DENON

AV SURROUND RECEIVER

AVR-4310CI

Owner's Manual



Graphical User Interface

Use this manual in combination with the operating guide displayed on the GUI screen.

GUI Menu Operation (@page 26) GUI Menu Map (@page 25) Language (@page 45) Remote Control Unit Operations (@page 89)

□ SAFETY PRECAUTIONS





CAUTION:

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



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



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:

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



CAUTION:

HOT SURFACE. DO NOT TOUCH.

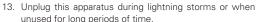
The top surface over the internal heat sink may become hot when operating this product continuously.

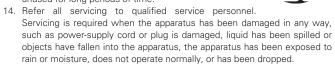
PRECAUTION: SURFACE CHAUDE. NE PAS TOUCHER.

La surface supérieure du dissipateur de chaleur peut devenir chaude si vous utilisez ce produit en continu.

IMPOTANT SAFETY INSTRUCTIONS

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





 Batteries shall not be exposed to excessive heat such as sunshine, fire or the like.

CAUTION:

- The ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, tablecloths, curtains, etc.
- No naked flame sources, such as lighted candles, should be placed on the unit.
- Observe and follow local regulations regarding battery disposal.
- Do not expose the unit to dripping or splashing fluids.
- Do not place objects filled with liquids, such as vases, on the unit.

ATTENTION:

- La ventilation ne doit pas être gênée en recouvrant les ouvertures de la ventilation avec des objets tels que journaux, rideaux, tissus, etc.
- Aucune flamme nue, par exemple une bougie, ne doit être placée sur l'appareil.
- Veillez à respecter les lois en vigueur lorsque vous jetez les piles usagées.
- L'appareil ne doit pas être exposé à l'eau ou à l'humidité.
- Ne pas poser d'objet contenant du liquide, par exemple un vase, sur l'appareil.

CAUTION:

To completely disconnect this product from the mains, disconnect the plug from the wall socket outlet.

The mains plug is used to completely interrupt the power supply to the unit and must be within easy access by the user.

PRECAUTION:

Pour déconnecter complètement ce produit du courant secteur, débranchez la prise de la prise murale.

La prise secteur est utilisée pour couper complètement l'alimentation de l'appareil et l'utilisateur doit pouvoir y accéder facilement.

FCC INFORMATION (For US customers)

1. COMPLIANCE INFORMATION

Product Name: AV Surround Receiver

Model Number: AVR-4310CL

This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this product may not cause harmful interference, and (2) this product must accept any interference received, including interference that may cause undesired operation.

Denon Electronics (USA), LLC (a D & M Holdings Company)

100 Corporate Drive Mahwah, NJ 07430-2041 Tel. (800) 497-8921

2. IMPORTANT NOTICE: DO NOT MODIFY THIS PRODUCT

This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modification not expressly approved by DENON may void your authority, granted by the FCC, to use the product.

When connecting this product to network hub or router, use only shielded STP or FTP LAN cables which is available

Follow all installation instructions. Failure to follow instructions could void your authority, granted by the FCC, to use the product.

4. NOTE

This product has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This product generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this product does cause harmful interference to radio or television reception, which can be determined by turning the product OFF and ON, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the product into an outlet on a circuit different from that to which the receiver is connected.
- Consult the local retailer authorized to distribute this type of product or an experienced radio/TV technician for

For Canadian customers

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

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

□ NOTE ON USE / OBSERVATIONS RELATIVES A L'UTILISATION



Allow for sufficient heat dispersion when

Tenir compte d'une dispersion de chaleur

suffisante lors de l'installation sur une

Avoid high temperatures.

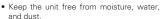
Eviter des températures élevées.

installed in a rack.

étagère.







Protéger l'appareil contre l'humidité, l'eau et la poussière.



 Do not let foreign objects into the unit. Ne pas laisser des obiets étrangers dans l'appareil





- · Unplug the power cord when not using the unit for long periods of time.
- Débrancher le cordon d'alimentation lorsque l'appareil n'est pas utilisé pendant de longues périodes.
- Do not let insecticides, benzene, and thinner come in contact with the unit.
- Ne pas mettre en contact des insecticides. du benzène et un diluant avec l'appareil.



- Handle the power cord carefully. Hold the plug when unplugging the cord.
- Manipuler le cordon d'alimentation avec précaution.

Tenir la prise lors du débranchement du

cordon.



- * (For apparatuses with ventilation holes)
- · Do not obstruct the ventilation holes.
- · Ne pas obstruer les trous d'aération.



- Never disassemble or modify the unit in any way.
- Ne jamais démonter ou modifier l'appareil d'une manière ou d'une autre.

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Specifications

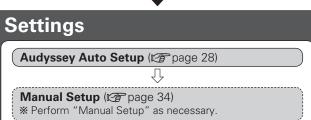
List of preset codes End of this manua

Getting Started

Flow of Operations Through **Playback**

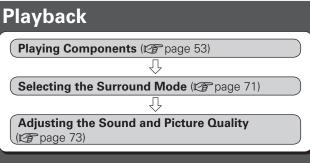
Perform the operations leading to playback on the AVR-4310Cl in the order shown below.

Connections Installing/Setting the Speakers (@page 11) Speaker Connections (page 13) Connecting Devices (© page 14) Turning the Power On (page 24)





Source Select (P page 46)



Cautions on Handling

Before turning the power switch on

Check once again that all connections are correct and that there are no problems with the connection cables.

• Power is supplied to some of the circuitry even when the unit is set to the standby mode. When traveling or leaving home for long periods of time, be sure to unplug the power cord from the power outlet.

About condensation

If there is a major difference in temperature between the inside of the unit and the surroundings, condensation (dew) may form on the operating parts inside the unit, causing the unit not to operate

If this happens, let the unit sit for an hour or two with the power turned off and wait until there is little difference in temperature before using the unit.

Cautions on using mobile phones

Using a mobile phone near this unit may result in noise. If so, move the mobile phone away from this unit when it is in use.

Moving the unit

Turn off the power and unplug the power cord from the power

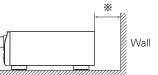
Next, disconnect the connection cables to other system units before moving the unit.

 Note that the illustrations in these instructions may differ from the actual unit for explanation purposes.

Cautions on Installation

For proper heat dispersal, do not install this unit in a confined space, such as a bookcase or similar enclosure.





Preparations

Thank you for purchasing this DENON product. To ensure proper operation, please read this owner's manual carefully before using the product.

After reading them, be sure to keep them for future reference.

Accessories

Check that the following parts are supplied with the product.

① Owner's manual 1 ② Getting started 1 ③ Warranty (for North America model only) 1 ④ Service station list 1 ⑤ Power cord (Cord length: Approx. 6.2 ft / 1.9 m) 1 ⑥ Main remote control unit (RC-1116) 1 ⑦ LR6/AA batteries (for RC-1116) 2 ⑧ Sub remote control unit (RC-1121) 1 ⑨ R03/AAA batteries (for RC-1121) 2 ⑩ AM loop antenna (for HD Radio broadcasts) 1 ① Dipole antenna (for HD Radio broadcasts) 1 ① Setup microphone (DM-A409, Cord length: Approx. 25 ft / 7.6 m) 1		
5	6	8
10	11	

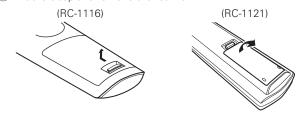
Insert Batteries in the Remote Control Unit

In addition to the AVR-4310Cl, the included main remote control unit (RC-1116) can also be used to operate the equipment listed below.

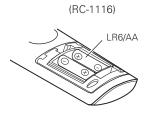
- ① DENON system components
- 2 Non-DENON system components
- To operate component products other than DENON, you must set the preset code (**Page 90 "Presetting").
- When using component products other than DENON, if you cannot set the preset code, use the learning function (EF) page 94 "Learning Function").

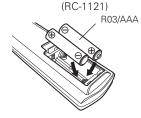
Inserting the Batteries

1) Lift the clasp and remove the rear lid.



② Load the two batteries properly as indicated by the marks in the battery compartment.





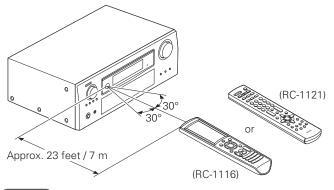
(3) Put the rear cover back on

NOTE

- Insert the specified batteries in the remote control unit.
- Replace the batteries with new ones if the set does not operate even when the remote control unit is operated close to the unit. (The supplied batteries are only for verifying operation.)
- When inserting the batteries, be sure to do so in the proper direction, following the "⊕" and "⊖" marks in the battery compartment.
- To prevent damage or leakage of battery fluid:
- Do not use a new battery together with an old one.
- Do not use two different types of batteries.
- Do not attempt to charge dry batteries.
- Do not short-circuit, disassemble, heat or dispose of batteries in flames.
- If the battery fluid should leak, carefully wipe the fluid off the inside of the battery compartment and insert new batteries.
- Remove the batteries from the remote control unit if it will not be in use for long periods.
- Used batteries should be disposed of in accordance with the local regulations regarding battery disposal.

Operating Range of the Remote Control Unit

Point the remote control unit at the remote sensor when operating it.



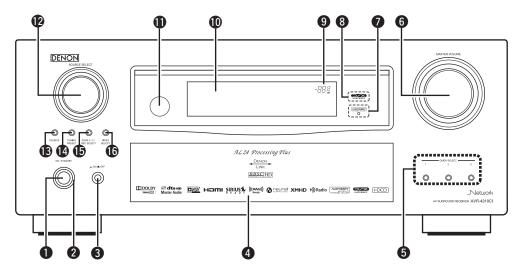
NOTE

The set may function improperly or the remote control unit may not operate if the remote control sensor is exposed to direct sunlight, strong artificial light from an inverter type fluorescent lamp or infrared light.

Part Names and Functions

Front Panel

For buttons not explained here, see the page indicated in parentheses ().



Power operation button(24)	
Power indicator (24)	
Power switch(24)	

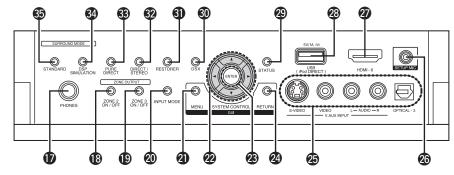
4 Door

When you are using buttons and/or terminals behind the door, press the bottom of the door to open it. When not using buttons and/or terminals behind the door, close it. Be careful not to catch your fingers when closing the door.



5 QUICK SELECT buttons (82)
6 MASTER VOLUME control knob (70)
7 AUDYSSEY
DYNAMIC VOLUME indicator (75)
3 AUDYSSEY DSX indicator (76)
Master volume indicator
(1) Display
Remote control sensor(3)
SOURCE SELECT knob(27)
1 SOURCE button (27)
1 TUNING PRESET button (58, 59, 61)
(B) ZONE 2/3 / REC SELECT button (80, 87)
(48) VIDEO SELECT button

[With the door open]

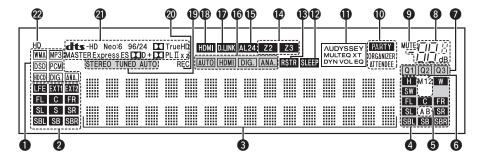


Headphones jack	(70)
_	
B ZONE2 ON/OFF button	(87)
② ZONE3 ON/OFF button ······	(87)
② INPUT MODE button	(49)
MENU button	(26)
② Cursor buttons (△▽< ▷)	(26)
② ENTER button	(26)
2 RETURN button	(26)
② V.AUX INPUT connectors	(20)
SETUP MIC jack	(29)

PhDMI IN connector (14)
3 USB (iPod DIRECT) port(21)
② STATUS button (78)
③ DSX button (76)
3 RESTORER button (76)
32 DIRECT/STEREO button (72)
3 PURE DIRECT button(72)
3 DSP SIMULATION button (72)
STANDARD button (71)

Part Names and Functions

Display



1 Input signal indicators

2 Input signal channel indicators

These light when digital signals are input. When playing HD Audio sources, the "It indicator lights when an extension channel (a channel other than the front, center, surround, surround back or LFE channel) is input. If there are two or more extension channels, the "It indicators light.

3 Information display

The input source name, surround mode, setting values and other information are displayed here.

4 Output signal channel indicators

5 Surround speaker indicators

These light according to the settings of the surround A and B speakers.

6 Monitor output indicators

These light according to the HDMI monitor output setting. When set to "Auto (Dual)", the indicators light according to the connection status.

QUICK SELECT indicators

- 8 Master volume indicator
- MUTE indicator

This lights when the mute mode is selected.

(D) PARTY indicators

These indicators light during party mode.

• ORGANIZER

This lights to indicate that party mode has started as Organizer.

• ATTENDEE

This lights to indicate that party mode has started as Attendee.

1 AUDYSSEY MULTEQ XT indicators

Lighting is as follows, depending on the setting of "Dynamic EQ" (Page 75) and "Dynamic Volume" (Page 76).

AUDYSSEY MULTEQ XT DYN VOL

When "Dynamic EQ" and "Dynamic Volume" are "ON".

AUDYSSEY MULTEQ XT DYN EQ

When the "Dynamic EQ" setting is "ON" and the "Dynamic Volume" setting is "OFF".

AUDYSSEY MULTEQ XT

: When "Dynamic EQ" and "Dynamic Volume" are "OFF".

SLEEP indicator

This lights when the sleep mode is selected.

(B) RESTORER indicator

This lights when the RESTORER mode is selected.

Multi zone indicators

These light when the power for the respective zone is turned on.

(AL24 indicator

This lights when AL24 Processing Plus (© page 101) is activated

16 Input mode indicators

D.LINK indicator

This lights when playing using DENON LINK connections.

(B) HDMI indicator

This lights when playing using HDMI connections.

19 Tuner reception mode indicators

These light according to the reception conditions when the input source is set to "HD Radio".

STEREO

In the FM mode, these light when receiving analog stereo broadcasts.

• TUNED

Lights when the broadcast is properly tuned in.

AUTO

These light when in the auto tuning mode.

Recording output source indicator

This lights when the REC OUT mode is selected.

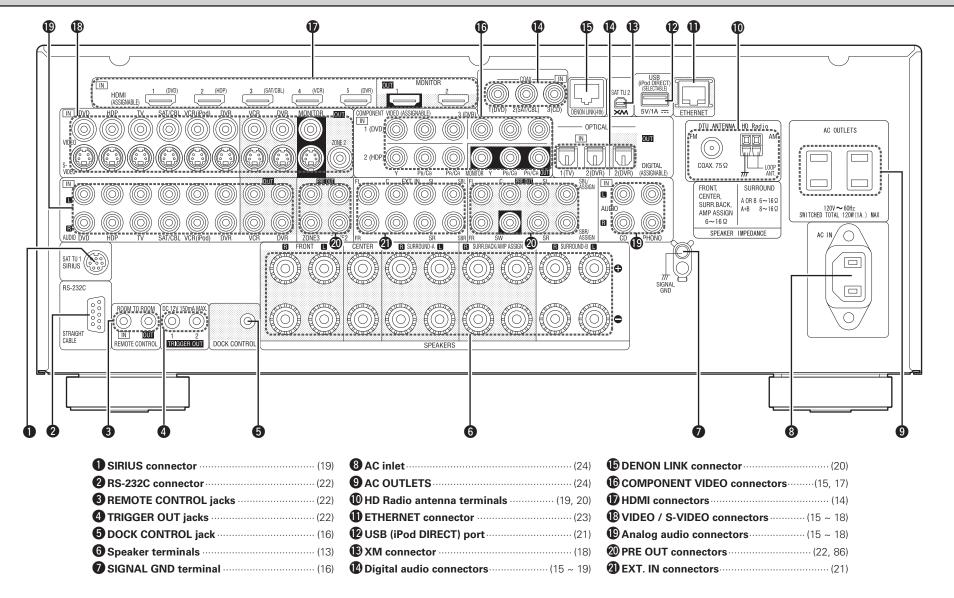
2 Decoder indicators

These light when the respective decoders are operating.

2 HD indicator

This lights during HD Radio reception.

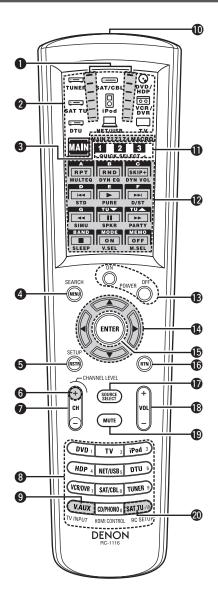
Rear Panel



Part Names and Functions

Remote Control Unit

Main Remote Control Unit (RC-1116)



1 Signal transmission indicator (89)
2 Device select buttons (89)
3 Zone indicators / MACRO indicator (89)
4 MENU / SEARCH button (26)
5 RESTORER button (76)
6 CHANNEL LEVEL button(81)
7 Channel buttons (CH)(58 ~ 61)
8 Input source select buttons (27) Number buttons (58 ~ 61, 64)
9 TV INPUT button (91)
Remote control signal transmitter(3)
1) QUICK SELECT button (82, 88) MACRO button (94)
12 Function buttons See "Operations Possible by Main Remote Control Unit" (@page 7, 8) for more information.
Power operation buttons (POWER ON / OFF)(24, 87)
1 Cursor buttons (△▽< ▷)(26)
1 ENTER button (26)
16 Return button (RTN)(26)
SOURCE SELECT button(27)
Master volume control buttons (VOL) ····· (70)
19 Muting button (MUTE)(70)
② RC SETUP button (90)
NOTE
The ZONE4 mode cannot be used.

☐ Operations Possible by Main Remote Control Unit Operations on the AVR-4310Cl

Operations on 9 devices other that the AVR-4310Cl

- Preset the remote control codes of the devices to be operated (page 90).
- The function button indicator changes depending on the Device select button you have selected.

Selected Device select button	Function button indicator	Button name
MAIN MAIN	OUICK SELECT J. 20 MULTEQ DYN EQ DYN VOL. STD PURE D/ST 26	② MULTEQ XT button (MULTEQ)
	SIMU SPKR PARTY 23 3 SLEEP V.SEL M.SEL 29	Surround mode buttons (71, 72) STANDARD button (STD) PURE DIRECT button (PURE) DIRECT / STEREO button (D/ST) DSP SIMULATION button (SIMU)
MAIN Z2	L-OWOKSELECT-1	② PARTY button (82) ③ Monitor select button (M.SEL) (37) ② Video select button (V.SEL) (48)
MAIN	3 SLEEP ON OFF	Multi-zone power buttons (87) Muiti-zone power on button (ON) Muiti-zone power off button (OFF) Device power buttons (90, 91)
MAIN Z4	ON OFF 0	 Device power on button (ON) Device power off button (OFF) System buttons (70, 90 ~ 92)
SAT/CBL SAT/CBL IPOd O DVD/ DVD/ HDD/	RPT RND SKIP+	Repeat button (RPT) Random button (RND) Disc skip up button (Skip+) Skip button (III) Play button (►) Search button (III) Stop button (III) Culck Select button (82, 88) MACRO button (94)
VCR/ DVR	ON OFF	WINACHO BUTTON (94)

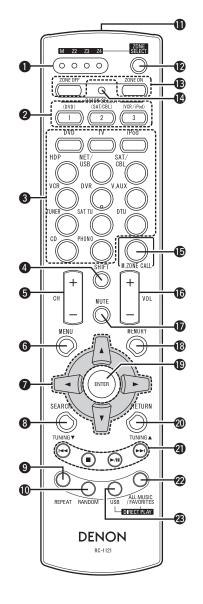
Selected Device select button	Function button indicator	Button name
TUNER SAT TU DTU NET/USB	A B S S S S S S S S S S S S S S S S S S	Tuner system buttons

- ☐ Multi-zone (ZONE2 / ZONE3) operations (☐ page 86)
- ☐ Punch through setting (☐ page 95)



The time for which the backlight stays on can be changed (F) page 95 "Setting the Time the Backlight Stays Lit").

Sub Remote Control Unit (RC-1121)



20NE indicators(98)
2 QUICK SELECT buttons (82, 88)
3 Input source select buttons (97)
4 SHIFT button (57 ~ 59, 97)
5 CHANNEL button (97)
6 MENU button (88, 97)
7 Cursor buttons (△▽◁ ▷)(97)
3 SEARCH button (70, 97)
9 REPEAT button (70, 97)
(70, 97)
Remote control signal transmitter(3)
2ONE SELECT button (98)
② Zone power on/off buttons (87)
Advanced setup button(98)
MAIN ZONE call button(98)
Master volume control buttons (87)
Muting button (MUTE)(87)
13 MEMORY button(97)
19 ENTER button (97)
RETURN button (97)
② System buttons(97)
22 ALL MUSIC/FAVORITES
(DIRECT PLAY) button(97)
3 USB (DIRECT PLAY) button (66, 97)

Connections

Important Information

Connections for all compatible audio and video signal formats are described in this owner's manual. Please select the types of connections suited for the equipment you are connecting.

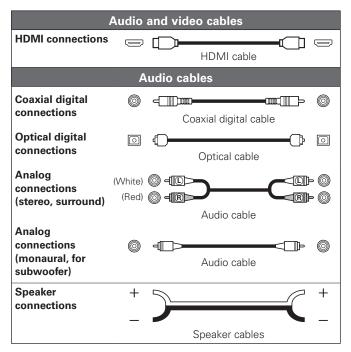
After connections are completed, certain settings must be made on the receiver. Make the settings indicated "Set as Necessary for the individual items."

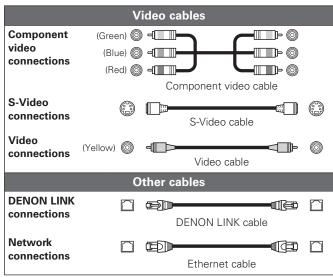
NOTE

- Do not plug in the power cord until all connections have been completed.
- When making connections, also refer to the operating instructions of the other components.
- Be sure to connect the left and right channels properly (left with left, right with right).
- Do not bundle power cords together with connection cables. Doing so can result in humming or noise.

Cables Used for Connections

Select the cables (sold separately) according to the equipment being connected.





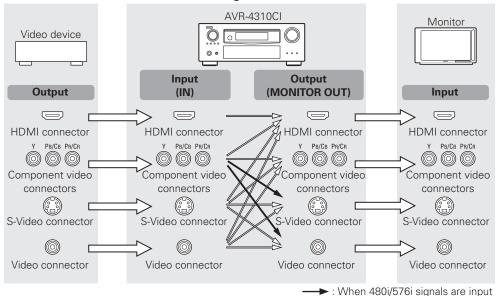
Converting Input Video Signals for Output (Video Conversion Function)

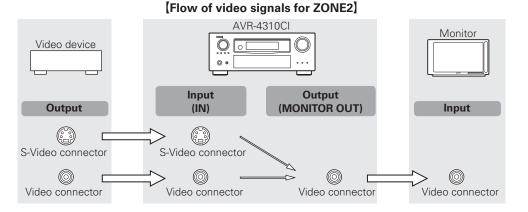
The AVR-4310Cl has 4 different types of video input/output terminal (HDMI, Component video, S-Video, Video).

Use the terminals according to the devices to be connected.

This function automatically converts various formats of video signals input to the AVR-4310Cl into the format used to output the video signals from the AVR-4310Cl to a monitor. (@page 107 "Relationship Between Video Signals and Monitor Output").

(Flow of video signals for MAIN ZONE)





Set as Necessary

- Set when using the video conversion function.
- "Video Convert" (Pr page 49)
- Set when changing the resolution of the video signal.
- "Resolution" (@page 49)



Resolutions of HDMI-compatible TVs can be checked at "HDMI Information" - "Monitor1" or "Monitor2" (Pp page 78).

NOTE

- HDMI signals cannot be converted into analog signals.
- When a non-standard video signal from a game machine or some other source is input, the video conversion function might not operate.
- 480p/576p/1080i/720p/1080p component video input signals cannot be converted into S-Video or Video format.

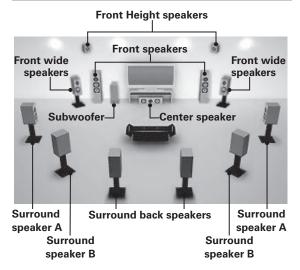
Installing / Setting the Speakers

- The AVR-4310Cl is compatible with various types of surround playback.
- Decide on the surround modes to be played on the AVR-4310Cl before making connections and settings.

1 Determine the Speaker Layout

Below we introduce examples of speaker layouts. Refer to these to arrange your speakers according to their type and how you want to use them.

Installing All the Speakers

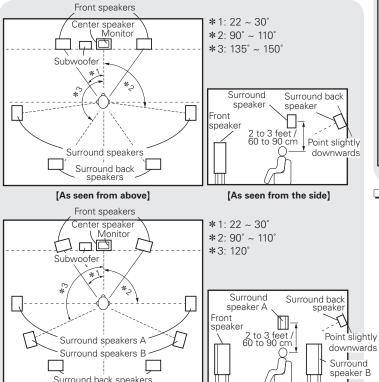


NOTE

- It is not possible to use the surround back speakers, front height speakers and front wide speakers simultaneously.
- Connect the surround speakers for watching movies to the surround A terminals, and the surround speakers for multichannel audio listening to the surround B terminals.
- The same surround signals are output from the surround A and surround B terminals.

☐ When 7.1ch (Front Height Speaker) Connected Front height speakers Front speakers *1: 22° ~ 30° Center speaker *2: 22° ~ 45° *3: 90° ~ 110° Monitor Subwoofer Point slightly downwards Surround Front height speaker speaker Front speaker 2 to 3 feet / 60 to 90 cm Surround speakers [As seen from the side] [As seen from above]

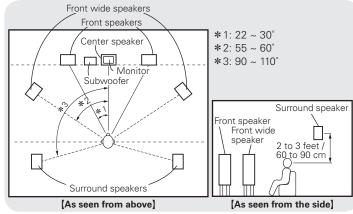
☐ When 7.1ch (Surround Back Speaker) Connected



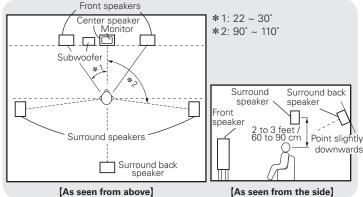
(As seen from the side)

[As seen from above]

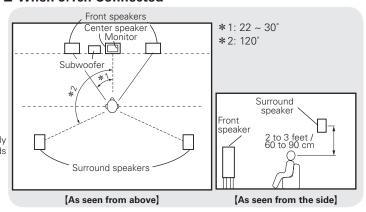
☐ When 7.1ch (Front Wide Speaker) Connected



☐ When 6.1ch (Surround Back Speaker) Connected



□ When 5.1ch Connected



2 Set the "Amp Assign" Mode According to the Speaker Layout

The signals output from the AVR-4310Cl's SURR. BACK/AMP ASSIGN speaker terminals can be switched (1287 page 34 "Amp Assign").

Amp assign mode (௴ page 34)

Normal

SURR. BACK / **AMP ASSIGN** Speaker connections

Example of speaker installation (Number of channels played)



Surround Back L Speaker

Surround Back

Speakers

Normal

* Connect to the "L" speaker terminal. ★ Set "Surround Back" (Pr page 35) to "1spkr".



Not connected

Normal

ZONE2

(Default)

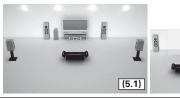
* Set "Surround Back" (Pp page 35) to "None".

ZONE2 speakers



MAIN ZONE

ZONE2



MAIN ZONE

ZONE3

(2)

ZONE3

ZONE3 speakers



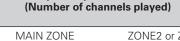
Amp assign mode (**©** page 34)

SURR. BACK / **AMP ASSIGN** Speaker connections

ZONE (MONO)

ZONE2 speaker

ZONE3 speaker



Example of speaker installation

ZONE2 or ZONE3 (5.1) (1)

Bi-Amp

Front Speakers

★ For a contact of the contact connections. "About Bi-amp Connections" (page



2CH

Exclusively for 2-channel playback Front Speakers



Multi channel

DIRECT/ **STEREO**

 \Leftrightarrow Switching (2)

Front Height

Front Height Speakers

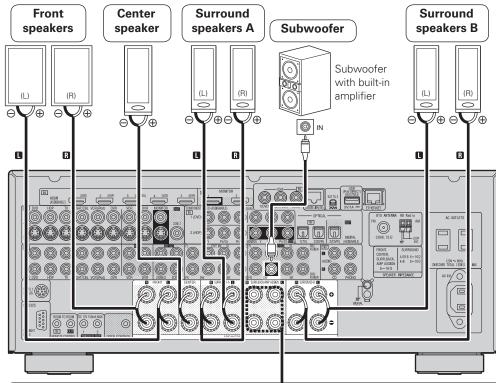


Front Wide

Front Wide Speakers



Speaker Connections



For connections of the SURR. BACK/AMP ASSIGN speaker terminals, see "Set the "Amp Assign" Mode According to the Speaker Layout" (@ page 12).

Protection Circuit

If the core wires touch the rear panel and the screws etc., or the \pm sides touch each other, the protection circuit will be activated and the power indicator will flash red at intervals of 0.5 secs.

If the protection circuit is activated, the speaker output is isolated, and the power supply goes to the standby state. If the power supply is turned off, after the power supply cord is withdrawn, please confirm that speaker cable and input cable are connected.

Also, if replaying large sound levels by using a speaker having an impedance less than that specified (eg, 4Ω /ohms), the temperature will rise, and the protection circuit might be activated. The power supply will go into the standby state, and the power indicator will flash red at 2 second intervals.

In this case, please switch off the power supply, and wait until the AVR-4310Cl has cooled down, and the surrounding ventilation is good.

Even if there are no problems with the surrounding ventilation and connections, in the event of the protection circuit becoming activated, due to thinking that the AVR-4310Cl has failed, please contact DENON Service center after switching off.

Connecting the Speaker Cables

Carefully check the left (L) and right (R) channels and + (red) and - (black) polarities on the speakers being connected to the AVR-4310Cl, and be sure to interconnect the channels and polarities correctly.

Peel off about 0.03 ft/10 mm of sheathing from the tip of the speaker cable, then either twist the core wire tightly or terminate it.



2 Turnthespeaker terminal counterclockwise to loosen it.



3 Insert the speaker cable's core wire to the hilt into the speaker terminal.



4 Turn the speaker terminal clockwise to tighten it.



☐ When using a banana plug

Tighten the speaker terminal firmly before inserting the banana plug.



Use speakers with an impedance of 6 to 16 Ω / ohms. When using surround A and B speakers simultaneously, use speakers with an impedance of 8 to 16 Ω /ohms.

NOTE

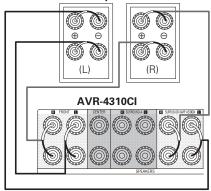
- Connect so that the speaker cable core wires do not protrude from the speaker terminal. The protection circuit may be activated if the core wires touch the rear panel or if the + and – sides touch each other (☼ "Protection Circuit").
- Never touch the speaker terminals while the power supply is connected. Doing so could result in electric shock.

About Bi-amp Connections

These connections make for higher quality playback sound with no interference between the signals of the bass and treble units.

When the "Amp Assign" setting (P page 34) is "Bi-Amp", connect as follows.

Front speakers





When making a bi-amp connection, the same signal is output from the front speaker terminal and the SURR.BACK/AMP ASSIGN terminal.

NOTE

- Use speakers compatible with bi-amp connections.
- When making bi-amp connections, be sure to remove the short-circuiting plate or wire between the speaker's woofer and tweeter terminals.

Connecting Devices

Connecting Devices (page 14)

☐ Connecting Devices Equipped with HDMI **Terminals**

(摩 page 14)

☐ Connecting the Monitor (@ page 15)

☐ Connecting the Playback Components

- Blu-ray Disc Player / DVD Player (@page 15)
- Control dock for iPod (P) page 16)
- CD Player (Page 16)
- Record Player (Page 16)

☐ Connecting the Recording Components

- Digital Video Recorder (Propage 17)
- Video Cassette Recorder (page 17)

□ Connect the Tuner

- TV (₽₽ page 18)
- Satellite Receiver / Cable Tuner (page 18)
- XM (Ppage 18)
- SIRIUS (Page 19)
- HD Radio (Page 19)

□ Connections to Other Devices

- Components Equipped with a DENON LINK connector (**₽** page 20)
- Video Camera / Game Console (@page 20)
- USB Port (Pr page 21)
- Component with Multi-channel Output connectors (P page 21)
- External Power Amplifier (Page 22)
- External Controller (@page 22)
- ☐ Connecting to a Home Network (LAN) (☐ page 23)

Connecting Devices Equipped with HDMI Terminals

Important Information

□ About HDMI

"HDMI" is the abbreviation of "High Definition Multimedia Interface". This interface allows transfer of digital video signals and digital audio signals over a single HDMI cable.

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

☐ Functions Usable with HDMI Connections

Deep Color

Eliminates on-screen color banding, for smooth tonal transitions and subtle gradations between colors. Enables increased contrast ratio.

x.v.Color

Lets HDTVs display colors more accurately. Enables displays with natural, vivid colors. "x.v.Color" is a Sony registered trademark.

Auto Lip Sync (Pr page 37)

If you connect the receiver to a TV that supports the Auto Lip Sync function, it can automatically correct delay between the audio and video.

HDMI Control Function (page 80)

This function allows you to operate external devices from the receiver and operate the receiver from external devices.

NOTE

- These functions will not work if the device connected to the HDMI terminal does not support Deep Color or x.v.Color signal transfer or the Auto Lip Sync function.
- The HDMI control function may not work depending on the device it is connected to and its settings.
- You cannot operate a TV or Blu-ray Disc player / DVD player that is not compatible with the HDMI control function.

☐ Copyright Protection System (HDCP)

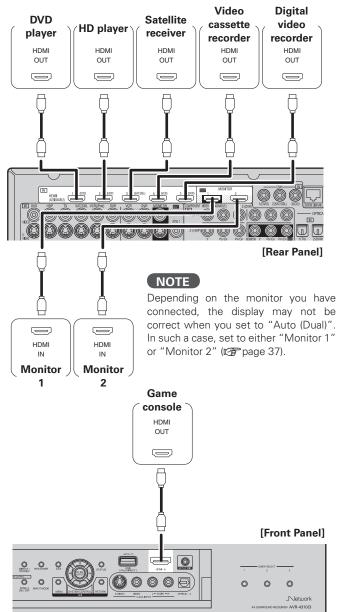
The AVR-4310Cl supports HDCP (High-bandwidth Digital Contents Protection). HDCP is a copyright protection technology for digital video signals. The devices connected to the AVR-4310Cl must also support HDCP.

NOTE

When a device that does not support HDCP is connected, video signals are not properly output.

Connections

The AVR-4310Cl allows connection of inputs from up to 6 HDMI devices and output to 2 monitors.



Connecting Devices



- Use a cable on which the HDMI logo is indicated (a certified HDMI product) for connection to the HDMI connector. Normal playback may not be possible when using a cable other than one on which the HDMI logo is indicated (a non-HDMI-certified product).
- When the AVR-4310Cl is connected to other devices with HDMI cables, also connect the AVR-4310Cl and TV using an HDMI cable.
- When a device supporting Deep Color signal transfer is connected, use a cable compatible with HDMI version 1.3a.
- Video signals are not output if the input video signals do not match the monitor's resolution. In this case, switch the Blu-ray Disc/ DVD player's resolution to a resolution with which the monitor is compatible.

NOTE

- If the GUI menu "HDMI Audio Out" setting (Paragraph page 37) is set to "Amp", the sound may be interrupted when the monitor's power is turned off.
- The audio signal from the HDMI output terminal (sampling frequency, number of channels, etc.) may be limited by the HDMI audio specifications of the connected device regarding permissible inputs.

☐ Connecting to a Device Equipped with a DVI-D Terminal

When an HDMI/DVI conversion cable (sold separately) is used, the HDMI video signals are converted to DVI signals, allowing connection to a device equipped with a DVI-D terminal.

NOTE

- No sound is output when connected to a device equipped with a DVI-D terminal. Also make the audio connections.
- Signals cannot be output to DVI-D devices that do not support HDCP.
- Depending on the combination of devices, the video signals may not be output.

Settings Related to HDMI Connections

Set as necessary. For details, see the respective reference pages.

☐ Input Assign (☐ page 46)

Set this to change the HDMI input terminal to which the input source is assigned.

☐ **HDMI Setup** (☐ page 37)

Make settings for HDMI video/audio output.

- RGB Range
- HDMI Audio Out
- Vertical Stretch
- Monitor Out
- Auto Lip Sync
- HDMI Control

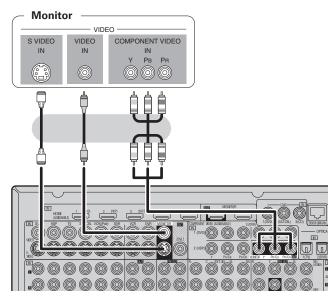
NOTE

The audio signals output from the HDMI connectors are only the HDMI input signals.

Connecting the Monitor

- Select the terminal to use and connect the device.
- For video connections, see "Converting Input Video Signals for Output (Video Conversion Function)" (Pp page 10).

For instructions on HDMI connections, see "Connecting Devices Equipped with HDMI Terminals" on page 14.





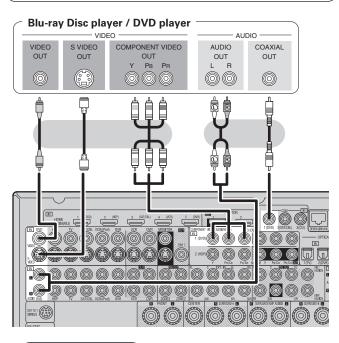
To listen to TV audio through this device, use the optical digital or analog connection.

Connecting the Playback Components

Blu-ray Disc Player / DVD Player

Select the terminal to use and connect the device.

For instructions on HDMI connections, see "Connecting Devices Equipped with HDMI Terminals" on page 14.



Set as Necessary

Set this to change the input signal to which the input source is assigned.

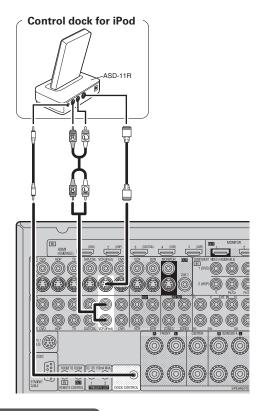
"Input Assign" (F page 46)

NOTE

In the case of HD audio (Dolby TrueHD, DTS-HD and Dolby Digital Plus and DTS Express) audio playback, connect with HDMI (@page 14, "Connecting Devices Equipped with HDMI Terminals").

Control Dock for iPod

Use a DENON control dock for iPod (ASD-1R or ASD-11R, sold separately) to connect the iPod to the AVR-4310Cl. For instructions on the control dock for iPod settings, refer to the control dock for iPod's operating instructions.



Set as Necessary

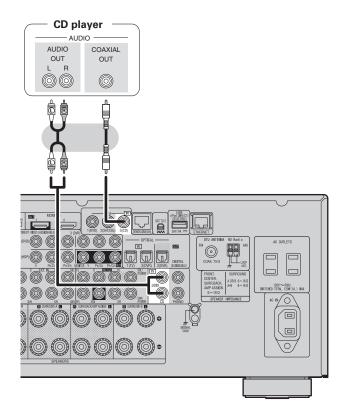
Set other than when iPod is assigned to the VCR (iPod) terminal. "Input Assign" - "iPod dock" (@ page 48)



- With the default settings, the iPod can be used connected to the VCR (iPod) connector.
- You can also connect the iPod you are using directly to the USB port of the AVR-4310CI (page 21 "USB Port").

CD Player

Select the terminal to use and connect the device.

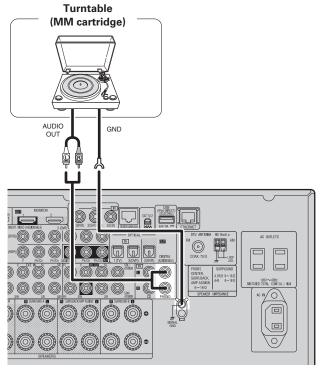


Set as Necessary

Set this to change the input signal to which the input source is assigned.

"Input Assign" (P page 46)

Record Player





- The AVR-4310Cl is compatible with record players with an MM cartridge. When you connect to a record player with an MC cartridge, use a commercially available MC head amp or a step-up transformer.
- When you increase the volume without connecting the record player, there may be "booming" noise from the speakers.

NOTE

The SIGNAL GND terminal of the AVR-4310Cl is not a safety ground connection. Connect it to reduce noise when noise is excessive. Note that depending on the record player, connecting the ground line may have the reverse effect of increasing noise. In this case, it is not necessary to connect the ground line.

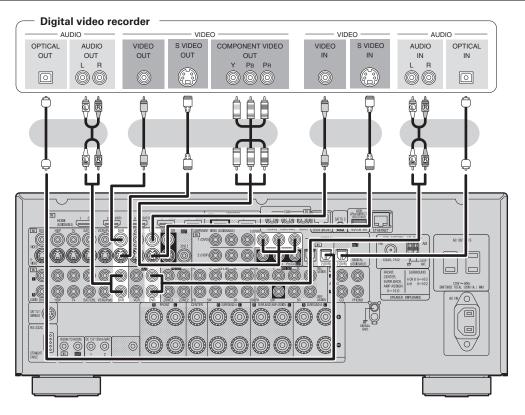
Connecting Devices

Connecting the Recording Components

Digital Video Recorder

Select the terminal to use and connect the device.

For instructions on HDMI connections, see "Connecting Devices Equipped with HDMI Terminals" on page 14.



Set as Necessary

Set this to change the input signal to which the input source is assigned.

"Input Assign" (@page 46)

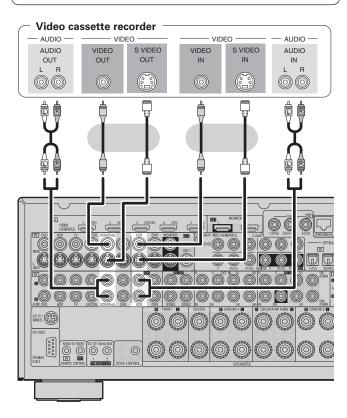
NOTE

- To record video signals through the AVR-4310Cl, use the same type of video cable for connection between the AVR-4310Cl and the player as the cable used for connection between the AVR-4310Cl and the recorder.
- Do not connect the output of the component connected to the AVR-4310Cl's OPTICAL2 (DVR) output connector to any input connector other than OPTICAL2 (DVR).

Video Cassette Recorder

Select the terminal to use and connect the device.

For instructions on HDMI connections, see "Connecting Devices Equipped with HDMI Terminals" on page 14.



Set as Necessary

Set this to change the input signal to which the input source is assigned.

"Input Assign" (F page 46)

NOTE

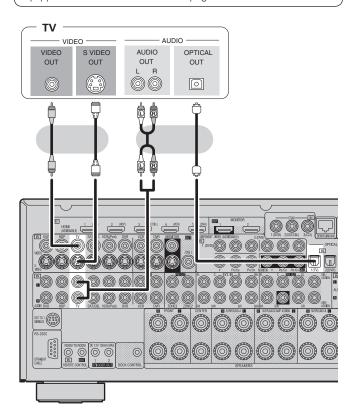
To record video signals through the AVR-4310Cl, use the same type of video cable for connection between the AVR-4310Cl and the player as the cable used for connection between the AVR-4310Cl and the recorder.

Connect the Tuner

TV

Select the terminal to use and connect the device.

For instructions on HDMI connections, see "Connecting Devices Equipped with HDMI Terminals" on page 14.



Set as Necessary

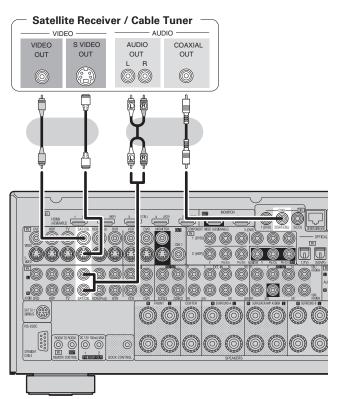
Set this to change the input signal to which the input source is assigned.

"Input Assign" (@page 46)

Satellite Receiver / Cable Tuner (Set Top Box)

Select the terminal to use and connect the device.

For instructions on HDMI connections, see "Connecting Devices Equipped with HDMI Terminals" on page 14.



Set as Necessary

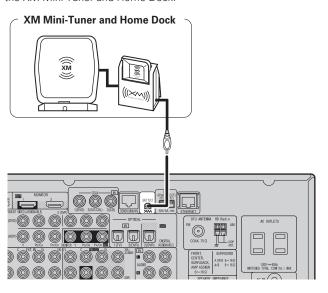
Set this to change the input signal to which the input source is assigned.

"Input Assign" (@page 46)

XM Connector

- The AVR-4310Cl is an XM Ready® receiver. You can receive XM® Satellite Radio by connecting to the XM Mini-Tuner and Home Dock (includes home antenna, each sold separately) and subscribing to the XM service.
- Plug the XM Mini-Tuner and Home Dock into the XM connector on the rear panel.
- Position the Home Dock antenna near a south-facing window to receive the best signal.

For details, see "Listening to XM Satellite Radio" (page 57). When making connections, also refer to the operating instructions of the XM Mini-Tuner and Home Dock.



Keep the power cord unplugged until the XM Mini-Tuner and Home Dock connection have been completed.

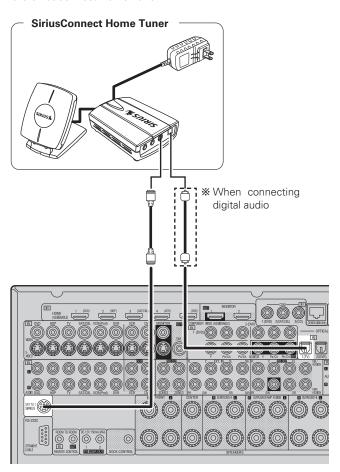
SIRIUS, XM and all related marks and logos are trademarks of Sirius XM Radio Inc. and its subsidiaries. All rights reserved. Service not available in Alaska and Hawaii.

Connecting Devices

SIRIUS Connector

- The AVR-4310Cl is a SIRIUS Satellite Radio Ready[®] receiver. You can receive SIRIUS[®] Satellite Radio by connecting to the SiriusConnect Home Tuner and subscribing to the SIRIUS service.
- Plug the SIRIUS connector on the SIRIUS service.
- Position the Home Tuner antenna near a south-facing window to receive the best signal.

For details, see "Listening to SIRIUS Satellite Radio" (@ page 58). When making connections, also refer to the operating instructions of the SiriusConnect Home Tuner.



Set as Necessary

When connecting digital of the SiriusConnect Home Tuner, perform the setting "Digital".

"Input Assign" (@page 47)

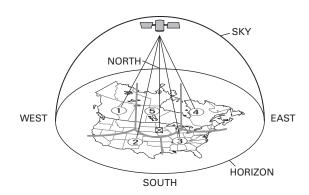
NOTE

Keep the power cord unplugged until the SiriusConnect Home Tuner connection have been completed.

SIRIUS, XM and all related marks and logos are trademarks of Sirius XM Radio Inc. and its subsidiaries. All rights reserved. Service not available in Alaska and Hawaii.

□ Positioning the Antenna

For a consistent satellite signal, the antenna must be positioned correctly. Use the following map to determine which area you are in and position the antenna accordingly.



- **Area 1**: Point the antenna toward the sky in the **east**, **northeast**, or **southeast**, either through a window or outside.
- **Area 2**: Point the antenna toward the sky in the **north** or **northeast**, either through a window or outside.
- **Area 3**: Point the antenna toward the sky in the **north** or **northwest**, either through a window or outside.
- Area 4: Point the antenna toward the sky in the west, northwest, or southwest, either through a window or outside.
- **Area 5**: Put the antenna outside and point it **straight up**. The antenna cannot be used indoors.

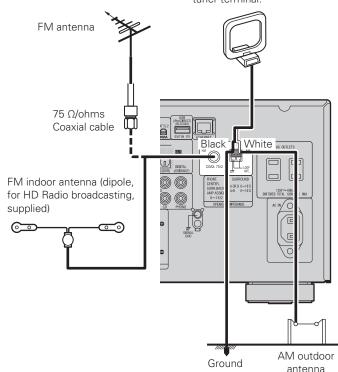
HD Radio Terminals

Direction of broadcasting station

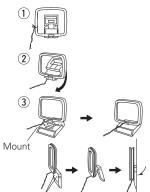
HD Radio is a service that is only available within the United States.

AM loop antenna (for HD Radio broadcasting, supplied)

 To prevent interference, install at least 3.3 feet/ 1 m away from the antenna connected to the AVR-4310Cl's other AM tuner terminal.



☐ AM loop antenna assembly



Remove the vinyl tie and take out the connection line.

Bend in the reverse direction.

- a. With the antenna on top of any stable surface.
- b. With the antenna attached to a wall.

2. Insert the conductor. 3. Return the lever.

Connection of AM antennas

• Even if an external AM antenna is used, do not disconnect the AM

• Make sure the AM loop antenna lead terminals do not touch metal

• Do not connect two FM antennas simultaneously.

Installation hole Mount on wall, etc.

1. Push the lever.

NOTE

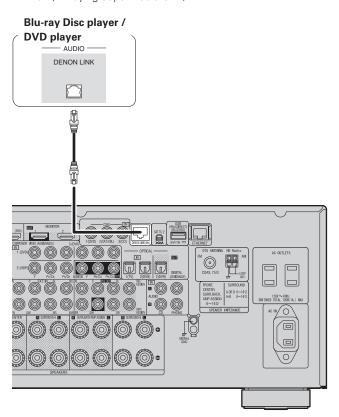
loop antenna.

parts of the panel.

Connections to Other Devices

Components Equipped with a DENON LINK Connector

Multi-channel playback is possible with BD, Super Audio CD, etc. ray Disc Player Compatible with DENON LINK 4th", "Playing Super Audio CD").



Set as Necessary

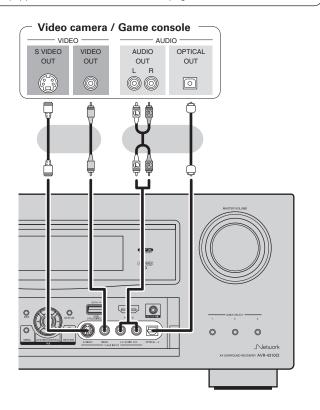
When connecting by use of DENON LINK, set "Digital" to "D.LINK".

"Input Assign" (@page 47)

Video Camera / Game Console

Select the terminal to use and connect the device.

For instructions on HDMI connections, see "Connecting Devices Equipped with HDMI Terminals" on page 14.



Set as Necessary

Set this to change the input signal to which the input source is

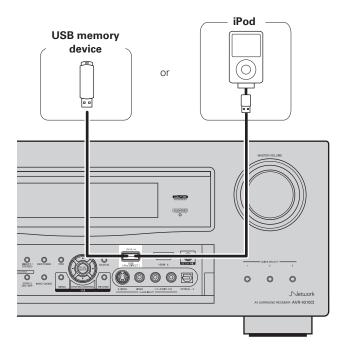
"Input Assign" (@page 46)

Connecting Devices

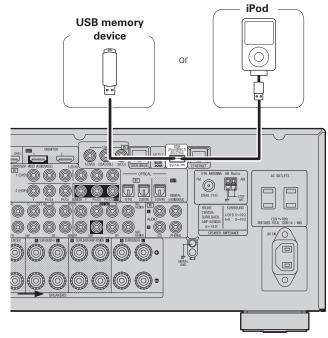
USB Port

When you connect an iPod or USB memory device to the USB port, you can enjoy music, etc., stored on the iPod or USB memory device.

☐ Front panel



☐ Rear panel



Set as Necessary

Set when you change the USB port for use. "USB Select" (@page 51)



- In the initial status, USB memory devices can be used by connecting them to the USB port on the front panel.
- To connect an iPod to the AVR-4310Cl, use the USB cable supplied with the iPod.
- When you want to playback a movie file stored on the iPod, use the DENON control dock for iPod (ASD-11R or ASD-1R, sold separately) (rappage 16 "Control Dock for iPod").
- For iPods, playback is possible on iPod touch, classic and nano sold from generation 5 on. For details, check the Web or page 55.

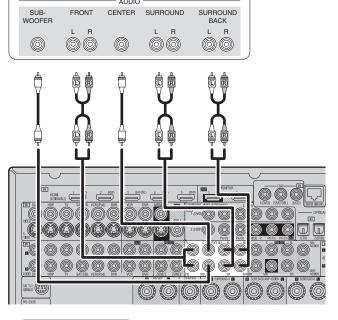
NOTE

- You cannot use the USB port on the front panel and rear panel simultaneously. Select and connect the USB port you are to use.
- Do not use an extension cable when connecting a USB memory device. This may cause radio interference with other devices.

Component with Multi-channel Output connectors

The video signal can be connected in the same way as a Blu-ray Disc player / DVD player (@page 15 "Blu-ray Disc Player / DVD Player").





Set as Necessary

To play analog signals input from the external input (EXT. IN) terminal, set "Input Mode" (P page 49) to "EXT. IN". "EXT. IN" can also be selected with INPUT MODE on the main

unit.

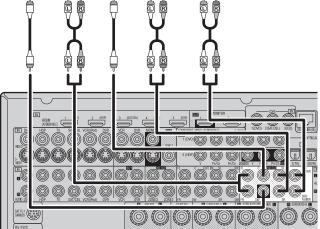


When a device is connected to the SBL/SBR terminal of the external input terminals (EXT. IN), set "Amp Assign" (Page 34) to "Normal".

External Power Amplifier

- Select the terminal to use and connect the device.
- Connect when using an external power amp or an amp you already have.







- When using just one surround back speaker, connect it to the left channel (L).
- Use the volume control on the subwoofer to control subwoofer volume.
- If the subwoofer volume sounds low, use the volume control provided on the subwoofer to adjust the volume.

NOTE

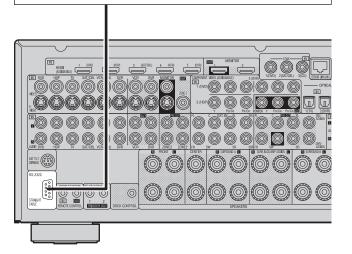
- When speakers have been connected to PRE OUT terminals, do not connect the speakers to the speaker terminals.
- The channel output from the PRE OUT SBL and SBR terminals changes depending on the "Amp Assign" setting (1287) page 34).

External Controller

☐ RS-232C connector

When you connect an external control device, you can control the AVR-4310Cl with the external control device. Perform the operation below beforehand.

- 1) Turn on the AVR-4310Cl's power.
- ② Turn off the AVR-4310Cl's power from the external controller.
- 3 Check that the AVR-4310Cl is in the standby mode.



Set as Necessary

Set this to use the RS-232C connector for the DENON RF remote controller.

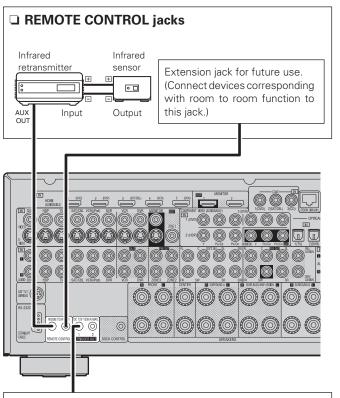
"232C Port" (@page 44)



When using the AVR-4310Cl in combination with the DENON RF remote controller (RC-7000Cl, sold separately) or RF remote receiver (RC-7001RCl, sold separately), two-way communication is enabled. The AVR-4310Cl's status information as well as iPod and Internet audio music files can be browsed watching the RF Remote Controller's display. For details, refer to the operating instructions of the respective devices.

NOTE

On the GUI menu, when setting "232C Port" to "2Way Remote", you cannot use the RS-232C connector as an external controller (27 page 44).



☐ TRIGGER OUT jacks

The TRIGGER OUT output terminal outputs a maximum 12 V/150 mA electrical signal. When a device with TRIGGER IN terminal is connected via a monaural mini-plug, the connected device's power on/standby can be controlled through linked operation to the AVR-4310Cl.

Set as Necessary

Set to change the conditions for linked operation via the TRIGGER OUT 1 or TRIGGER OUT 2 terminal.

"Trigger Out1" or "Trigger Out2" (@page 44)

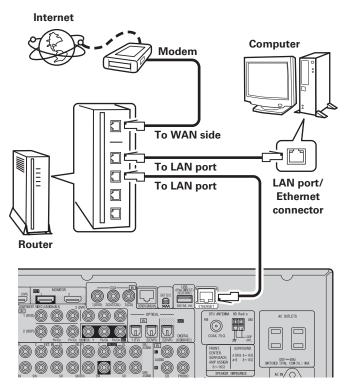


When connecting a 2nd device, connect to the TRIGGER OUT 2 terminal in the same way as the TRIGGER OUT 1 terminal.

Connecting Devices

Connecting to a Home Network (LAN)

When you connect the AVR-4310Cl to a home network, you can enjoy listening to music files stored on your PC, internet radio audio and other sources. You can also control the AVR-4310Cl from your PC via the Web browser.



For connections to the Internet, contact an ISP (Internet Service Provider) or a computer shop.

Required system

□ Broadband Internet connection

□ Modem

□ Router

When using the AVR-4310Cl, we recommend you use a router equipped with the following functions:

- Built-in DHCP server
- This function automatically assigns IP addresses on the LAN.
- Built-in 100BASE-TX switch

When connecting multiple devices, we recommend a switching hub with a speed of 100 Mbps or greater.

☐ Ethernet cable (CAT-5 or greater recommended)

Some flat type Ethernet cables are easily affected by noise. We recommend using a normal type cable.

□ Computer

[Recommended system]

• OS

Windows® XP Service Pack2 or later. Windows Vista

- Software (Prepare one of the following.)
- Windows Media Player ver.11
- DLNA-compatible server software
- Internet browser :

Microsoft Internet Explorer 6 or later

- LAN port
- 300 MB or more free disk space
- ** Operation is possible with DLNA servers other than the above, but such DLNA servers are not supported. For details, check the Web.

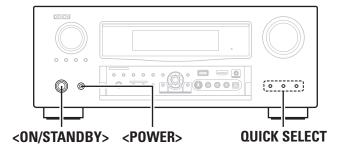
NOTE

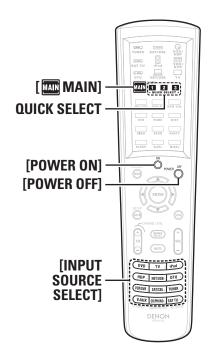
- A contract with an ISP is required to connect to the Internet.
 No additional contract is needed if you already have a broadband connection to the Internet.
- The types of routers that can be used depend on the ISP. Contact an ISP or a computer shop for details.
- Depending on the server, video files may be displayed, but they cannot be played on the AVR-4310Cl.



- If you have an Internet provider contract for a line on which network settings are made manually, make the settings at "Network Connecting" (*** page 39).
- With the AVR-4310Cl, it is possible to use the DHCP and Auto IP functions to make the network settings automatically.
- When using the AVR-4310Cl with the broadband router's DHCP function enabled, the AVR-4310Cl automatically performs the IP address setting and other settings.
- When using the AVR-4310Cl connected to a network with no DHCP function, make the settings for the IP address, etc., at "Network Connecting" (P) page 39).
- The AVR-4310Cl is not compatible with PPPoE. A PPPoE-compatible router is required if you have a contract for a line of the type with which the PPPoE is set.
- Depending on the ISP with which you have your contract, it may be necessary to make proxy server settings to use the Internet radio function. If you made proxy server settings on the computer to connect to the Internet, make the proxy server settings on the AVR-4310Cl in the same way.

Symbols used to indicate buttons in this manual Button located on both the main unit and the remote control unit -**→** BUTTON → <BUTTON> Button only on the main unit -→ [BUTTON] Button only on the remote control unit -





Connecting the Power Cord

Wait until all connections have been completed before connecting the power cord.

Connection to the AC outlet These outlets supply power to external audio equipment. · Audio equipment with a total power consumption of 120 W (1 A) can be connected. • The power supply turns on and off together with <0N/STANDBY>. When set to "ON", power is supplied from the outlet. When set to "STANDBY", no power is supplied. c IN/O/ Power cord (0) To household power (included) outlet (AC 120 V. 60 Hz)

NOTE

- Insert the AC plugs securely. Incomplete connections could cause noise.
- Only use the AC outlets to plug in audio equipment. Do not use them as power supplies for hairdryers or anything other than audio equipment.

Once Connections are Completed

Turning the Power On

1 Press < POWER>.

The power indicator lights red and the power is set to the standby mode.

Press [MAIN] to switch the main remote control unit to "MAIN" mode (page 89 "Operating the Main Remote Control Unit").

3 Press [POWER ON] or <0N/STANDBY>. The power indicator flashes green and the power

The power indicator flashes green and the power turns on.

* Also press [INPUT SOURCE SELECT] or QUICK SELECT when in standby mode, the power turns on.

When **[INPUT SOURCE SELECT]** has been pressed, the input source set with the [INPUT SOURCE SELECT] is set. If a QUICK SELECT has been pressed, the input source stored in the memory for the quick select function is set (page 82 "Saving Frequently Used Settings (Quick Select Function)").

Turning the Power Off

◄ Press [MAIN] to switch the main remote control unit to "MAIN" mode (page 89 "Operating the Main Remote Control Unit").

Press [POWER OFF] or <ON/STANDBY>. The power is set to the standby mode.

3 Press < POWER>. The power indicator t

The power indicator turns off, and so does the power.

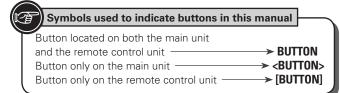
NOTE

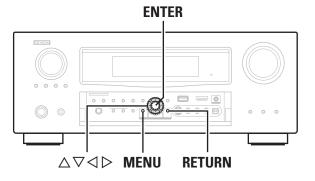
Power continues to be supplied to some of the circuitry even when the power is in the standby mode. When leaving home for long periods of time or when traveling, either press <**POWER>** to turn off the power, or unplug the power cord from the power outlet.

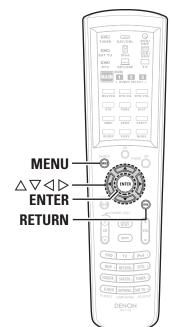
Settings



GUI





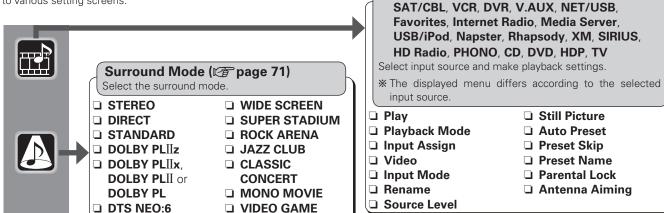


GUI Menu Map

□ neural

☐ 7CH STEREO

Pressing **MENU** displays the GUI menu. From this menu, you can move to various setting screens.

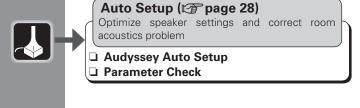


■ MATRIX

□ VIRTUAL

□ Quick Select

□ Preset Channel



Information (rapage 78) Show information about receiver settings, input signals, etc. □ Auto Surround □ Audio Input Signal Mode

□ HDMI Information

Manual Setup (page 34)

Source Select (page 46)

Make detailed settings for various parameters.

Audio/Video Adjust (page 73) Adjust various audio and video parameters.

□ Speaker Setup ☐ HDMI Setup

□ Audio Adjust

- □ Audio Setup ☐ Network Setup
- ☐ Zone Setup ☐ Option Setup
- Volume Control
- Source Delete
- GUI
- Quick Select Name
- Zone Rename
- Trigger Out 1
- Trigger Out 2

□ Option Setup (Continued)

☐ Picture Adjust

- Remote (SIRIUS/XM)
- Remote ID
- 232C Port
- Dimmer
- Setup Lock
- Maintenance Mode
- Firmware Update
- Add New Feature
- □ Language

GUI

GUI Menu Operation

- When a TV is connected to the AVR-4310Cl, the GUI menu, sound field parameters, etc., can be displayed on the TV.
- This allows you to operate the AVR-4310Cl and make settings on it while looking at the GUI menu displayed on the TV.
- Operate with the main remote control unit switched to the "MAIN" mode (125) page 89 "Operating the Main Remote Control Unit").

1 Press MENU.

The GUI menu is displayed on the TV screen.

2 Press $\triangle \nabla \triangleright$ to select the menu to be set or operated.

※ To return to the previous item, press ☐ or RETURN.

3 Press ENTER to enter the setting.

☐ Exiting the GUI Menu

Press **MENU** while the GUI menu is displayed. The GUI menu display disappears.

Example of the Display of the GUI Mark at a Title

Items for which this mark is indicated at the title can be operated from the GUI.

We recommend performing such operations from the GUI.

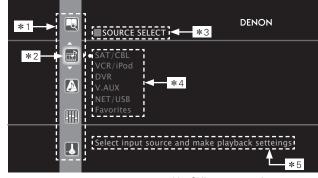
Making Detailed Settings (Manual Setup)

This is the GUI icon for this setting item or for the menu series to which this item belongs.

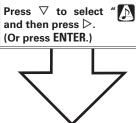
Examples of GUI Menu Screen Displays

Typical examples are described below.

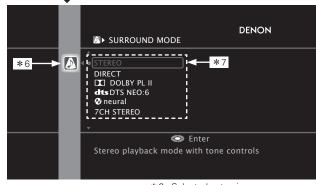
[Example 1] Menu selection screen (Top menu)



- *1: List GUI menu setup icons
- *2: Currently selected setup icon
- *3: Currently selected setup item
- *4: List of currently selected setup items
- *5: Guide text for the currently selected setup item

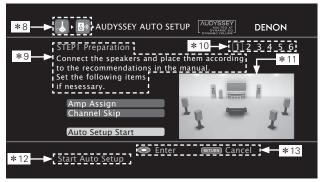


GUI



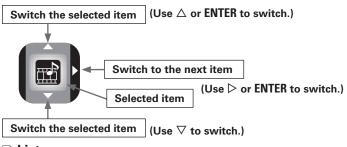
- *6: Selected setup icon
- *7: Options of the selected setup item

[Example 2] Audyssey Auto Setup screen (with illustration)

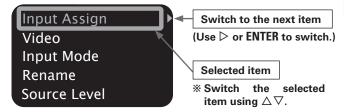


- *8 : History icon
- *9 : Operation guidance text
- * 10: Operation step indicators
- *11: Illustration
- *12: Guide text for the currently selected setup item
- *13: Operation button guidance





☐ List



GUI Menu Operation

Selecting the Input Source

There are three ways to select the input source, as described below.

- ① Selecting the input source using the Source Select menu (GUI menu)
- 2 Selecting the input source using the [SOURCE SELECT] (Main remote control unit)
- 3 Selecting the input source using the **<SOURCE SELECT>** (Main unit)

1) Using the Source Select Menu

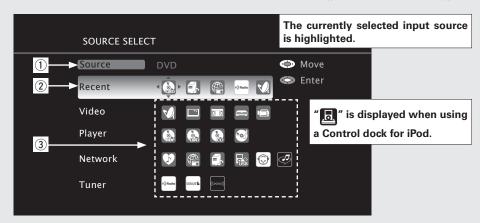
- The input source can also be selected using the source selection menu.
- Switch the main remote control unit to the "MAIN" or "MACRO" mode when performing this operation (F) page 89 "Operating the Main Remote Control Unit").

If the main remote control unit is in "ZONE2", "ZONE3" or "ZONE4" mode, the "Source Select" menu will not be displayed when **[SOURCE SELECT]** is pressed.

Press [SOURCE SELECT].

Display the "Source Select" menu.





- ① Input Source : The name of the highlighted input source is displayed.
- 2 Recently used sources: The recently used input sources (up to 5) are displayed.
- (3) Icons for the input sources in the different categories are displayed.

Player : (HDP), (DVD), (CD), (PHONO)

Network: (Favorites), (Anternet Radio), (Media Server), (USB/iPod), (Napster),

(Rhapsody)

Tuner : (XM), SIRIUS (SIRIUS), (HD Radio)

Use $\triangle \nabla \triangleleft \triangleright$ to select the input source icon, then press ENTER.

The input source is set and the source selection menu is turned off.



- Use the device selection buttons on the main remote control unit to set the device to be operated beforehand.
- When using with an iPod connected directly to the AVR-4310Cl's USB pot, select "USB/iPod" for the input source.
- Input sources that are not going to be used can be set ahead of time. Make this setting at "Source Delete" (12 page 42).
- To turn off the source selection menu without selecting an input source, press [SOURCE SELECT] again.

② Operating on the Main Remote Control Unit

Press [SOURCE SELECT].

The desired input source can be selected directly.

- ** To operate the AVR-4310Cl using the main remote control unit, set the remote control unit to the MAIN mode (**) page 89 "Operating the Connected Devices by Remote Control Unit").
- ** Pressing the VCR/DVR button and the CD/PHONO button on the main remote control unit will switch between the following.

VCR/DVR: VCR ← → DVR

CD/PHONO: CD ← → PHONO



3 Operating on the Main Unit

Turn < SOURCE SELECT>.

** If "ZONE2/3/ Rec Select", "Video Select" or "Tuning Preset" mode is selected for the input source, press **<SOURCE>** before turning the **<SOURCE SELECT>**.







The acoustic characteristics of the connected speakers and listening room are measured and the optimum settings are made automatically.

☐ Audyssey Auto Setup Flow

1 Connect the Included Setup Microphone (Page 29)



2 Audyssey Auto Setup Preparations

(摩 page 30)

- ☐ Change the Amplifier Assignment (Amp Assign) (摩 page 30)
- ☐ Set the Channels You will not Use (Channel Skip) (摩 page 30)



3 Perform Audyssey Auto Setup (@page 30)



Check the Measuring Results and Equalizer Type after Audyssey Auto Setup (Parameter Check) (Parameter Check) (Parameter Check)

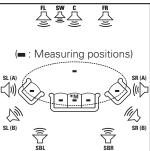
Important information

Audvssey MultEQ® XT automatically measures the acoustical problems in the listening environment to create the best audio experience for your home theater.

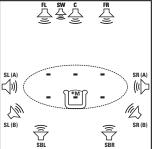
- When performing Audyssev Auto Setup, the MultEQ XT / Dynamic EQ™ / Dynamic Volume™ functions become valid (© page 75, 76).
- Use the included setup microphone (DM-A409) when performing Audyssey Auto Setup.
- Measurements are performed by placing the setup microphone successively at multiple positions throughout the entire listening area, as shown in **[Example** 1]. For best results, we recommend you measure in 6 or more positions, as shown in the illustration. Even if the listening environment is small as shown in [Example 2], measuring at multiple points throughout the listening environment results in more effective correction.

☐ When Using the Surround Back Speakers

[Example 1]

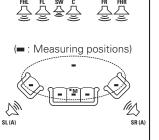


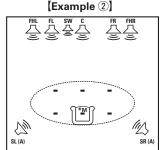
[Example 2]



■ When Using the Front Height Speakers

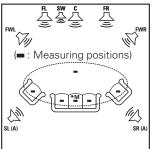
[Example 1]

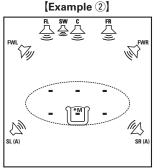




☐ When Using the Front Wide Speakers

[Example 1]





FL: Front speaker (L)

FR: Front speaker (R)

FHL: Front height speaker (L)

FHR: Front height speaker (R) **FWL**: Front wide speaker (L)

FWR: Front wide speaker (R)

C: Center speaker

SW: Subwoofer

SL (A): Surround A speaker (L) SR (A): Surround A speaker (R)

SL (B): Surround B speaker (L)

SR (B): Surround B speaker (R)

SBL: Surround back speaker (L)

SBR: Surround back speaker (R)

About the main listening position (*M)

The main listening position refers to the position where listeners would normally sit or where one would normally sit alone within the listening environment.

Audyssey MultEQ XT uses the measurements from this position to calculate speaker distance, level, polarity, and the optimum crossover value for the subwoofer.

NOTE

- Loud test sounds may be played during Audyssey MultEQ XT automatic speaker setup. This is part of normal operation. If there is background noise in room, these test signals will increase in volume.
- Do not stand between the speakers and setup microphone or allow obstacles in the path while the measurements are being made. This will cause inaccurate readings.
- Make the room as quiet as possible. Background noise can disrupt the room measurements. Close windows, silence cell phones, televisions, radios, air conditioners, fluorescent lights, home appliances, light dimmers, or other devices as measurements may be affected by these sounds.

Cell phones should be placed away from all audio electronics during the measurement process as Radio Frequency Interference (RFI) may cause measurement disruptions (even if the cell phone is not in use).

 Operating MASTER VOLUME during the measurements will cancel the measurements.

1 Connect the Included Setup Microphone

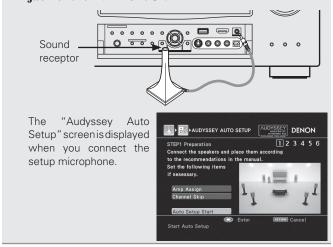
- Do not remove the setup microphone until Audyssey Auto Setup is completed.
- When using headphones, unplug the headphones before starting the Audyssey Auto Setup procedure.

1 Check the speaker connections. (© page 13 "Speaker Connections")

Turn on the TV and subwoofer power. Change the TV input to AVR-4310Cl input.

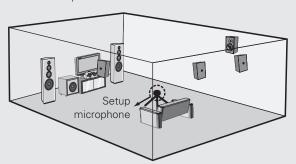
3 Turn on the AVR-4310CI power. [Page 24 "Turning the Power On")

4 Connect the setup microphone to the SETUP MIC jack of the AVR-4310CI.



5 Mount the setup microphone on a tripod or stand and place it in the main listening position.

When placing the setup microphone, adjust the height of the sound receiver part to the level of the listener's ear.





If you subwoofer provides volume and crossover settings, set these as shown below before starting the Audyssey Auto Setup.

- Volume setting: "12 o'clock" position" or the middle of the gain knob's range.
- Low Pass Filter setting: Low Pass Filter Setting to "Off", or "Maximum/Highest Frequency".
- Phase setting: 0°
- Standby mode setting: "Off"

NOTE

- Do not hold the microphone in your hand during measurements.
- Avoid placing the microphone close to a seat back or wall as sound reflections may give inaccurate results.

2 Audyssey Auto Setup Preparations

around items indicate the settings made upon purchase.

STEP1 Preparation

Perform the following settings if adjustments, etc., are required for the speaker environment you're using.

If you do not need to perform the following settings, or have already completed them, select "Auto Setup Start" and then press **ENTER**. Proceed to "STEP2".

Change the Amplifier Assignment (Amp Assign)

The signal output from the SURR.BACK/AMP ASSIGN speaker terminal of the AVR-4310Cl can be switched to match your speaker environment (page 34 "Amp Assign").

Select "Amp Assign" press ENTER.



Press $\triangle \nabla$ to select an item, and then press **ENTER**.

Outputs surround back channel audio. Normal

ZONE2 Outputs ZONE2 audio. : Outputs ZONE3 audio. ZONE3

: Outputs ZONE2 / ZONE3 monaural audio. ZONE (MONO)

Outputs front channel audio for bi-amp use. Bi-Amp Outputs front channel audio during 2-channel 2CH

> DIRECT and STEREO mode. : Outputs front height channel audio.

Front Height : Outputs front wide channel audio. Front Wide

Main remote control

operation buttons

* To cancel, press RETURN.



- When you are using surround back speakers with ZONE2/ZONE3, set to "ZONE2" or "ZONE3".
- You can set in the same way as described in "Amp Assign" on page 34.

NOTE

Since "Amp Assign" of AVR-4310Cl is set to "ZONE2" by default, audio is not output from the surround back speakers. When using the surround back speakers with MAIN ZONE, change the "Amp Assign" setting to "Normal".

Set the Channels You will not Use (Channel Skip)

If you set the channels you will not use beforehand, those channels will not be measured. Therefore, you can save an amount of time commensurate with that which would have been taken to measure those channels.

"Channel Select Skip" and then press ENTER.



? Press $\triangle \nabla$ to select a channel, press $\triangleleft \triangleright$ to select **4** the item, and then press **ENTER**.

□ Configurable channels

Subwoofer : Set the subwoofer channel. : Set the surround B channel Surround B Surround Back: Set the surround back channel

Settings

Measure Default setting. Measure the selected channel. Skip Skip the selected channel and do not measure.

* To cancel, press RETURN.



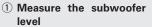
When "Amp Assign" is set to "Normal", only then is "Surround Back" displayed.

3 Perform Audyssev Auto Setup

- Audyssey Auto Setup detects the presence of each speaker and automatically calculates the speaker size, channel level, distance and crossover frequency settings. In addition, acoustical distortions are corrected within the listening area.
- When measuring begins, a test tone is output from each speaker.
- Position and connect all speakers before commencing Audvssey

STEP2 Speaker Detection

■ Select "Measure" and **I** then press **ENTER**.



* To stop measuring, select "Cancel" and then press ENTER.



*When "Subwoofer" is set to "Skip" with "Channel Skip", this measurement is not taken, and the process proceeds to "2" Measure each speaker".

(2) Measure each speaker

- *Once the measurements in step 1 are complete, the measurements in step 2 start automatically.
- *The measuring channel changes depending on the setting of "Amp Assign" (@page 30) and "Channel Skip" (@page 30).

When an error message is displayed, check "Error Messages" for details (rapage 32).

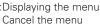
3 Check the speaker detection results

When measuring ends, the speaker detection results are displayed.

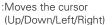
:Return to previous menu

- * Select "Next → Measurement" and press ENTER to proceed to "STEP3 "
- \times Press \triangle to select "Retry", and when you press **ENTER**, measuring at the main listening position starts again.











STEP3 Measurement

♠ Move the setup microphone to position 2, select "Measure", and then press ENTER.

The measurement of the 2nd position starts.



 X To skip this step, select "Next → Calculation" and proceed to STEP4

Repeat step measuring positions $3 \sim 8$.

> When measurement of position 8 is completed. "Measurements finished." message is displayed.



- * To skip this step, select "Next → Calculation" and proceed to STEP4
- * Measure in at least 6 positions in and around the main listening position. Even though you can complete measurement with at least 6 positions, it is advisable to use more than 6 (a maximum of 8 positions).

STEP4 Calculation

On the STEP3 screen, select "Next \rightarrow Calculation", and then press ENTER.

> Measuring results are analyzed, and the frequency response each speaker in the listening room determined.

> > Main remote control

operation buttons



* Analysis takes several minutes to complete. The time required for this analysis depends on the number of speakers connected. The more connected speakers there are, the longer it takes to perform analysis.

STEP5 Check

On the STEP5 screen, press $\triangle \nabla$ to select the item you want to check, and then press ENTER.

Speaker Config. Check **Distance Check Channel Level Check** Crossover Freg. Check



- * Subwoofers may measure a greater reported distance than the actual distance due to added electrical delay common in subwoofers.
- **6** Press $\triangle \nabla$ to select the channel you want to check. The measurement result of each speaker is displayed
- * If you want to check another item, press RETURN
- ※ Select "Next → Store" and press ENTER to proceed to "STEP6 I"

STEP6 Store

Select "Store" and then press ENTER.

Save the measuring results.

* The save operation takes about 30 seconds to complete.



NOTE

During saving of measuring results, be sure not to turn off the power.

When the screen shown on the right appears, unplug the setup microphone from the AVR-4310CI SETUP MIC jack.



Select "Exit" and then press ENTER.

■ Exiting the GUI Menu

Press **MENU** while the GUI menu is displayed. The GUI menu display disappears.

NOTE

After performing Audyssey Auto Setup, do not change the speaker connections or subwoofer volume. In event of a change, perform Audyssey Auto Setup again.



- If there is a disparity between the results and the connection status, or if an error message is displayed, check the error message against the errors listed in the "Error Messages" section (@page 32) and perform Audyssey Auto Setup again.
- If the result still differs from the actual connection status after remeasurement or the error message still appears, it is possible that the speakers are not connected properly. Turn the AVR-4310Cl off, check the speaker connections and repeat the measurement process from the beginning. Turn the AVR-4310Cl off, check the speaker connections and repeat the measurement process from the
- If you change a speaker position or orientation, perform Audyssey Auto Setup again to obtain optimal equalizer correction.













Error Messages

An error message is displayed if it was not possible to complete Audyssey Auto Setup due to speaker placement, the measurement environment, etc. If this happens, check the relevant items, be sure to take the necessary measures, then perform the Audyssey Auto Setup procedure over again.

NOTE

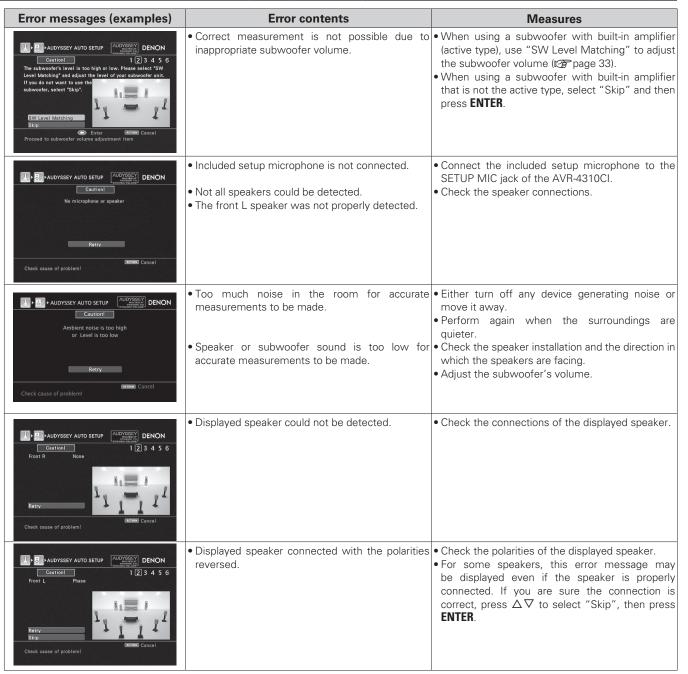
Be sure to turn off the power before checking speaker connections.

☐ When Performing Audyssey Auto Setup Over Again

Press $\Delta \nabla$ to select "Retry", and then press **ENTER**.

■ When Measuring has Stopped

Press RETURN, the "Cancel auto setup?" prompt is displayed. Press $\triangleleft \triangleright$ and select "Yes", then press **ENTER**.





:Displaying the menu

Cancel the menu







Subwoofer Level Error Message and How to Adjust

The optimal level of the subwoofer channel is 75 dB. During subwoofer level measurement ("STEP2]: Speaker Detection" (F) page 30). Perform Audyssey Auto Setup, 1 - ①), an error message is displayed when the subwoofer level is outside the 72 ~ 78 dB range. When using a subwoofer with built-in amplifier (active type), adjust the subwoofer volume so that the subwoofer level is within the 72 ~ 78 dB range.

press ENTER.



3 Adjust the volume control on vour control on vour subwoofer so that the measured level is within the $72 \sim 78 \text{ dB}$ range. Blue



* If the measured level is within the 72 ~ 78 dB range, the level indicator is blue

When the measured level is within the 72 ~ 78 dB range, press ENTER.

Select "Next" and then press ENTER. Proceed to "STEP2 Speaker Detection' (Propage 30), 3:Perform Audyssey Auto Setup, 1 - (2).



Select "SW Level Matching" and then



displayed. The measured appears on the level indicator after about 3 ~ 5 seconds.



* If the measured level is outside the 72 ~ 78 dB range, the level indicator is red.

* When measuring stops, press ENTER.

Main remote control

operation buttons

Check the Measuring Results and Equalizer Type after Audyssey Auto Setup (Parameter Check)

This is displayed after the Audyssey Auto Setup procedure is completed.

Press ∇ to select "Parameter Check". and then press **ENTER** or \triangleright .



2 Press $\triangle \nabla$ to select the item you want to check, and then pross **ENTED** or \triangleright then press ENTER or \triangleright .



- **3** Press $\triangle \nabla$ to select the channel you want to check. The measurement result of each speaker is displayed The measurement result of each speaker is displayed.
- *When you selected "EQ Check" in step 2, press $\Delta \nabla$ to select the Correction curve you want to check ("Audyssey" or "Audyssey Flat").
- * When you want to check another item, press RETURN. Pressing **RETURN** returns you to step 2; from there, proceed to steps 2 and 3.

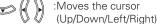


If you set "Restore" to "Yes", you can return to the Audyssey Auto Setup measurement result (value calculated at the start by MultEQ XT) even when you have changed each setting manually.













Making Detailed Settings (Manual Setup)



For details on how to select, set and cancel settings for each menu, see "GUI Menu Operation" (Tp page 26).

☐ Items that can be set with the Manual Setup procedure



Making the speaker settings (Speaker Setup) page 34



Making the HDMI settings (HDMI Setup) page 37



Making the audio settings (Audio Setup) page 38



Making the network settings (Network Setup) page 39



Making the Multi-zone settings (Zone Setup) page 41



Making other settings (Option Setup) page 42



Making language settings (Language) page 45



Making the Speaker Settings (Speaker Setup)



Default settings are underlined.

Perform when setting the speakers manually or when changing settings made in Audyssey Auto Setup.

	Setting contents		
speaker connected to the	Normal: Outputs surround back channel audio. ZONE2: Outputs ZONE2 audio. ZONE3: Outputs ZONE3 audio. ZONE (MONO): Outputs ZONE2 / ZONE3 monaural audio. Bi-Amp: Outputs front channel audio for bi-amp use. 2CH: Outputs front channel audio during 2-channel DIRECT and STEREO mode. Front Height: Outputs front height channel audio. Front Wide: Outputs front wide channel audio.		
	Since "Amp Assign" of AVR-4310Cl is set to "ZONE2" by default, audio is not output from the surround back speakers. When using the surround back speakers with MAIN ZONE, change the "Amp Assign" setting to "Normal".		
Speaker Configuration Select speaker configuration and size (bass reproduction capability). NOTE Select "Large" or "Small" not according to the physical size of the speaker but according to the low frequency reproduction capabilities based on the frequency set at "Crossover Frequency" (Propage 36).	Front: Set the front speaker size. • Large: Use of a large speaker that can adequately playback low frequencies. • Small: Use of a small speaker that has inadequate playback capacity for low frequencies. • When "Subwoofer" is set to "No", "Front" can automatically set to "Large". • When "Front" is set to "Small", "Center", "Surround A", "Surround B", "Surround Back", "Front Height" and "Front Wide" can not be set to "Large". Center: Set the presence and size of the center speaker. • Large: Use of a large speaker that can adequately playback low frequencies. • Small: Use of a small speaker that has inadequate playback capacity for low frequencies. • None: Select when a center speaker is not connected. **Earge** is not displayed when "Front" is set to "Small". Subwoofer: Set the presence of a subwoofer. • Yes: Use a subwoofer.		

See overleaf

:Return to previous menu













to "Yes"

Making Detailed Settings (Manual Setup)

Setting items	Setting contents	Setting items	Setting contents
Speaker Configuration (Continued)	Surround A: Set the presence and size of the surround speakers A. • Large: Use of a large speaker that can adequately playback low frequencies. • Small: Use of a small speaker that has inadequate playback capacity for low frequencies. • None: Select when the surround speakers A are not connected.	Speaker Configuration (Continued)	Front Height: Set the presence and size of the front height speakers. • Large: Use of a large speaker that can adequately playback low frequencies. • Small: Use of a small speaker that has inadequate playback capacity for low frequencies. • None: Select when the front height speakers are not connected.
	 When "Surround A" is set to "Large", "Front Height" and "Front Wide" can be set to "Large". When "Surround A" is set to "None", "Surround B", "Surround Back", "Front Height" and "Front Wide" can automatically set to "None". Surround B: Set the presence and size of the surround speakers B. Large: Use of a large speaker that can adequately playback low frequencies. Small: Use of a small speaker that has inadequate playback capacity for 		When the "Amp Assign" setting (page 34) is other than "Front Height", you cannot make the "Front Height" setting. Front Wide: Set the presence and size of the front wide speakers. • Large: Use of a large speaker that can adequately playback low frequencies. • Small: Use of a small speaker that has inadequate playback capacity for low frequencies. • None: Select when the front wide speakers are not connected.
	low frequencies. • None: Select when the surround speakers B are not connected.		When the "Amp Assign" setting (P page 34) is other than "Front Wide, you cannot make the "Front Wide" setting.
	 When "Surround B" is set to "Large", "Front Height" and "Front Wide" can be set to "Large". When "Surround B" is set to "None", "Surround A", "Surround Back", "Front Height" and "Front Wide" can automatically set to "None". Surround Back: Set the presence, size and number of surround back speakers. Large: Use of a large speaker that can adequately playback low 	Bass Setting Settings for subwoofer and LFE signal range playback.	Subwoofer Mode: Select low range signals to be reproduced by subwoofer. • LFE: The low range signal of the channel set to "Small" speaker size is added to the LFE signal output from the subwoofer. • LFE+Main: The low range signal of all channels is added to the LFE signal output from the subwoofer. • This can be set when "Speaker Configuration" – "Subwoofer" (**) page 34) is set to "Yes".
	frequencies. Small: Use of a small speaker that has inadequate playback capacity for low frequencies. None: Select when the surround back speakers are not connected. Sapkrs: Use two surround back speakers. 1spkr: Use only one surround back speaker. When you select this setting, connect the surround back speaker to the left (L) channel. When the "Amp Assign" setting (page 34) is other than "Normal", you cannot make the "Surround Back" setting. Even when the Surround Back Speaker setting is other than "None", sound may not be emitted from the surround back speaker, depending on the playback source. In this case, "Surround Parameters" – "Surround Back" setting other than "OFF" (page 74).		 Play music or a movie source and select the mode offering the strongest bass. Select "LFE+Main" if you want the bass signals to always be produced from the subwoofer.
			LPF for LFE: Set LFE signal playback range. • 80Hz / 90Hz / 100Hz / 110Hz / 120Hz / 150Hz / 200Hz / 250Hz
		Distance Set distance from listening position to speakers. Measure beforehand the distance from the listening position to each speaker.	Feet / Meters : Set the unit of distance. Step : Set the minimum variable width of the distance. • 1ft / 0.1ft • 0.1m / 0.01m Default : Reset all distance settings to factory default. • Yes : Reset to the defaults. • No : Do not reset to the defaults. When you select "Default" and press ENTER, the "Return all settings
			to the default?" prompt is displayed. Select either "Yes" or "No", and press ENTER .

See overleaf

:Return to previous menu





Main remote control

operation buttons



:Displaying the menu

Cancel the menu





Making Detailed Settings (Manual Setup)

Setting items Setting contents Setting items Setting contents Front L / Front R / Center / Subwoofer / Surround A L / Surround A R Distance **Crossover Frequency** 40Hz / 60Hz / 80Hz / 90Hz / 100Hz / 110Hz / 120Hz / 150Hz / 200Hz / Outputs at below set 250Hz: Set the crossover frequency. / Surround B L / Surround B R / Surr. Back L* / Surr. Back R* / Front (Continued) Height L / Front Height R / Front Wide L / Front Wide R : Select the frequency, each speaker's **Advanced**: Specify crossover frequency for each speaker. speaker. bass signal output from • Front / Center / Surround A / Surround B / Surround A+B / Surround the subwoofer. Set this *: When the "Speaker Configuration" - "Surround Back" setting Back / Front Height / Front Wide : Select the speaker. according to the low (range 35) is set to "1spkr", "Surr. Back" is displayed. • 40Hz / 60Hz / 80Hz / 90Hz / 100Hz / 110Hz / 120Hz /150Hz / 200Hz / frequency reproduction **250Hz**: Set the crossover frequency. • 0.0ft ~ 60.0ft / 0.00m ~ 18.00m : Set the distance. capabilities of the speakers vou are using. • Can be set when the "Speaker Configuration" – "Subwoofer" (page • Speakers set to "None" in "Speaker Configuration" (Prage 34) are 34) setting is "Yes", or when you have a speaker that is set to "Small". • Always set the crossover frequency to "80Hz". When using small • The speakers that can be selected differ depending on the "Amp Assign" speakers, however, we recommend setting the crossover frequency to (肾 page 34) and "Speaker Configuration" (肾 page 34) settings. a higher frequency. Default settings : • For speakers set to "Small", sound below the crossover frequency is cut Front / Center / Subwoofer / Front Height / Front Wide: 12.0 ft (3.60 m) from the sound output. The cut bass sound is output from the subwoofer Surround A / Surround B / Surround Back: 10.0 ft (3.00 m) or front speakers. • Set the difference in the distance between the speakers to less than 20 • The speakers that can be set when "Advanced" is selected differ feet (6.0 meters). according to the "Subwoofer Mode" setting (Pr page 35). • When "LFE" is selected, speakers set to "Small" at "Speaker **Channel Level Surround Speaker:** Set the surround speakers to output the test tone. Configuration" can be set. If the speakers are set to "Large", "Full Set the volume of the test • A: Output test tone from surround speakers A. Band" is displayed and the setting cannot be made. tone to be the same when it • B: Output test tone from surround speakers B. is output from each speaker. • A+B: Output test tone from surround speakers A and B. • If set to "LFE+Main", this setting can be made regardless of the speaker size. Can be set when the "Speaker Configuration" - "Surround A" or DOLBY/DTS Cinema: Set the surround speakers to use during Dolby/ **Surround Speaker** "Surround B" setting is "Large" or "Small" (@page 35). Set the surround speakers DTS Cinema mode. Test Tone: Output test tone. to use for every surround DOLBY/DTS Music: Set the surround speakers to use during Dolby/DTS • Front L / Front Height L / Center / Front Height R / Front R / Front Music mode. mode. Wide R / Surround R /Surr. Back R* /Surr. Back L* / Surround L / **DOLBY Game**: Set the surround speakers to use during Dolby Game Front Wide L / Subwoofer: Select the speaker. mode. *: When the "Speaker Configuration" - "Surround Back" setting **DOLBY Height:** Set the surround speakers to use during Dolby Height (Prage 35) is set to "1spkr", "Surr. Back" is displayed. WIDE SCREEN: Set the surround speakers to use during WIDE SCREEN • -12dB ~ +12dB (OdB): Adjust the volume. 7CH STEREO: Set the surround speakers to use during 7CH STEREO • Speakers set to "None" in the "Speaker Configuration" (page 34) **DSP SIMULATION:** Set the surround speakers to use during the DENON settings are not displayed. original surround mode. • When ⊲ is pressed while the subwoofer volume is set to "-12 dB", the MULTI CH MODE: Set the surround speakers to use during PCM or DSD "Subwoofer" setting switches to "OFF". multi-channel mode. • When using surround speakers, be sure to adjust the volume of the different speakers. • A: Use surround speakers A. • When a headphones jack is inserted in the PHONES terminal of the AVR-• B: Use surround speakers B. 4310Cl, the "Channel Level" is not displayed. • A+B: Use surround speakers A and B. • You can also press **CHANNEL LEVEL** to set page 81 "Adjust the "Surround Speaker" is displayed when "Speaker Configuration" Volume of the Different Speakers"). - "Surround A" and "Surround B" setting (page 35) is set to **Default:** Reset all channel level settings to factory default. "Large" or "Small". • Yes: Reset to the defaults. • No : Do not reset to the defaults.

See overleaf

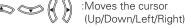
:Return to previous menu



:Displaying the menu

Cancel the menu









Playback

Making Detailed Settings (Manual Setup)

Setting items	Setting contents	
Surround Speaker (Continued)	 When using the PRE OUT terminal, set to "A" or "B". Make the surround speaker settings when the input mode is set to "EXT. IN" at "EXT. IN Setup" (Page 38). When the "Speaker Configuration" – "Surround A" or "Surround B" setting (Page 35) is "Small", and using surround speakers A and B simultaneously, playback is with the same output as when "Surround A" and "Surround B" are set to "Small". 	



Making the HDMI Settings (HDMI Setup)



Default settings are underlined.

Make settings for HDMI video/audio output.

Setting items	Setting contents
RGB Range Set the video range of RGB output from the HDMI terminal.	Normal: Output with RGB video range (16 (black) to 235 (white)). Enhanced: Output with RGB video range (0 (black) to 255 (white)). This setting is valid when using a TV equipped with a DVI terminal.
Vertical Stretch Expand image signal in vertical direction.	 ON: Expand image signal in vertical direction. OFF: Do not expand signal in vertical direction. This setting is valid with respect to the HDMI output when using an HDMI-compatible TV. When not using an HDMI-compatible TV, it is valid with respect to the analog output.
Auto Lip Sync Automatic compensation for timing shift in audio and video output.	ON: Compensated. OFF: Not compensated.
HDMI Audio Out Select HDMI audio output device.	Amp: Playback through speakers connected to the receiver. TV: Playback through TV connected to the receiver. When the HDMI control function is operating, the setting of audio playback in the connected TV takes priority (Papage 80 "HDMI Control Function").
Monitor Out Make settings for HDMI monitor output.	Auto (Dual): The presence of a TV connected to the MONITOR 1 or MONITOR 2 terminal is detected automatically, and that TV connection is used. Monitor 1: A TV connected to the MONITOR 1 terminal is always used. Monitor 2: A TV connected to the MONITOR 2 terminal is always used.

Setting items Setting contents Monitor Out (Continued) If both the Monitor 1 and 2 connectors are connected and "Resolution" (rapage 49) is set to "Auto", the signals are output with a resolution compatible with both TV. • With "Resolution" (@page 49) not set to "Auto", check whether the TV you are using is compatible with the resolution under "HDMI Information" - "Monitor 1" and "Monitor 2" (Propage 78). • Depending on the monitor you have connected, the display may not be correct when you set to "Auto (Dual)". In such a case, set to either "Monitor 1" or "Monitor 2". You can also set "Monitor Out" by pressing [M.SEL].

HDMI Control

4310Cl and the AVR-4310Cl can be controlled from external devices.



- Please consult operating instructions for each connected device to check the settings.
- Refer to "HDMI Control Function" (Page 80) for more information about the HDMI control function.
- When the "Control" setting has been changed, always turn off the power to the connecting devices afterwards and then turn back on.

NOTE

The HDMI control function controls operations of a the HDMI control function. turn off together. Make sure that the TV and • ON: Interlock. HDMI are connected when • OFF: Do not interlock. you perform HDMI control

Control

- External devices can be ON: Use HDMI control function
- controlled from the AVR- OFF: Do not use HDMI control function
 - When a device that is not compatible with the HDMI control function is connected, set "Control" to "OFF".

NOTE

- When "Control" is set to "ON", it consumes more standby power.
- When not using this unit for a long period, we recommend that you press **POWER**> on the main unit to turn off the power.
- "HDMI Control" does not work when the power to the equipment is off. Either power on or set to standby.

Standby Source: Set the HDMI connector for HDMI signal input during

- Last: Standby with last used input source during power on.
- HDMI1 / HDMI2 / HDMI3 / HDMI4 / HDMI5 / HDMI6 : The standby mode is set at the input source assigned to the respective.
- This can be set when "Control" is set to "ON".

Control Monitor: Set the HDMI MONITOR terminal to output the HDMI control signal.

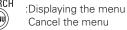
- Monitor 1: Output from the MONITOR 1 terminal.
- Monitor 2: Output from the MONITOR 2 terminal.
- This can be set when "Control" is set to "ON".

TV that is compatible with Power Off Control: The power of the AVR-4310Cl and external device

- This can be set when "Control" is set to "ON".

See overleaf













Making the Audio Settings (Audio Setup)



Default settings are underlined.

Make settings for audio playback.

Setting items	Setting contents		
EXT. IN Setup Setup playback method for analog signals inputted from external input connectors (EXT. IN).	 A: Use surround speakers A. B: Use surround speakers B. A+B: Use surround speakers A and B. Can be set when the "Speaker Configuration" – "Surround A" or 		
	"Surround B" setting (**) page 35) is "Large" or "Small". Subwoofer Level: Set playback level of subwoofer signal input from the external input connector (EXT. IN). • +15dB: This is the recommended level. • +10dB / +5dB / 0dB: Select the level according to the player being used.		
2ch Direct/Stereo Make speaker settings for 2-channel mode playback.	Setting: Select the method for setting the speakers used in the 2-channel direct and stereo playback modes. • Basic: The settings at "Speaker Setup" (**) page 34) are applied. • Custom: Make separate settings for 2-channel.		
	Front: Set the front speaker size. • Large: Use of a large speaker that can adequately playback low frequencies. • Small: Use of a small speaker that has inadequate playback capacity for low frequencies.		
	If "Speaker Configuration" – "Subwoofer" (@page 34) is set to "No", the setting is automatically set to "Large".		
	Subwoofer: Set the presence of a subwoofer. • Yes: Use a subwoofer. • No: Select when a subwoofer is not connected.		
	If "Speaker Configuration" – "Subwoofer" (**E** page 34) is set to "No", the setting is automatically set to "No". If the "Front" setting is "Small", the setting is automatically "Yes".		

Setting items

2ch Direct/Stereo

(Continued)

Setting contents

Making Detailed Settings (Manual Setup)

SW Mode : Select low range signal to be reproduced by subwoofer.

- LFE: When the "2ch Direct/Stereo" "Front" setting is set to "Large", the LFE signal alone is output from the subwoofer. Also, when the "2ch Direct/Stereo" "Front" setting is set to "Small", the front channel low range signal is added to the LFE signal output from the subwoofer.
- LFE+Main: The front channel low range signal is added to the LFE signal output from the subwoofer.

This can be set when "2ch Direct/Stereo" - "Subwoofer" is set to "Yes".

Crossover: Outputs at below set frequency, each speaker's bass signal output from the subwoofer.

 40Hz / 60Hz / 80Hz / 90Hz / 100Hz / 110Hz / 120Hz / 150Hz / 200Hz / 250Hz



- This can be set when "2ch Direct/Stereo" "Subwoofer" is set to "Yes".
- If the "2ch Direct/Stereo" "Front" setting is "Large" and the "SW Mode" setting is "LFE", "Full Band" is displayed and the setting cannot be made.

Distance FL / Distance FR : Select the speaker.

- • 0.0ft \sim 60.0ft (<u>12.0ft</u>) / 0.00m \sim 18.00m (<u>3.60m</u>) : Set the distance to the speaker.
- Level FL / Level FR : Select the speaker.
- -12.0dB ~ +12.0dB (<u>0dB</u>) : Adjust the level of each channel.

Set so that the difference between the front left speaker and front right speaker distances is 6.0 m (20.0 ft) or less.

Level FL / Level FR : Select the speaker.

• -12.0dB ~ +12.0dB (0dB): Adjust the level of each channel.

Auto Surround Mode

Make setting for memorizing mode. surround mode setting for **OFF**: each input signal type.

ON: Memorize settings. Automatically play with the last used surround mode

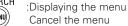
OFF: Do not memorize settings. Surround mode does not change according to input signal



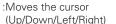
- The auto surround mode function lets you store in the memory the surround mode last used for playing the four types of input signals listed below.
- ① Analog and PCM 2-channel signals
- ② Dolby Digital and DTS 2-channel signals
- 3 Dolby Digital and DTS multi-channel signals
- Multi-channel signals other than Dolby Digital and DTS (PCM, DSD, etc.)
- When playing in the PURE DIRECT, the surround mode does not change even if the input signal is changed.

See overleaf













Making Detailed Settings (Manual Setup)

EQ Customize Set so that unused equalizer equalizer. settings are not displayed • Used: Use. when [MULTEQ XT] is • Not Used: Do not use.

Setting items

pressed.

"Not Used" is set with the • Used: Use Quick Select function cannot • Not Used : Do not use. be stored and called out.

Setting contents Audyssey Byp. L/R: Set when not using the "Audyssey Byp L/R"

Set so that the "Audyssey Byp. L/R" settings can be made when the Audyssey Auto Setup procedure is performed.

Equalizer settings for which Audyssey Flat: Set when not using the "Audyssev Flat" equalizer.

Set so that the "Audyssey Flat" settings can be made when the Audyssey Auto Setup procedure is performed.

Setting contents

Manual: Set when not using the "Manual" equalizer.

• Used : Use.

• Not Used: Do not use.



Making the Network Settings (Network Setup)



Default settings are underlined.

Make network settings.

Setting items

gg					
Network Connecting Make settings for wired LAN.	 Connect the LAN cable (愛 pa (LAN)"). Turn on the AVR-4310CI (愛 pa AVR-4310CI performs automa function. When connecting to a network setting in step 3. Set the IP address at the "Network setting in step set in the set		age 24 "Turning atic network se	the Power Cotup due to	n"). the DHCP
	DHCP IP Address Exit Detail	ON 192.168.100.33	DHCP IP Address Subnet Mask Default Gateway Primary DNS Secondary DNS Proxy Exit Set IP address manu	192 168 255 255 000 000 000 000 000 000 000 000	DE 100 . 033 255 . 000 000 . 000 000 . 000 000 . 000 3

Setting items Setting contents

Network Connecting

Make settings for wired LAN.

- 1) On the GUI menu, select "Network Connecting" "Detail" and press ENTER.
- ② Use $\triangleleft \triangleright$ to set "DHCP" to "OFF", then press ∇ . The DHCP function is disabled.
- 3 Use $\Delta \nabla \triangleright$ to input the address and press **ENTER**.
 - IP Address: Set the IP address within the ranges shown below. The Network Audio function cannot be used if other IP addresses are set.

CLASS A: 10.0.0.0 ~ 10.255.255.255 CLASS B: 172.16.0.0 ~ 172.31.255.255 CLASS C: 192.168.0.0 ~ 192.168.255.255

- Subnet Mask: When connecting an xDSL modem or terminal adapter directly to the AVR-4310Cl, input the subnet mask indicated in the documentation supplied by your provider. Normally input 255.255.255.0.
- Default Gateway: When connected to a gateway (router), input its IP address.
- Primary DNS, Secondary DNS: If there is only one DNS address indicated in the documentation supplied by your provider, input it at "Primary DNS". If there are two or more DNS addresses, input the first one at "Secondary DNS".
- 4) Use ∇ to select "Exit" and press **ENTER**. Setup is complete.
- * When connecting to the network via a Proxy server, select "Proxy" and press ENTER (page 40 "Proxy settings").



- If you are using a broadband router (DHCP function), there is no need to make the settings at "IP Address" and "Proxy", since the DHCP function is set to "ON" in the AVR-4310CI's default settings.
- If the AVR-4310Cl is being used connected to a network without the DHCP function, the network settings must be made. In this case, some knowledge of networks is required. For details, consult a network administrator.
- If you cannot connect to the Internet, recheck the connections and settings (r page 23).
- If you do not understand about Internet connection, contact your ISP (Internet Service Provider) or the store from which you purchased your computer.
- When you want to cancel the setting during IP address input, press RETURN.

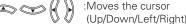
See overleaf



Main remote control

operation buttons





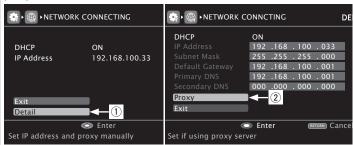


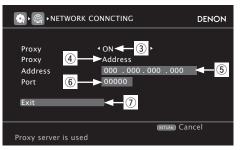


Setting items Setting contents Network Connecting

(Continued)

Proxy settings: Make this setting when connecting to the Internet via a proxy server.





- (1) On the GUI menu, select "Manual Setup" "Network Setup" -"Network Connecting" - "Detail" and press ENTER.
- ② Use $\Delta \nabla$ to set "Proxy" and press **ENTER**.
- ③ Use \triangleleft ▷ to set "Proxy" to "ON" and press ∇ . The proxy server is enabled.
- 4 Use $\triangleleft \triangleright$ to select the proxy server input method, and then press \triangledown . Address: Select when inputting by address.

Name: Select when inputting by domain name.

5 Use $\Delta \nabla \triangleleft \triangleright$ to input the proxy server address or domain name and press **ENTER**.

When "Address" is selected in step 4: Input the address When "Name" is selected in step (4): Input the domain name The types of characters that can be input are as shown below.

[Lower case characters] abcdefghijklmnopgrstuvwxyz [Upper case characters] ABCDEFGHIJKLMNOPQRSTUVWXYZ [Symbols] ! # " \$ % & '() * + , - . / :; <=>? @ [\]^_`{|}~ (Space) [Numbers] 0123456789

You can change the character type when you press [SEARCH] or MENU during character input.

Setting items	Setting contents		
Network Connecting (Continued)	 ⑥ Use △∇◁ ▷ to input the proxy server port number and press ENTER. ⑦ Use ∇ to select "Exit" and press ENTER. Setup is complete. 		
Other Network function on/off setting during standby, and PC language setting.	Network Standby: Set the network function on/off during standby. ON: Network is on during standby. Main unit operable with a network-compatible controller. OFF: Suspend network function during standby. Set to "ON" when using the web control function.		
	Character: When characters are not displayed correctly, set the MP3 ID3- Tag character code type reproduced by the USB memory device. • <u>Auto</u> : Auto-select character code. • <u>Latin</u> : Select ISO 8859-1 Latin-1. • Japanese: Select Shift-JIS.		
	If the characters are not properly displayed when set to "Auto", set to "Latin" or "Japanese".		
	PC Language: Select computer environment language. • ara / chi (smpl) / chi (trad) / cze / dan / dut / eng / fin / fre / ger / gre / heb / hun / ita / jpn / kor / nor / pol / por / por(BR) / rus / spa / swe / tur		
	Friendly Name Edit: The Friendly Name is the name AVR-4310Cl		

[Lower case characters] abcdefghiiklmnopgrstuvwxvz [Upper case characters] ABCDEFGHIJKLMNOPQRSTUVWXYZ **[Symbols]** !#"\$%&'()*+,-./:;<=>?@[\]^_`{|}~(Space) [Numbers] 0123456789

displayed on the network. Up to 63 characters can be input. The default

Making Detailed Settings (Manual Setup)

You can change the character type when you press [SEARCH] or **MENU** during character input.

Default: Reset all settings to factory default.

• Yes: Reset to the defaults.

• No: Do not reset to the defaults.

Party Mode Function: Set the Party Mode function.

Friendly Name on first use is "DENON:[AVR-4310CI]". The types of characters that can be input are as shown below.

• OFF: Disable Party Mode function.

• ON: Enable Party Mode function.

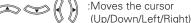
Refer to page 82, "Playing the Same Network Audio on Different Devices Connected in a Network (Party Mode Function)" for more information on the party mode function.

:Return to previous menu

See overleaf











Making Detailed Settings (Manual Setup)

Setting contents Setting items

Other (Continued) Party Start Level: Make settings for volume level when the Party Mode

- Last: The same volume as set before the party mode was started.
- - - (0): Always use the muting on condition when the Party Mode is
- -80dB ~ 18dB (1 ~ 99): Start party mode with your preferred volume.



- This can be set when "Party Mode Function" is set to "ON".
- This is displayed from 0 to 99 when "Volume Display" (r page 42) is set to "Absolute".
- You can set to the upper limit set with "Volume Limit" (@page 42).

Network Status: Displays up to a maximum of 10 DENON products connected on the same network.

• Friendly Name / Model Name / Power ON/Standby / Select Source / **Volume Level / Party Mode status**

"Network Status" is only displayed for DENON products supporting the Network Status function.

Update Notification: Displays a notification message on the AVR-4310CI's GUI screen when the latest firmware is released with "Firmware Update". The notification message is displayed for about 20 seconds when the power is turned on. Connect to broadband Internet (page 23) when using this function.

- ON: Display update message.
- OFF: Do not display upgrade message.



- When you press **ENTER** during display of the notification message, the "Check for Update" screen is displayed. (Refer to page 44 for more information on "Firmware Update")
- Press **RETURN** to erase the notification message.

Upgrade Notification: Display a notification message on the AVR-4310CI's GUI screen when downloadable firmware is released with "Add New Feature". The notification message is displayed for about 20 seconds when the power is turned on. Connect to broadband Internet (page 23) when using this function.

- ON: Display update message.
- OFF: Do not display upgrade message.



- When you press **ENTER** during display of the notification message, the "Add New Feature" screen is displayed. (Refer to page 45 for more information on "Add New Feature")
- Press **RETURN** to erase the notification message.

Setting items	Setting contents		
Rhapsody Account Set or change Username and Password (P page 68 "Listening to Rhapsody").	Username / Password The types of characters that can be input are as shown below.		
	[Lower case characters] abcdefghijkImnopqrstuvwxyz [Upper case characters] ABCDEFGHIJKLMNOPQRSTUVWXYZ [Symbols] ! # " \$ % & ' () * + , / : ; < = > ? @ [\]^_`{ }~ (Space) [Numbers] 0123456789		
	 You can change the character type when you press [SEARCH] or MENU during character input. The password may not contain underscores (_). 		
Napster Account Set or change Username and Password (Practice page 66 "Listening to Napster").	Username / Password The types of characters that can be input are as shown below.		
	[Lower case characters] abcdefghijkImnopqrstuvwxyz [Upper case characters] ABCDEFGHIJKLMNOPQRSTUVWXYZ [Symbols] ! # " \$ % & ' () * + , / : ; < = > ? @ [\]^_`{ }~ (Space) [Numbers] 0123456789		
	 You can change the character type when you press [SEARCH] or MENU during character input. The password may not contain underscores (_). 		
Network Information Display network information.	Friendly Name / DHCP= ON/OFF / IP Address / MAC Address		



Making the Multi-zone Settings (Zone Setup)



Default settings are underlined.

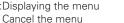
Set the audio to playback with multi-zone (ZONE2, ZONE3).

Setting items	Setting contents
Bass	-10dB ~ +10dB (<u>0dB</u>)
Adjust low frequency range	
(bass).	
Treble	-10dB ~ +10dB (<u>0dB</u>)
Adjust high frequency range (treble).	
HPF	OFF : The low range is not attenuated.
Make settings for cutting	ON : The low range is attenuated.
the low range to reduce	
distortion in the bass.	
Lch Level	$-12dB \sim +12dB (\underline{0dB})$
Adjust the left channel output level.	The "Lch Level" can be set when "Channel" (Fig page 42) is set to "Stereo".

See overleaf













Setting items	Setting contents
Rch Level	-12dB ~ +12dB (<u>0dB</u>)
Adjust the right channel output level.	The "Rch Level" can be set when "Channel" (*** page 42) is set to "Stereo".
Channel Set the signal output from	Stereo : Select stereo output. Mono : Select mono output.
multi-zone.	When "Amp Assign" (** page 34) is set to "ZONE (MONO)", the "Channel" setting is automatically set to "Mono".
	Relative : Display dB (Min), in the range –80 dB ~ 18 dB. Absolute : Display in the range 0 (Min) ~ 99.
displayed.	
	 The "Volume Display" setting is applied also to the "Volume Level", "Volume Limit" and "Power On Level" display method. The "Volume Display" setting applies to all zones.
Volume Level	<u>Variable</u> : Volume adjustment enabled by main unit and remote
Set the volume output level.	controller.
	-40dB (41): Fix volume at -40 dB. Set when adjusting volume by external amp.
	0dB (81): Fix volume at 0 dB. Set when adjusting volume by external amp.
	When "Amp Assign" (**) page 34) is set to "ZONE2", "ZONE3" or "ZONE (MONO)", the "Volume Level" setting is automatically set to "Variable".
Volume Limit Make a setting for maximum	OFF : Do not set a maximum volume. -20dB (61) / <u>-10dB</u> (<u>71</u>) / 0dB (81)
volume.	Can be set when the multi-zone "Volume Level" setting (@page 42) is "Variable".
	Last: Use the memorized setting from the last session. (0): Always use the muting on condition when power is turned on. -80dB ~ 18dB (1 ~ 99): The volume is adjusted to the set level.
power is turned on.	Can be set when the multi-zone "Volume Level" setting (page 42) is "Variable".
Mute Level	Full: The sound is muted entirely.
Set the amount of attenuation when muting is on.	-40dB: The sound is attenuated by 40 dB down.-20dB: The sound is attenuated by 20 dB down.



Making Other Settings (Option Setup)



Default settings are underlined.

Setting items	Setting contents		
Volume Control Set the MAIN ZONE volume setting.	Volume Display: Set how volume is displayed. • Relative: Display —dB (Min), in the range –80 dB ~ 18 dB. • Absolute: Display in the range 0 (Min) ~ 99.		
	 The "Volume Display" setting is applied also to the "Volume Limit" and "Power On Level" display method. The "Volume Display" setting applies to all zones. 		
	Volume Limit: Make a setting for maximum volume • OFF: Do not set a maximum volume. • -20dB (61) / -10dB (71) / 0dB (81)		
	Power On Level: Define the volume setting that is active when the power is turned on. • Last: Use the memorized setting from the last session. • − − − (0): Always use the muting on condition when power is turned on. • −80dB ~ 18dB (1 ~ 99): The volume is adjusted to the set level.		
	Mute Level: Set the amount of attenuation when muting is on. • Full: The sound is muted entirely. • -40dB: The sound is attenuated by 40 dB down. • -20dB: The sound is attenuated by 20 dB down.		
Source Delete Remove input sources hat are not used from the display.	PHONO / CD / DVD / HDP / TV / SAT/CBL / VCR / DVR / V.AUX / NET/USB / XM / SIRIUS / HD Radio : Select input source that is not used. • ON : Use this source. • Delete : Do not use this source. NOTE		
	 Input sources being used in the various zones cannot be deleted. Input sources set to "Delete" cannot be selected using SOURCE SELECT. 		
GUI Make GUI related settings.	 Screensaver: Make screensaver settings. • ON: The screen saver is activated during GUI menu display or NET/USB / iPod / XM / SIRIUS / HD Radio screen display if no operation is performed approximately for a continuous 3-minute period. When you press Δ∇⊲ ▷, the screen saver is cancelled and the screen before that screen saver started is displayed. • OFF: Screen saver is not activated. 		
	Wall Paper: Set wallpaper to display the background when playback is stopped, etc. • Picture: Set the background to a picture (DENON logo). • Black: Set the background to black.		

See overleaf



Main remote control

operation buttons









:Return to previous menu

• Gray: Set the background to gray. • Blue : Set the background to blue.

Making Detailed Settir			
Setting items	Setting contents		
GUI (Continued)	Format: Set the video signal format to be output for the TV you are using. • NTSC: Select NTSC output. • PAL: Select PAL output.		
	 The "Format" can also be set by the following procedure. However, the GUI screen is not displayed. 1. Press and hold the <dsx> and <return> for at least 3 seconds. "Video Format" appears on the display.</return></dsx> 2. Press ⟨ ▷ and set the video signal format. 3. Press the <enter>, <menu> or <return> to complete the setting.</return></menu></enter> 		
	When a format other than the video format of the connected TV is set, the picture will not be displayed properly.		
	 Text: Display the content of operation during switching of surround mode, input mode, etc. ON: Turn display on. OFF: Turn display off. 		
	 Master Volume: Master volume display during adjustment. Bottom: Display at the bottom. Top: Display at the top. OFF: Turn display off. 		
	When the master volume display is hard to see when superimposed on movie subtitles, set to "Top".		
	NET/USB : Set the NET/USB screen display time when the input source is "NET/USB".		
	 Always: Show display continuously. 30s: Show display for 30 seconds after operation. 10s: Show display for 10 seconds after operation. OFF: Turn display off. 		
	 iPod: Set the iPod screen display time when the input source is "iPod". Always: Show display continuously. 30s: Show display for 30 seconds after operation. 10s: Show display for 10 seconds after operation. OFF: Turn display off. 		
	 Tuner: Set the tuner screen display time when the input source is "XM", "SIRIUS" or "HD Radio". Always: Show display continuously. 30s: Show display for 30 seconds after operation. 10s: Show display for 10 seconds after operation. 		

Setting items	Setting contents
Quick Select Name Change the "Quick Select" display title to one you prefer.	 Use △∇ to select the name of the Quick Select setting you want to change, then press ▷ or ENTER. Use ◁▷ to set the cursor to the character you want to change. Use △∇ to change the character, then press ENTER. Up to 16 characters can be input. You can change the character type when you press [SEARCH] or MENU during character input. The types of characters that can be input are as shown below.
	[Upper case characters] ABCDEFGHIJKLMNOPQRSTUVWXYZ [Lower case characters] abcdefghijklmnopqrstuvwxyz [Symbols] !#%&'()*+,/:;<=">? @ [\] (Space) [Numbers] 0123456789
	4. Repeat steps 1 ~ 3 to change the display name.
Zone Rename Change the display title of each zone to one you prefer.	 Use △∇ to select the zone name (MAIN ZONE, ZONE2 or ZONE3) you want to change, then press ▷ or ENTER. Use ◁▷ to set the cursor to the character you want to change. Use △∇ to change the character, then press ENTER. Up to 10 characters can be input. You can change the character type when you press [SEARCH] or MENU during character input. The types of characters that can be input are as shown below.
	[Upper case characters] ABCDEFGHIJKLMNOPQRSTUVWXYZ [Lower case characters] abcdefghijklmnopqrstuvwxyz [Symbols] ! # % & '() * + , / :; < = " > ? @ [\] (Space) [Numbers] 0123456789
	4. Repeat steps 1 ~ 3 to change the display name.

See overleaf



• OFF: Turn display off.









Main remote control

operation buttons

Making Detailed Settings (Manual Setup)

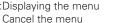
Setting items Setting contents Setting items Setting contents ☐ When Setting for Zone (MAIN ZONE / ZONE2 / ZONE3) Trigger Out 1 Dimmer Bright: Normal display brightness. Select the condition for Trigger out is activated through linkage to the power of the zone set to Adjust display brightness of **Dim**: Reduced display brightness. "ON". the receiver. Dark: Very low display brightness. activating Trigger Out 1 for the input source, surround OFF: Turns the display off. When Setting for Input Source mode, etc. Setup Lock **OFF**: Turn protection off. Activate trigger out when the input source set to "ON" is selected. See "TRIGGER OUT jacks" Protect settings from **ON**: Turn protection on. (rapage 22) for more Valid for the zone set to "ON" with "When Setting for Zone". inadvertent change. information on trigger out. ☐ When Setting for Surround Mode • When "Setup Lock" is set to "ON", the settings listed below can no Trigger Out 2 Activate trigger out when the surround mode set to "ON" is selected. longer be changed. Also, "SETUP LOCKED!" is displayed if you attempt As with "Trigger Out 1", to operate related settings. Valid when the "MAIN ZONE" set to "ON" with "When Setting select the condition for ·GUI menu operations · Dynamic Volume for Zone" is selected, and when the input source set to "ON" with activating Trigger Out 2. ·RESTORER ·Channel Level "When Setting for Input Source" is selected. ·Audio/Video Adjust · Audio Delay · MultEQ XT ·Input Mode ☐ When Setting for HDMI Monitor Activate trigger out when the HDMI monitor set to "ON" is selected. ·Dvnamic EQ When canceling the setting, set "Setup Lock" to "OFF" Valid when the "MAIN ZONE" set to "ON" with "When Setting **Maintenance Mode** NOTE for Zone" is selected, and when the input source set to "ON" with Used when receiving Only use this function if so instructed by a DENON serviceperson or "When Setting for Input Source" is selected. maintenance from a DENON installer. ■ When setting for "Vertical Stretch" service engineer or custom Activate trigger out through linkage when "Vertical Stretch" (page installer. 37) is set to "ON". Firmware Update Check for Update: You can check for firmware updates. You can also Update the firmware of the check approximately how long it will take to complete an update. • ON: Activate trigger on this mode. receiver. • - - -: Do not activate trigger on this mode. Start: Execute the update process. When updating starts, the power indicator becomes red and the GUI Remote (SIRIUS / XM) SAT TU: XM: Set when operating XM. screen is shut down. The amount of update time which has elapsed is Set to **SAT TU** operating **SAT TU**: **SIRIUS**: Set when operating SIRIUS. displayed. mode on the included remote When updating is complete the power indicator becomes green and control unit. normal status is resumed. Remote ID 1/2/3/4 Set when you operate * If updating fails, the set automatically retries, but if updating is still not When changing the remote ID, also change the "MAIN", "iPod", another DENON AV amplifier possible, one of the messages shown below is displayed. If the display "SAT TU", "DTU" and "NET/USB" modes of the main remote control with the remote control unit reads as shown below, check the settings and network environment, unit at the same time. Also change the sub remote control unit at the of the AVR-4310Cl. Match then update again. same time (rappage 93, 98 "Setting the Remote ID"). the remote control unit you **Description** Display are using with the remote ID Updating failed Updating failed. of the AVR-4310CI. Login failed Failure to log into server. 232C Port **Serial Control**: Set when using an external controller. Server is busy Server is busy. Wait a while then try again. Set when using an external 2Way Remote: Set when using a 2-way remote control unit. Connection fail Failure connecting to server. controller or two-way remote When using a DENON two-way remote control (RC-7000Cl or RC-Download fail Downloading of the firmware has failed. control connected to the RS-7001RCI, sold separately), set to "2Way Remote". 232C terminal.

See overleaf



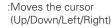
as an external controller.





When setting to "2Way Remote", you can not use the RS-232C connector









NOTE

Making Detailed Settings (Manual Setup)

Setting items

Setting contents

Add New Feature

can be purchased for displayed. 4310Cl and upgrade.

When you purchase new function and register information. vour user "Registered" is displayed on this menu and vou can proceed with the upgrade.

Upgrade: Execute the upgrade process.

Display the new functions When updating starts, the power indicator becomes red and the GUI (payment required) which screen is shut down. The amount of update time which has elapsed is

downloading to the AVR- When updating is complete the power indicator becomes green and normal status is resumed.

> * If the upgrade is not successful, an error message identical to those in "Firmware Update" will appear on the display, check the settings and network environment, then update again.

> **Upgrade Status:** A list of the additional functions provided by the Upgrade will be displayed.



When "Not Registered" is displayed on the Add New Feature screen, you cannot upgrade.

To use the upgrade function, you should purchase an upgrade package from the DENON website.

To purchase the package, you will need the ID number shown on this

To display the ID number on the screen, hold <>> and <STATUS> down for 3 seconds or more.

Notes concerning use of "Firmware Update" and "Add New Feature"

- In order to use these functions, you must have the correct system requirements and settings for a broadband Internet connection
- Do not turn off the power until updating or upgrating is completed.
- Even with a broadband connection to the Internet, approximately 1 hour is required for the updating/ upgrading procedure to be completed.

Once updating/upgrade starts, normal operations on the AVR-4310Cl cannot be performed until updating/upgrading is completed.

Furthermore, updating/upgrading the firmware may reset the backup data for the parameters, etc., set for the AVR-4310CL

- The following backup data may be erased after an update or upgrade.
- Internet radio preset channel
- Internet radio Recently Played data
- Care of data in Internet radio, media server and USB memory device
- In the event of an update error during update or upgrade, turn the AVR-4310Cl's power off and then on again. "Update Retry" appears on the display and update restarts from the point at which update failed. If the error continues despite this, check the network environment.



- Information regarding the "Firmware Update" function and "Add New Feature" will be announced on the DENON web site each time related plans are defined.
- When usable new firmware is released with "Firmware Update" or "Add New Feature", a notification message is displayed on the GUI screen. When you do not want to be notified, set "Update Notification" (rapage 41) and "Upgrade Notification" (rapage 41) to "OFF".

:Displaying the menu

Cancel the menu



Making Language Settings (Language)



Default settings are underlined.

Set the language for display on the GUI screen.

Setting contents

English / Français

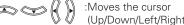


The "Language" can also be set by the following procedure. However, the GUI screen is not displayed.

- 1. Press and hold the **<DSX>** and **<RETURN>** for at least 3 seconds. "Video Format" appears on the display.
- **2**. Use $\triangle \nabla$ to set "GUI Language".
- **3**. Press $\triangleleft \triangleright$ and set the language.
- 4. Press the **<ENTER>**. **<MENU>** or **<RETURN>** to complete the setting.













Making the Input Settings (Source Select)



For details on how to select, set and cancel settings for each menu, see "GUI Menu Operation" (Tp page 26).

Select input source and make playback settings.

☐ Items that can be set with the Source Select procedure

Changing the Input Terminal Assignments (Input Assign) @page 46

Making the Video Settings (Video) page 48

Changing the Input Mode and Decoding Mode (Input Mode) * page 49

Changing the Input Source's Display Name (Rename) page 50

Correcting the Input Source's Playback Level (Source Level) @ page 50

Displaying the Playback Screen for the Different Input Sources (Play) @page 50

Setting the Playback Mode (Playback Mode) page 50

- □ iPod (P page 50)
- □ NET/USB (© page 51)
- ☐ Media Server, USB/iPod, Napster and Rhapsody (@ page 51)

Making the Settings to Play Still Pictures (Still Picture) page 51

Automatically Presetting Radio Stations (Auto Preset) @page 51

Setting Preset Channels so that They are not Displayed When Tuning (Preset Skip) **page 51**

Giving Names to Preset Stations (Preset Name) @page 52

Check the XM Radio and SIRIUS Radio Reception Sensitivity (Antenna Aiming) **page 52**

Setting SIRIUS Radio Reception Restrictions (Parental Lock) @page 52

Important Information

About the Display of Input Sources in This Manual

In this manual, the names of input sources that can be set at the different items are indicated as shown below.

DVR V.AUX NET/USB Internet Radio PHONO CD DVD | HDP | TV | SAT/CBL | VCR | USB/iPod Napster Rhapsody XM SIRIUS | HD Radio Media Server

NOTE

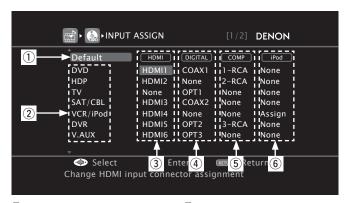
Input sources that have been set to "Delete" at "Source Delete" (@page 42) cannot be selected.

Changing the Input Terminal Assignments (Input Assign)



Default settings are underlined.

☐ Examples of Input Assign Menu Screen Displays



- (1) Default button
- (2) Input Source
- (3) HDMI input

- (4) Digital audio input
- (5) Component video input
- (6) iPod dock









Making the Input Settings (Source Select)

☐ Input Assignments Menu Operations

Press MENU. The GUI menu is displayed on the TV

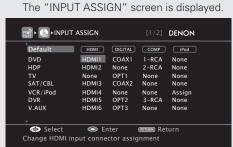
Use the $\triangle \nabla$ to select "SOURCE SELECT", the press ENTER or \triangleright .



? Press $\triangle \nabla$ to select the input source vou want to set, then press \triangleright .



• Select "Input Assign", then press **ENTER** or ▷.



Main remote control

operation buttons

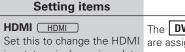
✓ Use $\triangle \nabla \triangleleft \triangleright$ to move the gray highlight to the item you want to set.



5 Press **ENTER**, then use <1 > to select the input terminal to be assigned.



Press ENTER to enter the setting.



input terminals assigned to the input sources.

Setting contents

The DVD HDP TV SAT/CBL VCR DVR V.AUX input sources are assigned to the HDMI input terminals as shown below.

HDMI 1 / HDMI 2 / HDMI 3 / HDMI 4 / HDMI 5 / HDMI 6

None: Do not assign an HDMI input terminal to the selected input source.

* Upon purchase, the settings of the different input sources are as shown below.

Input source	DVD	HDP	TV	SAT/ CBL	VCR	DVR	V.AUX
Default setting	HDMI 1	HDMI 2	None	HDMI 3	HDMI 4	HDMI 5	HDMI 6



- An input source to which an HDMI input terminal cannot be assigned is displayed as "---".
- To play the video signal assigned at "HDMI" combined with the audio signal assigned at "Input Assign" - "Digital", select "Digital" at "Input Mode" (rapage 49).
- When the AVR-4310Cl and monitor are connected with an HDMI cable. if the monitor is not compatible with HDMI audio signal playback, only the video signals are output to the monitor.
- The audio signals input from the analog, digital and EXT. IN connectors are not output to the monitor.
- When control dock for iPod is used as the input source, assignment of the HDMI input terminal is disabled, even if it is assigned.
- When "HDMI Control" "Control" (@page 37) is set to "ON", HDMI input terminal cannot be assigned to "TV".

Digital DIGITAL

Set this to change the digital input terminals assigned to the input sources.

The CD DVD HDP TV SAT/CBL VCR DVR V.AUX SIRIUS input sources are assigned to the digital input terminals as shown below.

COAX 1 (COAXIAL) / COAX 2 / COAX 3 / OPT 1 (OPTICAL) / OPT 2 / OPT 3 / D.LINK (DENON LINK) *

*: "D.LINK" is set when the AVR-4310Cl is connected by DENON LINK to a DENON Blu-ray disc / DVD player (P page 20 "Components Equipped with a DENON LINK Connector").

None: Do not assign a digital input terminal to the selected input source.

See overleaf





:Return to previous menu

:Displaying the menu

Cancel the menu

Setting items Setting contents The control dock for iPod can be assigned to the CD | DVD | HDP iPod dock iPod TV SAT/CBL VCR DVR V.AUX input sources. Assign the control dock for iPod input. Assign: Assign the control dock for iPod to the selected input source. None: Do not assign the control dock for iPod to the selected input source. • By default on first use, it is assigned to "VCR (iPod)". • An input source to which control dock for iPod cannot be assigned is displayed as "---". If control dock for iPod is not connected to the AVR-4310Cl, assignment of the "iPod dock" is disabled, and you can use it as a standard input Yes: Reset to the defaults. Default No: Do not reset to the defaults. Reset all settings to factory default. If you select "Default" and press **ENTER** the message "Return all settings to the default?" is displayed. Select "Yes" or "No", and then press ENTER.

* Upon purchase, the settings of the different input sources are as shown Digital DIGITAL below. (Continued) Input CD DVD HDP TV SAT/CBL VCR source COAX COAX COAX Default OPT 1 None None 3 1 setting Input DVR V.AUX **SIRIUS** source Default OPT 2 OPT 3 None setting When control dock for iPod is used as the input source, assignment of the digital input terminal is disabled, even if it is assigned. Component COMP The DVD HDP TV SAT/CBL VCR DVR V.AUX input sources Set this to change the are assigned to the component video input terminals as shown below. component video input 1-RCA (Component video 1) / 2-RCA (Component video 2) / 3-RCA terminals assigned to the (Component video 3) input sources. None: Do not assign a component video input terminal to the selected input source. * Upon purchase, the settings of the different input sources are as shown below. Input SAT/ DVD HDP TV VCR DVR V.AUX source CBL Default

1-RCA

assigned is displayed as "---".

setting

2-RCA

None

• An input source to which a component video input terminal cannot be

• When control dock for iPod is used as the input source, assignment of

the component video input terminal is disabled, even if it is assigned.

None

None

3-RCA

None

Setting contents



Setting items

preferred input source.

Video Select

Default settings are underlined.

SOURCE: Play the picture and sound of the input source. DVD / HDP / TV / SAT/CBL / VCR / DVR / V.AUX : Select video input Change video input to your source to view. This can be set for individual input sources.

Setting contents

Making the Input Settings (Source Select)

Set by either pressing **<VIDEO SELECT>** on the main unit or **[VIDEO SELECT1** on the main remote control.

• When operating from the main remote control unit Press [VIDEO SELECT] repeatedly until the picture you want to see is displayed.

To cancel, press [VIDEO SELECT], and select "SOURCE"

• When operating from the main unit

After pressing **<VIDEO SELECT>** on the main unit, turn the **<SOURCE SELECT>** on the main unit until the picture you want to see is displayed. To cancel, press **<VIDEO SELECT>**, then turn **<SOURCE SELECT>** and select "SOURCE".

NOTE

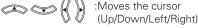
:Confirm the setting

- It is not possible to select HDMI input signals.
- The video select function does not work with HDMI signals.
- Input sources for which "Delete" is selected at "Source Delete" (rapage 42) cannot be selected.

See overleaf











Setting items

Making the Input Settings (Source Select)

Setting items Setting contents Video Convert This can be set when the input source is DVD | HDP | TV | SAT/CBL The input video signal is VCR | DVR | V.AUX | converted automatically in **ON**: The input video signal is converted. function of the connected **OFF**: The input video signal is not converted. TV (page 10 "Converting

Input Video Signals for

Output (Video Conversion • When a non-standard video signal from a game machine or some other source is input, the video conversion function might not operate. In this case set "Video Convert" to "OFF".

• When "Video Convert" is set to "OFF", the video conversion function does not work. In this case, connect the AVR-4310Cl and TV with the same type of cable.

i/p Scaler

Function)").

set at "Resolution".

Analog: Use i/p scaler function for analog video signal.

The input source's resolution Analog & HDMI: Use i/p scaler function for analog and HDMI video signal. is converted to the resolution **OFF**: Do not use i/p scaler function.

• This can be set when "Video Convert" is set to "ON"

- "Analog & HDMI" can be set for input sources for which an HDMI input terminal is assigned.
- When "i/p Scaler" is set to "Analog & HDMI", it has no effect on the x.v. Color signal or computer resolutions.

Resolution

Set resolution of the video signal output to HDMI.

• Auto: The number of pixels the TV connected to the HDMI output terminal supports is detected automatically and the appropriate output resolution is set.

480p/576p / 1080i / 720p / 1080p / 1080p:24Hz : Set the output resolution.

• This can be set when "i/p Scaler" is set to anything other than "OFF".

- When "i/p Scaler" is set to "Analog & HDMI", the resolution of both the analog video input signal and HDMI input signal can be set.
- To watch 1080p/24Hz pictures, use a TV that supports 1080p/24Hz video signals.
- When set to "1080p/24Hz", you can enjoy film-like pictures for film sources (in 24 Hz). For video sources and mixed sources, we recommend setting the resolution to "1080p".
- It is not possible to convert a 50 Hz signal into 1080p/24Hz. It is output at a resolution of 1080p/50Hz.

Progressive Mode

Select optimum progressive mode for video material.

Main remote control

operation buttons

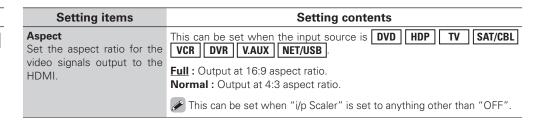
This can be set when the input source is DVD | HDP | TV | SAT/CBL VCR DVR V.AUX

Auto: The video material is automatically detected and the appropriate mode is set

Video 1: Select mode suitable for video playback

Video 2: Select mode suitable for video and 30-frame film material playback.

This can be set when "i/p Scaler" is set to anything other than "OFF".



Changing the Input Mode and Decoding Mode (Input Mode)



Default settings are underlined.

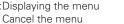
The selectable input modes depend on the input source and "Input Assign" (Propage 46) setting.

Setting items	Setting contents
Input Mode	Auto: Automatically detect input signal and perform playback.
Set the audio input modes for	HDMI: Play only signals from HDMI input.
the different input sources.	Digital : Play only signals from digital input.
·	Analog: Play only signals from analog input.
	EXT. IN : Play only signals from EXT. IN input.
	• "HDMI" can be set for input sources for which "HDMI" is assigned at "Input Assign".
	 "Digital" can be set for input sources for which "Digital" is assigned at "Input Assign".
	• When digital signals are properly input, the "Dig." indicator lights on the display. If the "Dig." indicator does not light, check the digital input connector assignment and the connections.
	• The surround mode cannot be set if the input mode is set to "EXT. IN".
	• This can also be set by pressing <input mode=""/> . Each time you press
	the button, the input mode display will change.
	Auto → HDMI → Digital →
	EXT. IN ← Analog ←

See overleaf













Setting items	Setting contents
Decode Mode Set the decode mode for input source	This can be set when the input source is CD DVD HDP TV SAT/CBL VCR DVR V.AUX.
	<u>Auto</u> : Detect type of digital input signal and decode and play automatically. PCM: Decode and play only PCM input signals. DTS: Decode and play only DTS input signals.
	 This can be set for input sources for which "HDMI" or "Digital" is assigned at "Input Assign" (page 47). Normally set this to "Auto". Set "PCM" and "DTS" when inputting the corresponding input signal.

Correcting the Input Source's Playback Level (Source Level)



Default settings are underlined.

- Corrects the playback level of the selected input source's audio input.
- Set this if there are differences in the input volume levels between the different sources.

Setting contents

-12dB ~ +12dB (0dB)

The analog input level and digital input level can be adjusted independently for input sources for which "HDMI" or "Digital" is assigned at "Input Assign" (page 47).

Displaying the Playback Screen for the Different Input Sources (Play)



When the input source is "NET/USB (Favorites) Internet Radio Media Server Rhapsody XM SIRIUS HD Radio (iPod)", the corresponding screen can be displayed.

Setting the iPod with iPod Dock Playback Mode (Playback Mode)



This can be set for the input source for which "iPod dock" is assigned at "Input Assign" (@page 48).

Setting items	Setting contents
Repeat	All: Repeat all songs.
Make settings for repeat	One: Repeat the current song.
mode.	OFF : Cancel repeat mode.
Shuffle	Songs: Shuffle all songs.
Make settings for shuffle	Albums: Shuffle songs from current album only.
mode.	OFF : Cancel shuffle mode.

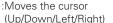
See overleaf

Changing the Input Source's Display Name (Rename)



Setting items	Setting contents	
Rename Change the display name of the selected input source.	 Press ▷ or ENTER. Use ◁ ▷ to set the cursor to the character you want to change. Use △ ▽ to change the character, then press ENTER. Up to 8 characters can be input. The input character type can be switched by pressing [SEARCH] or MENU while the display name is being changed. The types of characters that can be input are as shown below. 	
	[Upper case characters] ABCDEFGHIJKLMNOPQRSTUVWXYZ [Lower case characters] abcdefghijklmnopqrstuvwxyz [Symbols] ! # % & ' () * + , / : ; < = " > ? @ [\] (Space) [Numbers] 0123456789	
	4. Repeat steps 2 and 3 to change the display name.	
Default Reset all settings to factory default	Yes: Reset to the defaults. No: Do not reset to the defaults.	









:Return to previous menu

Making the Input Settings (Source Select)

Setting the NET/USB Playback Mode (Playback Mode)



Default settings are underlined.

This can be set when the input source is **NET/USB**

Setting items	Setting contents
USB Select	Front : Select front-panel port.
Set the USB port to be	Rear: Select rear-panel port.
used.	
Direct Play	Favorites: Play songs registered as "Favorites".
Use DIRECT PLAY on the	All Music: Play the songs saved on the PC media.
sub remote control unit to	
set the folder to be played.	

Setting the Media Server, USB/iPod, Napster and Rhapsody Playback Mode (Playback Mode)



This can be set when the input source is Media Server USB/iPod Napster Rhapsody

Setting items	Setting contents
Repeat	All: Repeat all files.
Make settings for repeat	One: Repeat the current file.
mode.	OFF : Cancel repeat mode.
Random	ON: Enable random playback.
Make random mode	OFF : Disable random playback.
settings.	

Making the Settings to Play Still Pictures (Still Picture)



Default settings are underlined.

This can be set when the input source is **NET/USB**

Main remote control

operation buttons

Setting items	Setting contents
Slide Show	ON : Display still picture images in a slide show.
Make slide show settings.	OFF : Display only the selected still picture image.
Interval	5s ~ 60s (<u>5s</u>)
Set the playback time per	
image.	

Automatically Presetting Radio Stations (Auto Preset)



Default settings are underlined.

Setting items	Setting contents
Start Start the auto preset process.	This can be set when the input source is HD Radio . If an FM station cannot be preset automatically, select the desired station by tuning it in manually, then preset it manually.

Setting Preset Channels so that They are not Displayed When Tuning (Preset Skip)



Default settings are underlined.

Setting items	Setting contents
A ~ G Set the preset channels that you do not want to display.	This can be set when the input source is XM SIRIUS HD Radio. All: All the preset channels in the selected memory block are skipped. 1 ~ 8: Set the preset channels you do not want to displayed. • ON: Display the selected preset channel. • Skip: Do not display the selected preset channel.
	When set to "All" to "Skip", it is possible to skip entire preset memory blocks (A to G).

See overleaf













Giving Names to Preset Stations (Preset Name)



Default settings are underlined.

Setting items	Setting contents
A1 ~ G8 Select the preset channel.	This can be set when the input source is HD Radio. 1. Press ▷ or ENTER. 2. Use ◁ ▷ to set the cursor to the character you want to change. 3. Use △∇ to change the character, then press ENTER. • Up to 8 characters can be input. • The input character type can be switched by pressing [SEARCH] or MENU while the display name is being changed. • The types of characters that can be input are as shown below.
	[Upper case characters] ABCDEFGHIJKLMNOPQRSTUVWXYZ [Lower case characters] abcdefghijklmnopqrstuvwxyz [Symbols] ! # % & ' () * + , / : ; < = " > ? @ [\] (Space) [Numbers] 0123456789 4. Repeat steps 2 and 3 to change the display name.
Default Reset all settings to factory default.	Yes: Reset to the defaults. No: Do not reset to the defaults.

Check the XM Radio and SIRIUS Radio Reception Sensitivity (Antenna Aiming)



Default settings are underlined.

• This can be set when the input source is XM SIRIUS.

Main remote control

operation buttons

• Install the antenna with radio reception sensitivity set to maximum.

Setting items		Setting contents		
Satellite Indicate sat	ellite signal	☐ When the input source is XM		
strength.	ellite signal	Display	Condition	
			Signal strength is strong	
			Signal strength is good	
			Signal strength is marginal	
			Signal strength is weak	
			No signal	
Terrestrial				
		■ When the input source is	SIRIUS	
strength.		Display	Condition	
			Signal strength is excellent	
			Signal strength is good	
			Signal strength is weak	
			No signal	

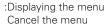
Setting SIRIUS Radio Reception Restrictions (Parental Lock)



Default settings are underlined.

- This can be set when the input source is **SIRIUS**.
- For any channel, set the radio reception limits.

Setting items	Setting contents
Lock Setting Set the channel radio reception limits.	 Press △∇ to select "Lock Setting", and then press ▷ or ENTER. Pressing △∇⊲ ▷, input the password (4 digits number) and press ENTER. Select channel by pressing △∇, and set the lock by pressing ⊲ ▷. Unlock: Do not lock selected channel(s). Lock: Lock selected channel(s). When a Parental Locked channel is tuned, "Enter Lock Code" is displayed, then input the password. The default password is "0000". If the password is wrong, "Lock Code is incorrect" is displayed. Input the correct password. While listening to the channel being played, you can also set parental lock (🏗 page 60).
Edit Lock Code Change the password.	 Press △∇ to select "Edit Lock Code", and then press ▷ or ENTER. Input current lock code (4 digits) using △∇ ▷, and press ENTER. Input new lock code (4 digits) using △∇ ▷, and press ENTER. Input new lock code (4 digits) again using △∇ ▷, and press ENTER. Press △∇ to select "Execute", and then press ENTER. If the correct password is input, "Completed" is displayed, and the new password is modified. If the old password is incorrectly input, "Current Lock Code is incorrect" is displayed, and proceed again from step 1. If the password input is 3 digits or less, "Enter 4 digits number" is displayed, and input again with a 4 digit password. If the new password is not correctly input, "New Lock Codes do not match" is displayed and the password does not change.



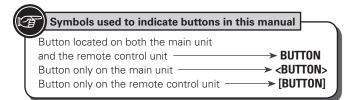


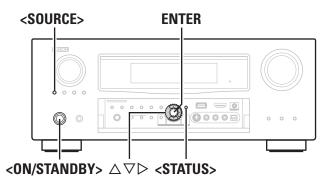


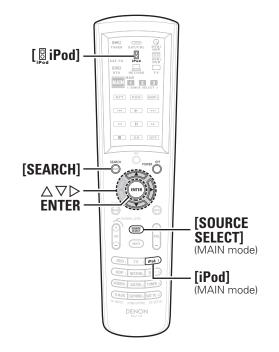


:Return to previous menu

Playback







Important Information

Before starting playback, make the connections between the different components and the settings on the receiver.

NOTE

- Also refer to the operating instructions of the connected components when playing them.
- External devices can be controlled by remote control unit (*** page 89 "Operating the Connected Devices by Remote Control Unit").

Playing Components

Playing a Blu-ray Disc Player/DVD Player

- The following describes the procedure for playing Blu-ray disc player / DVD player. Use the same procedure to play other components.
- Switch the main remote control unit to the "MAIN" mode when performing this operation (**page 89 "Operating the Main Remote Control Unit").

1 Playback preparation.

- 1 Turn on the power of the TV, subwoofer and player.
- (2) Switch the TV's input to the AVR-4310CL
- 3 Load the disc in the player.
- **2** Turn the AVR-4310CI power on. (**E** page 24 "Turning the Power On")
- **3** Press [SOURCE SELECT] and select the input source. Display the source select menu (**) page 27).
- **4** Play the component connected to the AVR-4310CI. Make the necessary settings on the player (language setting, subtitles setting, etc.) beforehand.

5 Adjust the items below.

- ☐ Adjusting the master volume (☐ page 70)
- ☐ Selecting the surround mode (© page 71)
- ☐ Adjusting the Sound and Picture Quality

 (☐ page 73)

Playing an iPod[®] Using a Control Dock for iPod

When a DENON control dock for iPod (ASD-1R or ASD-11R, sold separately) is used, you can play images and music stored on an $iPod^{\textcircled{\scriptsize B}}$.

Listening to music on an iPod®

1 Playback preparation.

- ① Connecting the DENON control dock for iPod to the AVR-4310Cl (PF page 16 "Control Dock for iPod").
- 2 Set the iPod® in the DENON control dock for iPod
- **2** Turn the AVR-4310CI power on. (Page 24 "Turning the Power On")
- Press [SOURCE SELECT] to display the GUI Source Select menu, then select " page 27).

The input source switches to the source to which the control dock for iPod is assigned and the iPod menu is displayed.



(When using an ASD-1R)

(When using an ASD-11R)

- *When using an ASD-11R, the "Music" and "Videos" folders are displayed on the top menu.
- ** Once communications between the AVR-4310Cl and the iPod are completed, the connections screen is displayed on the iPod.
- ※ If the connections screen is not displayed, the iPod may not be properly connected. Reconnect it.
- 4 Set the main remote control unit to the "iPod" mode (page 89 "Operating the Main Remote Control Unit").

5 Press [SEARCH] and hold it down for a 2 seconds or more to select the display mode.

* There are two modes for display the contents recorded on the iPod.

Browse mode

This is the mode for displaying the iPod information on the GUI screen to operate the iPod. In this mode, you cannot perform operations directly on the iPod itself.

* With the AVR-4310Cl's display, only English letters and numbers and certain symbols can be displayed. Any characters that cannot be displayed are replaced with ". (period)".

Remote mode

This is the mode for performing operations directly on the iPod itself while watching the screen displayed on the iPod. In this mode, the GUI screen is not displayed.

* "Remote iPod" appears on the main unit's display.

Display mode		Browse mode	Remote mode
	Audio file	0	0
Playable files	Picture file	×	○*2
IIICS	Movie file	O*1	O*2
Active buttons	Main remote control unit (AVR-4310CI)	0	0
	iPod [®]	×	0

- *1: When using an ASD-11R DENON control dock for iPod.
- *2: Video may not be output, depending on the combination of ASD-1R or ASD-11R DENON control dock for iPod and iPod.
- **6** Use $\triangle \nabla$ to select the item, then press **ENTER** or \triangleright to select the file to be played.
- **7** Press ENTER or \triangleright . Playback starts.
- Adjust the items below.
- O Adjusting the master volume (@page 70)
 - ☐ Selecting the surround mode (☐ page 71)
 - □ Adjusting the Sound and Picture Quality (F) page 73)

- ☐ To stop (@page 70)
- ☐ Stopping playback temporarily (② page 70)
- ☐ Fast-forwarding or fast-reversing (☐ page 70)
- ☐ To cue to the beginning of a track (☐ page 70)
- ☐ Playing repeatedly (@ page 70)
- ☐ Shuffling playback (@ page 70)
- ☐ Searching pages (☞ page 70)



- Use the RESTORER mode to expand the low and high frequency components of compressed audio files and achieve a richer sound (rappage 77). The default setting is "Mode3".
- The title name, artist name and album name can be checked by pressing **<STATUS>** during playback.
- The time (default : 30 sec) for which the GUI menus are displayed can be set at "GUI" - "iPod" (Press $\Delta \nabla \triangleleft D$ to return to the original screen.
- Press [POWER OFF] or <ON/STANDBY> and set the AVR-4310Cl's power to the standby mode before disconnecting the iPod. Also switch the input source to one to which the menu "iPod" is not assigned before disconnecting the iPod.

NOTE

- Depending on the type of iPod and the software version, some functions may not operate.
- DENON will accept no responsibility whatsoever for any loss of iPod

Viewing Still Pictures and Videos on an iPod[®] in the Browse Mode

When an iPod equipped with a video function is connected to a DENON ASD-11R control dock for iPod, image files can be played in the browse mode.

Use $\triangle \nabla$ to select "Video", then press **ENTER** or \triangleright .

Use $\triangle \nabla$ to select the search item or folder, then press ENTER or \triangleright .

3 Use $\triangle \nabla$ to select the video file, then press **ENTER** or \triangleright . or \triangleright .

Playback starts

Viewing Still Pictures and Videos on an iPod[®] in the Remote Mode

Photos and videos on an iPod® equipped with a slide show or video function can be played using a DENON ASD-1R control dock for iPod.

Press and hold [SEARCH] to set the Remote mode. "Remote iPod" is displayed on the AVR-4310CI's display.

Watching the iPod's screen, use $\triangle \nabla$ to select "Photos" or "Videos".

Press ENTER until the image you want to view is displayed displayed.

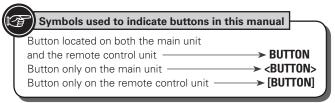


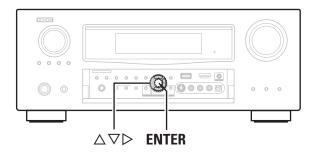
"TV Out" at the iPod's "Slide show Settings" or "Video Settings" must be set to "On" in order to display the iPod's photo data or videos on the monitor. For details, see the iPod's operating instructions.

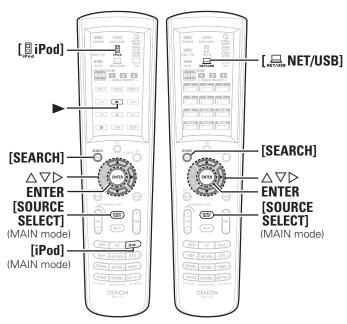
NOTE

Video may not be output, depending on the combination of ASD-1R or ASD-11R DENON control dock for iPod and iPod.

Playing Components







*When no control dock for iPod is connected, this operation is also possible in the "iPod" mode.

Playing an iPod® Connected Directly to the AVR-4310Cl's USB Port

- Music stored on an iPod can be played on the AVR-4310Cl when the AVR-4310Cl and iPod are connected by USB cable.
- The AVR-4310Cl supports the audio on iPods of generations 5 and later and iPod nano, iPod classic and iPod touch (not iPod shuffle). For some models, however, some of the functions may be restricted.
- The operation may not work properly if the iPod's software is old. Be sure to use the latest version of iPod software.
- With iPods, non-copyrighted material and material for which duplication and playback is authorized by law can be duplicated and played by individuals for their personal enjoyment. Infringement of copyrights is prohibited by law.
- Note that DENON will accept no responsibility whatsoever for any problems arising with the data on an iPod when using the AVR-4310Cl in conjunction with the iPod.

Listening to music on an iPod®

1 Connect the iPod[®] to the AVR-4310CI's USB port using the USB cable included with the iPod (© page 21 "USB Port").

2 Turn the AVR-4310CI power on. (**) page 24 "Turning the Power On")

Press [SOURCE SELECT] to display the GUI Source Select menu, then select "Fa" (Fa page 27).



- When the iPod is connected directly to the USB port, menus under "Music" are displayed.
- If the screens above are not displayed, the iPod may not be properly connected. Try connecting again.
- *When no control dock for iPod is connected, this can also be selected by pressing [iPod].

Set the main remote control unit to the "NET/USB" mode (Papage 89 "Operating the Main Remote Control Unit").

*When no control dock for iPod is connected, this operation is also possible in the "iPod" mode.

5 Press [SEARCH] and hold it down for a 2 seconds or more to select the display mode.

* There are two modes for display the contents recorded on the iPod.

Browse mode

This is the mode for displaying the iPod information on the GUI screen to operate the iPod. In this mode, you cannot perform operations directly on the iPod itself.

*With the AVR-4310Cl's display, only English letters and numbers and certain symbols can be displayed. Any characters that cannot be displayed are replaced with ". (period)".

Remote mode

This is the mode for performing operations directly on the iPod itself while watching the screen displayed on the iPod. In this mode, the GUI screen is not displayed.

- * "Remote iPod" appears on the main unit's display.
- * The Remote mode is not supported on 5th generation iPods or iPod nanos.

Display mode		Browse mode	Remote mode
	Audio file	0	0
Playable files	Picture file	×	×
	Movie file	×	×*
Active buttons	Main remote control unit (AVR-4310CI)	0	0
	iPod [®]	×	0

* : Only the sound is played.

6 Use $\triangle \nabla$ to select the item, then press **ENTER** or \triangleright to select the file to be played.

7 Press ▶, ENTER or ▷. Playback starts.

- Adjusting the master volume (page 70)
 - ☐ Selecting the surround mode (☐ page 71)
 - □ Adjusting the Sound and Picture Quality (EF page 73)
- ☐ To stop (☐ page 70)
- ☐ Stopping playback temporarily (☐ page 70)
- ☐ Fast-forwarding or fast-reversing (☐ page 70)
- ☐ To cue to the beginning of a track (☐ page 70)
- ☐ Playing repeatedly (@ page 70)
- ☐ Playing in random order (☐ page 70)
- ☐ Searching pages (☐ page 70)



- The Remote mode is not supported on 5th generation iPods or iPod
- Use the RESTORER mode to expand the low and high frequency components of compressed audio files and achieve a richer sound (Pr page 77). The default setting is "Mode3".
- The title name, artist name and album name can be checked by pressing **<STATUS>** during playback.
- The time (default: 30 sec) for which the GUI menus are displayed can be set at "GUI" - "iPod" (Figure 43). Press $\Delta \nabla \triangleleft \triangleright$ to return to the original screen.

NOTE

- Depending on the type of iPod and the software version, some functions may not operate.
- DENON will accept no responsibility whatsoever for any loss of iPod data.



"Made for iPod" means that an electronic accessory has been designed to connect specifically to iPod and has been certified by the developer to meet Apple performance standards.

Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards.

iPod is a trademark of Apple Inc., registered in the U.S. and other countries.

* The iPod may only be used to copy or play contents that are not copyrighted or contents for which copying or playback is legally permitted for your private use as an individual. Be sure to comply with applicable copyright legislation.

Tuning in Radio Stations

Important Information

About SIRIUS XM Radio

To listen to Satellite Radio, you'll need to connect either a SIRIUS or XM Satellite Radio tuner (sold separately) to your satellite-ready receiver. Satellite Radio is available to residents of the US (except Alaska and Hawaii) and Canada.

Satellite Radio delivers a variety of commercial-free music from categories ranging from Pop, Rock, Country, R&B, Dance, Jazz, Classical and many more plus coverage of all the top professional and college sports including play by play games from select leagues and teams. Additional programming includes expert sports talk, uncensored entertainment, comedy, family programming, local traffic and weather and news from your most trusted sources.

Whether you purchase a SIRIUS or XM tuner, you'll need to activate and subscribe to begin enjoying the service. Easy to follow installation and setup instructions are provided with the satellite tuners. Whichever service you choose, there are a variety of programming packages available, including the option of adding "The Best of SIRIUS" programming to your XM tuner or "The Best of XM" programming to your SIRIUS tuner, enabling you to enjoy the most popular programming among both services. The "Best of" packages are not available to SIRIUS or XM Canada subscribers at this time.

Family friendly packages are also available to restrict channels featuring content that may be inappropriate for children.

To subscribe to XM, U.S. customers should visit xmradio.com or call 1-800-XMRADIO (1-800-967-2346); Canadian customers should visit xmradio.ca or call XM Listener Care at 1-877-GETXMSR (1-877-438-9677).

To subscribe to SIRIUS, U.S. and Canadian customers can call 1-888-539-SIRI (1-888-539-7474) or visit sirius.com (US) or siriuscanada.ca (Canada).

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Using the HD Radio™ Receiver

HD radio stations offer higher sound quality than conventional FM/ AM broadcasts. It is also possible to receive data services and select broadcasts from among up to eight multicast programs.

HD Radio technology provides higher quality sound than conventional broadcasts and allows reception of data services.

- FM sounds as sensational as CDs
- AM sounds as rich as analog FM stereo
- A variety of "data services", including text-based information, song title, artist name, album name, genre, etc. can be received.

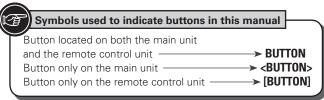
Furthermore, in addition to conventional broadcasts, with HD Radio broadcasting it is possible to choose from up to 8 multicast programs.

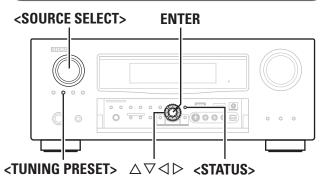
For detailed information on HD Radio technology, please go to "www. ibiquity.com".

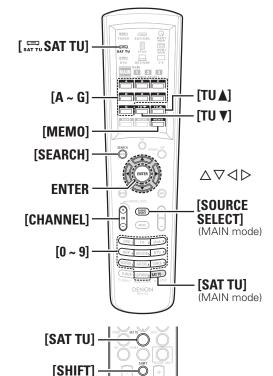
HD) Radio®

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Tuning in Radio Stations – XM Satellite Radio







Sub remote control unit

Listening to XM Satellite Radio

When operating XM with the AVR-4310Cl via the main remote control unit or sub remote control unit, use **[SAT TU]**.

Before operating, set to **[SAT TU]** operating mode.

[SAT TU] of **[SOURCE SELECT]** and **[SAT TU]** of **[DEVICE SELECT]** mode can use only either XM or SIRIUS. The default setting is for SIRIUS operation.

- **1** Set GUI menu "Option Setup" "Remote (SIRIUS/XM)" (© page 44) to "SAT TU: XM".
- Press [SOURCE SELECT] to display the GUI Source Select menu, then select " page 27).

The input source becomes that set in step 1.

3 Set the main remote control unit to the "SAT TU" mode (Page 89 "Operating the Main Remote Control Unit").

You can then operate the input source you set in step 1.

☐ Use [TU ▲] or [TU ▼] to select the channel.

When the channel is tuned in, the name of the song and.

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When the channel is tuned in, the name of the song and artist are displayed.

- Adjust the items below.
- Adjusting the master volume (@page 70)
 - ☐ Selecting the surround mode (☐ page 71)
 - ☐ Adjusting the Sound and Picture Quality
 ((page 73)



- The channel switches continuously when [TU ▲] or [TU ▼] is pressed and held.
- The artist name, song title, category and reception level can be checked by pressing <STATUS>.
- The time (default : 30 sec) for which the GUI menus are displayed can be set "GUI" – "Tuner" ((☐ page 43).
 Press △∇◁▷ to return to the original screen.

Checking the XM Signal Strength and Radio ID

1 Press **STATUS**> until "SIGNAL" appears on the display.

The display will switch as shown below, depending on the reception conditions.

Display	GUI	Status
GOOD	M	Signal strength is good
MARGINAL	Ti	Signal strength is marginal
WEAK	T	Signal strength is weak
NO	Y	No signal

- **2** Adjust the position of the antenna until "SIGNAL: GOOD" is shown on the display.
- **3** Press **STATUS**> until the channel (example: "XM001") is displayed.



The radio ID is shown on the display.





The strength of both the XM satellite and terrestrial signals can be checked "Antenna Aiming" (**) page 52).

Presetting Radio Channels (Preset Memory)

Your favorite broadcast channels can be preset so that you can tune them in easily. Up to 56 stations can be preset.

Tune in the broadcast channel you want to preset.

2 Press [MEMO].

Press [A ~ G] to select the block in which the channel is to be preset, then press [CHANNEL] or [1 ~ 8] to select the preset number.

* The memory block can also be selected by pressing [SHIFT] on the sub-remote unit.

Press [MEMO] again to complete the setting.



To preset other channels, repeat steps 1 to 4.

NOTE

Preset channels are erased by overwriting them.

Listening to Preset Channels

Press [A ~ G] to select the memory block.

Press [CHANNEL] or [1 ~ 8] to select the desired preset channel.



You can also operate via the main unit. In this case, perform the following operations.

Press <TUNING PRESET>, then turn <SOURCE SELECT> to select the preset radio channel.

Searching Categories

 \blacksquare Press $\triangleleft \triangleright$. XM040 DeepTrks Channel category

Use $\triangleleft \triangleright$ to select the category, to use $\triangle \nabla$ to select the desired channel.

Accessing XM Radio Channels Directly

◆ Press [SEARCH].

ightharpoonup Press $[0 \sim 9]$ to input the channel. **Example**: Accessing channel "XM123": Press [1], [2] and [3].

If no button is pressed within several seconds, the channel automatically switches to the one whose number has been input.

• Press ENTER to set that channel. Reception switches to the selected channel.



- "LOADING" is displayed while channels or data are being received.
- Refer to "Troubleshooting" "XM Satellite Radio" (Propage 111) regarding other messages.

Listening to SIRIUS Satellite Radio

When operating SIRIUS with the AVR-4310Cl via the main remote control unit or sub remote control unit, use [SAT TU].

Before operating, set to [SAT TU] operating mode.

[SAT TU] of [SOURCE SELECT] and [SAT TU] of [DEVICE SELECT] mode can use only either XM or SIRIUS. The default setting is for SIRIUS operation.

◄ Set GUI menu "Option Setup" – "Remote (SIRIUS/ XM)" (page 44) to "SAT TU: SIRIUS".

Press [SOURCE SELECT] to display the GUI Source Select menu, then select "sruss," (F page 27).

The input source becomes that set in step 1.

Set the main remote control unit to the "SAT TU" mode (Page 89 "Operating the Main Remote Control Unit").

You can then operate the input source you set in step 1.

Use $[TU \triangle]$ or $[TU \nabla]$ to select the channel. When the channel is tuned in, the name of the song and artist

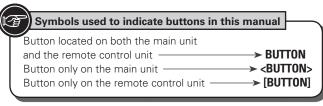
are displayed.

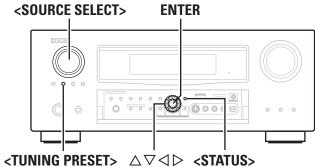
- **5** Adjust the items below. □ Adjusting the master volume (page 70)
 - ☐ Selecting the surround mode (page 71)
 - □ Adjusting the Sound and Picture Quality (Pp page 73)

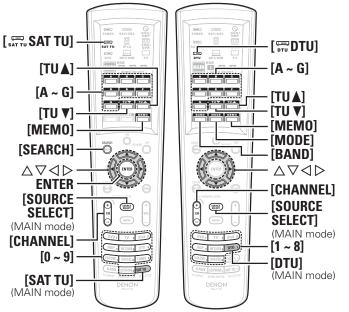


- The channel switches continuously when [TU ▲] or [TU ▼] is pressed and held.
- The song title, artist name, composer name, category and reception level can be checked by pressing **<STATUS>**.
- The time (default : 30 sec) for which the GUI menu are displayed can be set "GUI" – "Tuner" (Repage 43). Press $\Delta \nabla \triangleleft \triangleright$ to return to the original screen.

Tuning in Radio Stations - SIRIUS Satellite Radio







Sub remote control unit

[DTU] [SAT TU]

Checking the SIRIUS Signal Strength and Radio ID

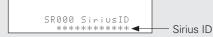
1 Press **STATUS**> until "SIGNAL" appears on the display.

The display will switch as shown below, depending on the reception conditions.

Display	Status	
EXCELLENT	Signal strength is excellent	
GOOD Signal strength is good		
WEAK	Signal strength is weak	
NO SIGNAL	No signal	

- **2** Adjust the position of the antenna until "SIGNAL: EXCELLENT" is shown on the display.
- **3** Press **STATUS**> until the channel (example: "SR001") is displayed.





Write your own SIRIUS ID for storage use. Sirius ID :



The strength of both the SIRIUS satellite and terrestrial signals can be checked "Antenna Aiming" (@page 52).

Presetting Radio Channels (Preset Memory)

Your favorite broadcast channels can be preset so that you can tune them in easily. Up to 56 channels can be preset.

1 Tune in the broadcast channel you want to preset.

? Press [MEM0].

Press [A ~ G] to select the block in which the channel is to be preset, then press [CHANNEL] or [1 ~ 8] to select the preset number.

** The memory block can also be selected by pressing [SHIFT] on the sub-remote unit.

⚠ Press [MEM0] again to complete the setting.



To preset other channels, repeat steps 1 to 4.

NOTE

Preset channels are erased by overwriting them.

Listening to Preset Channels

Press [CHANNEL] to select the desired preset channel, then press ENTER.

 $\mbox{\@sc M}$ Selection is still possible if you press [1 ~ 8] after pressing [A ~ G]



You can also operate via the main unit. In this case, perform the following operations.

Press <TUNING PRESET>, then turn <SOURCE SELECT> to select the preset radio channel.

[SHIFT]

Searching Categories



Use $\triangleleft \triangleright$ to select the category, to use $\triangle \nabla$ to select the desired channel.

Accessing SIRIUS Satellite Radio Channels Directly

• Press [0 ~ 9] to input the channel. Example: Accessing channel "SR123": Press [1], [2] and [3].

If no button is pressed within several seconds, the channel automatically switches to the one whose number has been input.

• Press ENTER to set that channel. Reception switches to the selected channel.



- "UPDATING" is displayed while the encording code is being
- "SIRIUS UPDATING" is displayed when updating SIRIUS tuner
- Refer to "Troubleshooting" "SIRIUS Satellite Radio" (F) page 111) regarding other messages.

Parental Lock

Tune to the channel you want to lock.

Press ENTER for at least 3 seconds. "Enter Lock Code" is displayed.

2 Enter the 4-digit lock code using $\triangle \nabla \triangleleft \triangleright$. When you enter the correct code, the corresponding channel is locked

Press ENTER.



- Channels under Parental Lock cannot be tuned in by performing Tuning Up/Down or by category search.
- Channels stored in preset memory can be tuned in by the preset channel select operation, even if Parental Lock is applied.
- When a channel to which Parental Lock is applied is being played. Parental Lock for that channel is cancelled by performing step 2.
- See "Edit Lock Cord" (Page 52) for the method of changing Parental Lock Cord.
- You can also set "Parental Lock" (Parental Lock" (Parental Lock") from the menu.

Listening to HD Radio Stations

Press [SOURCE SELECT] to display the GUI Source Select menu, then select " page 27).

Set the main remote control unit to the "DTU" mode (page 89 "Operating the Main Remote Control Unit").

Press [BAND] to select "FM" or "AM".

Tune in the desired broadcast station.

1 To tune in automatically (Auto Tuning)

Press [MODE] to select "HD-AUTO" or "AUTO", then use [TU A] or [TU V] to select the station you want to hear.

- The "HD" indicator lights on the display when an HD Radio station is tuned in.
- When "HD-AUTO" (tuning mode) is selected, only HD Radio stations are tuned in.
- If "AUTO" (tuning mode) is selected, both HD Radio and analog stations are tuned in.
- (2) To tune in manually (Manual Tuning)

Press [MODE] to select "MANUAL", then use [TU ▲] or [TU ▼].

Adjust the items below.

- ☐ Adjusting the master volume (☐ page 70)
- ☐ Selecting the surround mode (@page 71)
- □ Adjusting the Sound and Picture Quality (**P** page 73)

- If the desired station cannot be tuned in with auto tuning, tune it in
- When tuning in stations manually, press and hold [TU ▲] or [TU ▼] to change frequencies continuously.
- The time (default : 30 sec) for which the GUI menu is displayed can be set "GUI" - "Tuner" (Repage 43). Press $\Delta \nabla \triangleleft \triangleright$ to return to the original screen.

Selecting Audio Programs

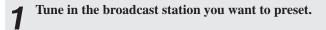
HD Radio includes up to 9 audio programs (HD1 to HD8 and Analog). The different audio programs also have data programs.

Press $\triangle \nabla$ to select the audio program.

If the station you are listening to has multiple audio programs, "HD1" is indicated on the display. If it only has one audio program, "HD" is indicated.

Presetting Radio Stations (Preset Memory)

Your favorite broadcast stations can be preset so that you can tune them in easily. Up to 56 stations can be preset.



Press [MEMO].

Press [A ~ G] to select the block in which the channel is to be preset, then press [CHANNEL] or [1 ~ 8] to select the preset number.

* The memory block can also be selected by pressing [SHIFT] on the sub remote control unit.



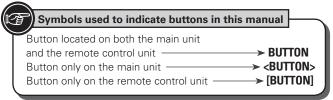


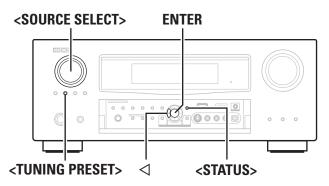
- To preset other stations, repeat steps 1 to 4.
- Multicasts can also be preset.
- Stations can be preset automatically at "Auto Preset" (page 51).

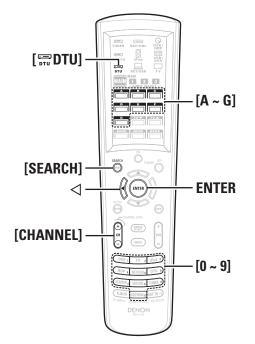
NOTE

Preset stations are erased by overwriting them.

Tuning in Radio Stations - HD Radio







Listening to Preset Stations

 \P Press [A ~ G] to select the memory block (A to G).

Press [CHANNEL] or [1 ~ 8] to select the desired preset station.



 You can also operate via the main unit. In this case, perform the following operations.

Press **<TUNING PRESET>**, then turn **<SOURCE SELECT>** to select the preset radio station.

• If an audio program from HD2 to HD8 has been interrupted or if a program is called out using the preset buttons after it has been interrupted, HD1 is automatically selected after about 20 seconds.

□ Default settings

Tuner presets			
A1 ~ A8	87.5 / 87.9 / 89.1 / 93.3 / 97.9 / 98.1 / 98.9 /100.1 MHz		
B1 ~ B8	101.9 / 102.7 / 107.9 / 90.1 / 90.1 / 90.1 / 90.1 / 90.1 MHz		
C1 ~ C8	530 / 600 / 930 / 1000 / 1120 / 1210 / 1400 / 1710 kHz		
D1 ~ D8	90.1 MHz		
E1 ~ E8	90.1 MHz		
F1 ~ F8	90.1 MHz		
G1 ~ G8	90.1 MHz		

Direct Frequency Tuning

You can enter the receiving frequency directly to tune in.

Press [SEARCH].

2 Input frequencies by means of $[0 \sim 9]$.

※ If < is pressed, the immediately preceding input is cancelled.</p>

3 When setting is completed, press ENTER. The preset frequency is tuned in.

Check the HD Radio Reception Information

Press **<STATUS>** while an HD Radio broadcast is being received.

The current reception information is shown on the display.

① Normal

2 Frequency / Signal strength

3 Long station name / Program and Program type

4 Title name / Artist name

(5) Album name / Genre name

NOTE

If the station signal weakens while receiving a digital broadcast (while "HD" and text is displayed), the mode automatically switches to the analog reception mode (the reception frequency is displayed).

Because of this, the " ${
m HD}$ " indicator and text may flicker if the station signal level is weak and unstable.

Playing Network Audio, USB **Memory Devices**

This procedure can be used to play Internet radio stations or music or still picture (JPEG) files stored on a computer or USB memory device.

Important Information

About the Internet Radio Function

- Internet radio refers to radio broadcasts distributed over the Internet. Internet radio stations from around the world can be tuned in The AVR-4310Cl is equipped with the following Internet radio functions:
- Stations can be selected by genre and region.
- Up to 56 Internet radio stations can be preset.
- Internet radio stations in MP3 and WMA (Windows Media Audio) format can be listened to.
- · Your favorite radio stations can be registered by accessing an exclusive DENON Internet radio URL from a Web browser on a
- * The function is managed for individual users, so you must provide your MAC or e-mail address.
- Exclusive URL: http://www.radiodenon.com
- *The radio station database service may be suspended without notice.
- The AVR-4310Cl's Internet radio station list is created using a radio station database service (vTuner). This database service provides a list edited and created for the AVR-4310CL

Media Player

This function lets you play music files and playlists (m3u, wpl) stored on a computer (media server) connected to the AVR-4310Cl via a network.

With the AVR-4310CI's network audio playback function, connection to the server is possible using one of the technologies below.

- Windows Media Player Network Sharing Service
- Windows Media DRM10

□ Album Art Function

When a WMA (Windows Media Audio), MP3 or MPEG-4 AAC file includes album art data, the album art can be displayed while the music files are playing.



For music files in WMA (Windows Media Audio) format, the album art is only played when using Windows Media Player ver. 11.

☐ Slide Show Function

Still picture (JPEG) files stored in folders on a media server can be played as slide shows. The time for which each picture is displayed can be set.



When still picture (JPEG) files are played on the AVR-4310Cl, they are played in the direction in which they are stored in the folder, so store in them in the direction in which you want them to play.

USB Memory Devices

A USB memory device can be connected to the AVR-4310Cl's USB port to play music and still picture (JPEG) files stored on the USB memory device.

Also, files stored on an iPod can be played when the iPod is connected directly to the AVR-4310Cl's USB port. See "Playing an iPod® Connected Directly to the AVR-4310CI's USB Port" (@page 55).

- Only USB memory devices conforming to mass storage class and MTP (Media Transfer Protocol) standards can be played on the AVR-4310CI.
- The AVR-4310CI is compatible with USB memory devices in "FAT16" or "FAT32" format.

□ Album Art Function

When an MP3 music file includes album art data, the album art can be displayed while playing the file.

□ Slide Show Function

Still picture (JPEG) files stored on USB memory devices can be played as slide shows.

The time for which each picture is displayed can be set.



When still picture (JPEG) files are played on the AVR-4310Cl, they are played in the direction in which they are stored in the folder, so store in them in the direction in which you want them to play.

[Compatible formats]

	Internet radio	Media server * 1	USB memory devices * 1
WMA (Windows Media Audio)	0	0	* 3
MP3 (MPEG-1 Audio Layer-3)	0	0	0
WAV	_	0	0
MPEG-4 AAC	_	* 2	○*2
FLAC (Free Lossless Audio Codec)	-	0	0
JPEG	_	0	0

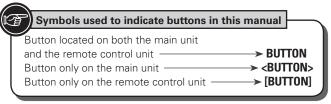
A server or server software compatible with distribution in the corresponding formats is required to play music files via a network.

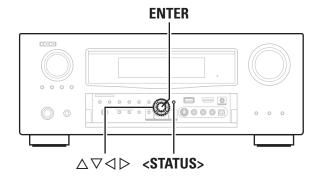
- *1: Media server and USB
 - The AVR-4310Cl is compatible with MP3 ID3-Tag (Ver. 2) standards.
 - The AVR-4310Cl is compatible with WMA META tags.
 - WAV format Quantization bit rate: 16 bits.
- *2 : Only files that are not protected by copyright can be played on the AVR-4310CL

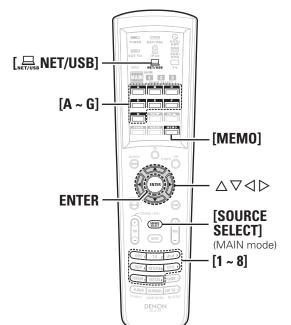
Contents downloaded from pay sites on the Internet are copyright protected. Also, files encoded in WMA format when ripped from a CD, etc., on a computer may be copyright protected, depending on the computer's settings.

*3: Copyright-protected files can be played on certain portable players compatible with MTP.

Playing Network Audio, USB Memory Devices







[Compatible formats]

	Sampling frequency	Bit rate	Extension
WMA (Windows Media Audio)	32/44.1/48kHz	48 ~ 192kbps	.wma
MP3 (MPEG-1 Audio Layer-3)	32/44.1/48kHz	32 ~ 320kbps	.mp3
WAV	32/44.1/48kHz	_	.wav
MPEG-4 AAC	32/44.1/48kHz	16 ~ 320kbps	.aac/ .m4a/ .mp4
FLAC (Free Lossless Audio Codec)	32/44.1/48kHz	-	.flac

About Napster

Napster is a monthly subscription music distribution service provided by Napster. This service allows users to download and play pieces of music they want to hear on the AVR-4310Cl. Before you can use Napster, you will need to visit the Napster website on your PC to create an account and register as a member. For details, access the following site:

http://www.napster.com/choose/index_default.html

About Rhapsody

Rhapsody is a paid music broadcast service of RealNetworks. When you first listen to Rhapsody, it is necessary to subscribe to a Rhapsody account at the Rhapsody homepage by your PC and register this machine. See the Rhapsody homepage for details.

www.rhapsody.com/denon

Listening to Internet Radio

◄ Playback preparation.

- ① Check the network environment, then turn on the AVR-4310Cl's power (F) page 23 "Connecting to a Home Network (LAN)").
- ② If settings are required, make the "Network Connecting" (** page 39).
- Press [SOURCE SELECT] to display the GUI Source Select menu, then select " page 27).
- Set the main remote control unit to the "NET/USB" mode (**) page 89 "Operating the Main Remote Control Unit").
- **4** Press $\triangle \nabla$ to select the item you want to play, then press **ENTER** or \triangleright .

The station list is displayed.

5 Press $\triangle \nabla$ to select the station, then press ENTER or \triangleright .

Playback starts once buffering reaches "100%".

- Adjust the items below.
 - ☐ Adjusting the master volume (☐ page 70)
 - ☐ Selecting the surround mode (☐ page 71)
 - ☐ Adjusting the Sound and Picture Quality
 (☐ page 73)
- ☐ To stop (page 70)
- ☐ Searching up or down pages (☐ page 70)
- ☐ Searching by first letter (@ page 70)

- There are many Internet radio stations on the Internet, and the quality of the programs they broadcast as well as the bit rate of the tracks varies widely.
- Generally, the higher the bit rate, the higher the sound quality, but depending on the communication lines and server traffic, the music or audio signals being streamed may be interrupted. Inversely, lower bit rates mean a lower sound quality but less tendency for the sound to be interrupted.
- "Server Full" or "Connection Down" is displayed if the station is busy or not broadcasting.
- On the AVR-4310CI, folder and file names can be displayed as titles. Any characters that cannot be displayed are replaced with ". (period)".
- Use the RESTORER mode to expand the low and high frequency components of compressed audio files and achieve a richer sound "RESTORER" (125 page 77). The default setting is "Mode 3".
- When **<STATUS>** is pressed, the display can be switched between the title name and radio station name.
- The time (default : 30 sec) for which the GUI menu are displayed can be set at GUI menu "GUI" "NET/USB" (Press $\Delta \nabla \Delta \Rightarrow$ to return to the original screen.

Recently Played Internet Radio Stations

Recently played internet radio stations can be selected from "Recently Played".

Up to 20 stations stored in "Recently Played".

- **1** Press $\triangle \nabla$ to select "Recently Played", then press ENTER or \triangleright .
- **2** Press $\triangle \nabla$ to select the item you want to play, then press ENTER or \triangleright .

Search Stations by Alphabetic Strings

1 Press $\triangle \nabla$ to select "Search", then press ENTER or \triangleright .

The search display appear.



2 Enter the characters, then press **ENTER**.

Presetting Internet Radio Stations

Preset Internet radio stations can be selected directly.

- **1** While the Internet radio station you want to preset is playing, press [MEMO].
- **9** Press $\triangle \nabla$ to select "Preset", then press ENTER.
- **3** Press [A ~ G], then press [1 ~ 8] to select the desired preset number.
- **Press [MEM0]** again to complete the setting. The Internet radio station is now preset.

NOTE

If registered at a number that has already been preset, the previously registered setting is cleared.

Listening to Preset Internet Radio Stations

After pressing [A \sim G], press [1 \sim 8] to select the registered preset number.

The AVR-4310Cl automatically connects to the Internet and playback begins.

Registering Internet Radio Stations as Your Favorites

Favorites are listed at the top of the menu screen, so when a station is registered as a favorite it can be tuned in easily.

- **1** Press [MEMO] while the Internet radio station you want to register is playing.
- $\boldsymbol{2}$ Press $\triangle \nabla$ to select "Favorites", then press ENTER.
- **3** Press **<** to select "Yes".
 The Internet radio station is registered.

※ If you do not want to register it, press ▷.

Listening to Internet Radio Stations Registered in Your Favorites

- Press [SOURCE SELECT] to display the GUI Source Select menu, then select "D" (P page 27).
- **2** Press $\triangle \nabla$ to select the Internet radio station, then press ENTER or \triangleright .

The AVR-4310Cl automatically connects to the Internet and playback begins.

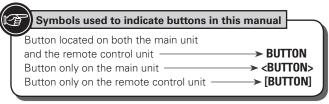
Clearing Internet Radio Stations from Your Favorites

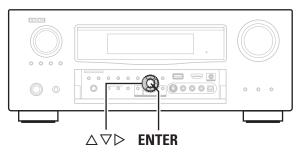
- Press [SOURCE SELECT] to display the GUI Source Select menu, then select "".
- **2** Press $\triangle \nabla$ to select the Internet radio station you want to clear, then press [MEMO].
- **3** Press **<** to select "Delete".

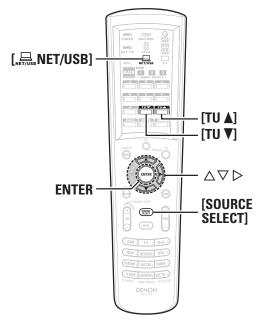
 The selected Internet radio station is cleared.

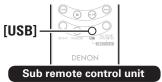
* To cancel the operation without clearing the station, press >

Playing Network Audio, USB Memory Devices









Playing Files Stored on a Computer

Use this procedure to play music files, image files or playlists.

1 Playback preparation.

- ① Check the network environment, then turn on the AVR-4310Cl's power (*** page 23 "Connecting to a Home Network (LAN)").
- ② If settings are required, make the "Network Connecting" (page 39).
- ③ Prepare the computer (** Computer's operating instructions).
- Press [SOURCE SELECT] to display the GUI Source Select menu, then select "F" (F page 27).
- Switching the main remote control unit to the "NET/USB" mode (Page 89 "Operating the Main Remote Control Unit").
- 4 Use $\triangle \nabla$ to select the server including the file to be played, then press ENTER or \triangleright .
- **5** Press $\triangle \nabla$ to select the search item or folder, then press ENTER or \triangleright .
- **6** Press $\triangle \nabla$ to select the file, then press ENTER or \triangleright . Playback starts once buffering reaches "100%".
- **7** Adjust the items below.
 - ☐ Adjusting the master volume (☐ page 70)
 - ☐ Selecting the surround mode (@ page 71)
 - □ Adjusting the Sound and Picture Quality (☞ page 73)
- ☐ To stop (@page 70)
- ☐ Stopping playback temporarily (@page 70)
- ☐ Selecting tracks (☞ page 70)
- ☐ Playing repeatedly (☐ page 70)
- ☐ Playing in random order (☐ page 70)
- ☐ Searching pages (☐ page 70)
- ☐ Searching by first letter (page 70)



- When playing still picture (JPEG) files, files can also be selected using the operation described below.
- During playback, either press [TU \blacktriangle] (previous file) or [TU \blacktriangledown] (next file).
- Connections to the required system and specific settings must be made in order to play music files (12) page 23).
- Before starting, you must launch the computer's server software and set the files as server contents. For details, see the operating instructions of your server software.
- Depending on the size of the still picture (JPEG) file, some time may be required for the file to be displayed.
- The order in which the tracks/files are displayed depends on the server specifications. If due to the server specifications the tracks/ files are not displayed in alphabetical order, searching by the first letter may not work properly.
- WMA Lossless files can be played when using a server supporting transcoding, such as Windows Media Player Ver. 11.
- Use the RESTORER mode to expand the low and high frequency components of compressed audio files and achieve a richer sound. The default setting is "Mode3".
- The time (default : 30 sec) for which the GUI menus are displayed can be set at "GUI" "NET/USB".
- Use **<STATUS>** to switch between displaying the title name, artist name or album name.

Playing files that have been Preset or Registered in Your Favorites

Files can be preset, registered in your favorites and played using the same operations as for Internet radio stations (127) page 64).

NOTE

- Presettings are erased by overwriting them.
- When the operation described below is performed, the media server's database is updated and it may no longer be possible to play preset or favorite music files.
- When you guit the media server and then restart it.
- When music files are deleted or added on the media server.
- When using an ESCIENT server, place "ESCIENT" before the server name.

Playing Files Stored on USB Memory Devices

Only USB memory devices conforming to mass storage class and MTP (Media Transfer Protocol) standards can be played on the AVR-4310CL

Playback preparation.

- 1) At "USB Select" (Propage 51), select the USB port to be
- (2) Connect the USB memory device to the USB port set in
- Press [SOURCE SELECT] to display the GUI Source Select menu, then select " page 27).
- Set the main remote control unit to the "NET/USB" mode (Page 89 "Operating the Main Remote Control Unit").
- Press $\triangle \nabla$ to select the search item or folder, then press ENTER or \triangleright .
- Press $\triangle \nabla$ to select the file, then press **ENTER** or \triangleright . Playback starts once buffering reaches "100%".
- Adjust the items below.
 - ☐ Adjusting the master volume (② page 70)
 - ☐ Selecting the surround mode (page 71)
 - □ Adjusting the Sound and Picture Quality (Pp page 73)
- **☐ To stop** (**☞** page 70)
- ☐ Stopping playback temporarily (☐ page 70)
- ☐ Selecting tracks (☐ page 70)
- ☐ Playing repeatedly (@page 70)
- ☐ Playing in random order (☐ page 70)
- ☐ Searching pages (☐ page 70)
- ☐ Searching by first letter (page 70)

- By default, the front panel's USB port will be used.
- Depending on the size of the still picture (JPEG) file, some time may be required for the file to be displayed.
- During playback of still picture (JPEG) files, the files can also be switched using **ITU** 1 (previous file) and **ITU** 1 (next file).
- If the USB memory device is divided into multiple partitions, only the top partition can be selected.
- The AVR-4310Cl is compatible with MP3 files conforming to "MPEG-1 Audio Layer-3" standards.
- When [USB] on the sub remote control unit is pressed, playback starts from the first file stored on the USB memory device.

NOTE

- The AVR-4310Cl is equipped with two USB ports, one each on the front and rear panels. It is not possible to use the set with USB memory devices connected to both the ports at the same time. Select the USB port you want to use at "USB Select" (@page
- DENON will accept no responsibility whatsoever for any loss or damage to data on USB memory devices when using the USB memory device connected to the AVR-4310Cl.
- USB memory devices will not work via a USB hub.
- DENON does not guarantee that all USB memory devices will operate or receive power. When using a portable USB connection type HDD of the kind to which an AC adapter can be connected to supply power, use the AC adapter.
- It is not possible to connect and use a computer via the AVR-4310Cl's USB port using a USB cable.
- The AVR-4310Cl is not compatible with the iPod shuffle.

Listening to Napster

Playback preparation.

- (1) Check the network environment, then turn on the AVR-4310Cl's power (Parpage 23 "Connecting to a Home Network (LAN)").
- 2 If settings are required, make the "Network Connecting" (Pp page 39).
- **→** Press [SOURCE SELECT] to display the GUI Source Select menu, then select " page 27).
- Set the main remote control unit to the "NET/USB" mode (Page 89 "Operating the Main Remote Control Unit").

4 Use $\triangle \nabla \triangleright$ to input "Username" and "Password".



5 After inputting the "Username" and "Password", select "OK" they prove that I select "OK", then press ENTER.

If the "Username" and "Password" match, the top menu for Napster is displayed.

☐ Username :

[Input characters]

[Lower case characters] abcdefghijklmnopgrstuvwxyz [Upper case characters] ABCDEFGHIJKLMNOPQRSTUVWXYZ [Symbols] ! # " \$ % & '() * + , - . / :; <=>? @ [\]^ `{|}~ (Space) [Numbers] 0123456789

☐ Password :

[Input characters]

[Lower case characters] abcdefghijklmnopgrstuvwxyz [Upper case characters] ABCDEFGHIJKLMNOPQRSTUVWXYZ [Symbols] ! # " \$ % & '() * + , - . / :; < = > ? @ [\]^`{|}~ (Space) [Numbers] 0123456789

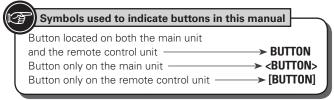
- ♠ Adjust the items below.
- Adjusting the master volume (page 70)
 - ☐ Selecting the surround mode (page 71)
 - □ Adjusting the Sound and Picture Quality (Pp page 73)

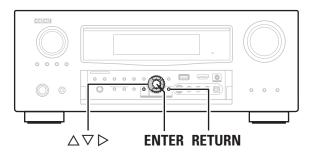
Search From Napster Menu

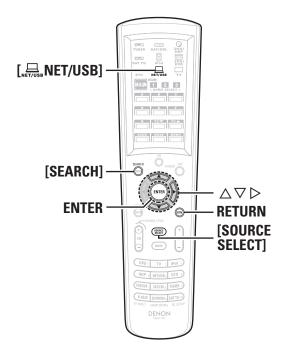
Use $\triangle \nabla$ to select search item or folder, then press **ENTER** or \triangleright .

2 Use $\triangle \nabla$ to select the track item, then press **ENTER** or \triangleright .

Playing Napster







Enter a Character Search For the Track You Want to Listen to

Press [SEARCH].

Napster

Napster

Napster

Name Man Manctor Library
Search by Artist
Search by Artist
Search by Track
Staff Picks
Genres

*You can search by artist name, album name or track name.

2 Use $\triangle \nabla$ to select the search item, then press ENTER. The search display appears.



3 Enter the characters, then press ENTER.

Registering Tracks in My Napster Library

- **1** Press ▷ while the track you wish to register is playing.
- 2 Select "Add to My Napster Library", then press ENTER or \triangleright .

The track is entered in the Library.

- ☐ Listening to Tracks Registered In My Napster Library
- **1** Use $\triangle \nabla$ to select "My Napster Library", then press ENTER or \triangleright .
- **2** Use $\triangle \nabla$ to select the information or track, then press ENTER.

After selecting, the information is displayed.

- **☐ To stop** (**☞** page 70)
- ☐ Selecting tracks (☐ page 70)
- ☐ Playing repeatedly (☐ page 70)
- ☐ Playing in random order (@ page 70)
- ☐ Searching pages (☐ page 70)



- Use the RESTORER mode to expand the low and high frequency components of compressed audio files and achieve a richer sound. The default setting is "Mode3".
- The time (default: 30 sec) for which the GUI menus are displayed can be set at "GUI" "NET/USB" (1287 page 43).
- Use **<STATUS>** to switch between displaying the title name, artist name or album name.

Listening to Rhapsody

- Playback preparation.
 - 1) Check the network environment, then turn on the AVR-4310Cl's power (Parpage 23 "Connecting to a Home Network (LAN)").
 - (2) If settings are required, make the "Network Connecting" (Pp page 39).
- Press [SOURCE SELECT] to display the GUI Source Select menu, then select "Z" (Z page 27).
- **→** Switching the main remote control unit to the "NET/ USB" mode (@page 89 "Operating the Main Remote Control Unit").
- Use $\triangle \nabla$ to select "Sign in your account", then press **ENTER** or \triangleright .



Enter Username and Password.



6 After inputting the "Username" and "Password", select "OK", then press ENTER. select "OK", then press ENTER.

If the "Username" and "Password" match, the top menu for Rhapsody is displayed.

☐ Username : _

[Input characters]

[Lower case characters] abcdefghijklmnopgrstuvwxyz [Upper case characters] ABCDEFGHIJKLMNOPQRSTUVWXYZ [Symbols] ! # " \$ % & '() * + , - . / :; < = > ? @ [\]^ `{|}~ (Space) [Numbers] 0123456789

☐ Password : .

[Input characters]

[Lower case characters] abcdefghijklmnopgrstuvwxyz [Upper case characters] ABCDEFGHIJKLMNOPQRSTUVWXYZ [Symbols] ! # " \$ % & '() * + , - . / :; < = > ? @ [\]^`{|}~ (Space) [Numbers] 0123456789

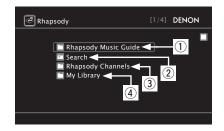
Adjust the items below.

- ☐ Adjusting the master volume (☐ page 70)
 - ☐ Selecting the surround mode (@ page 71)
 - □ Adjusting the Sound and Picture Quality (Page 73)

NOTE

- The password should be no longer than 99 characters.
- The password may not contain underscores ().
- Press **RETURN** to cancel the input. When "Cancel input?" is displayed, select "Yes", then press ENTER.

Select the Search Mode



- 1 Search From Rhapsody Latest Information
- Use $\triangle \nabla$ to select "Rhapsody Music Guide", then press ENTER or ▷
- Use $\triangle \nabla$ to select the information for track selection, then press ENTER or \triangleright .

After selecting, the information is displayed

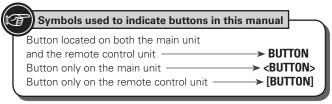
- **3** Use $\triangle \nabla$ to select the track, then press ENTER or \triangleright . D.
- (2) Enter a Character Search For the Track You Want to Listen to
- Use $\triangle \nabla$ to select "Search", then press **ENTER** or \triangleright .
- **1** Use $\triangle \nabla$ to select the search item, then press **ENTER** \angle or \triangleright .

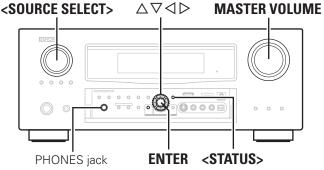
The search display appears.

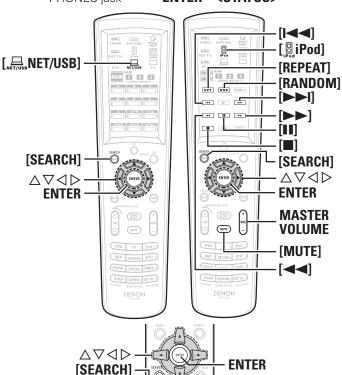
*You can search by artist name, album name, track name or keyword.

2 Enter the characters, then press ENTER.

Playing Rhapsody







Sub remote control unit

[REPEAT]

[**>**/II]

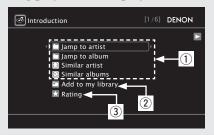
[RANDOM]

- **3 Search From the Rhapsody Internet Radio Station**
- **1** Use $\triangle \nabla$ to select "Rhapsody Channels", then press ENTER or \triangleright .
- **2** Use $\triangle \nabla$ to select radio station, then press **ENTER** or \triangleright .
- 4 Listening to Tracks Registered In My Library
- **1** Use $\triangle \nabla$ to select "My Library", then press **ENTER** or \triangleright .
- **2** Use $\triangle \nabla$ to select the information or track, then press ENTER or \triangleright .

After selecting, the information is displayed

Track Menu

Press ▷ during playback to display the Track Menu.



1 Search From the Similar Music

Use $\triangle \nabla$ to select the search item, then press **ENTER** or \triangleright .

2 Registering Tracks in My Library

Use $\triangle \nabla$ to select "Add to My Library", then press ENTER or \triangleright .

The track is entered in the Library.

3 Rating Function

1 Use $\triangle \nabla$ to select "Rating", then press **ENTER** or \triangleright .

9 Use \triangleleft \triangleright to select the rating, then press ENTER.



- Use the RESTORER mode to expand the low and high frequency components of compressed audio files and achieve a richer sound. The default setting is "Mode3".
- The time (default: 30 sec) for which the GUI menus are displayed can be set at "GUI" "NET/USB" (@page 43).
- Use **<STATUS>** to switch between displaying the title name, artist name or album name.

Operations During Playback

Adjusting the Master Volume

Use MASTER VOLUME to adjust the volume.

□ When the "Volume Display" setting (☞ page 42) is "Relative"

[Adjustable range] --- -80.5dB ~ 18.0dB

□ When the "Volume Display" setting (☞ page 42) is "Absolute"

[Adjustable range] 0.0 ~ 99.0

* The adjustable range depends on the input signal, the channel level settings, etc.

Turning Off the Sound Temporarily (Muting)

Press [MUTE].



- The sound is reduced to the level set at "Mute Level" (rappage 42).
- To cancel, press [MUTE] again. Muting can also be canceled by adjusting the master volume.

Listening with Headphones

Plug the headphones into the PHONES jack on the main unit.

The sound from the speakers and pre-out connectors is automatically cut.

NOTE

- To prevent hearing loss, do not raise the volume level excessively when using headphones.
- Remove your headphones when performing Audyssey Auto Setup or adjusting the speaker volume.

To Stop

During playback, either press and hold ENTER or press

Stopping Playback Temporarily

During playback, press ENTER, [Ⅱ] or [►/Ⅱ] on the sub remote control unit.

Press again to resume playback.

Fast-forwarding or Fast-reversing

During playback, press and hold [$\blacktriangleleft \blacktriangleleft$] (fast-reverse) or [$\blacktriangleright \blacktriangleright$] (fast-forward), or press and hold $\triangle \nabla$.

To Cue to the Beginning of a Track

During playback, either press [\blacktriangleleft] (to search for previous tracks) or [\blacktriangleright] (to search for subsequent tracks), or press $\triangle \nabla$.

Playing Repeatedly

Press [REPEAT].

All: Repeat all songs.

One : Repeat the current song.

OFF: Disable repeat playback.

** GUI menu "Repeat" (*** page 50, 51) can be set in the same way.



The repeat mode applies when playing tracks on the USB memory device and on the media server.

Selecting Tracks

During playback, either press \triangle (previous track) or ∇ (next track).

Shuffling Playback

Press [RANDOM].

Albums: Shuffle songs from current album only.

Songs: Shuffle all songs.

OFF: Cancel shuffle mode.

* GUI menu "Shuffle" (* page 50) can be set in the same way.

Playing in Random Order

Press [RANDOM].

ON: Enable random playback.

OFF: Disable random playback.

* GUI menu "Random" (** page 51) can be set in the same way.



The random mode applies when playing tracks on the USB memory device and on the media server.

Searching Pages

Press [SEARCH], then press \triangleleft (previous page) or \triangleright (next page).

* To cancel, press $\triangle \nabla$ or **[SEARCH]**.

Searching by First Letter

This operation is convenient for choosing items from the menu screens for Internet radio stations or files stored on the computer.

When the menu screen is displayed, press [SEARCH] twice, then press $\triangleleft \triangleright$ to select the first letter you want to search for.

- If there are multiple items starting with the selected letter, they are displayed in alphabetical order.
- If it is not possible to search the list, "unsorted list." is displayed.
- * To cancel, press $\triangle \nabla$ or **[SEARCH]**.

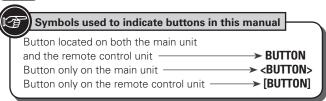


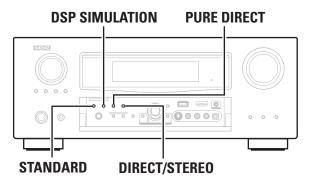
If the list is not in alphabetical order, you may not be able to perform a character search.

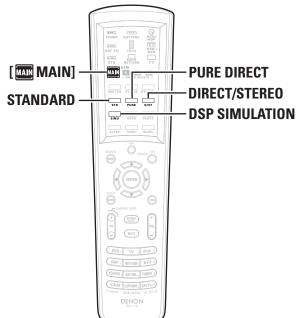


Selecting the Surround Mode (Surround Mode)









1) Playing Sources According to the Sources' Audio Signal Format/ **Number of Channels (Standard** Playback)

Operations

The selectable surround modes depend on the following:

- Format of the audio signals being input
- Number of channels of the audio signals being input
- The set amplifier assignment (Par page 34)

Playing the source (page 53).

Press **STANDARD** to select the surround mode.

☐ Surround Playback of 2-channel Sources

1) The mode switches as shown below each time STANDARD is pressed.

DOLBY PLIIz *1 : The signals are decoded in DOLBY PLIIz for playback.

DOLBY PLIIx *2 : The signals are decoded in DOLBY PLIIx for

DOLBY PLII

:The signals are decoded in DOLBY PLII for playback.

DTS NEO:6

:The signals are decoded in DTS NEO:6 for playback.

neural

: It is possible to play analog input signals and PCM (2-channel, 48 kHz or less) in the surround mode.

This is the optimum mode for playing sources recorded in XM HD Surround (で) page 100).

- *1: This can be set when "Amp Assign" is set to "Front Height" and "Speaker Configuration" - "Front Height" is set to something other than "None"
- *2: This can be set when "Amp Assign" is set to "Normal" and "Speaker Configuration" - "Surround Back" is set to something other than "None".

2 Select the mode for the source at "Mode" (Fig page 73).

Cinema : This mode is suited for movie sources Music : This mode is suited for music sources.

: This mode is suited for games. Game

:This is the Pro Logic playback mode. This can be **Pro Logic** selected when playing with a DOLBY PLII decoder.

:This is the Front Height playback mode. Set "Front Height Height" to "ON" (Ppage 74).

* The modes that can be selected depend on the input source being played.

☐ Surround Playback of Multi-channel Sources (Dolby Digital, DTS, etc.)

In the case of standard playback of multi channel sources, the AVR-4310Cl recognizes the format of the multi-channel audio input signal and automatically operates the appropriate decoder for surround sound.

Displaying the Currently Playing Surround Mode

Input signal	Display	
	DOLBY DIGITAL	
DOLBY DIGITAL	DOLBY DIGITAL EX	
(other than 2ch) /	DOLBY DIGITAL+PLIIx CINEMA	
DOLBY DIGITAL EX	DOLBY DIGITAL+PLIIx MUSIC	
	DOLBY DIGITAL+PLIIz HEIGHT	
	DOLBY DIGITAL+	
	DOLBY DIGITAL+ +EX	
DOLBY DIGITAL Plus	DOLBY DIGITAL+ + PLIIx CINEMA	
	DOLBY DIGITAL+ + PLIIx MUSIC	
	DOLBY DIGITAL+ + PLIIz HEIGHT	
	DOLBY TrueHD	
	DOLBY TrueHD+EX	
DOLBY TrueHD	DOLBY TrueHD+PLIIx CINEMA	
	DOLBY TrueHD+PLIIx MUSIC	
	DOLBY TrueHD+PLIIz HEIGHT	
	DTS SURROUND	
DT0 /5 4 1 1 /	DTS+PLIIx CINEMA	
DTS (5.1ch) /	DTS+PLIIx MUSIC	
DTS-ES Discrete 6.1 /	DTS+PL I Iz HEIGHT	
DTS-ES Matrix 6.1 /	DTS+NEO:6	
DTS 96/24	DTS ES MTRX6.1 (*1)	
	DTS ES DSCRT6.1 (* 2)	
	DTS 96/24 (*3)	

- *1: This is displayed when the input signal is "DTS-ES Matrix 6.1 and the AVR-4310CI's "AFDM" setting is set to "ON"
- *2: This is displayed when the input signal is "DTS-ES Discrete 6 1"
- *3: This is displayed when the input signal is "DTS 96/24".



For details, see page 104.

Input signal	Display
DTS-HD	DTS-HD HI RES DTS-HD MSTR DTS-HD+NEO:6 DTS-HD+PLIIx CINEMA DTS-HD+PLIIX MUSIC DTS-HD+PLIIZ HEIGHT DTS EXPRESS
PCM (multi ch) / DSD (multi ch)	MULTI CH IN MULTI IN+PLIIx CINEMA MULTI IN+PLIIx MUSIC MULTI IN+PLIIz HEIGHT MULTI CH IN 7.1

Depending on the program source being played, it may not be possible to achieve a satisfactory surround effect. In this case, try other modes to achieve a sound field suited to your tastes.

3 Direct Playback

In this mode the signals bypass the tone control circuitry for high

The sound is output to the same channels as the input signal.

Playing the source (page 53).

2 Press DIRECT/STEREO to select the "DIRECT".

2 Playing in a DENON Original **Surround Mode**

The desired mode according to the program source and viewing situation can be selected from among 10 DENON original surround modes.

Playing the source (Page 53).

MATRIX

VIRTUAL

Select the surround mode by pressing DSP

SIMULATION.		
7CH STEREO	:This mode is for enjoying stereo sound from all speakers.	
WIDE SCREEN	:This mode is for enjoying the atmosphere of viewing a movie on a large screen.	
SUPER STADIUM	: This mode is suited for viewing sports programs.	
ROCK ARENA	: This mode is for enjoying the atmosphere of a live concert in an arena.	
JAZZ CLUB	: This mode is for enjoying the atmosphere of a live concert in a jazz club.	
CLASSIC CONCERT	:This mode is for appreciating classical concert programs.	
MONO MOVIE *	: This mode is for playing monaural movie sources with surround sound.	
VIDEO GAME	: This mode is suited for achieving surround sound with video games.	

*: When playing sources recorded in monaural in the "MONO MOVIE" mode, the sound will be off balance with a single channel (left or right), so input to both channels.

stereo music sources.

: This mode lets you add a sense of expansion to

: This mode is for enjoying surround effects using

only the front speakers or headphones.

Displaying the Currently Playing Surround Mode

Innut signal	Display
Input signal	Display
Analog signal /	
PCM (2ch) /	
Dolby Digital source /	DIRECT
DTS source /	
Other 2-channel digital signals	
DSD (2ch)	DSD DIRECT (*)
PCM (multi ch)	MULTI CH DIRECT
	MULTI CH DIRECT + Dolby EX
	MULTI CH DIRECT + PLIIx CINEMA
	MULTI CH DIRECT + PLIIx MUSIC
	MULTI CH DIRECT + PLIIz HEIGHT
	MULTI CH DIRECT 7.1
DSD (multi ch)	DSD MULT DIRECT (*)

* : When DSD signals are converted to PCM signals as set by the audio parameters and speaker settings, "DIRECT" or "MULTI CH DIRECT" is displayed.

For details, see page 105

4 Stereo Playback

This is the mode for playing in stereo. The tone can be adjusted. Sound is output from the front left and right speakers and subwoofer.

Playing the source (page 53).

2 Press **DIRECT/STEREO** to select the "STEREO".

5 Playing the Pure Direct Mode

This is the mode that recreates the original sound most faithfully, providing extremely high quality sound.

Playing the source (page 53).

? Press PURE DIRECT.



- To cancel, press **PURE DIRECT** again.
- During playback in PURE DIRECT mode, the surround parameters are the same as in DIRECT mode.
- Video signals are only output when HDMI signals are played in the PURE DIRECT mode.

NOTE

When in the PURE DIRECT mode, the GUI menu display is not displayed and the display on the main unit is turned off.



Adjusting the Sound and Picture Quality (Audio/Video Adjust) For details on how to select, set and cancel settings for each menu, see "GUI Menu Operation" (page 26).



Adjusting the Sound (Audio Adjust)



Default settings are underlined.

The sound being played in the surround mode can be adjusted to your liking.

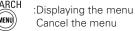
The items (parameters) that can be adjusted depend on the signal being input and the currently set surround

Setting items	Setting contents	
rround Parameters just surround sound ameters.	Mode: Set the play modes for the different surround modes. ☐ In the PLIIx or PLII mode Cinema: Surround sound mode optimized for movie sources. Music: Surround sound mode optimized for music sources. Game: Surround sound mode optimized for games. Pro Logic: Dolby Pro Logic playback mode (PLII mode only).	
	☐ In the PLIIz mode Height: Dolby PLIIz Height playback mode.	
	□ In the DTS NEO:6 mode Cinema: Surround sound mode optimized for movie sources. Music: Surround sound mode optimized for music sources. • When "Surround Parameters" – "Front Height" (☞ page 74) is set to "ON", the "Height" mode is set automatically.	
	The "Music" mode is also effective for movie sources including a lot of stereo music.	
	 Cinema EQ: Soften the treble range of movie soundtracks for better understanding. OFF: "Cinema EQ" is not used. ON: "Cinema EQ" is used. 	
	DRC: Compress dynamic range (difference between loud and soft sounds) • Auto: Automatic dynamic range compression on/off control according to source. This can be set in the Dolby TrueHD mode. • Low / Middle / High: These set the compression level. • OFF: Dynamic range compression always off D.COMP: Compress dynamic range (difference between loud and soft	
	sounds). • OFF: Turn dynamic range compression off. • Low / Middle / High: These set the compression level.	

Setting items	Setting contents
Surround Parameters (Continued)	LFE : Adjust the low-frequency effects level (LFE).-10dB ~ <u>0dB</u>
	For proper playback of the different sources, we recommend setting to the values below.
	Dolby Digital sources : "0dB"
	DTS movie sources : "0dB"
	• DTS music sources : "–10dB"
	Center Image: Assign center channel signal to front left and right channels for wider sound. • 0.0 ~ 1.0 (0.3)
	Panorama: Assign front L/R signal also to surround channels, for wider sound.
	• OFF: Do not set. • ON: Set.
	Dimension : Shift sound image center to front or rear, to adjust playback balance. • 0 ~ 6 (3)
	Center Width: Assign center channel signal to front left and right channels
	for wider sound. • 0 ~ 7 (3)
	Delay Time: Adjust delay time to control sound stage size. • 0ms ~ 300ms (30ms)
	 Effect: Switch effect signal for multi-surround speakers on and off. ON: Create a wider sound stage. OFF: The effect is not set.
	Effect Level : Adjust effect signal level. • 1 ~ 15 (10)
	Set to a lower level if the positioning and sense of phase of the surround signals seems unnatural.
	Room Size: Determine size of acoustic environment. • Small: Simulate acoustics of a small room.
	Medium small : Simulate acoustics of a medium-small room.
	• Medium : Simulate acoustics of a medium room.
	• Medium large : Simulate acoustics of a medium-large room.
	Large : Simulate acoustics of a large room
	"Room Size" does not indicate the size of the room in which sources are

See overleaf













:Return to previous menu

played.

Setting items	Setting contents	Setting items	Setting contents	
Surround Parameters (Continued)	Front Height: Set the Dolby PLIIz Height mode to ON or OFF. ON: Switch to Dolby PLIIz Height mode. OFF: Do not switch to Dolby PLIIz Height mode. "Front Height" is not displayed with the settings listed below. When the "Amp Assign" setting (Fpage 34) is set to something other than "Front Height" When the "Speaker Configuration" – "Front Height" setting (Fpage 35) is set to "None" When "Surround Mode" (Fpage 71) is set to something other than "STANDARD" "Front Height" cannot be set if the HD Audio source being played includes a front height channel. In this case, the Front height channel is played back without decoding in PLIIz mode, using the input signal. AFDM (Auto flag detect mode): Detects the source's surround back channel signal and sets the optimum surround mode automatically. OFF: Do not set. ON: Set. [Example] Playing Dolby Digital software (with EX flag) When "AFDM" is set to "ON", the surround mode is automatically set to the DOLBY D + PLIIx C mode. To play in the DOLBY DIGITAL EX mode, set "AFDM" to "OFF" and "Surround Back" to "MTRX ON". Some Dolby Digital EX sources do not include EX flags. If the playback mode does not switch automatically even when "AFDM" is set to "ON",	Surround Parameters	PLIIx CINEMA *3: Generate and play the surround back signals by decoding the signals in the Dolby Pro Logic IIx Cinema mode. PLIIx MUSIC: Generate and play the surround back signals by decoding the signals in the Dolby Pro Logic IIx Music mode. OFF: The surround back channel is not played. *1: This can be selected when playing DTS sources. *2: This can be selected when playing DTS sources including a signal to identify discrete 6.1-channel signals. *3: This can be selected when "Speaker Configuration" – "Surround Back" (page 35) is set to "2spkrs". • This can also be set by pressing [STANDARD]. • If the source being played contains a surround back signal, the decoder type is automatically selected by the AFDM function. Set "AFDM" to "OFF" to switch to your preferred decoder. • If the setting in "Speaker Configuration" – "Surround Back" (page 35) is "None", "Surround Back" is not displayed. Subwoofer Att.: Attenuate subwoofer level when using EXT. IN input. • ON: Set. • OFF: Do not set. Usually use in this mode.	
 When "AFDM" is set to "ON", the surround mode is automatically set to the DOLBY D + PLIIx C mode. To play in the DOLBY DIGITAL EX mode, set "AFDM" to "OFF" and "Surround Back" to "MTRX ON". Some Dolby Digital EX sources do not include EX flags. If the playback mode does not switch automatically even when "AFDM" is set to "ON" set "Surround Back" to "MTRX ON" or "PLIIx CINEMA". If the setting in "Speaker Configuration" – "Surround Back" (Page 35) is "None", "Surround Back" is not displayed. Surround Back: Sets the method of generating of the surround back channel. For 2-channel sources ON: The surround back channel is used. OFF: No signal is played from the surround back channels. For multi-channel sources Set the decoding method for the surround back channel. DSCRT ON: Play the surround back signals included in the 7.1-channel source. MTRX ON: Generate and play the surround back signals from the surround channel signals. ES MTRX*1: Generate and play the surround back signals from the surround channel signals of the DTS source. 			Set this to "ON" if the subwoofer channel level seems too high when playing audio signal. Subwoofer: Turn subwoofer output on and off. ON: The subwoofer is used. OFF: The subwoofer is not used.	
	• If the setting in "Speaker Configuration" – "Surround Back" (FF page 35) is "None", "Surround Back" is not displayed.		 Default: Restores all the surround parameter settings to their defaults. No: Do not reset to the defaults. Yes: Reset to the defaults. 	
	channel. ☐ For 2-channel sources	Adjust the tonal quality of the surround back channel is used. o signal is played from the surround back channels. Iti-channel sources decoding method for the surround back channel. ON: Play the surround back signals included in the 7.1-channel ON: Generate and play the surround back signals from the d channel signals. RX*1: Generate and play the surround back signals from the d channel signals of the DTS source. CRT*2: Play the surround back signals included in the 6.1-	Tone Control: Sets the tone control function ON and OFF. • ON: Allow tone adjustment (treble, bass). • OFF: Playback without tone adjustment.	
	OFF : No signal is played from the surround back channels. □ For multi-channel sources		 This can be set when "Dynamic EQ" (F) page 75) is set to "OFF" The tone cannot be adjusted in the direct mode. 	 This can be set when "Dynamic EQ" (P page 75) is set to "OFF". The tone cannot be adjusted in the direct mode.
	DSCRT ON: Play the surround back signals included in the 7.1-channel source. MTRX ON: Generate and play the surround back signals from the surround channel signals. ES MTRX*1: Generate and play the surround back signals from the surround channel signals of the DTS source. ES DSCRT*2: Play the surround back signals included in the 6.1-		Bass: Adjust low frequency range (bass). • -6dB ~ +6dB This can be set when "Tone Control" (** page 74) is set to "ON". Treble: Adjust high frequency range (treble). • -6dB ~ +6dB This can be set when "Tone Control" (** page 74) is set to "ON".	



:Return to previous menu



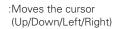
Main remote control

operation buttons













Adjusting the Sound and Picture Quality (Audio/Video Adjust)

Adjusting the Sound and Picture Quality (Audio/Video Adjust)

Setting items

Audvssev Settings

Set MultEQ XT, Dynamic EQ listening area. and Dynamic Volume.

NOTE

If you have not performed Auto Setup, or if you change the speaker settings after performing Auto Setup, you may not be able to select • OFF: Turn "MultEQ XT" equalizer off. Dynamic EQ/Dynamic 🎤 Volume, and "Run Audyssey" may be displayed.

In this case, either perform Audyssey Auto Setup over again or perform "Restore" (rapage 33) to return to the settings after Audyssey Auto Setup was run.

Setting contents

MultEQ XT: Corrects both time and frequency response problems in the

- Audyssey: Optimize the frequency response of all speakers.
- Audyssev Byp.L/R: Optimize frequency response of speakers except front L and R speakers.
- Audyssey Flat: Optimize frequency response of all speakers to flat
- Manual: Apply frequency response set with "Manual EQ" (page



- "Audyssey", "Audyssey Byp. L/R" and "Audyssey Flat" can be selected after Audyssey Auto Setup has been performed. "Audyssey" is automatically selected after performing Audyssey Auto Setup. "When "Audyssey", "AudysseyByp.L/R" or "AudysseyFlat" isselected, "AudysseyFlat" isselected, "AudysseyTlat" isselected, "AudysseyTlat"
- After running Audyssey Auto Setup, if the Speaker Configuration, Distance, Channel Level, and Crossover Frequency have changed without increasing the number of speakers measured, only "AUDYSSEY" lights.
- If "Dynamic EQ" or "Dynamic Volume" is set to "ON" when "MultEQ XT" is set to either "OFF" or "Manual", "MultEQ XT" is automatically set to "Audyssey".
- You can also press [MULTEQ XT] to set.

NOTE

- "MultEQ XT" and "Manual EQ" cannot be selected when "EQ Customize" is set to "Not Used" (Propage 39).
- When using headphones, "MultEQ XT" is set to "OFF".

Dynamic EQ: Solves the problem of deteriorating sound quality as volume is decreased by taking into account human perception and room acoustics

- ON: Use the Dynamic EQ equalizer.
- OFF: Do not use the Dynamic EQ equalizer.



Main remote control

operation buttons

- After performing "Audyssey Auto Setup", the "Dynamic EQ" setting automatically becomes "ON".
- "AUDYSSEY " is displayed when set to "ON".
- When "MultEQ XT" is set to "OFF" or "Manual", "Dynamic EQ" is automatically set to "OFF".
- If "Dynamic Volume" is set to "ON". "Dynamic EQ" is automatically set to "ON".
- When you set "Dynamic EQ" to "ON", "Tone Control" is switched "OFF"
- You can also press [DYNAMIC EQ] to set.

Setting items Setting contents

Audyssey Settings (Continued)



About Dynamic EQ

Audyssey Dynamic EQ solves the problem of deteriorating sound quality as volume is decreased by taking into account human perception and room acoustics. Audyssey Dynamic EQ works in tandem with Audyssey MultEQ® XT to provide well-balanced sound for every listener at any volume level.

Reference Level Offset: Audyssey Dynamic EQ takes the standard film mixing level of 85 dB SPL during -20 dB FS input as its reference level. However, since standardization is lacking outside the film industry, the reference level of media contents may not be appropriate. In order to view such contents. Reference Level Offset of Dynamic EQ has available offsets of 5 dB, 10 dB and 15 dB.

- **0dB**: Suitable for viewing movies.
- 5dB: Suitable for listening to classical music and other content mixed
- 10dB: Suitable for listening to jazz and other audio sources with a wide dynamic range. Also suitable for viewing TV.
- 15dB: Suitable for listening to pop, rock music and other content with an extremely wide dynamic range.



Setting is enabled when "Dynamic EQ" is "ON" (F) page 75).

See overleaf











Setting items Setting contents Dynamic Volume : Solves the problem of large variations in volume level **Audyssey Settings** between TV, movies and other content (between quiet passages and loud (Continued) passages, etc.) by automatically adjusting to the user's preferred volume setting. • **ON**: Use the "Dynamic Volume" equalizer. The Dynamic Volume effect will be at the level of the "Setting" (rappage 76). • OFF: Do not use the "Dynamic Volume" equalizer. "AUDYSSEY MULTEQ XT is displayed when set to "ON". • When "MultEQ XT" is set to "OFF", "Dynamic Volume" is automatically set to "OFF". • You can also press [DYNAMIC VOLUME] to set. ► Dynamic EQ / Volume : ON — Dynamic EQ : ON / Volume : OFF -AUDYSSEY -\. \\ "Red" "Green' **About Dynamic Volume** Audyssey Dynamic Volume™ solves the problem of large variations in volume level between television programs, commercials, and between the soft and loud passages of movies. Audyssey Dynamic EQ™ is integrated into Dynamic Volume so that as the playback volume is adjusted automatically, the perceived bass response, tonal balance, surround impression, and dialog clarity remain the same. **Setting**: Set "Dynamic Volume" equalizer effect.

Setting items Setting contents Audyssev DSX Settings DSX: Provides more immersive surround sound by adding the new Adjust DSX setting and

• ON: Set Audyssey DSX to expand surround.

• OFF: Do not set Audyssey DSX.

DSX Stage Width: Adjust sound stage width when using front wide speakers.

Adjusting the Sound and Picture Quality (Audio/Video Adjust)

configured if the HD Audio Stage Height: Adjust sound stage height when using front height speakers. source being played includes • -10 ~ 0



sound stage parameters.

"Audyssey

Front height and Front wide channels. In this case, the

cannot

The

Settinas"

signals.

- respective channels are "DSX" can be set when you are using front height speakers or front played back using the input wide speakers.
 - "DSX" is only valid when using a center speaker.
 - "DSX" is valid when surround mode is STANDARD mode other than PLIIz Height.
 - "DSX" can be operated by **DSX>** and **[SPEAKER]**. The "DSX" indicator lights on the display.
 - The "Audyssev DSX Settings" cannot be configured if the HD Audio source being played includes Front height and Front wide channels. In this case, the respective channels are played back using the input signals.

About Audyssey Dynamic Surround Expansion (DSX)

Audyssey DSX is a scalable surround expansion system that adds new channels to improve the surround impression. Based on research in human hearing DSX adds a pair of Wide channels in the front because that information is critical in the rendering of a realistic soundstage. DSX then adds a pair of Height channels above the main front channels to reproduce the next most important acoustical and perceptual cues related to soundstage depth. In addition to creating these new channels, DSX applies Surround Envelopment Processing to enhance the blend between the front and side/back surround channels. The result is a much more seamless and enveloping home theater experience.

See overleaf

SEARCH (MENU)

Main remote control

operation buttons

be of equal loudness.

softest of sounds.

:Displaying the menu Cancel the menu



:Moves the cursor (Up/Down/Left/Right)





:Return to previous menu

• Midnight: High setting affects volume the most, causing all sounds to

• Evening: Middle setting prevents loud and soft sounds from being

• Day: Low setting provides the least adjustments to the loudest and

much louder and softer respectively than average sounds.

Can be set when "Dynamic Volume" is set to "ON".

Adjusting the Sound and Picture Quality (Audio/Video Adjust)

Manual EQ

Use the graphic equalizer to adjust the tone of each speaker.

Setting items

Adjust CH: Correct the tone of each speaker.

(1) Select the speaker tone adjustment method.

All: Adjust the tone of all speakers together.

L/R: Adjust the tone of left and right speakers together.

Each: Adjust the tone of each speaker.

- Select the speaker.
- 3 Select the adjustment frequency band.

63Hz / 125Hz / 250Hz / 500Hz / 1kHz / 2kHz / 4kHz / 8kHz / 16kHz * Select the speakers you want to adjust when "L/R" or "Each" is selected.

Setting contents

(4) Adjust the level.

 $-20.0dB \sim +6.0dB (0dB)$

Can be set when the "MultEQ XT" setting (@page 75) is "Manual

Curve Copy: Copy "Audyssey Flat" curve from MultEQ XT.

Yes: Copy.

No: Do not copy.

"Curve Copy" is displayed after the Audyssey Auto Setup procedure has been performed.

Default: Reset the settings to the default values.

- Yes: Reset.
- No : Do not Reset.

RESTORER

function compressed audio signals very weak highs. compression and corrects the compressed sources. and treble to obtain richer normal highs. playback sound.

OFF: Do not use RESTORER.

restores Mode 1 (RESTORER 64): Optimized mode for compressed sources with

to how they were before Mode 2 (RESTORER 96): Apply suitable bass and treble boost for all

sense of volume of the bass Mode 3 (RESTORER HQ): Optimized mode for compressed sources with



• This can be set with analog signals or when a PCM signal (fs = 44.1/48 kHz) is input.

This cannot be set when the input mode is set to "EXT. IN" or when the surround mode is set to "DIRECT".

- The default setting for "iPod" and "NET/USB" are "Mode3". All others are set to "OFF".
- When set to something other than "OFF", "RSTR" is displayed.
- This can also be set by pressing [RESTORER] during playback.



Setting items	Setting contents	
RESTORER	About the RESTORER function	
(Continued)	 Such compressed audio formats as MP3, WMA (Windows Media Audio) and MPEG-4 AAC reduce the amount of data by eliminating signal components that are hard for the human ear to hear. The RESTORER function generates the signals eliminated upon compression, restoring the sound to conditions near those of the original sound before compression. It also corrects the sense of volume of the bass to obtain richer sound with compressed audio signals. This is displayed on the GUI menu and can be set when the input source is set to "XM", "HD Radio" or "NET/USB", or when analog signals (including FM/AM signals) or PCM signals (fs = 44.1/48 kHz) are input. 	
Audio Delay	<u>0ms</u> ~ 200ms	
While viewing video, manually adjust the time to delay audio output.	 This can be set within the range of 0 to 100 ms when "Auto Lip Sync" is set to "ON" and when a TV compatible with Auto Lipsync is connected. Store "Audio Delay" for each input source. 	



Adjusting the Picture Quality (Picture Adjust)



Default settings are underlined.

- This can be set when the input source is **DVD HDP** TV SAT/CBL VCR DVR V.AUX NET/USB
- * With input sources other than the ones above, this can be set when "Video Select" is selected. In this case, the original input source settings are called out.
- Can be set when the "Video Convert" setting (128 page 49) is "ON"

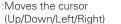
Setting items	Setting contents
Contrast	-6 ~ +6 (0)
Adjust picture contrast.	
Brightness	<u>0</u> ~ +12
Adjust picture brightness.	
Chroma Level	-6 ~ +6 (<u>0</u>)
Adjust picture chroma level	
(saturation).	
Hue	-6 ~ +6 (0)
Adjust color hue.	
DNR	OFF / Low / Middle / High
Reduce overall picture	
noise.	
Enhancer	<u>0</u> ~ +12
Emphasize picture contours.	



- "DNR" and "Enhancer" are each effective with HDMI output.
- The value set at "Picture Adjust" is stored in the memory individually for each input source.













Checking the Status (Information)

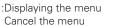


Setting items	Setting contents		
Shows information about current settings.	□ MAIN ZONE Shows information about settings for MAIN ZONE. The items displayed differ according to the input source. Select Source / Name / Zone Rename / Surround Mode / Input Mode / Decode Mode / HDMI / Digital / Component / iPod dock / Rec Select / Video Select / Video Convert / i/p Scaler / Resolution / Progressive Mode / Aspect etc.		
	□ ZONE2 / ZONE3 Shows information about settings for multi-zone. Zone Rename / Power / Select Source / Volume Level		
Audio Input Signal	Surround Mode: The currently set surround mode Signal: The input signal type fs: The input signal's sampling frequency		
Shows information about audio input signals.	Format: The number of channels in the input signal (front, surround, LFE) Offset: The dialogue normalization correction value Flag: This is displayed when inputting signals including a surround back channel. "MATRIX" is displayed with Dolby Digital EX and DTS-ES Matrix signals, "DISCRETE" with DTS-ES Discrete signals.		
	Dialogue normalization function		
	This is automatically activated when playing Dolby Digital sources. This function automatically corrects the standard signal level for individual program sources. The correction value can be checked using the <status></status> .		
	Dial.Norm Offset - 4dB		
	The figure is the correction value when the standard level is corrected.		
HDMI Information	Signal Info. • Resolution / Color Space / Pixel Depth		
Shows information about HDMI input/output signals and monitor.	Monitor 1 / Monitor 2 • Interface / Supported resol.		
Auto Surround Mode Shows information about auto	Analog/PCM 2ch / Digital 2ch / Digital 5.1ch / Multi ch This can be displayed when "Auto Surround Mode" is set to "ON".		

Setting items	Setting contents
Quick Select Shows information about "Saving Frequently Used Settings (Quick Select	Quick Select 1 / Quick Select 2 / Quick Select 3 / ZONE2 Quick Select / ZONE3 Quick Select • Select Source / Video Select / MultEQ XT / Dynamic EQ / Dynamic Volume / Auto Surround Mode (Analog/PCM 2ch / Digital 2ch / Digital 5.1ch / Multi ch) / Volume Level
Function)" (Fig page 82) settings.	
Preset Channel	This can be checked when the input source is set to NET/USB XM SIRIUS HD Radio .
Shows information about preset channels.	A / B / C / D / E / F / G • A1 ~ A8 / B1 ~ B8 / C1 ~ C8 / D1 ~ D8 / E1 ~ E8 / F1 ~ F8 / G1 ~ G8

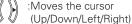






Cancel the menu





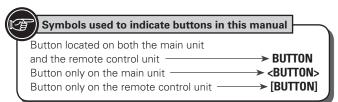


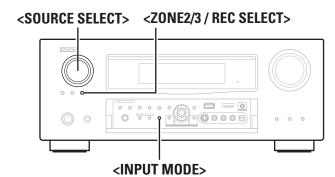


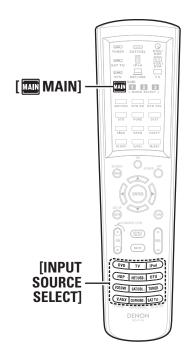
78

surround mode settings.

Other Operations and Convenient Functions







Other Operations

Playing a Blu-ray Disc Player Compatible with DENON LINK 4th

When connected to a Blu-ray disc player compatible with DENON LINK 4th, it is possible to play HD audio signals from BDs with no jitter.

- 1 Assign "HDMI" to the input source to be used, and assign "D.LINK" to the "Digital" setting (page 47 "Input Assign").
- 2 Set "HDMI Control" "Control" (P page 37) to "ON".
- **3** Either turn **<SOURCE SELECT>** or press [INPUT SOURCE SELECT] to select the input source assigned in step 1.

The "HDMI" indicator lights on the display.

- 4 Select "AUTO" for the <INPUT MODE> (© page 49 "Input Mode").
- **5** Select the surround mode (** page 71 "Selecting the Surround Mode (Surround Mode)").
- **6** Start playing the BD. Playback starts.

NOTE

- To play DENON LINK 4th signals, make HDMI and DENON LINK connections with the compatible Blu-ray disc player.
- Set the Blu-ray disc player's "HDMI Control" setting to "ON", the "DENON LINK" setting to "4th". For instructions on operation, refer to the Blu-ray disc player's manual.
- When a BD is played with the input mode set to "Auto", playback is performed in the DENON LINK 4th mode. When a disc other than a BD is played with the input mode set to "Auto", playback is automatically performed in the DENON LINK 3rd mode.
- When the input mode is set to "HDMI", normal HDMI playback is performed.
- When the input mode is set to "Digital", playback is fixed to the DENON LINK 3rd mode and BDs cannot be played.

Playing Super Audio CD

- 1 Either assign the input source to be used to "HDMI" (** page 47), or assign "D.LINK" at the "Digital" setting (** page 47 "Input Assign").
- **2** Either turn **<SOURCE SELECT>** or press [INPUT SOURCE SELECT] to select the input source assigned in step 1.

The "DLINK" or "HDMI" indicator lights on the display.

3 Use **INPUT MODE**> to select the input mode (**) page 49 "Input Mode").

Select the input mode according to the program source to be played.

4 Select the surround mode (** page 71 "Selecting the surround mode).

* We recommend playing in the DIRECT mode.

- 5 Start playing the Super Audio CD. The "[DSD]" indicator lights on the display.
- ** For operating instructions, refer to the respective equipment's operating instructions.



- When playing DSD signals in the DIRECT or PURE DIRECT mode, the DSD signals are converted as such into analog signals. When playing in other surround modes, the DSD signals are first converted into PCM format, then into analog signals.
- "DSD DIRECT" is shown on the display when playing DSD 2channel signals in the DIRECT mode. "DSD MULTI DIRECT" is shown on the display when playing DSD multi-channel signals in the DIRECT mode.

Recording on an External Device (REC OUT mode)

You can listen to one program source while recording a different program source.

Press <**ZONE2/3 / REC SELECT>**.

"ZONE2 SOURCE" is shown on the display.

■ Turn < SOURCE SELECT > until "RECOUT SOURCE" is displayed.

The "REC" indicator lights.



→ Turn **<SOURCE SELECT>** to choose the input source to be recorded.

Play the program source.

* For operating instructions, refer to the respective equipment's operating instructions.

5 Start recording.

* For operating instructions, refer to the respective equipment's operating instructions.



- To cancel, press <ZONE2/3 / REC SELECT>, then turn <SOURCE **SELECT>** until "ZONE2 SOURCE" is displayed.
- Make a test recording before starting the actual recording.
- Signals are only output to the analog REC OUT connectors when the digital signals input to the digital input connectors (OPTICAL/ COAXIAL) are PCM (2-channel) signals.
- Digital audio signals input to the DENON LINK or HDMI connectors are not output to the REC OUT connectors, so connect using the OPTICAL or COAXIAL connectors.
- Sources selected with the REC OUT mode are output from ZONE2 as well
- In the REC OUT mode, the remote control unit's ZONE2 mode buttons cannot be operated.
- The "XM" and "HD Radio" digital audio output signals are not output from the OPTICAL2 output connectors. Also, network audio signals (Internet radio, music server, USB) are not output if they are copyright-protected.

NOTE

- Recordings you make are for your personal enjoyment and should not be used for other purposes without permission of the copyright holder.
- Input sources for which "Delete" is selected at "Source Delete" (rappage 42)cannot be selected.

Convenient Functions

HDMI Control Function

When you make an HDMI connection with a TV or player compatible with AVR-4310Cl and HDMI control functions, you can perform the following operations by setting the HDMI control function of each

☐ AVR-4310Cl power off can be linked to the TV power

When you set "Output audio from amp" in the TV audio output setup operation, you can switch the amp power on.

- ☐ You can switch audio output devices with a TV operation.
- You can adjust AVR-4310Cl volume in the TV volume adjustment operation.
- ☐ You can switch AVR-4310Cl input source through linkage to TV input switching.
- ☐ When playing the player, the AVR-4310Cl input function switches to the function of that player.



- When you want to listen to TV audio by AVR-4310Cl, connect optical digital or analog audio (page 18 "Connecting the TV").
- When using these functions set as follows: "HDMI Control" -"Control" (rapage 37) set to "ON".

NOTE

- When "Control" is set to "ON", it consumes more standby power.
- The HDMI control function controls operations of a TV that is compatible with the HDMI control function. Make sure that the TV and HDMI are connected when you perform HDMI control.
- When you power off AVR-4310Cl, the HDMI control function does not operate. Either power on or set to standby.
- Some functions may not operate depending on the connected TV or player. Check the owner's manual of each device for details beforehand
- When "Control" is set to "ON", it is not possible to assign an HDMI terminal to "TV" at "Input Assign" (@page 47).

- Turn the power on for all the equipment connected by HDMI cable.
- Set the HDMI control function for all equipment **C** connected by HDMI cable.

Set "HDMI Control" - "Control" (@page 37) to "ON".

- * Please consult the operating instructions for the connected equipment to check the settings.
- * Carryout steps 1 and 2 should any of the equipment be plugged
- **3** Switch the television input to the HDMI connected to the AVR-4310CI.
- Switch the AVR-4310CI input to the HDMI input source and check if the picture from the player is ok.
- When you turn the TV's power to standby, check that the power of the AVR-4310CI and player also goes on standby.



If the HDMI control function does not operate properly, check the following points.

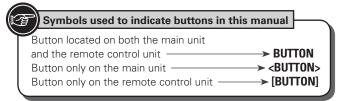
- Is the TV or player compatible with the HDMI control function?
- Is the AVR-4310Cl properly set?
- Is the "HDMI Control" "Control" (P page 37) set to "ON"?
- Is the "Power Off Control" (Propage 37) set to "ON"?
- Is the "Control Monitor" (管 page 37) set for the monitor output connected to television?
- Are the HDMI control function settings of all equipment correct?

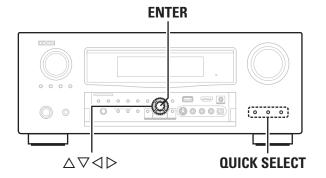
NOTE

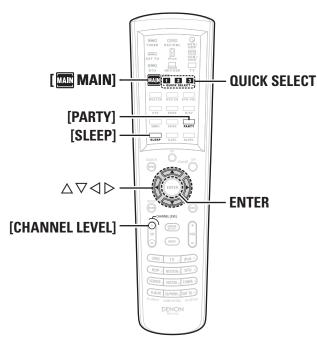
Should any of the operations below be performed, the interlocking function may be reset, in which case, repeat step's 1 and 2.

- "Input Assign" "HDMI" (Page 47) setting has changed.
- "Monitor Out" (page 37) setting is changed.
- There is a change to the connection between the equipment and the HDMI, or an increase in equipment.

Convenient Functions







Setting the Power to Standby After a Certain Amount of Time (Sleep Timer Function)

With this function, you can set the AVR-4310Cl so that the power is automatically switched to standby after the set amount of time has passed.

This is convenient for playing sources while going to sleep.

Press [SLEEP] and display the time you want to set.

The "SLEEP" indicator on the display lights.

• The time switches as shown below each time [SLEEP] is pressed.



☐ To cancel the sleep timer

Press [SLEEP] to set "OFF".

The "SLEEP" indicator on the display turns off.



- The sleep timer setting is canceled if the AVR-4310Cl's power is set to standby or turned off.
- The sleep timer function can be set separately for the different zones (*** page 88 "Sleep Timer").

Adjust the Volume of the Speakers

You can adjust the channel level either according to the playback sources or to suit your taste, as described below.

Adjust the Volume of the Different Speakers

1 Press [CHANNEL LEVEL].

2 Use $\triangle \nabla$ to select the speaker.

The speaker that can be set switches each time one of the buttons is pressed.

3 Use $\triangleleft \triangleright$ to adjust the volume.

※ In the case of a subwoofer, press ☐ when it is at "-12 dB" will change the setting to "OFF".



When a headphone jack is inserted, the headphone channel level can be adjusted.

Adjusting the Volume of Groups of Speakers (Fader Function)

This function lets you adjust (fade) the sound from all the front (Front speaker / Front height speaker / Front wide speaker / Center speaker) or rear (Surround speaker / Surround Back speaker) speakers at once.

1 Use ∇ to select "Fader", then select the item to be adjusting using \triangleleft or \triangleright .

2 Use $\triangleleft \triangleright$ to adjust the volume of the speakers. $(\triangleleft : front. \triangleright : rear)$



- The fader function does not affect the subwoofer.
- The fader can be adjusted until the volume of the speaker adjusted to the lowest value is -12 dB.

Saving Frequently Used Settings (Quick Select Function)

All of the settings in step 1 can be memorized together. By memorizing frequently used settings, you can quickly access and enjoy a playback environment that is consistently the same.

Saving the Settings

Set the items below to the settings you want to save.

- 1) Input Source (Propage 27)
- 2 Volume Level (Prpage 70)
- 3 Surround Mode (Propage 71)
- 4 Audyssey Setting
 - (MultEQ XT, Dynamic EQ, Dynamic Volume) (Pr page 75, 76)
- 5 Video Select (Page 48)

Press and hold the desired QUICK SELECT until "Memory" appears on the display.

The current settings will be memorized.

[Quick Select Defaults]

	Input Source	Volume
Quick Select 1	DVD	-40dB
Quick Select 2	SAT/CBL	-40dB
Quick Select 3	VCR	-40dB

Calling the Settings Out

Press QUICK SELECT at which the settings you want to call out are saved.

The "Q1", "Q2" or "Q3" indicator lights on the display.

■ Naming Quick Select settings

See "Quick Select Name" (Propage 43).



The Quick Select function can be set separately for the different zones (Page 88 "Quick Select Function").

NOTE

Input sources stored with the quick select function cannot be selected if they have been deleted at "Source Delete" (Propage 42). In this case, store them again.

Playing the Same Network Audio on Different Devices Connected in a **Network (Party Mode Function)**

The same network audio (Internet Radio, Media Server or iPod DIRECT) can be played on multiple DENON products equipped with the Party Mode function and connected in a network.

The party mode consists of one organizer and up to four attendees. When one unit starts the party mode as the organizer, up to four devices on which the party mode function is activated automatically participate in the party as attendees. "Party Mode Function" (page 40) must be set to "ON" ahead of time in order to use the party mode function.

Starting the Party Mode as the Organizer

◀ Press [PARTY] to become the organizer. "Do you enter Party Mode?" is displayed.

* An error message is displayed when you are not connected to a network.

Press $\triangleleft \triangleright$ to select "Yes", then press **ENTER**.

The "PARTY" indicator on the display lights. The input source automatically switches to "NET/USB" and the attendees are automatically selected.

3 Play the desired track.

□ To Cancel the Party Mode

While in the party mode, press [PARTY].

"Do you exit Party Mode?" is displayed on the GUI screen.

"Do you turn Attendee's power off?" is displayed.

3 Press < ▷ to select "Yes" or "No", then press FNTFR ENTER.

> Yes: The power of the attendees is turned off and the party mode is canceled.

> No : The party mode is canceled without turning off the power of the attendees.

Participating in the Party Mode as an Attendee

- When the organizer starts the party mode, up to four attendees are selected automatically. No operation is required.
- When a device becomes an attendee, "PARTY appears on the display. The input source automatically switches to "NET/USB" and the same network audio as on the organizer is played.
- If there are fewer than four attendees, a device can join the party mode after it has started. To participate in the party mode, perform the operation described below.

◆ Press [PARTY].

"Do you enter Party Mode?" is displayed.

* An error message is displayed when you are not connected to a network.

□ To Cancel the Party Mode

While in the party mode, press [PARTY].

"Do you exit Party Mode?" is displayed on the GUI screen.

Press <1 > to select "Yes", then press ENTER.

In this case, the other devices remain in the party read. In this case, the other devices remain in the party mode.



"Rhapsody", "Napster" and "USB" are not available in the Party

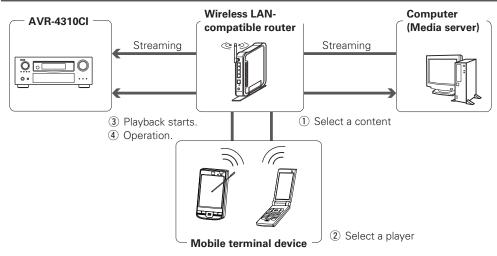
There can only be one organizer in the network. To form a new party mode, first cancel the current party mode.

Convenient Functions

Operating a Wireless LAN-Compatible Mobile Terminal to Play Music and Videos

- Perform this procedure using a wireless LAN-compatible mobile terminal conforming to the DLNA (Digital Living Network Alliance) standard.
- This function allows you to play contents located on a computer (music server) or mobile terminal device connected in a network by operating a mobile terminal device in the same network.
- There are two types of operations on the mobile terminal device.

Playing Contents on a Computer (Media Server)



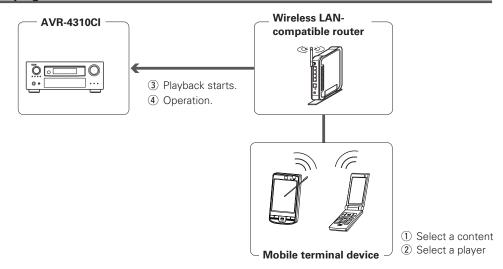
1 From the mobile terminal device, browse the media server in the same network and choose the contents you want to play.

2 From the mobile terminal device, select the AVR-4310CI among the products in the network.

Playback of the contents selected in step 1 begins.

- *When selecting the AVR-4310Cl from the mobile terminal device, the name of the AVR-4310Cl is displayed at "Friendly Name" (@page 40 "Friendly Name Edit").
- * The following operations are possible from the mobile terminal device:
- File operations (play, stop, pause, track search)
- Play mode settings (repeat/random)
- Volume adjustment

Playing Contents on a Mobile Terminal Device



1 Select the contents you want to play from among the mobile terminal devices.

2 From the mobile terminal device, select the AVR-4310CI among the products in the network.

Playback of the contents selected in step 1 begins.

- *When selecting the AVR-4310Cl from the mobile terminal device, the name of the AVR-4310Cl is displayed at "Friendly Name" (*page 40 "Friendly Name Edit").
- * The following operations are possible from the mobile terminal device:
- File operations (play, stop, pause, track search)
- Play mode settings (repeat/random)
- Volume adjustment



- " is displayed on the GUI screen while the mobile terminal device is being operated.
- For the various settings and operating procedures, see the operating instructions of the mobile terminal devices being used.
- When selecting the AVR-4310Cl from the mobile terminal device, the name of the AVR-4310Cl is displayed at "Friendly Name". "Friendly Name" can be edited at "Friendly Name Edit" (**) page 40) as desired so that it is easily distinguishable from other devices.
- When playback is started from the mobile terminal device, the AVR-4310Cl's input source automatically switches to "NET/USB". Also, when the "Network Standby" setting (**) page 40) is set to "ON", the power automatically turns on.

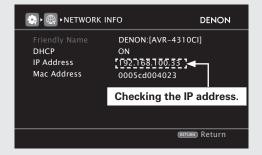
NOTE

When operations related to browsing or playback (play, stop, pause, track search) are performed on the AVR-4310Cl while operating the mobile terminal device, the connection to the network is disconnected. The network connection is also disconnected when the party mode is started.

Operating the AVR-4310Cl with a **Browser (Web Control Function)**

You can operate the AVR-4310Cl using a browser.

- Switch "ON" the "Network Standby" setting (Pp page 40).
- **↑** Check the AVR-4310CI's IP address with "Network ✓ Information" (இ page 41).

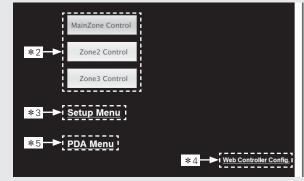


3 Enter the AVR-4310CI IP address in browser's address how address box.

For example, if the IPaddress of AVR-4310Clis "192,168,100,33", enter "http://192.168.100.33".



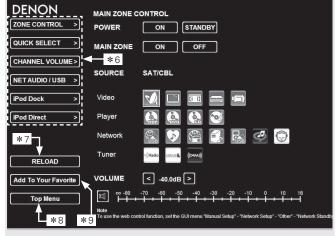
When the top menu is displayed, click on the menu vou want to operate.



- *2: Click when you operate each zone (Example 1)
- *3: Click when you operate the setup menu (E) [Example 2])
- *4: Click to change the Web control screen setting. (Example
- **★**5: Click when you operate a small screen such as a PDA screen, etc. (Example 4))

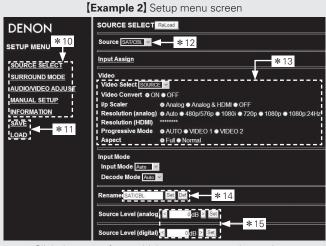
5 Operate.

[Example 1] Main zone control screen



- *6: Click to perform each operation. Changes to each operation screen (FEXAmple 5)
- *7: Click when you update to the latest information. Normally, there is a change to the latest information each time you operate. When operated from the main unit, click because the screen is not updated.
- *8: Click to return to the top menu. Displayed when setting "Top Menu Link Setup" to "ON" in
- *9: Click to add a setting to the "Favorites" in your browser. We recommend registering the setting screens for the different zones in the browser's favorites so as not to accidentally perform menu operations for zones you do not intend to operate.

Convenient Functions



* 10: Click the menu from which you want to make settings.

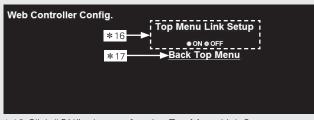
The display on the right becomes each setting screen.

*11:Click "SAVE" when you want to save settings, and click "LOAD" when you want to call settings.

Becomes each operation screen.

- * 12: Click "v" and select from the displayed items.
- * 13: Click to determine a setting.
- *14:After entering characters, click "Set" to set, or click "Def" to return to initial setting.
- *15:Enter figures or click "<" or ">" to make the setting, and then click "Set"

[Example 3] Web configuration screen

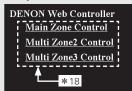


 $*$ 16:Click "ON" when performing Top Menu Link Setup.

When set up, return to the top menu from each operation screen. (Default setting: "OFF")

*17: Click to return to the top menu.

[Example 4] PDA menu screen

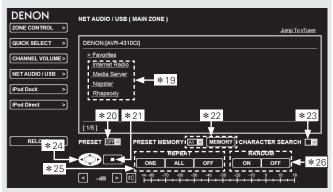


* 18: Select to operate each zone.

NOTE

You cannot change setup menu operations and zone name on the PDA menu screen.

[Example 5] Net Audio operating screen



- *19: Click the menu from which you want to make settings.
- *20: Click "v" to select the preset channel you want to play.
- *21: Click to stop play.
- *22:When registering presets, click "v" to select the channel you want to register, and then click "MEMORY".
- *23:When searching using an acronym, click "v" and select from the displayed characters.
- *24: Click when selecting menu.
- *25: Click to repeat play.
- *26: Click to random play.

[Example 6] Dedicated iPod Touch screen

*When accessed from the iPod Touch browser, an optimized operation screen is displayed.



Various Memory Functions

Personal Memory Plus Function

This function sets the settings (input mode, surround mode, HDMI output mode, MultEQ XT, Dynamic EQ, Dynamic Volume, audio delay etc.) last selected for the individual input sources.



The surround parameters, tone settings and the volumes of the different speakers are stored for the individual surround modes.

Last Function Memory

This stores the settings as they were directly before the standby mode was set.

When the power is turned back on, the settings are restored to as they were directly before the standby mode was set.

Playing in ZONE2/ZONE3 (Multi-zone Function)

This function allows you to play sound in rooms other than the main zone where multi-channel sound is played.



The source selected for ZONE2 is also output from the recording output connectors.

Audio Output

There are two methods to do this, as described below. Choose one of the methods.

- 1) Zone playback by speaker output
- (2) Zone playback by audio output (PRE OUT) Use an external amplifier.

1) Zone Playback by Speaker Output

The ZONE2 and ZONE3 audio signals are output from the AVR-4310CI's SURR BACK/AMP ASSIGN speaker terminals using the amplifier assignment function.

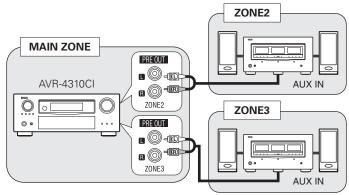
Connecting and Setting the Speakers

	Amp Assign mode setting (@page 34) and the audio signals that are output	Connecting the speakers
ZONE2	ZONE2 Output signal : Stereo (L / R)	ZONEZ
ZONE3	ZONE3 Output signal : Stereo (L / R)	ZONES
ZONE2 and ZONE3	ZONE2 (MONO) Output signal : Monaural	ZONE2 ZONE3

2 Zone Playback by Audio Output (PRE OUT)

Audio Connections (ZONE2, ZONE3)

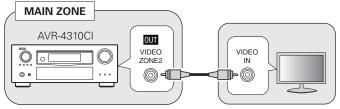
The audio signals of the AVR-4310Cl's ZONE2 and ZONE3 audio output terminals are output to the ZONE2 and ZONE3 amplifiers and played on these amplifiers.



Video Output

Video Connection

The video signals of the AVR-4310Cl's ZONE2 video output terminal are played by the ZONE2 TV.



NOTE

It is not possible to output video signals input to the HDMI or component terminals to ZONE2.

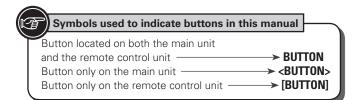


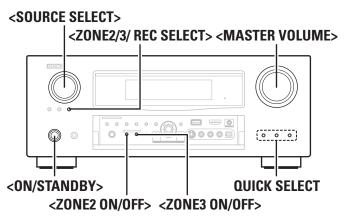
Adjust the volume on the connected amplifier.

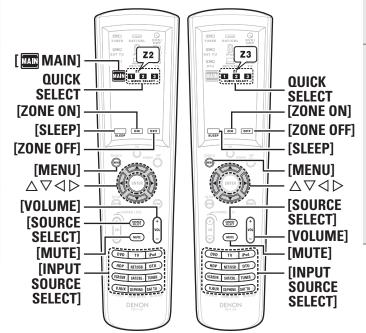
Also be sure to read the operating instructions of the connected devices.

NOTE

- We recommend using high quality pin-plug cables for audio connections in order to prevent noise.
- When the input source to which the digital input connectors (OPTICAL/COAXIAL) are assigned is selected in ZONE2 or ZONE3, playback is only possible if the digital signal being input is in PCM (2-channel) format.
- It is not possible to play the digital audio signals input from the HDMI or DENON LINK terminals in ZONE2 and ZONE3.
- When certain digital signals are being input, noise may be output from the ZONE2 and ZONE3 audio output connectors.







Playback

The operating procedure is the same for "① Zone Playback by Speaker Output" and "② Zone Playback by Audio Output (PRE OUT)".

Turn on the AVR-4310CI's power.(Repage 24 "Turning the Power On")

7 Turn on the zone power.

Operation on the main unit

Press <**ZONE2 ON/OFF>** or **<ZONE3 ON/OFF>** for the zone to be operated.

When the power turns on, the "Z2" or "Z3" indicator lights on the display.

Operation on the remote control unit

Press [MAIN] to display the mode for the zone to be operated, the press [ON].

When the power turns on, the "Z2" or "Z3" indicator lights on the display.

- ** Also press [SOURCE SELECT] when in standby mode, the power turns on.
- ** When using ZONE2 or ZONE3, it is possible to turn the power for the MAIN ZONE only on or off by pressing [MAIN ZONE ON] or [MAIN ZONE OFF].

3 Select the input source.

Operation on the main unit

- ① Press **<ZONE2/3/ REC SELECT>** and select the zone to be adjusted.
- **② Turn <SOURCE SELECT>** to choose the input source.

Operation on the remote control unit

In the zone mode you want to operate, press [SOURCE SELECT].

** The same input source as in the main zone can be selected easily by pressing the [M.ZONE CALL] on the sub remote control unit. **A** Adjust the item below.

□ Adjust the Volume

Operation on the main unit

- ① Press **<ZONE2/3/ REC SELECT>** and select the zone to be adjusted.
- 2 Turn < VOLUME > to adjust.

Operation on the remote control unit

In the zone mode whose volume you want to adjust, press [VOLUME].

[Adjustable range] --- -80dB ~ -40dB ~ 18dB (When the "Volume Display" setting is "Relative")

[Adjustable range] 0 ~ 41 ~ 99

(When the "Volume Display" setting is "Absolute")

* Upon purchase, "Volume Limit" is set to "-10dB (71)".

☐ Turning off the Sound Temporarily (MUTE)

In the zone mode for which you want to mute the sound, press [MUTE].

The sound is reduced to the level set at menu "Mute Level" (Page 42).

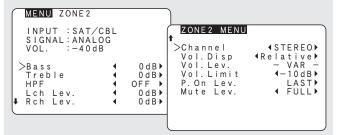
- * To cancel, either adjust the volume or press [MUTE] again.
- * The setting is canceled when the zone's power is turned off.

Menu Operation

The settings related to tone adjustment and volume can be made.

1 In the zone mode for which you want to operate, press [MENU].

The ZONE2 or ZONE3 menu is displayed on the ZONE2 monitor.



- **2** Press $\triangle \nabla \triangleleft \triangleright$ to select the menu to be set or operated.
- **3** Press [MENU] to enter the setting. The on-screen display disappears.



For ZONE2, the "Zone Setup" can be made while watching the onscreen display.

Also, when ZONE3 is operated, the on-screen display appears on the ZONE2 monitor, so operation can be performed watching this on-screen display.

Quick Select Function

It is also possible to save three settings for multi-zone.

- **◄** Set the items below to the settings you want to save.
- 1 Input Source (@page 87)
- 2) Volume Level (@page 87)
- 2 In the zone mode for which you want to operate, press and hold the desired QUICK SELECT until "Memory" appears on the on-screen display.

The current settings will be memorized.

[Quick Select Defaults]

	Input Source	Volume
Z2/Z3 Quick Select 1	DVD	-40dB
Z2/Z3 Quick Select 2	SAT/CBL	-40dB
Z2/Z3 Quick Select 3	VCR	-40dB

Calling the Settings Out

Press QUICK SELECT at which the settings you want to call out are saved.

The "Q1", "Q2" or "Q3" indicator lights on the display.

□ Naming Quick Select settings

See "Quick Select Name" (F page 43).

Sleep Timer Function

This is convenient for playing sources while going to sleep.

1 Press [MAIN] to display the mode for the zone to be operated.

☐ To cancel the sleep timer

Press [SLEEP] to set "OFF".

• The "SLEEP" indicator on the display turns off.

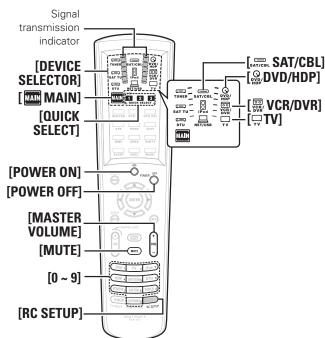


The sleep timer is also canceled when the AVR-4310Cl is set to the standby mode or the ZONE2 or ZONE3 power is turned off.

Operating the Connected Devices by Remote Control Unit

Operating the Main Remote Control Unit

- On the main remote control unit, the display switches according to the device being operated and the mode.
- In the "MAIN", "SAT TU", "DTU", "iPod" and "NET/USB" modes, when the remote ID is set, the AVR-4310Cl can be used independently even in an environment containing multiple DENON amplifiers. (page 93 "Setting the Remote ID")



Operating AV Equipment

Press [DEVICE SELECTOR] for the component to be operated.

The indicator for the component to be operated flashes.

MAIN / ZONE2 / ZONE3 / ZONE4 * / MACRO

Cannot be used.

: XM / SIRIUS

: HD Radio (Digital Tuner)

: Satellite Receiver / Cable Tuner / IPTV / HDTV (Set Top

iPod

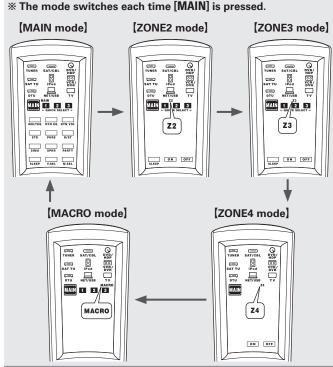
: Network / USB

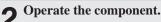
Blu-ray Disc Player / HD DVD Player / DVD Player (Recorder) / CD Player (Recorder)

VCR/

Digital Video Recorder

*: The AVR-4310Cl cannot be used in the ZONE4 mode.





* For details, refer to the component's operating instructions.



- In ZONE2, ZONE3 and ZONE4 modes, you can switch the main zone power on or off by pressing [POWER ON] or [POWER OFF].
- [QUICK SELECT], [MUTE] and [MASTER VOLUME] can also be operated when the device selected is something other than [MAIN]. In this case, the zone you used last can be operated. Check using the zone indicator.

Presetting

The included main remote control unit can be preset to operate devices of various brands.

- **1** Press [DVD/HDP], [VCR/DVR], [TV] or [SAT/CABLE] for the device you want to preset.
- **2** Press and hold in [RC SETUP] for at least 3 seconds. The signal transmission indicator flashes twice.
- **3** Press [0 ~ 9] and input the 5-digit number of the brand of the component to be preset. The numbers are shown in the Preset Code Table (Fig. End of this manual).

When the code is registered, the signal transmission indicator flashes twice.

When the preset code is transmitted, the mode indicator for the component to which that code belongs flashes.

** The input mode is canceled if no button is operated for 10 seconds.



- Some brands have more than one preset code. If the component does not operate, try inputting a different code.
- ** Depending on the model and year of manufacture of your equipment, some buttons may not operate. In such cases we recommend using the learning function. (**E** page 94 "Learning Function")

Operating Preset Components

1 Press [DEVICE SELECTOR] for the component to be operated.

The mode indicator of the device to be operated flashes.

9 Operate the component.

* For details, refer to the component's operating instructions.

Blu-ray Disc Player / HD DVD Player / DVD Player / DVD Recorder



EL Display							
Device select button	OVD/ (SAT/CBL VCR/ HDP TV)*1						
RPT	Repeat						
RND	Random						
SKIP+	Disc Skip (For charger-compatible devices)						
	Auto search (cue)						
>	Playback						
44 >>	Manual search (fast-reverse/fast-forward)						
Ш	Still/Pause						
	Stop						
ON	Power on *2						
OFF	Power off * 2						
Buttons							
MENU/ SEARCH	(Popup) Menu						
$\triangle \nabla \triangleleft \triangleright$	Cursor						
ENTER	Enter						
SETUP/RSTR	Setup						
RTN	Return						
CH +, -	Switch channels (up/down)						
0 ~ 9, +10	Select title or chapter or channel selection						

- *1: Preset registration is also possible for the Device Select buttons in ().
- *2: This may power some devices ON/OFF.

CD Player / CD Recorder

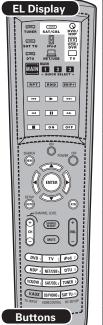


EL Display						
Device select button	DVD/ (SAT/CBL VCR/ HDP (SAT/CBL VCR/ DVR TV)*1					
RPT	Repeat					
RND	Random Disc Skip (For charger-compatible devices)					
SKIP+						
	Auto search (cue)					
>	Playback					
44 >>	Manual search (fast-reverse/fast-forward) Pause Stop Power on *2					
Ш						
ON						
OFF	Power off *2					
Buttons						
MENU/ SEARCH	Amp menu					
$\triangle \nabla \triangleleft \triangleright$	Amp cursor					
ENTER	Amp enter					
SETUP/RSTR	RESTORER					
RTN	Amp return					
0 ~ 9, +10 Track Selection						

- *1: Preset registration is also possible for the Device Select buttons in ().
- *2: This may power some devices ON/OFF.

Operating the Main Remote Control Unit

Digital Video Recorder / Video cassette Recorder / Cassette Deck



EL Display						
Device select button	VCR/(SAT/CBL DVD/ TV)*1					
	Auto search (cue)					
>	Playback					
44 >>	Manual search (fast-reverse/fast-forward)					
II	Still/Pause					
	Stop					
ON	Power on *2					
0FF	Power off *2					
Buttons						
MENU/ SEARCH	Menu/guide					
$\triangle \nabla \triangleleft \triangleright$	Cursor					
ENTER	Enter					
SETUP/RSTR	Setup					
RTN	Return					
CH +, -	Switch channels (up/down)					
0 ~ 9, +10	Channel Selection					

- *1: Preset registration is also possible for the Device Select buttons in ().
- *2: This may power some devices ON/OFF.

TV



EL Display					
Device select button	TV (SAT/CBL DVD/ VCR/)*1				
	Auto search (cue)				
>	Playback				
44 >>	Manual search (fast-reverse/fast-forward)				
II	Still/Pause				
	Stop				
ON	Power on *2				
OFF	Power off *2				
Buttons	1				
MENU/ SEARCH	Menu/guide				
$\triangle \nabla \triangleleft \triangleright$	Cursor				
ENTER	Enter				
SETUP/RSTR	RESTORER				
RTN	Return				
CH +, –	Switch channels (up/down)				
MUTE	TV mute				
V0L+,-	TV Volume +, -				
1 ~ 9	Channel Selection				
TV INPUT	TV inputs				

- *1: Preset registration is also possible for the Device Select buttons in ().
- *2: This may power some devices ON/OFF.

Set top box for Satellite / Cable / IP TV / HD TV



EL Display				
Device select button	SAT/CBL (DVD/ VCR/ TV)*1			
	Auto search (cue)			
>	Playback			
44>>	Manual search (fast-reverse/fast-forward)			
II	Still/Pause			
	Stop			
ON	Power on *2			
OFF	Power off *2			
Buttons				
MENU/ SEARCH	Menu			
$\triangle \nabla \triangleleft \triangleright$	Cursor			
ENTER	Enter			
SETUP/RSTR	Guide			
RTN	Return			
CH +, -	Switch channels (up/down)			
0 ~ 9, +10	Channel Selection			

- *1: Preset registration is also possible for the Device Select buttons in ().
- *2: This may power some devices ON/OFF.

XM / SIRIUS iPod



EL Display						
Device select button	□ iPod					
RPT	1-track/All-track repeat play					
RND	1-track/album shuffle play					
	Auto search (cue)					
>	Playback					
44 >>	Manual search (fast-reverse/fast-forward)					
Ш	Still/Pause					
	Stop					
Buttons						
MENU/ SEARCH (Press and release)	Page search mode					
(Press and hold)	Browse / Remote mode switching					
$\triangle \nabla \triangleleft \triangleright$	Cursor					
ENTER	Enter					
SETUP/RSTR	RESTORER					
RTN	Return					



EL Display				
Device select button	SAT TU			
A ~ G	Preset memory block selection			
TU ▲▼	Channel selection			
MEMO	Preset memory registration			
Buttons				
MENU/ SEARCH	Direct search			
$\triangle \nabla \triangleleft \triangleright$	Category search			
ENTER (press and hold)	To parental lock password check screen (SIRIUS)			
SETUP/RSTR	RESTORER			
CH +/-	Preset channel selection			
0 ~ 9	Preset channel selection (1 ~ 8) / Direct channel search (0 ~ 9)			



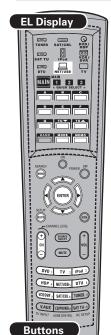
Buttons

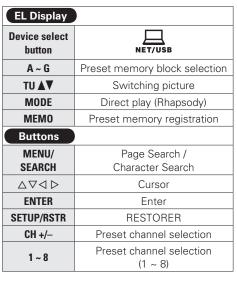
HD Radio

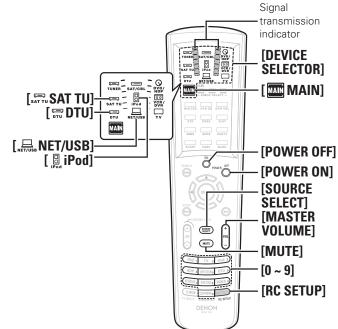
	EL Display						
	Device select button	DTU					
	A ~ G	Preset memory block selection					
	TU ▲▼	Tuning +/-					
l	BAND	AM/FM switching					
	MODE	Switch search modes					
	MEMO	Preset memory registration					
	Buttons						
	MENU/ SEARCH	Direct Frequency tuning					
	$\triangle \nabla \triangleleft \triangleright$	Multi cast switching (△▽)					
	SETUP/RSTR	RESTORER					
	CH +/-	Preset channel selection					
	0 ~ 9	Preset channel selection (1 ~ 8) / Direct frequency tuning (0 ~ 9)					

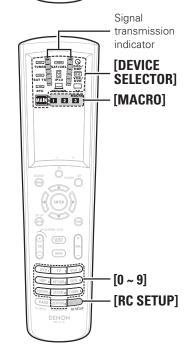
Operating the Main Remote Control Unit

NET/USB









Setting the Remote ID

When using multiple DENON AV receivers in the same room, make this setting so that only the desired AV receiver operates.

Press [MAIN] to light the "MAIN" zone indicator.

2 Press and hold in [RC SETUP] for at least 3 seconds. The signal transmission indicator flashes twice.

Refer to the table at the right, and use [0 ~ 9] to input the 5-digit number corresponding to the remote ID to be changed.

The signal transmission indicator flashes twice.

Press [SAT TU], [DTU], [iPod] or [NET/USB] to select the mode to be set.

5 Repeat steps 2 to 4 to set the remote IDs for all modes.

DEVICE SELECTOR Remote ID	MAIN	SATTU (SIRIUS, XM)	iPod	DTU	NET/USB
1 (Default)	81001	52415	72815	62840	62865
2	82001	52416	72816	62841	62837
3	83001	52417	72817	62842	62838
4	84001	52418	72818	62843	62839

NOTE

- When changing a setting, be sure to set the same remote ID as the AVR-4310Cl's (**) page 44).
- When changing the MAIN mode's remote ID, also change the "SAT TU", "DTU" "iPod", and "NET/USB" remote ID at the same time.

Learning Function

If your AV devices are of a brand other than DENON or if they cannot be operated with the preset memory function, their remote control signals can be transfered to stored in the AVR-4310Cl's main remote control unit.

1 Press and hold in [RC SETUP] for at least 3 seconds. The signal transmission indicator flashes twice.

Press [9], [7] and [5], in that order.
The signal transmission indicator flashes twice and the learning mode is set.

3 Press [DEVICE SELECTOR] for the device you want to set

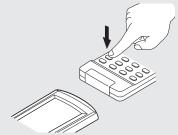
4 Press the button to be set.

The main remote control unit's display turns off.

If a button that cannot be learned is pressed, the signal transmission indicator lights but the signal is not learned.

5 Point the main remote control units directly at each other and press and hold the button on the other device's remote control unit that you want to learn.

Once learning is completed normally, the display lights and the signal transmission indicator flashes twice.



- $\mbox{\ensuremath{\%}}$ If you want to learn other buttons, repeat steps 4 and 5.
- * The mode can be switched by pressing [DEVICE SELECTOR].
- ** The signal transmission indicator lights once for a long time if learning was not possible

6 Press and hold in [RC SETUP] for at least 3 seconds. The signal transmission indicator flashes twice and the setting is completed.



- With some remote control units, the signals cannot be learned or the device will not operate properly even when the signals have been learned. In this case, use the device's own remote control unit.
- Learned buttons have priority over the preset memory. If you no longer need the learned setting, reset the learning function (*** page 96).

NOTE

- [POWER ON], [POWER OFF] and [SOURCE SELECT] cannot be learned
- Do not learn any remote control signals at [RC SETUP].
- The MAIN, ZONE2, ZONE3, ZONE4 and MACRO modes cannot be learned
- Codes cannot be learned at [MASTER VOLUME] or [MUTE] when the main remote control unit is set to "TUNER", "SAT TU", "DTU", "NET/USB" or "iPod".

MACRO Function

This function lets you register a series of operations at a single button.

For example, the amplifier can be turned on, the input source selected, the monitor's power turned on, the source device's power turned on and the play mode set all by pressing a single button.

Up to 32 signals each can be registered at [MACRO] (1 ~ 3).

Registering

1 Press and hold in [RC SETUP] for at least 3 seconds. The signal transmission indicator flashes twice.

2 Press [9], [7] and [8], in that order.

The signal transmission indicator flashes twice and the system call registration mode is set.

3 Press [MACRO] (1 ~ 3) at which you want to register the signals.

Press the buttons you want to register in the same sequence as the operations you want to perform.

The signal transmission indicator lights when a button is pressed.

Example: Press [POWER ON].

Press [DEVICE SELECTOR] – [DVD/HDP].

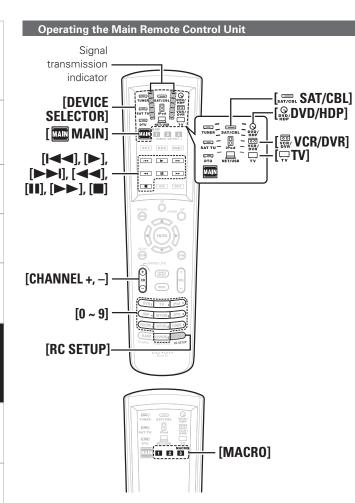
Press [▶].

- * The mode can be switched by pressing [DEVICE SELECTOR].
- ** Perform the registration procedure for all the buttons you want to register.

5 Press and hold in [RC SETUP] for at least 3 seconds. The signal transmission indicator flashes twice and the setting is completed.

NOTE

Registration is not possible in ZONE2, ZONE3, ZONE4 and MACRO modes.



Calling out

Press [MAIN], to select "MACRO".

2 Press [MACRO] (1 ~ 3) at which the signals were registered.

The registered signals are transmitted in the registered seauence.

Punch Through Function

DVD/HDP (including BD and CD) or DVR/VCR mode buttons can be stored at unused TV or SAT/CBL mode buttons.

For example, when DVD mode buttons are assigned to the TV mode, the DVD mode operations can be performed while in the TV mode.

Press and hold in [RC SETUP] for at least 3 seconds. The signal transmission indicator flashes twice.

2 Press [9], [8] and [8], in that order.

The signal transmission indicator flashes twice and the punch through setting mode is set.

→ Press [DEVICE SELECTOR] for the device you want to punch through ([DVD/HDP] or [VCR/DVR]).

Press the button you want to punch through ([\bigsim], $[\blacksquare], [\blacktriangleleft \blacktriangleleft], [\blacktriangleright \blacktriangleright], [\mid \blacktriangleleft \blacktriangleleft], [\blacktriangleright \blacktriangleright] \text{ or } [\blacksquare]).$

Each time the button is pressed, the signal transmission indicator flashes once.

Press [DEVICE SELECTOR] for the device you want to punch through ([TV] or [SAT/CBL]).

Press and hold in [RC SETUP] for at least 3 seconds. The signal transmission indicator flashes twice and the setting is completed.

Setting the Time the Backlight Stays Lit

Press and hold in [RC SETUP] for at least 3 seconds. The signal transmission indicator flashes twice.

• Press [9], [7] and [3], in that order. The signal transmission indicator flashes twice and the backlight on time setting mode is set.

3 Set the light on time.
The signal transmission

The signal transmission indicator flashes twice.

[Settable times]: [1]: 5 sec.

[2]: 10 sec. (Default)

[3]: 15 sec. [4]: 20 sec. [5]: 25 sec.

Adjusting the Backlight's Brightness

The display's brightness can be adjusted in 5 steps. (Default: Step 5)

Press and hold in [RC SETUP] for at least 3 seconds. The signal transmission indicator flashes twice.

Press [CHANNEL +] or [CHANNEL -].
The display gets one step brighter when [CHANNEL +] is Press [CHANNEL +] or [CHANNEL -].

The display gets one step darker when [CHANNEL -] is pressed.

• Press [RC SETUP] to complete the setting.

Specifying the Zone Used with the Main **Remote Control**

When the [MAIN] Device Select button is pressed, only the set zone can be operated with the main remote control unit.

- Press and hold in [RC SETUP] for at least 3 seconds. The signal transmission indicator flashes twice.
- Press [9], [9] and [9], in that order. The signal transmission indicator flashes twice and the backlight on time setting mode is set.
- Press [1 ~ 4] to set. The signal transmission indicator flashes twice.

[Settable items]

- [1]: When only using "MAIN" / "MACRO"
- [2]: When using "MAIN" / "Z2" / "MACRO"
- [3]: When using "MAIN" / "Z2" / "Z3" / "MACRO"
- [4]: When using "MAIN" / "Z2" / "Z3" / "Z4" / "MACRO" (Default)

Resetting the Main Remote Control Unit

Learning Function

- ☐ Resetting Button by Button
- Press and hold in [RC SETUP] for at least 3 seconds. The signal transmission indicator flashes twice.
- Press [9], [7] and [6], in that order. The signal transmission indicator flashes twice.
- Press the button you want to reset twice. The signal transmission indicator flashes twice.
- ☐ Resetting by Device Mode
- Press and hold in [RC SETUP] for at least 3 seconds. The signal transmission indicator flashes twice.
- Press [9], [7] and [6], in that order. The signal transmission indicator flashes twice.
- **→** Press [DEVICE SELECTOR] for the device you want to reset twice.

The signal transmission indicator flashes twice.

MACRO Function

- Press and hold in [RC SETUP] for at least 3 seconds. The signal transmission indicator flashes twice.
- Press [9], [7] and [8], in that order. The signal transmission indicator flashes twice.
- **3** Press [MACRO] (1 ~ 3) you want to reset.
- Press and hold in [RC SETUP] for at least 3 seconds. The signal transmission indicator flashes twice.

Punch-Through Function

- Press and hold in [RC SETUP] for at least 3 seconds. The signal transmission indicator flashes twice.
- **2** Press [9], [8] and [4], in that order. The signal transmission indicator flashes twice.
- **→** Press [DEVICE SELECTOR] for the device you want to reset (TV or SAT/CBL).
- Press and hold in [RC SETUP] for at least 3 seconds. The signal transmission indicator flashes twice.

All Settings

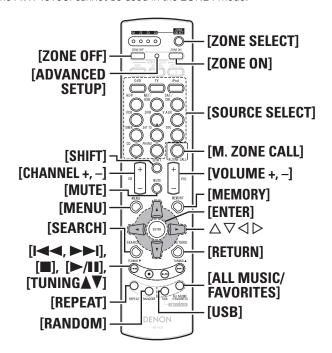
- Press and hold in [RC SETUP] for at least 3 seconds. The signal transmission indicator flashes twice.
- Press [9], [8] and [1], in that order. The signal transmission indicator flashes 4 times. All the settings are restored to their defaults.

Operating the Sub Remote Control Unit

- The sub remote control unit is equipped with frequently used buttons, so it can be used for simple remote control unit operations.
- The sub remote control unit can also be used for multi-zone, so you can use it to control the AVR-4310Cl from other rooms.
- The operations listed below can be performed with the sub remote control unit.
- Switching the input source
- Adjusting the volume
- XM, SIRIUS, HD Radio and iPod operations
- NET/USB direct play
- GUI menu and ZONE2 on-screen display operations
- Zone power on/off
- It is not possible to operate devices other than the amplifier.



The AVR-4310Cl cannot be used in the ZONE4 mode.



Functions of Buttons by Component

Device operated	DTU (HD Radio)	SAT TU (XM, SIRIUS)			NET/USB			iPod		
Zone selection	M Z2 Z3	M	Z2	Z3	M	Z2	Z3	M	Z2	Z3
ZONE SELECT	Zone operation					ection				
ZONE OFF		Power turned off (%1)								
ZONE ON			F	ower turn	ed on (*X´)				
SOURCE SELECT			Ir	put sourc	e selection	n				
CHANNEL + / -		Preset	channel s	election					_	
SHIFT	Prese	et channel	memory	block sele	ection				_	
VOLUME + / –			Adjı	ustment o	f volume	(*1)	-			
MUTE				Mutin	g (※ 1)					
MENU			;	Selected z	one meni	J				
MEMORY		Preset m	nemory re	gistration					_	
$\triangle \ \nabla \ \triangleleft \ \triangleright$	Multicast switching ($\Delta \nabla$) / Cursor	Catego	ry search	/ Cursor			Cu	rsor		
ENTER	-	_			Enter					
SEARCH	_	l	Parental Lock password check screen Page forward screen Page forward screen Page forward screen Page forward screen Screen Page forward screen Pag				se/Remote	e mode		
RETURN	-	_			Return Return					
I ⊲⊲ ⊳⊳ I, Tuning ▲ ▼	Tuning	Cha	nnel seled	ction			Track	search		
	-	_					St	:op		
►/II	-	-			Play/pause					
REPEAT	-				1-track/All-track repeat play (USB) 1-track/All-track re			peat play		
RANDOM	-				1-track random play (USB) 1-track/album shuffle play				ıffle play	
USB	**2									
ALL MUSIC * (Music server only)	*3									
FAVORITES *	*4									

- *1: Affects the currently selected zone.
- *2: The input source switches to "NET/USB" and the files on the USB memory device are played.
- *3: The input source switches to "NET/USB" and the files in "All Music" on the music server are played.
- *4: The input source switches to "NET/USB" and the files in "Favorites" are played.
- *: Whether "All Music" or "Favorites" is selected depends on the "Direct Play" setting (@page 51).

DIRECT PLAY button

- Playback is possible in the mode selected at GUI menu "Direct Play".
- **FAVORITES**: Playback starts from the first track registered in the favorites.
- **ALL MUSIC**: Playback starts from the first track registered in the "All Music" folder.
- When [USB] is pressed, playback starts from the first track on the USB memory device.

NOTE

When the music server is stopped or restarted, it may no longer be possible to play tracks stored in the favorites.

Switching Zones

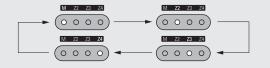
Use this procedure to select the zone to be operated by the sub remote control unit.

Press [ZONE SELECT].

The currently selected multi-zone indicator lights.

While the multi-zone indicator is light, press [ZONE **SELECT** to select the zone to be operated.

The currently selected multi-zone indicator lights.



Switching the Multi-zone Input Source to the Same Input Source as Used in the **MAIN ZONE**

This function is convenient for example when you want to listen to the same song as the one playing in the MAIN ZONE while in a different zone.

Press [ZONE SELECT] and set to ZONE2 or ZONE3.

The currently selected multi-zone indicator lights.

Press [M.ZONE CALL] on the sub remote control unit.

The multi-zone input source switches to the MAIN ZONE's input source.

NOTE

- This cannot be used for the MAIN ZONE or ZONE4.
- When [M.ZONE CALL] is pressed while the multi-zone power is off, the multi-zone power turns on and the input source switches to the MAIN ZONE's input source.

Setting the Zone for Which the Sub **Remote Control Unit is Used** (ZONE SELECT LOCK Mode)

We recommend always using the sub remote control unit for the same room. When this is done, the unit can be set so that the zone does not switch when buttons are operated.

Use the tip of a pen to press [ADVANCED SETUP]. All the multi-zone indicators light.

Select the multi-zone to be set. The selected multi-zone indicator lights.

1) To set to "MAIN ZONE": Press [REPEAT].

2 To set to "ZONE2" : Press [RANDOM]. 3 To set to "ZONE3" : Press [USB].

4 To set to "ZONE4" : Press [ALL MUSIC/FAVORITES].

• Use the tip of a pen to press [ADVANCED SETUP]. The multi-zone indicator turns off.

To Cancel

■ Use the tip of a pen to press [ADVANCED SETUP]. The currently selected multi-zone indicator lights.

• Press [ZONE SELECT].

All the multi-zone indicators light.

• Use the tip of a pen to press [ADVANCED SETUP]. The multi-zone indicator turns off.

Setting the Remote ID

When using multiple DENON AV receivers in the same room, make this setting so that no AV receiver other than the desired one operates.

While pressing [MENU], press [ADVANCED SETUP] with the tip of a pen.

The multi-zone indicator corresponding to the currently selected remote ID flashes.

Select the remote ID to be set.

1) To set to 1: Press [REPEAT]. The "M" indicator flashes.

To set to 2 : Press [RANDOM]. The "Z2" indicator flashes.

(3) To set to 3: Press [USB]. The "Z3" indicator flashes.

(4) To set to 4: Press [ALL MUSIC/FAVORITES]. The "Z4" indicator flashes.

3 While pressing [MENU], press [ADVANCED SETUP] with the tip of a per with the tip of a pen.

The multi-zone indicator turns off.

NOTE

When changing a setting, be sure to set the same remote ID as the AVR-4310Cl's (F) page 44).

Resetting the Settings

While pressing [ZONE OFF], press [ADVANCED SETUP] with the tip of a pen.

All the multi-zone indicators flash 4 times, then all the settings are restored to their defaults.

Other Information

Explanation of Terms

The AVR-4310Cl is equipped with a digital signal processing circuit that lets you play program sources in the surround mode to achieve the same sense of presence as in a movie theater.

Dolby Digital

Dolby Digital

Dolby Digital is a multi-channel digital signal format developed by Dolby Laboratories.

A total of 5.1-channels are played: 3 front channels ("FL", "FR" and "C"), 2 surround channels ("SL" and "SR") and the "LFE" channel for low frequencies.

Because of this, there is no crosstalk between channels and a realistic sound field with a "three-dimensional" feeling (sense of distance, movement and positioning) is achieved.

A real, overpowering sense of presence is achieved when playing movie sources in AV rooms as well

Dolby Digital Plus

Dolby Digital Plus is an improved Dolby Digital signal format that is compatible with up to 7.1-channels of discrete digital sound and also improves sound quality thanks to extra data bit rate performance. It is upwardly compatible with conventional Dolby Digital, so it offers greater flexibility in response to the source signal and the conditions of the playback equipment.

Dolby TrueHD

Dolby TrueHD is a high definition audio technology developed by Dolby Laboratories, using lossless coding technology to faithfully reproduce the sound of the studio master.

This format is compatible with a maximum sampling frequency of 96 kHz and up to 7.1-channels, so it is used for applications particularly prioritizing sound quality.

Dolby Pro Logic II

Dolby Pro Logic ${\rm I\hspace{-.1em}I}$ is a matrix decoding technology developed by Dolby Laboratories.

Regular music such as that on CDs is encoded into 5-channels to achieve an excellent surround effect.

The surround channel signals are converted into stereo and full band signals (with a frequency response of 20 Hz to 20 kHz or greater) to create a "three-dimensional" sound image offering a rich sense of presence for all stereo sources.

Dolby Pro Logic Ⅱx

Dolby Pro Logic IIx is a further improved version of the Dolby Pro Logic II matrix decoding technology.

Audio signals recorded in 2-channels are decoded to achieve a natural sound with up to 7.1-channels.

There are 3 modes: "Music" suited for playing music, "Cinema" suited for playing movies, and "Game" which is optimized for playing games.

Dolby Digital EX

Dolby Digital EX is a 6.1-channel surround format proposed by Dolby Laboratories that allows users to enjoy in their homes the "DOLBY DIGITAL SURROUND EX" audio format jointly developed by Dolby Laboratories and Lucas Films.

The 6.1 channels of sound, including surround back channels, provide improved sound positioning and expression of space.

Dolby Pro Logic IIz

Dolby Pro Logic IIz introduces a new dimension to Home Entertainment through the addition of a pair of front height channels. Compatible with stereo, 5.1 and 7.1 content, Dolby Pro Logic IIz provides enhanced spaciousness, depth and dimension to movies, concert video and video game playback while maintaining the full integrity of the source mix.

Dolby Pro Logic IIz identifies and decodes spatial cues that occur naturally in all content, directing this information to the front height channels, complementing the performance of left and right surround sound speakers. Content that is encoded with Dolby Pro Logic IIz height channel information can be even more revealing, with perceptually discrete height channel information bringing an exciting new dimension to home entertainment.

Dolby Pro Logic IIz, with front height channels is also an ideal alternative for households that cannot support the placement of back surround speakers of a typical 7.1 channel system but may have bookshelf space available to support the addition of height speakers.

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

DTS Surround

DTS Digital Surround

DTS Digital Surround is the standard digital surround format of DTS, Inc., compatible with a sampling frequency of 44.1 or 48 kHz and up to 5.1-channels of digital discrete surround sound.

DTS-HD High Resolution Audio

DTS-HD High Resolution Audio is an improved version of the conventional DTS, DTS-ES and DTS 96/24 signals formats, compatible with sampling frequencies of 96 or 48 kHz and up to 7.1-channels of discrete digital sound. High data bit rate performance provides high quality sound. This format is fully compatible with conventional products, including conventional DTS digital surround 5.1-channel data.

DTS-HD Master Audio

DTS-HD Master Audio is DTS, Inc's lossless audio format compatible with up to 96 kHz/7.1-channels. The lossless audio coding technology faithfully reproduces the sound of the studio master. It is fully compatible with conventional products, including conventional DTS digital surround 5.1-channel data.

DTS-ES™ Discrete 6.1

 $\mathsf{DTS}\text{-}\mathsf{ES^{TM}}$ Discrete 6.1 is a 6.1-channel discrete digital audio format adding a surround back (SB) channel to the DTS digital surround sound.

Decoding of conventional 5.1-channel audio signals is also possible according to the decoder.

DTS-ES™ Matrix 6.1

DTS-ES™ Matrix 6.1 is a 6.1-channel discrete digital audio format inserting a surround back (SB) channel to the DTS digital surround sound through matrix encoding. Decoding of conventional 5.1-channel audio signals is also possible according to the decoder.

DTS NEO:6™ Surround

DTS NEO:6™ is a matrix decoding technology for achieving 6.1-channel surround playback with 2-channel sources. It includes "DTS NEO:6 Cinema" suited for playing movies and "DTS NEO:6 Music" suited for playing music.

DTS 96/24

DTS 96/24 is a digital audio format enabling high sound quality playback in 5.1-channels with a sampling frequency of 96 kHz and 24 bit quantization on DVD-Video.

DTS Express

DTS Express is an audio format supporting low bit rates (max. 5.1channels, 24 to 256 kbps).

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 is a registered trademark and the DTS logos, Symbol, DTS-HD and DTS-HD Master Audio are trademarks of DTS, Inc. © 1996-2008 DTS. Inc. All Rights Reserved.

Neural Surround

Neural Surround™, a breakthrough in audio technology, will bring the excitement of surround music to more of America's listening audience. It provides the rich envelopment and discrete image detail of surround sound in a format 100 % compatible with stereo. With superior spectral resolution and channel separation, Neural Surround™ draws the brain's attention to sonic details in musical instruments, vocals, and ambience that are typically masked by other playback systems. This allows the listener to fully experience the richness and subtleties in recorded performance as never before. As the chosen format for XM Satellite Radio's new XM HD surround programming. Neural Surround will help deliver more surround music to more listeners than any other broadcast format. XM Satellite Radio will be the first radio company to broadcast surround sound on the radio 24 hours a day and will offer three channels fully dedicated to Neural Surround™ music. This alone will amount to more than 25,000 hours of Neural Surround™ music each year.



This product is manufactured under license from Neural Audio Corporation.

D&M Holdings Inc. hereby grants the user a non-exclusive, nontransferable, limited license right exercisable to use the NA SURROUND Technology and other US and World Wide Patents Pendina technology.

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Audyssey

Audyssey MultEQ® XT

Audyssey MultEQ XT is a room equalization solution that calibrates any audio system so that it can achieve optimum performance for every listener in a large listening area. Based on several room measurements, MultEQ XT calculates an equalization solution that corrects for both time and frequency response problems in the listening area and also performs a fully automated surround system setup.

Audyssey Dynamic EQ™

Audyssey Dynamic EQ solves the problem of deteriorating sound quality as volume is decreased by taking into account human perception and room acoustics. Audyssev Dynamic EQ works in tandem with Audyssey MultEQ XT to provide well-balanced sound for every listener at any volume level.

Audyssey Dynamic Volume™

Audyssey Dynamic Volume solves the problem of large variations in volume level between television programs, commercials, and between the soft and loud passages of movies.

Audyssey Dynamic EQ is integrated into Dynamic Volume so that as the playback volume is adjusted automatically, the perceived bass response, tonal balance, surround impression, and dialog clarity remain the same.

Audyssev Dynamic Surround Expansion™ (DSX)

Realistic reproduction of sound relies on the ability of audio systems to match human hearing performance. Three key requirements are: (i) frequency response; (2) dynamic range; and (3) accurate spatial reproduction. The requirements for frequency response have already been surpassed with sampling rates that exceed human hearing. The dynamic range limits of human perception have also been met with current digital audio systems operating capable of signal to noise ratios that approach 120 dB. Accurate spatial sound rendering, however, has not yet reached the limits of perception as human perception relies on the combination of sounds arriving from many more directions than what 5.1 surround sound systems provide. Audyssey DSX technology was developed to overcome the spatial sound rendering limitations faced by 5.1 surround sound formats.

The ITU 5.1 channel standard recommends three front loudspeakers and two rear loudspeakers. The Left (L) and Right (R) front loudspeakers should be placed at ±30° relative to the central listening position. The Center (C) loudspeaker should be at 0° and the surround loudspeakers (SL. SR) should be placed between 100° and 120°. All loudspeakers must be equidistant from the center listening position or compensated with time delay if that is not possible. A separate lowfrequency effects (LFE) channel is used to reproduce additional bass content from the subwoofer.

There are certain things that 5.1 surround sound systems do well compared to 2-channel stereo. For example, it is possible to move sounds across the front seamlessly. It is also possible to create ambience behind the listener. But 5.1 channel surround systems do not provide enough channels from which to render the required reflected sound components for a seamless and enveloping soundstage. Unfortunately, the additional two back surround channels in 7.1 systems are not in the right place to provide a significant perceptual improvement.

Adding more channels to a surround system is not for special effects. Accurate spatial sound reproduction requires rendering of directional sound cues and non-directional ambient cues. Reflections arriving after the direct sound play a critical role in the perception of soundstage width and depth. To have the most impact, additional surround channels should be used to control the direction, time of arrival, and frequency response of the reflected sound to render an expanded soundstage that reproduces sound with better localization and envelopment than what 5.1 systems provide.

Explanation of Terms

Research in the perception of auditory source width has shown that there are strong preferences in the direction of reflected sound and the perception of soundstage width and spaciousness. The single most important direction of side-wall reflections is $\pm 60^{\circ}$. DSX provides a pair of Wide channels (LW and RW) at $\pm 60^{\circ}$ with appropriate frequency response and perceptual processing to match the requirements of human hearing. In fact, the Wide channels are much more critical in the presentation of a realistic soundstage than then Back Surround channels found in traditional 7.1 systems. A more enveloping 7.1 channel system is one in which Wide speakers are used instead of Back Surround speakers. Adding surround channels behind the listener has a very small impact compared to the increase in envelopment and soundstage width that the front wide channels will provide.

After side reflections, the next most important acoustical and perceptual cues come from reflections above the front stage. DSX provides a pair of Height channels (LH and RH) at a $\pm45^{\circ}$ azimuth angle and elevated to a 45° angle in the median plane.

In addition to creating new Wide and Height channels, DSX also provides Surround Processing to enhance the envelopment of the Surround and Back Surround channels (if present). DSX Surround Processing processes the standard surround signals in the time and frequency domains to improve the perceived sense of envelopment and blending with the other speakers in the surround system.

Audyssey Dynamic Surround Expansion is a scalable system that can adapt to the practical needs of the user. The first level of surround stage enhancement comes from adding the Wide channels. The second level comes from adding the Height channels. If it is practical to have both Wides and Heights then the surround performance will be further enhanced. DSX automatically reconfigures its processing to optimize surround rendering over any number of available speakers beyond 5.1.





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HDCD®

 $\mathsf{HDCD}^{\circledR}$ is an encoding/decoding technology that greatly reduces the distortion that occurs upon digital recording while maintaining compatibility with the conventional CD format, thus expanding the dynamic range and achieving a high resolution.

Conventional CDs and HDCD compatible CDs are identified automatically to select the optimum digital processing.

FDCD®, HDCD®, High Definition Compatible Digital® and Microsoft® are either registered trademarks or trademarks of Microsoft Corporation, Inc. in the United States and/or other countries. HDCD system manufactured under license from Microsoft Corporation, Inc. This product is covered by one or more of the following: In the USA: 5,479,168, 5,638,074, 5,640,161, 5,808,574, 5,838,274, 5,854,600, 5,864,311, 5,872,531, and in Australia: 669114. Other patents pending.

DENON LINK

DENON LINK is a unique digital, balanced transfer type interface developed by DENON. It offers high speed, high quality transfer of digital audio data with low signal loss. It can be used together with DENON AV Amplifier equipped with a special DENON LINK connector using a single cable to enable playback with high sound quality. It allows digital transfer of the 192 kHz/24 bit 2-channel digital signals of DVD-Audio discs, PCM multi-channel signals, etc. Full-spec digital transfer of the audio contents of Super Audio CD is possible by connecting a player equipped for DENON LINK 3rd Edition.

During processing of DENON LINK, the " $\overline{\text{DLINK}}$ " indicator of the display lights.

DENON LINK 4th uses the clock of the AV amplifier connected by DENON LINK to achieve HDMI signal transfer with little jitter when playing BD.

AL24 Processing Plus

AL24 Processing for All Channels

DENON has further developed its proprietary AL24 Processing, an analog waveform reproduction technology, to support the 192 kHz sampling frequency. AL24 Processing Plus, thoroughly suppresses quantization noise associated with D/A conversion of LPCM signals to reproduce the low-level signals with optimum clarity that will bring out all the delicate nuances of the music.

Equipped foe not only front left and right channels but also for the surround left and right, center and subwoofer channels.

About Networks

Windows Media Player Ver.11

This is a media player distributed free of charge by Microsoft Corporation.

It can be used to play playlists created with Windows Media Player Ver. 11 as well as files in such formats as WMA, DRM WMA, MP3 and WAV.

vTuner

This is a free online contents server for Internet radio. Note that usage fees are included in upgrade costs.

For inquiries about this service, visit the vTuner site below.

vTuner website: http://www.radiodenon.com

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DLNA

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- Some contents may not be compatible with other DLNA CERTIFIED™ products.

Windows Media DRM

A copyright-protected technology developed by Microsoft.

Content providers are using the digital rights management technology for Windows Media contained in this device (WM-DRM) to protect the integrity of their content (Secure Content) so that their intellectual property, including copyright, in such content is not misappropriated. This device uses WM-DRM software to play Secure Content (WM-DRM Software). If the security of the WM-DRM Software in this device has been compromised, owners of Secure Content (Secure Content Owners) may request that Microsoft revoke the WM-DRM Software's right to acquire new licenses to copy, display and/or play Secure Content. Revocation does not alter the WM-DRM Software's ability to play unprotected content. A list of revoked WM-DRM Software is sent to your device whenever you download a license for Secure Content from the Internet or from a PC. Microsoft may, in conjunction with such license, also download revocation list onto your device on behalf of Secure Content Owners.

Surround

Surround Modes and Parameters

							Sigr	als and adjust	ustability in the different modes									
Surround Mode				Channel o	utput					Param	eter (default v	alues are sh	nown in parent	heses)				
Surround Wiede	Front L/R	Center	Surround L/R	Surround Back L/R	Subwoofer	Front Wide L/R	Front Height L/R	D. COMP *1	DRC *2	LFE *3	AFDM *1	Surround Back	Cinema EQ.	Mode	Room Size	Effect Level		
PURE DIRECT, DIRECT (2ch)	0	×	×	×	O*4	×	×	O (OFF)	(Auto)	(0 dB)	X	×	×	×	×	×		
DSD DIRECT	0	×	×	×	×	×	×	×	×	×	X	×	×	×	×	×		
DSD MULTI DIRECT	0	0	0	0	0	×	×	×	×	O (0 dB)	×	0	×	×	×	×		
MULTI CH DIRECT	0	0	0	0	0	×	×	×	×	O (0 dB)	(ON)	0	×	×	×	×		
STEREO	0	×	×	×	0	×	×	O (OFF)	(Auto)	O (0 dB)	×	×	×	×	×	×		
EXT. IN	0	0	0	0	0	×	×	×	×	×	X	×	×	×	×	×		
MULTI CH IN	0	0	0	0	0	◎ (NOTE4)	○ (NOTE4)	×	×	O (0 dB)	(ON)	0	O (OFF)	×	×	×		
WIDE SCREEN	0	0	0	0	0	0	0	O (OFF)	(Auto)	O (0 dB)	×	0	O (OFF)	×	×	O (ON, 10)		
DOLBY PRO LOGIC IIz	0	0	0	×	0	×	0	O (OFF)	(Auto)	O (0 dB)	×	×	×	(Height)	×	×		
DOLBY PRO LOGIC IIx	0	0	0	0	0	×	×	O (OFF)	(Auto)	×	X	0	O (NOTE1)	(Cinema)	×	×		
DOLBY PRO LOGIC II	0	0	0	×	0	◎ (NOTE4)	○ (NOTE4)	O (OFF)	(Auto)	×	×	0	O (NOTE2)	(Cinema)	×	×		
DTS NEO:6	0	0	0	0	0	◎ (NOTE4)	○ (NOTE4)	O (OFF)	(Auto)	×	×	0	O (NOTE1)	(Cinema)	×	×		
DOLBY DIGITAL	0	0	0	0	0	◎ (NOTE4)	○ (NOTE3)	O (OFF)	×	O (0 dB)	(ON)	0	O (OFF)	×	×	×		
DOLBY DIGITAL Plus	0	0	0	0	0	◎ (NOTE4)	○ (NOTE3)	O (OFF)	×	O (0 dB)	(ON)	0	O (OFF)	×	×	×		
DOLBY TrueHD	0	0	0	0	0	◎ (NOTE4)	○ (NOTE3)	×	(Auto)	O (0 dB)	(ON)	0	O (OFF)	×	×	×		
DTS SURROUND	0	0	0	0	0	◎ (NOTE4)	○ (NOTE3)	O (OFF)	×	(0 dB)	(ON)	0	O (OFF)	×	×	×		
DTS 96/24	0	0	0	0	0	◎ (NOTE4)	○ (NOTE3)	O (OFF)	×	O (0 dB)	(ON)	0	O (OFF)	×	×	×		
DTS-HD	0	0	0	0	0	◎ (NOTE4)	○ (NOTE3)	O (OFF)	×	O (0 dB)	(ON)	0	O (OFF)	×	×	×		
DTS EXPRESS	0	0	0	0	0	◎ (NOTE4)	○ (NOTE3)	O (OFF)	×	O (0 dB)	(ON)	0	O (OFF)	×	×	×		
neural	0	0	0	0	0	◎ (NOTE4)	○ (NOTE4)	×	×	×	X	0	×	×	×	×		
7CH STEREO	0	0	0	0	0	0	0	O (OFF)	(Auto)	O (0 dB)	×	0	×	×	×	×		
SUPER STADIUM	0	0	0	0	0	0	0	O (OFF)	(Auto)	O (0 dB)	×	0	×	×	(Medium)	O (10)		
ROCK ARENA	0	0	0	0	0	0	0	O (OFF)	(Auto)	O (0 dB)	×	0	×	×	(Medium)	O (10)		
JAZZ CLUB	0	0	0	0	0	0	0	O (OFF)	(Auto)	O (0 dB)	×	0	×	×	(Medium)	O (10)		
CLASSIC CONCERT	0	0	0	0	0	0	0	O (OFF)	(Auto)	O (0 dB)	×	0	×	×	(Medium)	O (10)		
MONO MOVIE	0	0	0	0	0	0	0	O (OFF)	(Auto)	O (0 dB)	×	0	×	×	(Medium)	O (10)		
VIDEO GAME	0	0	0	0	0	0	0	O (OFF)	(Auto)	O (0 dB)	×	0	×	×	(Medium)	O (10)		
MATRIX	0	0	0	0	0	0	0	O (OFF)	(Auto)	O (0 dB)	×	0	×	×	×	×		
VIRTUAL	0	×	×	×	0	×	×	O (OFF)	(Auto)	(0 dB)	×	×	×	×	×	×		

- | : Signal / Adjustable
- × : No signal / Not adjustable
- ©: Turned on or off by speaker configuration setting
- NOTE1: This parameter is availabe when the "Mode" is set to "Cinema" (12) page 73).
- NOTE2 : This parameter is availabe when the "Mode" is set to "Cinema" or "ProLogic" (🖙 page 73).
- NOTE3 : This parameter is availabe when the "Front Height" is set to "ON" or "DSX" is set to "ON" (@page 74, 76).
- NOTE4: This parameter is availabe when the "DSX" is set to "ON" (@page 76).

NOTE:

- *1: When playing Dolby Digital and DTS signals.
- *2 : When playing Dolby TrueHD signal.
- *3 : When playing Dolby Digital, DTS, DVD-Audio and Super Audio CD.
- *4 : When the "Subwoofer Mode" is set to "LFE+Main" (page 35) only.

Surround																
						Signals a	and adjustability	in the different	modes							
		Parameter (default values are shown in parentheses)														
Surround Mode	Delay Time	Culturantar	Front Height	PRO LOG	IC II/IIx MUSIC	mode only	NEO:6 MUSIC mode only	EXT. IN only	Tone Control	MultEQ XT	Dynamic EQ	Dynamic	RESTORER	DSX		
		Subwoofer	Front Height	Panorama	Dimension	Center Width	Center Image	Subwoofer Att.	Tone Control	Wuited XI	Dynamic EQ	Volume	NESTONEN	DSA		
PURE DIRECT, DIRECT (2ch)	×	0	×	×	×	×	×	×	×	×	×	×	×	×		
DSD DIRECT	×	×	×	×	×	×	×	×	×	×	×	×	×	×		
DSD MULTI DIRECT	×	×	×	×	×	×	×	×	×	×	×	×	×	×		
MULTI CH DIRECT	×	×	×	×	×	×	×	×	×	×	×	×	×	×		
STEREO	×	×	×	×	×	×	×	×	O (OFF)	O (OFF)	0	\circ	0	×		
EXT. IN	×	×	×	×	×	×	×	0	×	×	×	×	×	×		
MULTI CH IN	×	×	0	×	×	×	×	×	O (OFF)	O (OFF)	0	0	×	0		
WIDE SCREEN	×	×	×	×	×	×	×	×	O (OFF)	O (OFF)	0	0	0	×		
DOLBY PRO LOGIC IIz	×	×	0	×	×	×	×	×	O (OFF)	O (OFF)	0	0	0	×		
DOLBY PRO LOGIC IIx	×	×	0	O (OFF)	O (3)	(3)	×	×	O (OFF)	O (OFF)	0	0	0	×		
DOLBY PRO LOGIC II	×	×	0	O (OFF)	O (3)	(3)	×	×	O (OFF)	O (OFF)	0	0	0	0		
DTS NEO:6	×	×	×	×	×	×	O (0.3)	×	O (OFF)	O (OFF)	0	0	0	0		
DOLBY DIGITAL	×	×	0	×	×	×	×	×	O (OFF)	O (OFF)	0	\circ	×	\circ		
DOLBY DIGITAL Plus	×	×	0	×	×	×	×	×	O (OFF)	O (OFF)	0	0	×	0		
DOLBY TrueHD	×	×	0	×	×	×	×	×	O (OFF)	O (OFF)	0	0	×	\circ		
DTS SURROUND	×	×	0	×	×	×	×	×	O (OFF)	O (OFF)	0	0	×	0		
DTS 96/24	×	×	0	×	×	×	×	×	O (OFF)	O (OFF)	0	0	×	0		
DTS-HD	×	×	0	×	×	×	×	×	O (OFF)	O (OFF)	0	0	×	0		
DTS EXPRESS	×	×	0	×	×	×	×	×	O (OFF)	O (OFF)	0	0	×	0		
neural	×	×	×	×	×	×	×	×	O (OFF)	O (OFF)	0	0	0	0		
7CH STEREO	×	×	×	×	×	×	×	×	O (OFF)	O (OFF)	0	0	0	×		
SUPER STADIUM	×	×	×	×	×	×	×	×	O (NOTE5)	O (OFF)	0	0	0	×		
ROCK ARENA	×	×	×	×	×	×	×	×	O (NOTE6)	O (OFF)	0	0	0	×		
JAZZ CLUB	×	×	×	×	×	×	×	×	O (OFF)	O (OFF)	0	0	0	×		
CLASSIC CONCERT	×	×	×	×	×	×	×	×	O (OFF)	O (OFF)	0	0	0	×		
MONO MOVIE	×	×	×	×	×	×	×	×	O (OFF)	O (OFF)	0	0	0	×		
VIDEO GAME	×	×	×	×	×	×	×	×	O (OFF)	O (OFF)	0	0	0	×		
MATRIX	(30 ms)	×	×	X	×	×	×	×	O (OFF)	O (OFF)	0	0	0	×		
VIRTUAL	×	×	×	×	×	×	×	×	O (OFF)	O (OFF)	0	0	0	×		

| ○ : Signal / Adjustable × : No signal / Not adjustable NOTE5 : BASS +6 dB, TREBLE 0 dB NOTE6 : BASS +6 dB, TREBLE +4 dB

Differences in Surround Mode Names Depending on the Input Signals

Button											Inpu	ut signals										
		ANALOG	LINEAR PCM / WAV	WMA (Windows	DT	S-HD			DTS			D0	LBY		DOL	BY DIGITAL			MULTI CI	H PCM	Super Au	dio CD
Surround Mode	Note			Media Audio) / MP3 / MPEG-4 AAC / FLAC	DTS-HD Master Audio	DTS-HD High Resolution Audio	DTS EXPRESS	DTS ES DSCRT (With Flag)	DTS ES MTRX (With Flag)	DTS (5.1ch)	DTS 96/24	DOLBY TrueHD	DOLBY DIGITAL Plus	DOLBY DIGITAL EX (With Flag)	DOLBY DIGITAL EX (With no Flag)	DOLBY DIGITAL (5.1/5/4ch)	DOLBY DIGITAL (4/3ch)	DOLBY DIGITAL (2ch)	PCM (multi ch)	PCM (2ch)	DSD (multi ch)	DSD (2ch)
STANDARD																						
DTS SURROUND																						
DTS-HD MSTR		×	×	×	•	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
DTS-HD HI RES		×	×	×	×	•	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
DTS ES DSCRT6.1	*1	×	×	×	×	×	×	• 0	×	×	×	×	×	×	×	×	×	×	×	×	×	×
DTS ES MTRX6.1	*1	×	×	×	×	×	×	×	• 0	×	×	×	×	×	×	×	×	×	×	×	×	×
DTS SURROUND		×	×	×	×	×	×	0	0	•	×	×	×	×	×	×	×	×	×	×	×	×
DTS 96/24		×	×	×	×	×	×	×	×	×		×	×	×	×	×	×	×	×	×	×	×
DTS (-HD) + PLIIx CINEMA	*2	×	×	×	0	0	0	0	0	0	0	×	×	×	×	×	×	×	×	×	×	×
DTS (-HD) + PLIIx MUSIC	*1	×	×	×	0	0	0	0	0	0	0	×	×	×	×	×	×	×	×	×	×	×
DTS (-HD) + PLIIz HEIGHT	*3	×	×	×	0	0	0	0	0	0	0	×	×	×	×	×	×	×	×	×	×	×
DTS EXPRESS		×	×	×	×	×	•	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
DTS (-HD) + NEO:6	*1	×	×	×	0	0	0	×	0	0	0	×	×	×	×	×	×	×	×	×	×	×
DTS NEO:6 CINEMA		0	0	0	×	×	×	×	×	×	×	×	×	×	×	×	×	0	×	0	×	0
DTS NEO:6 MUSIC		0	0	0	×	×	×	×	×	×	×	X	×	×	×	×	×	0	×	0	×	0
DOLBY SURROUND																						
DOLBY TrueHD		×	×	×	×	×	×	×	×	×	×	•	×	×	×	×	×	×	×	×	×	×
DOLBY DIGITAL+		×	×	×	×	×	×	×	×	×	×	×	•	×	×	×	×	×	×	×	×	×
DOLBY DIGITAL EX	*1	×	×	×	×	×	×	×	×	×	×	×	×	0	0	0	0	×	×	×	×	×
DOLBY (D+) (HD) +EX	*1	×	×	×	×	×	×	×	×	×	×	0	0	×	×	×	×	×	×	X	×	×
DOLBY DIGITAL		×	×	×	×	×	×	×	×	×	×	×	×	0	•	•	•	×	×	×	×	×
DOLBY (D) (D+) (HD) +PLIIx CINEMA	*2	×	×	×	×	×	×	×	×	×	×	0	0	• 0	0	0	0	×	×	×	×	×
DOLBY (D) (D+) (HD) +PLIIx MUSIC	*1	×	×	×	×	×	×	×	×	×	×	0	0	0	0	0	0	×	×	×	×	×
DOLBY (D) (D+) (HD) +PLIIz HEIGHT	*3	×	×	×	×	×	×	×	×	×	×	0	0	0	0	0	0	×	×	×	×	×
DOLBY PRO LOGIC IIz HEIGHT	*3	0	0	0	×	×	×	×	×	×	×	×	×	×	×	×	×	0	×	0	×	0
DOLBY PRO LOGIC IIx CINEMA	*1	0	0	0	×	×	×	×	×	×	×	×	×	×	×	×	×	0	×	0	×	0
DOLBY PRO LOGIC IIx MUSIC	*1	0	0	0	×	×	×	×	×	×	×	×	×	×	×	×	×	0	×	0	×	0
DOLBY PRO LOGIC IIx GAME	*1	0	0	0	×	×	×	×	×	×	×	×	×	×	×	×	×	0	×	0	×	0
DOLBY PRO LOGIC II CINEMA		0	0	0	×	×	×	×	×	×	×	×	×	×	×	×	×	0	×	0	×	0
DOLBY PRO LOGIC II MUSIC		0	0	0	×	×	×	×	×	×	×	×	×	×	×	×	×	0	×	0	×	0
DOLBY PRO LOGIC II GAME		0	0	0	×	×	×	×	×	×	×	×	×	×	×	×	×	0	×	0	×	0
DOLBY PRO LOGIC		0	0	0	×	×	×	×	×	×	×	×	×	×	×	×	×	0	×	0	×	0
neural		0	0	0	×	×	×	×	×	×	X	×	X	×	×	×	×	×	×	0	×	×
NOTE:																						

NOTE:

- *1: This mode is not available when the surround back speaker setup is set to "None".
- *2: This mode is not available when the surround back speaker setup is set to "1spkr" or "None".
- *3: This mode is not available when the front height speaker setup is set to "None".

- Mode selectable in initial status
- O: Selectable mode
- X: Non-selectable mode

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811	122	und	ì
90	1110	C.III.	

Button			Input signals																			
				WMA (Windows Media Audio) / MP3 / MPEG-4 AAC / FLAC	DT	S-HD			DTS			DO	LBY		DOL	BY DIGITAL			MULTI CH	I PCM	Super Au	ıdio CD
Surround Mode	Note	ANALOG	LINEAR PCM / WAV		DTS-HD	DTS-HD High Resolution Audio	DTS EXPRESS	DTS ES DSCRT (With Flag)	DTS ES MTRX (With Flag)	DTS (5.1ch)	DTS 96/24	DOLBY TrueHD	DOLBY DIGITAL Plus	DOLBY DIGITAL EX (With Flag)	DOLBY DIGITAL EX (With no Flag)	DOLBY DIGITAL (5.1/5/4ch)	DOLBY DIGITAL (4/3ch)		PCM (multi ch)	PCM (2ch)	DSD (multi ch)	DSD (2ch)
STANDARD																						
MULTI CH IN																						
MULTI CH IN		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×		×	•	×
MULTI IN + PLIIx CIN	EMA *2	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	0	X	0	×
MULTI IN + PLIIx MU	SIC *1	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	0	\times	0	×
MULTI IN + PLIIz HEI	GHT *3	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	0	×	0	×
MULTI IN + DOLBY EX	X *1	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	0	×	0	×
MULTI CH IN 7.1	* 1	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	● ◎ (7.1)	×	×	×
DIRECT																						
DIRECT		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	×	0	×	0
DSD DIRECT		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	0
DSD MULTI DIRECT		×	X	×	×	×	×	×	×	×	X	×	×	×	×	×	×	×	×	X	0	×
MULTI CH DIRECT		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	0	×	0	×
M DIRECT + PLIIx CINEN	//A *2	×	X	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	0	×	0	×
M DIRECT + PLIIx MUSIC	2 *1	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	0	×	0	×
M DIRECT + PLIIz HEIGH	IT *3	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	0	X	0	×
M DIRECT + DOLBY EX	*1	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	0	×	0	×
M DIRECT 7.1	*1	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	O (7.1)	X	×	×
PURE DIRECT																						
PURE DIRECT		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	×	0	×	0
DSD PURE DIRECT		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	0
DSD MULTI PURE DIREC	T	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	X	0	×
MULTI CH PURE DIRECT		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	0	×	0	×
M PURE D + PLIIx CINEN	/A *2	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	0	×	0	×
M PURE D + PLIIx MUSI	C *1	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	0	×	0	×
M PURE D + PLIIz HEIGH	HT *3	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	0	×	0	×
M PURE D + DOLBY EX	*1	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	0	×	0	×
M CH PURE DIRECT 7.1	*1	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	O (7.1)	×	×	×

NOTE:

- *1: This mode is not available when the surround back speaker setup is set to "None".
- *2: This mode is not available when the surround back speaker setup is set to "1spkr" or "None".
- *3: This mode is not available when the front height speaker setup is set to "None".

Mode selectable in initial status

O: Selectable mode X: Non-selectable mode

Surround

Button											Inp	ut signals																
		ANALOG		WMA (Windows	DT	S-HD	DTS					DOLBY			DOLBY DIGITAL				MULTI CH PCM		Super Audio CD							
Surround Mode	Note		ANALOG	ANALOG	ANALOG	ANALOG	ANALOG	ANALOG	ANALOG	LINEAR PCM / WAV	Media Audio) / MP3 / MPEG-4 AAC / FLAC	DTS-HD	DTS-HD High Resolution Audio	DTS EXPRESS	DTS ES DSCRT (With Flag)	DTS ES MTRX (With Flag)	DTS (5.1ch)	DTS 96/24	DOLBY TrueHD	DOLBY DIGITAL Plus	DOLBY DIGITAL EX (With Flag)	DOLBY DIGITAL EX (With no Flag)	DOLBY DIGITAL (5.1/5/4ch)	DOLBY DIGITAL (4/3ch)	DOLBY DIGITAL (2ch)	PCM (multi ch)	PCM (2ch)	DSD (multi ch)
DSP SIMULATION																												
7CH STEREO	*4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
WIDE SCREEN		0	0	0	0	0	\circ	0	0	0	0	0	0	\circ	0	0	0	0	0	0	0	0						
SUPER STADIUM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
ROCK ARENA		0	0	0	0	0	\circ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
JAZZ CLUB		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
CLASSIC CONCERT		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
MONO MOVIE		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
VIDEO GAME		0	0	0	0	0	\circ	0	0	0	0	0	0	\circ	0	0	0	0	0	0	0	0						
MATRIX		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
VIRTUAL		0	0	0	0	0	\circ	0	0	0	0	0	0	\circ	0	0	0	0	0	0	0	0						
STEREO																												
STEREO		•		•	0	0	\circ	0	0	0	0	0	0	\circ	0	0	0	•	0		0	•						

NOTE:

^{*4:} If the surround back, front wide and front height speaker setup is set to "None", then "5CH STEREO" is displayed.

Relationship Between Video Signals and Monitor Output

							NE MONITOR OUT							
Video Convert	LIDAN	Input Si		WDFO	Output Signals HDMI COMPONENT S-VIDEO VIDEO				UDAN	GUI menu		MDEO		
	HDMI	COMPONENT	S-VIDEO	VIDEO					HDMI	COMPONENT	S-VIDEO	VIDEO		
ON/OFF	×	×	X	×	×	×	×	×	_		Only the GUI menu is displayed			
ON	×	×	X	0	VIDEO	VIDEO	VIDEO	VIDEO	(VIDEO)	○ (VIDEO)	○ (VIDEO)	(VIDEO)		
ON	X	×	<u> </u>	×	S-VIDEO	S-VIDEO	S-VIDEO	S-VIDEO	○ (S-VIDEO)	○ (S-VIDEO)	○ (S-VIDEO)	○ (S-VIDEO)		
ON	X	×	0	0	3-VIDEO	3-VIDEO	3-VIDEO	3-VIDEO	O (3-VIDEO)	O (3-VIDEO)	(3-VIDEO)	O (3-VIDEO)		
ON	\times	(1080p)	×	×			×	×		×(COMPONENT) *2	× *2	× *2		
ON	×	(1080i ~ 480p)	×	×]				(COMPONENT)	(COMPONENT)	X	×		
ON	×	(480i/576i)	×	×			COMPONENT	COMPONENT	(OOIVII OIVEIVI)	,	(COMPONENT)	(COMPONENT)		
ON	×	(1080p)	×	0			×			× (COMPONENT)	X	× (VIDEO)		
0N *1	X	(1080p)	×	0	_		VIDEO	VIDEO	×	○ (VIDEO)	○ (VIDEO)	(VIDEO)		
ON	X	(1080i ~ 480p)	×	0	_		×		_	○ (COMPONENT)	X	× (VIDEO)		
ON	×	(480i/576i)	×	0			COMPONENT	COMPONENT	(COMPONENT)	,	(COMPONENT)	(COMPONENT)		
ON	×	(1080p)		×	COMPONENT	COMPONENT				× (COMPONENT)	× (S-VIDEO)	× (S-VIDEO)		
0N *1	X	(1080p)	<u> </u>	×			S-VIDEO	S-VIDEO	×	○ (S-VIDEO)	(S-VIDEO)	○ (S-VIDEO)		
ON	X	(1080i ~ 480p)	<u> </u>	X	_		001 1001 151 15			(COMPONENT)	× (S-VIDEO)	× (S-VIDEO)		
ON	×	(480i/576i)		×	-		COMPONENT	COMPONENT	(COMPONENT)	- ',	(COMPONENT)	(COMPONENT)		
ON ON start	X	(1080p)	<u> </u>	0	-			× (COMPONENT)	× (S-VIDEO)	× (S-VIDEO)				
0N *1 0N	×	(1080p) (1080i ~ 480p)	0	0	-	S-VIDEO S-VIDEO X (S-VIDEO) COMPONENT COMPONENT COMPONENT) (COMPONENT)	(S-VIDEO) × (S-VIDEO)	(S-VIDEO) × (S-VIDEO)						
ON				_	-		OOM ADOMICALT	OON ADONIENT	(COMPONENT)	○ (COMPONENT)		 		
-	×	(480i/576i)	0	0			CUMPUNENT		,	,	(COMPONENT)	(COMPONENT)		
ON ON	<u> </u>	×	×	X	-	X VIDEO			× * 2	× *2				
ON	0	X	X	X	-	×		VIDEO		× *2		×(VIDE0) *2		
ON	<u> </u>	X	0	ô	-		S-VIDEO	S-VIDEO			×(S-VIDEO) * 2	×(S-VIDEO) *2		
ON	<u> </u>	- ô	X	×	HDMI			×	○ (HDMI)				× *2	
ON	Ŏ	\vdash $\check{\circ}$	×	ô	1		×	VIDEO	-		× *2	×(VIDE0) * 2		
ON	<u> </u>	 	Ô	×	1	COMPONENT	0.140.00			×(COMPONENT) * 2 ⊢	\times (COMPONENT) *2		· · ·	
ON	Ŏ	Ŏ	Ŏ	0	1		S-VIDE0	S-VIDEO			×(S-VIDEO) * 2	×(S-VIDEO) *2		
OFF	×	X	×	0			×	VIDEO						
OFF	×	×	0	×		×	S-VIDEO	×						
OFF	×	X	0	0			2-AIDEO	VIDEO						
OFF	×	0	×	×	×		×	×						
OFF	X	0	×	0		COMPONENT		VIDEO						
OFF	X	0	<u> </u>	X	_	OOIVII OIVEIVI	S-VIDEO	X						
OFF	×	0	0	0				VIDEO		Only the GUI menu is displayed				
OFF	<u> </u>	×	×	×	-		×	X						
OFF OFF		×	X	Ô	-	×		VIDEO						
OFF	0	×	<u> </u>	X	-		S-VIDEO	VIDEO						
OFF	0	X	X	×	HDMI			XIDEO						
OFF	0	+	X	Ô	+		×	VIDEO	-					
OFF	<u> </u>		$\hat{}$	×	+	COMPONENT		X	-					
OFF	$\overline{}$	$\overline{}$	<u> </u>	Ô	+		S-VIDEO	VIDEO	-					
UFF										1 1 1 1 1 1 1 1 1				

^{○:} Video signal input present

^{*1:} When no HDMI monitor is connected or the HDMI monitor's power is not on

	ZONE2 MONITOR OUT								
ll ll	NPUT	OUTPUT	On-screen display						
S-VIDEO	VIDEO		VIDEO						
×	×	×	Only the OSD menu is displayed						
×		VIDEO	○ (VIDEO)						
0	×	S-VIDEO	○ (S-VIDEO)						
0		S-VIDEO	○ (S-VIDEO)						

^{():} Superimposed on the picture indicated in ().

imes : No video signal input

O (): Superimposed on the picture indicated in ().

 $[\]times$ () : Only the picture in () is output.

imes : Neither the picture nor the GUI menu is output.

^{*2 :} Only the GUI menu is displayed when no HDMI monitor is connected or the HDMI monitor's power is not on.

Troubleshooting

If a problem should arise, first check the following:

- 1. Are the connections correct?
- 2. Is the set being operated as described in the owner's manual?
- 3. Are the other components operating properly?

If this unit does not operate properly, check the items listed in the table below. Should the problem persist, there may be a malfunction.

In this case, disconnect the power immediately and contact your store of purchase.

[General]

Symptom	Cause / Countermeasure	Page
Set does not operate properly.	Reset the microprocessor.	111
Power does not turn on, or turns off directly after it was turned on.	• Check that the power plugs are securely inserted into the AVR-4310Cl's AC inlet and the wall power outlet.	24
No sound is produced from speakers.	Check the connections to the input devices and the speaker cable connections.	13 ~ 23
	• Check the connections to the playback devices and select the appropriate input source.	14 ~ 23, 27
	• Adjust the master volume to an appropriate level.	70
	Cancel the mute mode.	70
	Disconnect the headphones. No sound is output from the speakers or the PRE OUT terminals when headphones are connected.	70
	• Select an input source for which the digital input setting has been made.	47, 48
	• Match the terminal to which the digital input terminal is assigned with the input mode.	49
Display is off.	• Set the dimmer function to a setting other than "OFF".	44
	• Cancel the PURE DIRECT mode. The display turns off when in the Pure Direct mode.	72
"DOLBY DIGITAL" indicator does not appear on display.	• Check the Blu-ray Disc player / DVD player's audio output setting. For details, read the Blu-ray Disc player / DVD player's operating instructions.	-

Symptom	Cause / Countermeasure	Page
Power switches off suddenly while you are using the AVR- 4310Cl, the power indicator will flash in red at intervals of approximately 2 seconds.	The protection circuit will be activated depending upon the temperature rise in the internal parts of the unit. Please switch off power at once, and re-apply the power after the body temperature has fallen sufficiently. Please re-install AVR-4310Cl in a place having good ventilation.	-
Power switches off suddenly while you are using the AVR- 4310Cl, the power indicator will flash red at intervals of approximately 0.5 seconds.	Please use speakers which have the specified impedance. The protection circuit has been activated because the core wires of different speaker cables have touched each other or a core wire has slipped out of the terminal and is touching the AVR-4310Cl's rear panel. Unplug the power cord, then after twisting the core wires together tightly again, or effecting termination treatments etc, please reconnect once again.	13 13
Even applying power, the power display flashes red at intervals of approximately 0.5 seconds.	The AVR-4310Cl amplifier circuit has failed. Switch off the power and please contact the DENON service adviser.	_

[Remote Control Unit]

Symptom	Cause / Countermeasure	Page
Set does not work	Batteries are worn. Replace with new batteries.	3
properly when remote control unit operated.	Operate the remote control unit within a distance of about 7 m from the AVR-4310Cl and at an angle of within 30°.	3
	Remove the obstacle between the AVR-4310Cl and the remote control unit.	_
	 Insert the batteries in the proper direction, checking the ⊕ and ⊖ marks. 	3
	The set's remote control sensor is exposed to strong light (direct sunlight, inverter type fluorescent bulb light, etc.). Move the set to a place in which the remote control sensor will not be exposed to strong light.	3
	Make sure the remote control IDs of the main unit and remote control unit match.	44, 93, 98
	Set the remote control unit's function button properly.	7

[Audio]

Symptom	Cause / Countermeasure	Page
No sound is produced from center speaker.	• When playing monaural audio sources, select a surround mode other than "STANDARD" (Dolby/DTS Surround).	71, 72
No sound is produced from surround speakers.	• Set the surround mode to a mode for surround playback.	71, 72
No sound is produced from surround back	Check that the surround back speaker's power amplifier assignment is set to "Normal".	34
speaker.	• Set the surround back speakers to something other than "None".	35
	Set "Surround Parameter" – "Surround Back" to something other than "OFF".	74
	• Set the surround mode to the surround playback mode.	71, 72
No sound is produced	• Turn on the subwoofer's power.	-
from subwoofer.	• Set the subwoofer to "Yes".	34
	Check the subwoofer connections.	13
	Increase the subwoofer's channel level.	36
DTS sound is not output.	 Set the Blu-ray disc/DVD player's audio output setting to "Bit- stream". For details, refer to the Blu-ray disc/DVD player's operating instructions. 	-
	• Use a DTS-compatible Blu-ray disc player/DVD player.	_
	• Set the decode mode to "Auto" or "DTS".	50
Dolby TrueHD, DTS-	Make HDMI connections.	14
HD, Dolby Digital Plus audio is not output.	 Set the Blu-ray disc/DVD player's audio output setting to "Bit- stream". For details, refer to the Blu-ray disc/DVD player's operating instructions. 	_
	• Use a DTS-compatible Blu-ray disc player.	_

[Control dock for iPod]

S	ymptom		Cause / Countermeasure	Page
iPod played.	cannot	be	• Connect to the terminal to which "iPod dock" was assigned and switch the input source.	27, 48
			Check the iPod connections.	16
			 Plug the control dock for iPod's AC adapter into a power outlet. Communications with the AVR-4310Cl are not possible unless the AC adapter is plugged in. 	-
			 Some iPods do not support being used connected directly to the USB port. 	21

[Video]

Symptom	Cause / Countermeasure	Page
No picture appears.	Check the connections of the AVR-4310Cl's video output terminals and the TV's input terminals.	14, 15
	Make the proper input setting for the input terminals of the TV connected to the AVR-4310Cl.	-
	Cancel the PURE DIRECT mode.	72
	High definition (1080i/720p) and progressive (480p/576p) video signals are not down-converted. Set the player to interlace (480i/576i) signals.	-
	Check the "Video Select" setting.	48
Picture cannot be recorded.	• The REC OUT video terminal does not have a video conversion function, so use a video cable to input video signals, an S-Video cable to input S-Video signals.	17
DVDs cannot be copied on a VCR.	• This is not a malfunction. Most movie software includes copy prevention signals and cannot be copied.	-
GUI is not displayed.	• Set "Format" according to the format (NTSC or PAL) of the TV being used.	43

[HDMI]

Symptom	Cause / Countermeasure	Page
HDMI audio signals are not output from speakers.	• Set "HDMI Audio Out" to "AMP" to output HDMI audio signals from the speakers.	37
No picture appears with HDMI connections.	Check the connection of the HDMI connectors. Select the input source assigned to the HDMI terminal at "HDMI".	14 27, 47
	• Connect a monitor that is compatible with copyright protection (HDCP).	14
	Check that the output format (HDMI FORMAT) of the connected player, etc., matches the TV's compatible input formats.	14, 15
	• Depending on the monitor you have connected, the display may not be correct when you set to "Auto (Dual)". In such a case, set to either "Monitor 1" or "Monitor 2".	37
No sound is output from the monitor connected with HDMI connections.	Set "HDMI Audio Out" to "TV" to output HDMI audio signals from the TV.	37
When performing the following operations on a connected device, AVR-4310Cl has the same operations. • Power ON/OFF • Switching audio output devices • Adjust volume • Switch input source	Set "HDMI Control" – "Control" to "OFF". When you only want to operate the power on/off each device, set "Power Off Control" to "OFF".	37

Symptom	Cause / Countermeasure	Page
When a USB memory device is connected,	• The set cannot recognize a USB memory device. Check the connection.	21
"USB" is not displayed on the GUI menu.	A USB memory device not conforming to mass storage class or MTP standards is connected. Connect a USB memory device conforming to mass storage class or MTP standards.	-
nona.	The set port and the connected port do not match. Connect to the port set at "USB Select".	51
	A USB memory device that the set cannot recognize is connected. This is not a malfunction. DENON does not guarantee that all USB memory devices will operate or receive power.	_
	USB memory device is connected via USB hub. Connect the USB memory device directly to the USB port.	-
Files on a USB memory device cannot be played.	USB memory device is in format other than FAT16 or FAT32. Set the format to FAT16 or FAT32. For details, refer to the USB memory device's operating instructions.	_
	USB memory device is divided into multiple partitions. When divided into multiple partitions, only files stored in the top partition can be played.	-
	Files are stored in a non-compatible format. Record the files in a compatible format.	62, 63
	You are attempting to play a file that is copyright protected. Files that are copyright protected cannot be played on this set.	62
The file names are not displayed properly ("", etc.).	 Characters that cannot be displayed are used. This is not a malfunction. On this set, characters that cannot be displayed are replaced with a " . (period)". 	_
nternet radio cannot be played.	• Ethernet cable is not properly connected or network is disconnected. Check the connection status.	23
	 Program is being broadcast in non-compatible format. Only Internet radio programs in MP3 and WMA can be played on this set. 	62, 63
	• The computer's or router's firewall is activated. Check the computer's or router's firewall settings.	_
	Radio station is not currently broadcasting. Choose a radio station that is currently broadcasting.	63, 64
	IP address is wrong. Check the set's IP address.	41
Files stored on a computer cannot be	• Files are stored in a non-compatible format. Record in a compatible format.	62, 63
olayed.	You are attempting to play a file that is copyright protected. Files that are copyright protected cannot be played on this set.	62
	Set and computer are connected by USB cable. The set's USB port cannot be used for connection to a computer.	_

Symptom	Cause / Countermeasure	Page
Server is not found, or it is not possible to	• The computer's or router's firewall is activated. Check the computer's or router's firewall settings.	-
connect to the server.	Computer's power is not turned on. Turn on the power. Server is not running. Launch the server.	_
	• Set's IP address is wrong. Check the set's IP address.	41
Cannot connect to preset or favorite	Radio station is not currently broadcasting. Wait a while before trying again.	-
radio stations.	Radio station is not currently in service. It is not possible to connect to radio stations that are no longer in service.	_
For some radio stations, "Server Full" or "Connection Down" is displayed and station cannot be connected to.	Station is congested or not currently broadcasting. Wait a while before trying again.	-
Sound is broken during playback.	Network's signal transfer speed is slow or communications lines or radio station is congested. This is not a malfunction. When playing broadcast data with a high bit rate, the sound may be broken, depending on the communications conditions.	-
Sound quality is poor or played sound is noisy.	• File being played has a low bit rate. This is not a malfunction.	-
Cannot login to Rhapsody. ("Incorrect Username or Password" is displayed.)	Login information is incorrect. Check if the Username for Rhapsody has been properly entered. Re-enter the Password. (Password is not displayed.) www.rhapsody.com/denon	41
Cannot compile Playlist.	• The AVR-4310Cl does not respond to playlist compilation. When the playlist is compiled in "PC Application", it is registered to "My Library". In this way, the playlist can be played in AVR-4310Cl.	_
Cannot delete Rhapsody Channel registered in "My Channels".	Cannot be done with AVR-4310Cl. Delete from "PC Application".	_
Cannot delete Tracks, Playlists, Channels registered in "My Library".	Cannot be done with AVR-4310CI. Delete from "PC Application".	_
Cannot login to Napster. ("Incorrect Username or Password" is displayed.)	Login information is incorrect. Check if the Username for Napster has been properly entered. Re-enter the Password. (Password is not displayed.) http://www.napster.com/choose/index_default.html	41

[XM Satellite Radio]

Symptom	Cause / Countermeasure	Page
"CHECK XM TUNER" is displayed.	The XM Mini-Tuner is not installed or not fully seated in the XM Mini-Tuner Dock or the XM Mini-Tuner dock is not connected to the AVR-4310Cl. Confirm the XM Mini-Tuner is fully seated in the dock and check the XM Mini-Tuner dock cable is connected to the AVR-4310Cl.	18
"CHECK ANTENNA" is displayed.	The XM antenna is not connected to the XM Mini-Tuner Dock or the XM antenna cable is damaged. Check that the XM antenna is securely connected to the XM Mini-Tuner Dock and check the antenna cable for damage. Replace the XM antenna if the cable is damaged.	18
"NO SIGNAL" is displayed.	• The signal cannot be received. Reposition your XM Mini-Tuner and Home Dock antenna.	-
"OFF AIR" is displayed.	The selected channel is not currently broadcasting. Select another channel.	-
Receiving only XM channels 0 and 1.	The XM Mini-Tuner is not activated. Contact XM Radio.	-
"XM " is displayed.	The selected channel is not available. The channel may have been reassigned to a different channel number. This message may occur initially with a new radio or a radio that has not received XM's signal for an extended period. Consult the latest channel guide at www.xmradio.com or www.xmradio.ca for the current list of channels. For cases of a new radio or a radio that has not received XM's signal for an extended period, allow the radio to receive the XM satellite signal for at least 5 minutes and then try to select the channel again.	-
"CH UNAVAILABLE" is displayed.	Channel is not present. Select another channel.	-
"CH UNAUTHORIZED" is displayed.	You selected an XM channel that is blocked or cannot be received with your XM subscription package. Consult the latest channel guide at www.xmradio.ca for the current list of channels. For information on receiving this channel, visit www.xmradio.ca contact XM Satellite Radio at 1-800-967-2346 or 1-877-438-9677.	-
"UPGRADE XM TUNER" is displayed.	• The connected XM Mini-Tuner is not compatible with the AVR-4310Cl. Please use an XM Rev4x-compatible XM Mini-Tuner.	-

[SIRIUS Satellite Radio]

Symptom	Cause / Countermeasure	Page
"CHECK SIRIUS	• The SiriusConnect Home Tuner unit is not connected. Check that	19
TUNER" is displayed.	the connections are correct.	
"ANTENNA ERROR"	• The antenna is not connected. Check that the connections are	19
is displayed.	correct.	
"NO SIGNAL" is	• The signal cannot be received. Reposition the antenna.	_
displayed.		
"INVALID CHANNEL"	Channel is not present. Select another channel.	-
is displayed.		
"ACQUIRING	• The signal cannot be received. Reposition your SiriusConnect	-
SIGNAL" is displayed.	Home Tuner and Home Dock antenna.	
	Displays while SiriusConnect HomeTuner is connected. Reposition	_
	your SiriusConnect Home Tuner and Home Dock antenna.	
"Call SIRIUS" * is	• Channels are not subscribed to. If you subscribe to the channel,	-
displayed.	you can receive the channel.	
"SUBSCRIPTION	While updating contract information.	_
UPDATED" is		
displayed.		
"Enter Lock Code	• Selected channels are locked. Please insert pass word (4 digits)	_
[]" is displayed.	into "[]".	

*: After scroll displays "Call 888-539-..." twice, displays "Call SIRIUS".

Restoring All the Settings to as They were at the Time of Purchase (Resetting the Microprocessor)

Perform this procedure if the display is abnormal or if operations cannot be performed. When the microprocessor is reset, all the settings are reset to their default values.

- **1** Turn off the power using **<POWER>**.
- $\boldsymbol{2}$ Press <POWER> while simultaneously pressing <STANDARD> and <DSP SIMULATION>.
- **3** Once the display starts flashing at intervals of about 1 second, release the two buttons.



If in step 3 the display does not flash at intervals of about 1 second, start over from step 1.

Specifications

☐ Audio section Power amplifier

> Rated output: Front:

> > 130 W + 130 W (8 Ω /ohms, 20 Hz ~ 20 kHz with 0.05 % T.H.D.)

170 W + 170 W (6 Ω/ohms, 1 kHz with 0.7 % T.H.D.)

Center:

130 W (8 Ω/ohms, 20 Hz ~ 20 kHz with 0.05 % T.H.D.)

170 W (6 Ω/ohms, 1 kHz with 0.7 % T.H.D.)

Surround (A + B):

130 W + 130 W (8 Ω/ohms, 20 Hz ~ 20 kHz with 0.05 % T.H.D.)

170 W + 170 W (6 Ω/ohms, 1 kHz with 0.7 % T.H.D.)

Surround back:

130 W + 130 W (8 Ω/ohms, 20 Hz ~ 20 kHz with 0.05 % T.H.D.)

170 W + 170 W (6 Ω/ohms, 1 kHz with 0.7 % T.H.D.)

Dynamic power: 140 W x 2ch (8 Ω/ohms) 210 W x 2ch (4 O/ohms)

Front, Center, Surround back 6 ~ 16 O/ohms **Output connectors:**

> Surround: A or B 6 ~ 16 Ω/ohms

A + B8 ~ 16 Ω/ohms

Analog

Input sensitivity / Input impedance: 200 mV / 12 kΩ/kohms (except for EXT. IN (SW), CD, PHONO, V. AUX)

200 mV / 47 kΩ/kohms (EXT. IN (SW), CD, PHONO, V. AUX)

Frequency response: 10 Hz ~ 100 kHz +1, -3 dB (DIRECT mode) S/N: 102 dB (IHF-A weighted, DIRECT mode) Distortion: 0.005 % (20 Hz ~ 20 kHz) (DIRECT mode)

Rated output: 1.2 V

Digital

Rated output — 2 V (at 0 dB playback) D/A output:

Total harmonic distortion — 0.008 % (1 kHz, at 0 dB)

S/N ratio — 102 dB Dynamic range — 100 dB

Digital input: Format — Digital audio interface

• Phono equalizer (PHONO input - REC OUT) Input sensitivity: 2.5 mV

RIAA deviation: ±1 dB (20 Hz to 20 kHz)

S/N: 74 dB (A weighting, with 5 mV input)

Rated output: 150 mV

Distortion factor: 0.03 % (1 kHz, 3 V)

☐ Video section

· Standard video connectors

Input / output level and impedance: 1 Vp-p, 75 Ω/ohms

Frequency response: 5 Hz ~ 10 MHz — +0, -3 dB (when video convert set to "OFF")

• S-Video connectors

Input / output level and impedance: Y (brightness) signal — 1 Vp-p, 75 Ω/ohms

C (color) signal — 0.286 Vp-p, 75 Ω/ohms

5 Hz ~ 10 MHz — +0, -3 dB (when video convert set to "OFF") Frequency response:

Color component video connector

Y (brightness) signal — 1 Vp-p, 75 Ω/ohms Input / output level and impedance:

PB / CB signal — 0.7 Vp-p, 75 Ω /ohms Pr / Cr signal — 0.7 Vp-p, $75 \Omega/\text{ohms}$

Frequency response: 5 Hz ~ 100 MHz — +0, -3 dB (when video convert set to "OFF") ☐ HD Radio section [FM] [AM]

(note: μV at 75 Ω /ohms, 0 dBf = 1 x 10⁻¹⁵ W)

87.5 MHz ~ 107.9 MHz 530 kHz ~ 1710 kHz **Receiving Range:**

Usable Sensitivity: 1.5 uV (14.8 dBf) S/N (IHF-A):

MONO 78 dB STEREO 68 dB

HD 85 dB

85 dB

Total harmonic Distortion (at 1 kHz): MONO 0.1%

STEREO 0.2 %

HD 0.02 % 0.02 %

20 μV

☐ General

AC 120 V. 60 Hz Power supply: Power consumption: 8 1 A 0.1 W (Standby)

Maximum external dimensions: 434 (W) x 171 (H) x 414 (D) mm (17-3/32" x 6-47/64" x 16-19/64")

Weight: 15.8 kg (34 lbs 13 oz)

☐ Main remote control unit (RC-1116)

Batteries: LR6/AA Type (two batteries)

Maximum external dimensions: 63 (W) x 238 (H) x 31 (D) mm (2-31/64" x 9-3/8" x 1-7/32")

Weight: 190 g (Approx 6.7 oz) (including batteries)

■ Sub remote control unit (RC-1121)

Batteries: R03/AAA Type (two batteries)

Maximum external dimensions: 49 (W) x 220 (H) x 24.5 (D) mm (1-59/64" x 8-21/32" x 31/32")

Weight: 114 g (Approx 4 oz) (including batteries)

^{*} For purposes of improvement, specifications and design are subject to change without notice.

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	Hughes Network Systems	00749, 01142, 01442, 01749
	Humax	01790
	Hyundai	01159
-11	Indovision	00887
- 1	Innova	00099
	ISkyB	00887
J	Jerrold	00869
	JVC	00775, 01775
K	Kathrein	00249, 00658
L	Lava	01631
	LG	01414
M	Marantz	00200
	McIntosh	00869
	Mitsubishi	00749
	Motorola	00869
	Multichoice	01333
N	Netsat	00099, 00887
	Next Level	00869

0	Omega	00887
P	Pace	00455, 00497, 00847, 00887 01175
	Panarex	01159
	Panasonic	00247, 00701, 00847
	Pansat	01159
	Philips	00099, 00200, 00749, 00775 00847, 01076, 01142, 01442 01749
	Pioneer	00329, 01308
	Plasmatic	00442
	Primestar	00869
	Proscan	00392, 00566
R	RadioShack	00566, 00775, 00869
	Radix	00882
	RCA	00143, 00392, 00566, 00775 01142, 01291, 01442
S	Saba	00710
	Sagem	00820, 01114
	Samsung	01109, 01142, 01276, 01377 01442, 01609
	Satstation	01083
	Schwaiger	00394, 01111
	Siemens	00173
	SKY	00099, 00847, 00887, 01175
	Sky Television	01014
	SM Electronic	00713
	Sony	00639, 00847
	Star	00887
	Star Choice	00869
	Star Trak	00869
Τ	Televisa	00887
	Thomson	00392, 00566
	Tivo	01142, 01442
	Toshiba	00749, 00790, 01749
	TPS	00820
U		01333
V	ViewSat	01232
_	Voom	00869
Z	Zenith	01856

Cable Set Top Box

00773, 01773			
00249, 00658	Α	A-Mark	00008, 00144
01631		ABC	00003, 00008, 00237
01414		Accuphase	00003
00200		Acorn	00237
00869		Action	00237
00749		Active	00237
00869		Archer	00237
01333	В	BCC	00276
00099, 00887	C	Century	00008
00869		Cisco	00877, 01877
00723, 00873, 01023, 01127	D	Digeo	01187

	Director	00476
F	Fosgate	00276
G	General Instrument	00003, 00276, 00476
	Gibralter	00003
Н	Hitachi	00003, 00008
- 1	Insight	00476
J	Jerrold	00003, 00276, 00476
M	Macab	00817
	Mitsubishi	00003
	Motorola	00276, 00476, 01187, 01376
N	Noos	00817
	Nova Vision	00008
	Novaplex	00008
0	Ono	01068
Р	Pace	00008, 00237, 00877, 01060, 01068, 01877
	Panasonic	00008
	Paragon	00008
	Pioneer	00877, 01877
R	Regal	00276
S	Samsung	00003
	Scientific Atlanta	00003, 00008, 00237, 00477, 00877, 01877
	Starcom	00003
	Supercable	00276
Τ,	Torx	00003
U	United Cable	00003, 00276
	US Electronics	00003, 00008, 00276

Α	ABS	012/2
	ADB	02254, 02586
	Alienware	01272
	Amino	01481, 02482
	AT&T	00858
C	Cisco	02345
	CyberPower	01272
Ε	Epson	01563
G	Gateway	01272
Н	Hewlett Packard	01272
	Howard Computers	01272
	HP	01272
	Hush	01272
I	iBUYPOWER	01272
	Insignia	01415
I	KoolConnect	01481
L	LG	01415
	Linksys	01272
M	Magnavox	01563
	Media Center PC	01272
	Microsoft	01272, 02049

01272

Mind

IPTV/HDTV Set Top Box

	Motorola	00858, 01998
N	Niveus Media	01272
	Northgate	01272
Р	Philco	01563
R	Ricavision	01272
S	Scientific Atlanta	00858, 02345
	Sony	01272, 01324
	Stack 9	01272
	SureWest	01481
	Sylvania	01563
	Systemax	01272
Т	Tagar Systems	01272
	Toshiba	01272
	Touch	01272
V	Viewsonic	01272, 01329
	Voodoo	01272
X	Xbox	02049
Z	Zenith	01415
	ZT Group	01272

Blu-Ray preset codes Codes préréglés Blu-Ray	32258
DENON	
Model No.	DVD-1800BD
Modéle numéro	DVD-2500BT
	DVD-3800BD
	DVD-A1UDCI

[]*: Preset codes set upon shipment from the factory.: Les codes préréglés diffèrent en fonctiom des livraison de l'usine.

DVD/	DVD Player
HDP	DENON [32134]
VCR/	Video Cassette Recorder
DVR	Tivo [20739]
ти	Television SONY [10810]
SAT/CBL	Satellite Set Top Box DirecTV [01377]

