YAMAHA

RX-V371

AV Receiver

Owner's Manual

English for North America

CONTENTS

INTRODUCTION

Features and capabilities

About this manual

- 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.
- "4 HDMI1" (example) indicates the name of the parts on the remote control. Refer to the "Remote control" (☞p. 8) for the information about each position of the parts.
- ※1 indicates that the reference is in the footnote. Refer to the corresponding numbers on the bottom of the page.
- ☞ indicates the page describing the related information.
- Click on the "[⬛⬛⬛○↳]" at the bottom of the page to display the corresponding page in "Part names and functions."
  - [○···○↳] Front panel
  - [⬛⬛⬛↳] Rear panel
  - [⬛⬛⬛↳] Front panel display
  - [⬛⬛↳] Remote control

Supplied accessories

Check that you received all of the following parts.
- Remote control
- Batteries (AAA, R03, UM-4) x 2
- AM loop antenna
- Indoor FM antenna
- VIDEO AUX input cover

■ Attaching the VIDEO AUX input cover (included)

To protect against dust, attach the supplied VIDEO AUX input cover to the VIDEO AUX jacks when you do not use the jacks. To remove the cover, push the left section of it.

Attach the cover
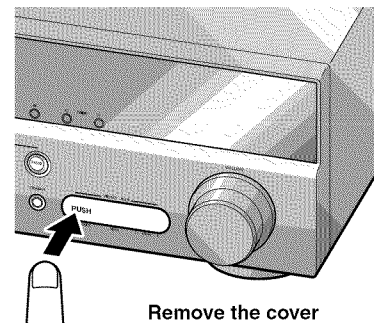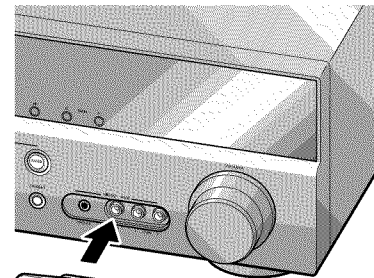
Remove the cover

■ Installing batteries in the remote control

When inserting batteries in the remote control, remove the battery compartment cover from the reverse side of the remote control, and insert two AAA batteries into the battery compartment so that they match with the polarity markings (+ and -).

Battery compartment cover

Battery compartment
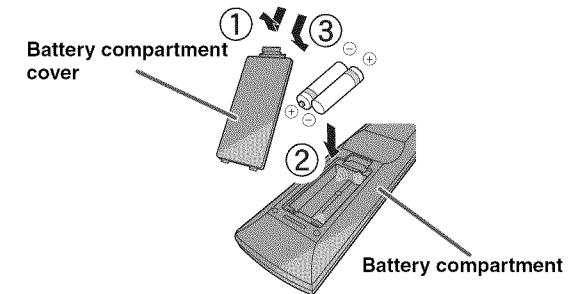
Replace the batteries with new ones if the following symptoms become evident:
- The remote control can only be operated within a narrow range.
- 2 TRANSMIT does not light up, or only lights dimly.

NOTE

If there are remote control codes for external components registered to the remote control, removing the batteries for more than two minutes, or leaving exhausted batteries in the remote control, the remote control codes may be cleared. If this should occur, replace the batteries with new ones, and set the remote control codes.

Part names and functions

Front panel

① ⏻ **(Power)**
Switches this unit between on and standby modes.

② **INFO**
Changes the information shown on the front panel display (☞p. 7).

③ **MEMORY**
Registers FM/AM stations as preset stations (☞p. 32). ☀1

④ **PRESET ⟨ / ⟩**
Selects an FM/AM preset station (☞p. 32). ☀1

⑤ **FM**
Sets the FM/AM tuner band to FM (☞p. 30). ☀1

⑥ **AM**
Sets the FM/AM tuner band to AM (☞p. 30). ☀1

⑦ **TUNING ⟨⟨ / ⟩⟩**
Changes FM/AM tuner frequencies (☞p. 30). ☀1

⑧ **Front panel display**
Displays information on this unit (☞p. 7).

⑨ **PHONES jack**
For plugging headphones in. Sound effects applied during playback can also be heard through the headphones.

⑩ **INPUT ◁ / ▷**
Selects an input source from which to playback. Press either the left or right key repeatedly to cycle through the input sources in order.

⑪ **SCENE**
Switches the input source and the sound field program with a single button (☞p. 26). Press this key when this unit is in standby mode to switch on the unit.

⑫ **TONE CONTROL**
Adjusts high-frequency/low-frequency output of speakers/headphones (☞p. 25).

⑬ **PROGRAM ◁ / ▷**
Switches between the sound field effect (sound field program) you are using and the surround sound decoder (☞p. 26). Press either the left or right key repeatedly to cycle through the input sources in order.

⑭ **STRAIGHT**
Changes a sound field program to straight decoding mode (☞p. 27).

⑮ **VIDEO AUX jacks**
For connecting video cameras, game consoles, and portable music players to this unit temporarily.
Attach the supplied VIDEO AUX input cover when not using this jack.

⑯ **VOLUME**
Adjusts the volume level.
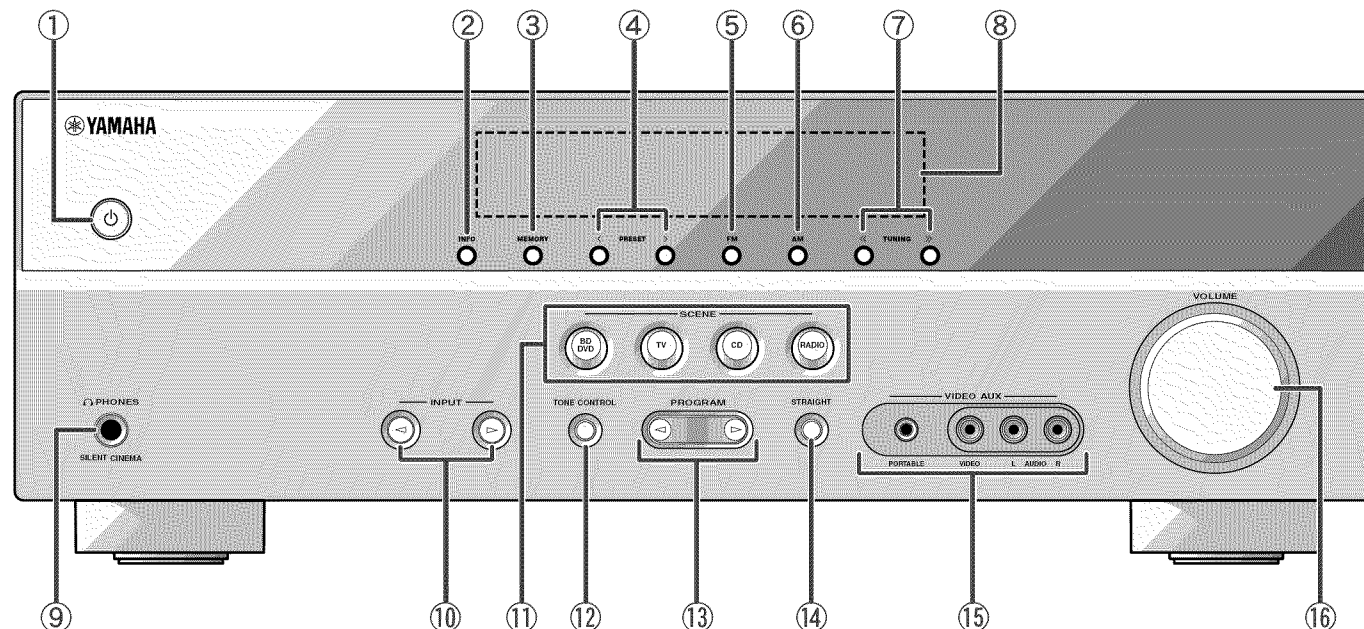
☀1 : Usable when you have selected tuner input.

Rear panel

① **DOCK jack**
For connecting an optional Yamaha iPod universal dock (such as YDS-12) (☞p. 34) or Bluetooth wireless audio receiver (YBA-10) (☞p. 36).

② **HDMI OUT jack**
For connecting an HDMI - compatible TV to output audio/video signals to (☞p. 14).

③ **HDMI1-4 jacks**
For connecting external components equipped with HDMI-compatible outputs to receive audio/video signals from (☞p. 16).

④ **ANTENNA jacks**
For connecting AM and FM antennas (☞p. 21).

⑤ **COMPONENT VIDEO jacks**
For connecting TV that are compatible with component video signals, using three cables to output video signal (☞p. 14).

⑥ **AV1-5 jacks**
For connecting to external devices equipped with audio/video outputs so that this unit can receive audio/video signals (☞p. 17, p. 18).

⑦ **AV OUT jacks**
For outputting audio/video signals received when analog inputs (AV3-5 or AUDIO1-2) are selected (☞p. 20).

⑧ **AUDIO1-2 jacks**
For connecting to external components equipped with analog audio outputs to input sound into this unit (☞p. 19).

⑨ **MONITOR OUT jack**
For connecting a TV capable of receiving video input, and outputting video signals to it (☞p. 15).

⑩ **AUDIO OUT jacks**
For outputting audio signals received when analog inputs such as the AV5 or AUDIO1-2 jacks are selected (☞p. 20).

⑪ **SUBWOOFER jack**
For connecting a subwoofer with a built-in amplifier (☞p. 12).

⑫ **SPEAKER terminals**
For connecting the front, center, and surround speakers (☞p. 12).

⑬ **Power cord**
For connecting this unit to an AC wall outlet.
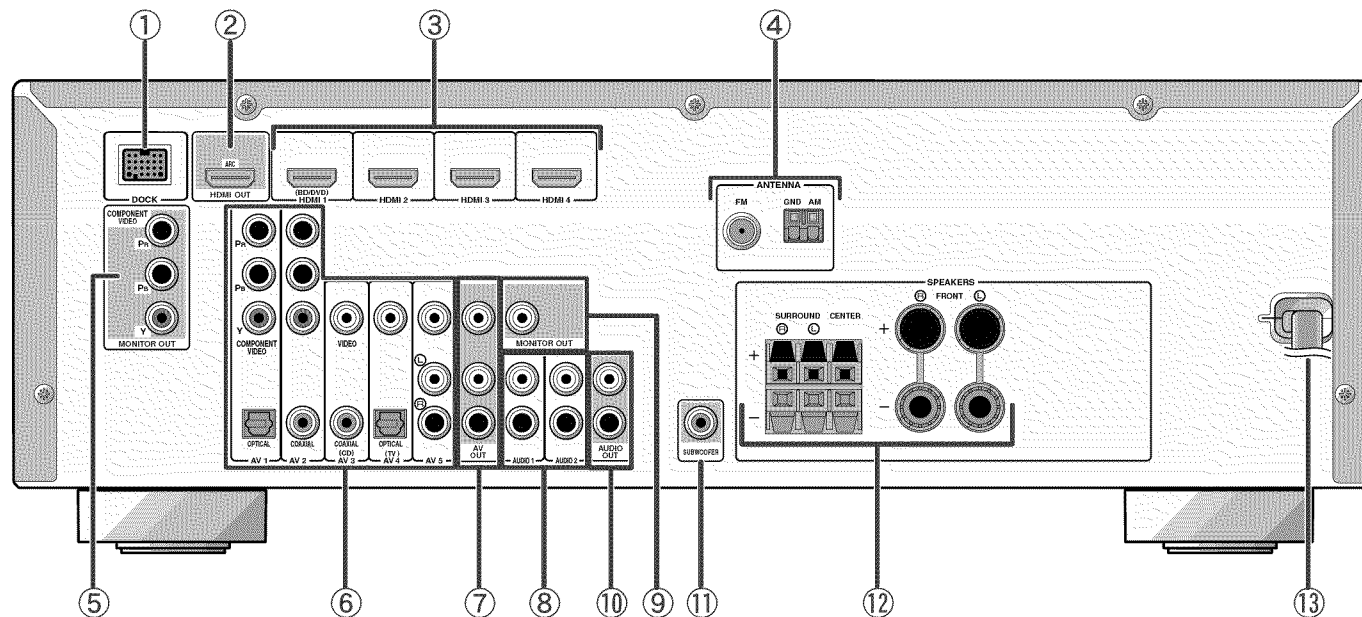
Distinguishing the input and output jacks
The area around the audio/video output jacks is marked in white to prevent connection errors. Use these jacks to output audio/video signals to a TV or other external component.

Output jacks
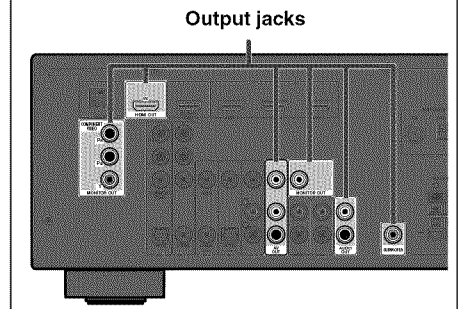
Front panel display

① **HDMI indicator**
Lights up when HDMI signals are input at the selected HDMI input source.

② **CINEMA DSP indicator**
Lights up when a sound field effect that uses CINEMA DSP technology is selected.

③ **Tuner indicator**
Lights up when receiving an FM/AM broadcast.

④ **iPod CHARGE indicator**
Lights up when an iPod/iPhone is connected through an optional Yamaha iPod universal dock (such as YDS-12), and the iPod Standby Charge function is active (☞p. 35).

⑤ **SLEEP indicator**
Lights up when the sleep timer is activated (☞p. 8).

⑥ **MUTE indicator**
Flashes when audio is muted.

⑦ **VOLUME indicator**
Displays the current volume level.

⑧ **Cursor indicators**
Light up if corresponding cursors on the remote control are available for operations.

⑨ **Multi information display**
Displays a range of information on menu items and settings.

⑩ **Speaker indicators**
Indicate speaker terminals from which signals are output.

Subwoofer — **SW**
Front speaker L — **L** — **C** — **R** — Front speaker R
Surround speaker L — **SL** — **SR** — Surround speaker R
Center speaker
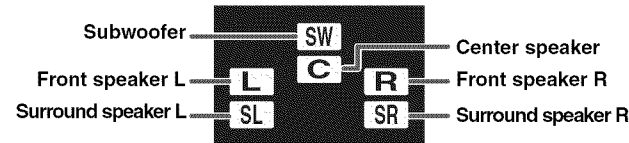
■ Changing the front panel display
The front panel can display sound field programs and surround decoder names as well as the active input source.
Press ⑥INFO repeatedly to cycle through input source → sound field program → surround decoder in order. ☼1

Input source name

Sound field program (DSP program)
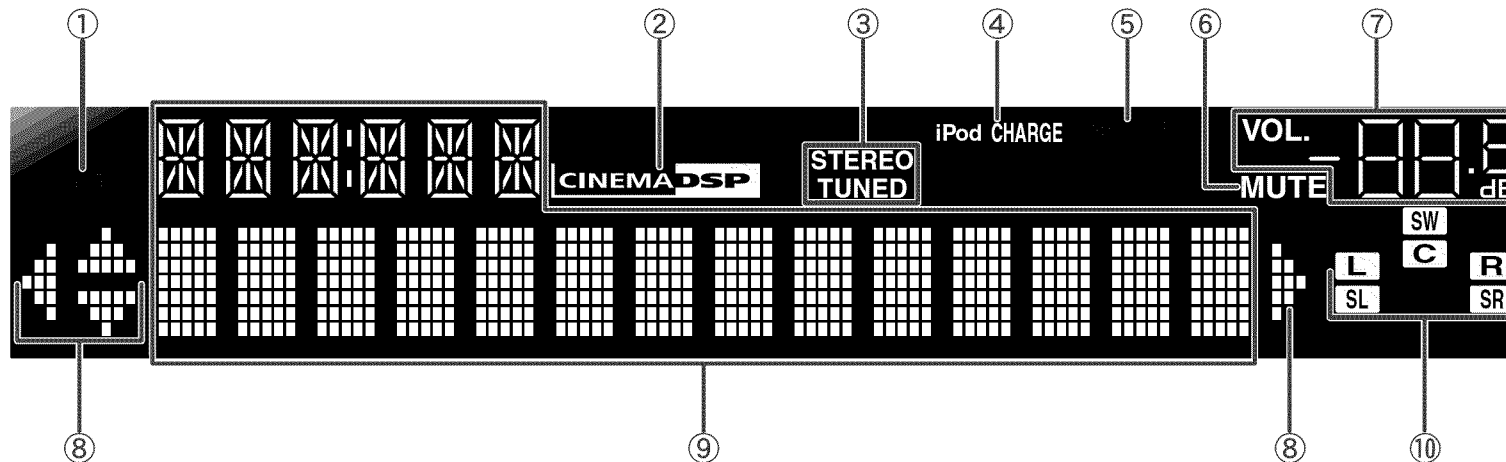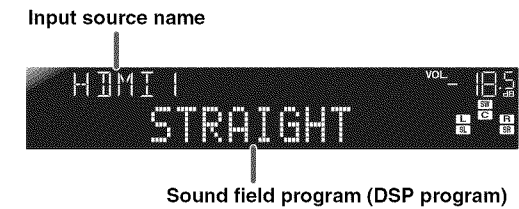
☼1 : While selecting a tuner input, the FM/AM frequency is displayed instead of the input source.

En 7
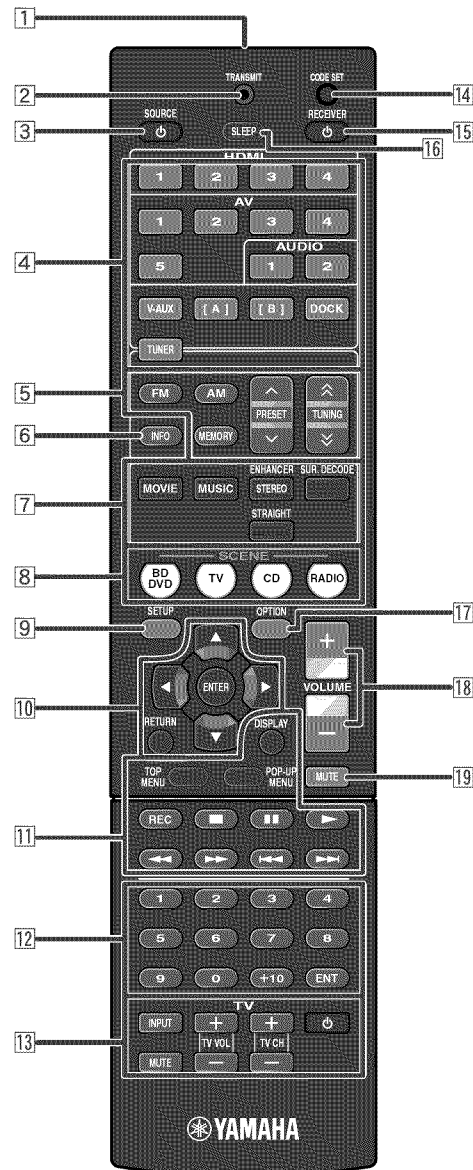
Remote control

[1] **Remote control signal transmitter**
Transmits infrared signals.

[2] **TRANSMIT**
Lights up when a signal is output from the remote control.

[3] **SOURCE ☉ (SOURCE Power)**
Switches an external component on and off.

[4] **Input selector**
Select an input source on this unit from which to playback.

HDMI1-4	HDMI1-4 jacks
AV1-5	AV1-5 jacks
AUDIO1-2	AUDIO1-2 jacks
V-AUX	Front panel VIDEO AUX jacks
[A]/[B]	Changes the external component you operating with the [11]**External component operation keys** without changing inputs. ☀1
DOCK	A Yamaha iPod universal dock or Bluetooth wireless audio receiver connected to the DOCK jack.
TUNER	FM/AM tuner
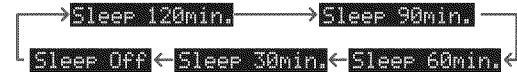
[5] **Tuner keys**
Operates the FM/AM tuner. These keys are used when using the tuner input.

FM	Sets the FM/AM tuner band to FM.
AM	Sets the FM/AM tuner band to AM.
MEMORY	Presets radio stations.
PRESET ∧ / ∨	Selects a preset station.
TUNING ⋀ / ⋁	Changes tuning frequencies.

[6] **INFO**
Cycles the information displayed on the front panel display (the name of the currently selected input source, the sound field program, the surround decoder, the FM/AM tuner frequency, etc.)(☞p. 7).

[7] **Sound selection keys**
Switch between the sound field effect (sound field program) you are using and the surround decoder (☞p. 26).

[8] **SCENE**
Switches the input source and the sound field program with a single button (☞p. 26). Press this key when this unit is in standby mode to switch on the unit.

[9] **SETUP**
Displays a detailed Setup menu for this unit (☞p. 41).

[10] **Cursor △ / ▽ / ◁ / ▷, ENTER, RETURN**

Cursor △ / ▽ / ◁ / ▷	Select menu items and change settings when settings menus, etc are displayed.
ENTER	Confirms a selected item.
RETURN	Returns to the previous screen when setting menus are displayed, or ends the menu display.

[11] **External component operation keys**
Operate recording, playback, and menu displays etc. for external components. ☀1

[12] **Numeric keys**
Enter numbers.

[13] **TV control keys**
Operate a monitor such as a TV.

[14] **CODE SET**
Sets remote control codes for external component operations (☞p. 52, p. 56).

[15] **RECEIVER ☉ (RECEIVER Power)**
Switches this unit between on and standby modes.

[16] **SLEEP**
Sets this unit to place itself in standby mode automatically after a specified period of time has elapsed (sleep timer). Press this key repeatedly to set the time for the sleep timer function. The front panel display indicator lights up when the sleep timer is activated.

[17] **OPTION**
Displays the Option menu for each input source (☞p. 38).

[18] **VOLUME +/-**
Adjusts the volume level (☞p. 25).

[19] **MUTE**
Turns the mute function of the sound output on and off (☞p. 25).

☀1 : You can use separate [11]**External component operation keys** for each input source to operate registered components. Remote control codes must be registered for each input in advance if you wish to operate external components (☞p. 52).

CONNECTIONS

Connecting speakers

This unit uses acoustic field effects and sound decoders to bring you the impact of a real movie theater or concert hall. These effects will be brought to you with ideal speaker positioning and connections in your listening environment.

Speaker channels and functions

Front left and right speakers

The front speakers are used for the front channel sounds (stereo sound) and effect sounds.

Ex.
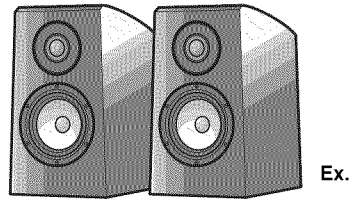
Front speaker layout:
Place these speakers at an equal distance from the ideal listening position in the front of the room.
When using a projector screen, the appropriate top positions of the speakers are about 1/4 of the screen from the bottom.

Center speaker

The center speaker is for the center channel sounds (dialog, vocals, etc.).

Ex.
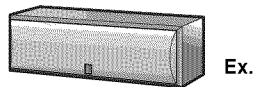
Center speaker layout:
Place it halfway between the left and right speakers. When using a TV, place the speaker just above or just under the center of the TV with the front surfaces of the TV and the speaker aligned.
When using a screen, place it just under the center of the screen.

Surround left and right speakers

The surround speakers are for effect and vocal sounds with the 5.1-channel speakers providing rear-area sounds.

Ex.
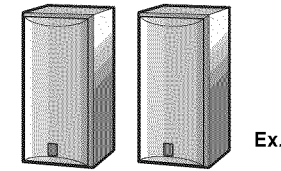
Surround speaker layout:
Place the speakers at the rear of the room on the left and right sides facing the listening position. They should be placed between 60 degrees and 80 degrees from the listening position and with the speaker tops at a height of 1.5 – 1.8 m from the floor.

Subwoofer

The subwoofer speaker is used for bass sounds and low-frequency effect (LFE) sounds included in Dolby Digital and DTS. Use a subwoofer that is equipped with an internal amplifier.

Ex.
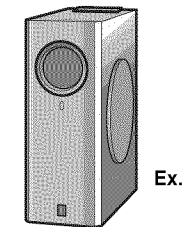
Subwoofer speaker layout:
Place it exterior to the front left and right speakers facing slightly inward to reduce echoes from the wall.

Connect your speakers to their respective terminals on the rear panel.

Front speaker

Surround speaker

Subwoofer   Center speaker

CAUTION
- Remove the AC power cord of this unit from the power outlet before connecting the speakers.
- Generally speaker cables consist of two parallel insulated cables. One of these cables is a different color, or has a line running along it, to indicate different polarity. Insert the different colored (or lined) cable into the "+" (positive, red) terminal on this unit and the speakers, and the other cable into the "-" (minus, black) terminal.
- Be careful that the core of the speaker cable does not touch anything or come into contact with the metal areas of this unit. This may damage this unit or the speakers. If the speaker cables short circuit, "CHECK SP WIRES!" will appear on the front panel display when this unit is switched on.

Connecting front speakers

1 Remove approximately 10mm of insulation from the ends of the speaker cables, and twist the bare wires of the cables together firmly so that they will not cause short circuits.

2 Loosen the speaker terminals.

3 Insert the bare wire of the speaker cable into the gap on the side of the terminal.

4 Tighten the terminal.

Connecting the banana plug (Except U.K., Europe, Asia and Korea models)

Tighten the knob, and then insert the banana plug into the end of the terminal.

Banana plug

Connecting center speakers / surround speakers

1 Press the tab on the speaker terminal down.

2 Insert the speaker cable end into the terminal.

3 Lift the tab to fix the speaker cable in place.

Connecting the subwoofer

1 Connect the subwoofer input jack to the SUBWOOFER jack on this unit with an audio pin cable.

2 Set the subwoofer volume as follows.

Volume: Set to approximately half volume (or slightly less than half).

Crossover frequency (if available): Set to maximum.

Subwoofer examples

Connecting external devices

Cable plugs and jacks

The main unit is equipped with the following input/output jacks. Use jacks and cables appropriate for components that you are going to connect.

Audio/Video jacks

HDMI jacks

Digital video and digital sound are transmitted through a single jack.
Only use an HDMI cable.
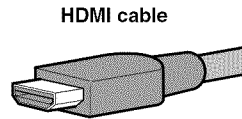
HDMI cable

- Use a 19-pin HDMI cable with the HDMI logo.
- We recommend using a cable less than 5.0 m long to prevent signal quality degradation.

Analog video jacks

COMPONENT VIDEO jacks

The signal is separated into three components: luminance (Y), chrominance blue (PB), and chrominance red (PR).
Use component video pin cables with three plugs.
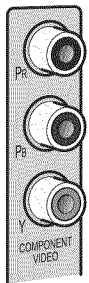
Component video pin cable
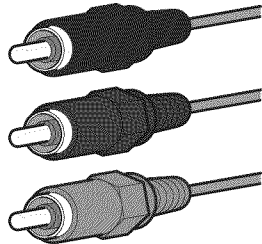
VIDEO jack

This jack transmits conventional analog video signals.
Use video pin cables.
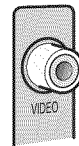
Video pin cable
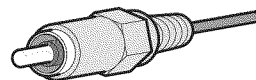
Audio jacks

OPTICAL jacks

These jacks transmit optical digital audio signals.
Use fiber-optic cables for optical digital audio signals.

Digital audio fiber-optic cable
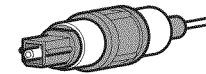
COAXIAL jacks

These jacks transmit coaxial digital audio signals.
Use pin cables for digital audio signals.

Digital audio pin cable
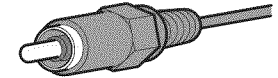
AUDIO jacks

These jacks transmit conventional analog audio signals.
Use stereo pin cables, connecting the red plug to the red R jack, and the white plug to the white L jack.

Stereo audio pin cable
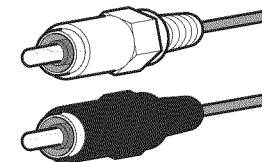
PORTABLE jack

This jack transmits conventional analog audio signals.
Use a stereo mini-plug cable when connecting.
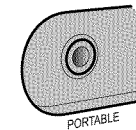
Stereo mini-plug cable
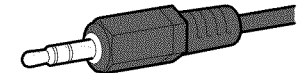
Connecting a TV monitor

This unit is equipped with the following three types of output jack for connection to a TV.
HDMI OUT, COMPONENT VIDEO or VIDEO. Select the proper connection according to the input signal format supported by your TV.

HDMI OUT jack

COMPONENT VIDEO jacks (MONITOR OUT)   **VIDEO jack (MONITOR OUT)**
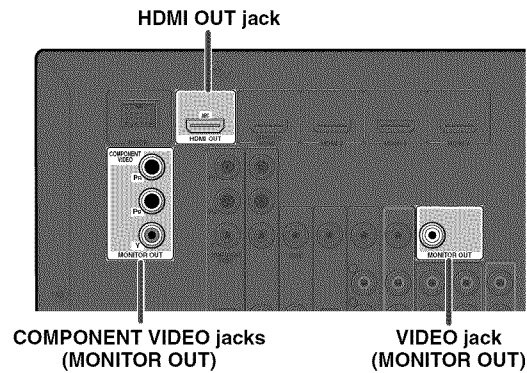
Video signals input from a particular type of jack(s) are output from the same type of jack(s).
For example, these three output devices must be connected to the monitor by matching input/output jacks and cables, and then you must change the TV's input mode to the proper setting.
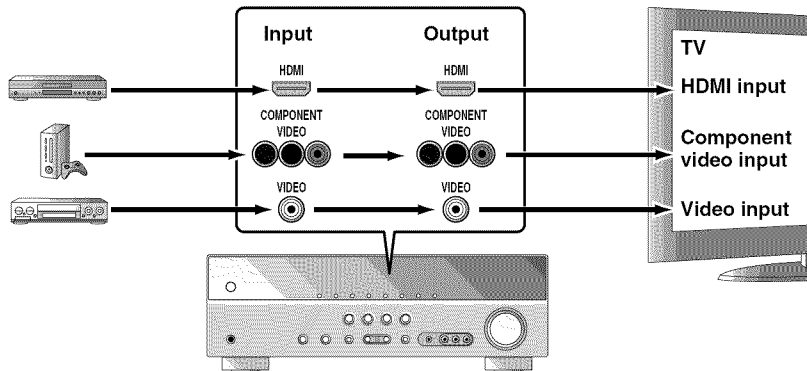
Connecting an HDMI video monitor

Connect the HDMI cable to the HDMI OUT jack.
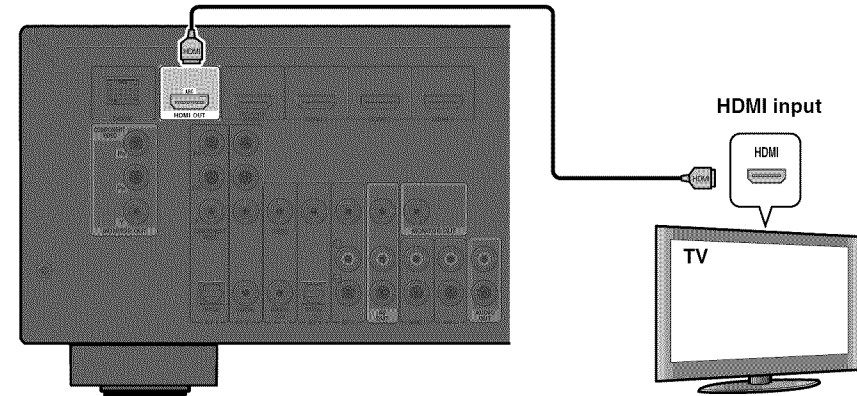
HDMI input

- Use a 19-pin HDMI cable with the HDMI logo.
- We recommend using a cable less than 5.0 m long to prevent signal quality degradation.
- When using a TV that supports Audio Return Channel function, audio/video signals can be transmitted mutually between the unit and TV with a single HDMI cable (☞p. 59).

Connecting a component video monitor

Connect the component video cable to the COMPONENT VIDEO (MONITOR OUT) jacks.

Component video input
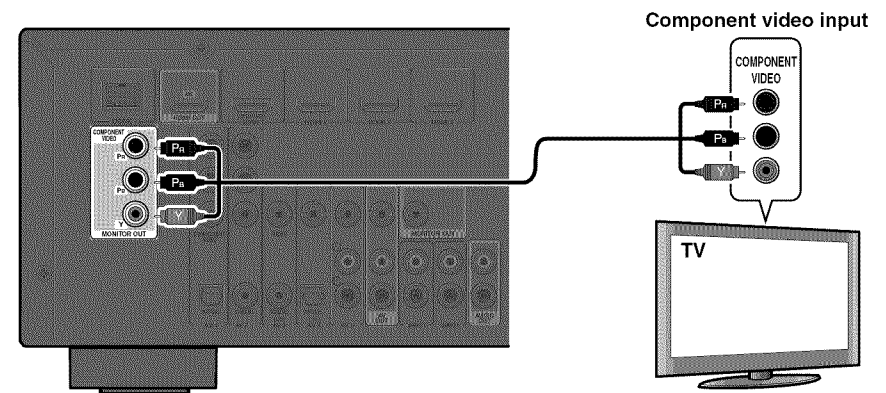
Connecting a video monitor

Connect the video pin cable to the VIDEO (MONITOR OUT) jack.

Video input

Listening to TV audio

To transmit sound from the TV to this unit, connect as followings according to the TV:

When using a TV that supports the Audio Return Channel function and HDMI Control function

When your TV supports both HDMI Control (Ex. Panasonic VIERA Link) and Audio Return Channel functions, audio/video output from the unit to the TV and audio output from the TV to the unit are possible using a single HDMI cable.

The input source is switched automatically to match operations carried out on the TV, and that makes TV sound control easier to use.

For the connections and settings, refer to "Single HDMI cable input to TV audio with Audio Return Channel function" (☞p. 59).

When using a TV that supports the HDMI Control functions

When using a TV that supports HDMI Control functions (Ex. Panasonic VIERA Link), if HDMI Control functions are enabled on the unit, then input source can be switched automatically to match operations carried out on the TV.

For the connections and settings, refer to "Switching the input source on this unit automatically when listening to TV audio" (☞p. 58).

When using other TVs

To transmit sound from the TV to this unit, connect its AV1-5 or AUDIO1-2 jacks to the TV's audio output jacks.

Depending on the connection on TV, connect the TV's audio output to the AV1-5 or AUDIO1-2.

TV audio output	Connection
Optical digital audio output	Connect to the OPTICAL jack of the AV1 or AV4 with a digital audio pin cable.
Coaxial digital audio output	Connect to the COAXIAL jack of the AV2 or AV3 with a fiber-optic cable.
Analog stereo output	Connect to one of the AV5, AUDIO1, AUDIO2, or V-AUX with a stereo pin cable.

Select the input source connected via TV's audio output jack to enjoy the TV sound.

If the TV supports optical digital audio output, we recommend that you connect the TV audio output to the receiver's AV4 jack.

Connecting to AV4 allows you to switch the input source to AV4 with just a single key operation using the SCENE function (☞p. 26).

Available input jacks

Audio output
(Optical)

You can control your TV using the receiver's remote control by entering the TV's remote control code (☞p. 52).

Connecting BD/DVD players and other devices

This unit has the following input jacks. Connect them to the appropriate output jacks on the external components.

Input jack	Video input	Audio input
HDMI1	HDMI	HDMI
HDMI2	HDMI	HDMI
HDMI3	HDMI	HDMI
HDMI4	HDMI	HDMI
AV1	Component video	Optical
AV2	Component video	Coaxial digital
AV3	Video	Coaxial digital
AV4	Video	Optical
AV5	Video	Analog (Stereo)
AUDIO1	—	Analog (Stereo)
AUDIO2	—	Analog (Stereo)
VIDEO AUX	Video	Analog (Stereo)

■ Connecting BD/DVD players and other devices with HDMI

Connect the device with an HDMI cable to one of the HDMI1-4 jacks.
Select the HDMI input (HDMI1-4) that the external device is connected to for playback.

HDMI output

BD/DVD player
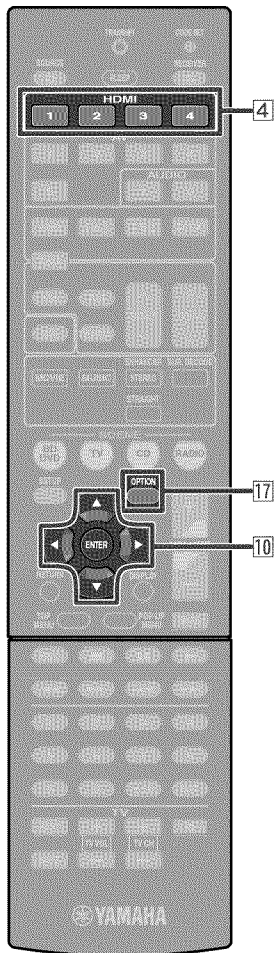
[4] Input selector
[10] Cursor ▽ / ◁ / ▷
[10] ENTER
[17] OPTION
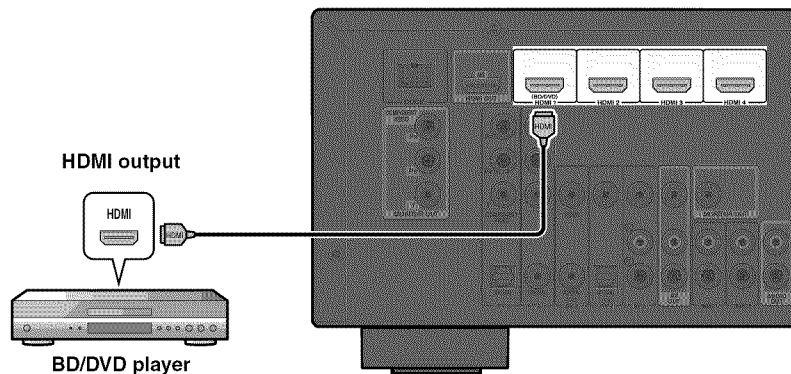
■ Receiving audio from other input sources

This unit can use the AV1-5 or AUDIO1-2 input jacks to receive audio signals from other audio input sources.
For example, if an external device cannot produce audio signals from an HDMI jack, use the following method to change the audio input.

HDMI/Audio (Optical) output

BD/DVD player
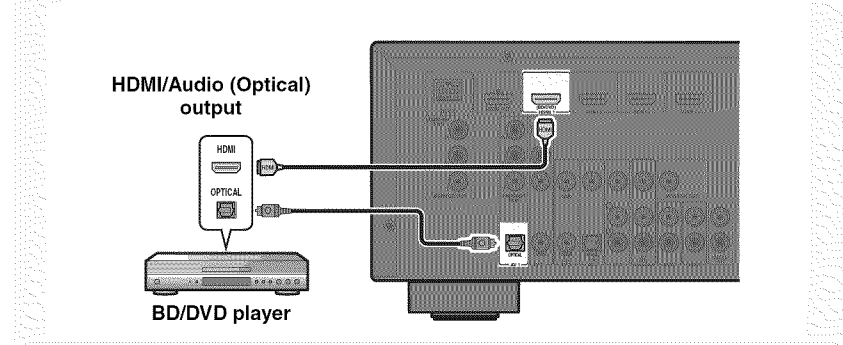
1 Use the [4]Input selector to select the desired HDMI input source.

2 Press [17]OPTION to display the Option menu. ☆1

3 Press [10]Cursor ▽ until "Audio In" is displayed, and then press [10]ENTER.

4 Press [10]Cursor ◁ / ▷ to select the audio input source.

Inputs that change the audio source

HDMI 1

Audio・・・・・・AV1

Assignable audio input jacks
If you have selected AV1 input audio (optical digital)

5 Once you have completed the setup, press [17]OPTION to close the Option menu.

☆ 1 : See the section on "Configuring the settings specific for each input source (Option menu)" for details on the Option menu (☞ p. 38).

Connecting BD/DVD players and other devices with component cables

Connect the device with a component video cable to one of the AV1-2 input jacks.

Using optical digital audio output sources

Select the AV1 input that the external device is connected to for playback.

Component video / Audio (Optical) output

BD/DVD player
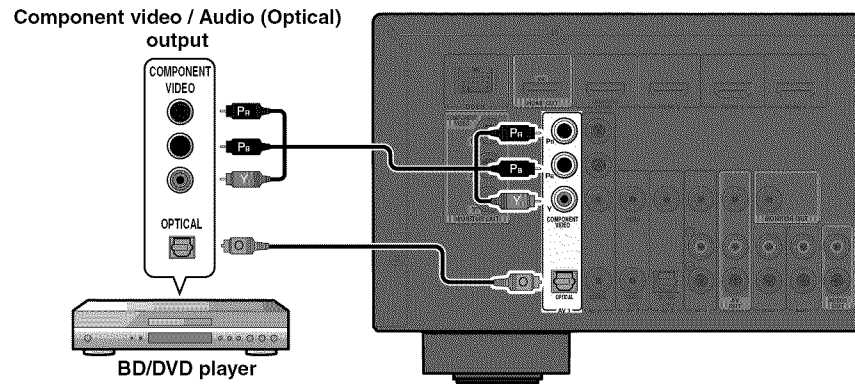
Using coaxial digital audio output sources

Select the AV2 input that the external device is connected to for playback.

Component video / Audio (Coaxial) output

BD/DVD player

■ Component connections to analog audio output devices

Component video / Audio output

Game console
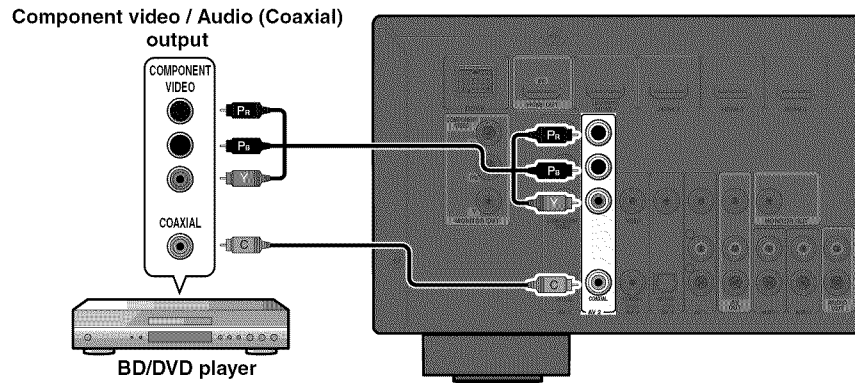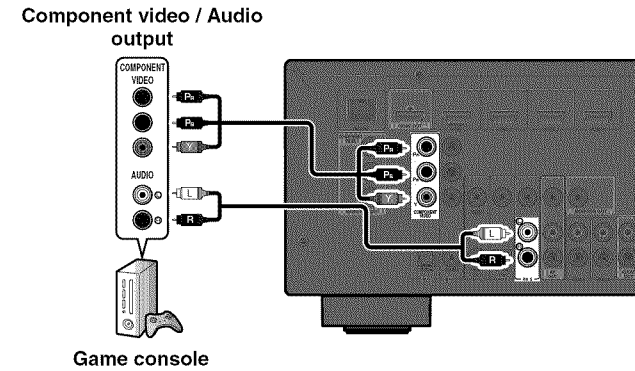
You can use the video input from the AV1-2 jacks in combination with the audio input from other AV inputs or AUDIO1-2.

When connecting these devices, select the AV3-5 or the AUDIO1-2 jacks as the audio input for AV1 or AV2. See "Receiving audio from other input sources" () for detailed setup guidance.

Select the AV input source (AV1-2) that is connected by component video cable to the external device for playback.

Connecting BD/DVD players and other devices with video cables

Connect the external device with a video pin cable to one of the AV3-5 input jacks.

Using optical digital audio output sources

Select the AV4 input that the external device is connected to for playback.

Video / Audio (Optical) output

VIDEO

OPTICAL

BD/DVD player
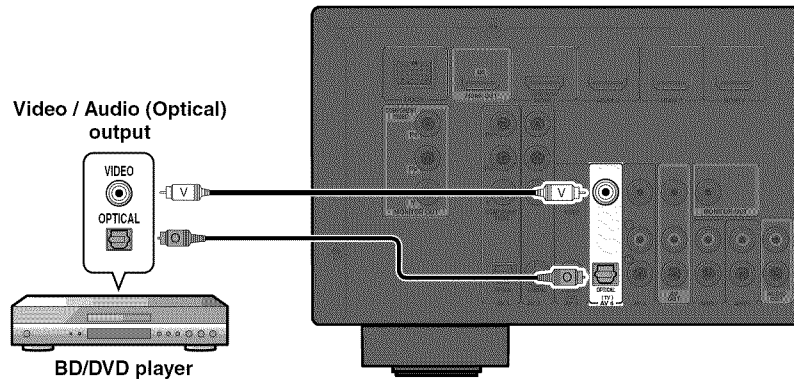
Using coaxial digital audio output sources

Select the AV3 input that the external device is connected to for playback.

Video / Audio (Coaxial) output

VIDEO

COAXIAL

BD/DVD player
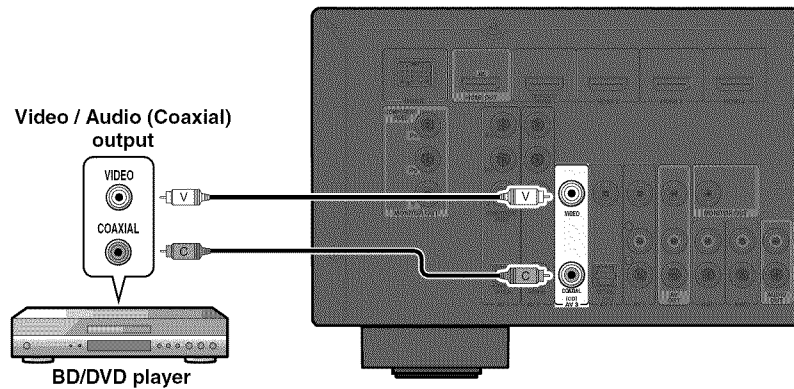
Using analog stereo audio output sources

Select the AV5 input that the external device is connected to for playback.

Video / Audio output

VIDEO

AUDIO

BD/DVD player
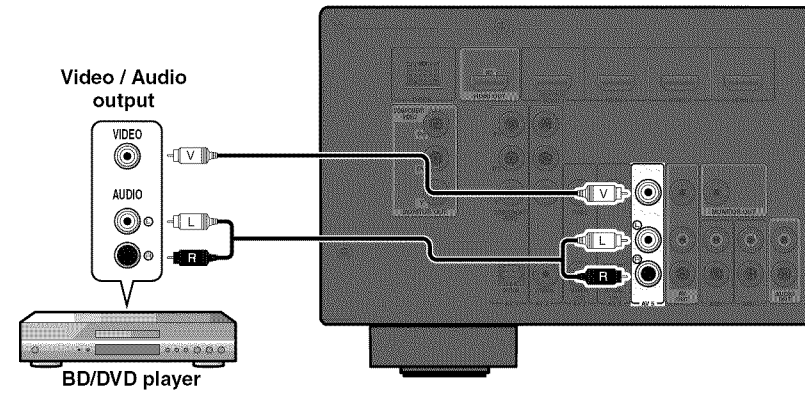
▐ Connecting CD players and other audio devices

Using analog stereo output sources
Select the audio input (AUDIO1-2) that the external device is connected to for playback.
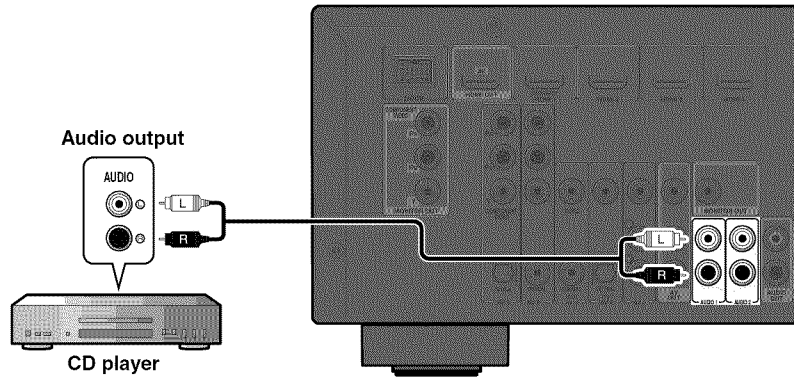
Using optical digital output sources
Select the AV input (AV1 or AV4) that the external device is connected to for playback.
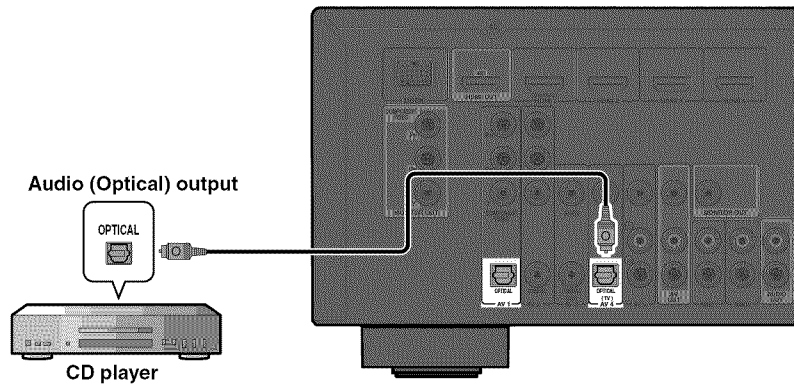
Using coaxial digital output sources
Select the AV input (AV2 or AV3) that the external device is connected to for playback.
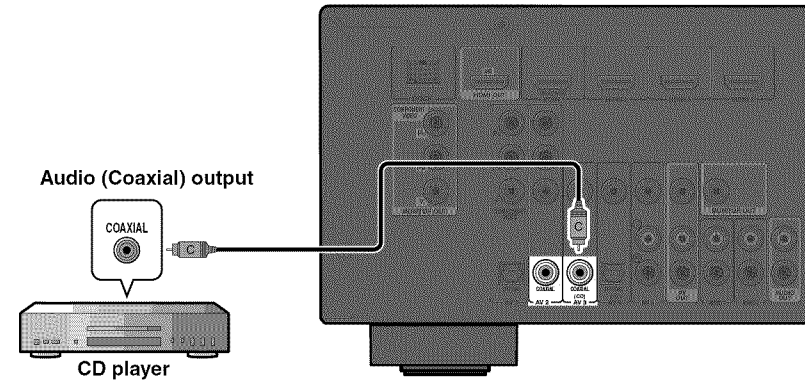
We recommend connecting audio devices with an coaxial digital output to the AV3 coaxial digital jack on this unit. This connection allows you to switch to the AV input 3 just by pressing the "CD" SCENE key (☞p. 26).

Connecting video cameras and portable audio players

Use the VIDEO AUX jacks on the front panel to temporarily connect video cameras, game consoles, or portable audio devices to the receiver.
Select the V-AUX input to use these connected devices.

Portable audio player

Video cameras
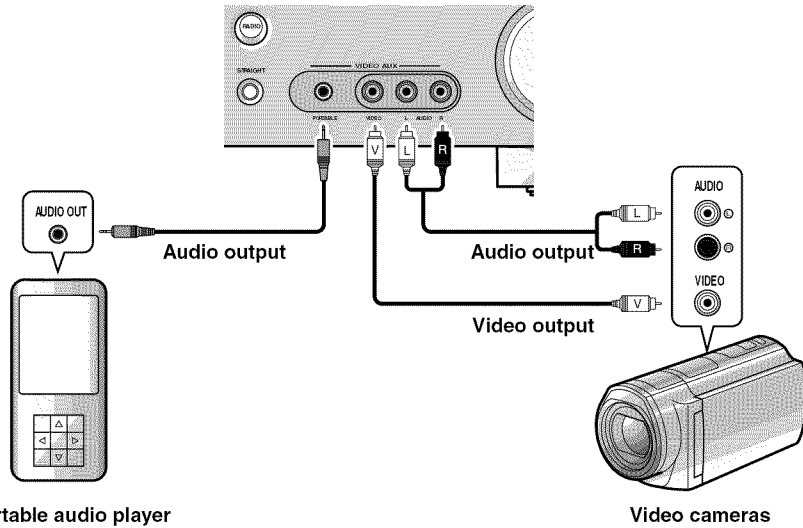
- Be sure to turn down the volume when connecting this unit and the other devices.
- When external components are connected to both the PORTABLE jack and the AUDIO jacks, the sound output from the PORTABLE jack is transmitted.

Transmitting input A/V to external devices

This receiver can transmit selected incoming analog audio/video signals to external devices through the AV OUT and AUDIO OUT jacks. You can record these input audio and video signals to VCRs or similar devices, or send them to other TVs or external devices.

Video / Audio input

VCR

Audio input

Audio recorder
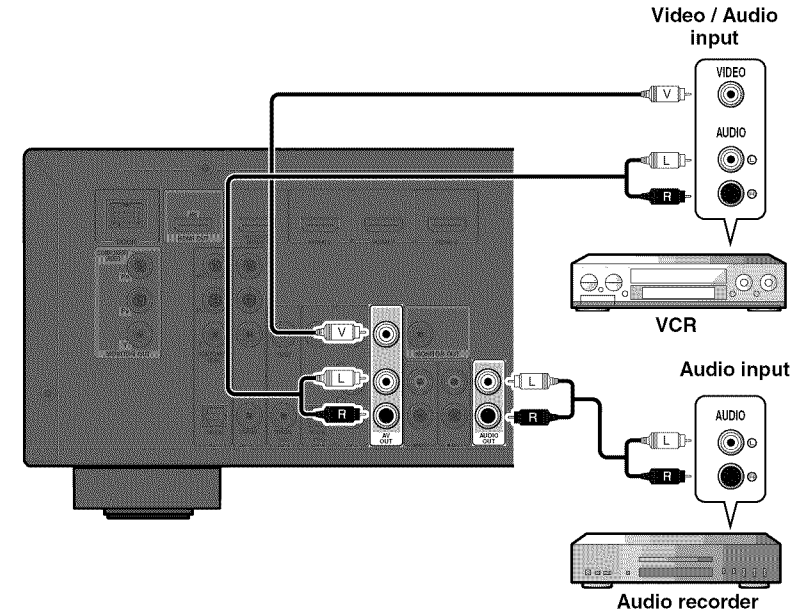
Using the AV OUT jacks
Connect this jacks to the external device's video input jack and analog audio input jacks.

Using the AUDIO OUT jacks
Connect this jack to the external device's analog audio input jacks.

HDMI audio/video signals, component video signals, and digital audio signals cannot be transmitted from these jacks.

Connecting the FM/AM antennas

An indoor FM antenna and an AM loop antenna are included with this receiver. Connect these antennas properly to their respective jacks.

Indoor FM antenna

AM loop antenna
Position the AM antenna away from the receiver. The wires of the AM antenna have no polarity.
You can connect either wire to the AM jack or the GND jack.

Connecting the AM loop antenna

Press and hold → Insert → Release
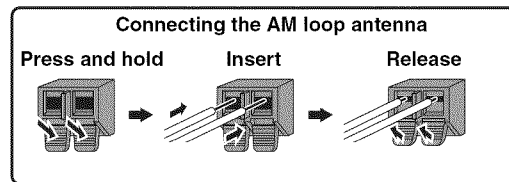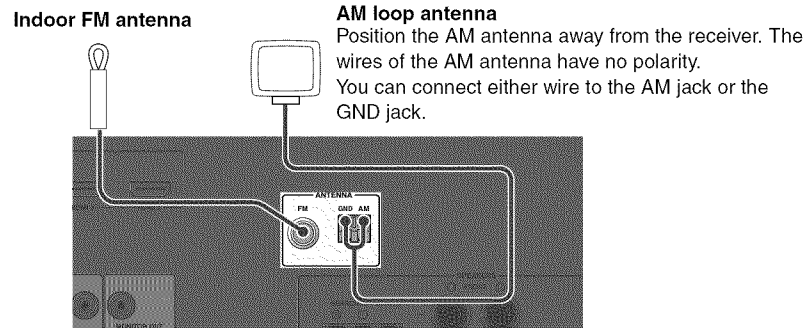
■ Improving FM reception

We recommend using an outdoor antenna. For more information, consult the nearest authorized dealer.

■ Improving AM reception

Connect this unit to an outdoor antenna with a 5-10 m vinyl-coated wire. Make sure the AM loop antenna is still connected.
Connecting the GND jack can reduce noise. Connect the jack to a store-bought ground bar or copper plate with a vinyl-covered wire and bury this new attachment in moist ground.
The GND jack is not to be connected to the ground socket of an electrical outlet.

Setting up speaker parameters

When you have finished connecting your speakers, configure this unit so that they output sound normally. Carry out the following steps to configure this unit.

STEP 1: Display the setting menu

Display the Setup menu from which you can configure all settings for this unit, and then display the menu for speaker settings.

STEP 2: Set the speaker status and size

Set the size and connection status of speakers and subwoofers, and whether to designate a specific speaker (or subwoofer) for low-frequency sound.

STEP 3: Set the distance from the listening point

Set the distance between the speakers and the listening point so that the sound from each speaker reaches the listening point at the appropriate timing.

STEP 4: Playback a test tone

Playback a test tone to allow you to configure sound volumes while listening to the actual effect your settings are having.

STEP 5: Adjust the volume

Adjust the volume for each speaker and configure them so that the sound is balanced.

⑨ SETUP
⑩ ENTER

STEP 1: Display the setting menu

1 Switch this unit on.

2 Press ⑨SETUP on the remote control.

The Setup menu that allows you to configure all parameters on this unit appears. ⚙️1

```
SETUP                    VOL_
♦Speaker Setup
```

3 Check that "Speaker Setup" appears and press ⑩ENTER.

```
SP SET                   VOL_
♦Config
```

This completes step 1.

STEP 2: Set the speaker status and size

The settings in step 2 are not necessary with the following speaker configuration:
- Front speaker: woofer diameter is 16 cm or larger
- Center/surround speakers: woofer diameter is 16 cm or smaller
- Subwoofer: connected

4 Check that "Config" appears and press ⑩ENTER.

```
CONFIG                   VOL_
♦Subwoofer··Yes♦
```

Continues to the next page
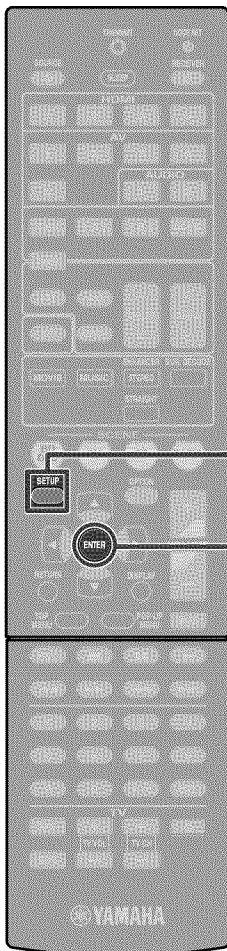
⚙️1 : See the section "Setting various functions (Setup menu)" for details on the Setup menu (☞ p. 41).

5 Use [10]Cursor △ / ▽ to select the speaker (subwoofer) you want to configure, and then use [10]Cursor ◁ / ▷ to select speaker status and size.

Information	Description	Setting
Subwoofer	Sets the subwoofer status.	Yes/None
Front	Selects the size (sound reproduction capacity) of the front speakers.	Small/Large
Center	Selects the size of the center speakers. Choose "None" if you do not have a center speaker connected.	None/Small/ Large
Sur. LR	Selects the size of the surround speakers. Choose "None" if you do not have surround speakers connected.	None/Small/ Large
Crossover	Audio with a frequency below this limit will be output from the subwoofer or the front speakers.	40Hz to 200Hz
SWFR Phase	Switches the phase of the subwoofer.	NRM/REV
Extra Bass	Selects whether to play front channel low-frequency components through either of the front speakers or the subwoofer (Off), or through both the subwoofer and front speakers (On).	On/Off

[10] Cursor △ / ▽ / ◁ / ▷
[10] ENTER
[10] RETURN

- Whether or not you set "Crossover," "SWFR Phase," and "Extra Bass" is optional. Check how the effects sound and then configure them to your liking.
- Use the following as a guide when setting speaker sizes.
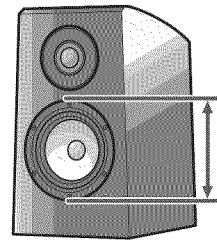
Woofer diameter
- 6-1/4 in (16 cm) or larger
  → Large
- 6-1/4 in (16 cm) or smaller
  → Small

When speaker size is set to "Small," low-frequency components of the speakers you configured are produced from the subwoofer (or from the front speakers if there is no subwoofer).

When you have completed the settings for one speaker, repeat the same procedure for all speakers to complete settings.

6 Press [10]RETURN when setting is complete.

Return to the previous menu.

This completes step 2.

STEP 3: Set the distance from the listening point

7 Press [10]Cursor ▽ to display "Distance" and press [10]ENTER.

```
DIST        VOL. 18.5
◁↕Unit······feet▷
```

8 Press [10]Cursor △ / ▽ to select the speaker that you want to configure, and press [10]Cursor ◁ / ▷ to change the distance.

If necessary, you can change the setting units under "Unit."

Information	Description	Setting
Unit	Switches between setting units (feet / meters).	feet (ft) / meters (m)
Front L	Front speaker L	1.0 ft to 80.0 ft (0.30 m to 24.0 m)
Front R	Front speaker R	1.0 ft to 80.0 ft (0.30 m to 24.0 m)
Center	Center speaker	1.0 ft to 80.0 ft (0.30 m to 24.0 m)
Sur. L	Surround speaker L	1.0 ft to 80.0 ft (0.30 m to 24.0 m)
Sur. R	Surround speaker R	1.0 ft to 80.0 ft (0.30 m to 24.0 m)
SWFR	Subwoofer	1.0 ft to 80.0 ft (0.30 m to 24.0 m)

When you have completed the settings for one speaker, repeat the same procedure for all speakers to complete settings.

9 Press [10]RETURN when setting is complete.

Return to the previous menu.

This completes step 3.

Continues to the next page
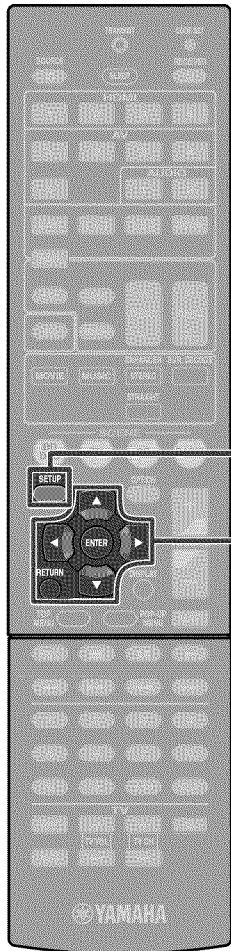
STEP 4: Playback a test tone

10 Press ⑩Cursor ▽ repeatedly to display "Test Tone" and press ⑩ENTER.

```
TEST            VOL.-18.5
◀   )Off   On   ▶ [L][SW][R][C][SL][SR]
```

11 Use ⑩Cursor ◁ / ▷ to select "On."

A test tone plays back as soon as you select "On." The test tone plays back in a clockwise fashion, as follows.

Front L   Front R
         Center

      Subwoofer

      Surround L   Surround R
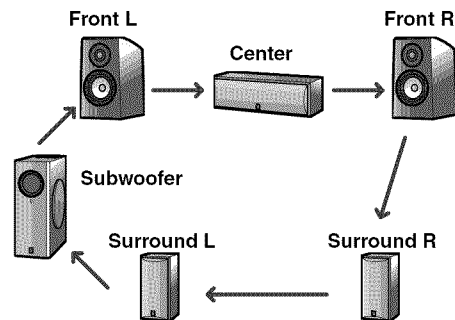
12 Check that the test tone is playing back and press ⑩RETURN.

Return to the previous menu.

This completes step 4.

STEP 5: Adjust the volume

13 Press ⑩Cursor △ repeatedly to display "Level" and press ⑩ENTER.

```
LEVEL           VOL.-18.5
◀≑   FL-------||-------▶ [L][SW][R][C][SL][SR]
```

14 Use ⑩Cursor △ / ▽ to switch the speaker that is outputting the test tone, looking for speakers with a different volume level to the others.

The front panel display shows the speaker that is outputting the test tone. ☝1

Information	Speakers
FL	Front speaker L
FR	Front speaker R
C	Center speaker
SL	Surround speaker L
SR	Surround speaker R
SWFR	Subwoofer

15 If you find a speaker with a different volume level to the others, use ⑩Cursor ◁ / ▷ to adjust the volume. Use Front speaker L or R as a default when adjusting volumes.

To raise the volume: Press ⑩Cursor ▷.

To lower the volume: Press ⑩Cursor ◁.

16 Repeat steps 14 and 15 to adjust the volume balance for all speakers to your preference.

17 Press ⑩RETURN when setting is complete.

Return to the previous menu.

This completes step 5.

18 Repeat procedures 10-12 (step 4) to stop playback of the test tone.

19 Once you have completed all settings, press ⑨SETUP to close the Setup menu.

⑨ SETUP
⑩ Cursor △ / ▽ / ◁ / ▷
⑩ ENTER
⑩ RETURN

☝1 : Only speakers configured for use in procedure 5 output the test tone.

PLAYBACK

Basic playback procedure
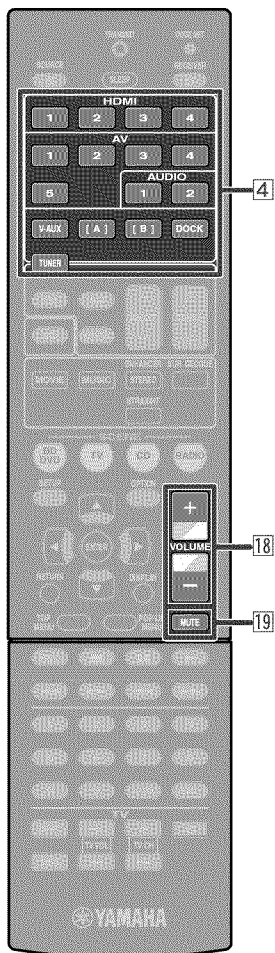
1 Turn on external components (TV, DVD player, etc.) connected to this unit.

2 Turn on this unit and select the input source using ④ Input selector.

The name of the selected input source is displayed for a few seconds. ☆1

3 Play the external component that you have selected as the source input, or select a radio station on the tuner.

Refer to the instruction manuals provided with the external component for details on playback.

For details on the following operations, refer to the corresponding pages:

- "FM/AM tuning" (☞p. 30)
- "Playing back tunes from your iPod™/iPhone™" (☞p. 34)
- "Playing back tunes from Bluetooth™ components" (☞p. 36)

4 Press ⑱ VOLUME +/- to adjust the volume.

To mute the output.
Press ⑲ MUTE to mute the audio output.
Press ⑲ MUTE again to unmute.

④ Input selector
⑱ VOLUME +/-
⑲ MUTE

Adjusting high/low-frequency sound (Tone control)

You can adjust the balance of the high-frequency range (Treble) and low-frequency range (Bass) of sounds output from the front left and right speakers to obtain desired tone.

> The tone control of the speakers or headphones can be set separately. Set the headphone tone control with the headphones connected.

1 Press TONE CONTROL on the front panel repeatedly to select "Treble" or "Bass."

TONE CONTROL
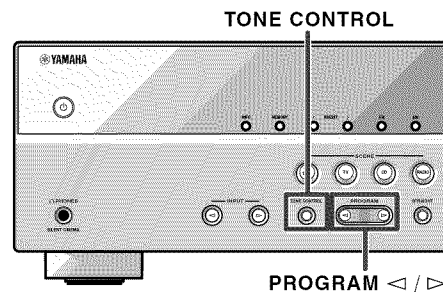
PROGRAM ◁ / ▷

The current setting is displayed on the front panel display.

```
TONE            VOL  -10.5
                         dB
Treble    0.0dB
```

2 Press PROGRAM ◁/▷ to adjust the output level in those frequency ranges.

Adjustable range	-10.0 dB to +10.0 dB
Adjustment increments	2.0 dB

The display returns to the previous display soon after you release the key.

> If you set the balance extremely off, sounds may not match those from other channels well.

☆1 : You can change the input source name displayed on the front panel display as necessary (☞p. 48).

Changing input settings with a single key (SCENE function)

This unit has a SCENE function that allows you to turn the power on and change input sources and sound field programs with one key.

Four scenes are available for different uses, such as playing movies or music. The following input sources and sound field programs are provided as the initial factory settings.

SCENE	Input	Sound field program
BD/DVD	HDMI1	STRAIGHT
TV	AV4	STRAIGHT
CD	AV3	STRAIGHT
RADIO	TUNER	5ch Enhancer

Registering input sources/sound field program

1 Use 4Input selector to select the input source you want to register.

2 Use the 7Sound selection keys to select the sound field program you want to register.

Press one key repeatedly to select the sound field program in the same category. For details on sound field program, refer to "Selecting sound field programs and sound decoders" on this page.

3 Press the 8SCENE key until "SET Complete" appears on the front panel display.

Release the key when "SET Complete" is displayed.

When changing "SCENE," you can also use switch between the external components that the remote control operates (☞p. 52).

Enjoying sound field programs

This unit is also equipped with a Yamaha digital sound field processing (DSP) chip. You can enjoy multi-channel playback for almost any sound source using various sound field programs stored on the chip, and a range of sound decoders.

Selecting sound field programs and sound decoders

This unit offers sound field settings (sound field programs) in many different categories suitable for movies, music and other uses. Choose a sound field program that sounds best with the source you are playing back, rather than relying on the name or explanation of the program.

- Sound field programs are stored for each input source. When you change the input source, the sound field program previously selected for that input source is applied again.
- If the sampling frequency of an input source is higher than 96 kHz, this unit does not apply any sound field programs.

Selects sound field program:
MOVIE category: Press 7MOVIE repeatedly.
MUSIC category: Press 7MUSIC repeatedly.

Selects stereo reproduction:
Press 7STEREO repeatedly.

Selects compressed music enhancer:
Press 7STEREO repeatedly.

Selects surround decoder:
Press 7SUR. DECODE repeatedly.

Switches Straight decoding mode (☞p. 27):
Press 7STRAIGHT.

Sound field program categories

Program

- You can use the speaker indicators on the front panel display to check what speakers are currently outputting sound (☞p. 7).
- You can adjust sound field elements (sound field parameters) for each of the programs.
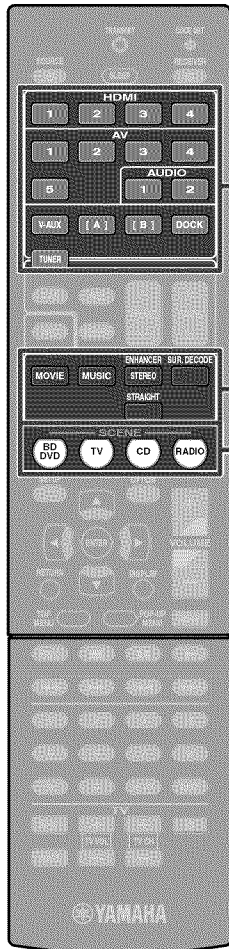
4 Input selector
7 Sound selection keys
7 MOVIE
7 MUSIC
7 STEREO
7 SUR. DECODE
7 STRAIGHT
8 SCENE
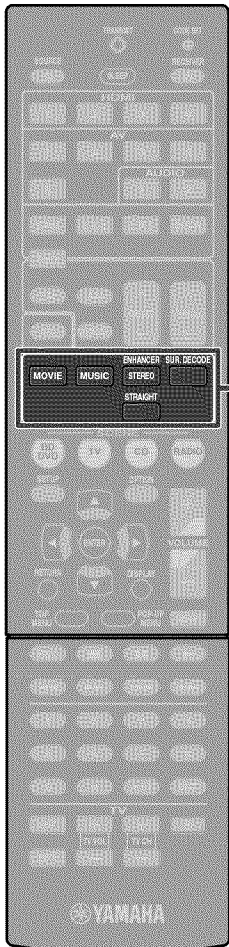
Enjoying unprocessed playback (Straight decoding mode)

Use straight decoding mode when you want to playback sound without sound field processing. You can playback as follows in straight decoding mode.

2-channel sources such as CD

Stereo sound plays through the front left and right speakers.

Multi-channel playback sources such as BD/DVD

Plays back audio from a playback source without applying sound field effects, using an appropriate decoder to split the signal into multiple channels.

1 **Press ⑦STRAIGHT to activate the straight decoding mode.**

```
VOL.
STRAIGHT
```

2 **Press ⑦STRAIGHT again to exit straight decoding mode.**

```
MOVIE CINEMA DSP    VOL.
Sci-Fi
```

Previously selected program

Enjoying stereo playback

Select "2ch Stereo" from the surround field programs when you want to playback 2-channel stereo sound (from the front speakers only), regardless of the playback source.
Selecting "2ch Stereo" will playback as follows for the playback of CD and BD/DVD sources.

2-channel sources such as CD

Stereo sound plays back through the front speakers.

Multi-channel sources such as BD/DVD

Playback channels other than the front channels in the playback source are mixed with the front channels and played back through the front speakers.

1 **Press ⑦STEREO repeatedly to select "2ch Stereo."**

```
STEREO    VOL.
2ch Stereo
```

2 **To deactivate stereo playback, press any of the ⑦Sound selection keys to select a sound field program other than "2ch Stereo."**

```
MUSIC CINEMA DSP    VOL.
Hall in Vienna
```

Enjoying sound field programs without surround sound speakers

This unit allows you to use virtual surround speakers to enjoy sound field surround effects, even without any surround speakers (Virtual CINEMA DSP mode). You can even enjoy surround sound presence with just a minimal configuration of the front speakers only.
This unit will switch to Virtual CINEMA DSP mode automatically when surround speakers are unavailable. ☝1

Enjoying sound field programs with headphones

Even when headphones are connected, you can enjoy the reproduction sound field presence with ease (SILENT CINEMA mode). ☝2

---

⑦ Sound selection keys
⑦ STRAIGHT
⑦ STEREO

☝1 : However, Virtual CINEMA DSP mode is not available in the following conditions:
• When headphones are connected to this unit.
• When a "2ch Stereo" sound field program is selected.
• When straight decoding mode is selected.

☝2 : However, SILENT CINEMA mode is not available in the following conditions:
• When a "2ch Stereo" sound field program is selected.
• When straight decoding mode is selected.
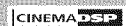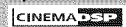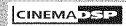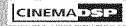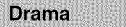
Sound field programs

|CINEMA**DSP**| in the table indicates the sound field program for CINEMA DSP.

Category: MOVIE

Sound field programs optimized for viewing video sources such as movies, TV programs, and games.

Standard CINEMA DSP	This program creates a sound field emphasizing the surround feeling without disturbing the original acoustic positioning of multi-channel audio such as Dolby Digital and DTS. It has been designed with the concept of an ideal movie theater, in which the audience is surrounded by beautiful reverberations from the left, right and rear.
Spectacle CINEMA DSP	This program represents the spectacular feeling of large-scale movie productions. It reproduces a broad theater sound field that matches cinemascope and wider-screen movies with an excellent dynamic range providing everything from very small sound effects to large, impressive sounds.
Sci-Fi CINEMA DSP	This program clearly reproduces the finely elaborated sound design of the latest science fiction and special effects-featuring movies. You can enjoy a variety of cinematographically created virtual spaces reproduced with clear separation between dialog, sound effects and background music.
Adventure CINEMA DSP	This program is ideal for precisely reproducing the sound design of action and adventure movies. The sound field restrains reverberations but puts emphasis on reproducing a powerful space expanded widely to the left and right. The reproduced depth is also restrained relatively to ensure the separation between audio channels and the clarity of the sound.
Drama CINEMA DSP	This sound field features stable reverberations that match a wide range of movie genres from serious dramas to musicals and comedies. The reverberations are modest but offer an optimum 3D feeling, reproducing effects tones and background music softly but cubically around clear words and center positioning in a way that does not fatigue the listener even after long hours of viewing.
Mono Movie CINEMA DSP	This program is provided for reproducing monaural video sources such as a classic movie in an atmosphere of a good old movie theater. The program produces the optimum expansion and reverberation to the original audio to create a comfortable space with a certain sound depth.
Sports CINEMA DSP	This program allows the listeners to enjoy stereo sport broadcasts and studio variety programs with enriched live feeling. In sports broadcasts, the voices of the commentator and sportscaster are positioned clearly at the center while the atmosphere of the stadium expands in an optimal space to offer the listeners a feeling of presence in the stadium.
Action Game CINEMA DSP	This sound field is suitable for action games such as car racing, fighting games and FPS games. The reality of, and emphasis on, various effects makes the player feel like they are right in the middle of the action, allowing for greater concentration.
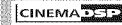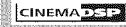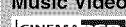
Roleplaying Game CINEMA DSP	This sound field is suitable for role-playing and adventure games. This program adds depth to the sound field for natural and realistic reproduction of background music, special effects and dialog from a wide variety of scenes.

Category: MUSIC

This sound field is suitable when listening to music sources such as CDs.

Hall in Munich CINEMA DSP	This sound field simulates a concert hall with approximately 2500 seats in Munich, using stylish wood for the interior finishing as normal standards for European concert halls. Fine, beautiful reverberations spread richly, creating a calming atmosphere. The listener's virtual seat is at the center left of the arena.
Hall in Vienna CINEMA DSP	This is an approximately 1700-seat, middle-sized concert hall with a shoebox shape that is traditional in Vienna. Pillars and ornate carvings create extremely complex reflections from all around the audience, producing a very full, rich sound.
Chamber CINEMA DSP	This program creates a relatively wide space with a high ceiling like an audience hall in a palace. It offers pleasant reverberations that are suitable for courtly music and chamber music.
Cellar Club CINEMA DSP	This program simulates a live house with a low ceiling and homey atmosphere. A realistic, live sound field features powerful sound as if the listener is in a row in front of a small stage.
The Roxy Theatre CINEMA DSP	This is the sound field of a rock music live house in Los Angeles, with approximately 460 seats. The listener's virtual seat is at the center left of the hall.
The Bottom Line CINEMA DSP	This is the sound field at stage front in The Bottom Line, a famous New York jazz club once. The floor can seat 300 people to the left and right in a sound field offering real and vibrant sound.
Music Video CINEMA DSP	This sound field offers an image of a concert hall for live performance of pop, rock and jazz music. The listener can indulge oneself in a hot live space thanks to the presence sound field that emphasizes the vividness of vocals and solo play and the beat of rhythm instruments, and to the surround sound field that reproduces the space of a big live hall.

Category: STEREO

Suitable for listening to stereo sources.

2ch Stereo	Use this program to mix down multi-channel sources to 2 channels. When multi-channel signals are input, they are down mixed to 2 channels and output from the front left and right speakers.
5ch Stereo CINEMA DSP	Use this program to output sound from all speakers. When you play back multi-channel sources, this unit down-mixes the source to 2 channels, and then outputs the sound from all speakers. This program creates a larger sound field and is ideal for background music at parties, etc.

Category: ENHNCR (Compressed music enhancer)

Suitable for listening to compressed audio, such as MP3.

Straight Enhancer	Use this program to restore the original depth and dynamics of 2-channel or multi-channel to compression audio.
5ch Enhancer	Use this program to play back compression artifacts in 5-channel stereo.

Category: SUR.DEC (Surround decode mode)

Select this program to playback sources with selected decoders. You can playback 2-channel sound sources in up to 5-channels using a surround decoder.

DD Pro Logic	Reproduces sound using the Dolby Pro Logic decoder. This is suitable for all kinds of sound sources.
DD PLII Movie	Reproduces sound using the Dolby Pro Logic II decoder. This is suitable for movies.
DD PLII Music	Reproduces sound using the Dolby Pro Logic II decoder. This is suitable for music.
DD PLII Game	Reproduces sound using the Dolby Pro Logic II decoder. This is suitable for games.
Neo:6 Cinema	Reproduces sound using the DTS Neo:6 decoder. This is suitable for movies.
Neo:6 Music	Reproduces sound using the DTS Neo:6 decoder. This is suitable for music.

FM/AM tuning

When using the FM/AM tuner, adjust the direction of the FM/AM antenna connected to this unit to get the best reception.
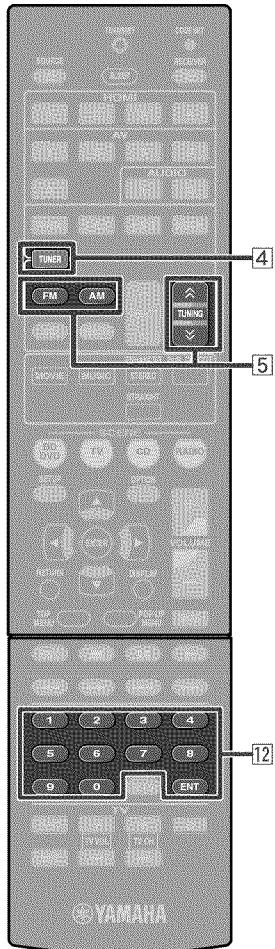
The FM/AM tuner of this unit provides the following two modes for tuning.

Normal tuning

You can tune in to a desired FM/AM station by searching or specifying its frequency.

Preset tuning (☞p. 31)

You can preset the frequencies of FM/AM stations by registering them to specific numbers, and later just select those numbers to tune in.

Selecting a frequency for reception (Normal tuning)

1 Press ④TUNER to switch to the tuner input.

2 Press ⑤FM or ⑤AM to select a band to receive.

```
                              VOL-
FM 87.5 MHz
```

3 Use ⑤TUNING ⌃ / ⌄ to set a frequency to receive.

⑤TUNING ⌃
Increases the frequency. Press and hold this key for longer than a second to search automatically for a station on a higher frequency than the current one. ☀1

⑤TUNING ⌄
Decreases the frequency. Press and hold this key for longer than a second to search automatically for a station on a lower frequency than the current one. ☀1

Lights up when receiving   Lights up when receiving
a broadcast from a station   a stereo broadcast

```
                    STEREO          VOL-
                    TUNED
FM 98.5 MHz
```

■ Entering a frequency number

In normal tuning mode, use the ⑫Numeric keys on the remote control to enter a frequency. Leave the decimal point out when entering a number. ☀2
For example, enter as follows to select a station on 98.5MHz.

⑨ → ⑧ → ⑤

④ TUNER
⑤ FM
⑤ AM
⑤ TUNING ⌃ / ⌄
⑫ Numeric keys

☀1 : When searching for a station, release the key once the search has started.
☀2 : "Wrong Station!" appears on the front panel display when you enter a frequency that is out of receivable range. Make sure that the frequency entered is correct.
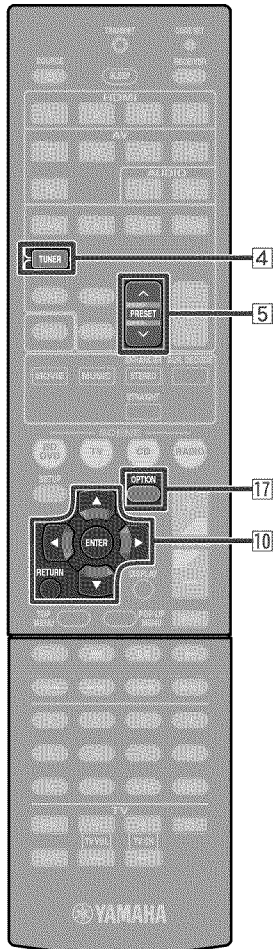
■ When signal reception is poor

When you are receiving an FM broadcast and cannot obtain a stable stereo broadcast, you can force this unit to receive in a monaural mode.

1 **Press [4]TUNER to switch to the tuner input.**

2 **Press [17]OPTION to display the Option menu. ☼1**

3 **Use [10]Cursor △ / ▽ to select "FM Mode."**

```
OPTION          VOL- 18.5
                         SW   dB
✦FM Mode          L  C  R
                  SL    SR
```

4 **Press [10]ENTER and use the [10]Cursor ◁ / ▷ to select "Mono."**

```
985              VOL- 18.5
                        SW   dB
◀ FM Mode:Mono   L  C  R
                 SL    SR
```

5 **When setting is completed, press [17]OPTION to close the Option menu.**

To return this unit to its original settings, use the same procedure to return the settings to "Stereo."

[4] TUNER
[5] PRESET ∧ / ∨
[10] Cursor △ / ▽ / ◁ / ▷
[10] ENTER
[10] RETURN
[17] OPTION

Registering and recalling a frequency (Preset tuning)

You can register up to 40 FM/AM stations as preset stations. There are two methods of presetting stations, "Auto Preset" and "Manual Preset." Use one of these methods to register stations.

■ Presetting FM stations automatically (Auto Preset)

The tuner detects FM stations with strong signals and registers up to 40 automatically.

AM stations cannot be automatically registered. Use manual station preset (☞p. 32).

1 **Press [4]TUNER to switch to the tuner input.**

2 **Press [17]OPTION to display the Option menu. ☼1**

3 **Use [10]Cursor △ / ▽ to select "Auto Preset."**

```
OPTION           VOL- 18.5
                        SW   dB
✦Auto Preset     L  C  R
                 SL    SR
```

4 **Press [10]ENTER, then press [5]PRESET ∧ / ∨ or [10]Cursor △ / ▽ to choose the preset number from which to start the Auto Preset function.**

Auto Preset will begin approximately 5 seconds after you select a preset number.
If you do not select a preset number, Auto Preset will begin approximately 5 seconds after "READY" is displayed.

Selecting a preset number

Status   Frequency

```
READY           VOL- 18.5
                       SW   dB
✦01:FM 87.5 MHz L  C  R
                SL    SR
```

Preset number
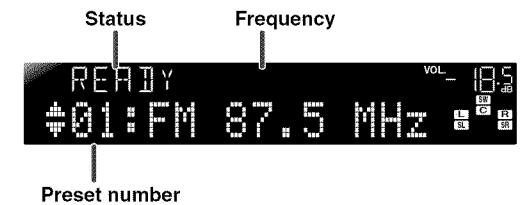
To cancel registration, press [10]RETURN.

During Auto Preset

Search   Preset for stations

```
SEARCH    ⟷    MEMORY
```
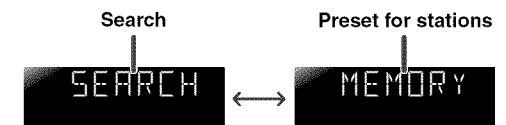
When Auto Preset is complete

```
FINISH          VOL- 18.5
                       SW   dB
Auto Preset     L  C  R
                SL    SR
```

The Option menu closes automatically when presetting is complete. ☼2

☼1 : See the section on "Configuring the settings specific for each input source (Option menu)" for details on the Option menu (☞p. 38).
☼2 : The preset with the lowest preset number will be selected automatically immediately after presetting.
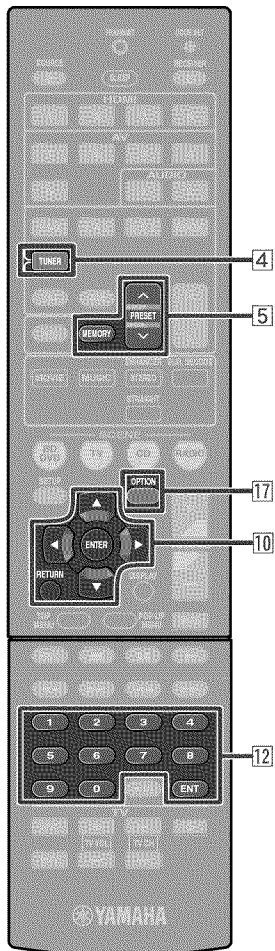
Registering stations manually (Manual Preset)

Select stations by hand and register them as presets individually.

1 Tune in to the station you wish to register, referring to "Selecting a frequency for reception (Normal tuning)" (☞p. 30).

2 Use one of the following methods to register the station you are currently receiving.

■ Registering to a preset number to which no station is registered

Press ⑤MEMORY for 2 seconds or longer.
The station will be registered automatically to the lowest open preset number (or the next number after the one registered most recently).
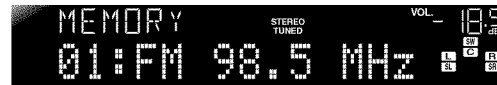
```
MEMORY          STEREO   VOL. 18.5
                TUNED         dB
01:FM  98.5 MHz  ⓢⓌ
                 ⓁⒸⓇ
                 ⓈⓁⒸⓈⓇ
```
|
Registered frequencies

■ Designating a preset number for registration

Press ⑤MEMORY once, to display "Manual Preset" on the front panel display. After a small wait, the preset number that the station has been registered to will appear.

Preset number
    The newly registered frequency
| |
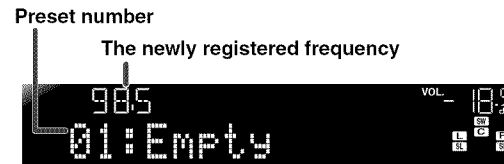
```
      98.5         VOL. 18.5
                        dB
01:Empty       ⓢⓌ
                ⓁⒸⓇ
                ⓈⓁⒸⓈⓇ
```
| |
Blinks   Empty, or the frequency registered
          most previously.

Press ⑤PRESET ∧ / ∨ to select the preset to register the station to, and then press ⑤MEMORY to register.

To cancel registration, press ⑩RETURN or do not operate the remote control for about 30 seconds.

Recalling a preset station

You can call preset stations registered by automatic station preset or manual station preset. ※1

To select a registered station, press ⑤PRESET ∧ / ∨ to select the preset number of the station. ※2

Clearing preset stations

1 Press ④TUNER to switch to the tuner input.

2 Press ⑰OPTION to display the Option menu. ※3

3 Use ⑩Cursor △ / ▽ to display "Clear Preset" and press ⑩ENTER.

The number of the preset to be cleared
    |

```
CLEAR           VOL. 18.5
                     dB
01:FM  98.5 MHz  ⓢⓌ
                 ⓁⒸⓇ
                 ⓈⓁⒸⓈⓇ
```
| |
Blinks   Registered frequencies

Press ⑩RETURN to cancel the operation.

4 Use ⑩Cursor △ / ▽ to select the preset number you want to clear, and press ⑩ENTER to clear it.

Repeat this operation to clear the registration of multiple numbers.

5 Press ⑰OPTION to finish this operation.

④ TUNER
⑤ MEMORY
⑤ PRESET ∧ / ∨
⑩ Cursor △ / ▽
⑩ ENTER
⑩ RETURN
⑫ Numeric keys
⑰ OPTION

※1 : Preset numbers to which no stations are registered will be skipped. "No Presets" or "No Presets in Memory" is displayed when there are no stations are registered.

※2 : To select a station by selecting a preset number, use the ⑫Numeric keys to enter the preset number of the station you wish listen to. When an invalid number is entered, "Wrong Num." appears on the front panel display. Check that you have entered the correct number.

※3 : See the section on "Configuring the settings specific for each input source (Option menu)" for details on the Option menu (☞p. 38).

Combining the video signals and radio audio signals

Select the video signal to be output from the video output jack on this unit when TUNER is selected as the input source. For example, when watching the sports relay on the TV, only audio can be switched to the radio audio.

1 Press [4]TUNER to switch to the tuner input.

2 Press [17]OPTION to display the Option menu. ☀1

```
OPTION        VOL._ 18.5
⬦Volume Trim
```

3 Use [10]Cursor △ / ▽ to display "Video Out" and press [10]ENTER.

```
OPTION        VOL._ 18.5
⬦Video Out
```

4 Use [10]Cursor ◁ / ▷ to select the video source you want to watch, and press [10]ENTER.

```
TUNER         VOL._ 18.5
◀ Video••••HDMI1▶
```

Selectable video source:

HDMI1-4	Video signals input from one of the HDMI1 to 4 are output from the HDMI output jack on this unit.
AV1-2	Video signals input from either one of the AV1 and AV2 are output from the component output jack on this unit.
AV3-5, V-AUX	Video signals input from one of the AV3 to AV5 and VIDEO AUX are output from the composite output jack on this unit.
Off	Video signals are not output when TUNER is selected as the input source.

5 Press [17]OPTION to finish this operation.

[4] TUNER
[10] Cursor △ / ▽ / ◁ / ▷
[10] ENTER
[17] OPTION

☀1 : See the section on "Configuring the settings specific for each input source (Option menu)" for details on the Option menu (☞ p. 38).

## Playing back tunes from your iPod™/iPhone™

Once you have connected a Yamaha iPod universal dock (such as the YDS-12, sold separately) to this unit, you can enjoy playback of your iPod/iPhone using the remote control supplied with this unit. When playing back from an iPod/iPhone, you can also use the compressed music enhancer sound field programs (☞p. 29) to give compressed audio formats such as MP3 a sharper, more dynamic sound.

- iPhone 4, iPhone 3GS, iPhone 3G, iPhone, iPod touch (1st, 2nd, 3rd, and 4th generation), iPod (4th, and 5th generation, and Classic), iPod nano (1st, 2nd, 3rd, 4th, 5th, and 6th generation) and iPod mini are supported (As of October 2010).
- When connecting an iPhone, please use a YDS-12.
- Some features may not be compatible depending on the model or the software version of your iPod.
- Some functions may not be available for some Yamaha iPod universal dock models. This explanation focuses on the YDS-12.

Connecting the Yamaha iPod universal dock

Use the dedicated cable to connect the dock to the DOCK jack on the rear panel of this unit. Refer to the operating instructions of the iPod universal dock for information on how to connect your iPod/iPhone.

CAUTION
To prevent accidents, place this unit in standby mode before connecting an iPod universal dock.

Yamaha iPod universal dock

④ DOCK
⑩ Cursor △ / ▽ / ◁ / ▷
⑩ ENTER
⑪ ☐
⑪ ◻◻
⑪ ▷
⑪ ◁◁
⑪ ▷▷
⑪ ◁◁
⑪ ▷▷│

Switch the power on and place your iPod/iPhone in the dock. The unit is now ready for playback.

iPod connected

Controlling an iPod/iPhone

After setting your iPod/iPhone in your dock, just press ④ DOCK to switch to DOCK input and you can operate your iPod/iPhone.
You can use the remote control of this unit to carry out basic operations (playback, stop, skip etc) on your iPod/iPhone. You can check song information on the iPod/iPhone screen.

④ DOCK	Switches to the DOCK (iPod) input.
⑩ Cursor △ / ▽	Move the cursor up and down to different fields.
⑩ Cursor ◁ / ▷	Returns to the previous menu or enter the menu you have selected.
⑩ ENTER	Enters the selected menu.
⑪ ◁◁	Searches backwards while held down.
⑪ ▷▷	Searches forwards while held down.
⑪ ◁◁	Skips to the beginning of the currently playing song. Pressing repeatedly skips one song backwards with each press.
⑪ ▷▷│	Skips to the beginning of the next song.
⑪ ☐	Stops playback.
⑪ ◻◻	Switches between playback and pause.
⑪ ▷	Switches between playback and pause.
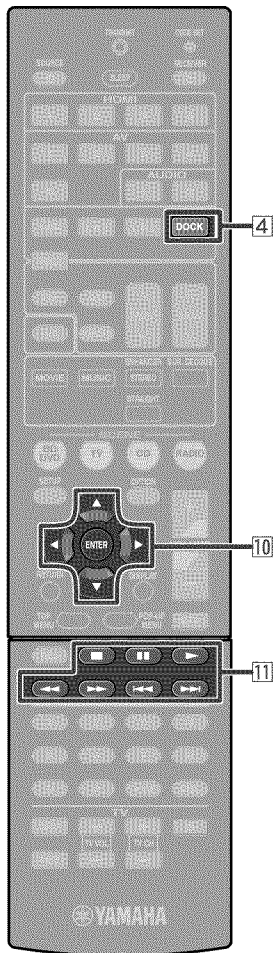
※1 : These keys may not work for some types of iPod. In this case, carry out these operations directly with your iPod.
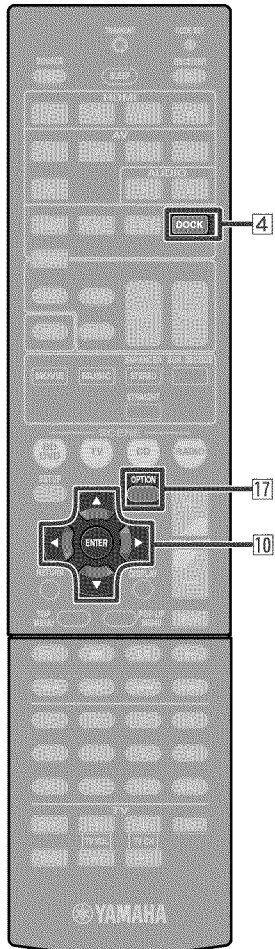
■ To charge the iPod/iPhone when this unit is in standby mode

If you connect an iPod/iPhone to the iPod universal dock the iPod/iPhone will always charge when this unit is turned on.

This unit can charge an iPod/iPhone even when in standby mode (iPod Standby Charge function). Check the iPod CHARGE indicator (**iPod CHARGE**) on the front panel display of this unit to check whether this unit is charging an iPod/iPhone while in standby mode. While charging an iPod/iPhone, the iPod charge indicator lights. The indicator goes out when charging is finished.

If necessary, you can also deactivate the iPod Standby Charge function.

1 Press ④DOCK to switch to the DOCK input.

2 Press ⑰OPTION to display the Option menu.

3 Use ⑩Cursor △ / ▽ to display "Standby Charge" and press ⑩ENTER.

4 Use ⑩Cursor ◁ / ▷ to switch the setting to "Off."

5 When setting is completed, press ⑰OPTION to close the Option menu.

To re-activate the Standby Charge function carry out this procedure again and change the "Standby Charge" setting back to "On."

④ DOCK
⑩ Cursor △ / ▽ / ◁ / ▷
⑩ ENTER
⑰ OPTION

Playing back tunes from Bluetooth™ components

You can connect a Yamaha Bluetooth wireless audio receiver (such as the YBA-10, sold separately) to this unit and enjoy wireless playback from Bluetooth-compatible portable music players. ☝1

NOTE

When playing back from a Bluetooth component for the first time, you must first pair the devices (register the Bluetooth components). When establishing a wireless connection you must carry out pairing on both this unit and on the Bluetooth component.

Connecting a Yamaha Bluetooth wireless audio receiver

Use the dedicated cable to connect the dock to the DOCK jack on the rear panel of this unit.
The Bluetooth wireless audio receiver connection will be complete when this unit is turned on.

Yamaha Bluetooth
wireless audio receiver

CAUTION
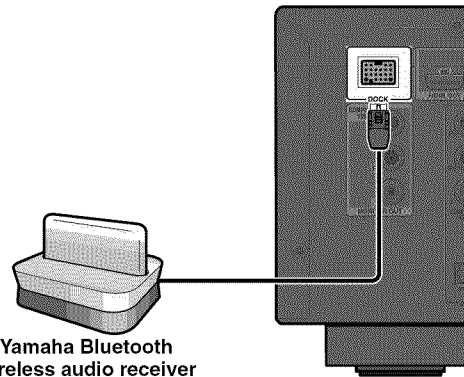
To prevent accidents, place this unit in standby mode before connecting a Bluetooth wireless audio receiver.

Pairing Bluetooth™ components

Be sure to carry out pairing when connecting a Bluetooth component for the first time, or when settings have been deleted.
Refer to the operating instructions of your Bluetooth component as necessary when carrying out pairing.

The Yamaha Bluetooth wireless audio receiver can be paired with up to eight Bluetooth components. When the ninth device is paired, the pairing settings for the device which has not been used for the longest period of time will be deleted.

1 Press 4DOCK to switch to the DOCK input.

2 Turn on the Bluetooth component you want to pair with and set it to pairing mode.

3 Press 17OPTION to display the Option menu and use 10Cursor △ / ▽ to select "Pairing."

4 Press 10ENTER to start pairing.

- To cancel pairing, press 10RETURN.
- You can also press and hold 5MEMORY on the front panel to begin pairing.

5 Make sure the Bluetooth component recognizes the Bluetooth wireless audio receiver.

When the device is recognized it will appear in the Bluetooth component list, for example as "YBA-10 YAMAHA."

6 Select the Bluetooth wireless audio receiver from the Bluetooth component list, and enter a pass key "0000" into the Bluetooth component.

When pairing occurs correctly

4 DOCK
5 MEMORY
10 Cursor △ / ▽
10 ENTER
10 RETURN
17 OPTION

☝1 : This unit supports A2DP (Advanced Audio Distribution Profile) of the Bluetooth profile.

Using Bluetooth™ components

When pairing is complete, carry out the following procedure to achieve a wireless connection between this unit and the Bluetooth component. When the wireless connection is complete, you playback from Bluetooth components.

> Depending on Bluetooth components, a wireless connection is established automatically or by operating the Bluetooth components. In that case, it is not necessary to carry out the following procedure.

1 Press ④DOCK to switch to the DOCK input.

2 Press ⑰OPTION to display the Option menu.

3 Use ⑩Cursor △ / ▽ to select "Connect" and press ⑩ENTER. ☼1

When wireless connection is complete

> "Not found" is displayed when there is an error connecting. Check that the following conditions have been satisfied, and try to establish a wireless connection again.
> • Both this unit and the Bluetooth component are paired.
> • The Bluetooth component is switched on.
> • The Bluetooth component is within 32 feet (10 meters) of the Bluetooth wireless audio receiver.

4 Operate the Bluetooth component for playback.

> To disconnect a wireless connection, repeat the same steps, and in step 3, select "Disconnect."
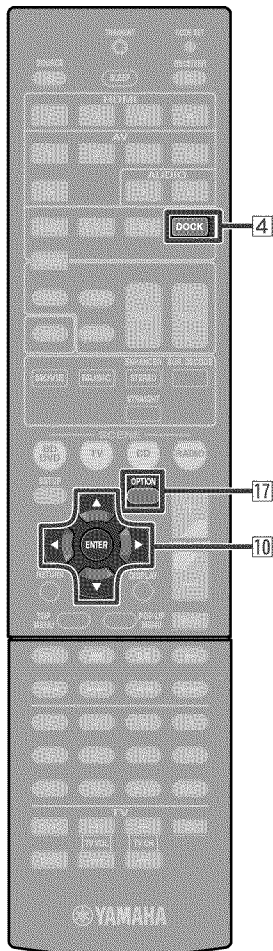
④ DOCK
⑩ Cursor △ / ▽
⑩ ENTER
⑰ OPTION

☼ 1 : "Disconnect" is displayed while a Bluetooth component has been connected.

SETUP

Configuring the settings specific for each input source (Option menu)

This receiver has a unique option menu specific for each type of input source, such as volume trim for compatible input sources, audio/video data display for signals from external devices, and other frequently used menu items.

Option menu display and setup

1 Use the ④Input selector on the remote control to select the Option menu you wish to display.

2 Press ⑰OPTION.

The Option menu appears for the desired input source.

Option menu

```
OPTION          VOL  ⌐ |B.5
                         dB
↕Volume Trim    L G R
                SL C SR
```

3 Select the desired control/setup item using ⑩Cursor △ / ▽ and press ⑩ENTER.

The displayed Option menu items differ depending on the input source.
For details, read the following Option menu items section.

4 Select the desired menu item (or enable a function) using ⑩Cursor △ / ▽ / ◁ / ▷ and ⑩ENTER.

Parameters of the selected item are displayed. The parameters you can set differ depending on the menu items.

- You can also use ⑩RETURN to return to the previous screen or close the Option menu.
- Certain selected menu items may automatically close the Option menu when their functions are enabled.

5 To close the Option menu, press ⑰OPTION.

For a few seconds after closing the Option menu, the remote control keys may not function. If this occurs, reselect the input source.

Option menu items

The following items are provided for each input source. "✓" indicates the available menu for each input source.

④ Input selector
⑩ Cursor △ / ▽ / ◁ / ▷
⑩ ENTER
⑩ RETURN
⑰ OPTION

	Volume Trim	Audio In	Signal Info	FM Mode	Auto Preset	Clear Preset	Video Out	Standby Charge	Connect/Disconnect	Pairing
HDMI1-4	✓	✓	✓							
AV1-2	✓	✓	✓							
AV3-4	✓		✓							
AV5	✓									
AUDIO1-2	✓									
V-AUX	✓									
TUNER	✓			✓	✓	✓	✓			
iPod (DOCK)	✓							✓		
Bluetooth (DOCK)	✓								✓	✓

Adjusting volume between input sources

Volume Trim

Input source: All

Reduces any change in volume when switching between input sources by correcting volume differences in each input source. You can adjust this parameter for each input source.

| Adjustable range	-6.0 dB to 0.0 dB to +6.0 dB
Default setting	0.0 dB
Adjustment increments	0.5 dB steps

Combining HDMI/AV1-2 input source video and audio

Audio In

Input source: HDMI1-4, AV1-2

Combines video from HDMI or AV input sources with analog/digital audio inputs in situations such as:
- an external device is connected with an HDMI cable but cannot transmit audio through HDMI
- an external device with component video output and analog audio output (such as certain game consoles) are connected to the system

Inputs that change the audio source

Assignable audio input jacks

To change assignments, select an input source (HDMI1-4 or AV1-2) as the video input first, and then select audio input jacks in this menu.

Set as follows according on the desired combination of audio input jacks.

| Audio inputs	Settings method
Optical digital audio input	Select AV1 or AV4. Connect the external component audio cable to the optical jack for the selected input.
Coaxial digital audio input	Select AV2 or AV3. Connect the external component audio cable to the coaxial jack for the selected input.
Analog audio input	Select one of AV5, AUDIO1, or AUDIO2. Connect the external component audio cable to the audio jack for the selected input.

- For details of settings, refer to "Receiving audio from other input sources" (☞p. 16) and "Component connections to analog audio output devices" (☞p. 17).
- To return audio inputs to their previous settings, display this item again, and select the original input jack.

Displaying information on audio/video signals

Signal Info

Input source: HDMI1-4, AV1-4 ☞1

Displays information on digital audio and video signals on the front panel display. You can display the signal information by pressing ⑩**ENTER** on the menu item and using ⑩**Cursor** △ / ▽.

Menu item

Information

Audio information

FORMAT	Format of audio signals.
CHAN	The number of input signal channels (front/surround/LFE). For example, if input signal channels are 3 front channels, 2 surrounds and LFE, "3/2/0.1" is displayed. If a channel that cannot be expressed as the above is input, a total number of channels such as "5.1ch" may be displayed.
SAMPL	The sampling frequency of analog-to-digital conversion.
B RATE	The bit rate of input signal per second.

Video information

V IN	Format and resolution of video input signal.
V OUT	Format and resolution of video output signal.
V MSG (appears only when an error has occurred)	Error messages about HDMI signals and components. **Error message** HDCP Error — HDCP authentication failed. Device Over — The number of connected HDMI components is over the limit.

- "No Signal" is displayed when no signals are being received, and "---" is displayed if this unit cannot recognize the incoming signal.
- The bit rate may vary during playback.

☞1 : AV5 or AUDIO1-2 are also available when the "Audio Return Channel" function is on, and the source is used for the TV audio input (TVAudio).

Changing FM mode (Stereo/Monaural)

FM Mode

Input source: TUNER

Sets this unit to automatically match FM broadcast frequencies in stereo, or to convert the frequency to monaural (☞p. 31).

Automatically presetting FM radio stations

Auto Preset

Input source: TUNER

Automatically detects radio stations in the FM frequency and registers them as preset stations (☞p. 31).

Clearing preset FM stations

Clear Preset

Input source: TUNER

Clears the preset stations (☞p. 32).

Combining the video signals and radio audio signals

Video Out

Input source: TUNER

Select the type of video signals to be output from the video output jack on this unit when TUNER is selected as the input source (☞p. 33).

Charging an iPod™/iPhone™ in standby mode

Standby Charge

Input source: iPod (DOCK)

Charges an iPod/iPhone stationed in the iPod universal dock while the receiver is in standby mode (☞p. 35).

Bluetooth™ wireless connections

Connect

Disconnect

Input source: Bluetooth (DOCK)

Enables/disables the Bluetooth wireless connection (☞p. 37). Select "Connect" to establish the wireless connection. Select "Disconnect" to disable the wireless connection.

Pairing the Bluetooth™ wireless audio receiver and your Bluetooth component

Pairing

Input source: Bluetooth (DOCK)

Pairs your Bluetooth wireless device and this receiver (☞p. 36).

Setting various functions (Setup menu)

You can configure various function settings of this unit using the Setup menu.

Setup menu display and settings

Press ⑨SETUP on the remote control.

```
SETUP                    VOL_  18.5
  ♦ Speaker  Setup
```

Use the ⑩Cursor △ / ▽ to select the desired menu and press ⑩ENTER.

Setup menu categories

Speaker Setup	Manages settings for speakers.
Sound Setup	Manages settings for audio output.
Func. Setup	Manages settings to make receiver operation easier, such as input source labeling and auto-standby functions.
HDMI Setup	Manages settings for HDMI, such as HDMI Control functions.
DSP Parameter	Sets parameters for sound field programs.
Memory Guard	Protects settings against accidental alteration.

```
SOUND                    VOL_  18.5
  ♦ Lipsync
```

Ex: Sound Setup menu

Use ⑩Cursor △ / ▽ to navigate the submenus to find the desired setting and press ⑩ENTER.

```
HDMI                     VOL_  18.5
  ◄ Audio·······Amp►
```

When multiple items appear, use ⑩Cursor △ / ▽ to select the desired item.

Press ⑩Cursor ◁ / ▷ to change the setting.

You can change other items by repeating step 4 and 5.

You can also use ⑩RETURN to return to the previous screen.

Press ⑨SETUP to exit the Setup menu.

For a few seconds after closing the Setup menu, the remote control keys may not function. If this occurs, reselect the input source.

Setup menu items

Setup menu

Speaker Setup	
Config	Subwoofer
	Front
	Center
	Sur. LR
	Crossover
	SWFR Phase
	Extra Bass
Level	(speakers)
Distance	(unit and speakers)
Equalizer	(speakers and frequency bands)
Test Tone	

Sound Setup	
Lipsync	HDMI Auto
Adaptive DRC	Auto
D.Range	Manual
Max Volume	
Init.Volume	

HDMI Setup
Control
TVAudio
ARC
Audio

Func. Setup
Input Rename
AutoPowerDown
Dimmer

DSP Parameter

Memory Guard
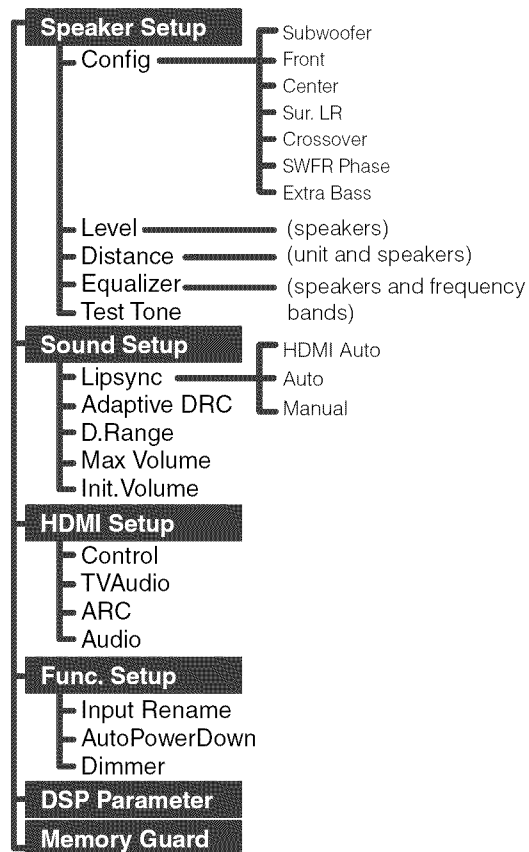
⑨ SETUP
⑩ Cursor △ / ▽ / ◁ / ▷
⑩ ENTER
⑩ RETURN

Manages settings for speakers

## Speaker Setup submenu

Config	Manually manages speaker configuration, such as speaker size (sound production capacity), and bass audio processing.
Level	Manually adjusts the volume of each speaker.
Distance	Manually adjusts the output of each speaker based on distance to the listening point.
Equalizer	Selects an equalizer to adjust speaker output characteristics.
Test Tone	Generates test tones.

Manual speaker setup

Config

Adjusts the output characteristics of the speakers based on manually set parameters.

In the Config submenu, you can select the speaker size characteristic (Large or Small). Select the size (sound reproduction capacity) that matches your speakers.
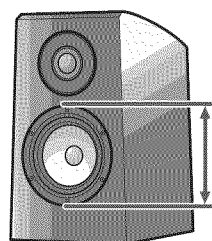
Woofer diameter
- 6-1/4 in (16 cm) or larger
  → Large
- 6-1/4 in (16 cm) or smaller
  → Small

When speaker size is set to "Small," low-frequency components of the speakers that you configured are produced from the subwoofer (or from the front speakers if there is no subwoofer).

Subwoofer
Confirms the subwoofer.

Yes (Default)	Select this when you have a subwoofer connected. During playback, the subwoofer will produce audio from the LFE (low-frequency effect) channel and bass audio from other channels. ☀1
None	Select this when you do not have a subwoofer connected. The front speakers will produce audio from the LFE (low-frequency effect) channel and bass frequency audio from other channels.

Front
Selects the size (sound reproduction capacity) of the front speakers. ☀2

Small (Default)	Select this for small speakers. The subwoofer will produce front channel low-frequency components. ☀3
Large	Select this for large speakers. The front speakers will produce all of the front channel frequency components.

Center
Selects the size of the center speakers.

None	Select this when there is no center speaker. The front speakers will produce center channel audio.
Small (Default)	Select this when a small center speaker is connected.
Large	Select this when a large center speaker is connected.

Sur. LR
Selects the size of the surround speakers.

None	Select this when no surround speakers are connected. The front speakers will produce surround channel audio signals.
Small (Default)	Select this when the surround speakers are small.
Large	Select this when the surround speakers are large.

☀1 : Enabling the "Extra Bass" setting allows both the subwoofer and the front speakers to produce bass audio.

☀2 : When "Subwoofer" is set to "None," you can only choose "Large." If the front speaker setting is "Small" and you change "Subwoofer" to "None," it will automatically change to "Large."

☀3 : Enabling the "Crossover" setting allows you to set the frequency components of audio signals transmitted from the front speakers to the subwoofer.

Crossover

Sets the lower limit of low-frequency component output from speakers set to "Small."

Audio with a frequency below that limit will be produced from the subwoofer or the front speakers. ☀1

40Hz	110Hz
60Hz	120Hz
80Hz (Default)	160Hz
90Hz	200Hz
100Hz	

SWFR Phase

Sets the phase of the subwoofer if the bass audio is lacking or unclear.

NRM (Default)	Does not change the subwoofer phase.
REV	Reverses the subwoofer phase.

Extra Bass

Allows the front channel low-frequency components to be produced exclusively by the subwoofer, or by both the subwoofer and the front speakers.

Off (Default)	Depending on the size of the front speakers, either the front speakers or the subwoofer produce the front channel low-frequency components.
On	The subwoofer and the front speakers produce the front channel low-frequency components.

When the "Subwoofer" is set to "None," the "Extra Bass" setting is disabled.

▌ Controlling the volume of each speaker

Level

Separately adjusts the volume of each speaker. Use 10 Cursor △ / ▽ to select the desired speaker and adjust the volume with 10 Cursor ◁ / ▷.

FL	Front speaker L
FR	Front speaker R
C	Center speaker
SL	Surround speaker L
SR	Surround speaker R
SWFR	Subwoofer

Adjustable range	-10.0 dB to +10.0 dB
Default setting	0 dB (FL / FR / SWFR) -1.0 dB (C / SL / SR)
Adjustment increments	0.5 dB

▌ Manually setting speaker distance

Distance

Adjusts the timing at which the speakers produce audio so that sounds from the speakers reach the listening position at the same time.

Selecting adjustment units

Use 10 Cursor △ / ▽ to display "Unit," and then use 10 Cursor ◁ / ▷ to choose the units of length (feet or meters).

Setting distances for each speaker

Use 10 Cursor △ / ▽ to display the speaker you want to configure, and then use 10 Cursor ◁ / ▷ to set the distance from the speaker to your listening position.

Unit	Selects the distance unit (feet or meters).
Front L	Front speaker L
Front R	Front speaker R
Center	Center speaker
Sur. L	Surround speaker L
Sur. R	Surround speaker R
SWFR	Subwoofer

Adjustable range	1.0 ft to 80.0 ft (0.30 m to 24.0 m)
Default setting	10.0 ft (3.00 m) (Front L/Front R/SWFR) 8.5 ft (2.60 m) (Center) 8.0 ft (2.40 m) (Sur. L/Sur. R)
Adjustment increments	0.5 ft (0.10 m)

☀1 : If your subwoofer has a volume control or a crossover frequency control, set the crossover frequency to maximum and the volume to half (or slightly less).

▌ Adjusting sound quality with the equalizer

Equalizer

Adjusts sound quality and tune with a graphic equalizer.

EQ Select
Turns the graphic equalizer on or off. By selecting GEQ and pressing ⑩ENTER, you can adjust the characteristics of the graphic equalizer.

GEQ (Default)	Uses the graphic equalizer to adjust sound quality.
Off	Does not activate the equalizer.

■ Adjusting the graphic equalizer

1 When "EQ Select" is displayed, use ⑩Cursor ◁ / ▷ to select "GEQ" and press ⑩ENTER.

2 Check that "Channel" appears and use ⑩Cursor ◁ / ▷ to select the speaker for which you want to adjust the equalizer.

GEQ

◀♦Channel▪FRNT L▶

The speaker you are adjusting

3 Press ⑩Cursor ▽ repeatedly to select the frequency you want to adjust, then use ⑩Cursor ◁ / ▷ to adjust the volume.
Raising volume: Press ⑩Cursor ▷.
Lowering volume: Press ⑩Cursor ◁.

GEQ   VOL

◀♦ 63Hz ──╫── ▶

Frequency band   Setting the volume level for
                        the selected frequency

Frequency range	63 Hz/160 Hz/400 Hz/1 kHz/2.5 kHz/6.3 kHz/16 kHz
Adjustable range	-6.0 dB to +6.0 dB
Default setting	0 dB
Adjustment increments	0.5 dB

You can use ⑩Cursor △ / ▽ to select another frequency or return to step 2. Repeat steps 2-3 to adjust the tone to your liking.

4 When you have finished making adjustments, press ⑨SETUP to close the Setup menu.

▌ Generating test tones

Test Tone

Turns the test tone generator on or off.

Off (Default)	Does not generate test tones.
On	Generates test tones. While "On" is selected, test tones are produced constantly.

You can use the test tone in a variety of circumstances. For example, you can adjust the volume balance settings for each speaker, or whenever you adjust the settings on the internal graphic equalizer, you can listen to the actual effect while operating this unit. Turn the test tone off when you have finished making adjustments.

Setting the audio output function of this unit

Sound Setup submenu

Lipsync	Adjusts the delay between video and audio output.
Adaptive DRC	Auto-adjusting the sound level to make even low volumes more audible.
D.Range	Selects the dynamic range adjustment method for digital audio playback.
Max Volume	Sets the maximum volume for this receiver.
Init.Volume	Sets the initial volume for when this receiver is turned on.

Synchronizing audio/video output

Lipsync

Adjusts the delay between audio and video output (Lipsync function).

HDMI Auto

When connecting to a TV via HDMI, automatically adjusts output timing if the TV supports an automatic lipsync function.

Off	Select this when the connected TV does not support the automatic lipsync function or you do not wish to use the automatic lipsync function. Set the correction time in "Manual."
On (Default)	Select this when the TV supports the automatic lipsync function. Fine-adjust the correction time in "Auto."

Auto

Fine-adjust the audio output timing by entering the correction time provided when "HDMI Auto" is set to "On."

Adjustable range	0 ms to 240 ms
Adjustment increments	1 ms

Manual

Manually adjusts the correction time. Select this when the TV does not support the automatic lipsync function or "HDMI Auto" is set to "Off."

Adjustable range	0 ms to 240 ms
Adjustment increments	1 ms
Default setting	0 ms

Auto-adjusting the sound level to make even low volumes more audible

Adaptive DRC

Adjusts the dynamic range in conjunction with the volume level (from minimum to maximum). When you play audio at night or at low volumes, it is a good idea to set parameter to "On." *1

Off (Default)	Does not adjust the dynamic range automatically.
On	Adjusts the dynamic range automatically.

When the auto function is enabled, it adjusts the dynamic range as follows.
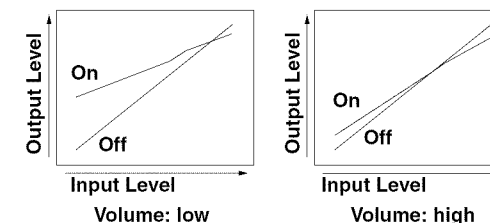
*1 : The Adaptive DRC setting is also effective when you use headphones.

Auto-adjusting Dolby Digital and DTS dynamic range

D.Range

Selects the dynamic range adjustment method for audio bitstream (Dolby Digital and DTS) playback.

Min/Auto	(Min) Sets the dynamic range suitable for low volume or a quiet environment, such as at night, for bitstream signals except for Dolby TrueHD signals. (Auto) Adjusts the dynamic range for Dolby TrueHD signals based on input signal information.
Std	Adjusts the dynamic range for optimum volume for regular home use.
Max **(Default)**	Produces audio without adjusting the dynamic range.

Setting the maximum volume

Max Volume

Sets a maximum volume level so that the audio is not played too loudly. The default setting of +16.5 dB produces the highest volume.

Adjustable range	-30.0 dB to +15.0 dB / +16.5 dB (Maximum volume)
Default setting	+16.5 dB
Adjustment increments	5.0 dB

Setting the startup volume

Init.Volume

Sets the initial volume for when this receiver is turned on. When this parameter is set to "Off," the volume is set at the level when the receiver last entered standby mode. ☀1

Adjustable range	Off, Mute, -80 dB to +16.5 dB
Default setting	Off
Adjustment increments	0.5 dB

Setting HDMI functions

SETUP   VOL_ 18.5

◆ HDMI Setup

HDMI Setup submenu

Control	Turns the HDMI Control on or off.
TVAudio ☀2	Chooses automatically selected audio input in conjunction with TV operation when the HDMI Control is turned on.
ARC ☀2	Transmits audio/video output to the TV and audio input from the TV through a single HDMI cable.
Audio ☀2	Selects the audio output device connected to this unit via HDMI jacks.

☀1 : When you set the "Max Volume" at a lower level than "Init.Volume," the "Max Volume" setting has priority.
☀2 : When "Control" is set to On, "TVAudio" and "ARC" appear. When "Control" is set to Off, "Audio" appears.

▊ Receiver operation via TV (HDMI Control)

Control

Set the HDMI Control function to "On" to operate devices connected via HDMI. If the TV or other external components support HDMI Control (ex. Panasonic VIERA Link), you can use the remote controls of those devices to operate some of this unit's functions, and to synchronize this unit with the operation of those devices.
Please refer to "Switching the input source on this unit automatically when listening to TV audio" (☞p. 58) for instructions.

Off (Default)	Sets HDMI Control to "Off."
On	Sets HDMI Control to "On."

If this unit is connected to HDMI devices that do not support the HDMI Control function, these functions will not operate.

▊ Selecting an input source to assign audio input for the TV

TVAudio

Select the input source that matches operations carried out on the TV while the HDMI Control function is on.
When using a TV that supports Audio Return Channel function and the function is enabled, the audio input for the TV is assigned to the input source selected here. ☞1

AV1 to AV5	Assigns any of the AV1-5 input source for the audio input from the TV.
AUDIO1/AUDIO2	Assigns AUDIO1 or AUDIO2 input source for the audio input from the TV.
Default setting	AV4

☞ 1 : While the Audio Return Channel function is on, the jack selected for the input source cannot be used.
☞ 2 : When "TV" is selected, the speakers of this unit do not output sound.

- "TVAudio" is only displayed with the HDMI Control function (Control) is set to "On."
- Please refer to "Using the HDMI Control function" (☞p. 57) for setting instructions.
- For details on inputting the audio signal from the TV, refer to "Listening to TV audio" (☞p. 15).

▊ Listening to TV audio via single HDMI cable (Audio Return Channel)

ARC

You can enable or disable the Audio Return Channel function.
When using a TV that supports Audio Return Channel function and the function is enabled, the TV's audio output is transmit to this unit via an HDMI cable.
The TV audio input to this unit is regarded as the input source selected in "TVAudio." ☞1
By means of this function, you do not need to connect the TV's audio output (digital audio output or analog audio output) to the unit.

Off (Default)	Sets the Audio Return Channel to "Off."
On	Sets the Audio Return Channel to "On."

When the TV audio is input to the unit using Audio Return Channel, "TV" is displayed on the front panel display.

- "ARC" is only displayed with the HDMI Control function (Control) is set to "On."
- Please refer to "Single HDMI cable input to TV audio with Audio Return Channel function" (☞p. 59) for setting instructions.

▊ Changing the output destination of HDMI input audio signals

Audio

Choose whether to playback audio from an external component such as a BD/DVD player connected via HDMI through this unit or through a TV.

Amp (Default)	Outputs audio through this unit only. When this setting is selected, the external component outputs an audio format compatible with this unit.
TV	Outputs audio through a TV only. When this setting is selected, the external component outputs an audio format compatible with the TV. ☞2
Amp+TV	Outputs audio from the TV and this unit. When this setting is selected, the external component outputs an audio format compatible with TV.

"Audio" is only displayed with the HDMI Control function (Control) is set to "Off."

Making the receiver easier to use

Func. Setup submenu

Input Rename	Changes the input source names.
AutoPowerDown	Goes into standby mode.
Dimmer	Sets the Brightness of the front panel display.

■ Changing input source names

Input Rename

Changes the input source names to be shown on the front panel display.

You can change an input source name by choosing from a list of templates, or make one of your own.

■ Selecting a template

1 Select "Input Rename" from the Setup menu and press ⑩ENTER.

Renaming the input source

2 Select the input source that you want to rename using ⑩Cursor △ / ▽.

3 Use ⑩Cursor ◁ / ▷ to select a new name from the following templates.

Blu-ray	Satellite
DVD	VCR
SetTopBox	Tape
Game	MD
TV	PC
DVR	iPod
CD	HD DVD
CD-R	(blank)

4 Confirm the new display name by pressing ⑩RETURN. Press ⑨SETUP to exit the Setup menu.

To cancel a name change, select the original name and then press ⑩RETURN to exit renaming.

■ Entering an original name

1 Select "Input Rename" from the Setup menu and press ⑩ENTER.

2 Select the input source that you want to rename using ⑩Cursor △ / ▽.

3 Press ⑩ENTER.

Cursor

4 Use ⑩Cursor △ / ▽ to select the characters you wish to change, and use ⑩Cursor ◁ / ▷ to enter those characters.

The following characters are available for input source.

- A to Z, a to z
- 0 to 9
- Symbols (#, *, -, +, etc.)
- Space

5 Repeat step 4 until you have entered the new input source name.

6 Confirm the new display name by pressing ⑩ENTER. Press ⑨SETUP to exit the Setup menu.

To cancel a name change, press ⑩RETURN.
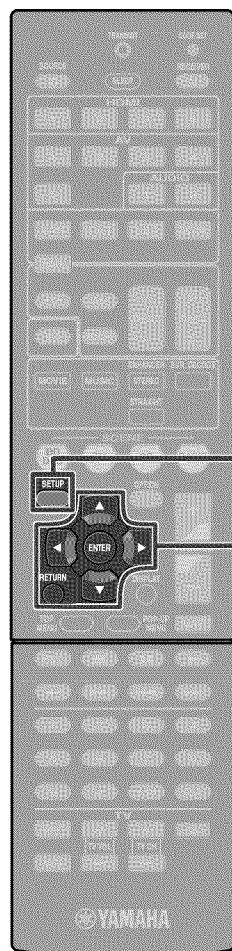
⑨ SETUP
⑩ Cursor △ / ▽ / ◁ / ▷
⑩ ENTER
⑩ RETURN

Goes enter standby mode automatically when you leave it without operating

AutoPowerDown

If you do not operate this unit or use the remote control for an extended period of time, it will automatically go into standby mode (Auto Power Down function). This function's default setting is "Off." When you wish to activate this function, set the amount of time to pass before this unit will enter standby.

Off (Default)	Auto Power Down function is disabled.
4hours	Goes into standby mode, when you have not operated this unit for four hours.
8hours	Goes into standby mode, when you have not operated this unit for eight hours.
12hours	Goes into standby mode, when you have not operated this unit for twelve hours.

> This unit starts a countdown of 30 seconds before entering the standby mode. Pressing any key of the remote control during the countdown cancels entering the standby mode and reset the timer.

Setting the brightness of the front panel display

Dimmer

Sets the brightness of the front panel display. Lowering the setting dims the display.

Adjustable range	-4 to 0
Default setting	0

Setting sound field program parameters

You can set the parameters for the sound field programs (☞ p. 50).

Prohibiting setting changes

Prohibits setting changes to prevent careless changes being made to the settings on Setup menu.

Off (Default)	Settings are not protected.
On	Prohibits changes to the settings on Setup menu until it is returned to "Off." While set to "On," the unit displays "Memory Guard!" when an attempt is made to change the settings.

Setting sound field program parameters

Although the sound field programs would satisfy you as they are with the default parameters, you can arrange the effect by setting the sound field elements (parameters). To adjust the sound effects suitable for acoustical conditions of audio/video sources or rooms, perform the following operations.

Setting sound field parameters

1 Press ⑨SETUP to display the Setup menu.

2 Use ⑩Cursor △ / ▽ to select "DSP Parameter" and press ⑩ENTER.

```
SETUP            VOL. [8.5]
 ◆ DSP Parameter [L][G][R]
                 [SL][SR]
```

3 Use ⑩Cursor ◁ / ▷ to choose the sound field program you want to edit.

```
DSPPRM [CINEMA DSP]   VOL. [8.5]
 ◀◆      Sci-Fi   ▶ [L][G][R]
                     [SL][SR]
```

Sound field program to be edited

---

4 Press ⑩Cursor △ / ▽ to select the parameter that you want to change, and press ⑩Cursor ◁ / ▷ to change the parameter.

```
DSPPRM [CINEMA DSP]       VOL. [8.5]
 ◀◆ DSP Level··0dB▶ [L][G][R]
                          [SL][SR]
```

Sound field parameter   Choices

When there are multiple parameters in the sound field program you are configuring, repeat step 4 as necessary to change other parameters.

---

5 Once you have completed editing, press ⑨SETUP to close the Setup menu.

■ To initialize the sound field parameters

To set the parameters of the sound field program back to default, press ⑩Cursor ▽ repeatedly during editing to select "Initialize" and press ⑩Cursor ▷. When "Press Again >" is displayed, press ⑩Cursor ▷ again to initialize.

```
DSPPRM [CINEMA DSP]       VOL. [8.5]
 ◆ Initialize  ▶ [L][G][R]
                          [SL][SR]
```

To cancel operations, press ⑩Cursor ◁ when "Press Again" appears and return to the original display.

▌ CINEMA DSP parameters

DSP Level

Change the effect level (level of the sound field effect to be added). You can adjust the level of the sound field effect while checking the sound effect.

Adjustable range	-6 dB to 0 dB to +3 dB
Default setting	0 dB

Adjust "DSP Level" as follows:
- The effect sound is too soft.
- There are no differences between effects of the sound field programs.
  → Increase the effect level.
- The sound is dull.
- The sound field effect is added too much.
  → Reduce the effect level.

---
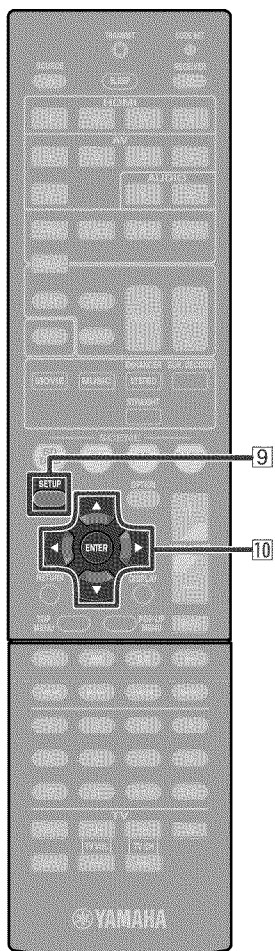
⑨SETUP
⑩Cursor △ / ▽ / ◁ / ▷
⑩ENTER

Parameters usable in certain sound field programs

2ch Stereo only

Direct

Automatically bypasses the DSP circuit and tone control circuit depending on the condition of tone control etc., when an analog sound source is played back. You can enjoy a higher quality sound.

Auto (Default)	Outputs sound by bypassing the DSP circuit and tone control circuit when both tone controls of "Bass" and "Treble" are set to 0dB.
Off	Does not bypass the DSP circuit and tone control circuit.

5ch Stereo only

CT Level

Adjusts the center channel volume. ☀1

Adjustable range	0 to 100%
Default setting	100%

SL Level

Adjusts the volume of the surround L channel. ☀1

Adjustable range	0 to 100%
Default setting	100%

SR Level

Adjusts the volume of the surround R channel. ☀1

Adjustable range	0 to 100%
Default setting	100%

Straight Enhancer/5ch Enhancer only

EFCT LVL

Adjusts the effect level of the compressed music enhancer mode.

High (Default)	Standard effect.
Low	Sets when the high-frequency signals of the source are emphasized excessively.

Parameters usable in surround decoder

◻◻ PLII Music only

Panorama

Adjusts the soundscape of the front sound field. Sends front left/right channels sounds to the surround speakers as well as the front speakers for a wraparound effect.

Off (Default)	Disables the effect.
On	Enables the effect.

CT Width

Spreads the center channel sound to the front left and right speakers to suit your needs or preferences. Set this parameter to 0 for outputting the center sound from the center speaker only, or to 7 for outputting it from the front left/right speaker only.

Adjustable range	0 to 7
Default setting	3

Dimension

Adjusts the difference in level between the front sound field and the surround sound field. You can adjust the difference in level created by the software being played back to obtain the preferred sound balance.

The surround sound gets stronger as you make the value more negative, and the front sound gets stronger as you make the value more positive.

Adjustable range	-3 to +3
Default setting	0

When Neo:6 Music is selected

C.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.

Adjustable range	0.0 to 1.0
Default setting	0.3

☀1 : Not displayed when speakers are set to be inactive.

Controlling other components with the remote control

You can operate an external component such as TV and DVD player with the remote control of this unit by setting the code for external component (remote control code). The remote control code can be set for each input source. Individual setting allows you to switch external components seamlessly depending on the selected input source.

Selecting input source connected to DVD player

DVD player

Playback/Stop
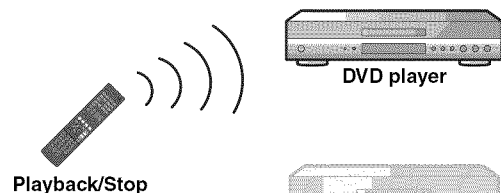
CD player

Selecting input source connected to CD player

DVD player

Playback/Stop

CD player
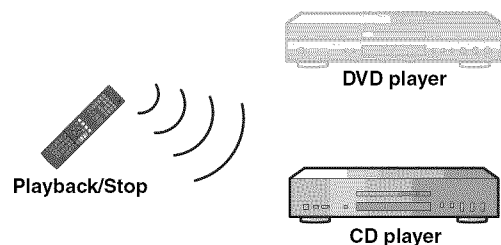
If you are unable to operate this unit after operating an external component, press [9]**SETUP** or [17]**OPTION** and then try operating the remote control again.

Keys connecting external components

The remote control keys for controlling external components are available only when the external components have corresponding control keys.

[3]SOURCE ⏻
Switches an external component on and off.

[10]Cursor, [10]ENTER, [10]RETURN
Operates the menus of external components.

[11]DISPLAY
Switches an external component display.

[11]External component operation keys
Functions as a recording or playback key of an external component, or a menu display key.

[12]Numeric keys
Functions as numeric keys of an external component.

[13]TV control keys ☆1

[13]INPUT	Switches video inputs of TV.
[13]MUTE	Mutes TV volume temporarily.
[13]TV VOL +/-	Controls the volume of TV.
[13]TV CH +/-	Switches TV channels.
[13]⏻	Turns on and off TV

Default remote control code settings

The following remote control codes are assigned to input sources as factory default settings. For a complete list of available remote control codes, please refer to "Remote Control Code Search" in the CD-ROM.

Input	Category	Manufacturer	Remote control code
HDMI1	Blu-ray player/ recorder	Yamaha	2064
HDMI2	—	—	—
HDMI3	—	—	—
HDMI4	—	—	—
AV1	—	—	—
AV2	—	—	—
AV3	CD player	Yamaha	5095
AV4	—	—	—
AV5	—	—	—
AUDIO1	—	—	—
AUDIO2	—	—	—
V-AUX	—	—	—
A/B ☆2	—	—	—
DOCK	DOCK	Yamaha	5089
TUNER	Tuner	Yamaha	5085

[3] SOURCE ⏻
[4] Input selector
[9] SETUP
[10] Cursor △ / ▽ / ◁ / ▷
[10] ENTER
[10] RETURN
[11] External component operation keys
[11] DISPLAY
[12] Numeric keys
[13] TV control keys
[13] INPUT
[13] MUTE
[13] TV VOL +/-
[13] TV CH +/-
[13] ⏻
[17] OPTION

☆1 : You can register remote control codes for external components to [4]**Input selector** and remote control codes for TVs in [13]⏻ ([13]**TV control keys**).
To register a TV remote control code to [4]**Input selector**:
You can use the [10]**Cursor**, [12]**Numeric keys**, and [13]**TV control keys** to control a TV you have registered.

To register a remote control code for a device other than a TV to [4]**Input selector**:
You can use the [10]**Cursor** and [12]**Numeric keys** etc to control external components, and the [13]**TV control keys** to control TVs registered in [13]⏻.

☆2 : Use A/B for external component operations only. Set these keys to remote control codes if you want to perform external component operations without linking to input source selection of this unit. For example, it may be convenient to assign remote control codes for devices such as TVs.

Registering remote control codes for external component operations

The following section describes how to register remote control code using an example of the registration of the remote control codes of a Yamaha BD player connected to HDMI2 jack.

- Perform each of the following steps within 1 minute. Settings will be automatically stopped if more than 1 minute passes since the last operation. To reset, repeat from step 2.
- Remote control code of an external component cannot be set from the name or model number of a unit. Use "Remote Control Code Search" in the CD-ROM to search the available remote control codes from the category or manufacturer of external components.
- If multiple remote control codes exist, first set the first code in the list, if it does not work then try the other codes.

1 Use "Remote Control Code Search" in the CD-ROM to search the available remote control codes from the category or manufacturer of external components.

"2064" can be used for a Yamaha BD player.

2 Press [14]CODE SET on the remote control using a pointed object such as the tip of a ballpoint pen.

[4] HDMI2
[8] SCENE
[12] Numeric keys
[13] TV control keys
[13] ⏻
[14] CODE SET

3 Press [4]HDMI2 on the remote control to switch the input source to HDMI2. ☞1

Perform the following steps to register the selected input source here to the remote control code.

4 Enter a remote control code "2064" using [12]Numeric keys. ☞2

2 → 0 → 6 → 4

Once the remote control code is registered successfully the remote control will blink twice.

Registration successful: blinks twice
Registration failed: blinks 6 times
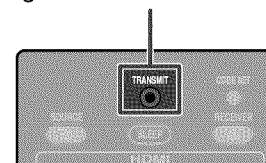
- If the registration fails, repeat the step 2.
- In case of an external component with multiple remote control codes, the other remote control codes may be supported. Repeat from step 2 with the other remote control codes.

5 To switch between BD player linked to scene selections, press [8]SCENE and at the same time press [4]HDMI2 and hold it for approximately 3 seconds.

Then you can operate the external components by switching the input source to HDMI2, or selecting HDMI2 in the registered scene.

Same steps for operating other external components, press [8]SCENE and at the same time press the input source key selected in step 3 and hold it for approximately 3 seconds.

☞1 : When you want to register a remote control code to the [13]TV control keys, press [13]⏻ ([13]TV control keys) in step 3.
☞2 : When you want to register a remote control code to the [13]TV control keys, enter the TV remote control code in step 4.
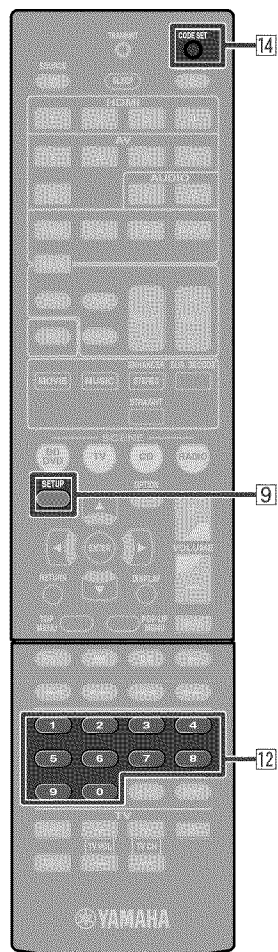
Resetting all remote control codes

Resetting all remote control codes for external components to the initial factory settings.

Perform each of the following steps within 1 minute. Settings will be automatically stopped if more than 1 minute passes since the last operation. To reset, repeat from step 2.

1 Press ⑭CODE SET on the remote control using a pointed object such as the tip of a ballpoint pen.
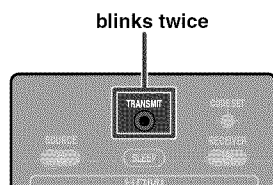
blinks twice

2 Press ⑨SETUP on the remote control.

3 Enter "9981" using ⑫Numeric keys.

(9) → (9) → (8) → (1)

Once the remote control code is registered successfully the remote control will blink twice.

Registration successful: blinks twice
Registration failed: blinks 6 times
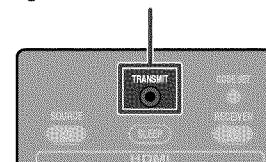
If setup fails, repeat from step 1.

⑨ SETUP
⑫ Numeric keys
⑭ CODE SET

Extended functionality that can be configured as needed (Advanced Setup menu)

The Advanced Setup menu can be used for unit initialization and other useful extended functions. The Advanced Setup menu can be operated as follows.

Displaying/Setting the Advanced Setup menu

1 Set this unit to the standby mode.

2 Press ⏻ while pressing and holding STRAIGHT on the front panel.

Release the keys when "ADVANCED SETUP" is displayed on the front panel display.
After approximately 3 seconds, the top menu items are displayed.

STRAIGHT

PROGRAM ◁ / ▷

SP IMP. -8ΩMIN
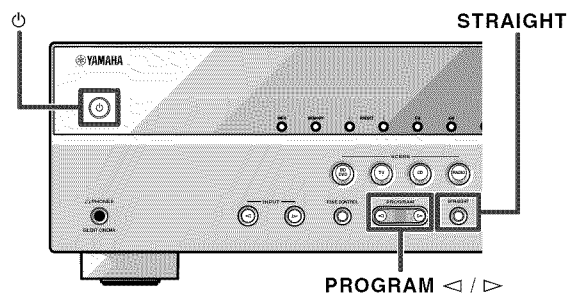
3 Use PROGRAM to select the item to be set from the following items.

In the Advanced Setup menu, you can set the following settings.

SP IMP.	Sets the impedance of speakers.
REMOTE ID	Changes the remote control ID of a receiver.
INIT	Initializes various settings for this unit.

4 Press STRAIGHT a few times to select the value you wish to change.

5 Switch this unit to the standby mode, and then switch it on again.

The settings become effective and the unit is powered on. If initialization is selected, it will be performed when the unit is powered on again.

Setting the impedance of speakers

SP IMP. -8ΩMIN

Changes the unit settings depending on the impedance of the speakers connected. ☀1

6ΩMIN	Select the impedance when 6Ω speakers are connected.
8ΩMIN (Default)	Select the impedance when speakers above 8Ω are connected.

☀1 : For detailed procedures of speaker impedance settings, refer to "Changing speaker impedance" (☞p. 10).

En 55

Avoiding crossing remote control signals when using multiple Yamaha receivers

REMOTE ID -ID1

The remote control of the unit can only receive signals from a receiver which has an identical ID (remote control ID). When using multiple Yamaha AV receivers, you can set each remote control with a unique remote control ID for its corresponding receiver.
On the contrary, if you are setting the same remote control ID for all receivers, you can use one remote control to operate 2 receivers.

ID1 (Default)	Receives the remote control signals set in ID1.
ID2	Receives the remote control signals set in ID2.

ID1 is set for both remote control and receiver by default. To avoid crossing remote control, change the remote control ID for both remote control and receiver.

[9] SETUP
[12] Numeric keys
[14] CODE SET

■ To change the remote control ID

Perform each of the following steps within 1 minute. Settings will be automatically stopped if more than 1 minute passes since the last operation. To reset, repeat from step 1.

1 Press [14]CODE SET on the remote control using a pointed object such as the tip of a ballpoint pen.

2 Press [9]SETUP on the remote control.

3 Enter the desired remote control ID code.

To switch to ID1:
Enter "5019" using [12]Numeric keys.

To switch to ID2:
Enter "5020" using [12]Numeric keys.

Once the remote control code is registered successfully the remote control will blink twice.

Registration successful: blinks twice
Registration failed: blinks 6 times

- If setup fails, repeat from step 1.
- Returns to ID1 after the remote control code is initialized ().

Initializing various settings for this unit

INIT- CANCEL

Initializes various settings stored in this unit and sets it back to default.
Select the items to be initialized from the following.

DSP PARAM	Initializes all parameters for the sound field programs.
ALL	Resets this unit to default factory settings.
CANCEL (Default)	Does not initialize.

Using the HDMI Control function

This unit supports the HDMI Control function, which allows you to operate external components via HDMI. If you connect devices that support HDMI Control (ex. Panasonic VIERA Link-compatible TVs, DVD/Blu-ray Disc recorders, etc.) ☀1, you can use the following operations with the remote control of any of those devices:

- Power synchronization (on/standby)
- Volume control, including Mute
- Changing the volume of the audio output signal device (either the TV or this unit)

TV

**Control signal
(such as volume control)**

HDMI connection

Remote control of TV
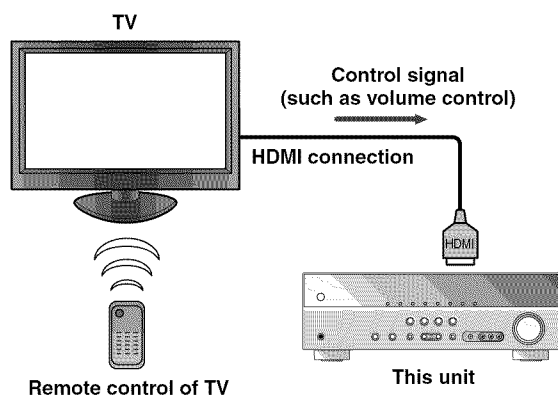
This unit

NOTE

The following is an example of how to connect this unit, a TV, and a DVD recorder. Follow the instructions in your TV and DVD recorder manuals, as well as the ones written below.

- Set the TV's HDMI Control function to "On"
- Follow the AV amplifier connection instructions, and connect this unit to the TV

---

1 Connect the TV, DVD recorder supporting HDMI Control to this unit's HDMI output jack.

2 Turn on the TV and this unit.

Refer to the TV's instruction manual on how to operate external components.

3 Press ⑨SETUP. ☀2

4 Use ⑩Cursor △ / ▽ to select "HDMI Setup" and press ⑩ENTER.

```
HDMI                 VOL.  18.5
⬥Control・・・・Off▶
```

5 Make sure that "Control" is selected, and then use ⑩Cursor ◁ / ▷ to select "On."

```
HDMI                 VOL.  18.5
⬥Control・・・・・On▶
```

Press ⑨SETUP when you have finished changing the setting.

6 Set the TV/DVD recorder's HDMI Control function to On.

Check the instruction manuals for those devices.

7 Turn the TV off.

Other synchronized HDMI Control devices are turned off with the TV. If they are not synchronized, turn them off manually.

8 Turn the TV on.

Confirm that this unit has turned on in conjunction with the TV. If it is still off, turn it on manually.

9 Change the TV's input setting to the input jack that is connected to this unit (ex. HDMI1).

10 If DVD recorder that supports the HDMI Control function are connected to this unit, turn them on.

Receiver unit	Confirm that the input source for the DVD recorder has been selected. If a different input source has been selected, please change it manually.
TV/DVD Recorder	Confirm that the video signal from the recorder is being properly received by the TV.

Operations 1-10 will not be required more than twice.

11 Confirm that this unit is properly synchronized with the TV through the following operations by using the TV remote control.

- Power On/Off
- Volume Control
- Switching between audio output devices

If this unit is not synchronized to the TV's power operations, check that the HDMI Control function is set to "On" for both devices.
If they will not properly synchronize, unplugging and re-plugging the devices and turning them on and off may solve the problem.

Switching the input source on this unit automatically when listening to TV audio

When the HDMI Control (☞p. 57) is operating properly, the input source of this unit is automatically changed to match operations carried out on the TV. The default input jack is AV4. If the AV4 optical digital jack is connected to the TV's audio output jack, then you can enjoy TV sound through this unit right away.

Audio output (Optical)

TV

To use other jacks to input audio signals from TV, carry out the following procedure.

1 Connect this unit and the TV with an HDMI cable.

2 Connect TV's audio output to this unit.

The input jacks listed below are available to input TV's audio signals. Use the same jack type as used for the TV.

TV output jack	Input jack
Optical digital audio output	AV1 or AV4 (default)
Coaxial digital audio output	AV2 or AV3
Analog stereo output	AV5, AUDIO1, or AUDIO2

Available input jacks
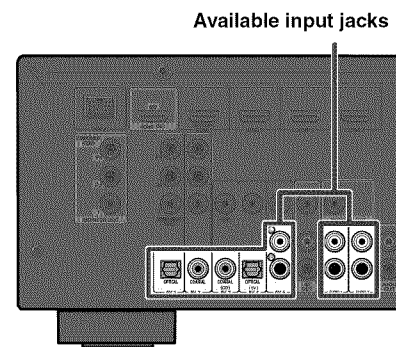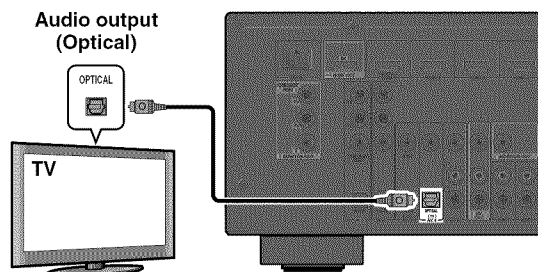
3 Press 9SETUP. ☀1

4 Use 10Cursor △ / ▽ to select "HDMI Setup" and press 10ENTER.

HDMI
◄◊Control･･･Off►

5 Make sure that "Control" is selected, and then use 10Cursor ◁ / ▷ to select "On."

HDMI
◄◊Control･･･On►

6 Press 10Cursor ▽ to select "TVAudio" and select the input jack connected in step 2 using 10Cursor ◁ / ▷.

HDMI
◄◊TVAudio････AV4►

7 Press 9SETUP when you have finished changing the settings.

If the TV hereafter transmits audio output signals, this unit will automatically switch to the input source chosen in step 6.
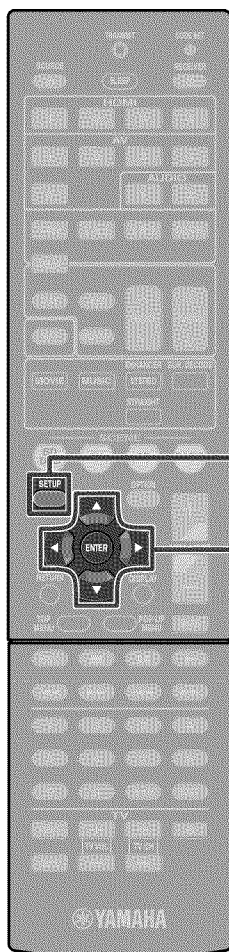
9 SETUP
10 Cursor △ / ▽ / ◁ / ▷
10 ENTER

☀1 : Refer to the "Setting various functions (Setup menu)" (☞p. 41) for details on the Setup menu.
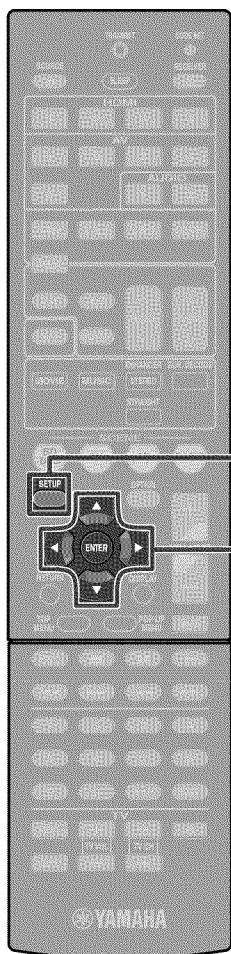
Single HDMI cable input to TV audio with Audio Return Channel function

When using a TV that supports HDMI functions and Audio Return Channel function, audio/video output from this unit to the TV or audio output from the TV to this unit can be transmitted through a single HDMI cable (Audio Return Channel function). Audio signals transmitted from the TV to this unit can be assigned to any input source.

1 Connect this unit and the TV with an HDMI cable.

TV

HDMI

Video / Audio output   TV audio output

HDMI OUT
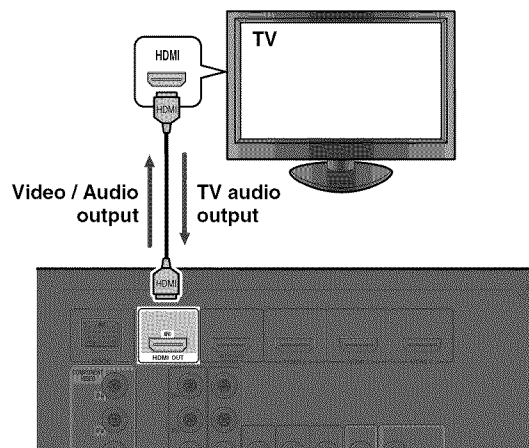
2 Press ⑨SETUP. ❄1

3 Use ⑩Cursor △ / ▽ to select "HDMI Setup" and press ⑩ENTER.

HDMI
◀❖Control····Off▶

4 Make sure that "Control" is selected, and then use ⑩Cursor ◁ / ▷ to select "On."

HDMI
◀❖Control·····On▶

5 Press ⑩Cursor ▽ to select "TVAudio" and select the input source that you want to assign to the HDMI audio signals from the TV using ⑩Cursor ◁ / ▷. ❄2

6 Press ⑩Cursor ▽ to select "ARC" and press ⑩Cursor ▷ to select "On."

The Audio Return Channel function will turn on.

HDMI
◀❖ARC·········On▶

7 Press ⑨SETUP when you have finished changing the settings.

If the TV hereafter transmits audio output signals, this unit will automatically switch to the input source chosen in step 6.

⑨SETUP
⑩Cursor △ / ▽ / ◁ / ▷
⑩ENTER

❄1 : Refer to the "Setting various functions (Setup menu)" (☞p. 41) for details on the Setup menu.
❄2 : While the Audio Return Channel function is on, the jack selected for the input source cannot be used.

En **59**

APPENDIX

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 instructions below do 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
The power will not turn on.	The protection circuitry operated three times consecutively.	As a safety precaution, when the protection circuitry operates three times consecutively, the capability to turn on the power is disabled. Please contact your nearest Yamaha dealer or service center to request repair.	—
The unit enters standby mode soon after the power is turned on.	The power cable is not completely inserted.	Connect the power cable properly to an AC wall outlet.	—
	The speaker impedance settings are incorrect.	Set the speaker impedance to match your speakers.	10
	(When this unit is turned back on and "CHECK SP WIRES!" is displayed.) The protection circuitry has been activated because this unit was turned on while a speaker cable was shorted.	Make sure that all speaker cables between this unit and speakers are connected properly.	12
This unit cannot be turned off or does not work properly.	The internal microcomputer is hung-up due to an external electric shock (such as lightning or excessive static electricity) or by a drop in power supply voltage.	Disconnect the power cable from the AC wall outlet, wait about 30 seconds and then plug it in again.	—
	The batteries in the remote control may have lost their charge.	Replace all batteries.	4
The unit enters standby mode.	The protection circuitry has been activated because of a short circuit, etc.	Check that the speaker impedance settings are correct.	10

Problem	Cause	Remedy	See page
After display of a countdown on the front panel, the unit goes into standby mode.	If you do not use take any action, the Auto Power Down function operates.	Turn on the unit, and play the source again.	—
		In the Setup menu "AutoPowerDown" ("Func. Setup" → "AutoPowerDown"), increase the time until switching to standby mode, or turn off the Auto Power Down function.	49
"Internal Error" is displayed on the front panel display.	An internal error has occurred.	Please contact authorized Yamaha dealer or service center to request repair.	—
Sound/images suddenly go off.	The protection circuitry has been activated because of a short circuit, etc.	Check that the speaker impedance settings are correct.	10
		Check that the speaker wires are not touching each other, then turn the unit back on.	—
	The sleep timer has turned off the unit.	Turn on the unit, and play the source again.	—

Problem	Cause	Remedy	See page
No sound.	Incorrect input or output cable connections.	Connect the cables properly. If the problem persists, the cables may be defective.	16
	If a DVI-HDMI cable is used to connect the unit with an external component, then it is necessary to use an audio input jack for a different input to output audio.	Display the HDMI Input Option menu for the connected cable, select "Audio In," and select the jack to use for audio input.	39
	Speaker connections are not secure.	Secure the connections.	12
	The HDMI components connected to the unit do not support the HDCP copy protection standards.	Connect HDMI components that support the HDCP copy protection standards.	39
	The audio input into the device is set to playback through the TV.	In the Setup menu, set the HDMI Audio Out ("HDMI Setup" → "Audio") to other than "TV."	47
	No appropriate input source has been selected.	Select an appropriate input source with ④Input selector (on the remote control).	25
	The volume is turned down or muted.	Turn up the volume.	—
	Signals that this unit cannot reproduce are being input from a source component, such as a CD-ROM.	Use an input source that has signals that can be reproduced on this unit.	—
No picture.	A video jack (ex. Video input → HDMI output) type different to the input video is being used to try to display content on the TV.	Use video jacks of the same type (ex. Video input → Video output) to connect to the TV.	14
	An appropriate video input is not selected on the TV.	Select an appropriate video input on the TV.	—

Problem	Cause	Remedy	See page
No sound is output from a specific speaker.	The speaker is malfunctioning. Check the Speaker indicators on the front panel display. If the corresponding indicator lights up, connect another speaker and check if sound is output.	If sound is not output, the unit may be malfunctioning.	7
	The playback component or speakers are not connected properly.	Connect the cables properly. If the problem persists, the cables may be defective.	12, 16
	Output from that speaker is disabled.	Check the Speaker indicators on the front panel display. If the corresponding indicator is turned off, try the following. 1) Change to a different input source. 2) With the selected sound field program, sound is not output from that speaker. Select another sound field program. 3) "None" may have been selected for that speaker on this unit. Display "Speaker Setup" in the Setup menu, and set respective parameters to enable output from that speaker ("Speaker Setup" → "Config").	7, 42
	The volume of that speaker is set to the minimum in "Speaker Setup" in the Setup menu.	Display "Speaker Setup" in the Setup menu and adjust the volume ("Speaker Setup" → "Level").	43
	(If hardly any sound comes from one channel) Speaker output balance is not set correctly.	Balance the volume of each speaker from "Level" in the Setup menu ("Speaker Setup" → "Level").	43
	Sound may not be output from certain channels, depending on the input source or sound field program.	Try another sound field program.	26
Only the center speaker outputs substantial sound.	When a monaural source sound field program is applied, for some surround decoders, sound from all channels is output from the center speaker.	Try another sound field program.	26

Problem	Cause	Remedy	See page
No sound is heard from the surround speakers.	This unit is in straight decoding mode and a monaural source is being played back.	Press [7] STRAIGHT (on the remote control) to exit straight decoding mode.	27
	Sound may not be output from certain channels depending on input sources or sound field programs.	Try another sound field program.	26
No sound is heard from the subwoofer.	A subwoofer is not connected, or it is disabled.	Check that a subwoofer is connected correctly, and from the Setup menu "Subwoofer" ("Speaker Setup" → "Config" → "Subwoofer"), set the subwoofer to "On."	42
	The subwoofer is turned off.	Turn the subwoofer power on. If the subwoofer includes an Auto Power Off function, then lower the Auto Power Off sensitivity settings.	—
	The source does not contain LFE (☞p. 67) or low frequency signals.		—
The right combination of audio / video jacks to connect cannot be found.	Combine input connected to the external component video output with another input audio jack.	Select a desired input source (HDMI1-4 or AV1-2) as a video input and select a audio input source from "Audio In" in the Option menu.	39
The audio input sources cannot be played in the desired digital audio signal format.	The connected component is not set to output the desired digital audio signals.	Set the playback component properly referring to its instruction manual.	—
There is noise interference from digital or radio frequency equipment.	This unit is too close to other digital or radio frequency equipment.	Move this unit further away from such equipment.	—

Problem	Cause	Remedy	See page
Noise/hum noise is heard.	Incorrect cable connection. Connect the audio cables properly.	If the problem persists, the cables may be defective.	—
	A DTS-CD is being played back.	If a DTS bitstream signal is not properly input to this unit, only noise is output. Connect the playback component to this unit by digital connection and play back the DTS-CD. If the condition is not resolved, the problem may result from the playback component. Consult the manufacturer of the playback component.	—
The volume cannot be increased, or the sound is distorted.	The component connected to the output jacks of this unit is not turned on.	When the component connected to the output jacks of this unit is not turned on, the sound may be distorted, or the volume may decreased due to the nature of AV receivers. Turn on all components connected to this unit.	—
	"Max Volume" is set to a low value.	Set it to a higher value.	46

HDMI™

Problem	Cause	Remedy	See page
The front panel display HDMI indicator is flashing.	An error with the HDMI connection has occurred.	Try re-inserting the HDMI cable.	—
		Confirm that HDMI video that is not supported by the unit is not being input (HDMI Input → Option menu → "Signal Info").	39
No picture or sound.	The number of components is over the limit.	Disconnect some of the HDMI components.	—
	The connected HDMI component does not support high-bandwidth digital copyright protection (HDCP).	Connect an HDMI component that supports HDCP.	—
(When using HDMI Control function) TV sound is not output from this unit when operating the remote control of the TV.	The TV audio output is not connected to this unit, or the setting to match operations carried out on TV is not set.	Connect the TV audio output to this unit, and then select the connected input source in "TVAudio" (Setup menu → HDMI Setup → TVAudio).	47
	(When using Audio Return Channel function) The Audio Return Channel function is not working.	Make sure that your TV supports Audio Return Channel. Set the Audio Return Channel function to on (Setup menu → HDMI Setup → ARC).	47

Tuner (FM/AM)

FM

Problem	Cause	Remedy	See page
FM stereo reception is noisy.	You are too far from the station transmitter, or the input from the antenna is weak.	Check the antenna connections.	21
		Switch to monaural mode.	31
		Replace the outdoor antenna with a more sensitive multi-element antenna.	—
There is distortion, and clear reception cannot be obtained even with a good FM antenna.	There is multi-path interference.	Adjust the antenna height or orientation, or place it in a different location.	—
The desired station cannot be tuned into with the automatic tuning method.	You are in an area far from a station, or input from the antenna is weak.	Replace the outdoor antenna with a more sensitive multi element antenna.	—
		Use [5]TUNING ⌃ / ⌄ (on the remote control) to manually select the station.	30
"No Presets" is displayed.	No preset stations are registered.	Register stations you wish to listen to as preset stations before operation.	31
"Wrong Station" is displayed.	An invalid FM/AM frequency has been input.	Input a frequency that can be received.	—

AM

Problem	Cause	Remedy	See page
The desired station cannot be tuned into with the automatic tuning method.	The signal is weak, or the antenna connections are loose.	Adjust the AM loop antenna orientation.	21
		Use the manual tuning method.	30
Automatic station preset does not work.	Automatic station preset is not available for AM stations.	Use manual station preset.	32
Continuous crackling and hissing noises are heard.	The supplied AM loop antenna is not connected.	Connect the AM loop antenna correctly even if you use an outdoor antenna.	21
	The noises may be caused by lightning, fluorescent lamps, motors, thermostats, or other electrical equipment.	It is difficult to completely eliminate noise, but it can be reduced by installing and properly grounding an outdoor AM antenna.	21
Buzzing and whining noises are heard.	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 or function properly.	Wrong distance or angle.	The remote control will function within a maximum range of 20 ft / 6 m, and no more than 30 degrees off-axis from the front panel.	—
	Direct sunlight or lighting (from an inverter type of fluorescent lamp, strobe light, etc.) is striking the remote control sensor of this unit.	Adjust the lighting angle, or reposition this unit.	—
	The batteries are weak.	Replace all batteries.	4
	The remote control ID of the remote control and this unit do not match.	Match the remote control ID of this unit and the remote control.	56
External components cannot be controlled using the remote control.	The remote control code is not correctly set.	Set the remote control code correctly using "Remote control code search" on the CD-ROM.	—
		Try setting another code for the same manufacturer using "Remote control code search" on the CD-ROM.	—
		If this unit does not work when you press ⑩Cursor △ / ▽ / ◁ / ▷ (on the remote control), do the following. When the key does not work during DVD disc menu operation: press the ④Input selector (on the remote control) again.	—
		When the key does not work during Option menu/Setup menu operation: press the key corresponding to the current menu operation again.	—
		Even if the remote control code is correctly set, there are some models that do not respond to the remote control.	—

iPod™/iPhone™

Display	Cause	Remedy	See page
Loading...	The unit is in the process of recognizing the connection with your iPod/iPhone.		—
	The unit is in the middle of acquiring song lists from your iPod/iPhone.		—
Connect error	There is a problem with the signal path from your iPod/iPhone to the unit.	Turn off the unit and reconnect the Yamaha iPod universal dock to the DOCK jack of the unit.	34
		Remove your iPod/iPhone from the Yamaha iPod universal dock and then place it back in the dock.	34
Unknown iPod	The iPod/iPhone being used is not supported by the unit.	Connect an iPod/iPhone supported by the unit.	—
iPod connected	Your iPod/iPhone is properly placed in the Yamaha iPod universal dock.		—
Disconnected	Your iPod/iPhone is removed from the Yamaha iPod universal dock.		—
Unable to play	The unit cannot play back the songs currently stored on your iPod/iPhone.	Check that songs are currently stored on your iPod/iPhone.	—

Bluetooth™

Display	Cause	Remedy	See page
Searching...	The Yamaha Bluetooth wireless audio receiver and the Bluetooth component are in the process of pairing.		—
	The Yamaha Bluetooth wireless audio receiver and the Bluetooth component are in the process of establishing a connection.		—
Completed	The pairing is completed.		—
Canceled	The pairing is canceled.		—
BT connected	The connection between the Yamaha Bluetooth wireless audio receiver and the Bluetooth component is established.		—
Disconnected	The Bluetooth component is disconnected from the Yamaha Bluetooth wireless audio receiver.		—
Not found	The Bluetooth component is not found.	During pairing: – pairing must be performed on the Bluetooth component and this unit simultaneously. Check if the Bluetooth component is in pairing mode. During connecting: – check if the Bluetooth component is turned on. – check if the Bluetooth component is within 32 feet (10 m) of the Yamaha Bluetooth wireless audio receiver.	—

Glossary

Audio information

Audio and video synchronization (lip sync)

Lip sync, an abbreviation for lip synchronization, is a technical term that involves both a problem, and the capability of maintaining audio and video signals synchronized during post-production and transmission. Whereas the audio and video latency requires complex end-user adjustment, HDMI version 1.3 incorporates an automatic audio and video syncing capability that allows devices to perform this synchronization automatically and accurately without user interaction.

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, referred to as 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 environments are possible than with Dolby Surround. The wide dynamic range from maximum to minimum volumes that are reproduced by the 5 full-range channels, and the precise sound orientation generated using digital sound processing provides 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 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 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, as well as in many TV and cable broadcasts. 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.

Dolby TrueHD

Dolby TrueHD is an advanced lossless audio technology developed for high-definition disc-based media including Blu-ray Disc. Selected as an optional audio standard for Blu-ray Disc, this technology delivers sound that is bit-for-bit identical to the studio master, offering a high-definition home theater experience. Supporting bitrates up to 18.0 Mbps, Dolby TrueHD can carry up to 8 discrete channels of 24-bit/96 kHz audio simultaneously. Dolby TrueHD also remains fully compatible with the existing multichannel audio systems and retains the metadata capability of Dolby Digital, allowing dialog normalization and dynamic range control.

DTS 96/24

DTS 96/24 offers an unprecedented level of audio quality for multichannel 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 Surround

DTS Digital Surround was developed to replace the analog soundtracks of movies with a 5.1-channel digital sound track, and is now rapidly gaining popularity in movie theaters around the world. DTS, 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 5.1-channel sound (technically, left, right and center channels, 2 surround channels, plus an LFE 0.1 channel as a subwoofer, for a total of 5.1-channels).

DTS Express

This is an audio format for next-generation optical discs such as Blu-ray discs. It uses optimized low bit rate signals for network streaming. In the case of a Blu-ray disc, this format is used with secondary audio, enabling you to enjoy the commentary of the movie producer via the Internet while playing the main program.

DTS-HD High Resolution Audio

DTS-HD High Resolution Audio is a high resolution audio technology developed for high-definition disc-based media including Blu-ray Disc. Selected as an optional audio standard for Blu-ray Disc, this technology delivers sound that is virtually indistinguishable from the original, offering a high-definition home theater experience. Supporting bitrates up to 6.0 Mbps for Blu-ray Disc, DTS-HD High Resolution Audio can carry up to 7.1 discrete channels of 24-bit/96 kHz audio simultaneously. DTS-HD High Resolution Audio also remains fully compatible with the existing multichannel audio systems that incorporate DTS Digital Surround.

DTS-HD Master Audio

DTS-HD Master Audio is an advanced lossless audio technology developed for high-definition disc-based media including Blu-ray Disc. Selected as an optional audio standard for Blu-ray Disc, this technology delivers sound that is bit-for-bit identical to the studio master, offering a high-definition home theater experience. Supporting bitrates up to 24.5 Mbps for Blu-ray Disc, DTS-HD Master Audio can carry up to 7.1 discrete channels of 24-bit/96 kHz audio simultaneously. Supported by HDMI version 1.3 and designed for the optical disc players and AV receivers/amplifiers of the future, DTS-HD Master Audio also remains fully compatible with the existing multichannel audio systems that incorporate DTS Digital Surround.

DSD

Direct Stream Digital (DSD) technology stores audio signals on digital storage media, such as Super Audio CDs. Using DSD, signals are stored as single bit values at a high-frequency sampling rate of 2.8224 MHz, while noise shaping and oversampling are used to reduce distortion, a common occurrence with very high quantization of audio signals. Due to the high sampling rate, better audio quality can be achieved than that offered by the PCM format used for normal audio CDs. The frequency is equal to or higher than 100 kHz, with a dynamic range of 120 dB. This unit can transmit or receive DSD signals via the HDMI jack.
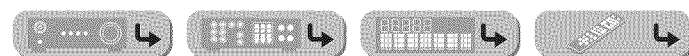
LFE 0.1 channel

This channel reproduces low-frequency bass signals, and has a frequency range 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 channels in Dolby Digital or DTS 5.1-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 accuracy 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, whereas 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 accurately the sound level can be reproduced.

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 that is heard. Based on a wealth of actually measured data, Yamaha CINEMA DSP uses Yamaha's original DSP technology to combine Dolby Pro Logic, Dolby Digital, and DTS systems to provide the audiovisual experience of a movie theater in the listening room of your own home.

Compressed music enhancer

The Compressed music enhancer feature of this unit enhances your listening experience by regenerating the missing harmonics in compression artifacts. As a result, it compensates for flattened complexity due to the loss of high-frequency fidelity as well as lack of bass due to the loss of low-frequency bass, providing improved performance for the overall sound system.

SILENT CINEMA

Yamaha has developed a natural, realistic sound effect DSP algorithm for headphones. Parameters for headphones have been set for each sound field program, 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 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.

Video information

Component video signal

With the component video signal system, the video signal is separated into the Y signal for luminance and the P_B and P_R signals for 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 comprises the 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.

Deep Color

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

HDMI

HDMI (High-Definition Multimedia Interface) is the first industry supported, uncompressed, all-digital audio/video interface. Providing an interface between any sources (such as set-top boxes or AV receivers) and audio/video monitors (such as digital TV), HDMI supports standard, enhanced or high-definition video as well as multichannel digital audio using a single cable. HDMI transmits all ATSC HDTV standards and supports 8-channel digital audio, with bandwidth to spare to accommodate future enhancements and requirements.

When used in combination with HDCP (High-bandwidth Digital Content Protection), HDMI provides a secure audio/video interface that meets the security requirements of content providers and system operators. For further information on HDMI, visit the HDMI website at "http://www.hdmi.org/."

"x.v.Color"

A color space standard supported by HDMI version 1.3. It is a more extensive color space than sRGB, and allows the expression of colors that were not hitherto possible. While remaining compatible with the color gamut of sRGB standards, "x.v.Color" expands the color space, and can thus produce more vivid, natural images. It is particularly effective for still pictures and computer graphics.

Information on HDMI™

■ HDMI signal compatibility

Audio signals

Audio signal types	Audio signal formats	Compatible media
2ch Linear PCM	2ch, 32-192 kHz, 16/20/24 bit	CD, DVD-Video, DVD-Audio, etc.
Multi-ch Linear PCM	8ch, 32-192 kHz, 16/20/24 bit	DVD-Audio, Blu-ray Disc, HD DVD, etc.
DSD	2/5.1ch, 2.8224 MHz, 1 bit	SACD, etc.
Bitstream	Dolby Digital, DTS	DVD-Video, etc.
Bitstream (High definition audio)	Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio, DTS-HD High Resolution Audio, DTS Express	Blu-ray Disc, HD DVD, etc.

• If the input source component can decode the bitstream audio signals of audio commentaries, you can play back the audio sources with the audio commentaries mixed down by using the digital audio input (optical or coaxial) connections.
• Refer to the supplied instruction manuals of the input source component, and set the component appropriately.

NOTES
• When CPPM copy-protected DVD-Audio is played back, video and audio signals may not be output, depending on the type of the DVD player.
• This unit is not compatible with HDCP-incompatible HDMI or DVI components.
• Refer to the supplied instruction manuals for details.
  To decode audio bitstream signals on this unit, set the input source component appropriately so that the component outputs the bitstream audio signals directly (does not decode the bitstream signals on the component).
• This unit is not compatible with the audio commentary features (for example, the special audio contents downloaded via Internet) of Blu-ray Disc or HD DVD. This unit does not play back the audio commentaries of the Blu-ray Disc or HD DVD content.

Video signals
This unit is compatible with the video signals of the following resolutions:
– 480i/60 Hz
– 576i/50 Hz
– 480p/60 Hz
– 576p/50 Hz
– 720p/60 Hz, 50 Hz
– 1080i/60 Hz, 50 Hz
– 1080p/60 Hz, 50 Hz, 24 Hz

About trademarks

DOLBY.
TRUE HD

Manufactured under license from Dolby Laboratories. Dolby, Pro Logic and the double-D symbol are trademarks of Dolby Laboratories.

dts-HD

Manufactured under license under U.S. Patent #'s: 5,451,942; 5,956,674; 5,974,380; 5,978,762; 6,226,616; 6,487,535; 7,212,872; 7,333,929; 7,392,195; 7,272,567 & other U.S. and worldwide patents issued & pending. DTS, DTS-HD and the Symbol are registered trademarks, & DTS-HD Master Audio, and the DTS logos are trademarks of DTS, Inc. Product includes software. © DTS, Inc. All Rights Reserved.

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Specifications

■ INPUT/OUTPUT

Input jacks

• HDMI input x 4

• AV input x 5

[Audio] Digital input (optical) x 2, digital input (coaxial) x 2, analog input x 1

[Video] Component video jacks x 2, video jacks x 3

• AUDIO input x 2

[Audio] Analog jack x 2

• VIDEO AUX input x 1

[Audio] Analog x 1, stereo mini jack x 1

[Video] Video jack x 1

• DOCK input x 1

Output jacks

• TV output (monitor output) x 3

[Audio/Video] HDMI x 1

[Video] Component video jack x 1, video jack x 1

• AV output x 2

[Audio] Analog jack x 1

[Video] Video jack x 1

• AUDIO output x 1

[Audio] Analog jack x 1

■ HDMI

• HDMI Specification: Deep Color, "x.v.Color," Auto Lips Sync, ARC (Audio Return Channel)

• Video Format (Repeater Mode)

- VGA
- 480i/60 Hz
- 576i/50 Hz
- 480p/60 Hz
- 576p/50 Hz
- 720p/60 Hz, 50 Hz
- 1080i/60 Hz, 50 Hz
- 1080p/60 Hz, 50 Hz, 24 Hz

• Audio Format

- Dolby Digital
- DTS
- DSD 6ch
- Dolby Digital Plus
- Dolby TrueHD
- DTS-HD
- PCM 2ch-8ch (Max 192 kHz/24 bit)

• Content Protection: HDCP compatible

■ Compatible Decoding Formats

• Decoding Format

- Dolby TrueHD, Dolby Digital Plus
- DTS-HD Master Audio, DTS-HD High Resolution, DTS Express
- Dolby Digital
- DTS, DTS 96/24

• Post Decoding Format

- Dolby Pro Logic
- Dolby Pro Logic II Music, Dolby Pro Logic II Movie, Dolby Pro Logic II Game
- DTS Neo:6 Music, DTS Neo:6 Cinema

■ AUDIO SECTION

• Minimum RMS Output Power for Front, Center, Surround

[U.S.A. and Canada models]
(1 kHz, 0.9% THD, 8 Ω)
FRONT L/R...100 W/ch
CENTER ....100 W
SURROUND L/R..100 W/ch

[Other models]
(1 kHz, 0.9% THD, 6 Ω)
FRONT L/R...100 W/ch
CENTER ....100 W
SURROUND L/R..100 W/ch

• Dynamic Power (IHF)

[U.S.A. and Canada models]
Front Speakers 8/6/4/2 Ω .... 110/130/160/180 W

[Other models]
Front Speakers 6/4/2 Ω .... 105/130/150 W

• Maximum Useful Output Power (JEITA)
[China, Korea, General and Asia models]
1 kHz, 10% THD, 6 Ω...135 W

• Maximum Output Power [U.K., Europe and Asia models]
1 kHz, 0.7% THD, 4 Ω... 120 W

• IEC Output Power [U.K., Europe and Asia models]
Front Speakers 1 kHz, 0.9% THD, 8 Ω.........................95 W+95 W

• Dynamic Headroom [U.S.A. and Canada models]
8 Ω..0.23 dB

• Input Sensitivity/Input Impedance
AV5, etc ....200 mV/47 kΩ

• Maximum Input Voltage
AV5, etc. (1 kHz, 0.5% THD)................................. 2.3 V or more

• Rated Output Voltage/Output Impedance
AUDIO OUT ....200 mV/1.2 kΩ
SUBWOOFER (2ch Stereo & Front: Small)................1.0 V/1.2 kΩ

• Headphone Jack Rated Output/Impedance
AV5, etc. (1 kHz, 50 mV, 8 Ω)................................100 mV/470 Ω

• Frequency Response
AV5 to FRONT .... 10 Hz to 100 kHz, +0/-3 dB

• Total Harmonic Distortion
AV5, etc. to FRONT
[U.S.A. and Canada models] (1 kHz, 50 W, 8 Ω)........ 0.06% or less
[Other models] (1 kHz, 50 W, 6 Ω) ....0.06% or less

• Signal to Noise Ratio (IHF-A Network)
AV5, etc. Input Shorted (250 mV to Front Speakers)
.... 98 dB or more

• Residual Noise (IHF-A Network)
Front Speakers .... 150 µV or less

• Channel Separation (1 kHz/10 kHz)
AV5, etc. (5.1 kΩ shortened) ....60 dB/45 dB or more

• Volume Control .... MUTE / -80 dB to +16.5 dB

• Tone Control (Front Speakers)
BASS Boost/Cut .... ±10 dB/2 dB at 50 Hz
BASS Turnover Frequency .... 350 Hz
TREBLE Boost/Cut................................... ±10 dB/2 dB at 20 kHz
TREBLE Turnover Frequency..3.5 kHz

• Filter Characteristics (fc=40/60/80/90/100/110/120/160/200 Hz)
H.P.F. (Front, Center, Surround) .... 12 dB/oct.
L.P.F. (Subwoofer)... 24 dB/oct.

■ VIDEO SECTION

• Video Signal Type
  [U.S.A., Canada, Korea and General models].........................NTSC
  [Other models]..PAL

• Signal Level
  Composite..1 Vp-p/75 Ω
  Component ....1 Vp-p/75 Ω (Y), 0.7 Vp-p/75 Ω (PB/PR)

• Maximum Input Level (Video Conversion Off)....... 1.5 Vp-p or more

• Signal to Noise Ratio ....50 dB or more

• Frequency Response [MONITOR OUT]
  Component (Video Conversion Off)............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

• 50 dB Quieting Sensitivity (IHF)
  Mono.. 3.0 μV (20.8 dBf)

• Signal to Noise Ratio (IHF)
  Mono/Stereo...74 dB/69 dB

• Harmonic Distortion (1 kHz)
  Mono/Stereo...0.3/0.3%

• Antenna Input (unbalanced).. 75 Ω

■ 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

■ GENERAL

• Power Supply
  [U.S.A. and Canada models]...................................AC 120 V, 60 Hz
  [General models]........................AC 110-120/220-240 V, 50/60 Hz
  [China model]..AC 220 V, 50 Hz
  [Korea model] ....AC 220 V, 60 Hz
  [Australia model] ....AC 240 V, 50 Hz
  [U.K. and Europe models] ....AC 230 V, 50 Hz
  [Asia models] .... AC 220-240 V, 50/60 Hz

• Power Consumption
  [U.S.A. and Canada models] ....250 W/320 VA
  [Other models]..250 W

• Standby Power Consumption
  [General models] ....1.0 W or less
  [Other models] ....0.5 W or less

• Dimensions (W x H x D)
  435 x 151 x 315 mm (17-1/8 x 6 x 12-3/8 in)

• Weight
  7.5 kg (16.5 lbs)

* Specifications are subject to change without notice.

Index

YAMAHA

⊛YAMAHA

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Additional information on specification for U.S.A. model

The following specification is added for U.S.A. model as well as "Specifications" in the Owner's Manual.

- **Rated Output Power for Front, Center, Surround**

(1 kHz, 0.9% THD, 8Ω, 2 channels driven simultaneously)

FRONT L/R .... 80 W + 80 W

CENTER... 80 W

SURROUND L/R .... 80 W + 80 W

⊛YAMAHA
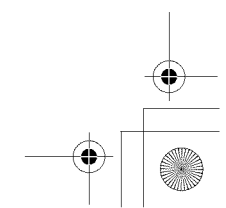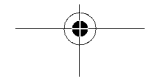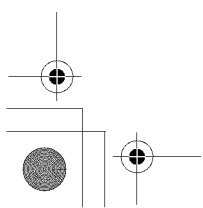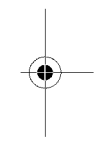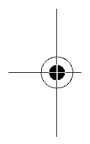
RX-V371

Quick Reference Guide

▌ Accessories

The following accessories are supplied with this product.
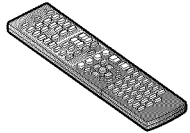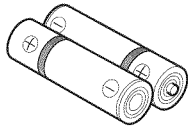
Remote control	Batteries (2) (AAA, R03, UM-4)	AM loop antenna	Indoor FM antenna	VIDEO AUX input cover
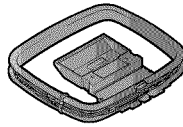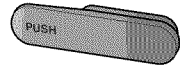
Preparing the remote control
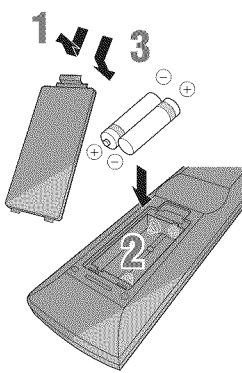
1 Take off the battery compartment cover.

2 Insert the two supplied AAA batteries into the battery case, following the polarity markings.

3 Snap the battery compartment cover back into place.

▌ Items necessary for connection

Speakers
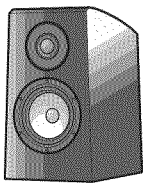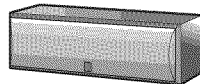
Front speaker	Center speaker	Surround speaker	Active subwoofer
Ex.	Ex.	Ex.	Ex.
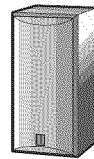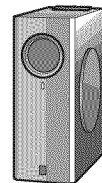
- Use speakers with an impedance of at least 6Ω.
- If you are using a CRT TV, we recommend that you use magnetically shielded speakers.
- Prepare at least two speakers (for front). The priority of the other speakers is as follows:
  1 Two surround speakers
  2 One center speaker

External components
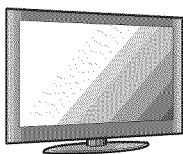
TV
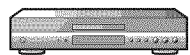
Playback device such as BD
(Blu-ray Disc)/DVD players

Cable

- Cables for connecting external components
  (may differ depending on the devices you are connecting)

- Speaker cables
  (a quantity to match the number of speakers you are connecting)

- Audio pin cable
  (for subwoofer)

Connect and install as follows the first time you use this unit.

See the following explanations for the connections for each number.

TV

BD/DVD player
(recorder)

This unit

Front
speaker R

Front
speaker L

Subwoofer

Surround
speaker R

Center speaker

Surround
speaker L
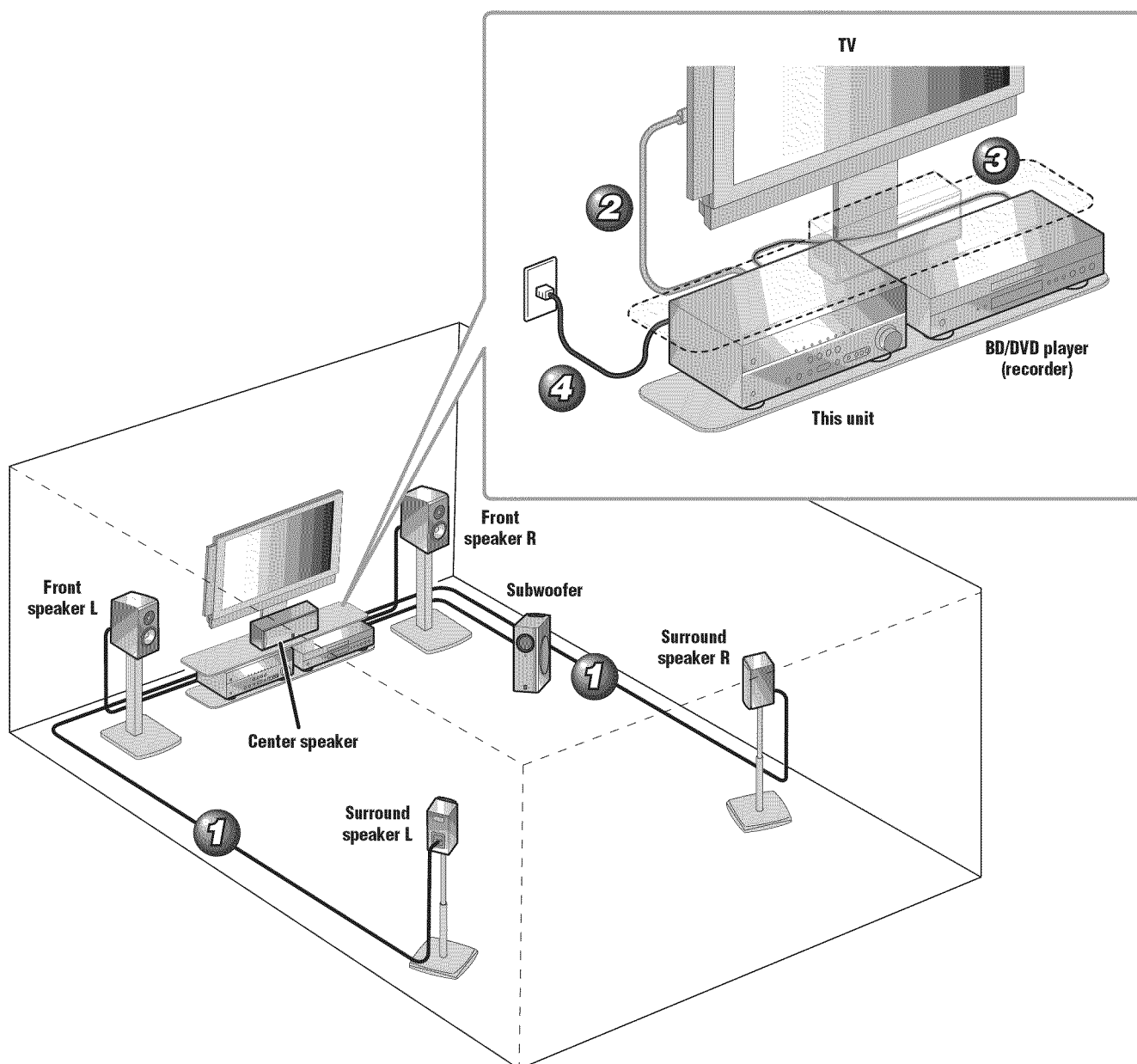
① Connect the speakers

② Connect a TV

③ Connect playback device such as BD/DVD players and recorders

④ Connect the AC power cord, and turn the power on

When connection and installation is finished, set up the speaker parameters ⑤ .

① Connect the speakers

Surround speaker R L   Front speaker R L

Subwoofer   Center speaker

Caution:

- Remove the AC power cord of this unit from the power outlet before connecting the speakers.
- Generally speaker cables consist of two parallel insulated cables. One of these cables is a different color, or has a line running along it, to indicate different polarity. Insert the different colored (or lined) cable into the "+" (positive, red) terminal on this unit and the speakers, and the other cable into the "-" (minus, black) terminal.
- Be careful that the core of the speaker cable does not touch anything or come into contact with the metal areas of this unit. This may damage this unit or the speakers. If the speaker cables short circuit, "CHECK SP WIRES!" will appear on the front panel display when this unit is switched on.
- When connecting 6Ω speakers, set the speaker impedance to 6Ω on this unit before making connections. Refer to Owner's Manual for information on settings.

Connecting front speakers

1 Remove approximately 10mm of insulation from the ends of the speaker cables, and twist the bare wires of the cables together firmly so that they will not cause short circuits.

2 Loosen the speaker terminals.

3 Insert the bare wire of the speaker cable into the gap on the side of the terminal.

4 Tighten the terminal.

Connecting the banana plug (Except U.K., Europe, Asia and Korea models)

Tighten the knob, and then insert the banana plug into the end of the terminal.

Banana plug

Connecting center speakers / surround speakers

1 Press the tab on the speaker terminal down.

2 Insert the speaker cable end into the terminal.

3 Lift the tab to fix the speaker cable in place.

Connecting the subwoofer

1 Connect the subwoofer input jack to the SUBWOOFER jack on this unit with an audio pin cable.

2 Set the subwoofer volume as follows.

Volume: Set to approximately half volume (or slightly less than half).
Crossover frequency (if available): Set to maximum.

Subwoofer examples

- 3 -

Video input to this unit is output to a TV using output jacks of the same kind.

When you have made connections using different types of video such as HDMI and component video, make the same connection with your TV. When viewing, be sure to switch the input source on your TV to match the playback device.

Input	Output	
HDMI	HDMI	HDMI input
COMPONENT VIDEO	COMPONENT VIDEO	Component video input
VIDEO	VIDEO	Video input
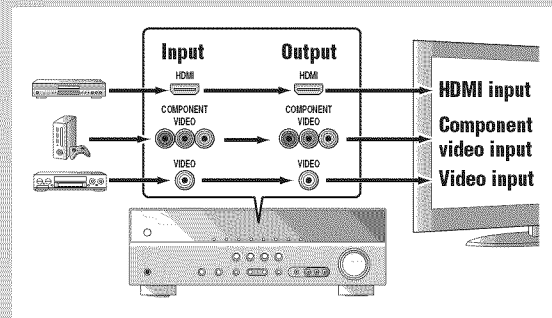
If your TV has multiple inputs, connect with the following priority (Ⓐ to Ⓒ).

Ⓐ When using an HDMI compatible TV.

Ⓑ When using a component video input-compatible TV.

Ⓒ When using a TV compatible with video input only.
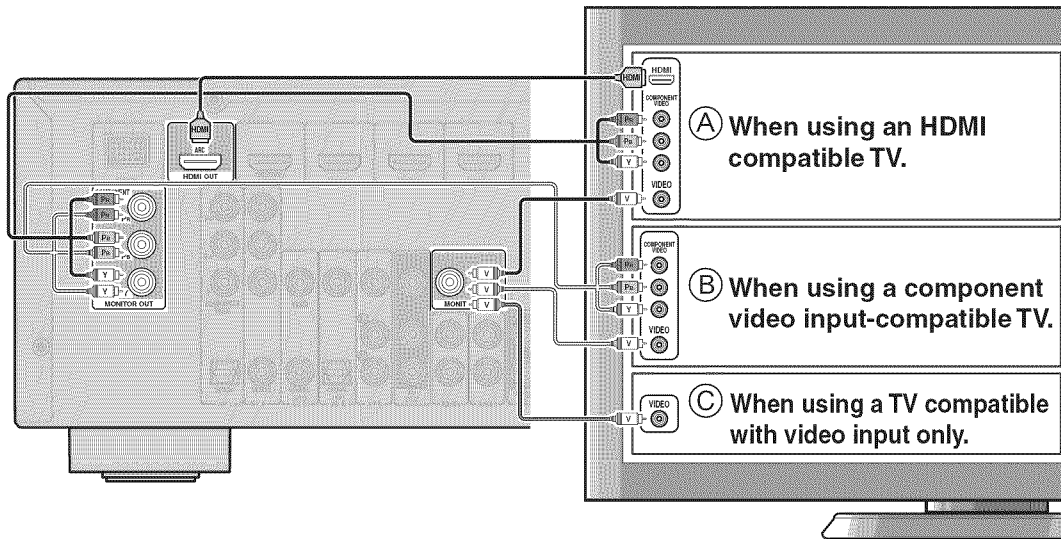
Listening to TV audio

To playback TV audio on this unit, connect the TV audio output to this unit.

Connect the following input jacks, matching the audio output jacks on your TV. When viewing your TV, select the appropriate input source on this unit.

Audio output

When using an HDMI compatible TV that supports Audio Return Channel functions and / or HDMI Control functions (Ex. Panasonic VIERA Link), you can enjoy the TV sound on this unit as follows:

When using a TV that supports the Audio Return Channel functions and HDMI Control functions

The audio / video output from the unit to the TV and audio output from the TV to the unit are possible using a single HDMI cable.
The input source is switched automatically to match operations carried out on the TV, and that makes TV sound control easier to use.
For the connections and settings, refer to "Single HDMI cable input to TV audio with Audio Return Channel function" in Owner's Manual.

When using a TV that supports HDMI Control functions

When HDMI Control functions are enabled on the unit, input source can be switched automatically to match operations carried out on the TV.
For the connections and settings, refer to "Switching the input source on this unit automatically when listening to TV audio" in Owner's Manual.

Audio output from TV	Input jack on this unit
Optical digital output	AV1 or AV4
Coaxial digital output	AV2 or AV3
Analog output	AV5, AUDIO1, AUDIO2, or V-AUX
HDMI Audio Return Channel (Described in the right column)	HDMI OUT

✻ Connecting to AV4 allows you to playback TV audio just by pressing the "TV" under **SCENE** key.

If your playback device has multiple audio/video outputs, connect with the following priority (Ⓐ to Ⓓ) to enjoy a higher quality sounds and images.

Ⓐ When playback device is capable of HDMI output

HDMI

Ⓑ When playback device is capable of component video output (with optical digital audio output)

COMPONENT VIDEO

OPTICAL

Ⓒ When playback device is capable of component video output (with coaxial digital audio output)

COMPONENT VIDEO

COAXIAL

Ⓓ When playback device is capable of video output (with analog audio output) only

VIDEO

AUDIO

• When playback, select the corresponding input source the jack is connected.
• Connecting to HDMI1 allows you to select the HDMI input just by pressing the "BD/DVD" under "**SCENE**" key.
• Connecting to AV3 allows you to select the AV3 input just by pressing the "CD" under "**SCENE**" key.
• If necessary, you can connect components that cannot be connected using the above methods, such as devices that output video from component video output jacks and audio from analog output jacks. Refer to Owner's Manual for details.

AC power cord

To the power outlet.
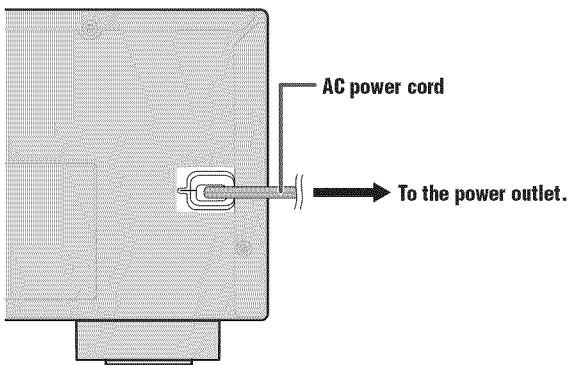
Be sure to aim the remote control directly at the remote control sensor on this unit during operation.

within
20 ft

30° 30°
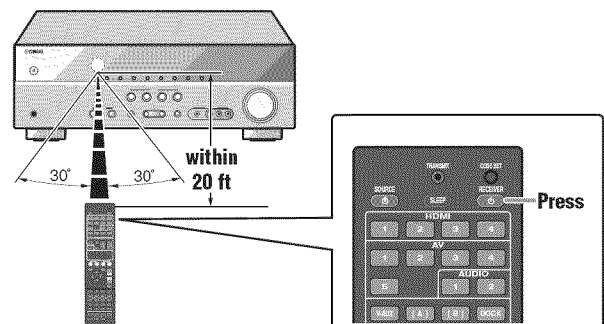
Press

When you finish connecting, adjust the status, size, and volume of each speaker so that the output is normal.
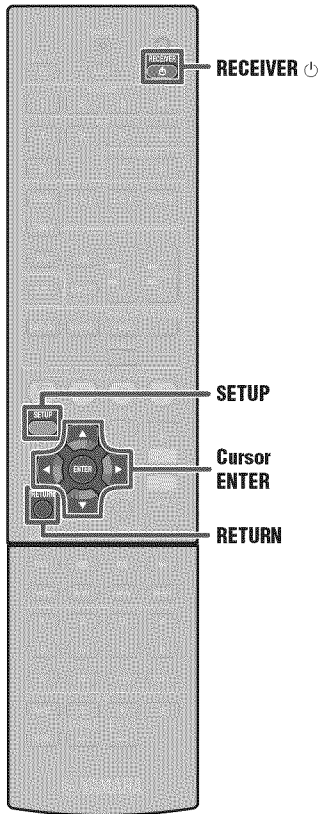
RECEIVER ⏻

STEP 1: Display the setting menu

1 Press **RECEIVER** ⏻ on the remote control to switch this unit on.

2 Press **SETUP** on the remote control.

3 Check that "Speaker Setup" appears and press **ENTER**.

This completes step 1.

SETUP

Cursor
ENTER

RETURN

STEP 2: Set the speaker status and size

The settings in step 2 are not necessary with the following speaker configuration:
• Front speaker: woofer diameter is 16 cm or larger
• Center/surround speakers: woofer diameter is 16 cm or smaller
• Subwoofer: connected

4 Check that "Config" appears and press **ENTER**.

5 Use **Cursor** △ / ▽ to select the speaker (subwoofer) you want to configure, and then use **Cursor** ◁ / ▷ to select speaker status and size.

Information	Description	Setting
Subwoofer	Sets the subwoofer status.	Yes/None
Front	Selects the size (sound reproduction capacity) of the front speakers.	Small/Large
Center	Selects the size of the center speakers. Choose "None" if you do not have a speaker connected.	None/Small/Large
Sur. LR	Selects the size of the surround speakers. Choose "None" if you do not have a speaker connected.	None/Small/Large
Crossover	Audio with a frequency below this limit will be output from the subwoofer or the front speakers.	40 Hz to 200 Hz
SWFR Phase	Switchs the phase of the subwoofer.	NRM/REV
Extra Bass	Selects whether to play front channel low-frequency components through either the front speakers or the subwoofer (Off), or through both the subwoofer and front speakers (On).	On/Off

• Whether or not you set "Crossover," "SWFR Phase," and "Extra Bass" is optional. Check how the effects sound and then configure them to your liking.
• Use the following as a guide when setting speaker sizes.

When you have completed the settings for one speaker, repeat the same procedure for all speakers to complete settings.

6 Press **RETURN** when setting is complete.

This completes step 2.

STEP 3: Set the distance from the listening point

7 Press **Cursor** ▽ to display "Distance" and press **ENTER**.

Continues to
the next page

8 Press **Cursor** △ / ▽ to select the speaker (subwoofer) that you want to configure, and press **Cursor** ◁ / ▷ to set the distance.

If necessary, you can change the setting units under "Unit."

Information	Description	Setting
Unit	Switches between setting units (feet / meters).	feet (ft) / meters (m)
Front L	Front speaker L	1.0 ft to 80.0 ft (0.30 m to 24.0 m)
Front R	Front speaker R	1.0 ft to 80.0 ft (0.30 m to 24.0 m)
Center	Center speaker	1.0 ft to 80.0 ft (0.30 m to 24.0 m)
Sur. L	Surround speaker L	1.0 ft to 80.0 ft (0.30 m to 24.0 m)
Sur. R	Surround speaker R	1.0 ft to 80.0 ft (0.30 m to 24.0 m)
SWFR	Subwoofer	1.0 ft to 80.0 ft (0.30 m to 24.0 m)

When you have completed the settings for one speaker, repeat the same procedure for all speakers to complete settings.

9 Press **RETURN** when setting is complete.

This completes step 3.

STEP 4: Playback a test tone

10 Press **Cursor** ▽ repeatedly to display "Test Tone" and press **ENTER**.

11 Use **Cursor** ◁ / ▷ to select "On."

A test tone plays back from the speakers as soon as you select "On." The test tone plays back in a clockwise fashion. Only speakers configured for use in procedure 5 output the test tone.

12 Check that the test tone is playing back and press **RETURN**.

This completes step 4.

STEP 5: Adjust the volume

13 Press **Cursor** △ repeatedly to display "Level" and press **ENTER**.

14 Use **Cursor** △ / ▽ to switch the speaker that is outputting the test tone, looking for speakers with a different volume level to the others.

The front panel display shows the speaker that is outputting the test tone.
Only speakers configured for use in procedure 5 output the test tone.

Information	Speakers
FL	Front speaker L
FR	Front speaker R
C	Center speaker
SL	Surround speaker L
SR	Surround speaker R
SWFR	Subwoofer

15 If you find a speaker with a different volume level to the others, use **Cursor** ◁ / ▷ to adjust the volume. Use Front speaker L or R as a default when adjusting volumes.

To raise the volume: Press **Cursor** ▷.
To lower the volume: Press **Cursor** ◁.

16 Repeat steps 14 and 15 to adjust the volume balance for all speakers to your preference.

17 Press **RETURN** when setting is complete.

Return to the previous menu.
This completes step 5.

18 Repeat procedures 10-12 (step 4) to stop playback of the test tone.

19 Once you have completed all settings, press **SETUP** to close the Setup menu.

Operation guide
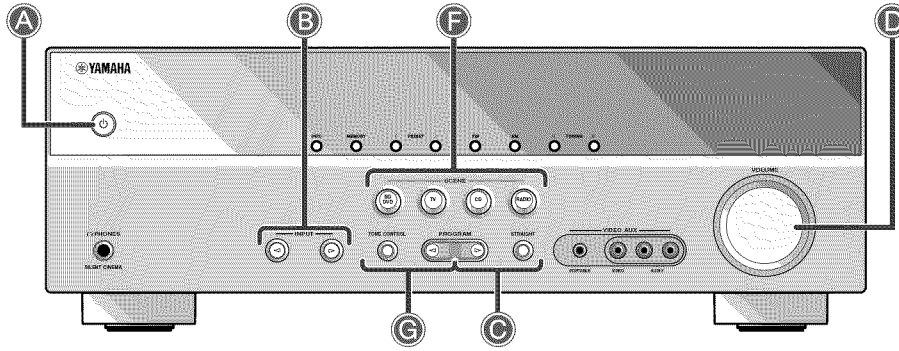
Ⓐ Switches this unit between on and standby modes

This unit switches between on and standby mode every time you press this key.

Ⓑ Choose an input source to listen to

The name of the selected input source appears on the front panel display.

HDMI1

Ⓒ Select sound field programs and sound decoders

Front panel	Remote control	Description
PROGRAM	MOVIE	Selects sound field programs optimized for viewing movies, dramas, and sports.
	MUSIC	Selects sound field programs optimized for appreciating music.
	ENHANCER STEREO	Selects settings for stereo playback or enhancers for compressed audio.
	SUR. DECODE	Selects surround decoders such as Dolby Pro Logic II.
STRAIGHT	STRAIGHT	Switches to straight decoding mode for faithful reproduction of audio / video.

Ⓓ Adjusts the volume level

The current volume level is displayed on the front panel display.

Volume -18.5dB

Ⓔ Mutes the sound

The indicator blinks while the sound is muted.

Ⓕ Switches between input settings

You can switch input sources and sound field programs with a single key.

SCENE	Input	Sound field program
BD/DVD	HDMI 1	STRAIGHT
TV	AV4	STRAIGHT
CD	AV3	STRAIGHT
RADIO	TUNER	5ch Enhancer

- Pressing and holding this key allows you to store input sources/sound field programs.
- Press this key when this unit is in standby mode to switch on the unit.

Ⓖ Adjusting high/low-frequency sound (Tone control)

1 Press **TONE CONTROL** to select "Treble" or "Bass."

TONE
Treble   0.0dB

2 Press **PROGRAM** ◁ / ▷ to increase the setting.

- You can set the tone control for speakers and headphones separately. Connect the headphones when adjusting the headphone tone control.
- If you set an extreme tone balance, sounds may not match those from other channels.

List of remote control codes
Liste des codes de commande
Lista de códigos de mando a distancia
遙控器代碼列表
리모콘코드목록

TV

A.R. Systems	0320
Acme	0342
Acura	0323, 0343
ADC	0337
Admiral	0054, 0178, 0336, 0337, 0339, 0346, 0347
Advent	0158
Adventura	0057
Adyson	0277, 0282, 0342
Agashi	0277, 0282
Agazi	0337
Aiko	0277, 0282, 0320, 0323, 0342, 0343
Aim	0320
Aiwa	0078, 0379
Akai	0050, 0055, 0109, 0159, 0181, 0277, 0282, 0320, 0323, 0340, 0343, 0349, 0350
Akiba	0320, 0340
Akura	0320, 0323, 0337, 0340
Alaron	0277
Alba	0161, 0277, 0320, 0323, 0340, 0342, 0343, 0344, 0349, 0351, 0372, 0382
Albatron	0140
Alcyon	0171
Alleron	0059
Allorgan	0282
Allstar	0320, 0350
America Action	0179
AMOi	0276
Amplivision	0161, 0282, 0321, 0342
Amstrad	0320, 0323, 0337, 0340, 0343
Amtron	0058
Anam	0179, 0343
Anam National	0052, 0058
Anglo	0323, 0343
Anitech	0171, 0320, 0323, 0337, 0343
Ansonic	0161, 0168, 0320, 0323, 0341, 0343
AOC	0008, 0026, 0050, 0053
Apex	0039, 0111, 0217
Arcam	0277, 0282
Arcam Delta	0342
Aristona	0320, 0349, 0350
Arthur Martin	0321
ASA	0339, 0347
Asberg	0171, 0320, 0350
Astra	0343
Asuka	0277, 0282, 0337, 0340, 0342
Atlantic	0277, 0320, 0342, 0349, 0350
Atori	0323, 0343
Auchan	0321
Audiosonic	0161, 0282, 0320, 0340, 0342, 0343, 0349, 0350
AudioTon	0161, 0282, 0342
Audiovox	0058, 0179, 0194
Ausind	0171
Autovox	0171, 0282, 0337, 0339, 0342
Aventura	0051
Awa	0277, 0282
Axion	0156
Baird	0282
Bang & Olufsen	0180, 0339
Basic Line	0282, 0320, 0323, 0340, 0343, 0350
Bastide	0282, 0342
Baur	0320, 0349
Bazin	0282
Beko	0161, 0269, 0294, 0302, 0311, 0320, 0328, 0351
Belcor	0008
Bell & Howell	0019, 0054
Benq	0097, 0242, 0361
Beon	0320, 0349, 0350
Best	0161
Bestar	0161, 0320, 0350
Binatone	0282, 0342
Blue Sky	0320, 0340
Blue Star	0348
Boots	0282, 0342
BPL	0320, 0348
Bradford	0058, 0179
Brandt	0322, 0345
Brillian	0182
Brinkmann	0320
Brionvega	0320, 0339, 0349, 0350
Britannia	0277, 0282, 0342
Brockwood	0008
Broksonic	0109, 0179
Bruns	0339
BTC	0340
Bush	0269, 0282, 0283, 0304, 0320, 0323, 0328, 0332, 0340, 0343, 0344, 0346, 0348, 0349, 0350, 0372, 0382, 0463, 0470, 0472
Candle	0008, 0026, 0050, 0057
Capsonic	0337
Carena	0320
Carnivale	0050
Carrefour	0344
Carver	0010
Cascade	0320, 0323, 0343
Casio	0367
Cathay	0320, 0349, 0350
CCE	0183, 0282
Celebrity	0055, 0107
Celera	0039
Centurion	0320, 0349, 0350
Century	0339
CGE	0161, 0171
Changhong	0039
Chimei	0273
Cimline	0323, 0343
Citizen	0007, 0008, 0026, 0050, 0058
City	0323, 0343
Clarion	0179
Clarivox	0349
Clatronic	0161, 0171, 0282, 0320, 0323, 0337, 0340, 0342, 0343, 0350, 0351
CMS	0277
CMS Hightec	0282
Coby	0197
Colortyme	0008, 0026
Commercial Solutions	0021
Concerto	0008, 0026
Concorde	0323, 0343
Condor	0161, 0277, 0320, 0323, 0342, 0350, 0351
Contec	0179, 0277, 0323, 0342, 0343, 0344
Contec/Cony	0012, 0058
Continental Edison	0345
Cosmel	0323, 0343
Craig	0058, 0179
Crosley	0010, 0037, 0171, 0339
Crown	0058, 0161, 0171, 0179, 0320, 0323, 0343, 0349, 0350, 0351
CS Electronics	0277, 0340, 0342
CTC Clatronic	0341
CTX	0205
Curtis Mathes	0007, 0008, 0010, 0019, 0021, 0026, 0049, 0050, 0178
CXC	0058, 0179
Cybertron	0340
Cytron	0152
Daewoo	0007, 0008, 0026, 0037, 0053, 0167, 0266, 0275, 0277, 0282, 0315, 0320, 0323, 0331, 0335, 0342, 0343, 0350, 0381, 0465
Dainichi	0277, 0340
Dansai	0277, 0282, 0320, 0337, 0349, 0350
Dantax	0161, 0349
Dawa	0320
Daytron	0007, 0008, 0026, 0323, 0343
De Graaf	0346
Decca	0282, 0320, 0342, 0349, 0350
Dell	0145, 0245
Denver	0358, 0362
Desmet	0320, 0349, 0350
Diamant	0320
Diamond	0277
DiamondVision	0135, 0143
Dimensia	0049
Disney	0219
Dixi	0282, 0320, 0323, 0343, 0349, 0350
Dream Vision	0461, 0498
DTS	0323, 0343
Dual	0282, 0320, 0342
Dual-Tec	0342, 0343
Dumont	0008, 0030, 0062, 0282, 0339, 0341, 0342
Durabrand	0031, 0051, 0179, 0215
Dux	0349
Dwin	0178
Dynatron	0320, 0349, 0350
Dynex	0228, 0231
Elbe	0161, 0168, 0282, 0320
Elcit	0339
Electa	0348
ELECTRO TECH	0343
Electroband	0055, 0107
Electrograph	0176
Electrohome	0008, 0026, 0052, 0055
Element	0230
Elin	0277, 0320, 0323, 0342, 0349, 0350
Elite	0320, 0340, 0350
Elman	0341
Elta	0277, 0323, 0343
Emerson	0000, 0007, 0008, 0012, 0013, 0019, 0026, 0031, 0037, 0051, 0058, 0059, 0161, 0179, 0320, 0339
Emprex	0154
Envision	0008, 0026, 0050
Epson	0155, 0206, 0359
Erres	0320, 0349, 0350
ESA	0051
ESC	0282
Etron	0343
Eurofeel	0282
Euro-Feel	0337
Euroline	0349
Euroman	0161, 0277, 0282
Euromann	0320, 0337, 0342, 0350
Europhon	0277, 0282, 0320, 0341, 0342, 0350
Expert	0321
Exquisit	0320
Fenner	0323, 0343
Ferguson	0322, 0345, 0349
Fidelity	0277, 0320, 0342, 0346
Filsai	0282
Finlandia	0346
Finlux	0171, 0282, 0320, 0339, 0341, 0342, 0349, 0350
FIRST LINE	0342, 0343, 0350
Firstline	0277, 0282, 0320, 0323
Fisher	0019, 0161, 0282, 0339, 0342, 0344, 0351
Flint	0320, 0350
Formenti	0171, 0277, 0336, 0339, 0342, 0349
Formenti/Phoenix	0277
Fortress	0336, 0339
Fraba	0161, 0320
Friac	0161
Frontech	0282, 0323, 0337, 0343, 0346, 0347
Fujitsu	0059, 0069, 0074, 0075, 0282
Fujitsu General	0282
Fujitsu Siemens	0504, 0505, 0507, 0510, 0511
Funai	0051, 0058, 0059, 0112, 0113, 0115, 0118, 0119, 0179, 0337
Futuretech	0058, 0179
Galaxi	0320, 0351
Galaxis	0161, 0320
Gateway	0176, 0177, 0241
GBC	0323, 0343, 0344
GE	0008, 0021, 0023, 0026, 0027, 0031, 0034, 0049, 0052, 0056, 0209
Geant Casino	0321
GEC	0282, 0320, 0342, 0347, 0349, 0350
Geloso	0323, 0343, 0346
General Technic	0323, 0343
Genexxa	0320, 0340, 0347, 0350
GFM	0128, 0227
Giant	0282

Gibralter	0008, 0030, 0050, 0062	Ingersol	0323, 0343	Loewe	0161, 0168, 0265, 0320, 0330, 0352	Naonis	0346
GoldHand	0277	Initial	0153			NEC	0008, 0026, 0050, 0052, 0053, 0072, 0103, 0282, 0344
Goldline	0320	Inno Hit	0171, 0282, 0320, 0323, 0340, 0342, 0343, 0349, 0350	Loewe Opta	0339, 0349, 0350		
GoldStar	0007, 0008, 0012, 0026, 0031, 0050, 0053, 0161, 0277, 0282, 0320, 0323, 0342, 0343, 0346, 0349, 0350			Logik	0054	Neckermann	0161, 0282, 0320, 0339, 0342, 0346, 0349, 0350, 0351
		Innovation	0337, 0343	Luma	0320, 0323, 0346, 0349		
		Insignia	0131, 0228, 0236, 0238	Lumatron	0282, 0320, 0346, 0349, 0350	NEI	0320, 0349, 0350
		Inteq	0030	Lux May	0350	Net-TV	0176
Goodmans	0246, 0272, 0282, 0320, 0323, 0337, 0343, 0344, 0349, 0350, 0462, 0473, 0477	Interactive	0161	Luxman	0008, 0026	Neufunk	0320, 0323
		Interbuy	0323, 0343	Luxor	0282, 0342, 0346	New Tech	0343, 0350
		Interfunk	0161, 0320, 0339, 0347, 0349, 0350	LXI	0010, 0019, 0021, 0026, 0027, 0031, 0049, 0111	New World	0340
						NewTech	0282, 0320, 0323
		International	0277			Nicamagic	0277, 0342
Gorenje	0161, 0351	Intervision	0161, 0282, 0320, 0337, 0341, 0342	M Electronic	0342, 0343, 0345, 0347, 0349, 0350	Nikkai	0277, 0282, 0320, 0323, 0337, 0340, 0342, 0349, 0350
GPM	0340			MAG	0096		
GPX	0129	Irradio	0171, 0320, 0323, 0340, 0343, 0349, 0350	Magnadyne	0339, 0341, 0349	Nikko	0026, 0031, 0050
Gradiente	0240			Magnafon	0171, 0277, 0341, 0342	Nobliko	0171, 0277, 0341, 0342
Graetz	0347	Isukai	0320, 0340				
Granada	0171, 0282, 0320, 0321, 0342, 0344, 0346, 0349, 0350	ITC	0282, 0342	Magnavox	0008, 0009, 0010, 0013, 0026, 0032, 0033, 0048, 0050, 0128, 0211, 0212, 0224, 0226, 0239	Nokia	0347
		ITS	0277, 0320, 0340, 0348, 0350			Norcent	0201
						Nordic	0282
Grandin	0340, 0343, 0348, 0349	ITT	0343, 0347			Nordmende	0339, 0345, 0347, 0350
		ITV	0320, 0343, 0349	Magnum	0337, 0343		
Gronic	0282	Janeil	0057	Majestic	0054	Nordvision	0349
Grundig	0160, 0161, 0171, 0310, 0320	JBL	0010	Mandor	0337	Novatronic	0320
		JC Penney	0007, 0008, 0026, 0027, 0049, 0053, 0056	Manesth	0282, 0320, 0337, 0342, 0349, 0350	Oceanic	0321, 0347
Grunpy	0058, 0059, 0179					Okano	0161, 0320, 0351
Haier	0157, 0233			Marantz	0008, 0010, 0026, 0050, 0204, 0320, 0349, 0350	Olevia	0102, 0199, 0200, 0207, 0222
Halifax	0277, 0282, 0337, 0342	JCB	0055, 0107				
		Jensen	0008, 0026			ONCEAS	0342
Hallmark	0008, 0026, 0031	JVC	0012, 0014, 0015, 0056, 0064, 0065, 0067, 0169, 0174, 0297, 0314, 0344, 0350, 0375	Marelli	0339	Onwa	0058, 0179
Hampton	0277, 0282, 0342			Mark	0277, 0282, 0320, 0323, 0349, 0350	Opera	0320
Hanseatic	0161, 0168, 0282, 0320, 0323, 0342, 0343, 0344, 0349, 0350					Oppo	0130
				Masuda	0282	Optimus	0017, 0019
		Kaisui	0277, 0282, 0320, 0323, 0340, 0342, 0343, 0348	Matsui	0282, 0320, 0323, 0342, 0343, 0344, 0346, 0349, 0350, 0455	Optoma	0144
						Optonica	0178
Hantarex	0320, 0323, 0343					Orbit	0320, 0350
Hantor	0320	Kamosonic	0342	Matsushita	0017	Orion	0043, 0146, 0283, 0320, 0323, 0328, 0343, 0349, 0350
Harman/Kardon	0010	Kamp	0277, 0342	Maxent	0147, 0176		
Harvard	0058, 0179	Kapsch	0347	Mediator	0320, 0349, 0350		
Harwood	0320, 0323	Karcher	0161, 0320, 0342, 0343, 0349	Medion	0320, 0337, 0343	Orline	0320
Havermy	0178			Megapower	0140	Osaki	0282, 0320, 0337, 0340, 0342
HCM	0282, 0320, 0323, 0337, 0342, 0343, 0348	Kawasho	0008, 0026, 0055, 0277	Megatron	0026, 0031		
		KEC	0179	MElectronic	0277, 0282, 0320, 0323	Oso	0340
		Kendo	0161, 0320, 0341, 0346			Otto Versand	0282, 0320, 0336, 0342, 0344, 0348, 0349, 0350
Hema	0282, 0323			Melvox	0321		
Hewlett Packard	0192	Kenwood	0008, 0026, 0050	Memorex	0019, 0026, 0031, 0053, 0054, 0137, 0215, 0323, 0343	Pael	0277, 0342
Higashi	0277	KIC	0282			Palladium	0161, 0282, 0320, 0342, 0351
HiLine	0320	Kingsley	0277, 0342				
Hinari	0320, 0323, 0340, 0343, 0344, 0349, 0350	KLH	0039	Memphis	0323, 0343	Palsonic	0282
		Kloss Novabeam	0057, 0058	Mercury	0320, 0323	Panama	0277, 0282, 0320, 0323, 0337, 0342, 0343
		Kneissel	0161, 0168, 0320	Metz	0339		
Hisawa	0321, 0340, 0348	Kolster	0320, 0350	MGA	0008, 0026, 0031, 0050, 0053	Panasonic	0016, 0017, 0020, 0022, 0023, 0035, 0052, 0056, 0084, 0085, 0133, 0163, 0193, 0284, 0286, 0290, 0292, 0320, 0325, 0347, 0356
Hisense	0247	Konka	0340				
Hitachi	0008, 0012, 0026, 0066, 0084, 0092, 0093, 0120, 0172, 0173, 0255, 0270, 0271, 0282, 0320, 0335, 0338, 0342, 0344, 0346, 0347, 0365, 0382, 0448, 0456, 0467	Korpel	0320, 0349, 0350	Micromaxx	0337, 0343		
		Korting	0161, 0339	Microstar	0337, 0343		
		Kosmos	0320	Midland	0007, 0021, 0023, 0027, 0030, 0056, 0062		
		Koyoda	0343			Panavision	0320
		KTV	0007, 0050, 0058, 0179, 0183, 0282, 0342			Pathe Cinema	0161, 0168, 0277, 0321, 0342
				Minerva	0171		
				Minoka	0320, 0350	Pausa	0323, 0343
Hornyphon	0320, 0350	Kyoto	0277, 0282	Mintek	0153	Penney	0021, 0023, 0031, 0050, 0111
Hoshai	0340	Lasat	0161	Mitsubishi	0008, 0026, 0031, 0053, 0066, 0084, 0093, 0098, 0150, 0178, 0339, 0344, 0350, 0376		
Huanyu	0277, 0342	Lenco	0323, 0343			Perdio	0277, 0320
Hygashi	0277, 0282, 0342	Lenoir	0323, 0342, 0343			Perfekt	0320
Hyper	0277, 0282, 0323, 0342, 0343	Leyco	0320, 0337, 0349, 0350			Philco	0008, 0009, 0010, 0012, 0026, 0050, 0052, 0053, 0161, 0171, 0320, 0339
Hypson	0282, 0320, 0321, 0337, 0342, 0348, 0349, 0350	LG	0031, 0053, 0066, 0116, 0117, 0140, 0161, 0164, 0175, 0195, 0269, 0277, 0282, 0300, 0309, 0317, 0320, 0323, 0328, 0342, 0343, 0346, 0349, 0350, 0366, 0368, 0377, 0466, 0471, 0478	Mivar	0161, 0168, 0171, 0277, 0282, 0342		
				Monivision	0140	Philharmonic	0282, 0342
Hyundai	0141			Montgomery Ward		Philips	0008, 0009, 0010, 0011, 0012, 0032, 0048, 0049, 0052, 0122, 0128, 0134, 0186, 0187, 0213, 0221, 0224, 0226, 0239, 0256, 0257, 0259, 0261, 0263, 0267, 0280, 0281, 0287, 0296, 0299, 0301, 0303, 0305, 0313, 0319, 0320, 0324, 0333, 0339,
Iberia	0320				0054		
ICE	0277, 0282, 0320, 0323, 0337, 0340, 0342, 0343, 0350			Motion	0171		
				Motorola	0052, 0178		
		LG/GoldStar	0164	MTC	0008, 0026, 0050, 0053, 0161, 0277		
ICeS	0277	Liesenk	0349				
Ilo	0148, 0153	Liesenkotter	0320	Multi System	0349		
IMA	0058	Life	0337, 0343	Multitech	0058, 0161, 0179, 0183, 0277, 0282, 0320, 0323, 0341, 0342, 0343, 0344, 0346, 0349		
Imperial	0161, 0171, 0320, 0347, 0350, 0351	Lifetec	0320, 0323, 0337, 0343				
Indiana	0320, 0349, 0350	Lloyds	0323	Murphy	0277, 0342		
Infinity	0010			NAD	0026, 0031, 0111		
InFocus	0250, 0327, 0363, 0479, 0508						
Ingelen	0347						

	0342, 0349, 0350, 0353, 0357, 0360, 0380, 0383, 0452, 0459, 0460	Saisho	0282, 0323, 0337, 0342, 0343	Sony	0038, 0044, 0045, 0047, 0055, 0104, 0105, 0107, 0110, 0123, 0184, 0220, 0248, 0249, 0251, 0252, 0254, 0326, 0343, 0344, 0371, 0374, 0457, 0475	Thomson	0162, 0188, 0189, 0285, 0320, 0322, 0342, 0345, 0350

Philips Magnavox 0011, 0032, 0033
Phoenix 0161, 0277, 0320, 0339, 0349, 0350
Phonola 0277, 0320, 0339, 0349, 0350
Pilot 0007, 0008, 0050
Pioneer 0008, 0026, 0094, 0095, 0161, 0320, 0345, 0347, 0349, 0350, 0458
Plantron 0320, 0323, 0337, 0350
Playsonic 0282
Polaroid 0039, 0142, 0202, 0234
Poppy 0323, 0343
Portland 0007, 0008, 0026, 0053
Prandoni-Prince 0171, 0346
Precision 0282, 0342
Prima 0157, 0243, 0323, 0343, 0347
Princeton 0140
Prism 0023, 0056
Profex 0323, 0343
Profi-Tronic 0320, 0350
Proline 0320, 0350
Proscan 0021, 0027, 0049
Prosonic 0161, 0277, 0282, 0320, 0342, 0349
Protech 0282, 0337, 0341, 0342, 0343, 0349, 0350
Proton 0008, 0012, 0026, 0031
Protron 0196
PROVIEW 0096, 0246
Provision 0320, 0349
Pulsar 0008, 0030, 0062
Pye 0256, 0320, 0349, 0350, 0378
Pymi 0323, 0343
Quandra Vision 0321
Quasar 0017, 0023, 0052, 0056
Quelle 0282, 0320, 0337, 0342, 0349, 0350
Questa 0344
Radialva 0320
RadioShack 0019, 0021, 0031, 0050, 0179, 0320
RadioShack/Realistic 0007, 0008, 0012, 0026, 0049, 0058
Radiola 0282, 0320, 0349, 0350
Radiomarelli 0320, 0339
Radiotone 0161, 0320, 0323, 0350
Rank 0344
RCA 0008, 0021, 0024, 0025, 0026, 0027, 0042, 0049, 0052, 0053, 0063, 0136, 0225
Realistic 0019, 0031, 0050, 0179
Recor 0320
Redstar 0320
Reflex 0320
Revox 0161, 0320, 0349, 0350
Rex 0337, 0346, 0347
RFT 0161, 0168, 0339
Rhapsody 0277
R-Line 0320, 0349, 0350
Roadstar 0323, 0337, 0340, 0343
Robotron 0339
Rowa 0277, 0282
Royal Lux 0161
RTF 0339
Runco 0030, 0050, 0062
Saba 0298, 0322, 0339, 0345, 0347

Salora 0346, 0347
Sambers 0171, 0341
Sampo 0007, 0008, 0026, 0050, 0176
Samsung 0004, 0005, 0006, 0007, 0008, 0012, 0026, 0031, 0036, 0050, 0053, 0076, 0077, 0079, 0114, 0124, 0125, 0126, 0127, 0139, 0161, 0183, 0185, 0190, 0191, 0258, 0264, 0277, 0282, 0320, 0323, 0334, 0337, 0342, 0343, 0349, 0350, 0351, 0373, 0453, 0468
Sandra 0277, 0282, 0342
Sansui 0043, 0109, 0320, 0350
Sanyo 0008, 0019, 0068, 0070, 0071, 0099, 0161, 0168, 0223, 0237, 0277, 0282, 0288, 0295, 0323, 0342, 0344, 0369, 0469
SBR 0320, 0349
Sceptre 0235, 0244
Schaub Lorenz 0347
Schneider 0282, 0316, 0318, 0320, 0333, 0340, 0342, 0349, 0350, 0382
Scotch 0026, 0031
Scott 0008, 0012, 0026, 0031, 0058, 0059, 0149, 0179
Sears 0008, 0010, 0019, 0021, 0026, 0027, 0031, 0049, 0051, 0059, 0111
SEG 0277, 0282, 0320, 0323, 0337, 0341, 0342, 0344, 0349, 0382
SEI 0320
SEI-Sinudyne 0339, 0341, 0347
Seleco 0344, 0346, 0347
Sencora 0323, 0343
Sentra 0323
Serino 0277
Sharp 0000, 0001, 0002, 0003, 0007, 0008, 0012, 0026, 0060, 0088, 0089, 0091, 0138, 0165, 0170, 0178, 0198, 0229, 0262, 0278, 0279, 0291, 0308, 0312, 0336, 0344, 0354, 0370, 0449, 0450, 0451, 0464, 0474, 0476
Sheng Chia 0178
Shogun 0008
Siarem 0320, 0339, 0341
Sierra 0320, 0350
Siesta 0161
Signature 0054
Silva 0277
Silver 0344
Singer 0321, 0339, 0341
Sinudyne 0320, 0339, 0341, 0349
Skantic 0347
Solavox 0347
Sonitron 0161, 0282
Sonoko 0282, 0320, 0323, 0337, 0342, 0343, 0349, 0350
Sonolor 0321, 0347
Sontec 0161, 0320, 0349, 0350

Sound & Vision 0340, 0341
Soundesign 0008, 0026, 0031, 0058, 0059, 0179
Soundwave 0320, 0349, 0350
Squareview 0051
SSS 0008, 0058, 0179
Standard 0282, 0320, 0323, 0340, 0342, 0343, 0350
Starlite 0058, 0179, 0320, 0323, 0349
Stenway 0348
Stern 0346, 0347
Strato 0320, 0323
Stylandia 0282
Sunkai 0343
Sunstar 0320, 0323
Sunwood 0320, 0323, 0343, 0350
Superla 0277, 0282, 0342
Superscan 0013, 0178
SuperTech 0277, 0320, 0323
Supra 0323, 0343
Supre-Macy 0057
Supreme 0055, 0107
Susumu 0340
Sutron 0323, 0343
SVA 0151
Sydney 0277, 0282, 0342
Sylvania 0008, 0009, 0010, 0011, 0013, 0026, 0048, 0050, 0051, 0128, 0227, 0253
Symphonic 0051, 0058, 0062, 0128, 0179, 0215
Syntax 0199
Syntax-Brillian 0199
Sysline 0349
Sytong 0277
Tandy 0178, 0282, 0336, 0340, 0342, 0347
Tashiko 0277, 0282, 0342, 0344, 0346
Tatung 0052, 0177, 0282, 0320, 0342, 0349, 0350
TCM 0337, 0343
Teac 0282, 0320
Tec 0282, 0323, 0342, 0343
Technics 0017, 0023, 0056
TechniSat 0274, 0496, 0497, 0499
Techwood 0008, 0023, 0026, 0056
TEDELEX 0282
Teknika 0007, 0008, 0010, 0012, 0026, 0053, 0054, 0058, 0059, 0179
Teleavia 0345
Telecor 0282, 0320
Telefunken 0320, 0322, 0345, 0350
Telegazi 0320
Telemeister 0320
Telesonic 0320
Telestar 0320
Teletech 0320, 0323, 0343, 0349
Teleton 0282, 0342
Televideon 0277
Televiso 0321
Tensai 0282, 0320, 0323, 0340, 0343, 0350
Tesmet 0350
Tevion 0337, 0343
Texet 0277, 0282, 0323, 0342

Thorn 0320, 0349
TMK 0008, 0026, 0031
TNCi 0030
Tokai 0282, 0320, 0350
Tokyo 0277, 0342
Tomashi 0348
Toshiba 0018, 0019, 0040, 0041, 0046, 0073, 0100, 0103, 0108, 0109, 0111, 0121, 0132, 0166, 0208, 0210, 0214, 0217, 0260, 0268, 0282, 0283, 0293, 0304, 0306, 0307, 0329, 0344, 0355, 0454
Totevision 0007
Towada 0282, 0347
Trakton 0282
Trans Continens 0282, 0320
Transtec 0277
Trident 0282
Triumph 0320
Uher 0161, 0171, 0320, 0347, 0350
Ultravox 0277, 0320, 0339, 0341, 0342
Unic Line 0320
United 0349
Universum 0161, 0171, 0282, 0320, 0337, 0349, 0350, 0351
Univox 0320
Vector Research 0050
Vestel 0282, 0320, 0346, 0347, 0349, 0350, 0351
Vexa 0320, 0323, 0343, 0349
Victor 0015, 0344, 0350
VIDEOLOGIC 0277
Videologique 0277, 0282, 0340, 0342
VideoSystem 0320, 0350
Videotechnic 0277, 0282
Vidikron 0010
Vidtech 0008, 0026, 0031, 0053
Viewsonic 0176, 0203, 0232, 0364
Viking 0057
Viore 0148
Visiola 0277, 0342
Vision 0282, 0320, 0350
Vizio 0008, 0177, 0218, 0242, 0500, 0501, 0502, 0503, 0506
Vortec 0320, 0349, 0350
Voxson 0171, 0320, 0339, 0346, 0347, 0350
Waltham 0282, 0320, 0342
Wards 0008, 0009, 0010, 0026, 0031, 0048, 0049, 0050, 0053, 0054, 0059
Watson 0320, 0349, 0350
Watt Radio 0277, 0341, 0342
Waycon 0111
Wega 0320, 0339, 0344
Wegavox 0323
Weltblick 0282, 0320, 0349, 0350
Westinghouse 0107, 0216, 0220
White Westinghouse 0037, 0090, 0277, 0320, 0341, 0342, 0349
Wincom 0101, 0106
Xrypton 0320
Yamaha 0008, 0026, 0050, 0053, 0080, 0081, 0082, 0083, 0086, 0087
Yamishi 0282, 0320
Yokan 0320

Yoko 0161, 0277, 0282,
0320, 0323, 0337,
0340, 0342, 0343,
0349, 0350
Yorx 0340
Zanussi 0282, 0346
Zenith 0008, 0028, 0029,
0030, 0031, 0054,
0061, 0062

VCR

ABS 1016
Adventura 1069
Adyson 1008
Aiwa 1024, 1026, 1027,
1069
Akai 1021, 1027
Akiba 1008, 1029
Akura 1008, 1027, 1029
Alba 1008, 1009, 1024,
1025, 1029, 1030
Alienware 1016
Ambassador 1030
American High 1068
Amstrad 1008, 1009, 1026
Anitech 1008, 1029
Apex 1088
ASA 1028, 1031
Asha 1070
Asuka 1008, 1026, 1028,
1029, 1031
Audio Dynamics 1064
Audiosonic 1009
Audiovox 1071
Baird 1009, 1025, 1026,
1027
Bang & Olufsen 1017
Basic Line 1008, 1009, 1024,
1025, 1029, 1030
Baur 1028
Beaumark 1070
Bell & Howell 1065
Bestar 1009, 1025, 1030
Black Panther Line
1009, 1025
Blaupunkt 1028
Bondstec 1008, 1030
Broksonic 1100
Bush 1008, 1009, 1024,
1025, 1029, 1049,
1051, 1063, 1217
Calix 1071
Candle 1070, 1071
Canon 1068
Cathay 1009
Catron 1030
CGE 1026, 1027
Cimline 1008, 1024, 1029
CineVision 1104
Citizen 1070, 1071
Clatronic 1008, 1030
Colortyme 1064
Condor 1009, 1025, 1030
Craig 1070, 1071
Crown 1008, 1009, 1025,
1029, 1030
Curtis Mathes 1064, 1068, 1070
Cybernex 1070
CyberPower 1016
Daewoo 1009, 1025, 1030,
1038, 1069, 1223
Dansai 1008, 1009, 1029
Dantax 1024
Daytron 1009, 1025
DBX 1064
De Graaf 1028
Decca 1026, 1027, 1028
Dell 1016
Denko 1008
DiamondVision 1096
DigiFusion 1014
DIRECTV 1019, 1105, 1110,
1111, 1113, 1116,
1122
Dish Network 1018
Dishpro 1018
Dual 1009, 1027, 1028

Dumont 1026, 1028
Durabrand 1114
Dynatech 1069
Echostar 1018
Elbe 1009
Elcatech 1008
Electrohome 1071
Electrophonic 1071
Elsay 1008
Elta 1008, 1009, 1029
Emerson 1008, 1020, 1068,
1069, 1071
ESC 1009, 1025
Etzuko 1008, 1029
Expressvu 1018
Ferguson 1027
Fidelity 1008, 1026
Finlandia 1028
Finlux 1026, 1027, 1028
Firstline 1008, 1024, 1029,
1031
Fisher 1065
Flint 1024
Formenti/Phoenix 1028
Frontech 1030
Fuji 1068
Fujitsu 1026
Funai 1026, 1069
Galaxy 1026
Garrard 1069
Gateway 1016
GBC 1029, 1030
GE 1068, 1070
GEC 1028
Geloso 1029
General 1030
General Technic 1024
GOI 1018
GoldHand 1008, 1029
Goldstar 1026, 1031, 1064,
1071
Goodmans 1008, 1009, 1025,
1026, 1029, 1030,
1031
Gradiente 1069
Graetz 1027
Granada 1028
Grandin 1008, 1009, 1025,
1026, 1029, 1030,
1031
Grundig 1028, 1029
Hanseatic 1009, 1028, 1031
Harley Davidson 1069
Harman/Kardon 1064
Harwood 1008
HCM 1008, 1029
Headquarter 1065
Hewlett Packard 1016
Hinari 1008, 1009, 1024,
1029
Hisawa 1024
Hitachi 1011, 1026, 1027,
1028, 1046, 1062
HNS 1110
Howard Computers
1016
HP 1016
HTS 1018
Hughes 1111, 1113, 1122
Hughes Network Systems
1110, 1116
Humax 1012, 1110, 1113
Hush 1016
Hypson 1008, 1009, 1024,
1029
iBUYPOWER 1016
Impego 1030
Imperial 1026
Inno Hit 1008, 1009, 1025,
1028, 1029, 1030
Innovation 1024
Instant Replay 1068
Interbuy 1008, 1031
Interfunk 1028
Intervision 1009, 1026
Irradio 1008, 1029, 1031
ITT 1027
ITV 1009, 1025, 1031

JC Penney 1064, 1065, 1068,
1070, 1071
JCL 1068
JVC 1007, 1018, 1027,
1039, 1064, 1065,
1066, 1067, 1078,
1089, 1092, 1093,
1094, 1095, 1113,
1208, 1209, 1212,
1213, 1215, 1218
Kaisui 1008, 1029
Karcher 1028
Kendo 1008, 1024, 1025,
1030
Kenwood 1027, 1064, 1065
Kodak 1068, 1071
Korpel 1008, 1029
Kyoto 1008
Lenco 1025
Leyco 1008, 1029
LG 1010, 1026, 1031,
1047, 1054, 1056,
1071, 1103, 1221
Lifetec 1024
Linksys 1016
Lloyd's 1069
Loewe Opta 1028, 1031
Logik 1008, 1029
Lumatron 1009, 1025
Luxor 1008
LXI 1071
M Electronic 1026
Magnavox 1020, 1068, 1114,
1126
Magnin 1071
Manesth 1008, 1029
Marantz 1028, 1064, 1065,
1068
Mark 1009
Marta 1071
Matsui 1024, 1031
Matsushita 1068
Media Center PC 1016
Mediator 1028
Medion 1024
MEI 1068
Memorex 1023, 1026, 1031,
1065, 1068, 1069,
1070, 1071, 1098,
1114
Memphis 1008, 1029
MGN Technology 1070
Micromaxx 1024
Microsoft 1016
Microstar 1024
Migros 1026
Mind 1016
Mitsubishi 1026, 1028, 1079
Motorola 1068
MTC 1070
Multitech 1008, 1026, 1028,
1029, 1030, 1069,
1070
Murphy 1026
NEC 1027, 1064, 1065
Neckermann 1027, 1028
NEI 1028
Nesco 1008, 1029
Nikkai 1008, 1009, 1030
Nikko 1071
Niveus Media 1016
Noblex 1070
Nokia 1009, 1027
Nordmende 1027
Northgate 1016
Oceanic 1026, 1027
Okano 1008, 1009, 1024
Olympus 1068
Optimus 1071
Orion 1023, 1024, 1051,
1115, 1217
Orson 1026
Osaki 1008, 1026, 1029,
1031
Otto Versand 1028
Palladium 1008, 1027, 1029,
1031

Panasonic 1000, 1022, 1044,
1055, 1068, 1072,
1085, 1090, 1091,
1120, 1121, 1214
Pathe Marconi 1027
Perdio 1026
Philco 1008, 1068
Philips 1006, 1013, 1028,
1035, 1040, 1045,
1046, 1050, 1058,
1059, 1061, 1068,
1076, 1101, 1110,
1113, 1116, 1117,
1122, 1126, 1210,
1211
Philips Magnavox 1076
Phonola 1028
Pilot 1071
Pioneer 1028, 1036
Polaroid 1088, 1099
Portland 1009, 1025, 1030
Prinz 1026
Profex 1029
Proline 1026
Proscan 1019
Prosonic 1009, 1024
Pulsar 1114
Pye 1028, 1102
Quarter 1065
Quartz 1065
Quasar 1068
Quelle 1026, 1028
Radialva 1008
RadioShack 1071
RadioShack/Realistic
1065, 1068, 1069,
1070, 1071
Radiola 1028
Radix 1071
Randex 1071
RCA 1019, 1068, 1070,
1075, 1110, 1113,
1122, 1125
Realistic 1065, 1068, 1069,
1070, 1071
ReplayTV 1022, 1123
Rex 1027
RFT 1008, 1028, 1030
Ricavision 1016
Roadstar 1008, 1009, 1025,
1029, 1031
Royal 1008
Runco 1114
Saba 1027
Saisho 1024, 1029
Samsung 1002, 1034, 1041,
1043, 1057, 1060,
1070, 1084, 1110,
1116, 1122, 1124,
1220, 1222
Samurai 1008, 1030
Sanky 1114
Sansui 1023, 1027, 1106,
1115
Sanyo 1032, 1065, 1070
Saville 1009
SBR 1028
Schaub Lorenz 1026, 1027
Schneider 1008, 1009, 1024,
1025, 1026, 1028,
1029, 1030, 1031
Sears 1065, 1068, 1071
SEG 1008, 1009, 1029
SEI-Sinudyne 1028
Seleco 1027
Sentra 1008, 1030
Sentron 1008, 1029
Sharp 1003, 1033, 1077,
1107, 1127, 1219
Shintom 1008, 1029
Shivaki 1031
Shogun 1070
Siemens 1031
Silva 1031
Silver 1009
Singer 1068
Sinudyne 1028
Solavox 1030
Sonic Blue 1022, 1123

- 4 -

Sonneclair	1008	Airis	2364	Easy Home	2359	Limit	2355

Sonneclair 1008
Sonoko 1009, 1025
Sontec 1031
Sony 1001, 1016, 1048, 1053, 1073, 1074, 1080, 1081, 1082, 1083, 1108, 1118, 1216
Stack 1016
Stack 9 1016
Standard 1009, 1025
Stern 1009
STS 1068
Sunkai 1024
Sunstar 1026
Suntronic 1026
Sunwood 1008, 1029
Superscan 1020
Sylvania 1020, 1068, 1069, 1102, 1126
Symphonic 1008, 1069, 1126
Systemax 1016
Tagar Systems 1016
Taisho 1024
Tandberg 1009
Tandy 1065
Tashiko 1026, 1071
Tatung 1026, 1027, 1028
TCM 1015, 1024, 1042
Teac 1009, 1069
Tec 1008, 1009, 1030
Technics 1068
Teknika 1068, 1069, 1071
Teleavia 1027
Telefunken 1027
Teletech 1008, 1009
Tenosal 1008, 1029
Tensai 1008, 1026, 1029, 1031
Tevion 1024
Thomson 1005, 1027
Thorn 1027
Tivo 1108, 1110, 1111, 1113, 1117, 1118, 1119, 1122
TMK 1070
Tokai 1008, 1029, 1031
Tonsai 1029
Toshiba 1004, 1016, 1027, 1028, 1037, 1049, 1052, 1086, 1087, 1097, 1109, 1112, 1194
Totevision 1070, 1071
Touch 1016
Towada 1008, 1029
Towika 1008, 1029
TVA 1030
Uher 1031
UltimateTV 1019
Ultravox 1009
Unitech 1070
United Quick Star 1009, 1025
Universum 1026, 1028, 1031
Vector Research 1064
Video Concepts 1064
Videon 1024
Videosonic 1070
Viewsonic 1016
Voodoo 1016
Wards 1068, 1069, 1070, 1071
Weltblick 1031
XR-1000 1068, 1069
Yamaha 1064, 1065
Yamishi 1008, 1029
Yokan 1008, 1029
Yoko 1008, 1029, 1030, 1031
Zenith 1114
ZT Group 1016

DVD

4Kus 2051
Accurian 2142
Advent 2155, 2251
AEG 2362

Airis 2364
Aiwa 2322
Akai 2145, 2177, 2179, 2248
Akura 2356
Alba 2064, 2165, 2186, 2337, 2346
Alco 2149
Alize 2361
Allegro 2133
Amitech 2362
Amphion MediaWorks 2195
AMW 2195, 2363
Apex 2030, 2124, 2125, 2126, 2127, 2130, 2131
Apple 2241
Arrgo 2138
Asono 2364
Aspire 2152, 2222
Astar 2240
ATACOM 2364
Audiovox 2061, 2149
Avious 2367
Awa 2363
Axion 2249
Bang & Olufsen 2128
Baze 2367
BBK 2364
Bellagio 2363
Best Buy 2359
Blaupunkt 2131
Blue Parade 2157
Boghe 2382
Brainwave 2362
Brandt 2148, 2188
Broksonic 2145, 2146
Bush 2064, 2110, 2170, 2268, 2290, 2346, 2358, 2367, 2383
California Audio Labs 2151
Cambridge Audio 2354
CAT 2352, 2353
CAVS 2192
Centrum 2353
CGV 2354, 2362
Changhong 2140
Cinetec 2363
CineVision 2133, 2237
Clatronic 2358, 2367
Coby 2031, 2046, 2360
Conia 2383
Continental Edison 2363
Crown 2362
C-Tech 2355
Curtis Mathes 2139
CVG 2377
CyberHome 2022, 2098, 2138, 2187, 2336
Cytron 2244
Daenyx 2363
Daewoo 2001, 2133, 2276, 2298, 2330, 2362, 2363, 2377
Daewoo International 2363
Dalton 2357
Dansai 2362, 2381
Daytek 2184, 2195, 2363
Dayton 2363
DEC 2358
Decca 2362
Denon 2059, 2151, 2193, 2332
Denver 2356, 2358, 2360, 2370
Denzel 2380
Desay 2205
Diamond 2354, 2355
DiamondVision 2225, 2232
Disney 2010, 2028
DK Digital 2339
Dmtech 2176
Dual 2380
Durabrand 2136
DVX 2355

Easy Home 2359
Eclipse 2354
E-Dem 2364
Electrohome 2362
Elin 2362
Elta 2341, 2361, 2362
Emerson 2129, 2137, 2150
Enterprise 2129
Enzer 2380
Epson 2247
ESA 2137
Finlux 2354, 2362, 2367
Fintec 2377
Fisher 2134
Funai 2137
Gateway 2051
GE 2029, 2131, 2156
Gericom 2351
GFM 2226
Giec 2382
Global Solutions 2355
Global Sphere 2355
Go Video 2133, 2213
Goodmans 2165, 2280, 2291, 2358, 2371, 2376, 2382
GPX 2227
Gradiente 2151
Graetz 2380
Greenhill 2131
Grundig 2349
Grunkel 2362, 2366
GVG 2377
H&B 2358
H_her 2364
Haaz 2354, 2355
Haier 2254
Harman/Kardon 2047, 2135
HiMAX 2359
Hitachi 2062, 2090, 2115, 2274, 2282, 2316, 2359, 2380
Hiteker 2130
Home Tech Industries 2364
Hyundai 2366
Ilo 2245
Initial 2131, 2245
Innovation 2182
Insignia 2002, 2137, 2253
Integra 2157
Irradio 2053
iSymphony 2246
JBL 2135
JVC 2020, 2096, 2097, 2099, 2100, 2101, 2102, 2103, 2106, 2107, 2160, 2257, 2260, 2262, 2263, 2321, 2324, 2326, 2327, 2343, 2464, 2465, 2468, 2469, 2471
Jwin 2198
Kansai 2360
Kawasaki 2149
Kennex 2362
Kenwood 2041, 2151, 2348
KeyPlug 2362
Kiiro 2362
Kingavon 2358
Kiss 2380
KLH 2131, 2149
Koda 2358
Koss 2013, 2148, 2158
KXD 2359
Landel 2143
Lasonic 2132
Lawson 2355
Lecson 2381
Lenco 2358, 2362, 2367
Lenoxx 2136, 2153
LG 2002, 2033, 2038, 2057, 2129, 2133, 2189, 2191, 2223, 2238, 2270, 2288, 2335, 2373, 2375
Life 2182
Lifetec 2182

Limit 2355
Liquid Video 2158
Liteon 2043, 2051, 2142
Loewe 2320
LogicLab 2355
Magnavox 2025, 2050, 2137, 2150, 2159, 2224, 2230, 2358
Magnex 2367
Majestic 2360
Marantz 2328
Marquant 2362
Matsui 2148, 2378
McIntosh 2199
Mecotek 2362
Medion 2182
Memorex 2028, 2145, 2234
MiCO 2354, 2382
Micromaxx 2182
Microsoft 2156
Microstar 2182
Minoka 2362
Minowa 2367
Mintek 2131, 2245
Mitsubishi 2003
Mizuda 2358, 2359
Monyka 2380
Mustek 2186
Mx Onda 2354
Mystral 2366
Naiko 2362
Nesa 2131
Neufunk 2380
Nevir 2362
Next Base 2143
Nexxtech 2243
NU-TEC 2383
Onkyo 2159, 2368
Oopla 2051
Oppo 2196, 2255
Optim 2381
Optimus 2180
Orava 2358
Orbit 2363
Orion 2073, 2110
Oritron 2148, 2158
P&B 2358
Pacific 2355
Panasonic 2011, 2024, 2034, 2042, 2058, 2062, 2066, 2067, 2093, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2151, 2159, 2164, 2166, 2167, 2172, 2173, 2175, 2209, 2214, 2275, 2277, 2278, 2281, 2282, 2283, 2301, 2374, 2470
Parasound 2197
peeKTON 2364
Philips 2008, 2012, 2025, 2044, 2050, 2051, 2053, 2060, 2072, 2108, 2111, 2147, 2159, 2163, 2169, 2174, 2181, 2185, 2230, 2261, 2266, 2267, 2286, 2287, 2289, 2295, 2300, 2302, 2317, 2328, 2338, 2342, 2350, 2467
Phonotrend 2367
Pioneer 2016, 2017, 2018, 2019, 2035, 2092, 2094, 2095, 2109, 2157, 2180, 2190, 2212, 2269, 2272, 2299, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2344, 2345, 2347, 2379
Pointer 2362
Polaroid 2125, 2215, 2235
Portland 2362
Powerpoint 2363

Brand	Code
Prima	2252
Proceed	2130
Proscan	2156
Prosonic	2360, 2377
Protron	2202
Provision	2358
Pye	2144
Qwestar	2148
Raite	2380
RCA	2021, 2029, 2104, 2105, 2131, 2149, 2156, 2157, 2229
RedStar	2356, 2360, 2362
Regent	2153
Reoc	2355
Rimax	2361
Rio	2133
Roadstar	2331, 2358
Ronin	2363
Rotel	2203
Rowa	2154, 2383
Rownsonic	2353
Saba	2148, 2188
Sabaki	2355
Saivod	2362
Sampo	2141
Samsung	2000, 2045, 2077, 2112, 2113, 2114, 2115, 2151, 2200, 2216, 2219, 2228, 2264, 2265, 2271, 2279, 2294, 2303, 2329, 2365
Sansui	2073, 2145, 2354, 2355, 2362
Sanyo	2134, 2145, 2217, 2292
ScanMagic	2186
Schaub Lorenz	2362
Schneider	2176
Scientific Labs	2355
Scott	2161, 2357
Seeltech	2364
SEG	2162, 2355, 2363, 2380
Sharp	2006, 2040, 2088, 2091, 2182, 2194, 2220, 2221, 2231, 2236, 2293, 2340
Shinsonic	2245
Sigmatek	2359, 2364
Silva	2356
Singer	2354, 2355
Skymaster	2325, 2355
Skyworth	2356
Slim Art	2362
SM Electronic	2355
Sonic Blue	2133
Sontech	2366
Sony	2004, 2005, 2007, 2009, 2014, 2015, 2023, 2026, 2027, 2052, 2068, 2069, 2070, 2071, 2074, 2075, 2084, 2085, 2087, 2168, 2171, 2208, 2210, 2211, 2258, 2273, 2284, 2285, 2312, 2313, 2314, 2315, 2318, 2319, 2466
Soundmaster	2355
Soundmax	2355
Spectra	2363
Spectroniq	2201
Standard	2355
Star Cluster	2355
Starmedia	2358, 2364
Sungale	2204
Sunkai	2362
Superscan	2150
Supervision	2355
Sylvania	2012, 2137, 2150, 2178, 2230, 2239
Symphonic	2108, 2230
Synn	2355
T.D.E. Systems	2366
Tatung	2001, 2362
TCM	2182, 2297
Teac	2149, 2333, 2355, 2383
Tec	2356
Technics	2151
Technika	2362, 2367
Telefunken	2353
Tensai	2362
Tevion	2182, 2355, 2357
Theta Digital	2157
Thomson	2183, 2188, 2334, 2372
Tokai	2356, 2380
Top Suxess	2364
Toshiba	2032, 2036, 2037, 2039, 2048, 2049, 2054, 2055, 2072, 2073, 2076, 2078, 2079, 2086, 2145, 2159, 2218, 2233, 2256, 2259, 2296, 2369
TRANScontinents	2363, 2367
Transonic	2367
Trio	2362
Trutech	2242
TruVision	2359
TSM	2364
Umax	2361
United	2367
Urban Concepts	2159
US Logic	2245
Venturer	2149
Viewmaster	2364
Vocopro	2206
VocoStar	2207
Waitec	2364
Welltech	2382
Westinghouse	2063, 2250
Wharfedale	2354, 2355
Woxter	2361, 2364
Xbox	2156, 2183
Xlogic	2355, 2362
XMS	2362
Xoro	2382
Yamada	2051, 2361, 2363
Yamaha	2056, 2064, 2065, 2080, 2081, 2082, 2083, 2089, 2118, 2151, 2323
Yamakawa	2363, 2380
Yukai	2186
Zenith	2002, 2129, 2133, 2159, 2223

Blu-ray Disc

Brand	Code
LG	2033
Panasonic	2011, 2209, 2214
Pioneer	2212
Samsung	2045, 2113
Sharp	2194, 2220, 2221
Sony	2075
Yamaha	2064

DVR

Brand	Code
Bush	2110
Hitachi	2090
Panasonic	2066, 2067, 2093, 2116, 2117, 2119, 2120, 2122, 2123
Philips	2108, 2111
Pioneer	2016, 2017, 2018, 2019, 2092, 2094, 2095, 2109
RCA	2105
Samsung	2113, 2219
Sharp	2088, 2091
Sony	2084, 2085, 2087
Toshiba	2086
Yamaha	2089, 2118

DVD Recorder

Brand	Code
Aspire	2222
Astar	2240
Broksonic	2146
Go Video	2213
Hitachi	2062
Insignia	2002
Irradio	2053
JVC	2100, 2101, 2106, 2107
LG	2033, 2057, 2223, 2238
Liteon	2043
Panasonic	2011, 2034, 2058, 2062, 2116, 2117, 2119, 2120, 2121, 2123
Philips	2008, 2044, 2050, 2051, 2147
Pioneer	2017, 2035
Pye	2144
Samsung	2000, 2112, 2216
Sansui	2073
Sanyo	2217
Sony	2004, 2005, 2007, 2052, 2068, 2069, 2074, 2208, 2210, 2211
Sylvania	2239
Toshiba	2032, 2036, 2037, 2039, 2049, 2054, 2055, 2076
Yamaha	2056

Cable

Brand	Code
ABC	3002, 3003, 3017, 3066, 3067, 3086, 3093, 3119, 3122
ADB	3020
Adelphia	3081
Alcatel	3016
Americast	3124
Amstrad	3022, 3098
Antronix	3065, 3070
Archer	3070
Arcon	3098
AT&T	3095
Axis	3098
Bell South	3124
Cable Vision	3092
Cabletenna	3065
Cabletime	3104
Cableview	3087
Clearmaster	3127
ClearMax	3127
Clyde Cablevision	3105
Colour Voice	3068
Comcast	3084, 3088, 3117
Comcrypt	3107
Comtronics	3069
Contec	3074
Coolmax	3127
COX	3084
Cryptovision	3110
Director	3084
Eastern	3075
Everquest	3123
Fidelity	3098
Filmnet	3107
Filmnet Cablecrypt	3111
Filmnet Comcrypt	3111
Finlux	3097
Focus	3126
Foxtel	3022
France Telecom	3100, 3101
Freebox	3023
GC Electronics	3070
GE	3066, 3093
GEC	3105
Gemini	3072, 3123
General Instrument	3017, 3025, 3066, 3084, 3090, 3096, 3117
Goldstar	3120
Gooding	3099
Grundig	3098, 3099
Hamlin	3073, 3078
Hirschmann	3097
Hitachi	3066
HomeChoice	3106
Humax	3021, 3080, 3083
ITT Nokia	3097
Jasco	3123
Jerrold	3017, 3018, 3025, 3066, 3072, 3084, 3090, 3096, 3119, 3123
JVC	3099
Kabel Deutschland	3024, 3027, 3121
Macab	3101
Magnavox	3079
Maspro	3099
Matsui	3099
MegaCable	3117
Memorex	3076, 3122
Minerva	3099
Mnet	3107
Motorola	3025, 3026, 3084, 3088, 3090, 3095, 3117
Movie Time	3077, 3109
Mr Zapp	3101
Multichoice	3107
Multitech	3127
NEC	3064
NET Brazil	3085
Nokia	3097
Noos	3101
NSC	3077
Oak	3074
Pace	3006, 3089, 3121
Palladium	3099
Panasonic	3112, 3118, 3122
Paragon	3122
Philips	3068, 3071, 3079, 3099, 3100, 3101, 3103
Pioneer	3001, 3006, 3094, 3098, 3114, 3116, 3120
Popular Mechanics	3126
Proscan	3066, 3093
Pulsar	3122
PVP Stereo Visual Matrix	3018
Quasar	3122
RadioShack	3123, 3127
RCA	3030, 3031, 3087, 3118
Realistic	3070
Recoton	3126
Regal	3078
Regency	3075
Rembrandt	3066
Runco	3122
Sagem	3101
Samsung	3069, 3089, 3114, 3120
SAT	3098
Scientific Atlanta	3000, 3001, 3002, 3003, 3006, 3028, 3029, 3081, 3086, 3089, 3094, 3095, 3108
Signal	3072, 3123
Signature	3066
Sony	3092, 3125
Sprucer	3118
Standard Component	3115
Starcom	3017, 3072, 3119, 3123
Stargate	3072, 3123
Starquest	3072, 3123
Supercable	3090
Supermax	3127
Tele+1	3107, 3111
Telepiu	3107
Thomson	3082, 3091
TIME WARNER	3084
Tocom	3067
Torx	3017
Toshiba	3122
Tristar	3127
Tudi	3102
Tusa	3072, 3123

TV86	3077
Unika	3065, 3070
United Cable	3018, 3119
Universal	3065, 3070
Universum	3097, 3099
V2	3127
Videoway	3019
View Star	3074, 3077, 3079
Viewmaster	3127
Vision	3127
Visiopass	3097, 3100, 3101
Vortex View	3127
Wittenberg	3098
Zenith	3113, 3122, 3124
Zentek	3126

Satellite

AB Sat	4216, 4217
AccessHD	4104
ADB	4220
AGS	4216
Akai	4053, 4055
Alba	4001, 4004, 4006, 4007, 4062, 4217
Aldes	4005, 4007, 4010
Allsat	4048, 4053, 4055
Allsonic	4005, 4008, 4024
Alltech	4217
Alpha	4053
Alpha Digital	4104
Alphastar	4077
Amitronica	4217
Amstrad	4011, 4035, 4217, 4218
Anglo	4217
Ankaro	4005, 4008, 4024, 4217
Anttron	4001, 4004
Apollo	4001
Armstrong	4011, 4053
Artec	4100
Asat	4053, 4055
ASLF	4217
Astacom	4216
Astra	4009, 4011, 4054, 4217, 4219
Astro	4004, 4008, 4010, 4015, 4024, 4213, 4218, 4219
AudioTon	4004, 4048
Aurora	4222
Austar	4222
Axiel	4216
Axis	4008, 4009, 4024, 4050
Best	4008, 4024
Blaupunkt	4015
Blue Sky	4217
Boca	4011, 4054, 4059, 4217
Boston	4216
Brain Wave	4013
Broadcast	4012
Broco	4217
BSkyB	4035, 4041
BT	4216
Bubu Sat	4217
Bush	4006, 4045
Cambridge	4218
Canal Satellite	4213
Canal+	4213
CaptiveWorks	4099
Channel Master	4007, 4110
Chaparral	4075
CHEROKEE	4216
Chess	4212, 4217
CityCom	4006, 4215, 4219
Clatronic	4013
CNT	4010
Comag	4080, 4081, 4082, 4083, 4086
Commlink	4005
Comtech	4050
Condor	4008, 4024, 4219
Connexions	4014, 4024
Conrad	4024, 4215, 4218, 4219

Conrad Electronic	4217, 4219
Contec	4050
Coolsat	4096
Cosat	4048
Coship	4109
Crown	4011
Daeryung	4014
Daewoo	4057, 4217
DDC	4007
Delega	4007
Dew	4050
Diamond	4051
Digiality	4219
Digital Stream	4105
DIRECTV	4056, 4064, 4067, 4068, 4070, 4071, 4074, 4107, 4116, 4119, 4121, 4122, 4123, 4127, 4192, 4193, 4194, 4195, 4196, 4197, 4198, 4199, 4200, 4201, 4202, 4203, 4206, 4207, 4221
Discoverer	4212
Discovery	4216
Diseqc	4216
Dish Network	4018, 4065, 4089, 4092, 4094, 4095, 4117
Dishpro	4018, 4117
Distrisat	4053
Ditristrad	4048
DNT	4014, 4053, 4055
Drake	4072
DStv	4222
Dune	4024
Echostar	4014, 4018, 4065, 4089, 4117, 4217
Einhell	4001, 4005, 4011, 4217, 4218
Elap	4216, 4217
Elekta	4010
Elsat	4217
Elta	4001, 4008, 4024, 4048, 4053, 4055
Emanon	4001
Emme Esse	4008, 4024
Engel	4217
Ep Sat	4006
EURIEULT	4031
Eurodec	4052
Europa	4053, 4218, 4219
Europhon	4219
Eurosat	4011
Eurosky	4024, 4011, 4008, 4215, 4218, 4219
Eurostar	4011, 4215, 4219
Eutelsat	4217
Exator	4001, 4004
Expressvu	4117
Fenner	4024, 4212, 4217
Ferguson	4006, 4052, 4214
Fidelity	4218
Finlandia	4006
Finlux	4006
FinnSat	4050, 4052
Flair Mate	4217
Foxtel	4222
Freecom	4001, 4049, 4218
FTEmaximal	4024, 4217
Fuba	4024, 4001, 4008, 4014, 4015, 4055, 4215
Galaxis	4024, 4005, 4008, 4009, 4050, 4048, 4215, 4222
GE	4093, 4066, 4111, 4197
General Instrument	4073, 4019
GMI	4011
GOI	4117
Goldbox	4213
GoldStar	4049
Goodmans	4029, 4002, 4006
Goodmind	4111
Grandin	4031
Grothusen	4001, 4049

Grundig	4006, 4004, 4015, 4035, 4211, 4218, 4222
Hänsel & Gretel	4219
Hantor	4001, 4013
Hanuri	4010
Hauppauge	4044
Heliocom	4219
Helium	4219
Hinari	4007
Hirschmann	4024, 4015, 4210, 4218, 4219, 4216
Hisawa	4013
Hisense	4016
Hitachi	4114, 4006, 4199, 4203
Homecast	4087, 4084, 4085
Houston	4048
HTS	4117
Hughes	4064, 4068, 4194, 4192, 4196, 4202
Hughes Network Systems	4071
Humax	4097, 4025, 4030, 4060
Huth	4005, 4011, 4012, 4013, 4050, 4048, 4219, 4223
Hypson	4031
Ilo	4016
Imex	4031
Innovation	4008
Insignia	4107
Intertronic	4011
Intervision	4048, 4219
ITT Nokia	4006
Jerrold	4019
Johansson	4013
JOK	4216
JSR	4048
JVC	4089, 4065, 4117, 4029
Kamm	4217
Kathrein	4015, 4055, 4053, 4063, 4034, 4042, 4215, 4216, 4217
Kathrein Eurostar	4215
Klap	4216
Konig	4219
Kosmos	4049
KR	4004
Kreiselmeyer	4015
K-SAT	4217
Kyostar	4001
L&S Electronic	4024
Lasat	4024, 4010, 4008, 4054, 4215, 4212, 4219
Lasonic	4108
Lenco	4024, 4001, 4049, 4215, 4219, 4217
Leng	4013
Lennox	4048
Lenson	4218
Lexus	4053
LG	4103, 4107, 4049
Lifesat	4024, 4008, 4212, 4217
Lifetec	4008
Lorenzen	4219
Lorraine	4049
Lupus	4024, 4008
Luxor	4218
Lyonnaise	4052
Macab	4052
Magnavox	4127, 4101
Manata	4031, 4216, 4217
Manhattan	4006, 4010, 4048, 4216
Marantz	4055
Mascom	4010
Maspro	4006, 4217
Matsui	4216
Max	4219
Mediabox	4213
Mediamarkt	4011
Mediasat	4009, 4213, 4218
Medion	4024, 4008, 4217
Medison	4217

Mega	4055, 4053
Memorex	4127
Metronic	4031, 4028, 4001, 4004, 4005, 4010, 4217
Metz	4015
Micro electronic	4218, 4219, 4217
Micro Technology	4217
MicroGem	4106
Micromaxx	4024, 4008
Microstar	4008
Microtec	4217
Minerva	4015
Mitsubishi	4006, 4015, 4202
Mitsumi	4054
Morgan's	4011, 4054, 4055, 4053, 4217
Motorola	4090, 4091, 4088, 4019
Multichoice	4222
Multitec	4212
Muratto	4049
Mysat	4217
Navex	4013
Neuhaus	4009, 4048, 4218, 4219, 4217
Neusat	4217
Next Level	4019
NextWave	4223
Nikko	4011, 4217
Nokia	4006, 4040
Nordmende	4001, 4006, 4007, 4010, 4052
Nova	4222
Novis	4013
Oceanic	4051
Octagon	4001, 4004, 4050
Okano	4011
Optex	4048
Optus	4213, 4222, 4223
Orbitech	4001, 4212, 4213, 4218
OSat	4004
Otto Versand	4015
Pace	4006, 4015, 4035, 4043, 4047, 4216
Pacific	4051
Packsat	4216
Palcom	4007
Palladium	4011, 4218
Palsat	4212, 4218
Panasat	4222
Panasonic	4121, 4126, 4124, 4006, 4035, 4036, 4221, 4198
Panda	4006, 4219
Pansat	4125
Patriot	4216
Paysat	4127
PCT	4110
Philco	4101
Philips	4071, 4068, 4127, 4006, 4055, 4053, 4061, 4033, 4213, 4216, 4196, 4202, 4203, 4201, 4206
Phoenix	4050
Phonotrend	4006, 4005, 4048
Pioneer	4046, 4213
Polsat	4052
Predki	4013
Premiere	4048, 4213
Priesner	4011
Primestar	4076
Profile	4216
Promax	4006
Prosat	4007, 4005
Proscan	4093, 4066, 4122, 4197
Protek	4051
Proton	4016
Provision	4010
Quadral	4024, 4007, 4005, 4008, 4216
Quelle	4015, 4215, 4219
Quiero	4052
RadioShack	4019
Radiola	4055, 4053
Radix	4014, 4037

Rainbow	4004
RCA	4093, 4066, 4112, 4113, 4118, 4119, 4116, 4122, 4197, 4207
Realistic	4078
Redpoint	4009
Redstar	4024, 4008
RFT	4005, 4055, 4053
Roadstar	4217
Roch	4031
Rover	4024, 4217
Saba	4010, 4215, 4219, 4216
Sabre	4006
Sagem	4023, 4052
Sakura	4050
Samsung	4064, 4071, 4069, 4123, 4120, 4003, 4000, 4001, 4032, 4196, 4200
SAT	4007, 4218
Sat Cruiser	4223
Sat Partner	4001, 4004, 4010, 4013, 4049, 4218
Sat Team	4217
Satcom	4012, 4219
Satec	4217
Satelco	4024
Satford	4012
Satmaster	4012
Satplus	4212
Schneider	4008, 4212, 4216
Schwaiger	4051, 4212, 4219
SCS	4215
Seemann	4011, 4009, 4014
SEG	4024, 4001, 4008, 4013
Seleco	4048
Servi Sat	4031, 4217
Siemens	4015
Silva	4049
Skantin	4217
Skardin	4009
Skinsat	4218
SKR	4217
Skymaster	4017, 4022, 4005, 4212, 4217
Skymax	4055, 4053
SkySat	4212, 4218, 4219, 4217
Skyvision	4048
SM Electronic	4212, 4217
Smart	4215, 4217
Sony	4067, 4070, 4213
SR	4011, 4054
Star Choice	4019
Starland	4217
Starring	4013
Start Trak	4001
Strong	4024, 4001, 4004, 4008, 4049, 4222
STS	4115
STVI	4031
Sumida	4011
Sunny Sound	4024
Sunsat	4217
Sunstar	4024, 4011, 4054
Supermax	4223
Tandberg	4052
Tandy	4004
Tantec	4006
TCM	4008
Techniland	4012
TechniSat	4021, 4026, 4027, 4014, 4053, 4038, 4039, 4212, 4213, 4218
Technology	4222
Technosat	4223
Technowelt	4219
Teco	4011, 4054
Telanor	4007
Telasat	4215, 4219
Telecom	4217
Telefunken	4017, 4001, 4216
Teleka	4004, 4011, 4014, 4218, 4219
Telemaster	4010

Telesat	4219
Telestar	4212, 4213, 4218
Televes	4006, 4218
Telewire	4048
Tempo	4223
Tevion	4008, 4217
Thomson	4020, 4006, 4052, 4058, 4208, 4215, 4213, 4219, 4216, 4217
Thorens	4051
Thorn	4006
Tivax	4104
Tivo	4196
Tokai	4053
Tonna	4006, 4012, 4048, 4218, 4217
Toshiba	4194, 4202, 4203
Triad	4049
Triasat	4218
Triax	4015, 4215, 4218, 4217
Turnsat	4217
Tvonics	4214
Twinner	4031, 4217
UEC	4222
Uher	4212
UltimateTV	4070
Uniden	4079, 4127
Unisat	4011, 4050, 4053
Unitor	4013
Universum	4015, 4215, 4219
US Digital	4016
Variosat	4015
Vega	4024
Ventana	4055, 4053
Viewsat	4098
Visiosat	4013, 4048, 4216, 4217
Voom	4019
Vortec	4001
Welltech	4212
WeTeKom	4212, 4218
Wevasat	4006
Wewa	4006
Winersat	4013
Wisi	4006, 4014, 4015, 4218, 4219
Woorisat	4010
Worldsat	4216
Xrypton	4024
XSat	4217
Zehnder	4024, 4010, 4008, 4209, 4215
Zenith	4102, 4107, 4195
Zodiac	4004

CD

| Yamaha | 5082, 5095 |

CD Recorder

| Yamaha | 5083 |

MD

| Yamaha | 5080, 5081, 5086 |

Tape

| Yamaha | 5084, 5087 |

Tuner

| Yamaha | 5066, 5071, 5085, 5088, 5090, 5092, 5094 |

XM

| Yamaha | 5091, 5093 |

SIRIUS

| Yamaha | 5064, 5067 |

DOCK

| Yamaha | 5068, 5089 |

NET

| Yamaha | 5076, 5079 |

LD

| Yamaha | 2080 |

Amplifier

| Yamaha | 5019, 5020 |