "SET MENU" (see page 71).

㉑ **DISPLAY**

Selects the on-screen display (OSD) mode for your video monitor (see page 41).

㉒ **Radio Data System tuning buttons (U.K. and Europe models only)**

FREQ/TEXT

Switches the Radio Data System display between the PS mode, PTY mode, RT mode, CT mode (if the station offers the corresponding data services) and the frequency display (see page 55).

PTY SEEK MODE

Sets this unit to the PTY SEEK mode (see page 53).

PTY SEEK START

Starts searching for a station once the desired program type is selected in the PTY SEEK mode (see page 53).

EON

Selects a program type (NEWS, AFFAIRS, INFO, or SPORT) for automatic tuning (see page 54).

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■ **Controlling the TUNER functions**

Set the component selector switch to SOURCE and then press TUNER to select "TUNER" as the input source.

④ **Numeric buttons**

Use numbers 1 through 8 to select preset stations.

⑦ **BAND**

Switches the reception band between FM and AM (see page 46).

⑧ **Cursor buttons ∧ / ∨ / ⟨ / ⟩**

Press ⟨ / ⟩ to select a preset station group (A to E) and ∧ / ∨ to select a preset station number (1 to 8) (see page 50).

■ **Using the remote control**

The remote control transmits a directional infrared ray. Be sure to aim the remote control directly at the remote control sensor on this unit during operation.

30°   30°   **Approximately 6 m**
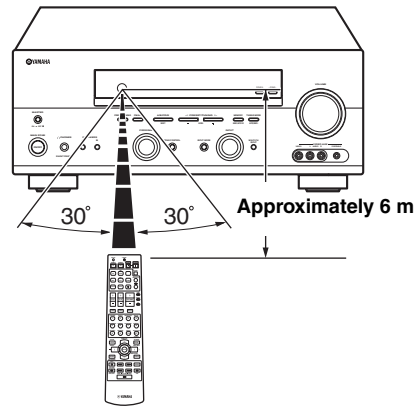
Notes

• Do not spill water or other liquids on the remote control.
• Do not drop the remote control.
• Do not leave or store the remote control in the following types of conditions:
  – places of high humidity, such as near a bath
  – places of high temperatures, such as near a heater or stove
  – places of extremely low temperatures
  – dusty places

Front panel display

(U.K. and Europe models only)
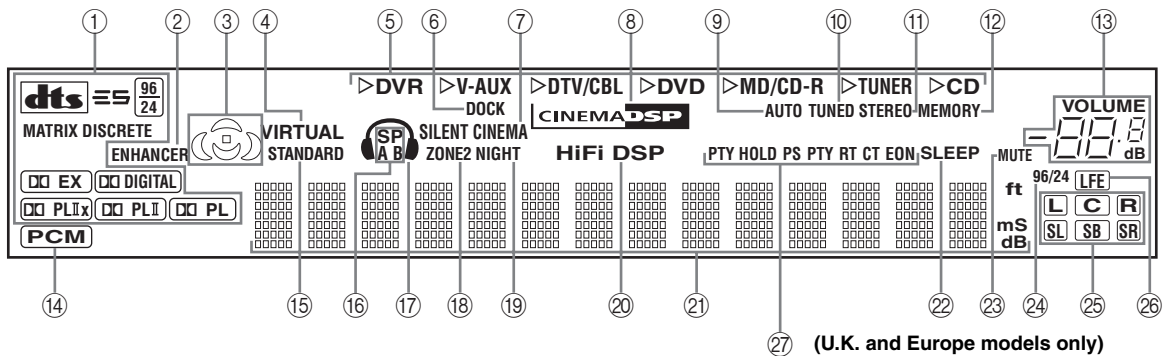
① **Decoder indicators**

The respective indicator lights up when any of the decoders of this unit function.

② **ENHANCER indicator**

Lights up when the Compressed Music Enhancer mode is turned on (see page 37).

③ **Sound field indicators**

Light up to indicate the active DSP sound fields.

Presence DSP sound field

Listening position

Surround left DSP sound field

Surround right DSP sound field

Surround back DSP sound field
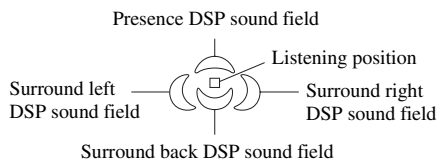
④ **VIRTUAL indicator**

Lights up when Virtual CINEMA DSP is active (see page 44).

⑤ **Input source indicators**

The corresponding cursor lights up to show the currently selected input source.

⑥ **DOCK indicator**

Lights up when you station your iPod in a YAMAHA iPod universal dock (such as YDS-10 sold separately) connected to the DOCK terminal of this unit (see page 22).

⑦ **SILENT CINEMA indicator**

Lights up when headphones are connected and a sound field program is selected (see page 34).

⑧ **CINEMA DSP indicator**

Lights up when you select a CINEMA DSP sound field program (see page 58).

⑨ **AUTO indicator**

Lights up when this unit is in the automatic tuning mode (see page 46).

⑩ **TUNED indicator**

Lights up when this unit is tuned into a station (see page 46).

⑪ **STEREO indicator**

Lights up when this unit is receiving a strong signal for an FM stereo broadcast while the AUTO indicator is lit (see page 46).

⑫ **MEMORY indicator**

Flashes to show that a station can be stored (see page 48).

⑬ **VOLUME level indicator**

Indicates the current volume level.

⑭ **PCM indicator**

Lights up when this unit is reproducing PCM (Pulse Code Modulation) digital audio signals.

⑮ **STANDARD indicator**

Lights up when the "SUR. STANDARD" or "SUR. ENHANCED" program is selected (see page 43).

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⑯ **SP A B indicators**

Light up according to the set of front speakers selected.

⑰ **Headphones indicator**

Lights up when headphones are connected (see page 34).

⑱ **ZONE2 indicator**

Lights up when Zone 2 is turned on (see page 90).

⑲ **NIGHT indicator**

Lights up when you select a night listening mode
(see page 34).

⑳ **HiFi DSP indicator**

Lights up when you select a HiFi DSP sound field
program (see page 58).

㉑ **Multi-information display**

Shows the name of the current sound field program and
other information when adjusting or changing settings.

㉒ **SLEEP indicator**

Lights up while the sleep timer is on (see page 35).

㉓ **MUTE indicator**

Flashes while the MUTE function is on (see page 34).

㉔ **96/24 indicator**

Lights up when a DTS 96/24 signal is input to this unit.

㉕ **Input channel indicators**

Indicate the channel components of the current digital
input signal (see page 30).

㉖ **LFE indicator**

Lights up when the input signal contains the LFE signal.

㉗ **Radio Data System indicators**
   (U.K. and Europe models only)

   Lights up when the Radio Data System data is being
   received.

   EON

   Lights up when the EON data service is being
   received.

   PTY HOLD

   Lights up while searching for the Radio Data System
   stations in the PTY SEEK mode.

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Rear panel
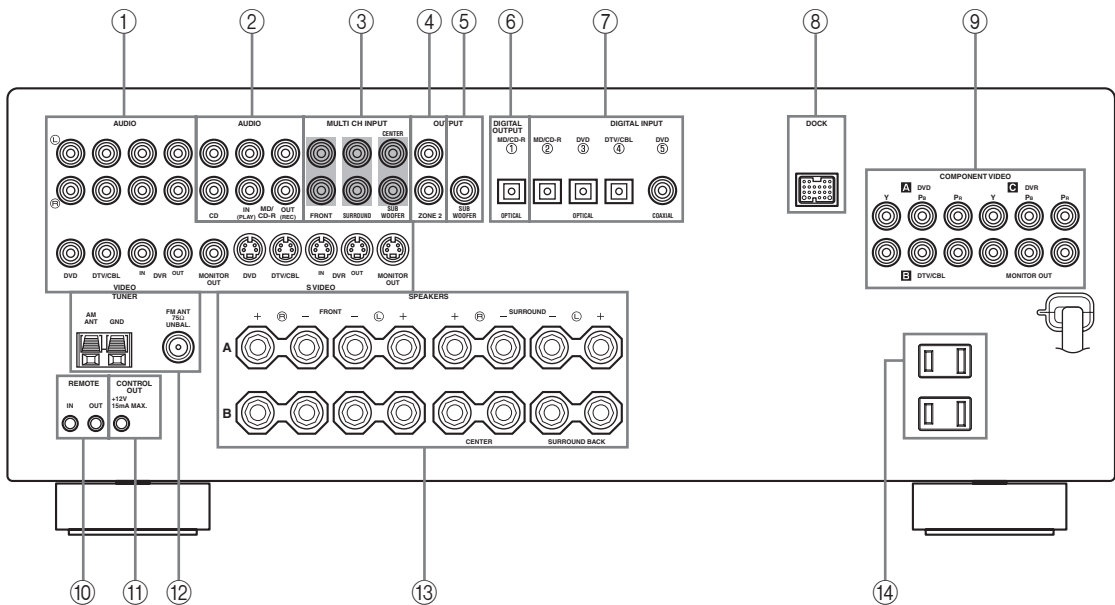
① **Video component jacks**
See pages 18 and 19 for connection information.

② **Audio component jacks**
See page 21 for connection information.

③ **MULTI CH INPUT jacks**
See page 23 for connection information.

④ **ZONE 2 OUTPUT jacks**
See page 89 for connection information.

Note

These jacks output analog signals only.

⑤ **SUBWOOFER OUTPUT jack**
See page 13 for connection information.

⑥ **DIGITAL OUTPUT jack**
See page 21 for connection information.

⑦ **DIGITAL INPUT jacks**
See page 19 for connection information.

⑧ **DOCK terminal**
Use to connect a YAMAHA iPod universal dock (such as YDS-10 sold separately) where your iPod can be stationed.
See page 22 for connection information.

⑨ **COMPONENT VIDEO jacks**
See pages 18 and 19 for connection information.

⑩ **REMOTE jacks**
See page 89 for details.

⑪ **CONTROL OUT jack**
This is a control expansion terminal for custom installation.

⑫ **Antenna terminals**
See page 24 for connection information.

⑬ **Speaker terminals**
See page 13 for connection information.

⑭ **AC OUTLET(S)**
Use to supply power to your other audiovisual components.
See page 26 for details.

■ **VOLTAGE SELECTOR
(Asia and General models only)**
See page 26 for details.

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CONNECTIONS

Placing speakers

The speaker layout below shows the standard ITU-R* speaker setting. You can use it to enjoy CINEMA DSP and multi-channel audio sources.

* ITU-R is the radio communication sector of the ITU (International Telecommunication Union).
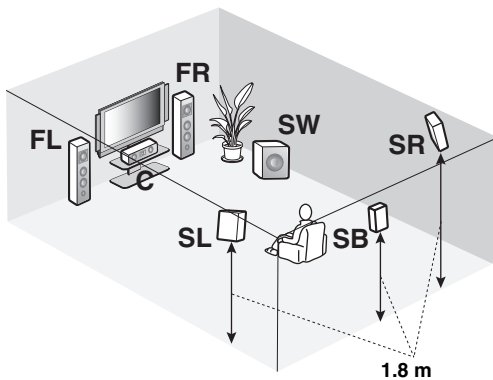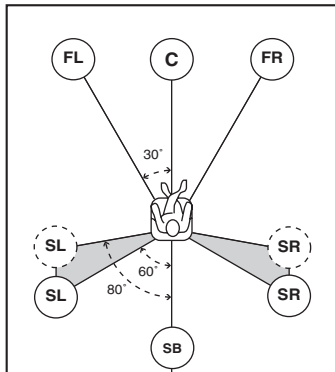
Front left and right speakers (FL and FR)

The front speakers are used for the main source sound plus effect sounds. Place these speakers at an equal distance from the ideal listening position. The distance of each speaker from each side of the video monitor should be the same.

Center speaker (C)

The center speaker is for the center channel sounds (dialog, vocals, etc.). If for some reason it is not practical to use a center speaker, you can do without it. Best results, however, are obtained with the full system. Place the center speaker centrally between the front speakers and as close to the monitor as possible, such as directly over or under it.

Surround left and right speakers (SL and SR)

The surround speakers are used for effect and surround sounds. Place these speakers behind your listening position, facing slightly inwards, about 1.8 m above the floor.

Surround back speaker (SB)

The surround back speaker supplements the surround speakers and provides more realistic front-to-back transitions. Place this speaker directly behind the listening position and at the same height as the surround speakers.

Subwoofer (SW)

The use of a subwoofer with a built-in amplifier, such as the YAMAHA Active Servo Processing Subwoofer System, is effective not only for reinforcing bass frequencies from any or all channels, but also for hi-fi stereo sound reproduction of the LFE (low-frequency effect) channel included in Dolby Digital and DTS sources. The position of the subwoofer is not so critical, because low bass sounds are not highly directional. But it is better to place the subwoofer near the front speakers. Turn it slightly toward the center of the room to reduce wall reflections.

Connecting speakers

Be sure to connect the left channel (L), right channel (R), "+" (red) and "–" (black) properly. If the connections are faulty, no sound will be heard from the speakers, and if the polarity of the speaker connections is incorrect, the sound will be unnatural and lack bass.

CAUTION

• **Before connecting the speakers, make sure that this unit is turned off (see page 28).**
• **Do not let the bare speaker wires touch each other or do not let them touch any metal part of this unit. This could damage this unit and/or speakers.**
• **Use magnetically shielded speakers. If this type of speakers still creates the interference with the monitor, place the speakers away from the monitor.**
• **If you are to use 4 or 6 ohm speakers, be sure to set "SP IMP." to "6ΩMIN" before using this unit (see page 27).**

Notes

• A speaker cord is actually a pair of insulated cables running side by side. Cables are colored or shaped differently, perhaps with a stripe, groove or ridge. Connect the striped (grooved, etc.) cable to the "+" (red) terminals of this unit and your speaker. Connect the plain cable to the "–" (black) terminals.
• The low-frequency signals of other speakers set to "SML" (or "SMALL") or to "NONE" in "SPEAKER SET" (see pages 72 and 73) are directed to the speakers selected in "LFE/BASS OUT" (see page 73).

PREPARATION

English

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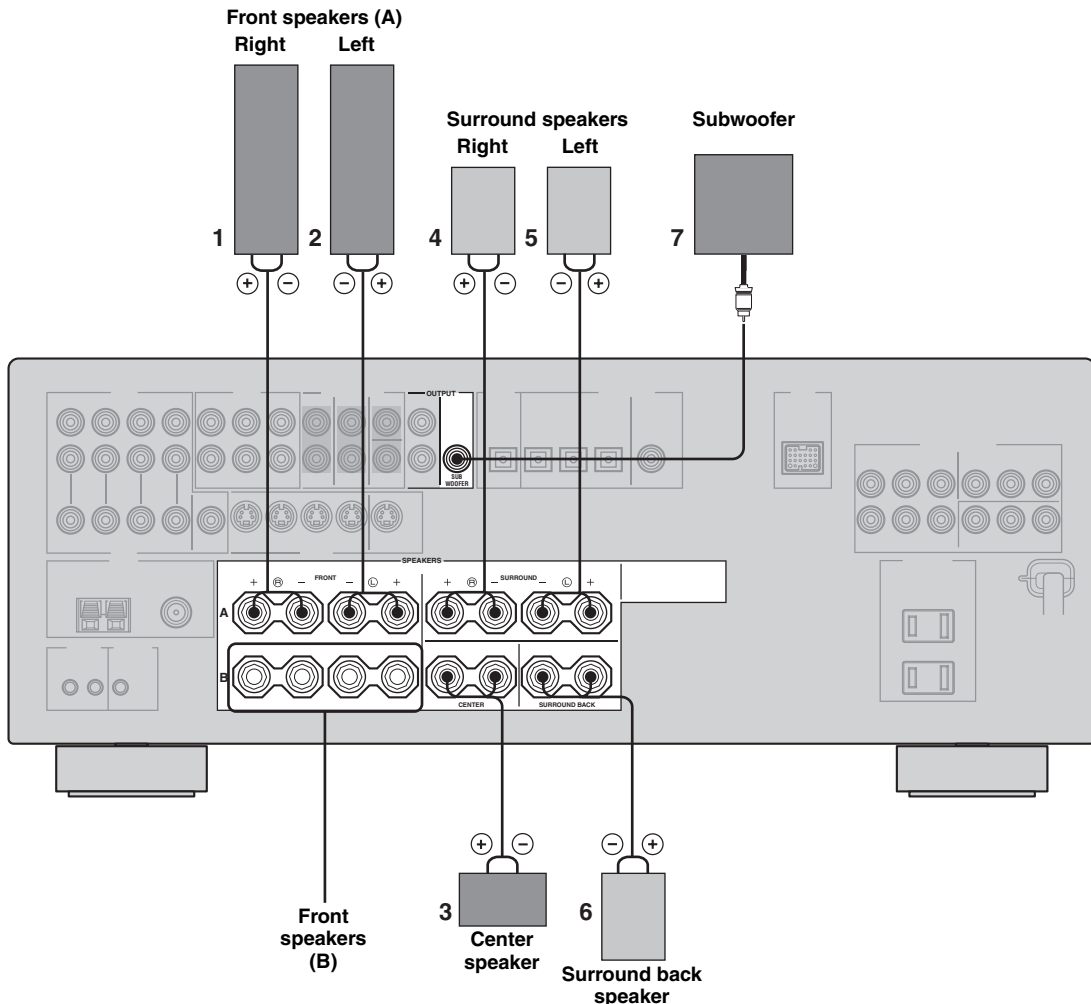
FRONT terminals

Connect one or two front speaker systems (1, 2) to these terminals. If you use only one front speaker system, connect it to the FRONT A or B terminal.

CENTER terminals

Connect a center speaker (3) to these terminals.

SURROUND terminals

Connect surround speakers (4, 5) to these terminals.

SURROUND BACK terminals

Connect a surround back speaker (6) to these terminals.

SUBWOOFER jack

Connect a subwoofer with a built-in amplifier (7) (such as the YAMAHA Active Servo Processing Subwoofer System) to this jack.
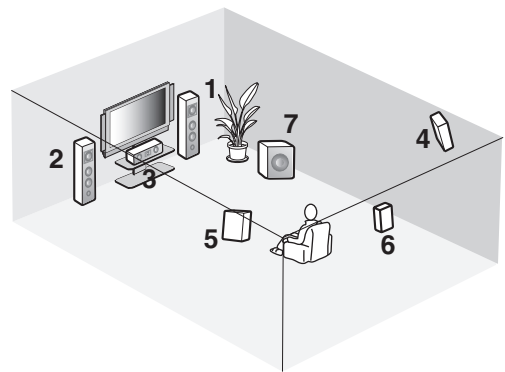
Speaker layout

■ **Connecting the speaker cable**

1 **Remove approximately 10 mm of insulation from the end of each speaker cable and then twist the exposed wires of the cable together to prevent short circuits.**

10 mm
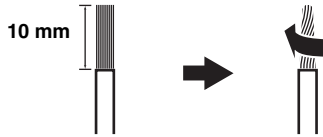
2 **Loosen the knob.**
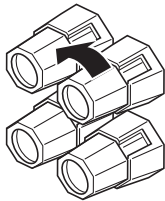
Red: positive (+)
Black: negative (–)

3 **Insert one bare wire into the hole on the side of each terminal.**
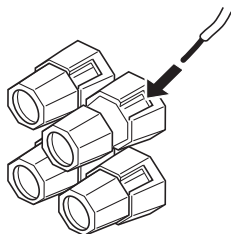
Red: positive (+)
Black: negative (–)

4 **Tighten the knob to secure the wire.**
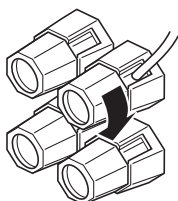
Red: positive (+)
Black: negative (–)

■ **Connecting the banana plug (except U.K., Europe and Asia models)**
The banana plug is a single-pole electrical connector widely used to terminate speaker cables.

Banana plug
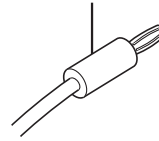
1 **Tighten the knob.**
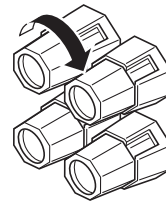
2 **Insert the banana plug connector into the end of the corresponding terminal.**

PREPARATION

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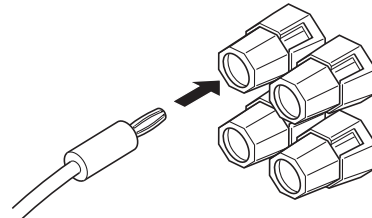
Information on jacks and cable plugs

Note

You can use the digital jacks to input PCM, Dolby Digital and DTS bitstreams. When you connect components to both the COAXIAL and OPTICAL jacks, priority is given to the signals input at the COAXIAL jack. All digital input jacks are compatible with 96-kHz sampling digital signals.

Audio jacks and cable plugs
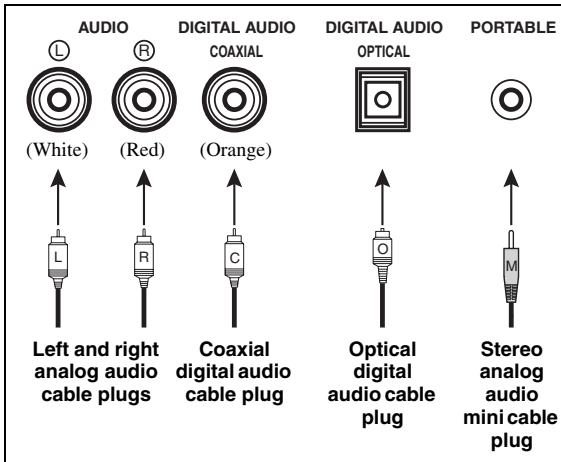
Video jacks and cable plugs

AUDIO		DIGITAL AUDIO	DIGITAL AUDIO	PORTABLE
(L) (R)		COAXIAL	OPTICAL	
(White) (Red)		(Orange)		
Left and right analog audio cable plugs		Coaxial digital audio cable plug	Optical digital audio cable plug	Stereo analog audio mini cable plug

VIDEO	S VIDEO	COMPONENT VIDEO		
		Y	PB	PR
(Yellow)		(Green)	(Blue)	(Red)
Composite video cable plug	S-video cable plug	Component video cable plugs		
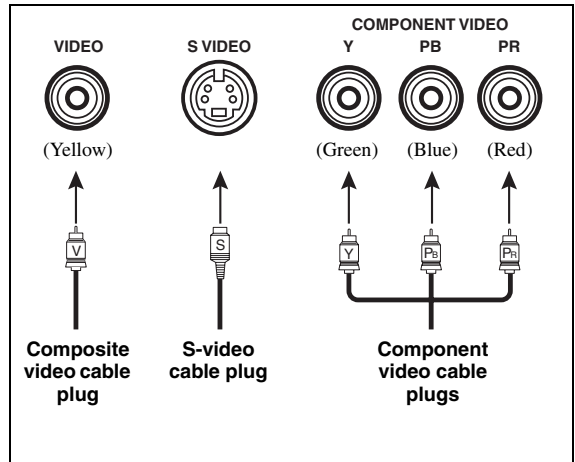
■ Audio jacks

This unit has four types of audio jacks. Connection depends on the availability of audio jacks on your other components.

AUDIO jacks

For conventional analog audio signals transmitted via left and right analog audio cables. Connect red plugs to the right jacks and white plugs to the left jacks.

DIGITAL AUDIO COAXIAL jacks

For digital audio signals transmitted via coaxial digital audio cables.

DIGITAL AUDIO OPTICAL jacks

For digital audio signals transmitted via optical digital audio cables.

Note

Pull out the cap from the optical jack before you connect the fiber optic cable. Do not discard the cap. When you are not using the optical jack, be sure to put the cap back in place. This cap protects the jack from dust.

PORTABLE jack

For analog audio signals transmitted via stereo analog audio mini cables.

■ Video jacks

This unit has three types of video jacks. Connection depends on the availability of input jacks on your video monitor. When "VIDEO CONV." is set to "ON" (see page 79), the video signals input at the VIDEO and S VIDEO jacks are converted and output at the VIDEO, S VIDEO and COMPONENT VIDEO jacks interchangeably.

VIDEO jacks

For conventional composite video signals transmitted via composite video cables.

S VIDEO jacks

For S-video signals, separated into the luminance (Y) and chrominance (C) video signals transmitted on separate wires of S-video cables.

COMPONENT VIDEO jacks

For component video signals, separated into the luminance (Y) and chrominance (P_B, P_R) video signals transmitted on separate wires of component video cables.

Audio and video signal flow

■ Audio signal flow for AUDIO OUT (REC)

Input

**Output
AUDIO OUT (REC)**

DIGITAL AUDIO
COAXIAL

DIGITAL AUDIO
OPTICAL

Digital audio

Ⓛ   Ⓡ   Ⓛ   Ⓡ

AUDIO

Analog audio

PORTABLE

─────────► **Digital output**
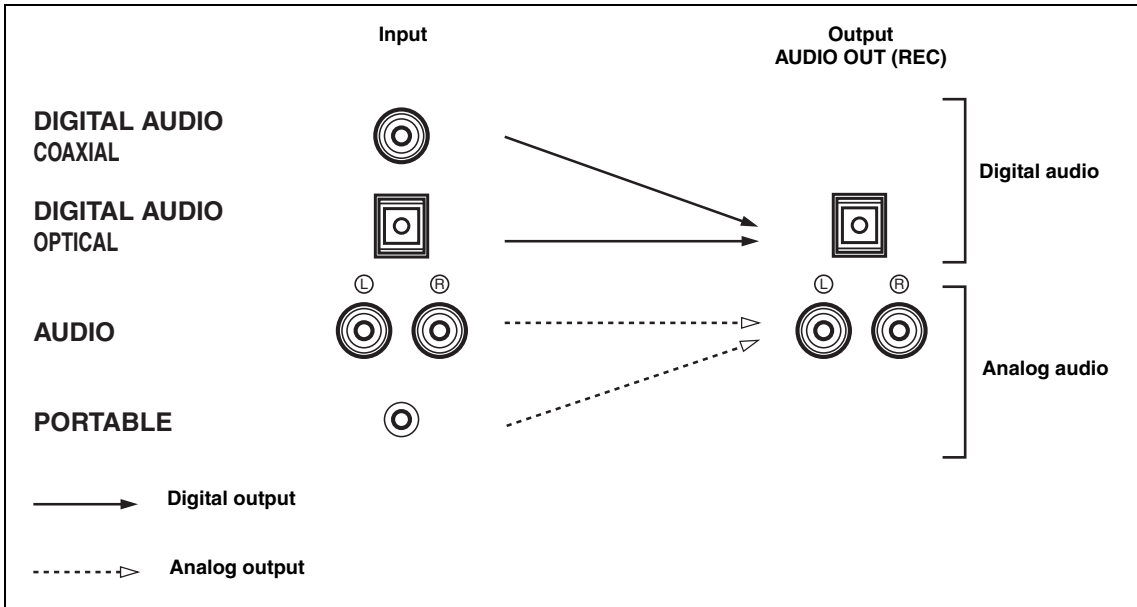
- - - - - - -▷ **Analog output**

Note

This unit handles digital and analog signals independently. Thus, audio signals input at the analog jacks are output only at the analog AUDIO OUT (REC) jacks. Likewise, audio signals input at the DIGITAL INPUT (OPTICAL or COAXIAL) jacks are output only at the DIGITAL OUTPUT jack.

■ Video signal flow for MONITOR OUT

Input

**Output
(MONITOR OUT)**

Y   PB   PR   Y   PB   PR

**COMPONENT
VIDEO**

S VIDEO

Analog video

VIDEO

─────────► **Through**

- - - - - - -▷ **Video conversion when "VIDEO CONV." is set to "ON" (see page 79)**
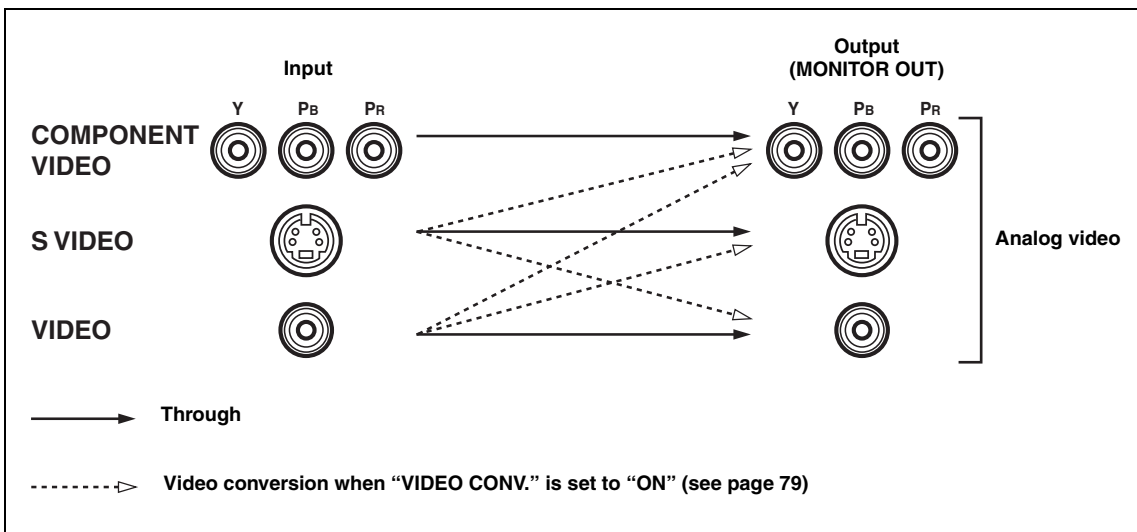
Note

When video signals are input at the COMPONENT VIDEO, S VIDEO and VIDEO jacks, the priority order of the input signals is as follows where the video signals input at the COMPONENT VIDEO jacks have the top priority:
COMPONENT VIDEO > S VIDEO > VIDEO

English

Connecting a TV

Connect your TV to the VIDEO MONITOR OUT jack, the S VIDEO MONITOR OUT jack or the COMPONENT VIDEO MONITOR OUT jacks of this unit.

CAUTION

Do not connect this unit or other components to the AC power supply until all connections between components are complete.

S-video in

Video in   Component video in

TV
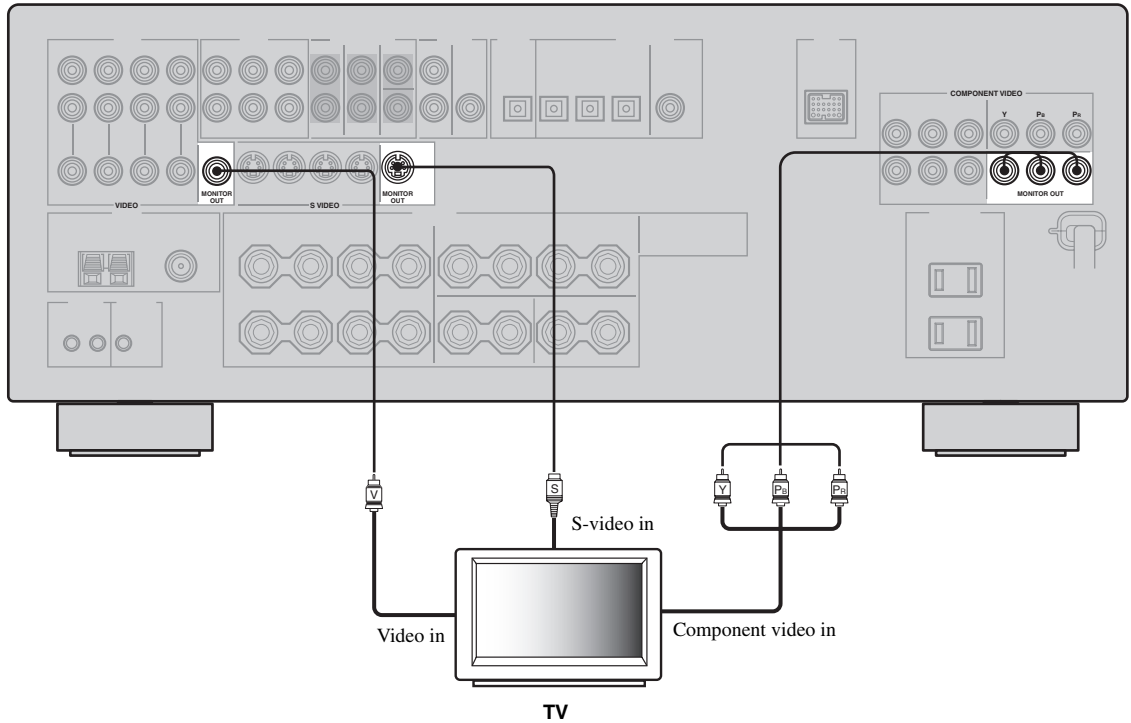
Connecting a DVD player, a DVD recorder, a VCR or an STB

Connect your DVD player, DVD recorder, VCR or STB (set-top box) using the same type of video connections as those made for your TV (see page 18). The cable TV receiver and the satellite receiver are examples of the STB.

CAUTION

Do not connect this unit or other components to the AC power supply until all connections between components are complete.

Notes

• When "VIDEO CONV." is set to "OFF" (see page 79), be sure to make the same type of video connections as those made for your TV (see page 18). For example, if you connected your TV to the VIDEO MONITOR OUT jack of this unit, connect your other components to the VIDEO jacks.
• When "VIDEO CONV." is set to "ON" (see page 79), the converted video signals are output only at the MONITOR OUT jacks. When recording a source, you must make the same type of video connections between each component.
• To make a digital connection to a component other than the default component assigned to each DIGITAL INPUT or DIGITAL OUTPUT jack, select the corresponding setting for "OPTICAL OUT", "OPTICAL IN", or "COAXIAL IN" in "I/O ASSIGNMENT" (see page 77).
• If you connect your DVD player to both the DIGITAL INPUT (OPTICAL) and the DIGITAL INPUT (COAXIAL) jacks, priority is given to the signals input at the DIGITAL INPUT (COAXIAL) jack.

■ **Connecting a DVD player**

DVD player

Audio out

Component video out

Video out

S-video out

Optical audio out

Coaxial audio out

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■ **Connecting a DVD recorder or a VCR**

Audio out

Audio in

Video out

Video in

S-video out

S-video in

Component video out

DVD recorder or VCR

■ **Connecting an STB**

Cable TV receiver or satellite receiver

Component video out

Audio out

Video out

S-video out

Optical audio out

20
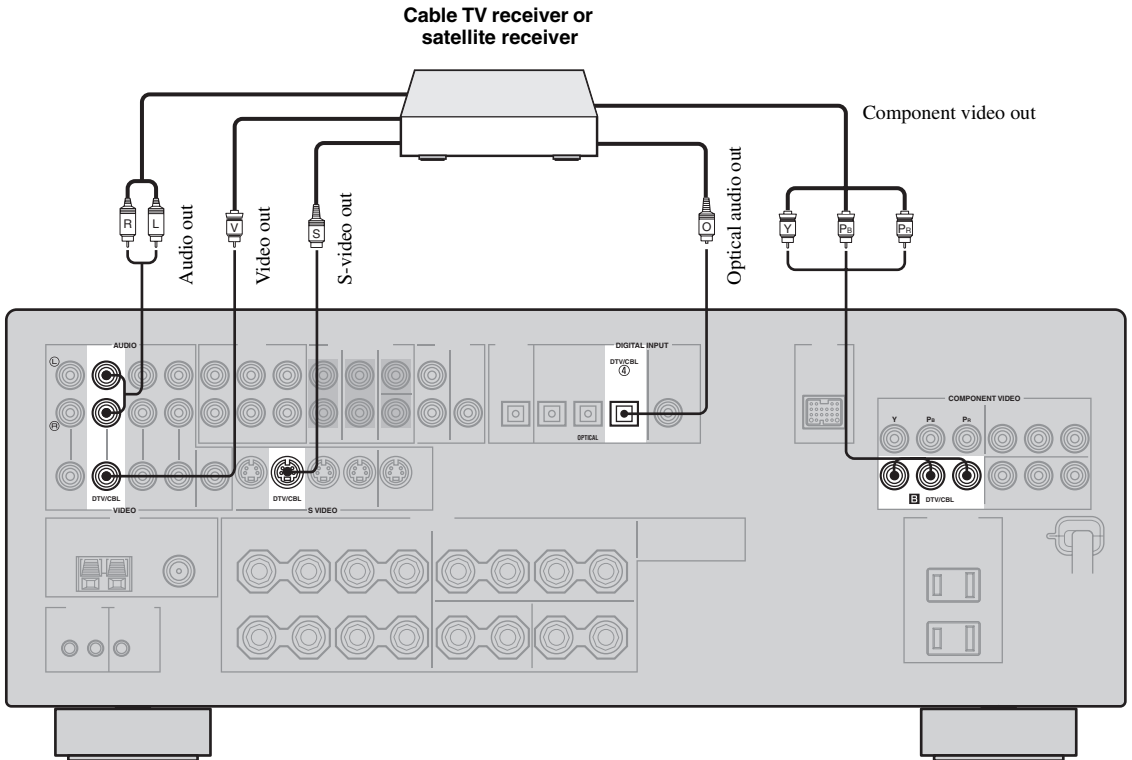
Connecting a CD player, an MD player or a tape deck

Connect your CD player, MD player or tape deck via analog and/or digital connections.

CAUTION

Do not connect this unit or other components to the AC power supply until all connections between components are complete.

Note

To make a digital connection to a component other than the default component assigned to each DIGITAL INPUT or DIGITAL OUTPUT jack, select the corresponding setting for "OPTICAL OUT", "OPTICAL IN", or "COAXIAL IN" in "I/O ASSIGNMENT" (see page 77).

CD player

Audio out

AUDIO

DIGITAL OUTPUT MD/CD-R ①

DIGITAL INPUT MD/CD-R ②

CD   IN (PLAY)   MD/ CD-R   OUT (REC)

OPTICAL

OPTICAL

Audio out   R L   R L   Audio in

Optical audio in

Optical audio out

MD recorder or tape deck

PREPARATION

English

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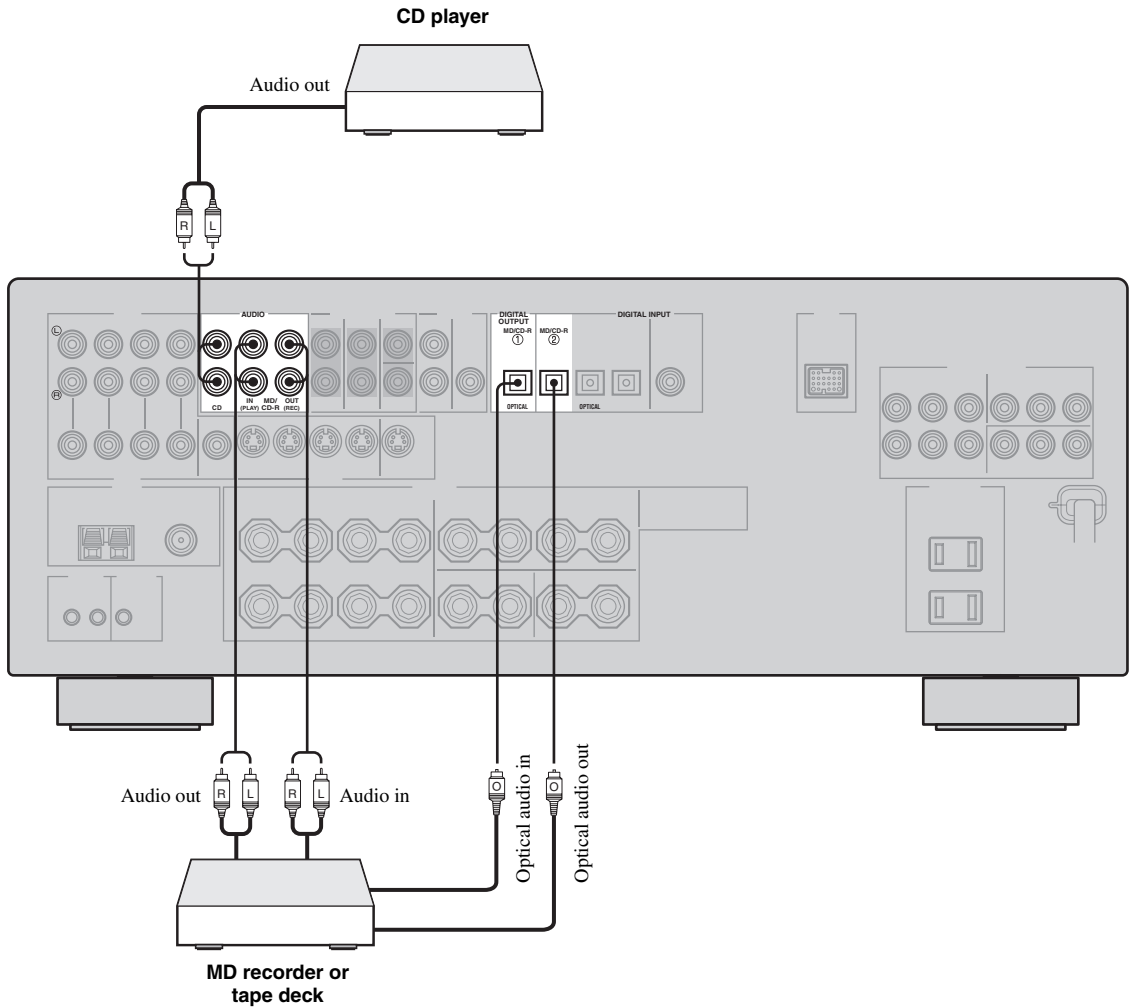
Connecting a YAMAHA iPod universal dock

This unit is equipped with the DOCK terminal on the rear panel that allows you to connect a YAMAHA iPod universal dock (such as YDS-10 sold separately) where you can station your iPod and control playback of your iPod using the supplied remote control. Connect a YAMAHA iPod universal dock (such as YDS-10 sold separately) to the DOCK terminal on the rear panel of this unit using its dedicated cable. Once the connection is complete, station your iPod in the YAMAHA iPod universal dock.

CAUTION

Do not connect this unit or other components to the AC power supply until all connections between components are complete.

Notes

• Only iPod (Click and Wheel), iPod nano, and iPod mini are supported.
• You need a YAMAHA iPod universal dock (such as YDS-10 sold separately) and its dedicated cable compatible with the DOCK terminal of this unit.
• Once your iPod is stationed in a YAMAHA iPod universal dock (such as YDS-10 sold separately) connected to the DOCK terminal of this unit, this unit begins the signal transmission with your iPod.
• Once the connection between your iPod and this unit is complete, "iPod connected" appears in the front panel display and the DOCK indicator lights up in the front panel display. If the connection between your iPod and this unit fails, a status message appears in the front panel display. For a complete list of connection status messages, see the iPod section in "TROUBLESHOOTING" on page 99.
• Only analog audio and video signals of your iPod are input at the DOCK terminal, and the analog audio signals can be output at the analog AUDIO OUT (REC) jacks for recording.
• Your iPod battery is automatically charged when your iPod is stationed in a YAMAHA iPod universal dock (such as YDS-10 sold separately) connected to the DOCK terminal of this unit as long as this unit is turned on.
• Depending on the type of iPod, you may need to insert one of the iPod adapters supplied with a YAMAHA iPod universal dock (such as YDS-10 sold separately) into the dock slot before you station your iPod.

iPod

**YAMAHA iPod universal dock
(such as YDS-10 sold separately)**

DOCK
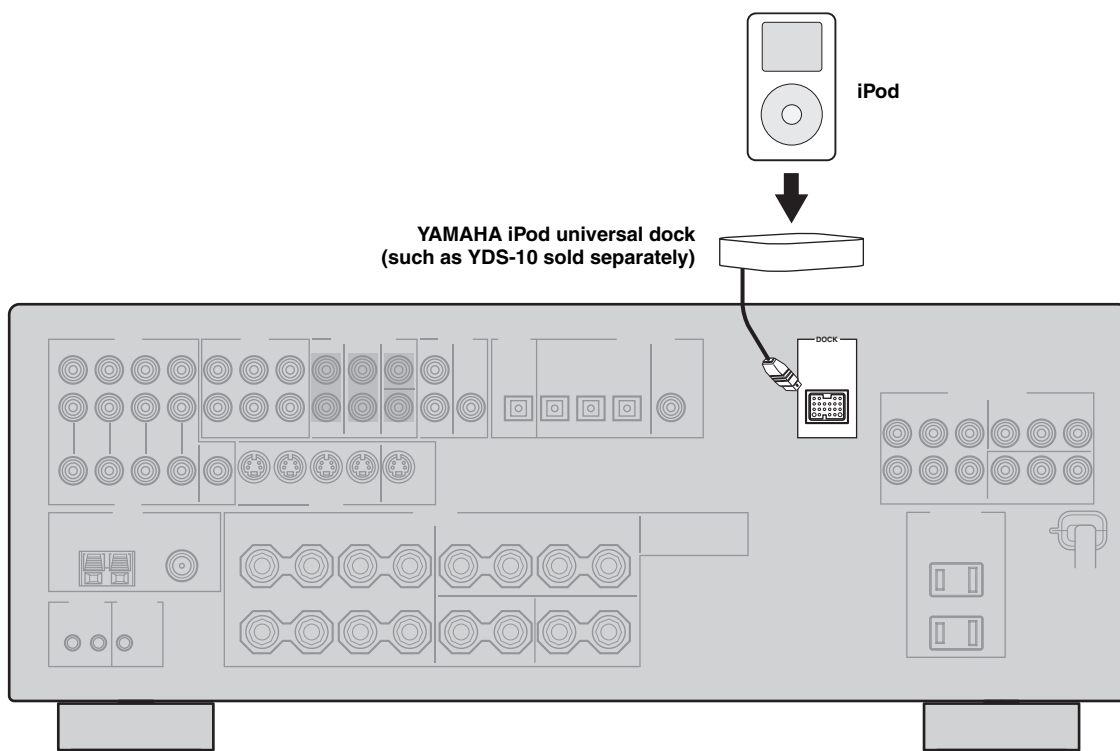
Connecting a multi-format player or an external decoder

This unit is equipped with 6 additional input jacks (FRONT L/R, CENTER, SURROUND L/R and SUBWOOFER) for discrete multi-channel input from a multi-format player, external decoder or sound processor. Connect the output jacks on your multi-format player or external decoder to the MULTI CH INPUT jacks. Be sure to match the left and right output jacks to the left and right input jacks for the front and surround channels.
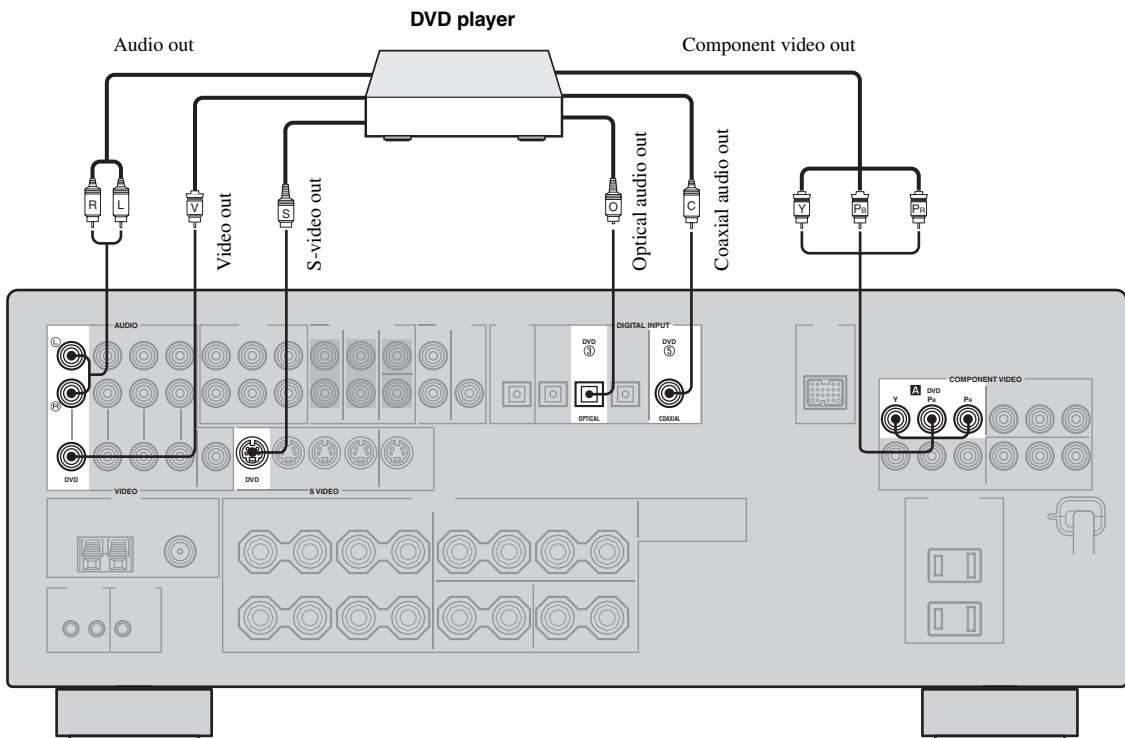
CAUTION

Do not connect this unit or other components to the AC power supply until all connections between components are complete.
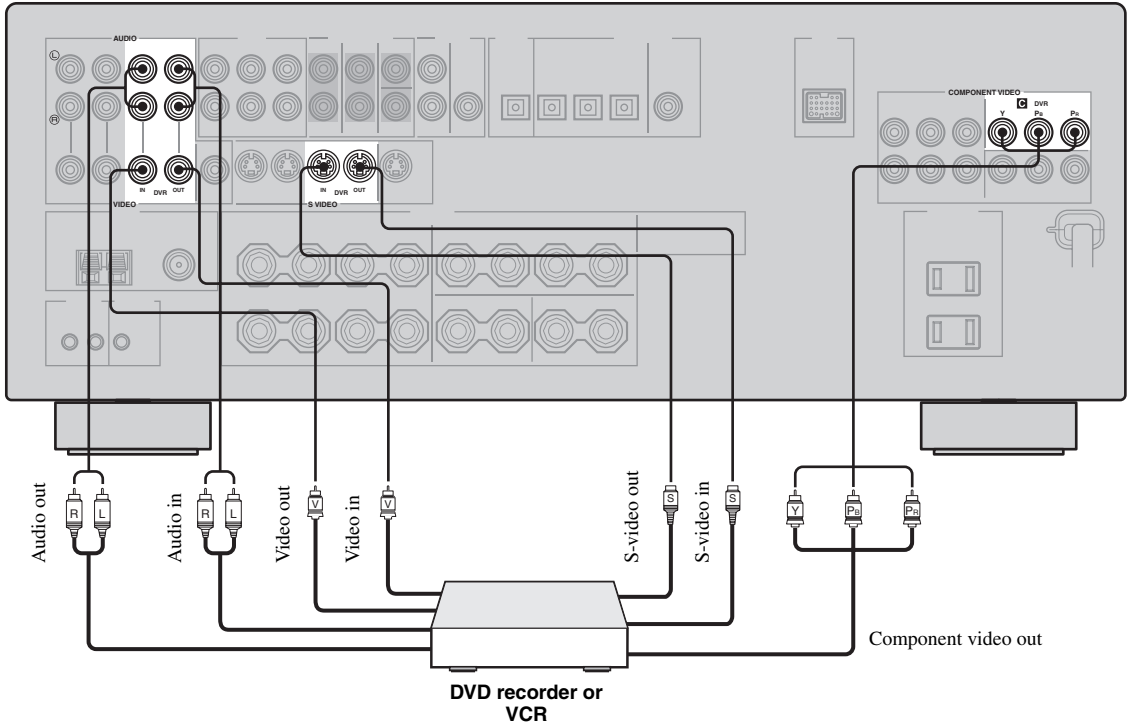
Notes

• When you select the component connected to the MULTI CH INPUT jacks as the input source (see page 38), this unit automatically turns off the digital sound field processor, and you cannot select sound field programs.
• This unit does not redirect signals input at the MULTI CH INPUT jacks to accommodate for missing speakers. We recommend that you connect at least a 5.1-channel speaker system before using this feature.
• When headphones are used, signals are output only from the front left and right channels.

Multi-format player or external decoder
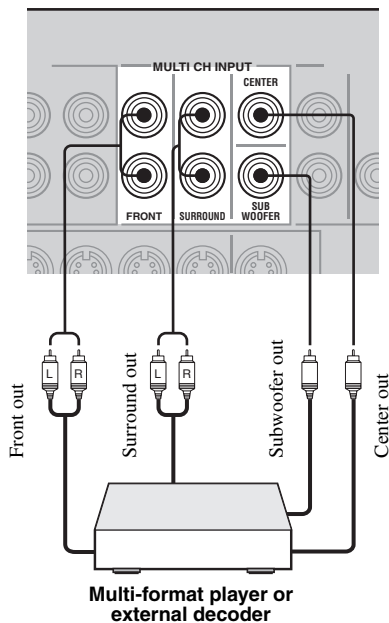
Connecting a game console, a video camera or a portable audio player

Use the VIDEO AUX jacks on the front panel to connect a game console, a video camera or a portable audio player to this unit.

CAUTION

Be sure to turn off the volume of this unit and other components before making connections.

Notes

• The audio signals input at the PORTABLE mini jack take priority over the ones input at the AUDIO L/R jacks.
• The audio signals input at the DOCK terminal takes priority over the ones input at the VIDEO AUX jacks.

Game console or video camera   **Portable audio player**

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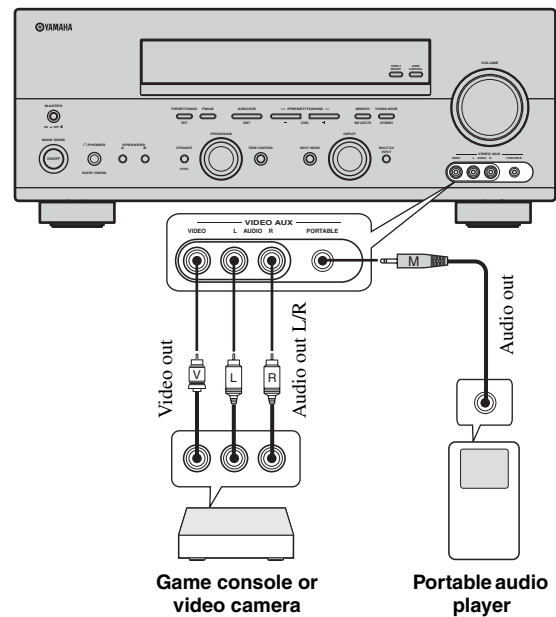
Connecting the FM and AM antennas

Both FM and AM indoor antennas are supplied with this unit. In general, these antennas should provide sufficient signal strength. Connect each antenna correctly to the designated terminals.

Notes

• Be sure to set the tuner frequency step (Asia and General models only) according to the frequency spacing in your area (see page 83).
• The AM loop antenna should be placed away from this unit.
• The AM loop antenna should always be connected, even if an outdoor AM antenna is connected to this unit.
• A properly installed outdoor antenna provides clearer reception than an indoor one. If you experience poor reception quality, install an outdoor antenna. Consult the nearest authorized YAMAHA dealer or service center about outdoor antennas.

AM loop antenna (supplied)

Indoor FM antenna (supplied)

Ground (GND terminal)
For maximum safety and minimum interference, connect the antenna GND terminal to a good earth ground. A good earth ground is a metal stake driven into moist earth.
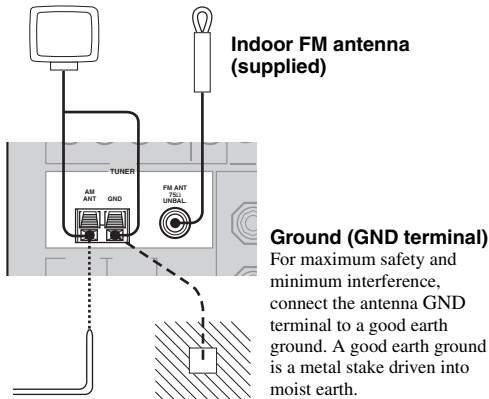
Outdoor AM antenna
Use a 5 to 10 m of vinyl-covered wire extended outdoors from a window.

■ Connecting the AM loop antenna

1 Set up the AM loop antenna.
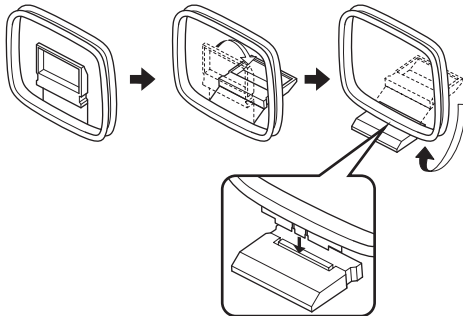
2 Press and hold the tab of the AM ANT terminal.

3 Insert one of the AM loop antenna lead wires into the AM ANT terminal.
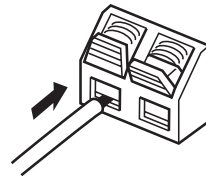
4 Release the tab of the AM ANT terminal back into place.

5 Repeat steps 2 through 4 to connect the other lead wire to the GND terminal.

Once you have properly connected the AM loop antenna to this unit, orient the AM loop antenna for the best reception when you tune into AM stations (see page 46).
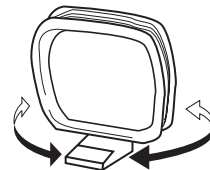
■ **Assembling the 75-ohm/300-ohm
    antenna adapter (U.K. model only)**

1 **Open the cover of the supplied 75-ohm/300-
ohm antenna adapter.**
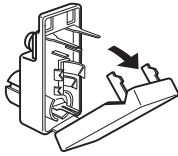
2 **Cut the external sleeve of the 75-ohm coaxial
cable to prepare it for connection.**

11 mm
8 mm
6 mm
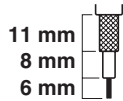
3 **Cut the lead wire and remove it.**

Lead wire
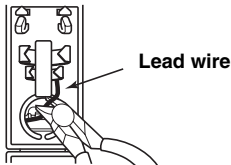
4 **Insert the cable wire into the slot and then
clamp it with pliers.**

Clamp   Clamp

Insert the cable wire
into the slot.
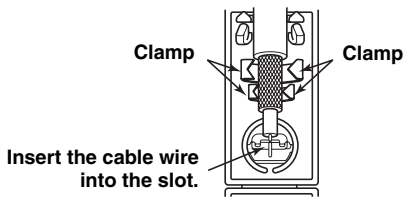
5 **Snap the cover back into place.**

PREPARATION

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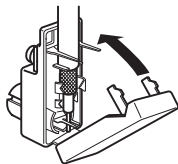
Connecting the power cable

Once all connections are complete, plug the power cable into the AC wall outlet.

(U.S.A. model)

To the AC wall outlet
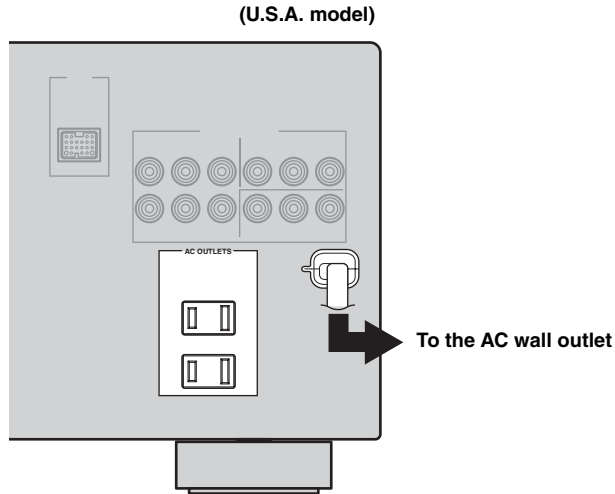
■ **VOLTAGE SELECTOR**
(Asia and General models only)

CAUTION

The VOLTAGE SELECTOR on the rear panel of this unit must be set for your local voltage BEFORE plugging the power cable into the AC wall outlet. Improper setting of the VOLTAGE SELECTOR may cause damage to this unit and create a potential fire hazard.

Rotate the VOLTAGE SELECTOR clockwise or counterclockwise to the correct position using a straight slot screwdriver.

Voltages are as follows:
Asia model .... 220/230–240 V AC, 50/60 Hz
General model ..... 110/120/220/230–240 V AC, 50/60 Hz

VOLTAGE SELECTOR

230-240V — Voltage indication
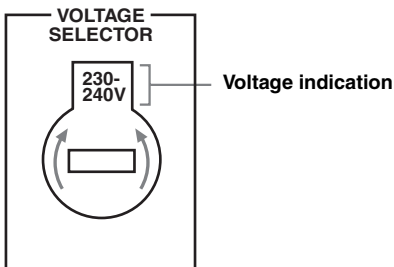
■ **AC OUTLET(S) (SWITCHED)**

U.K. and Australia models..................................... 1 outlet
Korea model.. None
Other models... 2 outlets

Use these outlet(s) to supply power to any connected components. Connect the power cable of your other components to these outlet(s). Power to these outlet(s) is supplied when the main zone or Zone 2 is turned on. However, power to these outlet(s) is cut off when the main zone and Zone 2 are turned off or when MASTER ON/ OFF on the front panel is pressed and released outward to the OFF position. For information on the maximum power or the total power consumption of the components that can be connected to these outlet(s), see "SPECIFICATIONS" on page 103.

Memory back-up
The memory back-up circuit prevents the stored data from being lost even if this unit is in the standby mode. However, the stored data will be lost in case the power cable is disconnected from the AC wall outlet or if the power supply is cut off for more than one week.

Setting the speaker impedance

If you are to use 4 or 6 ohm speakers, set "SP IMP." to "6ΩMIN" as follows BEFORE using this unit.

2,5

2,4 3
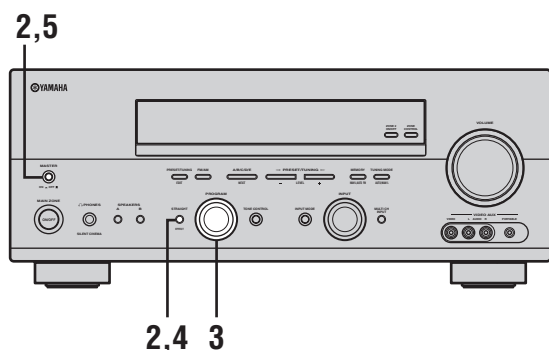
1 Make sure this unit is turned off.
See page 28 for details about turning on or off this unit.

2 Press and hold STRAIGHT (EFFECT) on the front panel and then press MASTER ON/OFF inward to the ON position to turn on this unit.
This unit turns on, and the advanced setup menu appears in the front panel display.

While holding down

STRAIGHT   MASTER

EFFECT   ON ON OFF

3 Rotate the PROGRAM selector on the front panel to select "SP IMP.".
The following display appears in the front panel display.

PROGRAM

SP IMP.-8ΩMIN
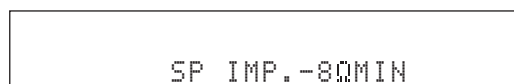
4 Press STRAIGHT (EFFECT) on the front panel repeatedly to select "6ΩMIN".
The following display appears in the front panel display.
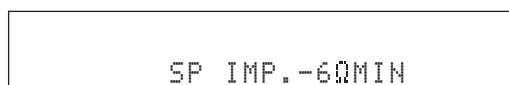
STRAIGHT

EFFECT

SP IMP.-6ΩMIN

5 Press MASTER ON/OFF on the front panel to release it outward to the OFF position to save the new setting and turn off this unit.

MASTER

ON ON OFF

Note

The setting you made is reflected next time you turn on this unit.

PREPARATION

English

27

Turning on and off the power

When all connections are complete, turn on this unit.
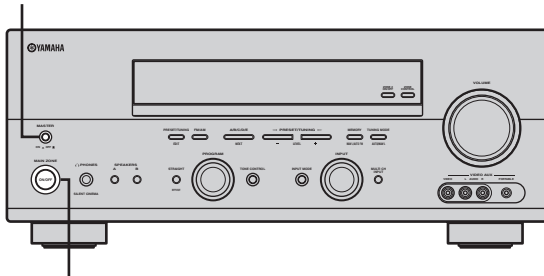
MASTER ON/OFF
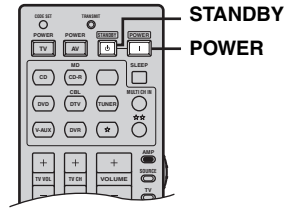
STANDBY
POWER

MAIN ZONE ON/OFF

■ Turning on this unit

Press MASTER ON/OFF on the front panel inward to the ON position to turn on this unit.

Front panel

• Press MAIN ZONE ON/OFF on the front panel (or STANDBY on the remote control) to set the main zone to the standby mode.

Front panel   **Remote control**

• Press MAIN ZONE ON/OFF on the front panel (or POWER on the remote control) to turn on the main zone.

Front panel   **Remote control**

Note

MAIN ZONE ON/OFF on the front panel as well as POWER and STANDBY on the remote control are operational only when MASTER ON/OFF is pressed inward to the ON position.

■ Turning off this unit

Press MASTER ON/OFF on the front panel again to release it outward to the OFF position to turn off this unit.

Front panel

28

BASIC SETUP

The "BASIC SETUP" feature is a useful way to set up your system quickly and with minimal effort.

Notes

• Make sure you disconnect your headphones from this unit.
• If you wish to configure this unit manually using more precise adjustments, use the detailed parameters in "SOUND MENU" (see page 72).
• Altering any parameters in "BASIC SETUP" resets all parameters manually adjusted in "SOUND MENU" (see page 72).
• Initial settings are indicated in bold under each parameter.
• Press RETURN on the remote control to return to the previous menu level.
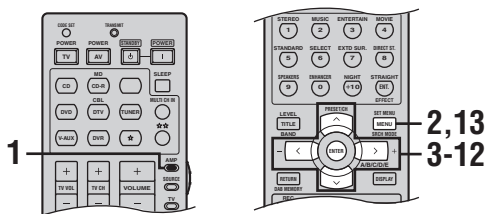
1 Set the component selector switch to AMP.
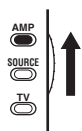
2 Press SET MENU to enter "SET MENU".
The top "SET MENU" display appears in the OSD.

```
        SET MENU
   → •BASIC SETUP
     •MANUAL SETUP
     •SIGNAL INFO

     [▲]/[▼]:Up/Down
     [ENTER]:Enter
```

3 Press ∧ / ∨ to select "BASIC SETUP".
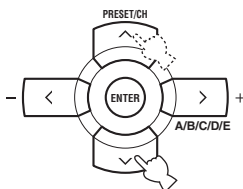
4 Press ENTER to enter "BASIC SETUP".
The following display appears in the OSD.

```
      :BASIC SETUP
   → ROOM:     S >M  L
     SUBWOOFER····YES
     SPEAKERS····6spk
     SETUP:>OK CANCEL

     [▲]/[▼]:Up/Down
     [<]/[>]:Select
```
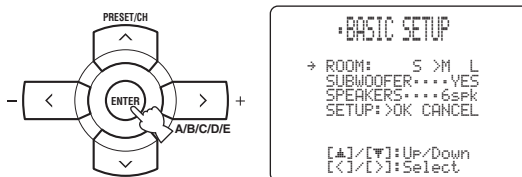
5 Press ∧ / ∨ to select "ROOM" and then 〈 / 〉 to select the desired setting.

```
      :BASIC SETUP
   → ROOM:     S >M  L
     SUBWOOFER····YES
     SPEAKERS····6spk
     SETUP:>OK CANCEL

     [▲]/[▼]:Up/Down
     [<]/[>]:Select
```
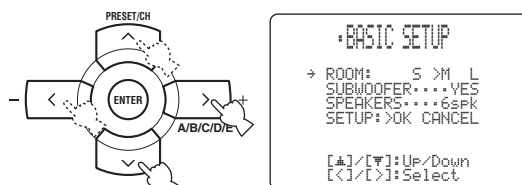
Select the size of the room where you have installed your speakers. In general, the room sizes are defined as follows:

Choices: S, **M**, L

[U.S.A. and Canada models]

S (small)   16 x 13ft, 200ft^2 (4.8 x 4.0m, 20m^2)
M (medium)   20 x 16ft, 300ft^2 (6.3 x 5.0m, 30m^2)
L (large)   26 x 19ft, 450ft^2 (7.9 x 5.8m, 45m^2)

[Other models]

S (small)   3.6 x 2.8m, 10m^2
M (medium)   4.8 x 4.0m, 20m^2
L (large)   6.3 x 5.0m, 30m^2

English

29

6   Press ∨ to select "SUBWOOFER" and then ⟨ / ⟩ to select the desired setting.

```
                              ·BASIC SETUP
 PRESET/CH
    ∧                         ROOM:     S >M  L
                            → SUBWOOFER····YES
 ⟨    ENTER    ⟩ +            SPEAKERS····6spk
−                             SETUP:>OK CANCEL
      A/B/C/D/E
    ∨                         [▲]/[▼]:Up/Down
                              [⟨]/[⟩]:Select
```
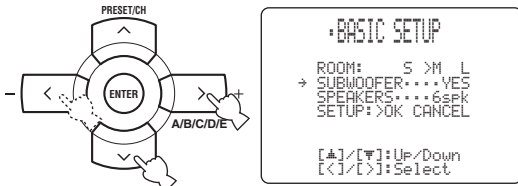
Choices: **YES**, NONE
• Select "YES" if you have a subwoofer in your system.
• Select "NONE" if you do not have a subwoofer in your system.

7   Press ∨ to select "SPEAKERS" and then ⟨ / ⟩ to select the number of speakers connected to this unit.

```
                              ·BASIC SETUP
 PRESET/CH
    ∧                         ROOM:     S >M  L
                              SUBWOOFER····YES
 ⟨    ENTER    ⟩ +          → SPEAKERS····6spk
−                             SETUP:>OK CANCEL
      A/B/C/D/E
    ∨                         [▲]/[▼]:Up/Down
                              [⟨]/[⟩]:Select
```
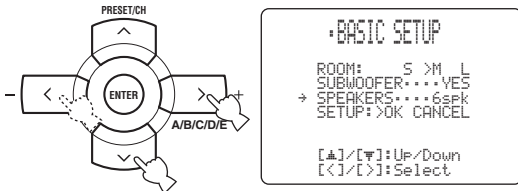
Choice	Display	Speakers
2spk	L R	Front L/R
3spk	L C R	Front L/R, Center
4spk	L R / SL SR	Front L/R, Surround L/R
5spk	L C R / SL SR	Front L/R, Center, Surround L/R
6spk	L C R / SL SB SR	Front L/R, Center, Surround L/R, Surround back

8   Press ∨ to select "SETUP" and then ⟨ / ⟩ to select the desired setting.

```
                              ·BASIC SETUP
 PRESET/CH
    ∧                         ROOM:     S >M  L
                              SUBWOOFER····YES
 ⟨    ENTER    ⟩ +            SPEAKERS····6spk
−                           → SETUP:>OK CANCEL
      A/B/C/D/E
    ∨                         [▲]/[▼]:Up/Down
                              [⟨]/[⟩]:Select
```
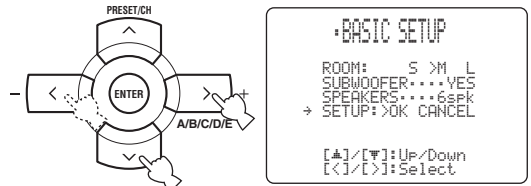
Choices: **OK**, CANCEL
• Select "OK" to apply the settings you made.
• Select "CANCEL" to cancel the setup procedure without making any changes.

☼
You can also press SET MENU to cancel the setup procedure.

9   Press ENTER to confirm your selection.

```
 PRESET/CH
    ∧
 ⟨    ENTER    ⟩ +
−
      A/B/C/D/E
    ∨
```
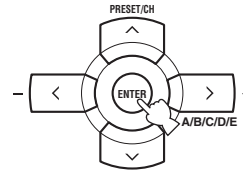
If you selected "OK" in step 8, each speaker outputs a test tone twice in turn. "CHECK:Test Tone" appears in the OSD for a few seconds and then "CHECK OK?" appears in the OSD.

```
  ·BASIC SETUP                  ·BASIC SETUP

  ROOM:     S >M  L             ROOM:     S >M  L
  SUBWOOFER····YES              SUBWOOFER····YES
  SPEAKERS····6spk              SPEAKERS····6spk
  SETUP:>OK CANCEL              SETUP:>OK CANCEL
→ CHECK:Test Tone            → CHECK OK?····YES

  [▲]/[▼]:Up/Down              [▲]/[▼]:Up/Down
  [⟨]/[⟩]:Select               [⟨]/[⟩]:Select
```

☼
Check the speaker connections (see page 13) and adjust the "SPEAKERS" settings back in step 7, if necessary.

30

10 Press ⟨ / ⟩ to select the desired setting.
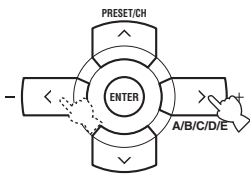
Choices: **YES**, NO
- Select "YES" to complete the setup procedure if the test tone levels from each speaker were satisfactory.
- Select "NO" to proceed to the speaker level adjustment menu in step 12 to balance the output level of each speaker.

11 Press ENTER to confirm your selection.
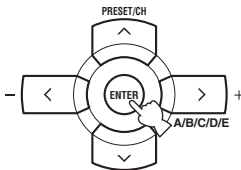
- If you selected "YES" in step 10, the setup procedure is completed and the display returns to the top "SET MENU" display.
- If you selected "NO" in step 10, the front speaker level adjustment display appears in the front panel display.

12 Press ∧ / ∨ to select a speaker and then ⟨ / ⟩ to adjust the balance.

The selected speaker and the front left speaker (or the surround left speaker) output a test tone in turn.
- Press ⟩ to increase the value.
- Press ⟨ to decrease the value.
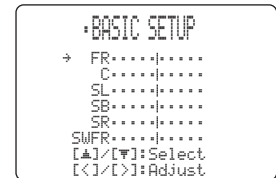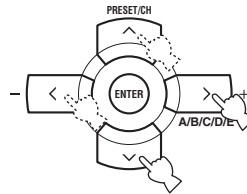
- Select "FR" to adjust the balance between the front left and right speakers.
- Select "C" to adjust the balance between the front left and center speakers.
- Select "SL" to adjust the balance between the front left and surround left speakers.
- Select "SB" to adjust the balance between the surround left and surround back speakers.
- Select "SR" to adjust the balance between the surround left and surround right speakers.
- Select "SWFR" to adjust the balance between the front left speaker and the subwoofer.

13 Press SET MENU to exit from "BASIC SETUP".

PREPARATION

English

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PLAYBACK

Extreme caution should be exercised when you play back CDs encoded in DTS. If you play back a CD encoded in DTS on a DTS-incompatible CD player, you will only hear some unwanted noise that may damage your speakers. Check whether your CD player supports CDs encoded in DTS. Also, check the sound output level of your CD player before you play back a CD encoded in DTS.
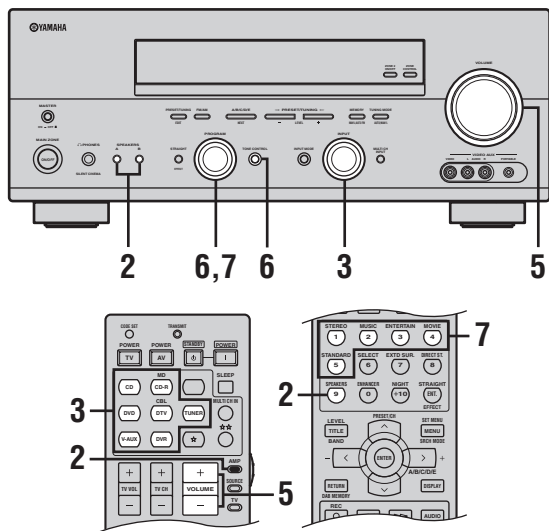
2   6,7 6   3   5

1 Turn on the video monitor connected to this unit.

2 Press SPEAKERS A or B on the front panel (or set the component selector switch to AMP and then press SPEAKERS on the remote control repeatedly).
Each time you press SPEAKERS A or B, the respective speakers are turned on or off.

Front panel

or

Remote control

3 Rotate the INPUT selector on the front panel (or press one of the input selector buttons on the remote control) to select the desired input source.
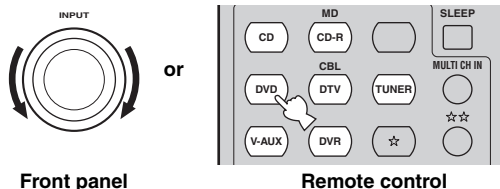
Front panel   Remote control

The name of the currently selected input source appears in the front panel display and in the OSD for a few seconds.

Available input sources
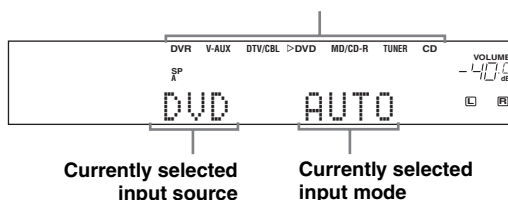
**Currently selected   Currently selected
input source   input mode**

Note

If you are to select an input source connected via digital connections, set "INPUT MODE" to "AUTO" or "DTS" (see page 35).

4 Start playback on the selected source component or select a broadcast station.
Refer to the operating instructions for the source component.
See page 46 for details about tuning instructions.

5 **Rotate VOLUME on the front panel (or press VOLUME +/– on the remote control) to adjust the volume to the desired output level.**

VOLUME

or

+
VOLUME
−

Front panel **Remote control**
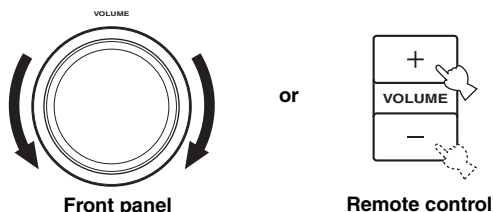
6 **Press TONE CONTROL on the front panel repeatedly to select "TREBLE" or "BASS" and then rotate the PROGRAM selector to adjust the corresponding frequency response level.**

TONE CONTROL ➡ PROGRAM

⬇

DVR V-AUX DTV/CBL ▷DVD MD/CD-R TUNER CD

SP
A

TREBLE   0dB   -47.0 dB L R
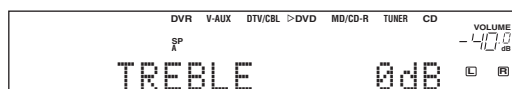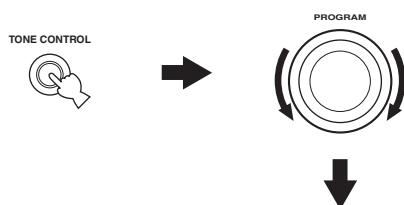
• Select "TREBLE" to adjust the high-frequency response.
• Select "BASS" to adjust the low-frequency response.

Notes

• Speaker and headphone adjustments are stored independently.
• When "TONE BYPASS" is set to "AUTO" (see page 76), and "BASS" and "TREBLE" are set to 0 dB, audio output automatically bypasses the tone control circuitry of this unit.
• If you increase or decrease the high-frequency or low-frequency sound to an extreme level, the tonal quality of the surround speakers may not match that of the front left and right speakers.
• TONE CONTROL is not effective when the "DIRECT STEREO" mode (see page 39) is selected or when the component connected to the MULTI CH INPUT jacks is selected as the input source (see page 38).
• To enjoy multi-channel sources in surround, see page 42 for details.

7 **Rotate the PROGRAM selector on the front panel (or press one of the sound field program selector buttons on the remote control repeatedly) to select the desired sound field program.**

The name of the selected sound field program appears in the front panel display and in the OSD.
See page 58 for details about sound field programs.

PROGRAM

Front panel

or

STEREO	MUSIC	ENTERTAIN	MOVIE
1	2	3	4
STANDARD	SELECT	EXTD SUR.	DIRECT ST.
5	6	7	8
SPEAKERS	ENHANCER	NIGHT	STRAIGHT
9	0	+10	ENT.
			EFFECT

Remote control

⬇

DVR V-AUX DTV/CBL ▷DVD MD/CD-R TUNER CD

CINEMA DSP

SP
A

TV Sports   -40.0 dB L R
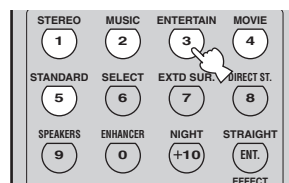
Currently selected surround field program

Notes

• Choose a sound field program based on your listening preference, not merely on the name of the program.
• When you select an input source, this unit automatically selects the last sound field program used with the corresponding input source.
• Sound field programs cannot be selected when the component connected to the MULTI CH INPUT jacks is selected as the input source (see page 38).
• Sampling frequencies higher than 48 kHz (except for DTS 96/24 signals) are sampled down to 48 kHz and then sound field programs are applied.
• To display information about the currently selected input source in the OSD, see page 40 for details.

BASIC OPERATION

English

33

USING AUDIO FEATURES

Using SILENT CINEMA

SILENT CINEMA allows you to enjoy multi-channel music or movie sound, including Dolby Digital and DTS sources, through ordinary headphones. SILENT CINEMA activates automatically whenever you connect headphones to the PHONES jack while listening to CINEMA DSP or HiFi DSP sound field programs (see page 58). When activated, the SILENT CINEMA indicator lights up in the front panel display.

Notes

- SILENT CINEMA does not activate when the component connected to the MULTI CH INPUT jacks is selected as the input source (see page 38).
- SILENT CINEMA is not effective when the "DIRECT STEREO" (see page 39) or "2ch Stereo" mode (see page 39) is selected, or when this unit is in the "STRAIGHT" mode (see page 39).

Muting the audio output

Press MUTE on the remote control to mute the audio output. Press MUTE again to resume the audio output.

☆
- You can also rotate VOLUME on the front panel or VOLUME +/– on the remote control to resume the audio output.
- You can adjust the muting level by using the "MUTING TYPE" parameter in "SOUND MENU" (see page 76).
- The MUTE indicator flashes in the front panel display when the audio output is muted and disappears from the front panel display when the audio output is resumed.

Note

If you change the input source or the sound field program while the audio output is being muted, this unit resumes the audio output.

Selecting the night listening mode

The night listening modes are designed to improve listenability at lower volumes or at night. Choose either "NIGHT:CINEMA" or "NIGHT:MUSIC" depending on the type of material you are playing.

1 Set the component selector switch to AMP and then press NIGHT on the remote control repeatedly to select "NIGHT:CINEMA" or "NIGHT:MUSIC".
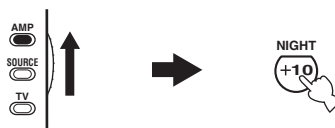
Choices: NIGHT:CINEMA, NIGHT:MUSIC, OFF
- Select "NIGHT:CINEMA" when watching films to reduce the dynamic range of film soundtracks and make dialog easier to hear at lower volumes.
- Select "NIGHT:MUSIC" when listening to music sources to preserve ease-of-listening for all sounds.
- Select "OFF" if you do not want to use this feature.

☆
When a night listening mode is selected, the NIGHT indicator lights up in the front panel display.

2 Press ⟨ / ⟩ on the remote control to adjust the effect level while "NIGHT:CINEMA" or "NIGHT:MUSIC" is displayed in the front panel display.
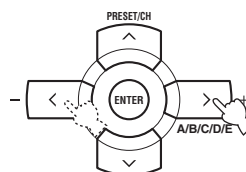
Remote control

Effect.Lvl:MID

Choices: MIN, **MID**, MAX
- Select "MIN" for minimum compression.
- Select "MID" for standard compression.
- Select "MAX" for maximum compression.

☼
"NIGHT:CINEMA" and "NIGHT:MUSIC" adjustments are stored independently.

Notes

• You cannot use the night listening modes in the following cases:
– when the "DIRECT STEREO" mode (see page 39) is selected.
– when the component connected to the MULTI CH INPUT jacks is selected as the input source (see page 38).
– when headphones are connected to the PHONES jack.
• The night listening modes may vary in effectiveness depending on the input source and surround sound settings you use.

Selecting the input mode

This unit comes with a variety of input jacks. Do the following to select the type of input signals you want to use.

☼
• We recommend setting "INPUT MODE" to "AUTO" in most cases.
• You can adjust the default input mode of this unit by using the "INPUT MODE" parameter in "INPUT MENU" (see page 78).

Notes

• To play DTS-encoded CDs when using a digital audio connection, be sure to set "INPUT MODE" to "DTS".
• DTS decoding may not be performed correctly depending on the player even if you make a digital connection between this unit and the player.

1 Rotate the INPUT selector on the front panel to select the desired input source.
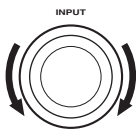
INPUT

2 Press INPUT MODE on the front panel repeatedly to select the desired input mode.

INPUT MODE

Available input sources

DVR V-AUX DTV/CBL ▷DVD MD/CD-R TUNER CD
SP
A
DVD   AUTO   VOLUME
                 –47.0 dB   L R
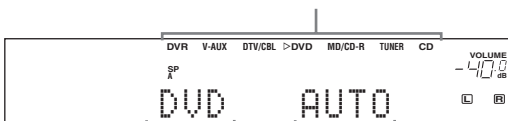
Currently selected input source   **Currently selected input mode**

AUTO   Automatically selects input signals in the following order:
(1) Digital signals
(2) Analog signals
DTS   Selects only digital signals encoded in DTS. If no DTS signals are input, no sound is output.
ANALOG Selects only analog signals. If no analog signals are input, no sound is output.

Note

When "INPUT MODE" is set to "AUTO", this unit automatically switches to the appropriate decoder if a Dolby Digital or DTS signal is detected.

Using the sleep timer

Use this feature to automatically set this unit to the standby mode after a certain amount of time. The sleep timer is useful when you are going to sleep while this unit is playing or recording a source. The sleep timer also automatically turns off any external components connected to AC OUTLET(S) (see page 26).

1 Press one of the input selector buttons on the remote control to select the desired input source.

MD   SLEEP
CD CD-R
CBL MULTI CH IN
DVD DTV TUNER
☆☆
V-AUX DVR ☆
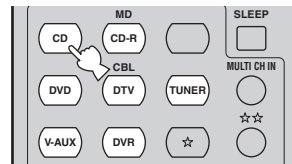
2 Start playback on the selected source component or select a broadcast station.
Refer to the operating instructions for the source component.
See page 46 for details about tuning instructions.

35

3 **Press SLEEP on the remote control repeatedly to set the amount of time.**

Each time you press SLEEP, the front panel display changes as shown below.

SLEEP

→ SLEEP 120min ⟶ SLEEP 90min ─
└ SLEEP OFF ← SLEEP 30min ← SLEEP 60min ←
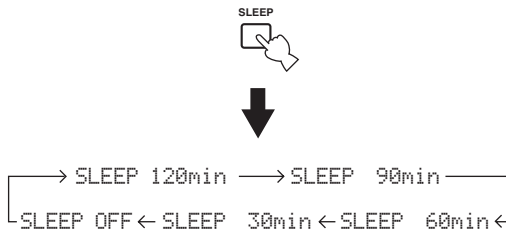
The SLEEP indicator flashes while you are switching the amount of time for the sleep timer. Once the sleep timer is set, the SLEEP indicator lights up in the front panel display, and the display returns to the selected sound field program.

DVR V-AUX DTV/CBL DVD MD/CD-R TUNER ▷CD
VOLUME
SP
A   SLEEP   –40.0 dB
SLEEP 120min   L R

Flashes

DVR V-AUX DTV/CBL DVD MD/CD-R TUNER ▷CD
VOLUME
SP
A   SLEEP   –40.0 dB
STRAIGHT   L R
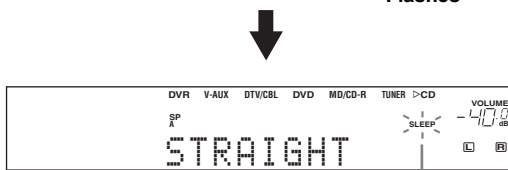
Lights up

4 **To cancel the sleep timer, press SLEEP on the remote control repeatedly until "SLEEP OFF" appears in the front panel display.**

SLEEP

DVR V-AUX DTV/CBL DVD MD/CD-R TUNER ▷CD
VOLUME
SP
A   –40.0 dB
SLEEP OFF   L R
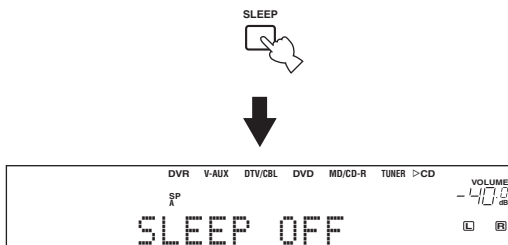
The SLEEP indicator turns off, and "SLEEP OFF" disappears from the front panel display after a few seconds.

☼
The sleep timer setting can also be canceled by pressing STANDBY on the remote control (or MAIN ZONE ON/OFF on the front panel) to set the main zone to the standby mode.

Adjusting the speaker level

You can adjust the output level of each speaker while listening to a music source. This is also possible when playing sources input at the MULTI CH INPUT jacks.

Note

This operation will override the level adjustments made in "BASIC SETUP" (see page 29) and "SPEAKER LEVEL" (see page 74).

☼
This operation can also be performed using the control buttons on the front panel. Press NEXT on the front panel repeatedly to select the speaker channel whose output level you want to adjust and then press LEVEL +/– on the front panel to adjust the output level.
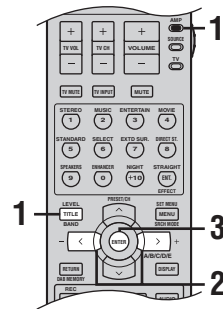
1 **Set the component selector switch to AMP and then press LEVEL on the remote control repeatedly to select the speaker you want to adjust.**

AMP
SOURCE
TV   →   LEVEL
TITLE
BAND
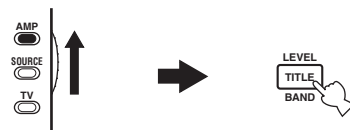
• Select "FRONT L" to adjust the front left speaker output level.
• Select "CENTER" to adjust the center speaker output level.
• Select "FRONT R" to adjust the front right speaker output level.
• Select "SUR. R" to adjust the surround right speaker output level.
• Select "SUR. B" to adjust the surround back speaker output level.
• Select "SUR. L" to adjust the surround left speaker output level.
• Select "SWFR" to adjust the subwoofer output level.

☼
Once you press LEVEL on the remote control, you can also select the speaker by pressing ∧ / ∨.

2   Press ⟨ / ⟩ on the remote control to adjust the speaker output level.

- Press ⟩ to increase the value.
- Press ⟨ to decrease the value.

Control range: –10 dB to +10 dB
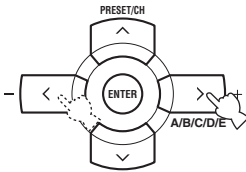
3   Press ENTER on the remote control when you have completed your adjustment.
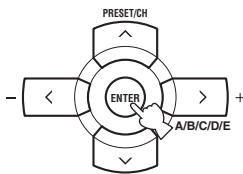
Selecting the Compressed Music Enhancer mode

Compression artifacts (such as the MP3 format) are created by a lossy compression scheme where the audio is resampled to lower the bitrate and to remove sounds that are indistinguishable to typical human hearing. The Compressed Music Enhancer feature of this unit enhances your listening experience by regenerating the missing harmonics in a compression artifact. As a result, flattened complexity due to the loss of high-frequency fidelity as well as lack of bass due to the loss of low-frequency bass is compensated, providing the improved performance of the overall sound system.

Notes

- The Compressed Music Enhancer mode is compatible with the PCM signals (32 kHz, 44.1 kHz and 48 kHz) and the analog 2-channel input sources.
- The Compressed Music Enhancer mode is not effective with any of the sound field programs.
- When the Compressed Music Enhancer mode is turned on while an incompatible input source is being played back, "Not Available" appears in the front panel display and in the OSD.
- When the input source is changed to an incompatible input source while the Compressed Music Enhancer mode is turned on, the Compressed Music Enhancer mode is automatically turned off and the incompatible input source is played back in 2-channel or 6-channel stereo.

☀
The ENHANCER indicator lights up in the front panel display when one of the Compressed Music Enhancer modes is selected.

BASIC OPERATION

English

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1 Set the component selector switch to AMP and then press ENHANCER on the remote control repeatedly to select the desired Compressed Music Enhancer mode.

The following display is shown in the OSD and the ENHANCER indicator lights up in the front panel display.

```
MUSIC ENHANCER
    2ch Stereo
→   LOW  >HIGH
```

Lights up
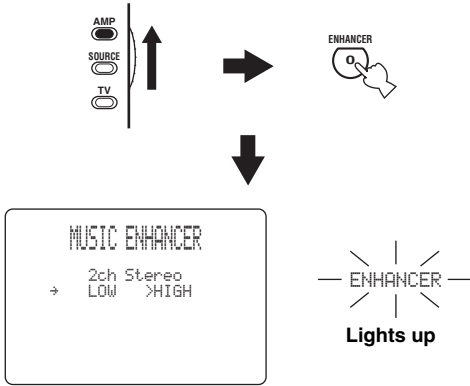
Choices: **2ch Stereo**, 6ch Stereo, Off
• Select "2ch Stereo" to play back compression artifacts in 2-channel stereo.
• Select "6ch Stereo" to play back compression artifacts in 6.1-channel stereo.
• Select "Off" to turn off the Compressed Music Enhancer mode.

Note

When you select "Off", this unit returns to the previously selected sound field program.

2 Press ⟨ / ⟩ on the remote control to select the desired effect level.
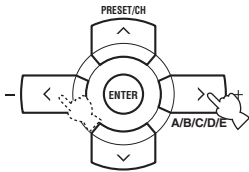
Choices: **HIGH**, LOW
• Select "HIGH" for a high effect level.
• Select "LOW" for a low effect level.

Note

Set the effect level to "HIGH" or "LOW" according to the characteristics of a source. The high-frequency signals of some sources may be emphasized too much. In this case, se the effect level to "LOW".

Selecting the MULTI CH INPUT component

Use this feature to select the component connected to the MULTI CH INPUT jacks (see page 23) as the input source.

Press MULTI CH INPUT on the front panel (or MULTI CH IN on the remote control) so that "MULTI CH INPUT" appears in the front panel display.

or

Front panel   **Remote control**

```
MULTI CH INPUT
```
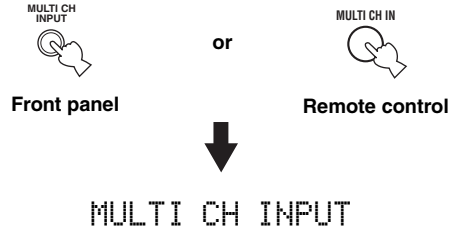
Note

When "MULTI CH INPUT" is shown in the front panel display, no other source can be played. To select another input source with the INPUT selector on the front panel (or one of the input selector buttons), press MULTI CH INPUT (or MULTI CH IN on the remote control) so that "MULTI CH INPUT" disappears from the front panel display.

Enjoying multi-channel sources in 2-channel stereo

You can mix down multi-channel sources to 2 channels and enjoy playback in 2-channel stereo.

Set the component selector switch to AMP and then press STEREO on the remote control repeatedly to select "2ch Stereo".
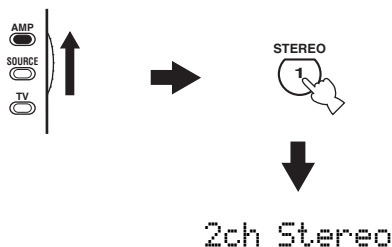
2ch Stereo

☀
• You can use a subwoofer with this program when "LFE/BASS OUT" is set to "SWFR" or "BOTH" (see page 73).
• You can also select the "2ch Stereo" mode by rotating the PROGRAM selector on the front panel.

Enjoying unprocessed input sources

When this unit is in the "STRAIGHT" mode, 2-channel stereo sources are output from only the front left and right speakers. Multi-channel sources are decoded straight into the appropriate channels without any additional effect processing.

1 Set the component selector switch to AMP and then press STRAIGHT on the remote control to select "STRAIGHT".
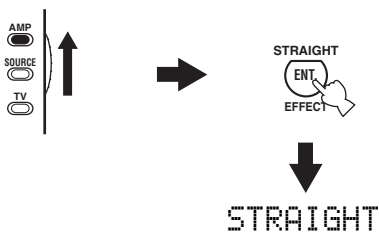
STRAIGHT

2 To deactivate the "STRAIGHT" mode, press STRAIGHT on the remote control again so that "STRAIGHT" disappears from the front panel display.
The sound effect is turned back on.

☀
You can also select the "STRAIGHT" mode by pressing STRAIGHT (EFFECT) on the front panel.

Enjoying pure hi-fi stereo sound

The "DIRECT STEREO" mode allows sources to bypass the decoders and DSP processors of this unit so that you can enjoy pure hi-fi sound from 2-channel PCM and analog sources.

Set the component selector switch to AMP and then press DIRECT ST. on the remote control to select "DIRECT STEREO".
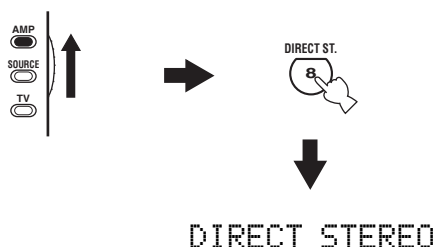
DIRECT STEREO

Notes

• To avoid unexpected noise, do not play CDs encoded in DTS when the "DIRECT STEREO" mode is selected.
• When multi-channel signals (Dolby Digital and DTS) are input, this unit automatically switches to the corresponding analog input. When "DTS" is selected as the input mode (see page 35), no sound will be output.
• No sound will be output from the subwoofer.
• "TONE CONTROL" (see page 33) and "SOUND MENU" (see page 72) settings (except for speaker level settings) are not effective.
• The front panel display automatically dims.

☀
You can also select the "DIRECT STEREO" mode by rotating the PROGRAM selector on the front panel.

English

39

USING VIDEO FEATURES

Displaying the input source information

You can display the format, sampling frequency, channel, bit rate and flag data of the current input signal.

1   Set the component selector switch to AMP and then press SET MENU on the remote control.

The top "SET MENU" display appears in the OSD.

```
        AMP
        ●
                                    SET MENU
        SOURCE                      MENU
        ◯                           SRCH MODE
        TV
        ◯
```

```
          SET MENU

      → ·BASIC SETUP
        ·MANUAL SETUP
        ·SIGNAL INFO

        [▲]/[▼]:Up/Down
        [ENTER]:Enter
```

2   Press ∨ repeatedly to select "SIGNAL INFO" and then press ENTER.

The following information about the input source appears in the OSD.

```
        PRESET/CH                   PRESET/CH
          ∧                           ∧
    _  < ENTER >  +            _  < ENTER >  +
          ∨      A/B/C/D/E          ∨      A/B/C/D/E
```

```
        ·SIGNAL INFO

      FORMAT      PCM
      SAMPLING    48kHz
      CHANNEL     2/0/---
      BITRATE     ---
      FLAG        NONE
```
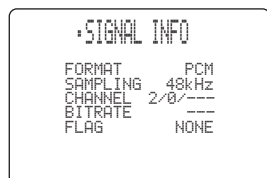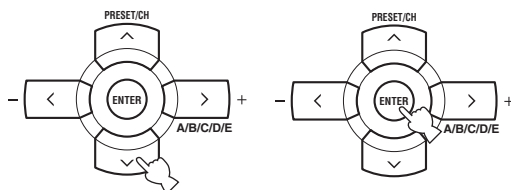
Signal format   FORMAT

Signal format display. When this unit cannot detect a digital signal, it automatically switches to analog input.

Display status: Analog, Digital, Dolby D, DTS, PCM,

Note

"---" appears when this unit cannot detect any signals.

Sampling frequency   SAMPLING

The number of samples per second taken from a continuous signal to make a discrete signal.
Display status: 32kHz, 44.1kHz, 48kHz, 64kHz,
                              88.2kHz, 96kHz, ---

Note

"---" appears when this unit cannot detect the sampling frequency.

Channel   CHANNEL

The number of source channels in the input signal (front/surround/LFE). For example, a multi-channel soundtrack with 3 front channels, 2 surround channels and LFE, is displayed as "3/2/0.1".

Note

"---" appears when there is no source channel available.

Bit rate   BITRATE

The number of bits passing a given point per second.

Note

"---" appears when this unit cannot detect the bit rate.

Flag   FLAG

Flag data encoded in DTS, Dolby Digital, or PCM signals that cue this unit to automatically switch decoders.

3   Press SET MENU on the remote control again to exit from "SET MENU".

```
                        SET MENU
                        MENU
                        SRCH MODE
```

Selecting the OSD mode

You can display the operating information of this unit on a
video monitor. If you display the "SET MENU" and sound
field program parameter settings on a video monitor, it is
much easier to see the available options and parameters
than it is to read the information in the front panel display.

**1   Turn on the video monitor connected to this
unit.**

**2   Set the component selector switch to AMP
and then press DISPLAY on the remote
control repeatedly to toggle between the
OSD modes.**

The OSD mode changes in the following order.
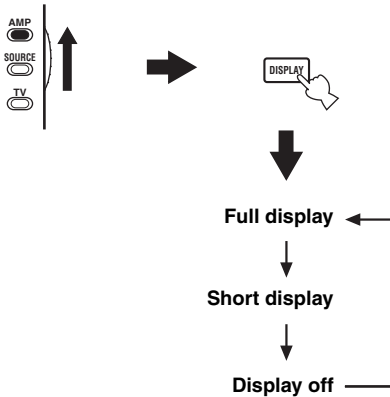
Full display

Fully shows the sound field program parameter
settings as well as the contents of the front panel
display.

Short display

Briefly shows the contents of the front panel display
at the bottom of the screen each time you operate this
unit.

Display off

No information is displayed except for the "SET
MENU" screen.
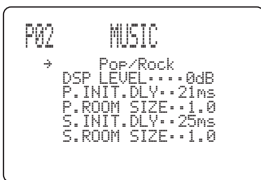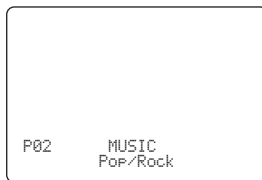
Full display   **Short display**

☼

You can display a gray background in the OSD when there
is not video signal being input by setting "GRAY BACK" in
"OPTION MENU" to "AUTO" (see page 80).

Notes

- The OSD signal is not output at the DVR OUT jacks and
will not be recorded.
- You must set "VIDEO CONV." in "OPTION MENU" to
"ON" (see page 79) to display the OSD.
- To display the OSD with the component video signals
output at the COMPONENT VIDEO MONITOR OUT
jacks, set the OSD mode to the full display mode.
- When "GRAY BACK" in "OPTION MENU" is set to
"OFF" (see page 80), the OSD may not be displayed
correctly depending on the conditions of the picture.

Playing video sources in the background

You can combine a video image from a video source with
sound from an audio source. For example, you can enjoy
listening to classical music while viewing beautiful
scenery from the video source on the video monitor.

**Press the input selector buttons on the remote
control to select a video source and then an
audio source.**

Audio sources
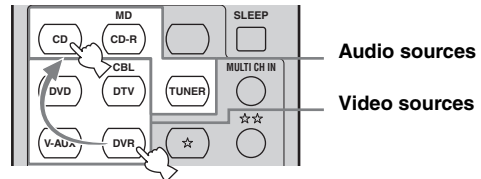
Video sources

Note

If you want to enjoy an audio source input at the MULTI CH
INPUT jacks together with a video source, first select the video
source and then press MULTI CH INPUT on the front panel (or
MULTI CH IN on the remote control) to select the component
connected to the MULTI CH INPUT jacks as the input source
(see page 38).

BASIC OPERATION

English

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ENJOYING SURROUND SOUND

Enjoying multi-channel sources in surround

If you connected a surround back speaker, use this feature to enjoy 6.1-channel playback for multi-channel sources using the Dolby Pro Logic IIx, Dolby Digital EX or DTS-ES decoders.

1   Set the component selector switch to AMP and then press EXTD SUR. on the remote control repeatedly to switch between 5.1 and 6.1-channel playback.
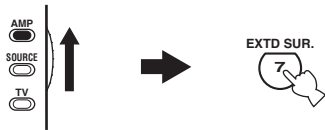
2   Press ⟨ / ⟩ repeatedly to select a decoder while "PLIIxMusic" (etc.) is displayed.
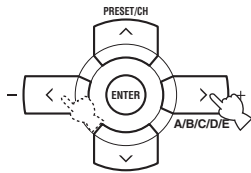
Auto AUTO
When a signal flag that can be recognized by this unit is input, this unit selects the optimum decoder to play back the signal in 6.1 channels.
If this unit cannot recognize the flag or no flag is present in the input signal, it cannot automatically be played in 6.1 channels.

Decoders
You can select from the following decoders depending on the format of the source you are playing.

Decoder	Functions
PLIIxMusic	Plays back Dolby Digital or DTS signals in 6.1 channels using the Pro Logic IIx music decoder.
EX/ES	Plays back Dolby Digital or DTS signals in 6.1 channels using the Dolby Digital EX or DTS-ES decoder.
EX	Plays back Dolby Digital or DTS signals in 6.1 channels using the Dolby Digital EX decoder.

Off OFF
Decoders are not used to create 6.1 channels.

Notes

- Some 6.1-channel compatible discs do not have a signal flag that can be automatically detected by this unit. When playing these kinds of discs in 6.1 channels, select a decoder manually from "PLIIx Music", "EX/ES" or "EX".
- 6.1-channel playback is not possible even if you press EXTD SUR. in the following cases:
  – when "SUR. L/R SP" (see page 73) or "SUR. B SP" (see page 73) is set to "NONE".
  – when the component connected to the MULTI CH INPUT jacks is being played.
  – when the source being played does not contain surround left and right channel signals.
  – when a Dolby Digital KARAOKE source is being played.
  – when the "2ch Stereo" (see page 39) or "DIRECT STEREO" (see page 39) mode is selected.
- When this unit is turned off, this setting will be reset to "AUTO".
- The Pro Logic IIx decoder is not available when "SUR. B SP" is set to "NONE" (see page 73).

Enjoying 2-channel sources in surround

Signals input from 2-channel sources can also be played back on multi-channels.

1   Set the component selector switch to AMP and then press STANDARD on the remote control repeatedly to switch between the "SUR. STANDARD" and "SUR. ENHANCED" programs or press MOVIE to select the "MOVIE THEATER" program.

STANDARD
5

or

AMP
SOURCE
TV

MOVIE
4
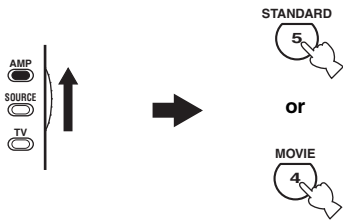
2   Press SELECT on the remote control repeatedly to select the desired decoder.

SELECT
6

You can select from the following modes depending on the type of source you are playing and your personal preference.

☆
You can also select a decoder by pressing ⟨ / ⟩ on the remote control while the decoder type is displayed in the front panel display.

SUR. STANDARD	Functions
PRO LOGIC	Dolby Pro Logic processing for any sources
PLII Movie	Dolby Pro Logic II processing for movie sources
PLII Music	Dolby Pro Logic II processing for music sources
PLII Game	Dolby Pro Logic II processing for game sources
PLIIx Movie	Dolby Pro Logic IIx processing for movie sources
PLIIx Music	Dolby Pro Logic IIx processing for music sources
PLIIx Game	Dolby Pro Logic IIx processing for game sources
Neo:6 Cinema	DTS processing for movie sources
Neo:6 Music	DTS processing for music sources

SUR. ENHANCED or MOVIE THEATER	Functions
PRO LOGIC	Dolby Pro Logic processing for any sources
PLII Movie	Dolby Pro Logic II processing for movie sources
PLIIx Movie	Dolby Pro Logic IIx processing for movie sources
Neo:6 Cinema	DTS processing for movie sources

Note

The Pro Logic IIx decoder is not available when "SUR. B SP" is set to "NONE" (see page 73).

BASIC OPERATION

English

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Using Virtual CINEMA DSP

Virtual CINEMA DSP allows you to enjoy the CINEMA DSP programs without surround speakers. It creates virtual speakers to reproduce the natural sound field. If you set "SUR. L/R SP" to "NONE" (see page 73), Virtual CINEMA DSP activates automatically whenever you select a CINEMA DSP sound field program (see page 58).

Note

Virtual CINEMA DSP will not activate even when "SUR. L/R SP" is set to "NONE" (see page 73) in the following cases:
- – when the component connected to the MULTI CH INPUT jacks is selected as the input source (see page 38).
- – when headphones are connected to the PHONES jack.
- – when the "DIRECT STEREO" (see page 39) or "2ch Stereo" mode (see page 39) is selected, or when this unit is in the "STRAIGHT" mode (see page 39).

RECORDING

Recording adjustments and other operations are performed from the recording components. Refer to the operating instructions for those components.

CAUTION

The DTS signal is a digital bitstream. Attempting to digitally record the DTS bitstream will result in noise being recorded. Therefore, if you want to use this unit to record sources encoded in DTS, the following considerations and adjustments need to be made. To play DTS-encoded DVDs and CDs (when using a digital audio connection) on your DTS-compatible player, follow its operating instructions to make a setting so that the analog signal will be output from the player.

Notes

- When this unit is set to the standby mode, you cannot record between other components connected to this unit.
- The settings of TONE CONTROL (see page 33), VOLUME, the speaker level (see page 74) and the sound field programs (see page 58) do not affect the recorded material.
- The source connected to the MULTI CH INPUT jacks of this unit cannot be recorded.
- S-video and composite video signals pass independently through the video circuits of this unit. Therefore, when recording or dubbing video signals input from a video source component that provides only an S-video or a composite video signal, you can record only an S-video or a composite video signal on your VCR.
- Digital signals input at the DIGITAL INPUT jacks are not output at the analog AUDIO OUT (REC) jacks for recording. Likewise, analog signals input at the AUDIO IN or PORTABLE jacks are not output at the DIGITAL OUTPUT jack. Therefore, if your source component is connected to provide only digital or analog signals, you can only record digital or analog signals.
- A given input source is not output on the same OUT (REC) channel.
- Check the copyright laws in your country to record from CDs, radio, etc. Recording of copyrighted material may infringe copyright laws.
- The analog audio signals input at the DOCK terminal can be output at the analog AUDIO OUT (REC) jacks for recording.

☀️
Do a test recording before you start an actual recording.

> If you play back a video source that uses scrambled or encoded signals to prevent it from being dubbed, the picture itself may be disturbed due to those signals.

2
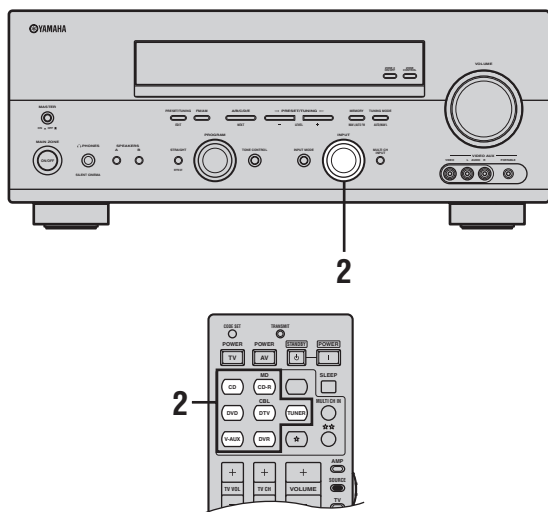
1 Turn on all the connected components.

2 Rotate the INPUT selector on the front panel (or press one of the input selector buttons on the remote control) to select the source component you want to record from.
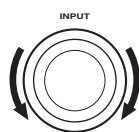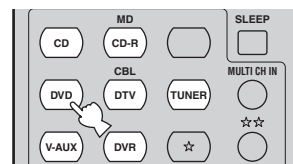
Front panel   **Remote control**

3 Start playback on the selected source component or select a broadcast station.

4 Start recording on the recording component.

FM/AM TUNING

There are 2 tuning methods: automatic and manual. Automatic tuning is effective when station signals are strong and there is no interference. If the signal from the station you want to select is weak, tune into it manually. You can also use the automatic and manual preset tuning features to store up to 40 stations (A1 to E8: 8 preset station numbers in each of the 5 preset station groups). Furthermore, you can recall any preset stations and exchange the assignment of two preset stations with each other.

Note

Orient the connected FM and AM antennas for the best reception.

Automatic tuning

Automatic tuning is effective when station signals are strong and there is no interference.

3 2   4 1 3
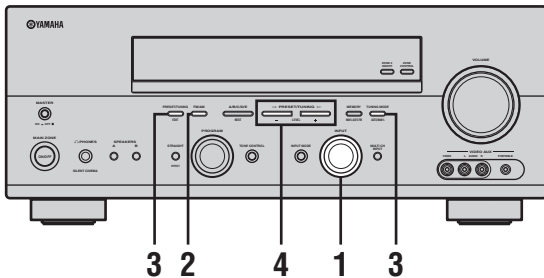
1   Rotate the INPUT selector to select "TUNER" as the input source.

Front panel

2   Press FM/AM to select the reception band.
"FM" or "AM" appears in the front panel display.

FM   **or**   AM

3   Press TUNING MODE (AUTO/MAN'L) so that the AUTO indicator lights up in the front panel display.

No colon (:)   Lights up
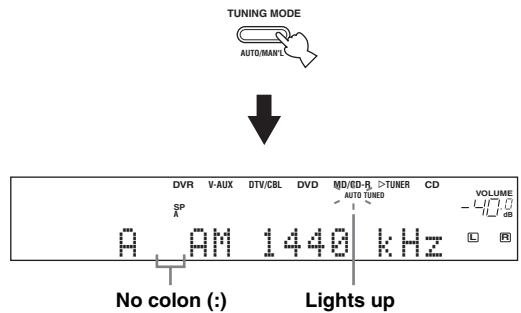
If a colon (:) appears in the front panel display, tuning is not possible. Press PRESET/TUNING to turn the colon (:) off.
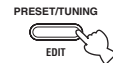
4   Press PRESET/TUNING ◁ / ▷ once to begin automatic tuning.
When this unit is tuned into a station, the TUNED indicator lights up and the frequency of the received station is shown in the front panel display.
- Press ▷ to tune into a higher frequency.
- Press ◁ to tune into a lower frequency.

Lights up

46
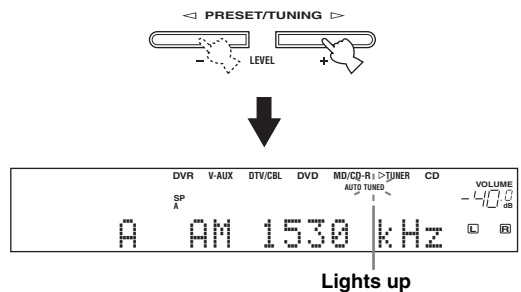
Manual tuning

If the signal received from the station you want to select is weak, tune into it manually.

Note

Manually tuning into an FM station automatically switches the tuner to monaural reception to increase the signal quality.

3 2   4 1   3

1   Rotate the INPUT selector to select "TUNER" as the input source.

INPUT

Front panel

2   Press FM/AM to select the reception band.
"FM" or "AM" appears in the front panel display.

FM/AM → FM **or** AM

3   Press TUNING MODE (AUTO/MAN'L) so that the AUTO indicator disappears from the front panel display.

TUNING MODE

AUTO/MAN'L

DVR   V-AUX   DTV/CBL   DVD   MD/CD-R ▷TUNER   CD   VOLUME
                                            TUNED   –4□.□ dB
SP
A
A   AM 1440 kHz   L   R
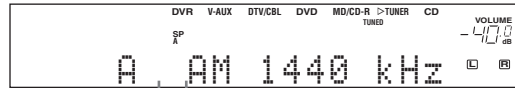
No colon (:)

If a colon (:) appears in the front panel display, tuning is not possible. Press PRESET/TUNING to turn the colon (:) off.

PRESET/TUNING

EDIT
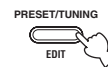
4   Press PRESET/TUNING ◁ / ▷ to tune into the desired station manually.
Hold down the button to continue searching.

◁ PRESET/TUNING ▷

– LEVEL +

47

Automatic preset tuning

You can use the automatic preset tuning feature to store FM stations with strong signals up to 40 (A1 to E8: 8 preset station numbers in each of the 5 preset station groups) of those stations in order. You can then recall any preset station easily by selecting the preset station number.
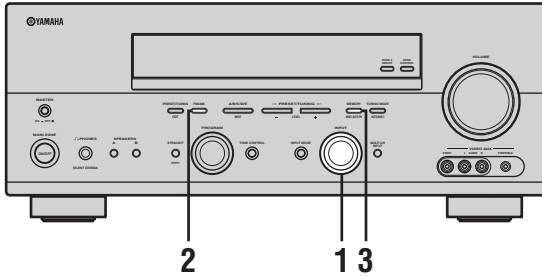
1   Rotate the INPUT selector to select "TUNER" as the input source.
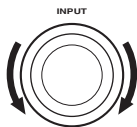
Front panel

2   Press FM/AM to select "FM" as the reception band.

"FM" appears in the front panel display.

3   Press and hold MEMORY (MAN'L/AUTO FM) for more than 3 seconds.

The preset station number as well as the MEMORY and AUTO indicators flashes. After approximately 5 seconds, automatic presetting starts from the current frequency and proceeds toward the higher frequencies.

Flash

Flashes
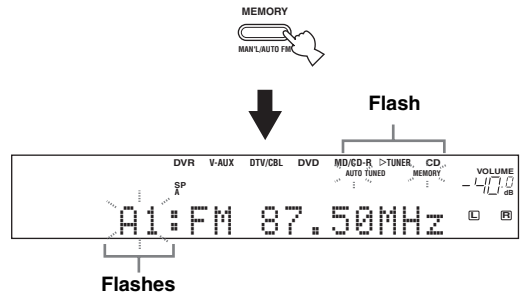
When automatic preset tuning is completed, the front panel display shows the frequency of the last preset station.

☀️
You can specify the preset number from which this unit stores FM stations and/or begins tuning toward lower frequencies. For details, see "Automatic preset tuning options" on page 49.

Notes

• Any stored station data existing under a preset station number is cleared when you store a new station under the same preset station number.
• If the number of received stations does not reach 40 (E8), automatic preset tuning automatically stops after searching for all the available stations.
• Only FM stations with sufficient signal strength are stored automatically by automatic preset tuning. If the station you want to store is weak in signal strength, tune into it manually and store it as described in "Manual preset tuning" on page 49.

■ Automatic preset tuning options

You can specify the preset number from which this unit stores FM stations and/or begins tuning toward lower frequencies.

Note

First carry out steps 1 through 3 in "Automatic preset tuning" on page 48.

• **Press A/B/C/D/E and then PRESET/TUNING ◁ / ▷ to select the preset station number under which the first station will be stored.**

Automatic preset tuning stops when stations have all been stored up to E8.

A/B/C/D/E
NEXT

◁ PRESET/TUNING ▷
– LEVEL +

• **Press PRESET/TUNING so that the colon (:) disappears from the front panel display and then press PRESET/TUNING ◁ to begin tuning toward lower frequencies.**

PRESET/TUNING
EDIT

◁ PRESET/TUNING ▷
– LEVEL +

Manual preset tuning

You can also store up to 40 stations (A1 to E8: 8 preset station numbers in each of the 5 preset station groups) manually.

3   4   2,5
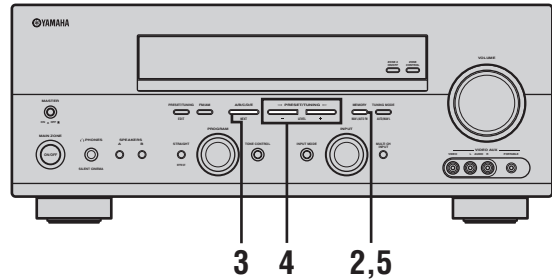
1   Tune into a station automatically or manually.

See pages 46 and 47 for tuning instructions.

```
          DVR  V-AUX  DTV/CBL  DVD  MD/CD-R ▷TUNER  CD    VOLUME
                                            TUNED         -40.0
     SP                                                       dB
     A
     A    AM    630  kHz                              L    R
```
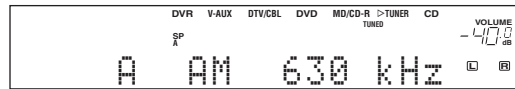
When this unit is tuned into a station, the front panel display shows the frequency of the station received.

2   Press MEMORY (MAN'L/AUTO FM).

The MEMORY indicator flashes in the front panel display for approximately 5 seconds.

MEMORY
MAN'L/AUTO FM

⋯⋯ MEMORY ⋯⋯

Flashes

3   Press A/B/C/D/E repeatedly to select a preset station group (A to E) while the MEMORY indicator is flashing.

The selected preset station group letter appears. Check that the colon (:) appears in the front panel display.

A/B/C/D/E
NEXT

Flashes

```
          DVR  V-AUX  DTV/CBL  DVD  MD/CD-R ▷TUNER  CD    VOLUME
                                            TUNED  MEMORY -40.0
     SP                                                       dB
     A
     C   :AM    630  kHz                             L    R
```

Preset station   Colon (:)
group

BASIC OPERATION

English
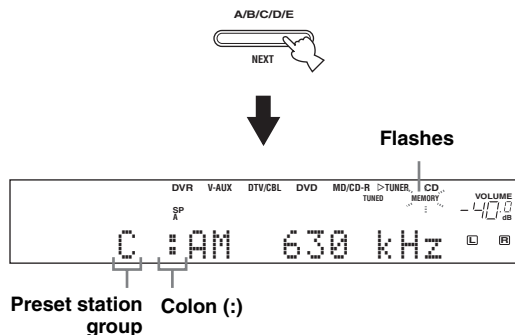
4 Press PRESET/TUNING ◁ / ▷ to select a preset station number (1 to 8) while the MEMORY indicator is flashing.

- Press ▷ to select a higher preset station number.
- Press ◁ to select a lower preset station number.

◁ **PRESET/TUNING** ▷

– LEVEL +

↓

Flashes

DVR V-AUX DTV/CBL DVD MD/CD-R ▷TUNER CD
TUNED MEMORY
SP
A

C3:AM   630 kHz   □ ℝ

VOLUME
– 40.0 dB

Preset station number
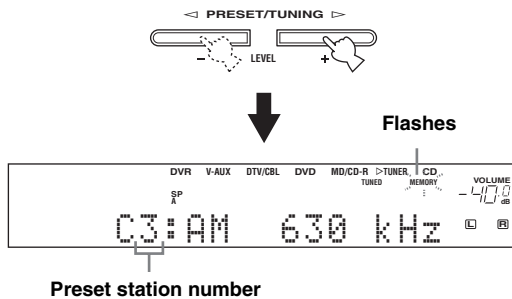
5 Press MEMORY (MAN'L/AUTO FM) while the MEMORY indicator is flashing.

The station band and frequency appear in the front panel display with the preset station group and number you have selected. The MEMORY indicator disappears from the front panel display.

MEMORY

MAN'L/AUTO FM

↓

DVR V-AUX DTV/CBL DVD MD/CD-R ▷TUNER CD
TUNED
SP
A

C3:AM   630 kHz   □ ℝ

VOLUME
– 40.0 dB

The displayed station has been stored as C3.
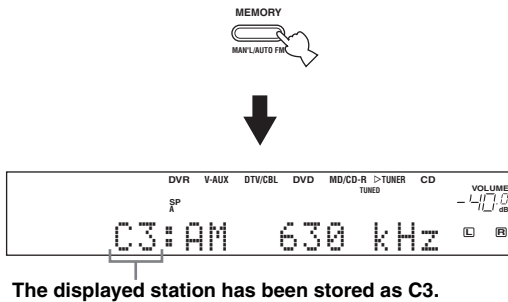
6 Repeat steps 1 through 5 to store other stations.

Notes

- Any stored station data existing under a preset station number is cleared when you store a new station under the same preset station number.
- The reception mode (stereo or monaural) is stored along with the station frequency.

Selecting preset stations

You can tune into any desired station simply by selecting the preset station group and number under which it was stored.
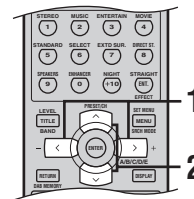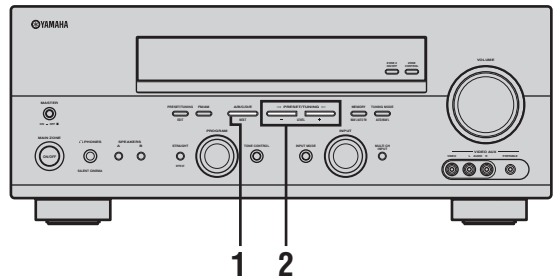
✦
When performing this operation with the remote control, set the component selector switch to SOURCE and then press TUNER to select "TUNER" as the input source.

1 Press A/B/C/D/E on the front panel (or A/B/C/D/E ⟨ / ⟩ on the remote control) to select the desired preset station group (A to E).

The preset station group letter appears in the front panel display and changes each time you press the button.

A/B/C/D/E

NEXT

or

PRESET/CH

– ⟨ ENTER ⟩ +

A/B/C/D/E

Front panel   **Remote control**

50
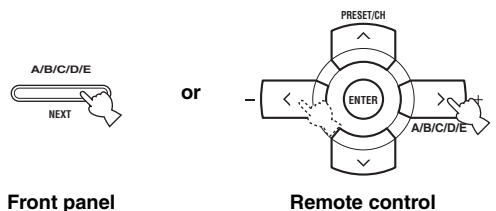
2 **Press PRESET/TUNING ◁ / ▷ on the front panel (or PRESET/CH ∧ / ∨ on the remote control) to select the desired preset station number (1 to 8).**

The preset station group and number appear in the front panel display along with the station band and frequency.

Front panel   **Remote control**

```
                DVR  V-AUX  DTV/CBL  DVD  MD/CD-R ▷TUNER  CD
                                              TUNED           VOLUME
              SP                                          - 40.0
              A                                                dB
          E1:FM  87.50MHz        L  R
```
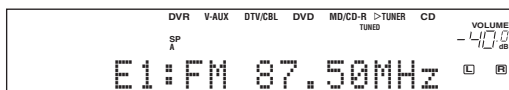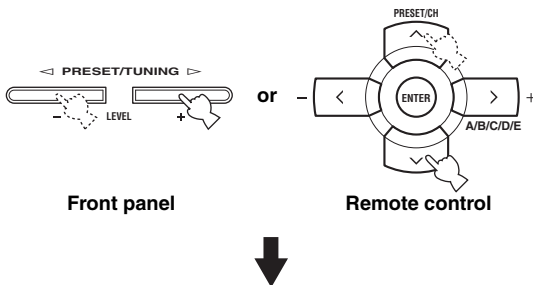
Exchanging preset stations

You can exchange the assignments of two preset stations with each other. The example below describes the procedure to exchange preset station "E1" with "A5".

2,4   **1,3**
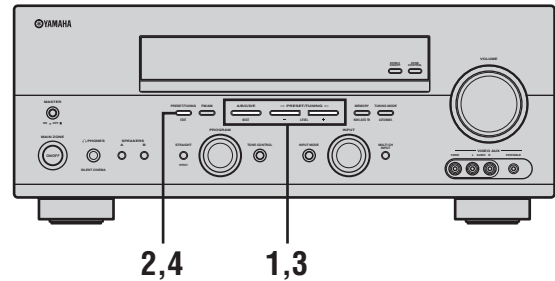
1 **Select preset station "E1" using A/B/C/D/E and PRESET/TUNING ◁ / ▷.**

See "Selecting preset stations" on page 50.

2 **Press and hold EDIT for more than 3 seconds.**

"E1" and the MEMORY indicator flash in the front panel display.

```
                    PRESET/TUNING

                        EDIT
```

Flashes

```
                DVR  V-AUX  DTV/CBL  DVD  MD/CD-R ▷TUNER  CD
                                              TUNED       MEMORY  VOLUME
              SP                                          - 40.0
              A                                                dB
          E1:FM  87.50MHz        L  R
```

Flashes

BASIC OPERATION

English

51
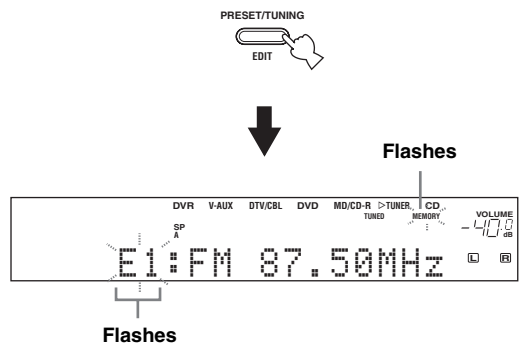
3 **Select preset station "A5" using A/B/C/D/E and PRESET/TUNING ◁ / ▷.**

"A5" and the MEMORY indicator flash in the front panel display.
See "Selecting preset stations" on page 50.

Flashes

Flashes
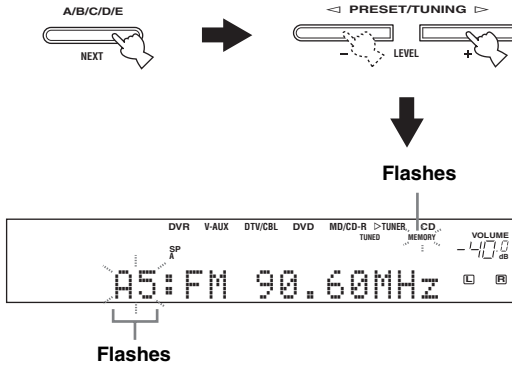
4 **Press EDIT again.**

"EDIT E1–A5" appears in the front panel display and the assignments of the two preset stations are exchanged.

52
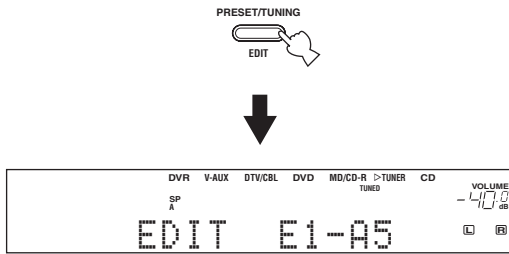
RADIO DATA SYSTEM TUNING
(U.K. AND EUROPE MODELS ONLY)

Radio Data System (U.K. and Europe models only) is a data transmission system used by FM stations in many countries. The Radio Data System function is carried out among the network stations. This unit can receive various Radio Data System data such as PS (program service), PTY (program type), RT (radio text), CT (clock time), and EON (enhanced other networks) when receiving Radio Data System broadcasting stations.

Selecting the Radio Data System program

Use this feature to select one of the 15 Radio Data System program types and search for all the available preset stations of the selected program type.
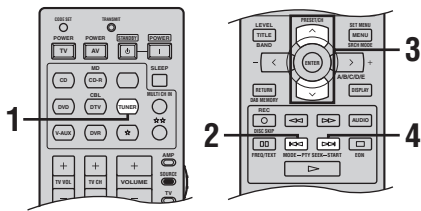
1   Press TUNER on the remote control to select "TUNER" as the input source.

2   Press PTY SEEK MODE on the remote control to set this unit to the PTY SEEK mode.

The name of the program type or "NEWS" flashes in the front panel display.

Flashes
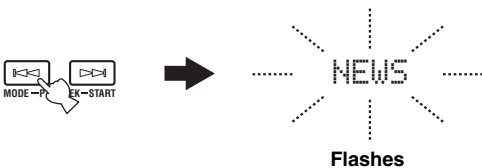
☆⁻
To cancel the PTY SEEK mode, press PTY SEEK MODE on the remote control again.

3   Press PRESET/CH ∧ / ∨ on the remote control to select the desired program type.

The name of the selected program type appears in the front panel display.

Lights up
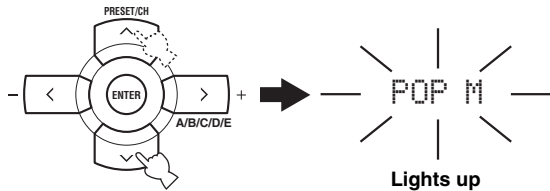
Program type	Descriptions
NEWS	News
AFFAIRS	Current affairs
INFO	General information
SPORT	Sports
EDUCATE	Education
DRAMA	Drama
CULTURE	Culture
SCIENCE	Science
VARIED	Light entertainment
POP M	Popular music
ROCK M	Rock music
M.O.R. M	Middle-of-the-road music (easy-listening)
LIGHT M	Light classics
CLASSICS	Serious classics
OTHER M	Other music

BASIC OPERATION

English

53

4 Press PTY SEEK START on the remote control to start searching for all the available Radio Data System preset stations.

The name of the selected program type flashes and the PTY HOLD indicator lights up in the front panel display while this unit is searching for stations.

Flashes   **Lights up**

☀
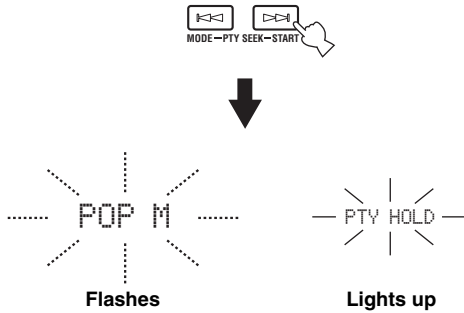
To stop searching for stations, press PTY SEEK START on the remote control again.

Notes

- This unit stops searching for stations when a station broadcasting the selected program type is found.
- If the station found is not the one you desire, press PTY SEEK START again to resume searching for another station broadcasting the same program type.

Using the Radio Data System station network

Use this feature to receive the EON (enhanced other networks) data service of the Radio Data System station network. Once you select one of the 4 Radio Data System program types (NEWS, AFFAIRS, INFO, or SPORT), this unit automatically searches for all the available preset stations that are scheduled to broadcast the EON data service of the selected program type for a certain duration of time. When the scheduled EON data service starts, this unit automatically switches to the local station broadcasting the EON data service and then switches back to the national station once the EON data service ends.

Notes

- You can use this feature only when the EON data service is available.
- The EON indicator lights up in the front panel display only when the EON data service is being received from a Radio Data System station.
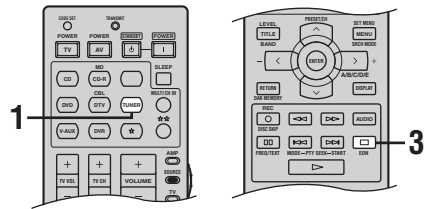
1 Press TUNER on the remote control to select "TUNER" as the input source.

2 Make sure the EON indicator is lit in the front panel display.

If the EON indicator is not lit in the front panel display, select another Radio Data System program so that the EON indicator lights up.

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3   Press EON on the remote control repeatedly to select one of the 4 Radio Data System program types (NEWS, AFFAIRS, INFO or SPORT).

The name of the selected program type appears in the front panel display.

Lights up

☼
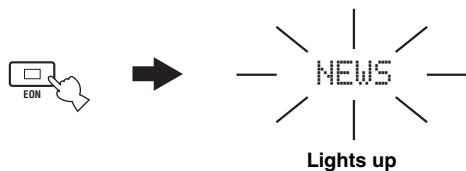
To cancel the EON feature, press EON on the remote control repeatedly until the name of the program type disappears and "EON OFF" appears in the front panel display.

Displaying the Radio Data System information

Use this feature to display the 4 types of the Radio Data System information: PS (program service), PTY (program type), RT (radio text) and CT (clock time). The corresponding indicators light up in the front panel display.

Notes

• You can select one of the Radio Data System modes only when the corresponding Radio Data System indicator lights up in the front panel display. It may take a while for this unit to receive all of the Radio Data System data from the station.
• You can select only the available Radio Data System modes being offered by the station.
• If the signals being received are not strong enough, this unit may not be able to utilize the Radio Data System data. In particular, the "RT" mode requires a large amount of data and may not be available even when the other Radio Data System modes are available.
• In case of poor reception conditions, press TUNING MODE (AUTO/MAN'L) on the front panel so that the AUTO indicator disappears from the front panel display.
• If the signal strength is weakened by external interference while this unit is receiving the Radio Data System data, the reception may be cut off unexpectedly and "...WAIT" appears in the front panel display.
• When the "RT" mode is selected, this unit can display the program information by a maximum of 64 alphanumeric characters, including the umlaut symbol. Unavailable characters are displayed with the "_" (underscore).
• If the reception is cut off when the "CT" mode is selected, "CT WAIT" appears in the front panel display.

1   Press TUNER on the remote control to select "TUNER" as the input source.

BASIC OPERATION

English

55
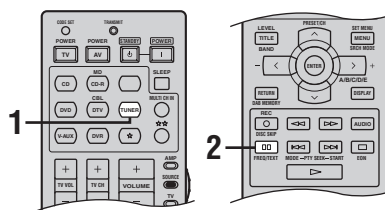
2   Press FREQ/TEXT on the remote control repeatedly to select the desired Radio Data System display mode.

PS → PTY → RT → CT

Frequency display
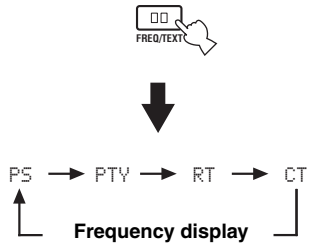
• Select "PS" to display the name of the Radio Data System program currently being received.
• Select "PTY" to display the type of the Radio Data System program currently being received.
• Select "RT" to display the information on the Radio Data System program currently being received.
• Select "CT" to display the current time.

56

SOUND FIELD PROGRAMS

What really creates the rich, full tones of a live instrument are the multiple reflections from the walls of the room. In addition to making the sound live, these reflections enable us to tell where the player is situated as well as the size and shape of the room in which we are sitting.

■ Elements of a sound field

There are two distinct types of sound reflections that combine to make up the sound field in addition to the direct sound coming straight to our ears from the player's instrument.

Early reflections

Reflected sounds reach our ears extremely rapidly (50 ms to 100 ms after the direct sound), after reflecting from one surface only (for example, from a wall or the ceiling). Early reflections actually add clarity to the direct sound.

Reverberations

These are caused by reflections from more than one surface (for example, from the walls, and the ceiling) so numerous that they merge together to form a continuous sonic afterglow. They are non-directional and lessen the clarity of the direct sound.

Direct sound, early reflections and subsequent reverberations taken together help us to determine the subjective size and shape of the room, and it is this information that the digital sound field processor reproduces in order to create sound fields.

If you could create the appropriate early reflections and subsequent reverberations in your listening room, you would be able to create your own listening environment. The acoustics in your room could be changed to those of a concert hall, a dance floor, or a room with virtually any size at all. This ability to create sound fields at will is exactly what YAMAHA has done with the digital sound field processor.

Selecting sound field programs

Notes

• Choose a sound field program based on your listening preference, not merely on the name of the program.
• When you select an input source, this unit automatically selects the last sound field program used with the corresponding input source.
• Sound field programs cannot be selected when the component connected to the MULTI CH INPUT jacks is selected as the input source (see page 38).
• Sampling frequencies higher than 48 kHz (except for DTS 96/24 signals) are sampled down to 48 kHz and then sound field programs are applied.

■ Front panel operations
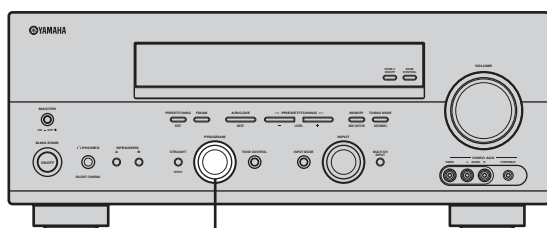
PROGRAM selector

Rotate the PROGRAM selector on the front panel.
The name of the selected sound field program appears in the front panel display and in the OSD.

■ Remote control operations
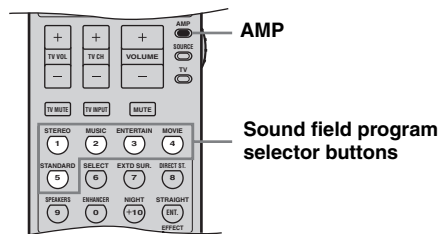
AMP

Sound field program selector buttons

Set the component selector switch to AMP and then press one of the sound field program selector buttons on the remote control repeatedly.
The name of the selected sound field program appears in the front panel display and in the OSD.

Sound field program descriptions

This unit is equipped with a variety of precise digital decoders that allow you to enjoy multi-channel playback from almost any stereo or multi-channel sound source. This unit is also equipped with a YAMAHA digital sound field processing (DSP) chip containing several sound field programs which you can use to enhance your playback experience.

☀
The YAMAHA CINEMA DSP modes are compatible with all Dolby Digital, DTS, and Dolby Surround sources. Set "INPUT MODE" to "AUTO" (see page 35) to enable this unit to automatically switch to the appropriate digital decoder according to the input signal.

Notes

• The DSP sound field programs of this unit are recreations of real-world acoustic environments made from precise measurements taken in the actual concert hall, music venue, movie theater, etc. Thus, you may notice variations in the strength of the reflections coming from the front, back, left and right.
• Choose a sound field program based on your listening preference, not merely on the name of the program itself.

■ For movie/video sources

You can select from the following sound fields when playing movie or video sources. The sound fields marked "MULTI" can be used with multi-channel sources, like DVD, digital TV, etc. Those marked "2-CH" can be used with 2-channel stereo sources like TV programs, video tapes, etc.

☀
Rotate the PROGRAM selector on the front panel (or set the component selector switch to AMP and then press one of the sound field program selector buttons on the remote control) to select the desired sound field program (see page 57).

Remote control button	Sound field program	Features	Sources
1	STEREO 2ch Stereo	Downmixes multi-channel sources to 2 channels or plays back 2-channel sources as they are.	
2	MUSIC Pop/Rock	CINEMA DSP processing. Creates an enthusiastic atmosphere where you can feel as if you are in an actual jazz or rock concert.	
3	ENTERTAINMENT TV Sports	CINEMA DSP processing. Reproduces the sound environment of a large concert hall using the surround sound field to enhance your experience of watching various TV programs such as news, variety shows, music programs or sports programs.	**MULTI 2-CH**
	ENTERTAINMENT Mono Movie	CINEMA DSP processing. Reproduces monaural video sources (such as old movies) at the optimum reverberation level to create sound depth using only the presence sound field.	
	ENTERTAINMENT Game	CINEMA DSP processing. Adds a deep and spatial feeling to video game sounds.	

Remote control button	Sound field program	Features	Sources
4	MOVIE THEATER Spectacle	CINEMA DSP processing. This program reproduces the extremely wide sound field of a 70-mm movie theater in detail, making both the video and the sound field incredibly real. This is ideal for any kind of video source encoded in Dolby Surround, Dolby Digital or DTS, especially large-scale movie productions.	**MULTI 2-CH**
	MOVIE THEATER Sci-Fi	CINEMA DSP processing. This program reproduces dialog and sound effects in the latest sound form for science fiction films, thus creating a broad and expansive cinematic space amid silence. You can enjoy science fiction films encoded in Dolby Surround, Dolby Digital or DTS in a virtual-space sound field employing the most advanced techniques.	
	MOVIE THEATER Adventure	CINEMA DSP processing. This program reproduces the sound design of the newest 70-mm and multi-channel soundtrack films similar to the sound field of the newest movie theaters, so the reverberations of the sound field itself are restrained as much as possible.	
	MOVIE THEATER General	CINEMA DSP processing. This program reproduces sounds from 70-mm and multi-channel soundtrack films characterized by soft and extensive sound field.	
5	SUR. STANDARD	Standard processing for the selected decoder.	
	SUR. ENHANCED	Enhanced processing for the selected decoder.	

■ For music sources

You can select from the following sound fields when playing music sources, like CD, FM/AM broadcasting, tapes, etc.

☼

Rotate the PROGRAM selector on the front panel (or set the component selector switch to AMP and then press one of the sound field program selector buttons on the remote control) to select the desired sound field program (see page 57).

Remote control button	Sound field program	Features	Sources
1	STEREO 2ch Stereo	Plays back 2-channel sources.	**2-CH**
	STEREO 6ch Stereo	Plays back 2-channel sources from all speakers in 6.1 channels, providing a larger sound field ideal for background music at parties, etc.	
2	MUSIC Hall in Vienna	HiFi DSP processing. The program reproduces a classic shoe-box type concert hall with approximately 1700 seats. Pillars and ornate carvings create extremely complex reflections which produce a very full, rich sound.	**MULTI 2-CH**
	MUSIC The Bttm Line	HiFi DSP processing. This program reproduces the stage front in "The Bottom Line", a famous New York jazz club where 300 people can be seated.	
	MUSIC The Roxy Thtr	HiFi DSP processing. This program reproduces the dynamic rock music environment of "The Roxy Theatre", one of the hottest rock clubs in L.A.The listener's imaginary seat is at the center-left of the hall.	
3	ENTERTAINMENT Disco	HiFi DSP processing. This program reproduces the acoustic environment of a lively disco in the heart of a big city to create a highly concentrated and energetic sound.	
5	SUR. STANDARD	Standard processing for the selected decoder.	
	SUR. ENHANCED	Enhanced processing for the selected decoder.	

SOUND FIELD PROGRAMS

English

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Changing sound field parameter settings

You can enjoy good quality sound with the initial factory settings. Although you do not have to change the initial factory settings, you can change some of the parameters to better suit the input source or your listening room.

Notes

- Use the "PARAM. INI" feature in "OPTION MENU" to initialize the parameters of each sound field program within a sound field program group (see page 80).
- When you set a sound field parameter to a value other than the initial factory settings, an asterisk mark (*) appears by the sound field parameter name in the OSD.
- You cannot change the sound field parameter values when "MEMORY GUARD" in "OPTION MENU" is set to "ON" (see page 80). If you want to change the sound field parameter values, set "MEMORY GUARD" to "OFF".

- For details about the function and control range of each sound field parameter, see page 61.
- Repeat steps 3 and 4 as necessary to change other sound field program parameter settings.
- The available sound field parameters for some of the sound field programs may be displayed on more than one page in the OSD. In this case, press ∧ / ∨ to scroll through pages.
- If you press and hold ⟨ / ⟩ to change the sound field parameter value, the initial factory settings are shown momentarily in the front panel display.
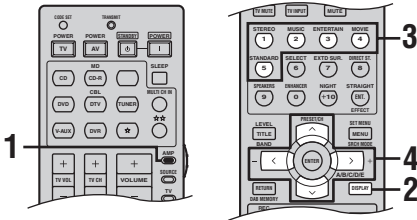
1   **Set the component selector switch to AMP.**

2   **Turn on the video monitor and then press DISPLAY on the remote control.**
The following display is shown in the OSD.

Sound field program category

Cursor

Sound field parameters   **Sound field parameter values**
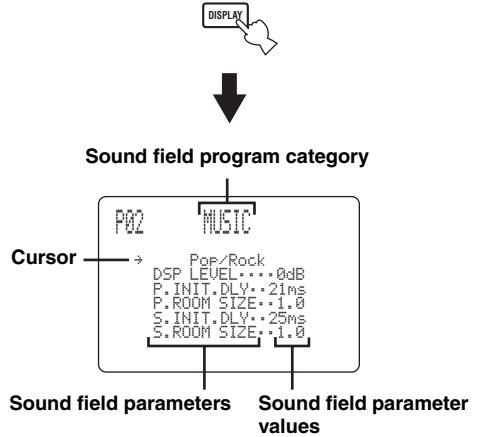
3   **Press one of the sound field program selector buttons repeatedly to select the desired sound field program you want to adjust.**
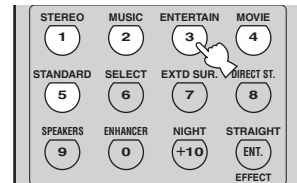
4   **Press ∧ / ∨ to select the desired sound field parameter and then ⟨ / ⟩ to change the selected sound field parameter value.**

- Press ⟩ to increase the value.
- Press ⟨ to decrease the value.
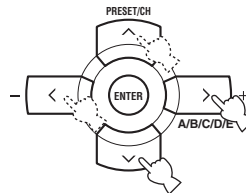
■ Sound field parameter descriptions

You can adjust the values of certain digital sound field parameters so that the sound fields are recreated accurately in your listening room. Not all of the following parameters are found in every program.

☀️

To change sound field parameter settings to suit your listening environment, see page 60 for details.

Sound field parameter	Features
DSP LEVEL	DSP level. Adjusts the level of all the DSP effect sounds within a narrow range. Depending on the acoustics of your listening room, you may want to increase or decrease the DSP effect level relative to the level of the direct sound.
	Control range: –6 dB to +3 dB
INIT.DLY P.INIT.DLY S.INIT.DLY SB INI.DLY	Initial delay. Presence, surround, and surround back initial delay. Changes the apparent distance from the source sound by adjusting the delay between the direct sound and the first reflection heard by the listener. The smaller the value, the closer the sound source seems to the listener. The larger the value, the farther it seems. For a small room, set to a small value. For a large room, set to a large value.
	Control range: 1 to 99 ms (INIT.DLY and P.INIT.DLY) 1 to 49 ms (S.INIT.DLY and SB INI.DLY)

Small value = 1 ms   Large value = 99 ms

Sound field parameter	Features
ROOM SIZE P.ROOM SIZE S.ROOM SIZE SB ROOM SIZE	Room size. Presence, surround, and surround back room size. Adjusts the apparent size of the surround sound field. The larger the value, the larger the surround sound field becomes. As the sound is repeatedly reflected around a room, the larger the hall is, the longer the time between the original reflected sound and the subsequent reflections. By controlling the time between the reflected sounds, you can change the apparent size of the virtual venue. Changing this parameter from one to two doubles the apparent length of the room.

Control range: 0.1 to 2.0

LIVENESS
S.LIVENESS
SB LIVENESS — Liveness. Surround and surround back liveness. Adjusts the reflectivity of the virtual walls in the hall by changing the rate at which the early reflections decay. The early reflections of a sound source decay much faster in a room with acoustically absorbent wall surfaces than in one which has highly reflective surfaces. A room with acoustically absorbent surfaces is referred to as "dead", while a room with highly reflective surfaces is referred to as "live". This parameter lets you adjust the early reflection decay rate and thus the "liveness" of the room.

Control range: 0 to 10

62
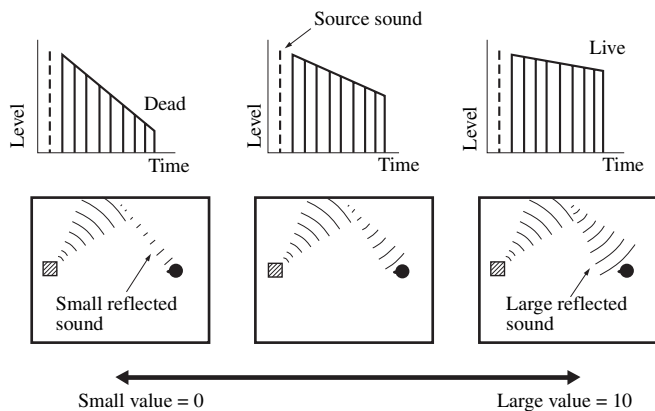
Sound field parameter	Features
REV.TIME	Reverberation time. Adjusts the amount of time taken for the dense, subsequent reverberation sound to decay by 60 dB at 1 kHz. This changes the apparent size of the acoustic environment over an extremely wide range. Set a longer reverberation time for "dead" sources and listening room environments, and a shorter time for "live" sources and listening room environments.

Control range: 1.0 to 5.0 s

Small value = 1.0 s	Large value = 5.0 s
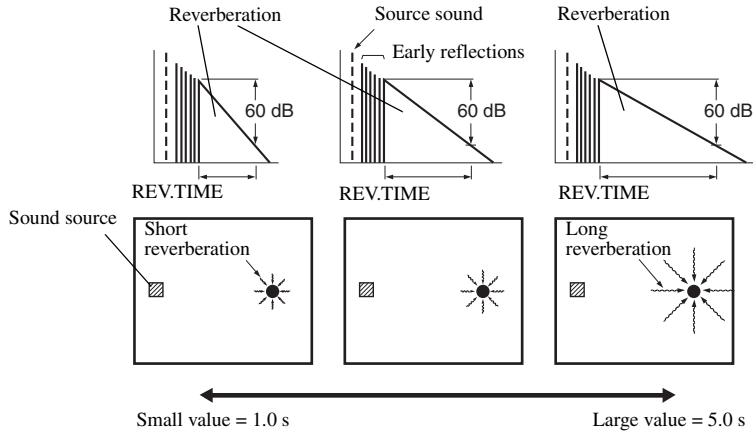
REV.DELAY	Reverberation delay. Adjusts the time difference between the beginning of the direct sound and the beginning of the reverberation sound. The larger the value, the later the reverberation sound begins. A later reverberation sound makes you feel as if you are in a larger acoustic environment.

Control range: 0 to 250 ms
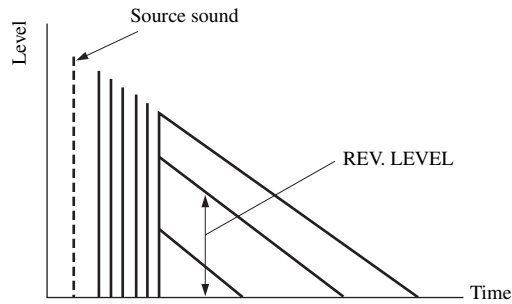
Sound field parameter	Features
REV.LEVEL	Reverberation level. Adjusts the volume of the reverberation sound. The larger the value, the stronger the reverberation becomes.
	Control range: 0 to 100%

2ch Stereo DIRECT	2-channel stereo direct. Bypasses the decoders and DSP processors of this unit for pure hi-fi stereo sound when playing 2-channel analog sources.
	Choices: **AUTO**, OFF
	☼ • The "AUTO" setting bypasses the decoders and DSP processors only when "BASS" and "TREBLE" are set to 0 dB (see page 33). • When multi-channel signals (Dolby Digital and DTS) are input, they are downmixed to 2 channels and output from the front left and right speakers. • The low-frequency signals input from the front left and right speakers are redirected to the subwoofer in the following cases: – "LFE/BASS OUT" is set to "BOTH" (see page 73). – "FRONT SP" is set to "SMALL" (see page 72) and "LFE/BASS OUT" is set to "SWFR" (see page 73).
6ch Stereo CT LEVEL SL LEVEL SR LEVEL SB LEVEL	6-channel stereo center, surround left, surround right and surround back levels. Adjusts the volume level of each channel in the 6-channel stereo mode.
	Control range: 0 to 100%

Sound field parameter	Features
PRO LOGIC IIx Music PRO LOGIC II Music PANORAMA	Pro Logic IIx Music and Pro Logic II Music panorama. Sends stereo signals to the surround speakers as well as the front speakers for a wraparound effect.
	Choices: **OFF**, ON
PRO LOGIC IIx Music PRO LOGIC II Music DIMENSION	Pro Logic IIx Music and Pro Logic II Music dimension. Adjusts the sound field either towards the front or towards the rear.
	Control range: –3 (towards the rear) to +3 (towards the front)
	Initial setting: STD (standard)
PRO LOGIC IIx Music PRO LOGIC II Music CENTER WIDTH	Pro Logic IIx Music and Pro Logic II Music center width. Moves the center channel output completely towards the center speaker or towards the front left and right speakers. A larger value moves the center channel output towards the front left and right speakers.
	Control range: 0 (center channel sound is output only from the center speaker) to 7 (center channel sound is output only from the front left and right speakers)
	Initial setting: 3
DTS Neo:6 Music C.IMAGE	DTS Neo:6 Music center image. Adjusts the front left and right channel output relative to the center channel to make the center channel more or less dominant as necessary.
	Control range: 0.0 to 1.0
	Initial setting: 0.3

☀

The "PRO LOGIC IIx Music", "PRO LOGIC II Music", and "DTS Neo:6 Music" parameters can be set only when "SUR. STANDARD" is selected. Set the component selector switch to AMP and then press STANDARD on the remote control repeatedly to select "SUR. STANDARD" (see page 43).

SOUND FIELD PROGRAMS

English

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Sound field program speaker layouts

Sound output from each speaker depends on the type of audio signals being input. Refer to the diagrams in the table below to understand the speaker layout for each sound field program.

Note

Be advised that there may be no or not enough sound output from speakers depending on the type of input source being played back. Furthermore, there may be some channels that can only be used partially when they are adjusted to specific aspects of movies, such as special sound effects, etc.

☀
Except for "2ch Stereo", "6ch Stereo", and "STRAIGHT", you can select a decoder to output sound from the surround back speaker (see page 42).

The abbreviations and symbols used in each diagram are as follows:

L	Front left speaker	SL	Surround left speaker
C	Center speaker	SR	Surround right speaker
R	Front right speaker	SB	Surround back speaker
🔊	Speaker from which sound is being output	☐	Speaker from which no sound is being output

* When the ⚫⚫ EX / ⚫⚫ PL IIx / ES indicators are turned off in the front panel display

Sound field program	2-channel audio (monaural)	2-channel audio (stereo)	5.1/6.1-channel audio *
STEREO 2ch Stereo	L(on), C, R(on), SL, SR, SB	L(on), C, R(on), SL, SR, SB	L(on), C, R(on), SL, SR, SB
STEREO 6ch Stereo	L(on), C(on), R(on), SL(on), SR(on), SB(on)	L(on), C(on), R(on), SL(on), SR(on), SB(on)	L(on), C(on), R(on), SL(on), SR(on), SB(on)
MUSIC Hall in Vienna The Bttm Line The Roxy Thtr ENTERTAINMENT Disco	L(on), C, R(on), SL(on), SR(on), SB	L(on), C, R(on), SL(on), SR(on), SB	L(on), C(on), R(on), SL(on), SR(on), SB
MUSIC Pop/Rock ENTERTAINMENT TV Sports Mono Movie Game	L(on), C(on), R(on), SL(on), SR(on), SB	L(on), C(on), R(on), SL(on), SR(on), SB	L(on), C(on), R(on), SL(on), SR(on), SB

Sound field program	2-channel audio (monaural)	2-channel audio (stereo)	5.1/6.1-channel audio *

MOVIE THEATER
  Spectacle
  Sci-Fi
  Adventure
  General			

SUR. STANDARD
  DOLBY DIGITAL
  PRO LOGIC
  DTS
	
	Pro Logic
		
		Pro Logic	

SUR. STANDARD
  PLII Movie
  PLII Music
  PLII Game
  PLIIx Movie
  PLIIx Music
  PLIIx Game
	
	Pro Logic II/Pro Logic IIx
		
		Pro Logic II
		
		Pro Logic IIx	

SUR. STANDARD
  Neo:6 Cinema
  Neo:6 Music
	
	Cinema
	
	Music
		
		Cinema/Music	

SUR. ENHANCED
  DOLBY DIGITAL
  PRO LOGIC
  DTS
	
	Pro Logic
		
		Pro Logic	

SOUND FIELD PROGRAMS

English

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Sound field program	2-channel audio (monaural)	2-channel audio (stereo)	5.1/6.1-channel audio *

SUR. ENHANCED
  PLII Movie
  PLIIx Movie
		
		Pro Logic II
		
		Pro Logic IIx	

SUR. ENHANCED Neo:6 Cinema			
STRAIGHT	 Monaural playback		
DIRECT STEREO	 Monaural playback		

SET MENU

You can use the following parameters in "SET MENU" to adjust a variety of system settings and customize the way this unit operates. Change the initial settings (indicated in bold under each parameter) to reflect the needs of your listening environment.

■ **Basic setup** BASIC SETUP
Use this feature to set up your system quickly and with minimal effort (see page 29).

■ **Manual setup** MANUAL SETUP
Use this feature to manually adjust speaker and system parameters.

Sound menu 1 SOUND MENU
Use this menu to manually adjust any speaker settings, alter the quality and tone of the sound output by the system or compensate for video signal processing delays when using LCD monitors or projectors.

Parameter	Features	Page
A)SPEAKER SET	Selects the size of each speaker, the speakers for low-frequency signal output, and the crossover frequency.	72
B)SPEAKER LEVEL	Adjusts the output level of each speaker.	74
C)SP DISTANCE	Adjusts the delay time of each speaker.	75
D)CENTER GEQ	Adjusts the tonal quality of the center speaker.	75
E)LFE LEVEL	Adjusts the output level of the LFE channel for Dolby Digital or DTS signals.	75
F)DYNAMIC RANGE	Adjusts the dynamic range of Dolby Digital or DTS signals.	76
G)AUDIO SET	Adjusts the muting level, audio delay and tone bypass settings.	76

Input menu 2 INPUT MENU
Use this menu to manually reassign the input/output jacks, select the input mode or rename the input source.

Parameter	Features	Page
A)I/O ASSIGNMENT	Assigns the input/output jacks of this unit according to the component to be used.	77
B)INPUT MODE	Selects the initial input mode of the source.	78
C)INPUT RENAME	Changes the name of the input source.	78
D)VOLUME TRIM	Adjusts the output volume of each jack.	79

Option menu `3 OPTION MENU`

Use this menu to manually adjust the optional system parameters.

Parameter	Features	Page
`A)DISPLAY SET`	Adjusts the brightness of the display and converts video signals.	79
`B)MEMORY GUARD`	Locks sound field program parameters and other "SET MENU" settings.	80
`C)PARAM. INI`	Initializes the parameters of a group of sound field programs.	80
`D)MULTI ZONE SET`	Specifies the location of the speakers connected to the SPEAKERS B terminals.	81

■ **Signal information** `SIGNAL INFO`

Use this feature to check audio signal information (see page 40).

Using SET MENU

Use the remote control to access and adjust each parameter.

-ᄒᄒ-
• You can change the "SET MENU" parameters while this unit is reproducing sound.
• If you press one of the sound field program selector buttons during the "SET MENU" operation, the "SET MENU" operation is canceled.
• Repeat the following procedure to select and adjust each parameter setting.
• Press RETURN to return to the previous menu level.

Note

You cannot change some "SET MENU" parameters when "NIGHT:CINEMA" or "NIGHT:MUSIC" is selected as the night listening mode (see page 34).

1   Set the component selector switch to AMP and then press SET MENU to enter "SET MENU".

The top "SET MENU" display appears in the OSD.


```
        SET MENU

  → ·BASIC SETUP
     ·MANUAL SETUP
     ·SIGNAL INFO

     [⏶]/[⏷]:Up/Down
     [ENTER]:Enter
```

2   Press ∧ / ∨ to select "MANUAL SETUP".


```
        SET MENU

     ·BASIC SETUP
  → ·MANUAL SETUP
     ·SIGNAL INFO

     [⏶]/[⏷]:Up/Down
     [ENTER]:Enter
```
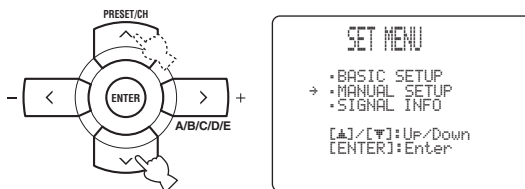
3   Press ENTER to enter "MANUAL SETUP".

The "MANUAL SETUP" display appears in the OSD.


```
     :MANUAL SETUP

  → 1 SOUND MENU
     2 INPUT MENU
     3 OPTION MENU

     [⏶]/[⏷]:Up/Down
     [ENTER]:Enter
```

4   Press ∧ / ∨ repeatedly and then press ENTER to select and enter the desired menu.

The following displays are examples where "SOUND MENU" is selected.
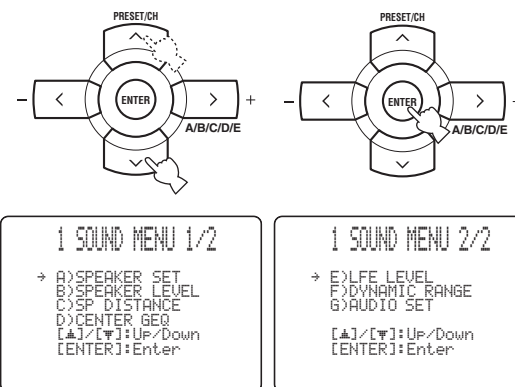

```
  1 SOUND MENU 1/2

  → A)SPEAKER SET
     B)SPEAKER LEVEL
     C)SP DISTANCE
     D)CENTER GEQ
     [⏶]/[⏷]:Up/Down
     [ENTER]:Enter
```

```
  1 SOUND MENU 2/2

  → E)LFE LEVEL
     F)DYNAMIC RANGE
     G)AUDIO SET

     [⏶]/[⏷]:Up/Down
     [ENTER]:Enter
```

ADVANCED OPERATION

English
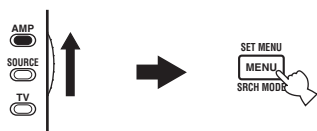
5 **Press ∧ / ∨ repeatedly and then press ENTER to select and enter the desired submenu.**

The following display is an example where "SPEAKER LEVEL" is selected.


```
       B)SPEAKER LEVEL
            -_____+
    →    FL·····|·····
         FR·····|·····
          C·····|·····
```
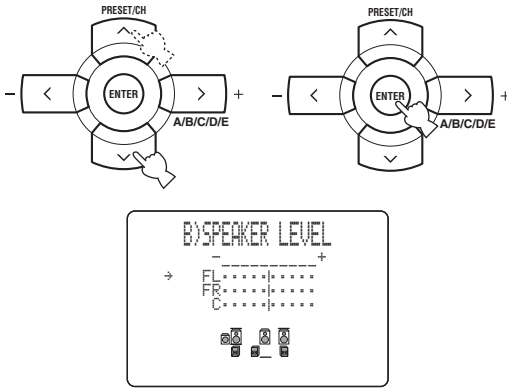
6 **Press ∧ / ∨ to select the desired parameter and then ⟨ / ⟩ to change the parameter settings.**

• Press ⟩ to increase the value.
• Press ⟨ to decrease the value.
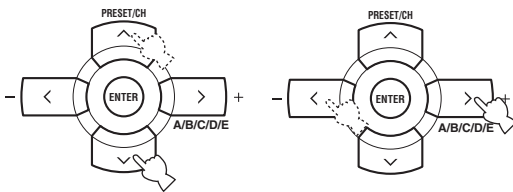
7 **Press SET MENU to exit from "SET MENU".**

Memory back-up
The memory back-up circuit prevents the stored data from being lost even if this unit is in the standby mode. However, the stored data will be lost in case the power cable is disconnected from the AC wall outlet or if the power supply is cut off for more than one week.

1 SOUND MENU

Use this menu to manually adjust any speaker settings or compensate for video signal processing delays when using LCD monitors or projectors.

```
  1 SOUND MENU 1/2          1 SOUND MENU 2/2
→ A)SPEAKER SET           → E)LFE LEVEL
  B)SPEAKER LEVEL           F)DYNAMIC RANGE
  C)SP DISTANCE             G)AUDIO SET
  D)CENTER GEQ
  [▲]/[▼]:Up/Down           [▲]/[▼]:Up/Down
  [ENTER]:Enter             [ENTER]:Enter
```
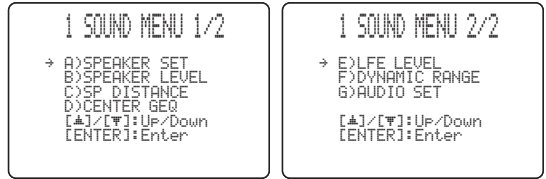
■ **Speaker settings** A)SPEAKER SET
Use this feature to manually adjust any speaker settings.

☼
If you are not satisfied with the bass sounds from your speakers, you can change these settings according to your preference.

Front speakers FRONT SP
Choices: SMALL, **LARGE**

```
            FRONT SP


         SMALL ⟩LARGE
```
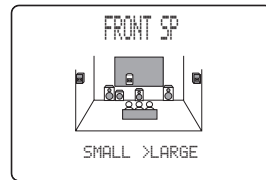
• Select "SMALL" (small) if you have small front speakers that do not reproduce low-frequency signals effectively. The low-frequency signals of the front left and right channels are directed to the speakers selected in "LFE/BASS OUT" (see page 73).
• Select "LARGE" (large) if you have large front speakers that reproduce low-frequency signals effectively. All the front left and right channel signals are directed to the front left and right speakers.

Note

If "LFE/BASS OUT" is set to "FRNT" (see page 73), the LFE signals found in Dolby Digital or DTS sources, the low-frequency signals of the front left and right channels, and the low-frequency signals of other speakers set to "SML" (or "SMALL") or to "NONE" are all directed to the front left and right speakers regardless of the "FRONT SP" setting.

Center speaker CENTER SP
Choices: NONE, **SML**, LRG

```
        CENTER SP




   NONE >SML  LRG
```
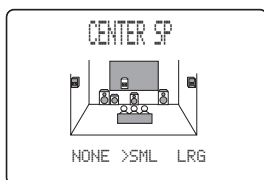
- Select "NONE" (none) if you did not connect a center speaker. The low-frequency signals of the center channel are directed to the speakers selected in "LFE/BASS OUT", and the rest of the center channel signals are directed to the front left and right speakers.
- Select "SML" (small) if you have a small center speaker that does not reproduce low-frequency signals effectively. The low-frequency signals of the center channel are directed to the speakers selected in "LFE/BASS OUT".
- Select "LRG" (large) if you have a large center speaker that reproduces low-frequency signals effectively. All the center channel signals are directed to the center speaker.

Surround left/right speakers SUR. L/R SP
Choices: NONE, **SML**, LRG

```
        SUR. L/R SP




   NONE >SML  LRG
```
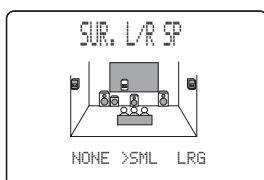
- Select "NONE" (none) if you did not connect surround speakers. This unit is set to the Virtual CINEMA DSP mode (see page 44) and "SUR. B SP" is automatically set to "NONE". The low-frequency signals of the surround left and right channels are directed to the speakers selected in "LFE/BASS OUT".
- Select "SML" (small) if you have small surround left and right speakers that do not reproduce low-frequency signals effectively. The low-frequency signals of the surround left and right channels are directed to the speakers selected in "LFE/BASS OUT".
- Select "LRG" (large) if you have large surround left and right speakers that reproduce low-frequency signals effectively. All the surround channel signals are directed to the surround left and right speakers.

Surround back speakers SUR. B SP
Choices: NONE, **SML**, LRG

```
        SUR. B SP




   NONE >SML  LRG
```
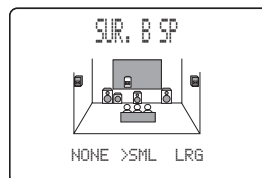
- Select "NONE" (none) if you did not connect a surround back speaker. The low-frequency signals of the surround back channel are directed to the speakers selected in "LFE/BASS OUT", and the rest of the surround back channel signals are directed to the surround left and right speakers.
- Select "SML" (small) if you have a small surround back speaker that does not reproduce low-frequency signals effectively. The low-frequency signals of the surround back channel are directed to the speakers selected in "LFE/BASS OUT".
- Select "LRG" (large) if you have a large surround back speaker that reproduces low-frequency signals effectively. All the surround back channel signals are directed to the surround back speaker.

Bass out LFE/BASS OUT
Use this feature to select the speakers that output the LFE (low-frequency effect) and the low-frequency signals.
Choices: SWFR, FRNT, **BOTH**

```
        LFE/BASS OUT




   SWFR FRNT>BOTH
```

- Select "SWFR" (subwoofer) if you connected a subwoofer. The LFE signals as well as the low-frequency signals of other speakers set to "SML" (or "SMALL") or to "NONE" are directed to the subwoofer.
- Select "FRNT" (front) if you did not connect a subwoofer. The LFE signals, the low-frequency signals of the front left and right channels, and the low-frequency signals of other speakers set to "SML" (or "SMALL") or to "NONE" are all directed to the front left and right speakers regardless of the "FRONT SP" setting (see page 72).
- Select "BOTH" (both) if you connected a subwoofer. The low-frequency signals of any source are output from the subwoofer. The LFE signals as well as the low-frequency signals of other speakers set to "SML" (or "SMALL") or to "NONE" are directed to the subwoofer. The low-frequency signals of the front left and right channels are directed to the front left and right speakers and the subwoofer regardless of the "FRONT SP" setting (see page 72).

ADVANCED OPERATION

English

73

Crossover CROSS OVER

Use this feature to select a crossover frequency of all the speakers set to "SML" (or "SMALL") or to "NONE" in "SPEAKER SET" (see pages 72 and 73). All frequencies below the selected frequency will be sent to the subwoofer or to the speakers set to "LRG" (or "LARGE") in "SPEAKER SET" (see pages 72 and 73).

Choices: 40Hz, 60Hz, **80Hz**, 90Hz, 100Hz, 110Hz, 120Hz, 160Hz, 200Hz


```
          CROSS OVER



         FREQ···80Hz
```

Subwoofer phase SUBWOOFER PHASE

Use this feature to switch the phase of your subwoofer if bass sounds are lacking or unclear.

Choices: **NORMAL**, REVERSE


```
       SUBWOOFER PHASE



       >NORMAL  REVERSE
```
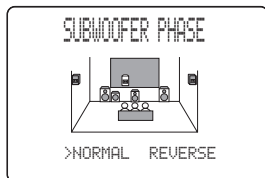
• Select "NORMAL" if you do not want to reverse the phase of your subwoofer.
• Select "REVERSE" to reverse the phase of your subwoofer.

■ **Speaker level** B)SPEAKER LEVEL

Use this feature to manually balance the speaker levels between the front left or surround left speakers and each speaker selected in "SPEAKER SET" (see page 72).
Control range: –10.0 to +10.0 dB
Control step: 1.0 dB
Initial setting: 0 dB


```
       B)SPEAKER LEVEL
         -----------+
     →   FL·····|·····
         FR·····|·····
          C·····|·····
```
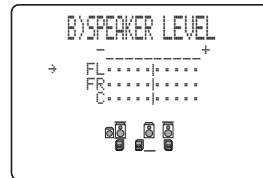
• Select "FL" to adjust the balance of the front left speaker.
• Select "FR" to adjust the balance of the front right speaker.
• Select "C" to adjust the balance of the center speaker.
• Select "SL" to adjust the balance of the surround left speaker.
• Select "SR" to adjust the balance of the surround right speaker.
• Select "SB" to adjust the balance of the surround back speaker.
• Select "SWFR" to adjust the balance of the subwoofer.

Note

"C", "SL", "SR", "SB" and "SWFR" cannot be adjusted if "CENTER SP" (see page 73), "SUR. L/R SP" (see page 73), "SUR. B SP" (see page 73) and "LFE/BASS OUT" (see page 73) are set to "NONE" respectively.

■ Speaker distance C)SP DISTANCE

Use this feature to manually adjust the distance of each speaker and the delay applied to the respective channel. Ideally, each speaker should be the same distance from the main listening position. However, this is not possible in most home situations. Thus, a certain amount of delay must be applied to the sound from each speaker so that all sounds will arrive at the listening position at the same time.

```
C)SP DISTANCE

→ UNIT······meters
  FRONT L····3.00m
  FRONT R····3.00m
  CENTER·····3.00m
  [▲]/[▼]:Up/Down
  [<]/[>]:Adjust
```

Unit UNIT

Choices: **meters** (m), feet (ft)
Initial setting:
[U.S.A. and Canada models]: feet (ft)
[Other models]: meters (m)
- Select "meters" to adjust speaker distances in meters.
- Select "feet" to adjust speaker distances in feet.

Speaker distances

Control range: 0.30 to 24.00 m (1.0 to 80.0 ft)
Control step: 0.10 m (0.5 ft)
- Select "FRONT L" to adjust the distance of the front left speaker.
  Initial setting: 3.00 m (10.0 ft)
- Select "FRONT R" to adjust the distance of the front right speaker.
  Initial setting: 3.00 m (10.0 ft)
- Select "CENTER" to adjust the distance of the center speaker.
  Initial setting: 3.00 m (10.0 ft)
- Select "SUR. L" to adjust the distance of the surround left speaker.
  Initial setting: 3.00 m (10.0 ft)
- Select "SUR. R" to adjust the distance of the surround right speaker.
  Initial setting: 3.00 m (10.0 ft)
- Select "SUR. B" to adjust the distance of the surround back speaker.
  Initial setting: 2.10 m (7.0 ft)
- Select "SWFR" to adjust the distance of the subwoofer.
  Initial setting: 3.00 m (10.0 ft)

Note

"CENTER", "SUR.L", "SUR.R", "SUR.B" and "SWFR" cannot be adjusted if "CENTER SP" (see page 73), "SUR. L/R SP" (see page 73), "SUR. B SP" (see page 73) and "LFE/BASS OUT" (see page 73) are set to "NONE" respectively.

■ Center graphic equalizer D)CENTER GEQ

Use this feature to adjust the built-in 5-frequency band (100Hz, 300Hz, 1kHz, 3kHz and 10kHz) graphic equalizer for the center channel so that the tonal quality of the center speaker matches that of the front speakers. You can make adjustments while listening to the currently selected source component or a test tone.
Control range: –6 to +6 dB
Control step: 0.5 dB
Initial setting: 0 dB

```
D)CENTER GEQ

→ TEST  >OFF  ON
         -     +
       ------
  100Hz ···|···    0dB
  300Hz ···|···    0dB
   1kHz ···|···    0dB
   3kHz ···|···    0dB
  10kHz ···|···    0dB
  [▲]/[▼]:Up/Down
  [<]/[>]:Adjust
```

Test tone TEST

Choices: **OFF**, ON
- Select "OFF" to stop test tones and output the currently selected source component.
- Select "ON" to output test tones from the front left and center speakers, and adjust the tonal quality of the center speaker.

☼
Press ∧ / ∨ to select a frequency band and < / > to adjust the selected frequency band.

■ Low-frequency effect level E)LFE LEVEL

Use this feature to adjust the output level of the LFE (low-frequency effect) channel according to the capacity of your subwoofer or headphones. The LFE channel carries low-frequency special effects which are only added to certain scenes. This setting is effective only when this unit decodes Dolby Digital or DTS signals.
Control range: –20 to **0** dB
Control step: 1 dB

```
E)LFE LEVEL

→ SPEAKER······0dB
  HEADPHONE····0dB


  [▲]/[▼]:Up/Down
  [<]/[>]:Adjust
```

Speaker SPEAKER

Adjusts the speaker LFE level.

Headphone HEADPHONE

Adjusts the headphone LFE level.

Note

Depending on the settings of "LFE/BASS OUT" (see page 73), some signals may not be output at the SUBWOOFER OUTPUT jack.

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■ **Dynamic range** F)DYNAMIC RANGE

Use this feature to select the amount of dynamic range compression to be applied to your speakers or headphones. This setting is effective only when this unit is decoding Dolby Digital and DTS signals.

```
         F)DYNAMIC RANGE

      → SP: MIN STD>MAX
        HP: MIN STD>MAX

        [▲]/[▼]:Up/Down
        [<]/[>]:Select
```

Speaker SP

Adjusts the speaker compression.

Headphone HP

Adjusts the headphone compression.
Choices: MIN, STD, **MAX**

• Select "MIN" (minimum) if you regularly listen at low volume levels.
• Select "STD" (standard) for general use.
• Select "MAX" (maximum) to preserve the greatest amount of dynamic range.

■ **Audio settings** G)AUDIO SET

Use this feature to adjust the overall audio settings of this unit.

```
           G)AUDIO SET

      → MUTING TYPE·FULL
        AUDIO DELAY··0ms
        TONE BYPASS·AUTO

        [▲]/[▼]:Up/Down
        [<]/[>]:Select
```

Muting type MUTING TYPE

Use this feature to adjust how much the mute function reduces the output volume (see page 34).
Choices: **FULL**, –20dB

• Select "FULL" to completely mute all the audio output.
• Select "–20dB" to reduce the current volume by 20 dB.

Audio delay AUDIO DELAY

Use this feature to delay the sound output and synchronize it with the video image. This may be necessary when using certain LCD monitors or projectors.
Control range: **0** to 160 ms
Control step: 1 ms

Tone bypass TONE BYPASS

Use this feature to select whether audio output bypasses tone control circuitry when "TREBLE" and "BASS" are set to 0 dB (see page 33).
Choices: **AUTO**, OFF

• Select "AUTO" if you want signals to bypass tone control circuitry to provide the purest signal possible.
• Select "OFF" if you do not want signals to bypass tone control circuitry.

2 INPUT MENU

Use this menu to reassign the input/output jacks, select the input mode or rename the input source.

```
      2 INPUT MENU

 → A)I/O ASSIGNMENT
   B)INPUT MODE
   C)INPUT_RENAME
   D)VOLUME TRIM
   [▲]/[▼]:Up/Down
   [ENTER]:Enter
```
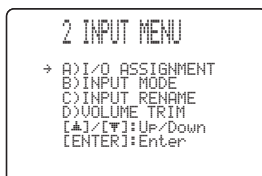
■ **Input/output assignment**
   A)I/O ASSIGNMENT

Use this feature to assign the input/output jacks according to the component to be used if the initial settings of this unit do not correspond to your needs. Change the following parameters to reassign the respective jacks and effectively connect more components.
Once the input/output jacks are reassigned, you can select the corresponding component by using the INPUT selector on the front panel (or the input selector buttons on the remote control).

For COMPONENT VIDEO jacks A, B and C

   CMPNT-V INPUT [A]
   CMPNT-V INPUT [B]
   CMPNT-V INPUT [C]

Choices: [A] **DVD**, DTV/CBL, V-AUX, DVR
         [B] DVD, **DTV/CBL**, V-AUX, DVR
         [C] DVD, DTV/CBL, V-AUX, **DVR**

```
      CMPNT-V INPUT

 → [A]·····  DVD
           (  DVD   )
   [B]·····DTV/CBL
           (DTV/CBL )
   [C]·····  DVR
           (  DVR   )
```
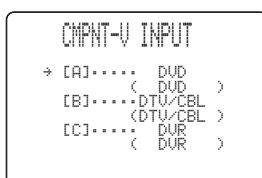
For OPTICAL OUTPUT jack 1 OPTICAL OUT (1)
Choices: CD, **MD/CD-R**, DVD, DTV/CBL, V-AUX,
         DVR

```
      OPTICAL OUT

 → (1)·····MD/CD-R
          (MD/CD-R )
```

For OPTICAL INPUT jacks 2, 3 and 4

   OPTICAL IN (2)
   OPTICAL IN (3)
   OPTICAL IN (4)

Choices: (2) CD, **MD/CD-R**, DVD, DTV/CBL, V-AUX,
             DVR
         (3) CD, MD/CD-R, **DVD**, DTV/CBL, V-AUX,
             DVR
         (4) CD, MD/CD-R, DVD, **DTV/CBL**, V-AUX,
             DVR

```
      OPTICAL IN

 → (2)·····MD/CD-R
          (MD/CD-R )
   (3)·····  DVD
          (  DVD   )
   (4)·····DTV/CBL
          (DTV/CBL )
```
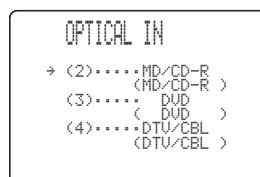
For COAXIAL INPUT jack 5 COAXIAL IN (5)
Choices: (5) CD, MD/CD-R, **DVD**, DTV/CBL, V-AUX,
             DVR

```
      COAXIAL IN

 → (5)·····  DVD
          (  DVD   )
```
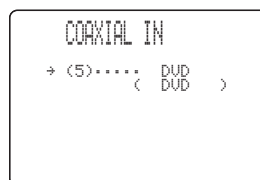
Notes

• You cannot select a specific item more than once for the same type of jack.
• When you connect a component to both the DIGITAL INPUT (COAXIAL) and DIGITAL INPUT (OPTICAL) jacks, priority is given to the signals input at the DIGITAL INPUT (COAXIAL) jack.

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■ **Input mode** B)INPUT MODE
Use this feature to set this unit to reset "INPUT MODE" back to "AUTO" (see page 35) regardless of the previous setting or to recall the last input mode ("AUTO", "DTS", or "ANALOG") used for that source whenever you turn on this unit.
Choices: **AUTO**, LAST

```
B)INPUT MODE
  >AUTO  LAST


[<]/[>]:Select
[ENTER]:Return
```

• Select "AUTO" to reset "INPUT MODE" back to "AUTO" (see page 35) regardless of the previous setting whenever you turn on this unit. This unit automatically selects input signals in the following order:
  (1) Digital signals
  (2) Analog signals
• Select "LAST" to set this unit to automatically recall the last input mode ("AUTO", "DTS", or "ANALOG") used for that source whenever you turn on this unit.

■ **Input rename** C)INPUT RENAME
Use this feature to change the name of the input source that appears in the OSD and in the front panel display.

```
C)INPUT RENAME
  DVD -> __DVD____


[<]/[>]:Position
[▲]/[▼]:Chara.
```

1 Press one of the input selector buttons on the remote control to select the input source you want to change the name of.
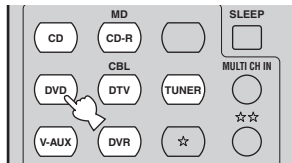
2 Set the component selector switch to AMP and then press ⟨ / ⟩ on the remote control to place the "_" (underscore) under the space or the character you want to edit.
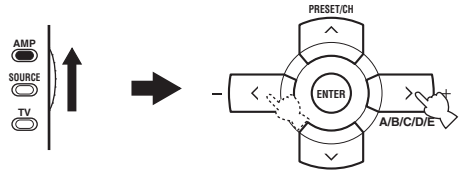
3 Press ∧ / ∨ to select the character you want to use and then press ⟨ / ⟩ to move to the next space.
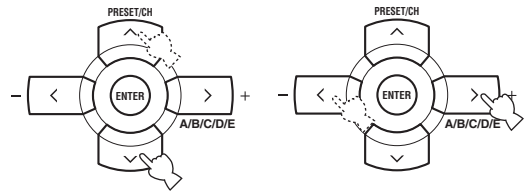
Notes

• You can use up to 8 characters for each input.
• Press ∨ to change the character in the following order, or press ∧ to go in the reverse order:
  A to Z, a space, 0 to 9, a space, a to z, a space, symbols (#, *, –, +, etc.)

4 Repeat steps 1 through 3 to rename each input source.

5 Press SET MENU on the remote control to exit from "INPUT RENAME".

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■ **Volume Trim** D)VOLUME TRIM

Use this feature to adjust the level of the signal input at each jack. This is useful if you want to balance the level of each input source to avoid sudden changes in volume when switching between input sources.

Choices: CD, MD/CD-R, TUNER, DVD, DTV/CBL, V-AUX, DVR

Control range: –6.0 to +6.0 dB

Control step: 1.0 dB

Initial setting: 0.0 dB

```
D)VOLUME TRIM

 DVD -> 0.0dB

[<]/[>]:Adjust
[RETURN]:Exit
```

3 OPTION MENU

Use this menu to adjust the optional system parameters.

```
3 OPTION MENU

→ A)DISPLAY SET
  B)MEMORY GUARD
  C)PARAM. INI
  D)MULTI ZONE SET
  [▲]/[▼]:Up/Down
  [ENTER]:Enter
```
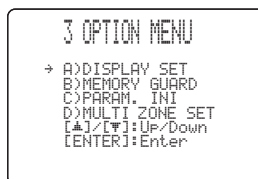
■ **Display settings** A)DISPLAY SET

```
A)DISPLAY SET

→ DIMMER.........0
  VIDEO CONV....ON
  OSD SHIFT......0
  GRAY BACK...AUTO

  [▲]/[▼]:Up/Down
  [<]/[>]:Adjust
```

Dimmer DIMMER

Use this feature to adjust the brightness of the front panel display.

Control range: –4 to **0**

Control step: 1

- Press ⟨ to make the front panel display dimmer.
- Press ⟩ to make the front panel display brighter.

Video conversion VIDEO CONV.

Use this feature to set whether to convert the video signals input at the VIDEO and S VIDEO jacks.

Choices: **ON**, OFF

- Select "ON" to convert composite and S-video signals interchangeably and up-convert composite and S-video signals to component video signals.
- Select "OFF" not to convert any signals.

Notes

- The converted video signals are only output at the MONITOR OUT jacks. When recording a video source, you must make the same type of video connections between each component.
- When composite video or S-video signals from a VCR are converted to component video signals, the picture quality may suffer depending on your VCR.
- You must set "VIDEO CONV." to "ON" to display the OSD.
- Unconventional signals input at the composite video or S-video jacks cannot be converted or may be output abnormally. In such cases, set "VIDEO CONV." to "OFF".

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OSD shift OSD SHIFT

Use this feature to adjust the vertical position of the OSD.
Control range: –5 (upward) to +5 (downward)
Control step: 1
Initial setting: 0
• Press ⟨ to raise the position of the OSD.
• Press ⟩ to lower the position of the OSD.

Gray back GRAY BACK

Use this feature to display a gray background in the OSD
when there is no video signal being input.
Choices: **AUTO**, OFF
• Select "AUTO" to display a gray background in the
  OSD when there is no video signal being input.
• Select "OFF" not to display any background in the
  OSD.

Notes

• Depending on the video signals being input or the system
  setting of your video monitor (NTSC or PAL), the OSD may be
  displayed abnormally. In such cases, set "GRAY BACK" to
  "OFF".
• Even when "GRAY BACK" is set to "OFF", the OSD may not
  be displayed correctly depending on the conditions of the
  picture.

■ **Memory guard** B)MEMORY GUARD

Use this feature to prevent accidental changes to DSP
program parameter values and other system settings.
Choices: **OFF**, ON

```
B)MEMORY GUARD

    >OFF   ON


[<]/[>]:Select
[ENTER]:Return
```

• Select "OFF" to turn off the "MEMORY GUARD"
  feature.
• Select "ON" to protect:
  – DSP program parameters
  – all "SET MENU" items
  – all speaker levels

Note

When "MEMORY GUARD" is set to "ON", you cannot select
and adjust any other "SET MENU" items.

■ **Parameter initialization** C)PARAM. INI

Use this feature to initialize the parameters of each sound
field program within a sound field program group. When
you initialize a sound field program group, all of the
parameter values within that group revert to their initial
factory settings.
Press the corresponding sound field program selector
buttons on the remote control to select the sound field
program that you want to initialize.
An asterisk (*) appears to the left of the sound field
program names that have been changed from their initial
factory settings.
Choices: STEREO, MUSIC, ENTERTAINMENT,
         MOVIE THEATER, STANDARD

```
C)PARAM. INI

 STEREO
*MUSIC
 ENTERTAINMENT
 MOVIE THEATER
*STANDARD
Press DSP key
```

Notes

• You cannot automatically revert to the previous parameter
  settings once you initialize a sound field program group.
• You cannot separately initialize individual sound field
  programs.
• You cannot initialize any sound field program groups when
  "MEMORY GUARD" is set to "ON" (see page 80).

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■ **Zone set** D)MULTI ZONE SET

Use this feature to specify the location of speakers
connected to the SPEAKERS B terminals of this unit.

```
       D)MULTI ZONE SET
   → SP B·······FRONT


     [<]/[>]:Select
     [ENTER]:Return
```

Speaker B setting SP B

Use this feature to select the location of the front speakers
connected to the SPEAKERS B terminals.

Choices: **FRONT**, ZONE B

• Select "FRONT" to turn on or off SPEAKERS A and B
  when the speakers connected to the SPEAKERS B
  terminals are set in the main zone.
• Select "ZONE B" if the speakers connected to the
  SPEAKERS B terminals are set in another zone. If
  SPEAKERS A is turned off and SPEAKERS B is
  turned on, all the speakers including the subwoofer in
  the main zone are muted and this unit outputs sound at
  the SPEAKERS B terminals only.

Notes

• If you connect headphones to the PHONES jack of this unit, the
  sound is output from both headphones and the SPEAKERS B
  terminals when "SP B" is set to "ZONE B".
• If a DSP program is selected when "SP B" is set to "ZONE B",
  this unit automatically enters the Virtual CINEMA DSP mode
  (see page 44).

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ADVANCED SETUP

This unit has additional menus that are displayed in the front panel display. The advanced setup menu offers additional operations to adjust and customize the way this unit operates. Change the initial settings (indicated in bold under each parameter) to reflect the needs of your listening environment.

Notes

- The settings you make are reflected next time you press MASTER ON/OFF inward to the ON position to turn on this unit (see page 28).
- Only MASTER ON/OFF, STRAIGHT (EFFECT) and the PROGRAM selector are effective while you are using the advanced setup menu.
- All the other operations cannot be made while you are using the advanced setup menu.
- The advanced setup menu is only available in the front panel display.
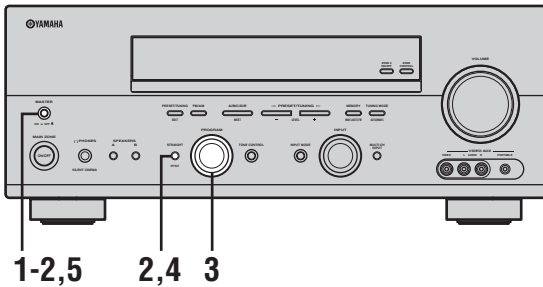
1-2,5   2,4   3

1   Press MASTER ON/OFF on the front panel to release it outward to the OFF position to turn off this unit.

2   Press and hold STRAIGHT (EFFECT) on the front panel and then press MASTER ON/OFF inward to the ON position to turn on this unit.

This unit turns on, and the advanced setup menu appears in the front panel display.

While holding down
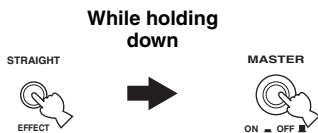
3   Rotate the PROGRAM selector on the front panel to select the parameter you want to adjust.

The name of the selected parameter appears in the front panel display.
See page 83 for a complete list of available parameters.

Currently selected parameter   Currently selected parameter setting

`SP IMP.-8ΩMIN`
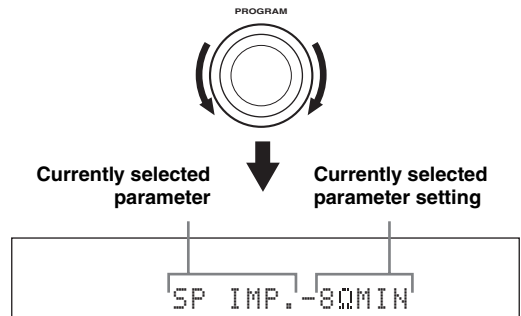
4   Press STRAIGHT (EFFECT) on the front panel repeatedly to change the selected parameter setting.

5   Press MASTER ON/OFF on the front panel to release it outward to the OFF position to save the new setting and turn off this unit.

The settings you made are reflected next time you turn on this unit.

■ **Speaker impedance** SP IMP.

Use this feature to set the speaker impedance of this unit so that it matches that of your speakers.

Choices: **8ΩMIN**, 6ΩMIN

• Select "8ΩMIN" to set the speaker impedance to 8 Ω .
• Select "6ΩMIN" to set the speaker impedance to 6 Ω .

SP IMP.	Speaker	Impedance level
8ΩMIN	Front	If you use one set (A or B), the impedance of each speaker must be 8 Ω or higher.
		If you use two sets (A and B), the impedance of each speaker must be 16 Ω or higher.*
	Center	The impedance of each speaker must be 8 Ω or higher.
	Surround	
	Surround back	
6ΩMIN	Front	If you use one set (A or B), the impedance of each speaker must be 4 Ω or higher.
		If you use two sets (A and B), the impedance of each speaker must be 8 Ω or higher.
	Center	The impedance of each speaker must be 6 Ω or higher.
	Surround	
	Surround back	

* The Canada model cannot use two separate speaker systems (A and B) simultaneously when "SP IMP." is set to "8ΩMIN".

■ **Factory presets** PRESET

Use this feature to reset all the parameters of this unit to the initial factory settings (see page 94).

Choices: **CANCEL**, RESET

• Select "CANCEL" not to reset any parameters of this unit.
• Select "RESET" to reset the parameters of this unit.

Notes

• This setting completely resets all the parameters of this unit including the "SET MENU" parameters. However, the advanced setup menu parameters will not be initialized.
• The initial factory settings are activated next time you turn on this unit.

■ **Remote control AMP ID** REMOTE AMP

Use this feature to set the AMP ID of this unit for remote control recognition (see page 87).

Choices: **ID1**, ID2

• Select "ID1" when the remote control AMP ID library code is set to "00001".
• Select "ID2" when the remote control AMP ID library code is set to "00002".

Note

You need to set the corresponding remote control AMP library code for the remote control (see page 87).

■ **Remote control TUNER ID** REMOTE TUN

Use this feature to set the TUNER ID of this unit for remote control recognition (see page 87).

Choices: **ID1**, ID2

• Select "ID1" when the remote control TUNER ID library code is set to "81916".
• Select "ID2" when the remote control TUNER ID library code is set to "81917".

Note

You need to set the corresponding remote control TUNER library code for the remote control (see page 87).

■ **Tuner frequency step** TU
(Asia and General models only)

Use this feature to set the tuner frequency step according to the frequency spacing in your area.

Choices: **AM10/FM100**, AM9/FM50

• Select "AM10/FM100" for North, Central and South America.
• Select "AM9/FM50" for all other areas.

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REMOTE CONTROL FEATURES

In addition to controlling this unit, the remote control can also operate other audiovisual components made by YAMAHA and other manufacturers. To control your TV or other components, you must set the appropriate remote control code for each input source (see page 86).

Controlling this unit, a TV, or other components

■ Controlling this unit

Set the component selector switch to AMP to control this unit.

■ Controlling a TV

Set the component selector switch to TV to control your TV. To control your TV, you must set the appropriate remote control code for DTV/CBL or ☆☆ (see page 86). When you set the remote control codes for both DTV/CBL and ☆☆ , priority is given to the one set for DTV/CBL.
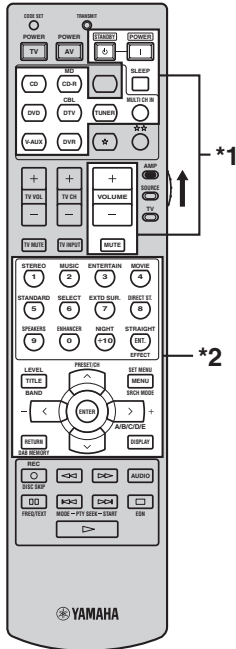
Notes

*1 These buttons always control this unit regardless of the component selector switch position.

*2 These buttons control this unit only when the component selector switch is set to AMP.
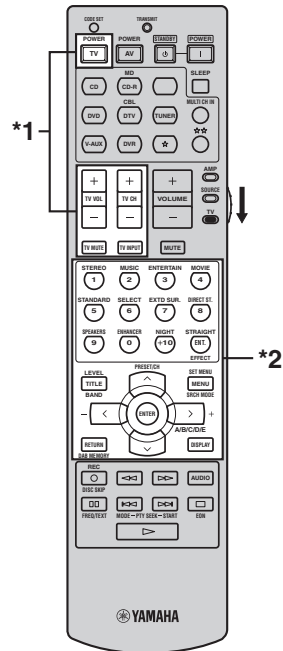
Notes

*1 These buttons always control your TV regardless of the component selector switch position.

Remote control	Digital TV/Cable TV
TV POWER	Turns on or off the power.
TV VOL +/–	Increases or decreases the volume level.
TV CH +/–	Changes the channel number.
TV MUTE	Mutes the audio output.
TV INPUT	Changes the input source.

*2 These buttons control your TV only when the component selector switch is set to TV. For details, see the "Digital TV/Cable TV" column on page 85.

■ **Controlling other components**

Set the component selector switch to SOURCE to control other components selected with the input selector buttons, ☆, ☆☆, or the blank button on the right of MD/CD-R. You must set the appropriate remote control code for each input source (see page 86). The following table shows the function of each control button used to control other components assigned to each input selector button, ☆, ☆☆, and the blank button on the right of MD/CD-R. Be advised that some buttons may not correctly operate the selected component.
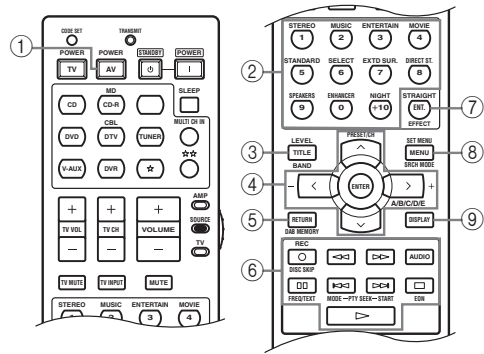
	Remote control	DVD player/ recorder	VCR	Digital TV/ Cable TV	LD player	CD player	MD/CD recorder	Tuner	iPod®
①	AV POWER	Power *1	Power *1	Power *2	Power *1	Power *1	Power *1		
②	1-9, 0, +10	Numeric buttons	Numeric buttons	Numeric buttons	Numeric buttons	Numeric buttons	Numeric buttons	Preset stations (1-8)	
③	TITLE	Title						Band	
④	PRESET/CH ∧	Up	VCR channel up	Up				Preset up (1-8)	Up
	PRESET/CH ∨	Down	VCR channel down	Down				Preset down (1-8)	Down
	A/B/C/D/E <	Left		Left				Preset down (A-E)	
	A/B/C/D/E >	Right		Right				Preset up (A-E)	
	ENTER	Enter		Enter					Subsequent menu
⑤	RETURN	Return		Return					
⑥	REC/ DISC SKIP	Disc skip (player) Rec (recorder) *3	Rec *3	Rec *2*3		Disc skip	Rec *3		
	▷	Play	Play	Play *2	Play	Play	Play		Play
	◁◁	Search backward	Search backward	Search backward *2	Search backward	Search backward	Search backward		Search backward *4
	▷▷	Search forward	Search forward	Search forward *2	Search forward	Search forward	Search forward		Search forward *4
	AUDIO	Audio	Audio	Audio *2	Sound				
	▯▯	Pause	Pause	Pause *2	Pause	Pause	Pause		Pause
	◁◁|	Skip backward	Skip backward	Skip backward *2	Skip backward	Skip backward	Skip backward		Skip backward
	|▷▷	Skip forward	Skip forward	Skip forward *2	Skip forward	Skip forward	Skip forward		Skip forward
	▢	Stop	Stop	Stop *2	Stop	Stop	Stop		Stop
⑦	ENT.	Title/Index	Enter	Enter	Chapter/Time	Index	Index		
⑧	MENU	Menu		Menu					Previous menu
⑨	DISPLAY	Display	Display	Display	Display	Display	Display		Display

Notes

*1 This button is operational only when the original remote control supplied with the component has a POWER button.

*2 These buttons control your VCR or DVD recorder only when you set the appropriate remote control code for DVR (see page 86).

*3 When you use this button to record a source, press it twice repeatedly to prevent a malfunction.

*4 Press and hold to search backward or forward.

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Setting the remote control code

You can control your TV and other components by setting the appropriate remote control code for each input source. For a complete list of available remote control codes, refer to "LIST OF REMOTE CONTROL CODES" at the end of this manual.

The following table shows the default component in the "Library (component category)" column and the remote control code for each input source.

Remote Control Code Default Settings

Input source	Library (component category)	Manufacturer	Default code
CD	CD	YAMAHA	61907
MD/CD-R	MD	YAMAHA	70888
DVD	DVD	YAMAHA	40539
DTV/CBL	–	–	–
TUNER	TUNER	YAMAHA	81916
V-AUX	–	–	–
DVR	DVR	YAMAHA	51544
☆	–	–	–
☆☆	–	–	–
Blank button	TAPE	YAMAHA	70524

Note

You may not be able to operate your YAMAHA component even if a YAMAHA remote control code is initially set as listed above. In this case, try setting other YAMAHA remote control codes.

☀️
The blank button is the one on the right of MD/CD-R.

1 **Press one of the input selector buttons or ☆/☆☆ to select the component you want to set up.**
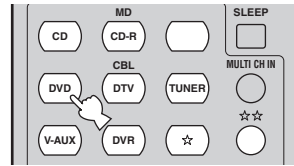
2 **Press CODE SET using a ballpoint pen or a similar object.**
The TRANSMIT indicator on the remote control flashes twice.

Flashes

3 **Press the numeric buttons (0 to 9) to enter the five-digit remote control code for the component to be used.**
The TRANSMIT indicator on the remote control flashes twice, and the remote control code for the selected component is set.

Flashes
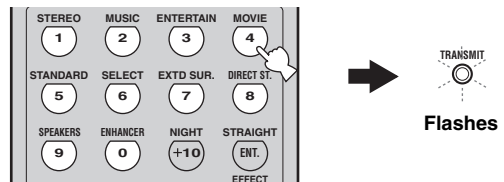
☀️
Refer to "LIST OF REMOTE CONTROL CODES" at the end of this manual.

Notes

• If the manufacturer of your component has more than one code, try each of them until you find the correct one.
• If you do not press any buttons within 30 seconds in step 3, the setup process is canceled. If this happens, repeat the setup procedure.
• If you enter the code number "9980", the remote control code previously set for the selected component is cleared.

Setting library codes

You can operate multiple YAMAHA receivers or amplifiers in the same room with the supplied remote control simultaneously. Set the appropriate library code to select and operate the desired component with the supplied remote control.

■ Setting remote control AMP ID library codes

Select one of the following codes to set the remote control AMP ID library code for the component you want to use.

1   Press CODE SET using a ballpoint pen or a similar object.

The TRANSMIT indicator on the remote control flashes twice.

Flashes

2   Press the numeric buttons to enter the code number "00001" or "00002".

The TRANSMIT indicator on the remote control flashes twice, and the AMP ID library code is changed.

Flashes

AMP ID library code *1	Function	Remote control AMP ID *2
00001 (initial setting)	To operate this unit using the default code.	ID1 (initial setting)
00002	To operate this unit using an alternative code.	ID2

*1 The remote control setting

*2 The setting of this unit (see page 83)

Notes

- You need to set the corresponding remote control AMP ID of this unit in the advanced setup (see page 83).
- When using multiple YAMAHA receivers/amplifiers, you may be able to operate the other components simultaneously with the default code setting. In this case, set one of the alternative codes to operate this unit separately.

■ Setting remote control TUNER ID library codes

Select one of the following codes to set the remote control TUNER ID library code for the component you want to use.

1   Press TUNER to select "TUNER" as the input source.

2   Press CODE SET using a ballpoint pen or a similar object.

The TRANSMIT indicator on the remote control flashes twice.

Flashes

3   Press the numeric buttons to enter the code number "81916" or "81917".

The TRANSMIT indicator on the remote control flashes twice, and the TUNER ID library code is changed.

Flashes

TUNER ID library code *1	Function	Remote control TUNER ID *2
81916 (initial setting)	To operate this unit using the default code.	ID1 (initial setting)
81917	To operate this unit using an alternative code.	ID2

*1 The remote control setting

*2 The setting of this unit (see page 83)

Notes

- You need to set the corresponding remote control TUNER ID of this unit in the advanced setup (see page 83).
- When using multiple YAMAHA receivers/amplifiers, you may be able to operate the other components simultaneously with the default code setting. In this case, set one of the alternative codes to operate this unit separately.

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Resetting all remote control codes

Use this feature to clear all the remote control codes
previously set and reset all of them to the initial factory
settings.

**1 Press CODE SET using a ballpoint pen or a
    similar object.**

The TRANSMIT indicator on the remote control
flashes twice.

Flashes

**2 Press the numeric buttons to enter the code
    number "9981".**

The TRANSMIT indicator on the remote control
flashes twice, and all the remote control codes
previously set are cleared and reset to the initial
factory settings.

Flashes
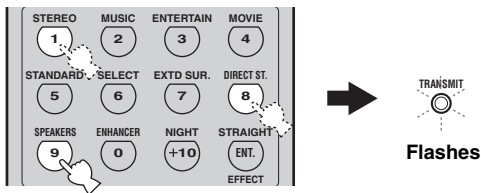
If you do not press any buttons within 30 seconds after step
2, the clearing process is canceled. In this case, repeat the
clearing procedure.

USING MULTI-ZONE CONFIGURATION

This unit allows you to configure a multi-zone audio system. The Zone 2 feature allows you to set this unit to reproduce separate input sources in the main zone and the second zone (Zone 2). You can control this unit from the second zone using the supplied remote control.

Only analog signals are sent to the second zone. Any source you want to listen to in the second zone must be connected to the analog AUDIO IN jacks of this unit.

Connecting Zone 2

You need the following additional equipment to use the multi-zone functions of this unit:
• An infrared signal receiver in the second zone.
• An infrared signal emitter in the main zone. This emitter transmits the infrared signals from the remote control via the infrared signal receiver in the second zone to a CD player or a DVD player, etc. in the main zone.
• An amplifier and speakers in the second zone.

☼
• Since there are many possible ways to connect and use this unit in a multi-zone configuration, we recommend that you consult with your nearest authorized YAMAHA dealer or service center about the Zone 2 connections that best meet your requirements.
• Some YAMAHA models are able to connect directly to the REMOTE jacks of this unit. If you own these products, you may not need to use an infrared signal emitter. Up to 6 YAMAHA components can be connected as shown below.
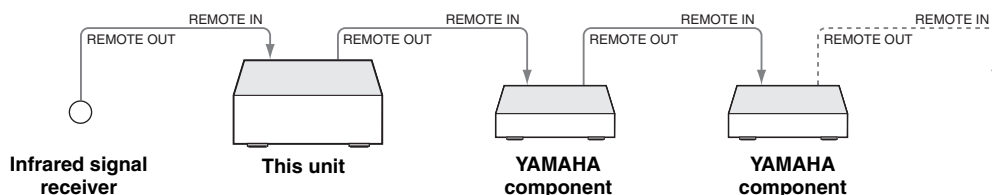
■ Multi-zone configuration and Zone 2 connections
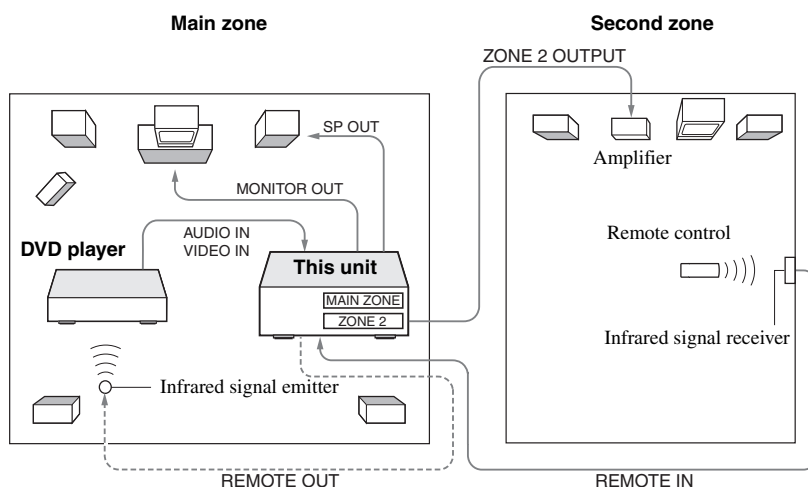
Notes

• When you do not use the main zone, press MAIN ZONE ON/OFF on the front panel to turn off the main zone. Adjust the volume control on the amplifier in the second zone.
• To avoid unexpected noise, DO NOT USE the Zone 2 feature with CDs encoded in DTS.

Controlling Zone 2

You can select and control Zone 2 by using the control buttons on the front panel or on the remote control. The available operations are listed as follows:

• Selecting the input source of Zone 2
• Tuning into FM or AM when "TUNER" is selected as the input source of Zone 2 (see page 46)
• Enjoying music stored on your iPod stationed in a YAMAHA iPod universal dock (such as YDS-10 sold separately) connected to the DOCK terminal of this unit when "V-AUX" is selected as the input source (see page 92)

☼
The volume level and tonal quality of Zone 2 cannot be adjusted. Adjust the volume control on the amplifier in Zone 2.

Note

You must complete each step while the ZONE2 indicator is flashing in the front panel display. Otherwise, the Zone 2 mode is automatically canceled and this unit returns to the normal operation mode. In this case, repeat the Zone 2 selection procedure.

■ **Controlling Zone 2 with the front panel**

1 Press ZONE 2 ON/OFF to turn on Zone 2.

☼
ZONE 2 ON/OFF is operational only when MASTER ON/OFF on the front panel is pressed inward to the ON position. Once MASTER ON/OFF on the front panel is pressed inward to the ON position, you can also press POWER or STANDBY on the remote control to turn on the main zone and Zone 2 or set them to the standby mode.

2 Press ZONE CONTROL to control Zone 2.

The ZONE2 indicator flashes in the front panel display for approximately 5 seconds.

Flashes

3 Rotate the INPUT selector to select the desired input source while the ZONE2 indicator is flashing in the front panel display.
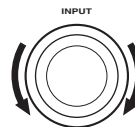
• Select "TUNER" as the input source to use the TUNER features in Zone 2. For details about the TUNER operations, see "FM/AM TUNING" on page 46.
• Select "V-AUX" as the input source to use iPod features in Zone 2. For details about the iPod operations, see "USING iPod®" on page 92.

4 Press ZONE 2 ON/OFF to set Zone 2 to the standby mode.

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■ **Setting the remote control to the Zone 2 mode**

Note

The remote control is originally set to the main mode to control the main zone. To control Zone 2 with the remote control, you must first set the remote control to the Zone 2 mode.

1 Press CODE SET using a ballpoint pen or a similar object.

The TRANSMIT indicator on the remote control flashes twice.

Flashes

2 Press the numeric buttons to enter the code number "9992".

Flashes

■ **Controlling Zone 2 with the remote control**

Notes

• The remote control is originally set to the main mode to control the main zone, and the TRANSMIT indicator on the remote control is turned off when the remote control is set to the main mode.
• When the remote control is set to the Zone 2 mode, POWER, STANDBY, MUTE, and the input selector buttons are set to control Zone 2. However, the rest of the remote control buttons remain in the main mode.
• The remote control automatically exits from the Zone 2 mode in the following cases:
  – when you do not make any operations within 10 seconds after the remote control is set to the Zone 2 mode.
  – when you press a remote control button other than POWER, STANDBY, MUTE, and the input selector buttons.

1 Press and hold POWER or STANDBY and then press ☆☆ to set the remote control to the Zone 2 mode.

• Press POWER when the main zone is turned on.
• Press STANDBY when the main zone is turned off.

The TRANSMIT indicator on the remote control lights up while the remote control is set to the Zone 2 mode.

While holding down

or

Lights up
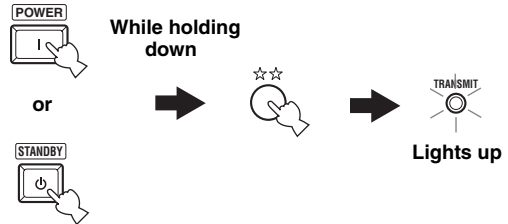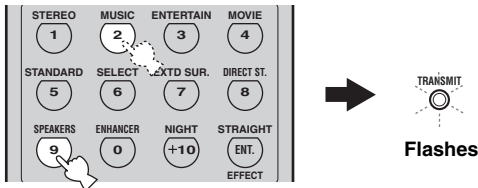
2 Press POWER to turn on Zone 2.

3 Press one of the input selector buttons to select the desired input source of Zone 2.

To mute the audio output of Zone 2, press MUTE on the remote control. Press MUTE again to resume the audio output of Zone 2.

4 Press STANDBY to set Zone 2 to the standby mode.

USING iPod®

Once you have stationed your iPod in a YAMAHA iPod universal dock (such as YDS-10 sold separately) connected to the DOCK terminal of this unit (see page 22), you can enjoy playback of your iPod using the supplied remote control. You can also use the Compressed Music Enhancer mode of this unit to improve the sound quality of the compression artifacts (such as the MP3 format) stored on your iPod (see page 37).

Notes

• Only iPod (Click and Wheel), iPod nano, and iPod mini are supported.
• Compatibility with your iPod may vary depending on the software version of your iPod.
• The controls on your iPod are not operational when you operate your iPod using the OSD of this unit.
• There are some characters that cannot be displayed in the front panel or in the OSD of this unit.
• The name of the song being played appears in the front panel display up to 14 alphanumeric characters.

☼
• For a complete list of the remote control functions used to control your iPod, see the "iPod" column in "Controlling other components" on page 85.
• For a complete list of status messages that appear in the front panel display and in the OSD, see the "iPod" section in "TROUBLESHOOTING" on page 99.

Setting the remote control code

You need to first assign the remote control code to V-AUX on the remote control to control your iPod when "V-AUX" is selected as the input source.

1 **Press V-AUX on the remote control to select "V-AUX" as the input source.**

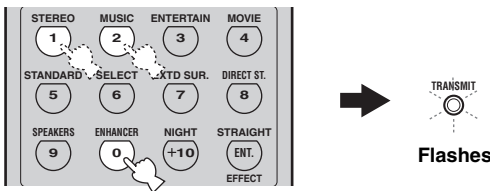**2** **Press CODE SET on the remote control using a ball point pen or a similar object.**
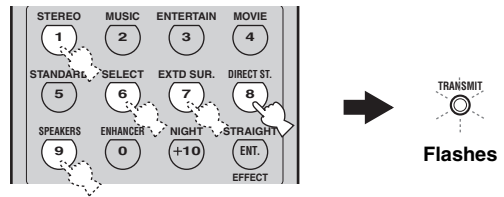The TRANSMIT indicator on the remote control flashes twice.

Flashes

3 **Press the numeric buttons to enter the code number "81981".**
The TRANSMIT indicator on the remote control flashes twice, and the remote control code for V-AUX is set.
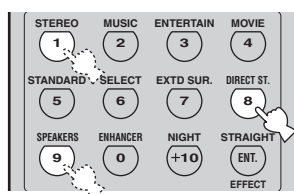
Flashes

Controlling iPod

Once the remote control code is assigned to V-AUX on the remote control, you can control your iPod when "V-AUX" is selected as the input source. The operations of your iPod can be done with or without the aid of the OSD of this unit.

■ Controlling iPod without using the OSD

Once "V-AUX" is selected as the input source, you can perform the basic operations of your iPod (see page 85) using the supplied remote control without the aid of the OSD of this unit.

Note

Operations can be also done with the controls on your iPod.

☼
For a complete list of the remote control buttons used to control your iPod, see the "iPod" column in "Controlling other components" on page 85.

■ Controlling iPod using the OSD

Once "V-AUX" is selected as the input source, you can perform the advanced operations of your iPod using the supplied remote control with the aid of the OSD of this unit. You can also browse the songs stored on your iPod in the OSD. Further, you can change or adjust settings for your iPod to suit your personal preferences.

Notes

- Operations cannot be done with the controls on your iPod.
- The YAMAHA logo appears in the display window of your iPod.
- The "Setup" parameters can be changed or adjusted only in the OSD.
- Press ENTER on the remote control to toggle between the "Setup" parameter settings.
- You cannot browse the photos or video clips stored on your iPod in the OSD. Instead, you must use the controls on your iPod to select the desired photos or video clips. For details, see "Controlling iPod without using the OSD" on page 92.

☀️
- Press MENU on the remote control to move back to the previous menu level.
- For a complete list of the remote control buttons used to control your iPod, see the "iPod" column in "Controlling other components" on page 85.

1 Press DISPLAY on the remote control.

The following display appears in the OSD.
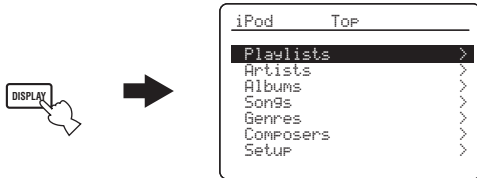
2 Press ∧ / ∨ on the remote control to select the desired menu and then press ENTER to enter the selected menu.
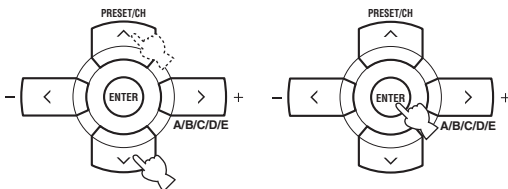
Choices: Playlists (playlists), Artists (artists),
Albums (albums), Songs (songs),
Genres (genres), Composers (composers),
Setup (setup)

- Playlists > Songs
- Artists > Albums > Songs
- Albums > Songs
- Songs
- Genres > Artists > Albums > Songs
- Composers > Albums > Songs
- Setup > Shuffle, Repeat, Onscreen, FL Scroll

Shuffle Shuffle

Use this feature to set this unit to play songs or albums in a random order.

Choices: **Off**, Songs, Albums
- Select "Off" to deactivate this feature.
- Select "Songs" to set this unit to play songs in a random order.
- Select "Albums" to set this unit to play albums in a random order.

Note

When "Shuffle" is set to a setting other than "Off", the highlighted letter "S" appears in the top right corner while songs or albums are being shuffled.

Repeat Repeat

Use this feature to set this unit to repeat one song or a sequence of songs.

Choices: **Off**, One, All
- Select "Off" to deactivate this feature.
- Select "One" to set this unit to repeat one song.
- Select "All" to set this unit to repeat a sequence of songs.

Note

When "Repeat" is set to a setting other than "Off", the highlighted letter "R" appears in the top right corner while one song or a sequence of songs are being repeated.

On-screen display time Onscreen

Use this feature to set the amount of time for which the OSD is displayed after you perform a certain operation on your iPod.

Choices: **Always**, 5s, 10s
- Select "Always" to display the OSD unceasingly while you are operating your iPod.
- Select "5s" to turn off the OSD 5 seconds after you perform a certain operation on your iPod.
- Select "10s" to turn off the OSD 10 seconds after you perform a certain operation on your iPod.

Front panel display scroll FL Scroll

Use this feature to set whether to display the iPod operation status in the front panel display in a continuous manner or by 14 alphanumeric characters at once.

Choices: **Cont**, Once
- Select "Cont" to display the iPod operation status in the front panel display in a continuous manner.
- Select "Once" to display the iPod operation status in the front panel display by 14 alphanumeric characters at once.

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RESETTING THE SYSTEM

Use this feature to reset all the parameters of this unit to the initial factory settings.

Notes

- This procedure completely resets all the parameters of this unit including the "SET MENU" parameters. However, the advanced setup menu parameters will not be initialized.
- The initial factory settings are activated next time you turn on this unit.

☼
To cancel the initialization procedure at any time without making any changes, press MASTER ON/OFF on the front panel to release it outward to the OFF position.
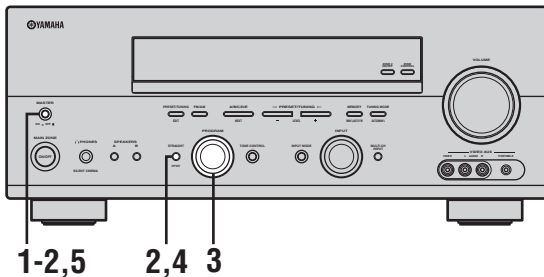
1-2,5   2,4 3

1   Press MASTER ON/OFF on the front panel to release it outward to the OFF position to turn off this unit.

2   Press and hold STRAIGHT (EFFECT) on the front panel and then press MASTER ON/OFF inward to the ON position to turn on this unit.

This unit turns on, and the advanced setup menu appears in the front panel display.

While holding down
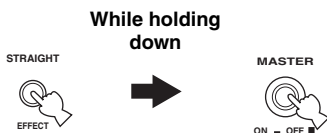
3   Rotate the PROGRAM selector on the front panel to select "PRESET".

    PRESET-CANCEL

4   Press STRAIGHT (EFFECT) on the front panel repeatedly to select "RESET".

    PRESET-RESET

☼
Select "CANCEL" to cancel the initialization procedure without making any changes.

5   Press MASTER ON/OFF on the front panel to release it outward to the OFF position to confirm your selection and turn off this unit.

TROUBLESHOOTING

Refer to the table below when this unit 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 unit, disconnect the power cable, and contact the nearest authorized YAMAHA dealer or service center.

■ General

Problem	Cause	Remedy	See page
This unit fails to turn on or enters the standby mode soon after the power is turned on.	The power cable is not connected or the plug is not completely inserted.	Connect the power cable firmly.	—
	The speaker impedance setting is incorrect.	Set the speaker impedance to match your speakers.	27
	The protection circuitry has been activated.	Make sure that all speaker wire connections on this unit and on all speakers are secure and that the wire for each connection does not touch anything other than its respective connection.	13
	This unit has been exposed to a strong external electric shock (such as lightning or strong static electricity).	Set this unit to the standby mode, disconnect the power cable, plug it back in after 30 seconds and then use it normally.	—
No sound	Incorrect input or output cable connections.	Connect the cables properly. If the problem persists, the cables may be defective.	18-23
	"INPUT MODE" is set to "DTS" or "ANALOG".	Set "INPUT MODE" to "AUTO".	35
	No appropriate input source has been selected.	Select an appropriate input source with the INPUT selector on the front panel (or the input selector buttons on the remote control) and MULTI CH INPUT on the front panel (or MULTI CH IN on the remote control).	32, 38
	Speaker connections are not secure.	Secure the connections.	13
	The front speakers to be used have not been selected properly.	Select the set of front speakers with SPEAKERS A or B on the front panel or SPEAKERS on the remote control.	32
	The volume is turned down.	Turn up the volume.	—
	The sound is muted.	Press MUTE or VOLUME +/– on the remote control to resume audio output and then adjust the volume.	34
	"INPUT MODE" is set to "ANALOG" while playing a source encoded in DTS.	Set "INPUT MODE" to "AUTO" or "DTS".	35
	Signals this unit cannot reproduce are being input from a source component, such as a CD-ROM.	Play a source whose signals can be reproduced by this unit.	—
No picture	The output and input for the picture are connected to different types of video jacks.	Set "VIDEO CONV." to "ON".	79

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Problem	Cause	Remedy	See page
The sound suddenly goes off.	The protection circuitry has been activated because of a short circuit, etc.	Check that the speaker impedance setting is correct.	27, 83
		Check that the speaker wires are not touching each other and then turn this unit back on.	—
	The sleep timer has turned off this unit.	Turn on this unit, and play the source again.	—
	The sound is muted.	Press MUTE or VOLUME +/– on the remote control to resume audio output.	34
Sound is heard from the speaker on one side only.	Incorrect cable connections.	Connect the cables properly. If the problem persists, the cables may be defective.	13
	Incorrect settings in "SPEAKER LEVEL".	Adjust the "SPEAKER LEVEL" settings.	74
Only the center speaker outputs substantial sound.	When playing a monaural source with a CINEMA DSP program, the source signal is directed to the center channel, and the front and surround speakers output effect sounds.		
No sound is heard from the center speaker.	"CENTER SP" in "SET MENU" is set to "NONE".	Set "CENTER SP" to "SML" or "LRG".	73
	One of the HiFi DSP programs (except for "6ch Stereo") has been selected.	Try another sound field program.	57
No sound is heard from the surround speakers.	"SUR. L/R SP" in "SET MENU" is set to "NONE".	Set "SUR. L/R SP" to "SML" or "LRG".	73
	This unit is in the "STRAIGHT" mode and a monaural source is being played back.	Press STRAIGHT (EFFECT) on the front panel so that "STRAIGHT" disappears from the front panel display.	39
No sound is heard from the surround back speaker.	"SUR. L/R SP" in "SET MENU" is set to "NONE" and "SUR. B SP" is automatically set to "NONE".	Set "SUR. L/R SP" and "SUR. B SP" to "SML" or "LRG".	73
	"SUR. B SP" in "SET MENU" is set to "NONE".	Set "SUR. B SP" to "SML" or "LRG".	73
No sound is heard from the subwoofer.	"LFE/BASS OUT" in "SET MENU" is set to "FRNT" when a Dolby Digital or DTS signal is being played.	Set "LFE/BASS OUT" to "SWFR" or "BOTH".	73
	"LFE/BASS OUT" in "SET MENU" is set to "SWFR" or "FRNT" when a 2-channel source is being played.	Set "LFE/BASS OUT" to "BOTH".	73
	The source does not contain low-frequency signals.		

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Problem	Cause	Remedy	See page
Dolby Digital or DTS sources cannot be played. (Dolby Digital or DTS indicator in the front panel display does not light up.)	The connected component is not set to output Dolby Digital or DTS digital signals.	Make an appropriate setting following the operating instructions for your component.	—
	"INPUT MODE" is set to "ANALOG".	Set "INPUT MODE" to "AUTO" or "DTS".	35
A humming sound is heard.	Incorrect cable connections.	Connect the audio cables firmly. If the problem persists, the cables may be defective.	—
The volume level cannot be increased, or the sound is distorted.	The component connected to the AUDIO OUT (REC) jacks of this unit is turned off.	Turn on the power of the component.	—
The sound effect cannot be recorded.	It is not possible to record the sound effect with a recording component.		
A source cannot be recorded by a digital recording component connected to the DIGITAL OUTPUT jack.	The source component is not connected to the DIGITAL INPUT jacks of this unit.	Connect the source component to the DIGITAL INPUT jacks.	19, 21
	Some components cannot record the Dolby Digital or DTS sources.		
A source cannot be recorded by an analog component connected to the AUDIO OUT (REC) jacks.	The source component is not connected to the analog AUDIO IN jacks of this unit.	Connect the source component to the analog AUDIO IN jacks.	21
The sound field parameters and some other settings of this unit cannot be changed.	"MEMORY GUARD" in "SET MENU" is set to "ON".	Set "MEMORY GUARD" to "OFF".	80
This unit does not operate properly.	The internal microcomputer has been frozen by an external electric shock (such as lightning or excessive static electricity) or by a power supply with low voltage.	Disconnect the power cable from the AC wall outlet and then plug it in again after about 30 seconds.	—
"CHECK SP WIRES" appears in the front panel display.	Speaker cables are short-circuited.	Make sure all speaker cables are connected correctly.	13
There is noise interference from digital or radio frequency equipment.	This unit is too close to the digital or high-frequency equipment.	Move this unit further away from such equipment.	—
The picture is disturbed.	The video source uses scrambled or encoded signals to prevent dubbing.		
This unit suddenly enters the standby mode.	The internal temperature becomes too high and the overheat protection circuitry has been activated.	Wait about 1 hour for this unit to cool down and then turn it back on.	—

ADDITIONAL INFORMATION

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■ Tuner

	Problem	Cause	Remedy	See page
FM	**FM stereo reception is noisy.**	The characteristics of FM stereo broadcasts may cause this problem when the transmitter is too far away or the antenna input is poor.	Check the antenna connections.	24
			Try using a high-quality directional FM antenna.	—
			Use the manual tuning method.	47
	There is distortion, and clear reception cannot be obtained even with a good FM antenna.	There is multi-path interference.	Adjust the antenna position to eliminate multi-path interference.	—
	The desired station cannot be tuned into with the automatic tuning method.	The signal is too weak.	Use a high-quality directional FM antenna.	—
			Use the manual tuning method.	47
	Previously preset stations can no longer be tuned into.	This unit has been disconnected for a long period.	Set preset stations	48, 49
AM	**The desired station cannot be tuned into with the automatic tuning method.**	The signal is weak or the antenna connections are loose.	Tighten the AM loop antenna connections and orient it for the best reception.	—
			Use the manual tuning method.	47
	There are continuous crackling and hissing noises.	Noises result from lightning, fluorescent lamps, motors, thermostats and other electrical equipment.	Use an outdoor antenna and a ground wire. This will help somewhat, but it is difficult to eliminate all noise.	—
	There are buzzing and whining noises.	A TV set is being used nearby.	Move this unit away from the TV set.	—

■ Remote control

Problem	Cause	Remedy	See page
The remote control does not work nor function properly.	Wrong distance or angle.	The remote control functions within a maximum range of 6 m and no more than 30 degrees off-axis from the front panel.	8
	Direct sunlight or lighting (from an inverter type of fluorescent lamp, etc.) is striking the remote control sensor of this unit.	Reposition this unit.	—
	The batteries are weak.	Replace all batteries.	3
	The remote control code is not correctly set.	Set the remote control code correctly using "LIST OF REMOTE CONTROL CODES" at the end of this manual.	86
		Try setting another code for the same manufacturer using "LIST OF REMOTE CONTROL CODES" at the end of this manual.	86
	The library code of the remote control and the remote control ID of this unit do not match.	Match the remote control ID of this unit with the corresponding remote control library code.	83, 87
	Even if the remote control code is correctly set, there are some models that do not respond to the remote control.		

■ iPod

Note

In case of a transmission error without a status message appearing in the front panel and in the OSD, check the connection to your iPod (see page 22).

Status message	Cause	Remedy	See page
Loading...	This unit is in the middle of recognizing the connection with your iPod.		
	This unit is in the middle of acquiring song lists from your iPod.		
Connect error	There is a problem with the signal path from your iPod to this unit.	Turn off this unit and reconnect the YAMAHA iPod universal dock to the DOCK terminal of this unit.	22
		Try resetting your iPod.	—
Unknown type	The iPod being used is not supported by this unit.	Only iPod (Click and Wheel), iPod nano, and iPod mini are supported.	—
iPod connected	Your iPod is properly stationed in a YAMAHA iPod universal dock (such as YDS-10 sold separately) connected to the DOCK terminal of this unit, and the connection between your iPod and this unit is complete.		
Disconnected	Your iPod was removed from a YAMAHA iPod universal dock (such as YDS-10 sold separately) connected to the DOCK terminal of this unit.	Station your iPod back in a YAMAHA iPod universal dock (such as YDS-10 sold separately) connected to the DOCK terminal of this unit.	22
Unable to play	This unit cannot play back the songs currently stored on your iPod.	Check that the songs currently stored on your iPod are playable.	—
		Store some other playable music files on your iPod.	—

ADDITIONAL INFORMATION

English

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GLOSSARY

Audio information

■ Dolby Digital

Dolby Digital is a digital surround sound system that gives you completely independent multi-channel audio. With 3 front channels (front L/R and center), and 2 surround stereo channels, Dolby Digital provides 5 full-range audio channels. With an additional channel especially for bass effects, called LFE (Low Frequency Effect), the system has a total of 5.1-channels (LFE is counted as 0.1 channel). By using 2-channel stereo for the surround speakers, more accurate moving sound effects and surround sound environment are possible than with Dolby Surround. The wide dynamic range from maximum to minimum volume reproduced by the 5 full-range channels and the precise sound orientation generated using digital sound processing provide listeners with unprecedented excitement and realism. With this unit, any sound environment from monaural up to a 5.1-channel configuration can be freely selected for your enjoyment.

■ Dolby Digital EX

Dolby Digital EX creates 6 full-bandwidth output channels from 5.1-channel sources. This is done using a matrix decoder that derives 3 surround channels from the 2 in the original recording. For the best results, Dolby Digital EX should be used with movie sound tracks recorded with Dolby Digital Surround EX. With this additional channel, you can experience more dynamic and realistic moving sound especially with scenes with "fly-over" and "fly-around" effects.

■ Dolby Pro Logic II

Dolby Pro Logic II is an improved technique used to decode vast numbers of existing Dolby Surround sources. This new technology enables a discrete 5-channel playback with 2 front left and right channels, 1 center channel, and 2 surround left and right channels instead of only 1 surround channel for conventional Pro Logic technology. There are three modes available: "Music mode" for music sources, "Movie mode" for movie sources and "Game mode" for game sources.

■ Dolby Pro Logic IIx

Dolby Pro Logic IIx is a new technology enabling discrete multi-channel playback from 2-channel or multi-channel sources. There are three modes available: "Music mode" for music sources, "Movie mode" for movie sources (for 2-channel sources only) and "Game mode" for game sources.

■ Dolby Surround

Dolby Surround uses a 4-channel analog recording system to reproduce realistic and dynamic sound effects: 2 front left and right channels (stereo), a center channel for dialog (monaural), and a surround channel for special sound effects (monaural). The surround channel reproduces sound within a narrow frequency range. Dolby Surround is widely used with nearly all video tapes and laser discs, and in many TV and cable broadcasts as well. The Dolby Pro Logic decoder built into this unit employs a digital signal processing system that automatically stabilizes the volume on each channel to enhance moving sound effects and directionality.

■ DTS 96/24

DTS 96/24 offers an unprecedented level of audio quality for multi-channel sound on DVD video, and is fully backward-compatible with all DTS decoders. "96" refers to a 96 kHz sampling rate compared to the typical 48 kHz sampling rate. "24" refers to 24-bit word length. DTS 96/24 offers sound quality transparent to the original 96/24 master, and 96/24 5.1-channel sound with full-quality full-motion video for music programs and motion picture soundtracks on DVD video.

■ DTS (Digital Theater Systems) Digital Surround

DTS digital surround was developed to replace the analog soundtracks of movies with a 6.1-channel digital sound track, and is now rapidly gaining popularity in movie theaters around the world. Digital Theater Systems Inc. has developed a home theater system so that you can enjoy the depth of sound and natural spatial representation of DTS digital surround in your home. This system produces practically distortion-free 6.1-channel sound (technically, front left and right, center, surround left and right, and LFE 0.1 (subwoofer) channels for a total of 5.1 channels). This unit incorporates a DTS-ES decoder that enables 6.1-channel reproduction by adding the surround back channel to the existing 5.1-channel format.

■ ITU-R

ITU-R is the radio communication sector of the ITU (International Telecommunication Union). ITU-R recommends a standard speaker placement which is used in many critical listening rooms, especially for mastering purposes.

■ LFE 0.1 channel

This channel reproduces low-frequency signals. The frequency range of this channel is from 20 Hz to 120 Hz. This channel is counted as 0.1 because it only enforces a low-frequency range compared to the full-range reproduced by the other 5/6 channels in Dolby Digital or DTS 5.1/6.1-channel systems.

■ Neo:6

Neo:6 decodes the conventional 2-channel sources for 6-channel playback by the specific decoder. It enables playback with the full-range channels with higher separation just like digital discrete signal playback. There are two modes available: "Music mode" for music sources and "Cinema mode" for movie sources.

■ PCM (Linear PCM)

Linear PCM is a signal format under which an analog audio signal is digitized, recorded and transmitted without using any compression. This is used as a method of recording CDs and DVD audio. The PCM system uses a technique for sampling the size of the analog signal per very small unit of time. Standing for "Pulse Code Modulation", the analog signal is encoded as pulses and then modulated for recording.

■ Sampling frequency and number of quantized bits

When digitizing an analog audio signal, the number of times the signal is sampled per second is called the sampling frequency, while the degree of fineness when converting the sound level into a numeric value is called the number of quantized bits. The range of rates that can be played back is determined based on the sampling rate, while the dynamic range representing the sound level difference is determined by the number of quantized bits. In principle, the higher the sampling frequency, the wider the range of frequencies that can be played back, and the higher the number of quantized bits, the more finely the sound level can be reproduced.

Video information

■ Component video signal

With the component video signal system, the video signal is separated into the Y signal for the luminance and the P_B and P_R signals for the chrominance. Color can be reproduced more faithfully with this system because each of these signals is independent. The component signal is also called the "color difference signal" because the luminance signal is subtracted from the color signal. A monitor with component input jacks is required in order to output component signals.

■ Composite video signal

With the composite video signal system, the video signal is composed of three basic elements of a video picture: color, brightness and synchronization data. A composite video jack on a video component transmits these three elements combined.

■ S-video signal

With the S-video signal system, the video signal normally transmitted using a pin cable is separated and transmitted as the Y signal for the luminance and the C signal for the chrominance through the S-video cable. Using the S VIDEO jack eliminates video signal transmission loss and allows recording and playback of even more beautiful images.

ADDITIONAL INFORMATION

English

Sound field program information

■ CINEMA DSP

Since the Dolby Surround and DTS systems were originally designed for use in movie theaters, their effect is best felt in a theater having many speakers designed for acoustic effects. Since home conditions, such as room size, wall material, number of speakers, and so on, can differ so widely, it is inevitable that there are differences in the sound heard. Based on a wealth of actually measured data, YAMAHA CINEMA DSP uses YAMAHA original sound field technology to combine Dolby Pro Logic, Dolby Digital and DTS systems to provide the audiovisual experience of movie theater in the listening room of your own home.

■ SILENT CINEMA

YAMAHA has developed a natural, realistic sound effect DSP algorithm for headphones. Parameters for headphones have been set for each sound field so that accurate representations of all the sound field programs can be enjoyed on headphones.

■ Virtual CINEMA DSP

YAMAHA has developed a Virtual CINEMA DSP algorithm that allows you to enjoy DSP sound field surround effects even without any surround speakers by using virtual surround speakers. It is even possible to enjoy Virtual CINEMA DSP using a minimal two-speaker system that does not include a center speaker.

SPECIFICATIONS

AUDIO SECTION

- Minimum RMS Output Power for Front, Center, Surround, Surround back
  20 Hz to 20 kHz, 0.06% THD, 8 Ω .... 95 W

- Maximum Power (EIAJ)
  [Asia, China, Korea and General models]
  1 kHz, 10% THD, 8 Ω .... 135 W

- Dynamic Power (IHF)
  8/6/4/2 Ω .... 130/165/195/240 W

- Maximum Output Power [Europe model]
  1 kHz, 0.7% THD, 4 Ω .... 145 W

- IEC Output Power [Europe and Asia models]
  1 kHz, 0.06% THD, 8 Ω .... 105 W

- Damping Factor (IHF)
  20 Hz to 20 kHz, 8 Ω .... 120 or more

- Frequency Response
  CD terminal to Front L/R .... 10 Hz to 100 kHz, –3 dB

- Total Harmonic Distortion
  CD, etc. to Front L/R (20 Hz to 20 kHz, 50 W, 8 Ω)
  .... 0.06% or less

- Signal to Noise Ratio (IHF-A Network)
  CD (250 mV) to Front L/R, Effect Off .... 100 dB or more

- Residual Noise (IHF-A Network)
  Front L/R .... 150 µV or less

- Channel Separation (1 kHz/10 kHz)
  CD (5.1 kΩ terminated) to Front L/R .... 60 dB/45 dB or more

- Tone Control (Front L/R)
  BASS Boost/Cut .... ±10 dB/60 Hz
  TREBLE Boost/Cut .... ±10 dB/20 kHz

- Phones Output .... 150 mV/100 Ω

- Input Sensitivity/Input Impedance
  CD, etc. .... 200 mV/47 kΩ
  MULTI CH INPUT .... 200 mV/47 kΩ

- Output Level/Output Impedance
  REC OUT .... 200 mV/1.2 kΩ
  SUBWOOFER .... 4 V/1.2 kΩ
  ZONE 2 OUTPUT .... 200 mV/1.2 kΩ

VIDEO SECTION

- Video Signal Type .... PAL/NTSC

- Signal to Noise Ratio .... 50 dB or more

- Frequency Response (MONITOR OUT)
  Component .... 5 Hz to 60 MHz, –3 dB

FM SECTION

- Tuning Range
  [U.S.A. and Canada models] .... 87.5 to 107.9 MHz
  [Asia and General models] .... 87.5/87.50 to 108.0/108.00 MHz
  [Other models] .... 87.50 to 108.00 MHz

- Usable Sensitivity (IHF) .... 1.0 µV (11.2 dBf)

- Signal to Noise Ratio (IHF)
  Mono/Stereo .... 76 dB/70 dB

- Harmonic Distortion (1 kHz)
  Mono/Stereo 0.2%/0.3%

- Stereo Separation (1 kHz) .... 42 dB

- Frequency Response .... 20 Hz to 15 kHz, +0.5, –2 dB

AM SECTION

- Tuning Range
  [U.S.A. and Canada models] .... 530 to 1710 kHz
  [Asia and General models] .... 530/531 to 1710/1611 kHz
  [Other models] .... 531 to 1611 kHz

- Usable Sensitivity .... 300 µV/m

GENERAL

- Power Supply
  [U.S.A. and Canada models] .... AC 120 V, 60 Hz
  [Australia model] .... AC 240 V, 50 Hz
  [China model] .... AC 220 V, 50 Hz
  [Korea model] .... AC 220 V, 60 Hz
  [U.K. and Europe models] .... AC 230 V, 50 Hz
  [General model] .... AC 110/120/220/230–240 V, 50/60 Hz
  [Asia model] .... AC 220/230–240 V, 50/60 Hz

- Power Consumption
  [U.S.A. and Canada models] .... 350 W/440 VA
  [Other models] .... 360 W

- Standby Power Consumption .... 0.1 W or less

- AC Outlets
  [Australia model] .... 1 (Total 100 W maximum)
  [U.S.A., Canada and China models] ... 2 (Total 100 W maximum)
  [Europe, Asia and General models] ..... 2 (Total 50 W maximum)

- Dimensions (W x H x D) .... 435 x 171 x 393 mm
  (17.1 x 6.7 x 15.5 in)

- Weight .... 11 kg (24.3 lbs)

LIST OF REMOTE CONTROL CODES
LISTE DES CODES DE COMMANDE
LISTE DER FERNBEDIENUNGSCODES
LISTA ÖVER FJÄRRKONTROLLKODER
LIJST MET AFSTANDSBEDIENINGSCODES
СПИСОК КОДОВ ДИСТАНЦИОННОГО УПРАВЛЕНИЯ

CABLE TV RECEIVER

ABC	10003
ADB	11230, 11269
AICHI DENSHI	11512
AMSTRAD	11222
AUNA	11230, 11269
AUSTAR	10276
BIRMINGHAM CABLE COMMUNICATIONS	10276
BRITISH TELECOM	10003
CABLE & WIRELESS	11068
DX ANTENNA	11500, 11502
FASTWEB	11630
FRANCE TELECOM	10817, 11734
FREEBOX	11482
FUJITSU	11497
GENERAL INSTRUMENT	10003, 10276
GOLDEN CHANNEL	11110
HOMECHOICE	11590
JERROLD	10003, 10276
MACAB	10817
MADRITEL	11230
MASPRO	11510
MOTOROLA	10276, 11106, 11483
MR ZAP	11112
MR. ZAP	11112
NEC	11496
NOKIA	11569
NOOS	10817, 11624
NTL	10003, 11060, 11068
ONO	11068
OPTUS	10276
PACE	11060, 11068, 11577
PANASONIC	10375, 11488
PHILIPS	10817
PIONEER	11021, 11500
PVP STEREO VISUAL MATRIX	10003
SAGEM	10817, 11112, 11624
SAMSUNG	11060, 11666
SATBOX	10375
SCIENTIFIC ATLANTA	11510
SONY	11460
STARCOM	10003
SUMITOMO	11500, 11503, 11504
SUPERCABLE	10276
TELE DANMARK	11016
TELEWEST	11068
THOMSON	11110, 11734
TORX	10003
TOSHIBA	11509
TRI-VISION	11257
UNITED CABLE	10003
UPC	11582
US ELECTRONICS	10276

CABLE/PVR COMBINATION

FRANCE TELECOM	11734
FREEBOX	11482
MOTOROLA	11106
NOKIA	11569
NOOS	11624
SUPERCABLE	10276
THOMSON	11734
UPC	11582

DBS/PVR COMBINATION

@SAT	11300
ATSAT	11300
BRITISH SKY BROADCASTING	11175
CANALSATELLITE	11339
COMAG	11412
DIGIFUSION	11645
DIRECTV	10099, 10639
DREAM MULTIMEDIA	11237
ECHOSTAR	10610
FORCE	11194
FOXTEL	11356
GBSAT	11214
HUMAX	11176, 11427, 11670, 11675
KATHREIN	11221, 11561
MAXIMUM	11334
NOKIA	11310, 11311
OPENTEL	11412
PACE	11423, 11623
PANASONIC	11320
PHILIPS	10099
REBOX	11214
SAGEM	11253, 11307, 11692
SHARP	11489
SIEMENS	11657
SKY	11175, 11848, 11850
SKYPLUS	11412
SONY	10639
STRONG	11300
THOMSON	11534, 11900
TOPFIELD	11206, 11545
TPS	11253, 11307
ZEHNDER	11075, 11412

SATELLITE RECEIVER

@SAT	11300
@SKY	11334
ABSAT	10713
ADB	10642, 11259, 11367, 11473, 11491
AIWA	11514, 11515
AKAI	10200
ALBA	10713, 11284
ALLSAT	10200, 11017, 11043
ALLSONIC	10369
ALLTECH	10713
ALLVISION	11232, 11334, 11412
AMITRONICA	10713
AMPERE	10132
AMSTRAD	10132, 10713, 10847, 10885, 11113, 11175
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BIG SAT	11457
BLACK DIAMOND	11284
BLAUPUNKT	10173
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BOSTON	11251
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COLUMBIA	10132
COMAG	10132, 11232, 11366, 11412, 11413, 11579
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CONRAD	10132, 10369
COSHIP	11457
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DELTASAT	11075
DGTEC	11242
DIGENIUS	10299, 11161
DIGIALITY	11685
DIGIFUSION	11645
DIGIQUEST	11457, 11473
DIGISAT	11232
DIGISKY	11457
DIGITALL WORLD	11227
DIJAM	11296
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DISTRATEL	10885, 11283, 11704
DMT	11075
DNT	10200
DREAM MULTIMEDIA	11237
DUNE	10369
DX ANTENNA	11530
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FERGUSON 10711, 11291		MYSAT 10713	RADIX 11113
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YAMAHA CORPORATION
Printed in Malaysia   WG73470