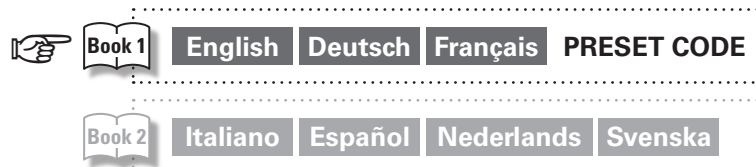# DENON

AV SURROUND RECEIVER

AVR-4308

Owner's Manual

Bedienungsanleitung

Manuel de l'Utilisateur

GUI *Graphical User Interface*

English

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

GUI Menu Operation (☞ page 24)
GUI Menu Map (☞ page 25)
Language (☞ page 40)
Remote Control Unit Operations (☞ page 68)

Deutsch

Verwenden Sie dieses Handbuch zusammen mit den Bedienungsanweisungen auf dem GUI-Bildschirm.

GUI-Menübedienung (☞ Seite 24)
GUI-Menüplan (☞ Seite 25)
Sprache (☞ Seite 40)
Bedienung mit der Fernbedienung (☞ Seite 68)

Français

Utilisez ce manuel en même temps que le guide d'utilisation affiché sur l'écran GUI (Interface graphique).

Fonctionnement du menu de l'interface graphique GUI
(☞ page 24)
Plan du menu de l'interface graphique GUI
(☞ page 25)
Langue (☞ page 40)
Fonctionnement de la télécommande (☞ page 68)

❏ **SAFETY PRECAUTIONS**

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

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.

C € 0413 **R&TTE Directive 1999/5/EC**

This product may be operated in the following countries;

AT	BE	CZ	DK	FI
FR	DE	GR	HU	IE
IT	NL	PL	PT	SK
ES	SE	GB	NO	CH

• **DECLARATION OF CONFORMITY**
Hereby, D&M Holdings Inc., Denon Brand Company declares that this product AVR-4308 is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC, in conformity with the following standards;
EN60065, EN55013, EN55020, EN55022, EN55024, EN61000-3-2,
EN61000-3-3, EN300328, EN301489-01, EN301489-17 and EN50385.
The declaration of conformity may be consulted to our European representative, DENON Europe.

• **ÜBEREINSTIMMUNGSERKLÄRUNG**
Hiermit erklärt D&M Holdings Inc., Denon Brand Company, dass sich das Gerät AVR-4308 in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet, den folgenden Standards entspricht:
EN60065, EN55013, EN55020, EN55022, EN55024, EN61000-3-2,
EN61000-3-3, EN300328, EN301489-01, EN301489-17 und EN50385.
Wenden Sie sich bei Fragen zur Konformitätserklärung an unseren europäischen Vertreter, DENON Europe.

• **DECLARATION DE CONFORMITE**
Par la présente, D&M Holdings Inc., Denon Brand Company déclare que l'appareil AVR-4308 est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE, e conforme alle seguenti normative:
EN60065, EN55013, EN55020, EN55022, EN55024, EN61000-3-2,
EN61000-3-3, EN300328, EN301489-01, EN301489-17 e EN50385.
La déclaration de conformité pourra être consultée auprès de notre représentant en Europe, DENON Europe.

• **DICHIARAZIONE DI CONFORMITÀ**
Con la presente D&M Holdings Inc., Denon Brand Company dichiara che questo AVR-4308 è con-forme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE, e conforme alle seguenti normative:
EN60065, EN55013, EN55020, EN55022, EN55024, EN61000-3-2,
EN61000-3-3, EN300328, EN301489-01, EN301489-17 e EN50385.
La dichiarazione di conformità può essere consultata presso il nostro rappresentante europeo, DENON Europe.
QUESTO PRODOTTO E' CONFORME
AL D.M. 28/08/95 N. 548

• **DECLARACIÓN DE CONFORMIDAD**
Por la presente, D&M Holdings Inc., Denon Brand Company, declara que este AVR-4308 cumple con los requisitos esenciales y otras exigencias relevantes de la Directiva 1999/5/EC, esta conforme con los siguientes estandares:
EN60065, EN55013, EN55020, EN55022, EN55024, EN61000-3-2,
EN61000-3-3, EN300328, EN301489-01, EN301489-17 y EN50385.
Puede consultar a nuestro representante europeo, DENON Europe, acerca de la declaración de conformidad.

• **EENVORMIGHEIDSVERKLARING**
Hierbij verklaart D&M Holdings Inc., Denon Brand Company dat het toestel AVR-4308 in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG, in overeenstemming is met de volgende normen:
EN60065, EN55013, EN55020, EN55022, EN55024, EN61000-3-2,
EN61000-3-3, EN300328, EN301489-01, EN301489-17 en EN50385.
De eenvormigheidsverklaring mag worden geconsulteerd aan onze Europese vertegenwoordiger, DENON Europe.

• **ÖVERENSSTÄMMELSESINTYG**
Denna utrustning är i överensstämmelse med de väsentliga kraven och andra relevanta bestämmelser i Direktiv 1999/5/EC, uppfyller foljande standarder:
EN60065, EN55013, EN55020, EN55022, EN55024, EN61000-3-2,
EN61000-3-3, EN300328, EN301489-01, EN301489-17 och EN50385.
EU-konformitetsintyget kan på begäran fås från DENON Europe, vår representant i Europe.

DENON EUROPE
Division of D&M Germany GmbH
An der Landwehr 19, Nettetal,
D-41334 Germany

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.

VORSICHT:
Um dieses Gerät vollständig von der Stromversorgung abzutrennen, ziehen Sie bitte den Stecker aus der Wandsteckdose.
Der Netzstecker wird verwendet, um die Stromversorgung zum Gerät völlig zu unterbrechen; er muss für den Benutzer gut und einfach zu erreichen sein.

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.
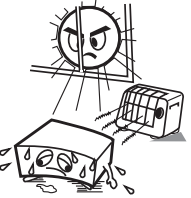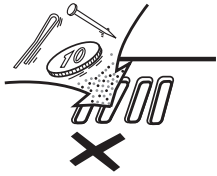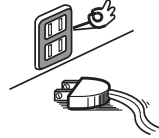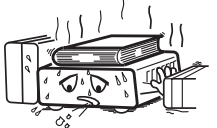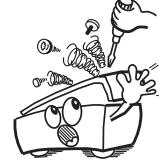
ATTENZIONE:
Per scollegare completamente questo prodotto dalla rete di alimentazione elettrica, scollegare la spina dalla relativa presa a muro.
La spina di rete viene utilizzata per interrompere completamente l'alimentazione all'unità e deve essere facilmente accessibile all'utente.

PRECAUCIÓN:
Para desconectar completamente este producto de la alimentación eléctrica, desconecte el enchufe del enchufe de la pared.
El enchufe de la alimentación eléctrica se utiliza para interrumpir por completo el suministro de alimentación eléctrica a la unidad y debe de encontrarse en un lugar al que el usuario tenga fácil acceso.

WAARSCHUWING:
Om de voeding van dit product volledig te onderbreken moet de stekker uit het stopcontact worden getrokken.
De netstekker wordt gebruikt om de stroomtoevoer naar het toestel volledig te onderbreken en moet voor de gebruiker gemakkelijk bereikbaar zijn.

FÖRSIKTIHETSMÅTT:
Koppla loss stickproppen från eluttaget för att helt skilja produkten från nätet.
Stickproppen används för att helt bryta strömförsörjningen till apparaten, och den måste vara lättillgänglig för användaren.

❏ NOTE ON USE / HINWEISE ZUM GEBRAUCH / OBSERVATIONS RELATIVES A L'UTILISATION / NOTE SULL'USO / NOTAS SOBRE EL USO / ALVORENS TE GEBRUIKEN / OBSERVERA ANGÅENDE ANVÄNDNINGEN

• Avoid high temperatures.
Allow for sufficient heat dispersion when installed in a rack.
• Vermeiden Sie hohe Temperaturen.
Beachten Sie, dass eine ausreichende Belüftung gewährleistet wird, wenn das Gerät auf ein Regal gestellt wird.
• Eviter des températures élevées.
Tenir compte d'une dispersion de chaleur suffisante lors de l'installation sur une étagère.
• Evitate di esporre l'unità a temperature elevate.
Assicuratevi che vi sia un'adeguata dispersione del calore quando installate l'unità in un mobile per componenti audio.
• Evite altas temperaturas.
Permite la suficiente dispersión del calor cuando está instalado en la consola.
• Vermijd hoge temperaturen.
Zorg er bij installatie in een audiorack voor, dat de door het toestel geproduceerde warmte goed kan worden afgevoerd.
• Undvik höga temperaturer.
Se till att det finns möjlighet till god värmeavledning vid montering i ett rack.

• Handle the power cord carefully.
Hold the plug when unplugging the cord.
• Gehen Sie vorsichtig mit dem Netzkabel um.
Halten Sie das Kabel am Stecker, wenn Sie den Stecker herausziehen.
• Manipuler le cordon d'alimentation avec précaution.
Tenir la prise lors du débranchement du cordon.
• Maneggiate il cavo di alimentazione con attenzione.
Tenete ferma la spina quando scollegate il cavo dalla presa.
• Maneje el cordón de energía con cuidado.
Sostenga el enchufe cuando desconecte el cordón de energía.
• Hanteer het netsnoer voorzichtig.
Houd het snoer bij de stekker vast wanneer deze moet worden aan- of losgekoppeld.
• Hantera nätkabeln varsamt.
Håll i kabeln när den kopplas från el-uttaget.

• Keep the unit free from moisture, water, and dust.
• Halten Sie das Gerät von Feuchtigkeit, Wasser und Staub fern.
• Protéger l'appareil contre l'humidité, l'eau et la poussière.
• Tenete l'unità lontana dall'umidità, dall'acqua e dalla polvere.
• Mantenga el equipo libre de humedad, agua y polvo.
• Laat geen vochtigheid, water of stof in het apparaat binnendringen.
• Utsätt inte apparaten för fukt, vatten och damm.

• Unplug the power cord when not using the unit for long periods of time.
• Wenn das Gerät längere Zeit nicht verwendet werden soll, trennen Sie das Netzkabel vom Netzstecker.
• Débrancher le cordon d'alimentation lorsque l'appareil n'est pas utilisé pendant de longues périodes.
• Scollegate il cavo di alimentazione quando prevedete di non utilizzare l'unità per un lungo periodo di tempo.
• Desconecte el cordón de energía cuando no utilice el equipo por mucho tiempo.
• Neem altijd het netsnoer uit het stopkontakt wanneer het apparaat gedurende een lange periode niet wordt gebruikt.
• Koppla loss nätkabeln om apparaten inte kommer att användas i lång tid.

* (For apparatuses with ventilation holes)

• Do not obstruct the ventilation holes.
• Decken Sie den Lüftungsbereich nicht ab.
• Ne pas obstruer les trous d'aération.
• Non coprite i fori di ventilazione.
• No obstruya los orificios de ventilación.
• De ventilatieopeningen mogen niet worden beblokkeerd.
• Täpp inte till ventilationsöppningarna.

• Do not let foreign objects into the unit.
• Lassen Sie keine fremden Gegenstände in das Gerät kommen.
• Ne pas laisser des objets étrangers dans l'appareil.
• Non inserite corpi estranei all'interno dell'unità.
• No deje objetos extraños dentro del equipo.
• Laat geen vreemde voorwerpen in dit apparaat vallen.
• Se till att främmande föremål inte tränger in i apparaten.

• Do not let insecticides, benzene, and thinner come in contact with the unit.
• Lassen Sie das Gerät nicht mit Insektiziden, Benzin oder Verdünnungsmitteln in Berührung kommen.
• Ne pas mettre en contact des insecticides, du benzène et un diluant avec l'appareil.
• Assicuratevi che l'unità non entri in contatto con insetticidi, benzolo o solventi.
• No permita el contacto de insecticidas, gasolina y diluyentes con el equipo.
• Voorkom dat insecticiden, benzeen of verfverdunner met dit toestel in contact komen.
• Se till att inte insektsmedel på sprayburk, bensen och thinner kommer i kontakt med apparatens hölje.

• Never disassemble or modify the unit in any way.
• Versuchen Sie niemals das Gerät auseinander zu nehmen oder zu verändern.
• Ne jamais démonter ou modifier l'appareil d'une manière ou d'une autre.
• Non smontate né modificate l'unità in alcun modo.
• Nunca desarme o modifique el equipo de ninguna manera.
• Dit toestel mag niet gedemonteerd of aangepast worden.
• Ta inte isär apparaten och försök inte bygga om den.

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.

ACHTUNG:
• Die Belüftung sollte auf keinen Fall durch das Abdecken der Belüftungsöffnungen durch Gegenstände wie beispielsweise Zeitungen, Tischtücher, Vorhänge o. Ä. behindert werden.
• Auf dem Gerät sollten keinerlei direkte Feuerquellen wie beispielsweise angezündete Kerzen aufgestellt werden.
• Bitte beachten Sie bei der Entsorgung der Batterien die örtlich geltenden Umweltbestimmungen.
• Das Gerät sollte keiner tropfenden oder spritzenden Flüssigkeit ausgesetzt werden.
• Auf dem Gerät sollten keine mit Flüssigkeit gefüllten Behälter wie beispielsweise Vasen aufgestellt werden.

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.

ATTENZIONE:
• Le aperture di ventilazione non devono essere ostruite coprendole con oggetti, quali giornali, tovaglie, tende e così via.
• Non posizionate sull'unità fiamme libere, come ad esempio candele accese.
• Prestate attenzione agli aspetti legati alla tutela dell'ambiente nello smaltimento delle batterie.
• L'apparecchiatura non deve essere esposta a gocciolii o spruzzi.
• Non posizionate sull'unità alcun oggetto contenente liquidi, come ad esempio i vasi.

PRECAUCIÓN:
• La ventilación no debe quedar obstruida por haberse cubierto las aperturas con objetos como periódicos, manteles, cortinas, etc.
• No debe colocarse sobre el aparato ninguna fuente inflamable sin protección, como velas encendidas.
• A la hora de deshacerse de las pilas, respete la normativa para el cuidado del medio ambiente.
• No exponer el aparato al goteo o salpicaduras cuando se utilice.
• No colocar sobre el aparato objetos llenos de líquido, como jarros.

WAARSCHUWING:
• De ventilatie mag niet worden belemmerd door de ventilatieopeningen af te dekken met bijvoorbeeld kranten, een tafelkleed, gordijnen, enz.
• Plaats geen open vlammen, bijvoorbeeld een brandende kaars, op het apparaat.
• Houd u steeds aan de milieuvoorschriften wanneer u gebruikte batterijen wegdoet.
• Stel het apparaat niet bloot aan druppels of spatten.
• Plaats geen voorwerpen gevuld met water, bijvoorbeeld een vaas, op het apparaat.

OBSERVERA:
• Ventilationen bör inte förhindras genom att täcka för ventilationsöppningarna med föremål såsom tidningar, bordsdukar, gardiner osv.
• Inga blottade brandkällor, såsom tända ljus, får placeras på apparaten.
• Tänk på miljöaspekterna när du bortskaffar batterier.
• Apparaten får inte utsättas för vätska.
• Placera inte föremål fyllda med vätska, t.ex. vaser, på apparaten.

A NOTE ABOUT RECYCLING:

This product's packaging materials are recyclable and can be reused. Please dispose of any materials in accordance with the local recycling regulations.

When discarding the unit, comply with local rules or regulations.

Batteries should never be thrown away or incinerated but disposed of in accordance with the local regulations concerning battery disposal.

This product and the supplied accessories, excluding the batteries, constitute the applicable product according to the WEEE directive.

HINWEIS ZUM RECYCLING:

Das Verpackungsmaterial dieses Produktes ist zum Recyceln geeignet und kann wieder verwendet werden. Bitte entsorgen Sie alle Materialien entsprechend der örtlichen Recycling-Vorschriften.

Beachten Sie bei der Entsorgung des Gerätes die örtlichen Vorschriften und Bestimmungen.

Die Batterien dürfen nicht in den Hausmüll geworfen oder verbrannt werden; bitte entsorgen Sie die Batterien gemäß der örtlichen Vorschriften.

Dieses Produkt und das im Lieferumfang enthaltene Zubehör (mit Ausnahme der Batterien!) entsprechen der WEEE-Direktive.

UNE REMARQUE CONCERNANT LE RECYCLAGE:

Les matériaux d'emballage de ce produit sont recyclables et peuvent être réutilisés. Veuillez disposer des matériaux conformément aux lois sur le recyclage en vigueur.

Lorsque vous mettez cet appareil au rebut, respectez les lois ou réglementations en vigueur.

Les piles ne doivent jamais être jetées ou incinérées, mais mises au rebut conformément aux lois en vigueur sur la mise au rebut des piles.

Ce produit et les accessoires inclus, à l'exception des piles, sont des produits conformes à la directive DEEE.

NOTA RELATIVA AL RICICLAGGIO:

I materiali di imballaggio di questo prodotto sono riutilizzabili e riciclabili. Smaltire i materiali conformemente alle normative locali sul riciclaggio.

Per lo smaltimento dell'unità, osservare le normative o le leggi locali in vigore.

Non gettare le batterie, né incenerirle, ma smaltirle conformemente alla normativa locale sui rifiuti chimici.

Questo prodotto e gli accessori inclusi nell'imballaggio sono applicabili alla direttiva RAEE, ad eccezione delle batterie.

ACERCA DEL RECICLAJE:

Los materiales de embalaje de este producto son reciclables y se pueden volver a utilizar. Disponga de estos materiales siguiendo los reglamentos de reciclaje de su localidad.

Cuando se deshaga de la unidad, cumpla con las reglas o reglamentos locales.

Las pilas nunca deberán tirarse ni incinerarse. Deberá disponer de ellas siguiendo los reglamentos de su localidad relacionados con los desperdicios químicos.

Este producto junto con los accesorios empaquetados es el producto aplicable a la directiva RAEE excepto pilas.

EEN AANTEKENING MET BETREKKING TOT DE RECYCLING:

Het inpakmateriaal van dit product is recycleerbaar en kan opnieuw gebruikt worden. Er wordt verzocht om zich van elk afvalmateriaal te ontdoen volgens de plaatselijke voorschriften.

Volg voor het wegdoen van de speler de voorschriften voor de verwijdering van wit- en bruingoed op.

Batterijen mogen nooit worden weggegooid of verbrand, maar moeten volgens de plaatselijke voorschriften betreffende chemisch afval worden verwijderd.

Op dit product en de meegeleverde accessoires, m.u.v. de batterijen is de richtlijn voor afgedankte elektrische en elektronische apparaten (WEEE) van toepassing.

OBSERVERA ANGÅENDE ÅTERVINNING:

Produktens emballage är återvinningsbart och kan återanvändas. Kassera det enligt lokala återvinningsbestämmelser.

När du kasserar enheten ska du göra det i överensstämmelse med lokala regler och bestämmelser.

Batterier får absolut inte kastas i soporna eller brännas. Kassera dem enligt lokala bestämmelser för kemiskt avfall.

Denna apparat och de tillbehör som levereras med den uppfyller gällande WEEE-direktiv, med undantag av batterierna.

---

1. IMPORTANT NOTICE: DO NOT MODIFY THIS PRODUCT

This product, when installed as indicated in the instructions contained in this manual, meets R&TTE directive requirements. Modification of the product could result in hazardous Radio and EMC radiation.

2. CAUTION

• Separation distance of at least 20 cm must be maintained between the antenna of this product and all persons.

• This product and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

1. WICHTIGER HINWEIS: NEHMEN SIE KEINE VERÄNDERUNGEN AN DIESEM PRODUKT VOR

Wenn dieses Produkt entsprechend dieser Bedienungsanleitung aufgebaut wird, entspricht es den Anforderungen der R&TTE-Richtlinie. Veränderungen am Produkt können zu gefährlicher Funk- und EMV-Strahlung führen.

2. VORSICHT

• Zwischen der Antenne dieses Produkts und Personen muss ein Schutzabstand von 20 cm eingehalten werden.

• Dieses Produkt und seine Antenne dürfen nicht neben anderen Antennen oder Sendern aufgestellt oder zusammen mit ihnen verwendet werden.

1. MISE EN GARDE IMPORTANTE : NE JAMAIS MODIFIER CE PRODUIT

Si toutes les consignes indiquées dans ce mode ont été respectées pendant son installation, ce produit est conforme aux directives R&TTE. Toute modification du produit risquerait alors de générer des radiations radio et EMC dangereuses.

2. ATTENTION

• L'antenne de l'appareil devra être située à une distance de 20 cm au moins des personnes.

• Ce produit ainsi que son antenne ne devront en aucun cas être utilisés à proximité d'une autre antenne ou transmetteur.

1. AVVERTENZA IMPORTANTE: NON MODIFICARE QUESTO PRODOTTO

Se installato come indicato nelle istruzioni del presente manuale, questo prodotto soddisfa i requisiti della direttiva R&TTE. Eventuali modifiche apportate al prodotto potrebbero causare pericolose radiazioni radio ed EMC.

2. ATTENZIONE

• È necessario mantenere una distanza minima di 20 cm tra l'antenna di questo prodotto e le persone.

• Questo prodotto e la relativa antenna non devono essere posizionati in prossimità di altre antenne o trasmettitori e non devono essere utilizzati congiuntamente a questi ultimi.

1. NOTA IMPORTANTE: NO MODIFIQUE ESTE PRODUCTO

Este producto, si es instalado de acuerdo con las instrucciones contenidas en este manual, cumple los requisitos de la directiva R&TTE. La modificación del producto puede producir radiación de Radio y EMC peligrosa.

2. PRECAUCIÓN

• Se debe mantener una separación de al menos 20 cm entre la antena del producto y las personas.

• Este producto y su antena no debe instalarse ni utilizarse conjuntamente con otra antena o transmisor.

1. BELANGRIJKE MEDEDELING: BRENG AAN DIT PRODUCT GEEN AANPASSINGEN AAN

Dit product, indien geïnstalleerd volgens de aanwijzingen in deze gebruiksaanwijzing, voldoet aan de vereisten van de R&TTE-richtlijn. Aanpassing van dit product kan gevaarlijke radio- en EMC-straling tot gevolg hebben.

2. LET OP

• Houd tussen antenne en personen altijd een afstand van tenminste 20 cm aan.

• Dit product en zijn antenne mogen niet in de buurt van een andere antenne of zender worden geplaatst of in combinatie daarmee worden gebruikt.

1. VIKTIGT: APPARATEN FÅR INTE MODIFIERAS

Under förutsättning att apparaten installeras enligt anvisningarna i denna bruksanvisning, uppfyller denna kraven i R&TTE-direktivet. Ev. modifiering av apparaten kan resultera i farlig radio- och elektromagnetisk strålning.

2. FÖRSIKTIGT

• Se till att det finns ett avstånd på minst 20 cm mellan apparatens antenn och personer i omgivningen.

• Apparaten och dess antenn får inte placeras eller användas i närheten av andra antenner eller sändare.

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Thank you for purchasing this DENON product. To ensure proper operation, please read these 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 Service station list.. 1
③ Power cord (Cord length: Approx. 1.5 m)................................. 1
④ Main remote control (RC-1068) 1
⑤ LR6/AA batteries (for RC-1068)... 2
⑥ Sub remote control (RC-1070) 1
⑦ R03/AAA batteries (for RC-1070) 2
⑧ FM indoor antenna 1
⑨ AM loop antenna 1
⑩ DAB indoor antenna 1
⑪ Rod antenna for wireless LAN connection 1
⑫ Setup microphone (Cord length: Approx. 7.6 m)...................... 1
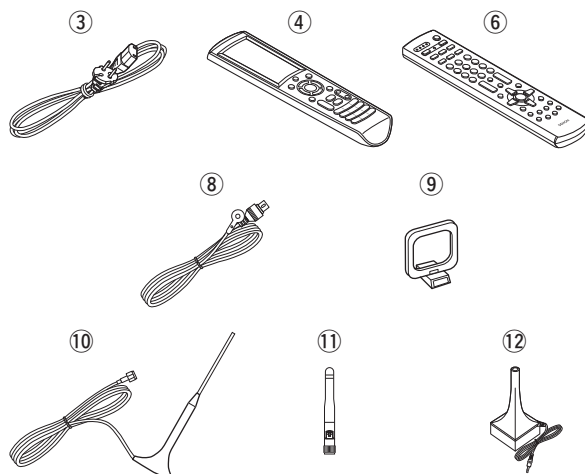
Cautions on Handling

• **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 properly.
  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 outlet.
  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

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

※ **Note**

Wall

3
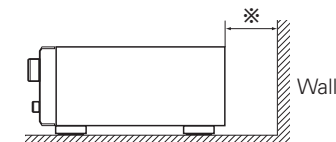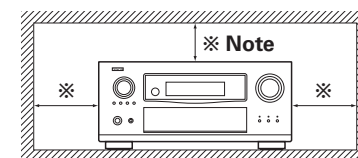
About the Remote Control Unit

In addition to the AVR-4308, the included main remote control unit (RC-1068) can also be used to operate the equipment listed below.
① DENON system components
② Non-DENON system components
 • By setting the preset memory (☞ page 68 ~ 70)
 • By using the learn function (☞ page 71)

Inserting the Batteries

① Lift the clasp and remove the rear lid.

(RC-1068)   (RC-1070)
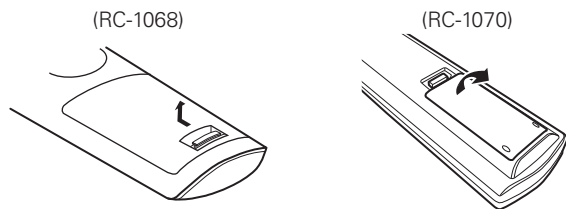
② Load the two batteries properly as indicated by the marks in the battery compartment.

(RC-1068)   (RC-1070)

LR6/AA   R03/AAA
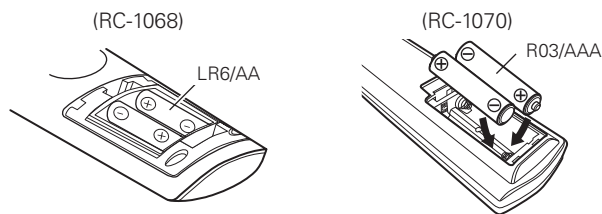
③ Put the rear cover back on.

NOTE

• 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.
• When replacing the batteries, have the new batteries ready and insert them as quickly as possible.

Operating Range of the Remote Control Unit

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

30°
30°
(RC-1070)
or
Approx. 7 m
(RC-1068)
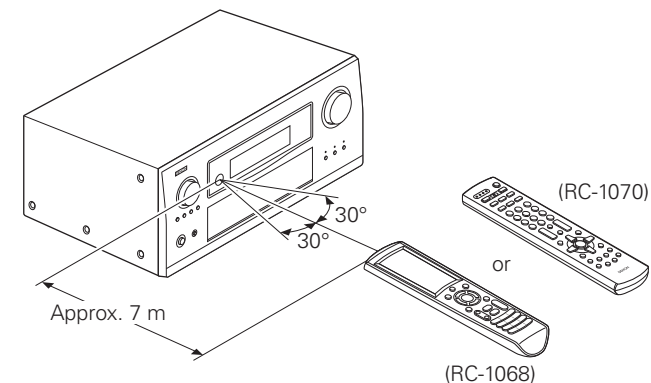
NOTE

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.

4

Part Names and Functions

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

Front Panel
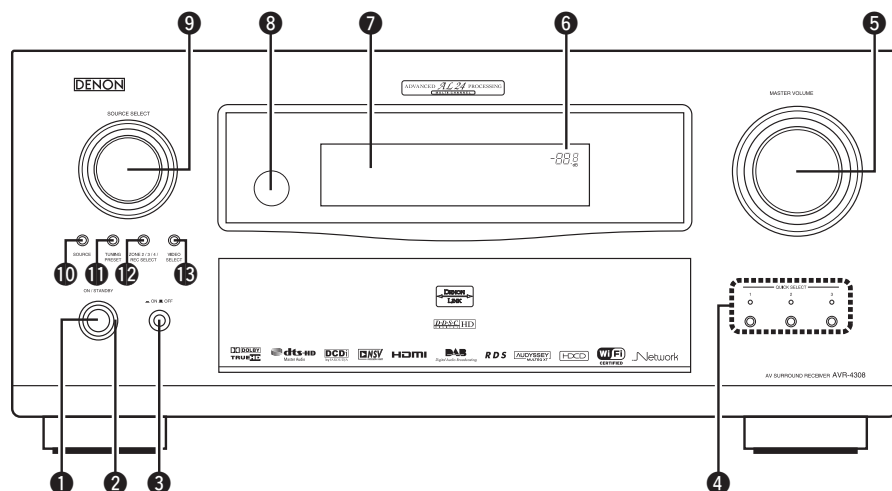
【With the door open】
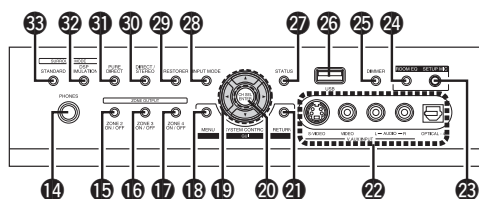
q Power operation button
(ON/STANDBY) ··· (51)

w Power indicator ··· (51)

e Power switch (■ON ■OFF) ····················· (51)

r QUICK SELECT buttons / indicators ········· (66)

t MASTER VOLUME control knob ·········· (51, 81)

y Master volume indicator

u Display

i Remote control sensor ································· (4)

o SOURCE SELECT knob ······························· (40)

Q0 SOURCE button ··· (40)

Q1 TUNING PRESET button ···························· (53)

Q2 ZONE 2/3/4 / REC SELECT button ······ (65, 81)

Q3 VIDEO SELECT button ······························ (42)

Q4 Headphones jack (PHONES) ······················ (51)

Q5 ZONE2 ON/OFF button ···························· (81)

Q6 ZONE3 ON/OFF button ···························· (81)

Q7 ZONE4 ON/OFF button ···························· (81)

Q8 MENU button ··· (24)

Q9 Cursor buttons (△▽◁ ▷) ························· (24)

W0 CH SEL / ENTER button ······················ (24, 66)

W1 RETURN button ··· (24)

W2 V.AUX INPUT connectors ·························· (18)

W3 SETUP MIC jack ·· (26)

W4 ROOM EQ button ······································ (48)

W5 DIMMER button ··· (39)

W6 USB port ·· (19)

W7 STATUS button ··· (50)

W8 INPUT MODE button ································· (42)

W9 RESTORER button ····································· (48)

E0 DIRECT/STEREO button ···························· (46)

E1 PURE DIRECT button ································· (46)

E2 DSP SIMULATION button ·························· (45)

E3 STANDARD button ···································· (45)

Display
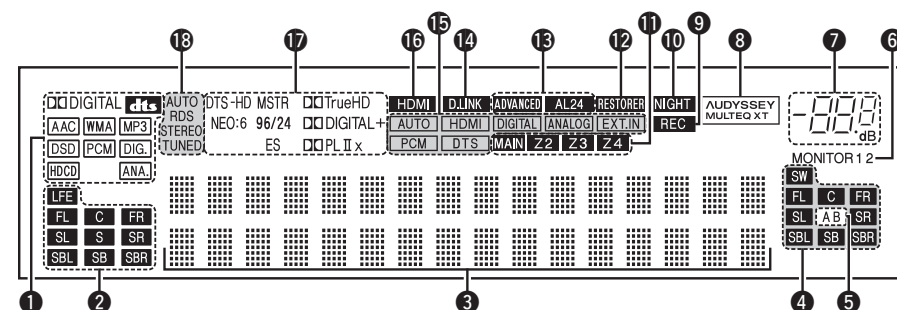
q Input signal indicators

w Input signal channel indicators
These light when digital signals are input.

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

r Output signal channel indicators

t Surround speaker indicators
These light according to the settings of the surround A and B speakers.

y 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.

u Master volume indicator

i AUDYSSEY MULTEQ XT indicator
This lights when the room equalizer is selected.

o Recording output source indicator
This lights when the REC OUT mode is selected.

Q0 NIGHT indicator
This lights when the night mode is selected.

Q1 Multi zone indicators
These light when the power for the respective zone is turned on.

Q2 RESTORER indicator
This lights when the RESTORER mode is selected.

Q3 ADVANCED AL24 indicator
This lights when Advanced AL24 Processing is activated (☞page 84).

Q4 D.LINK indicator
This lights when playing using DENON LINK connections.

Q5 Input mode indicators

Q6 HDMI indicator
This lights when playing using HDMI connections.

Q7 Decoder indicators
These light when the respective decoders are operating.

Q8 Tuner reception mode indicators
These light according to the reception conditions when the input source is set to "TUNER" or "DAB".
• **AUTO**
These light when in the auto tuning mode.
• **RDS**
These light when receiving RDS broadcasts.
• **STEREO**
In the FM mode, these light when receiving analog stereo broadcasts.
• **TUNED**
Lights when the broadcast is properly tuned in.

5

Getting Started

Connections Setup Playback Remote Control Multi-Zone Information Troubleshooting Specifications

Rear Panel

q **RS-232C connector** ······································ (22)

w **TRIGGER OUT jacks** ································· (22)

e **FM/AM antenna terminals (TUNER ANTENNA)** ···································· (20)

r **DOCK CONTROL jack** ································ (14)

t **Speaker terminals (SPEAKERS)** ················ (10)

y **AC OUTLET** ··· (23)

u **AC inlet (AC IN)** ·· (23)
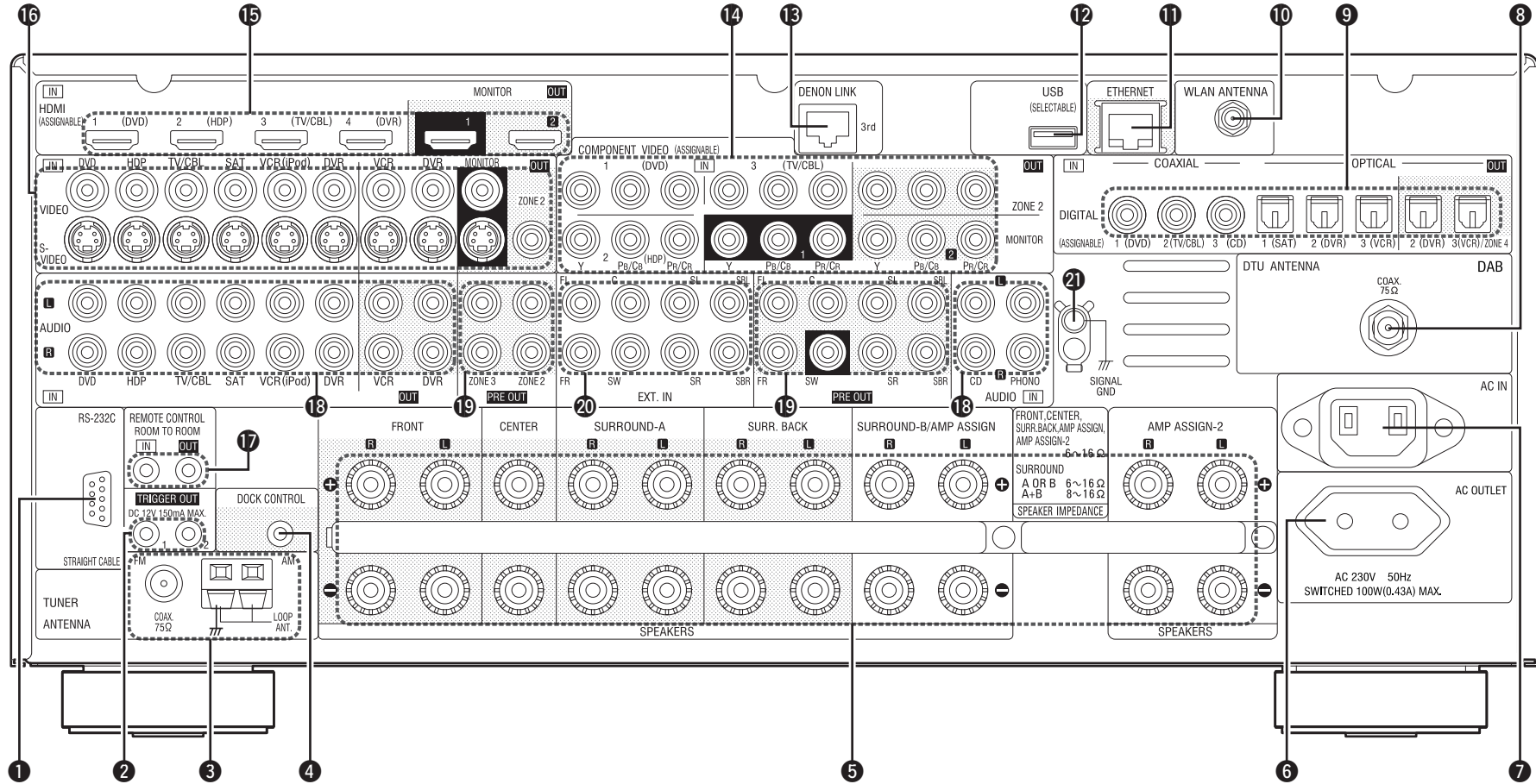
i **DAB antenna terminal (DTU ANTENNA)** ··· (20)

o **Digital audio connectors (OPTICAL / COAXIAL)** ·························· (13, 15)

!0 **WLAN ANTENNA terminal** ························· (21)

!1 **ETHERNET connector** ································ (21)

!2 **USB port** ··· (19)

!3 **DENON LINK connector** ····························· (17)

!4 **COMPONENT VIDEO connectors** ·············· (13)

!5 **HDMI connectors** ····································· (12)

!6 **VIDEO / S-VIDEO connectors** ···················· (13)

!7 **REMOTE CONTROL jacks** ························· (22)

!8 **Analog audio connectors (AUDIO)** ············· (13)

!9 **PRE OUT connectors** ··························· (18, 22)

@0 **EXT. IN connectors** ·································· (18)

@1 **SIGNAL GND terminal** ······························ (14)

Remote Control Unit

❏ Main remote control unit (RC-1068)

DENON
RC-1068
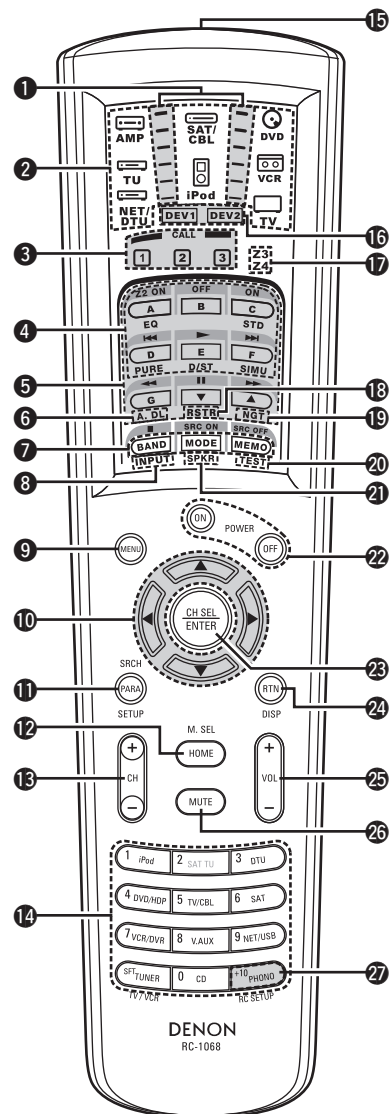
❶ **Signal transmission indicator** ·················· (68)

❷ **Mode select buttons** ································· (68)

❸ **Quick select / System call buttons** ····· (66, 72)

❹ **Surround mode buttons** ······················ (45, 46)

❺ **System buttons** ································· (69, 70)

❻ **Audio delay button (A. DL)** ······················ (49)

❼ **Tuner system buttons** ···························· (52)

❽ **Input mode button (INPUT)** ······················ (42)

❾ **MENU button** ····································· (24)

❿ **Cursor buttons (△▽◁ ▷)** ························ (24)

⓫ **Parameter / Search button**
(PARA / SRCH) ······························· (46, 53, 58)

⓬ **Monitor select (M. SEL) /**
HOME button ····································· (31, 68)

⓭ **Channel buttons (CH)** ···························· (52)

⓮ **Input source select /**
Number buttons ······························· (40, 52)

⓯ **Remote control signal transmitter** ············· (4)

⓰ **Device select indicators (DEV1 / DEV2)** ··· (68)

⓱ **ZONE3 / ZONE4 select indicators**
(Z3 / Z4) ··· (81)

⓲ **RESTORER button (RSTR)** ························ (48)

⓳ **Night button (NGT)** ······························ (49)

⓴ **Test tone button (TEST)** ························· (30)

㉑ **Surround speaker select button (SPKR)** ··· (30)

㉒ **POWER buttons** ································· (51)

㉓ **Channel select (CH SEL) /**
ENTER button ································· (24, 66)

㉔ **Return button (RTN)** ····························· (24)

㉕ **Master volume control buttons**
(VOL) ··· (51, 81)

㉖ **Muting button (MUTE)** ························· (51, 81)

㉗ **Main remote control unit setup button**
(RC SETUP) ······································ (68)

🖉

The time for which the backlight stays on can be changed (☞page 73 "Setting the Time the Backlight Stays Lit").

NOTE

The **SAT TU**, ZONE2 mode **QUICK SELECT (1 ~ 3)**, **A. DL**, **RSTR**, **NGT**, **INPUT**, **SPKR**, **TEST** and surround mode buttons cannot be used.

❏ Sub remote control unit (RC-1070)

DENON
RC-1070
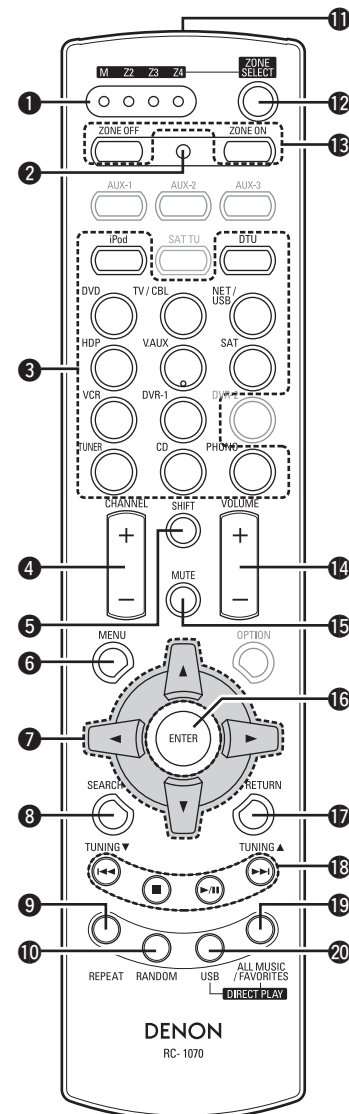
❶ **ZONE indicators** ································· (76)

❷ **Advanced setup button** ·························· (76)

❸ **Input source select buttons** ···················· (40)

❹ **CHANNEL buttons** ······························· (52)

❺ **SHIFT button** ···································· (52)

❻ **MENU button** ···································· (24)

❼ **Cursor buttons (△▽◁ ▷)** ······················ (24)

❽ **SEARCH button** ······························· (53, 58)

❾ **REPEAT button** ································· (58)

❿ **RANDOM button** ································· (58)

⓫ **Remote control signal transmitter** ············· (4)

⓬ **ZONE SELECT button** ···························· (76)

⓭ **Zone power on/off buttons**
(ZONE ON / ZONE OFF) ························ (81)

⓮ **Master volume control buttons**
(VOLUME) ···································· (51, 81)

⓯ **Muting button (MUTE)** ························· (51, 81)

⓰ **ENTER button** ··································· (24)

⓱ **RETURN button** ································· (24)

⓲ **System buttons** ····························· (52, 74, 75)

⓳ **ALL MUSIC/FAVORITES**
(DIRECT PLAY) button ·························· (74)

⓴ **USB (DIRECT PLAY) button** ···················· (74)

NOTE

The **AUX-1**, **AUX-2**, **AUX-3**, **SAT TU**, **DVR-2** and **OPTION** buttons cannot be used.

Connections

Connections for all compatible audio and video signal formats are described in these operating instructions. Please select the types of connections suited for the equipment you are connecting.

With some types of connections, certain settings must be made on the AVR-4308. For details, refer to the instructions for the respective connection items below.

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.

Preparations

Cables Used for Connections

Select the cables according to the equipment being connected.

Audio cables	Video cables
Coaxial digital connections	**Component video connections**
(Orange) Coaxial digital (75 Ω/ohms pin-plug) cable	(Green) (Y) (Blue) (PB/CB) (Red) (PR/CR) Component video cable
Optical digital connections	**S-Video connections**
Optical cable	S-Video cable
Analog connections (stereo)	**Video connections**
(White) (Red) Stereo pin-plug cable	(Yellow) 75 Ω/ohms pin-plug video cable
Analog connections (monaural, for subwoofer)	**Audio and video cables**
(Black) Pin-plug cable	**HDMI connections**
DENON LINK connections	19-pin HDMI cable
DENON LINK cable	**Signal direction**
Speaker connections	Audio signal: Video signal:
+ + − − Speaker cables	Output Input Output Input
Network connections (wired LAN)	
Ethernet cable	Input Output Input Output

8

Video Conversion Function

• This function automatically converts various formats of video signals input to the AVR-4308 into the format used to output the video signals from the AVR-4308 to a monitor.
• The AVR-4308's video input/output circuitry is compatible with the following four types of video signals:
 Digital video signals: HDMI
 Analog video signals: Component video, S-Video and Video

【Flow of video signals inside the AVR-4308】

Main zone

High picture quality playback

HDMI connector → HDMI connector

Y PB/CB PR/CR
Component video connectors → Component video connectors → Monitor

S-Video connector → S-Video connector

Video connector → Video connector

Video inputs   Video outputs

- - - - : When 480i/576i signals are input in the main zone
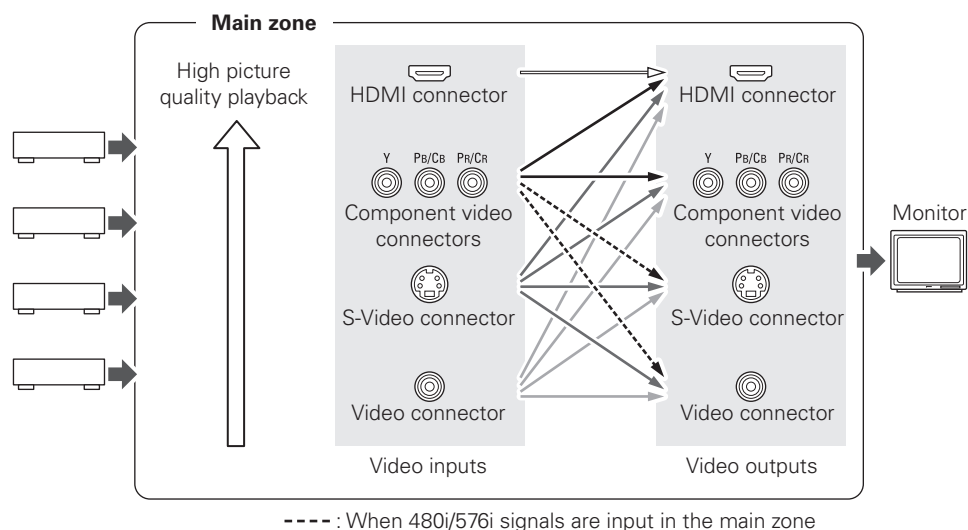
【Flow of video signals for ZONE2】

ZONE2

High picture quality playback

Y PB/CB PR/CR
Component video connectors → Component video connectors → ZONE2 monitor

S-Video connector

Video connector → Video connector

Video inputs   Video outputs

✎
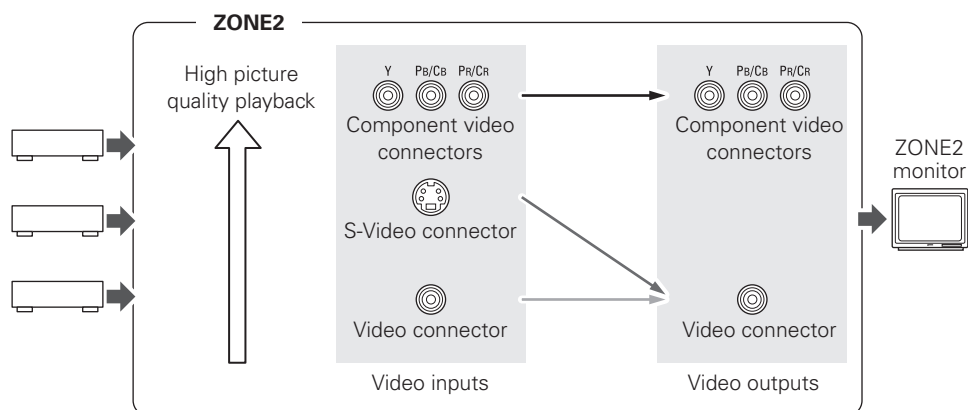
• When not using this function, connect a monitor output with the same type of connector as the video input connector.
• The resolution of the HDMI input-compatible monitor connected to the AVR-4308 can be checked at GUI menu "Information" – "HDMI Information" – "Monitor1" or "Monitor2" (☞ page 50).

NOTE

• HDMI signals cannot be converted into analog signals.
• 1080p component input video signals cannot be output to anything other than component video connectors.
• 480p/576p, 1080i and 720p component video input signals cannot be converted into S-Video or Video format.
• When using the component video output connectors for connection to the ZONE2 monitor, the ZONE2's on-screen display is not displayed.
• When a non-standard video signal from a game machine or some other source is input, the video conversion function might not operate.

9

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Speaker Connections

Speaker Installation

The illustration below shows a basic example of installation of the amplifier combined with 8 speakers and a monitor.

Subwoofer

Center speaker

Surround back speakers
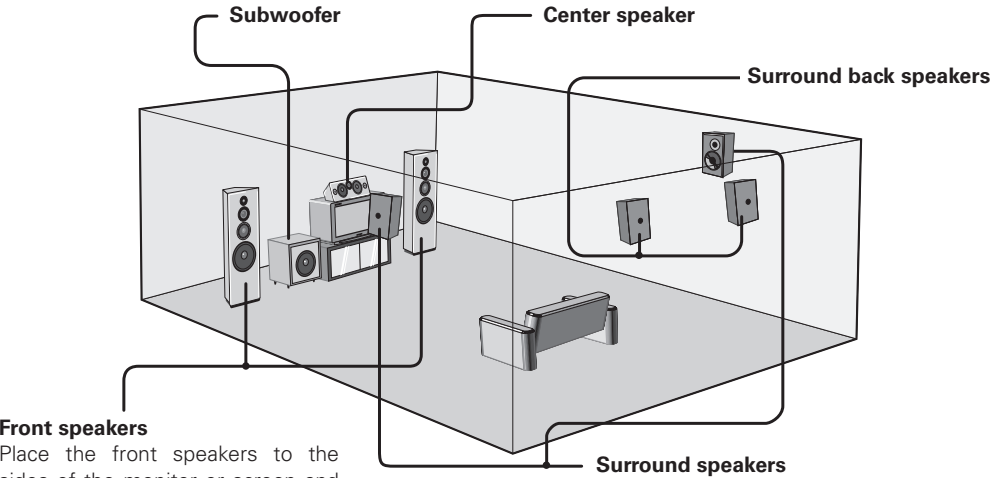
Surround speakers

Front speakers
Place the front speakers to the sides of the monitor or screen and as flush with the screen surface as possible.

✎

The table below shows a typical speaker configuration for the AVR-4308.

	FRONT		CENTER	SURROUND A		SURROUND B		SURROUND BACK			SUBWOOFER
	L	R		L	R	L	R	L	R	1 only	
7.1-channels (Surround A+B)	◯	◯	◯	◯	◯	◯	◯	◯	◯	–	◯
7.1-channels	◯	◯	◯	◯	◯	–	–	◯	◯	–	◯
6.1-channels	◯	◯	◯	◯	◯	–	–	–	–	◯	◯
5.1-channels	◯	◯	◯	◯	◯	–	–	–	–	–	◯
3.1-channels	◯	◯	◯	–	–	–	–	–	–	–	◯
2.1-channels	◯	◯	–	–	–	–	–	–	–	–	◯
2-channels	◯	◯	–	–	–	–	–	–	–	–	–

Speaker Connections
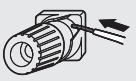
Example: 7.1-channels (Surround A+B)
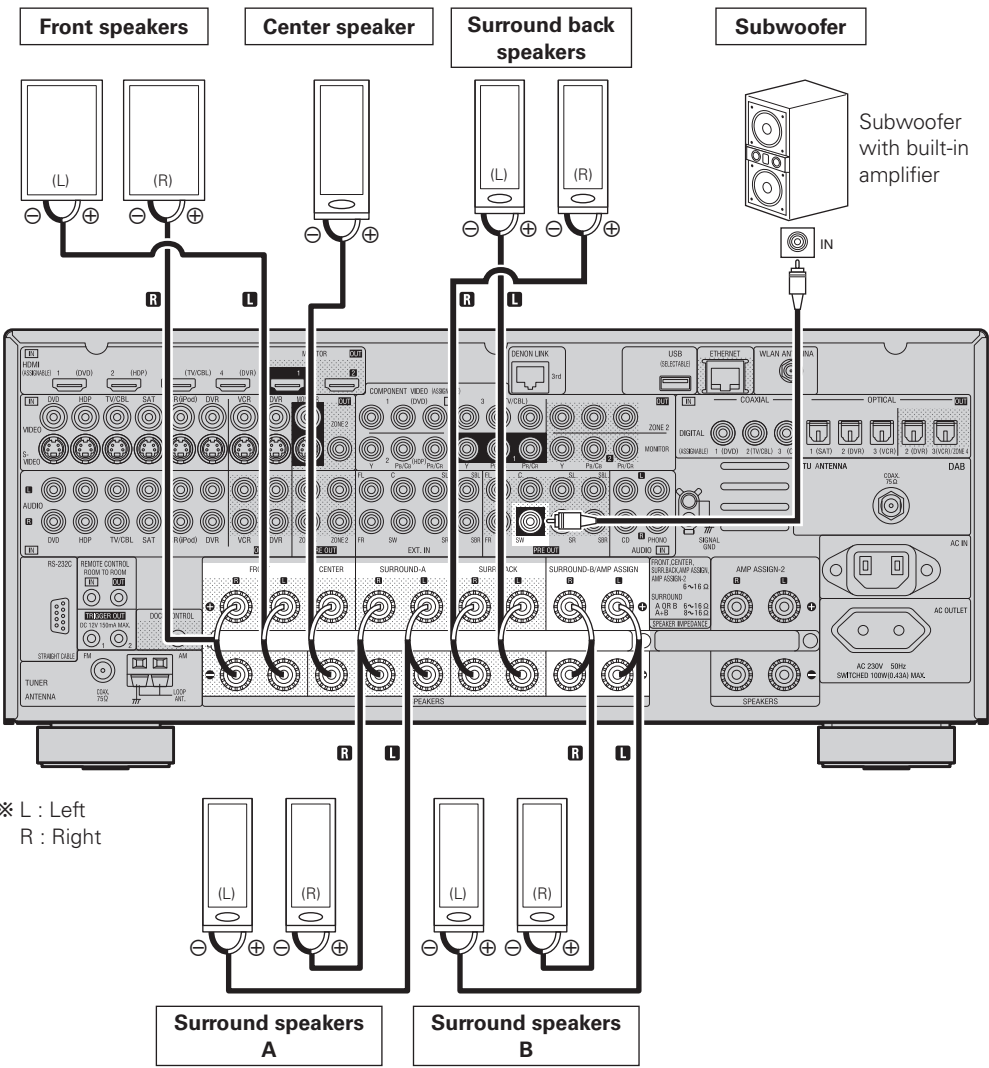
Front speakers

Center speaker

Surround back speakers

Subwoofer

Subwoofer with built-in amplifier

※ L : Left
R : Right

Surround speakers A

Surround speakers B

✎

When using just one surround back speaker, connect it to the left channel (SBL).

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Getting Started

Connections

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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-4308, and be sure to interconnect the channels and polarities correctly.

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

2 **Turn the speaker 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.**

NOTE

• 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.

• Connect the speaker cables in such a way that they do not stick out of the speaker terminals. 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.

Protection circuit

If speakers with an impedance lower than specified (for example 4 Ω/ohms speakers) are used for an extended period of time with the volume turned up high, the temperature may rise, activating the protection circuit.

When the protection circuit is activated, the speaker output is shut off and the power indicator flashes red. If this happens, unplug the power cord, then check the speaker cable and input cable connections. If the set is extremely hot, wait for it to cool off and improve ventilation around it. Once this is done, plug the power cord back in and turn the set's power back on.

If the protection circuit is activated again even though there are no problems in the ventilation around the set nor in the connections, the set may be damaged. Turn the power off, then contact a DENON service center.

Connecting Equipment with HDMI connectors

With HDMI connections, the video and audio signals can be transferred with a single cable.

DVD player

HDMI OUT

Monitor

HDMI IN
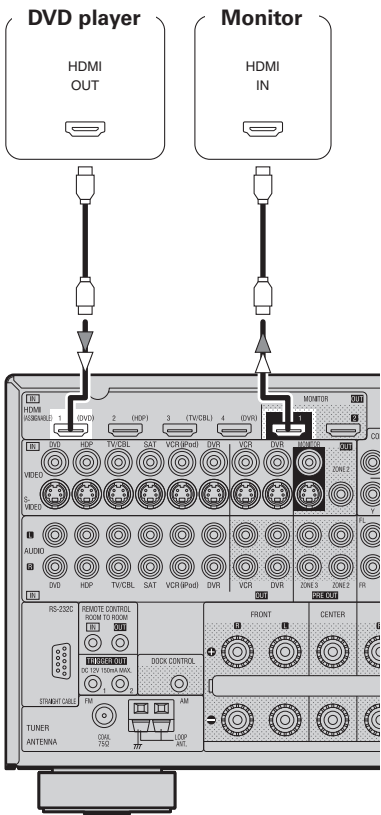
※ The AVR-4308 is equipped for HDMI version 1.3a. This version is compatible with other versions, allowing connection to all components equipped with an HDMI connector.

※ The AVR-4308 is compatible with 30- and 36-bit Deep Color.

Compatible audio format	Details	Discs (examples)
2-channel linear PCM	2ch 32-192 kHz 16/20/24 bits	CD, DVD-Video, DVD-Audio
Multi-channel linear PCM	8ch 32-192 kHz 16/20/24 bits	DVD-Audio
Dolby Digital, DTS	Bitstream	DVD-Video
DSD	2/5.1ch 2.8224 MHz 1 bit	SACD
Dolby Digital Plus, Dolby TrueHD, DTS-HD	Bitstream	HD DVD, Blu-ray Disc

Copyright protection system (HDCP)

In order to play the digital video and audio signals of a DVD-Video or DVD-Audio disc using HDMI/DVI connections, both the connected DVD player and monitor must be equipped for a copyright protection system called "HDCP" (High-bandwidth Digital Content Protection).

HDCP is a copy protection technology consisting of data encoding and mutual identification of the devices.

The AVR-4308 is HDCP-compatible. For details on the DVD player or monitor you are using, refer to its operating instructions.

✎

• By default, the HDMI audio signals are output from the speakers connected to the AVR-4308.

• To output the sound from the TV, make the settings at GUI menu "Manual Setup" – "HDMI Setup" – "Audio" – "TV" (☞ page 31).

NOTE

• Use a CPPM-compatible DVD player to play DVD-Audio discs that are copyright-protected by CPPM.
• The AVR-4308 cannot be controlled from another device via the HDMI cable.
• The audio signals output from the HDMI connector (sampling frequency, bit rate, etc.) may be restricted by the connected device.
• Video signals are not output properly when using devices that are not HDCP-compatible.
• Video signals are not output if the input video signals do not match the monitor's resolution. In this case, switch the DVD player's resolution to a resolution with which the monitor is compatible.
• If the GUI menu "Manual Setup" – "HDMI Setup" – "Audio" setting (☞ page 31) is set to "Amp", the sound may be interrupted when the monitor's power is turned off.
• 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).
• If the monitor or DVD player does not support deep color, deep color signal transfer is not possible.
• If the monitor or DVD player does not support xvYCC, xvYCC signal transfer is not possible.
• If the monitor does not support "Auto Lipsync Correction" function, this function will not work.

✎

• When the AVR-4308 and DVD player are connected using an HDMI cable, also connect the AVR-4308 and monitor using an HDMI cable.
• If the connected monitor or DVD player only has a DVI-D connector, use an HDMI/DVI converter cable. When using a DVI cable, no audio signals are transmitted.
• Use a Deep Color compatible cable for connection to Deep Color compatible devices.

When connecting with an HDMI/DVI converter cable (adapter)

• HDMI video signals are theoretically compatible with the DVI format.
  When connecting to a monitor, etc., equipped with a DVI-D connector, connection is possible using an HDMI/DVI converter cable, but depending on the combination of components in some cases the video signals will not be output.
• When connecting using an HDMI/DVI converter adapter, the video signals may not be output properly due to poor connections with the connected cable, etc.

Connecting the Monitor

- Connect the cables to be used (☞ page 9 "Video Conversion Function").
- With HDMI connections, the video and audio signals can be transferred with a single cable.
- To output the audio signals to the monitor with HDMI connections, set GUI menu "Manual Setup" – "HDMI Setup" – "Audio" to "TV" (☞ page 31).
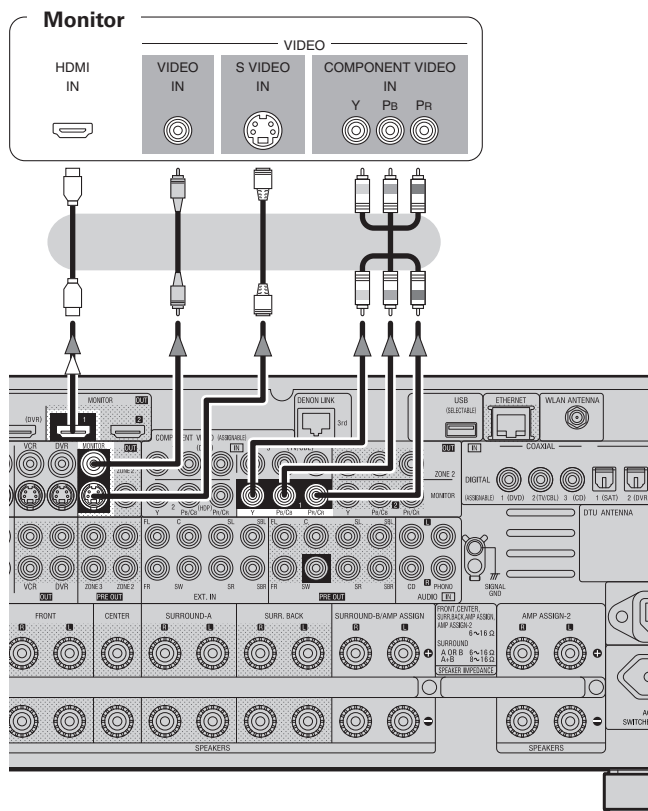
Monitor

NOTE

- The component video connectors may be indicated differently on your monitor. For details, see the monitor's operating instructions.
- The audio signals output from the HDMI connectors are only the HDMI input signals.

Connecting the Playback Components

Carefully check the left (L) and right (R) channels and the inputs and outputs, and be sure to interconnect correctly.

DVD Player

- Connect the cables to be used.
- With HDMI connections, the video and audio signals can be transferred with a single cable.
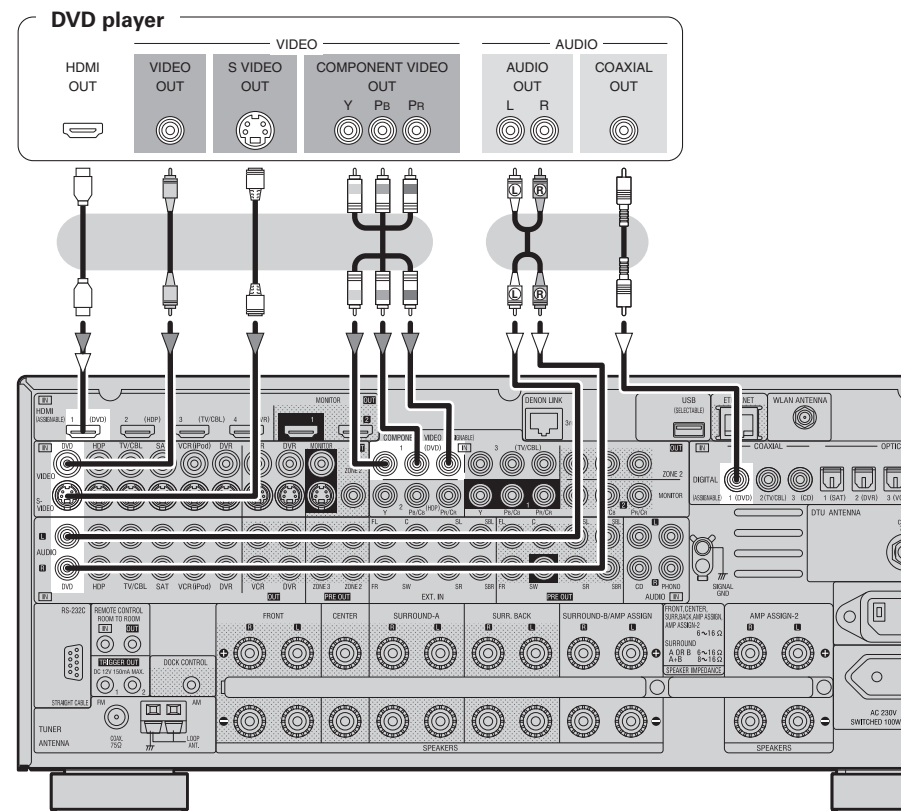
DVD player

- Connect an HDP (High-Definition Player) in the same way.
- When using an optical cable for the digital audio connection, make the settings at GUI menu "Source Select" – "DVD" – "Assign" – "Digital" (☞ page 43).

13

Getting Started

Connections

Setup

Playback

Remote Control

Multi-Zone

Information

Troubleshooting

Specifications

Record Player

Turntable (MM cartridge)

AUDIO OUT   GND
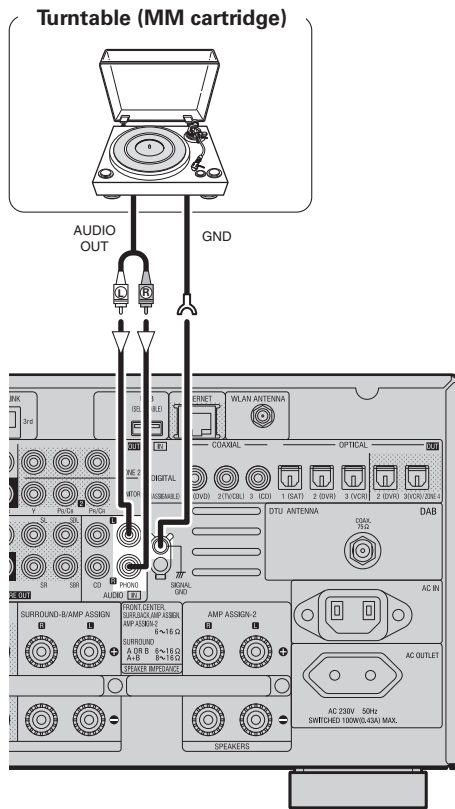
✎
• When connecting a record player with an MC cartridge, use a commercially available MC head amplifier or a step-up transformer.
• Induction humming (a booming sound) may be produced from the speakers if the volume is raised with no record player connected.
• With some record players, noise may be generated when the ground wire is connected. If so, disconnect the ground wire.

NOTE

The AVR-4308's SIGNAL GND terminal is meant to reduce noise when a record player is connected. This is not a safety ground terminal.

CD Player

Connect the cables to be used.
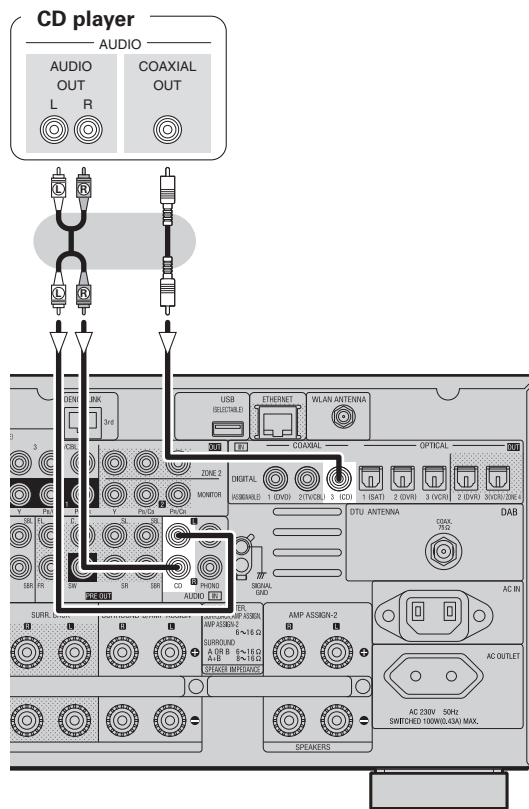
CD player

AUDIO

AUDIO OUT   COAXIAL OUT
L   R

✎
When using an optical cable for the digital audio connection, make the settings at GUI menu "Source Select" – "CD" – "Assign" – "Digital" (☞page 43).

iPod®

Use a DENON Control Dock for iPod (ASD-1R, sold separately) to connect the iPod to the AVR-4308. For instructions on the Control Dock for iPod settings, refer to the Control Dock for iPod's operating instructions.

Example :

iPod

ASD-1R
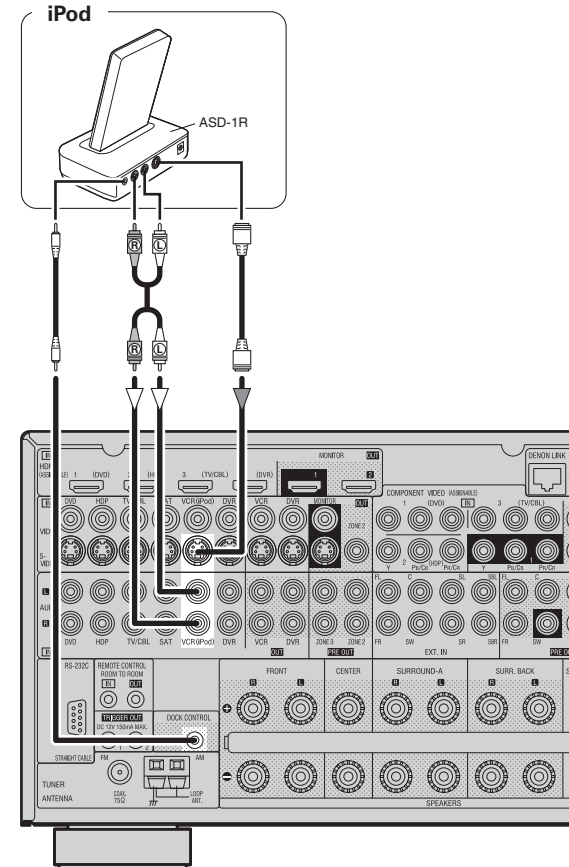
✎
• With the default settings, the iPod can be used connected to the VCR (iPod) connector.
• To assign the iPod to a connector other than VCR (iPod), make the settings at GUI menu "Source Select" – "(input source to which iPod dock assigned)" – "Assign" – "iPod dock" (☞page 43).

ENGLISH

Getting Started | Connections | Setup | Playback | Remote Control | Multi-Zone | Information | Troubleshooting | Specifications

TV/CABLE Tuner

Connect the cables to be used.
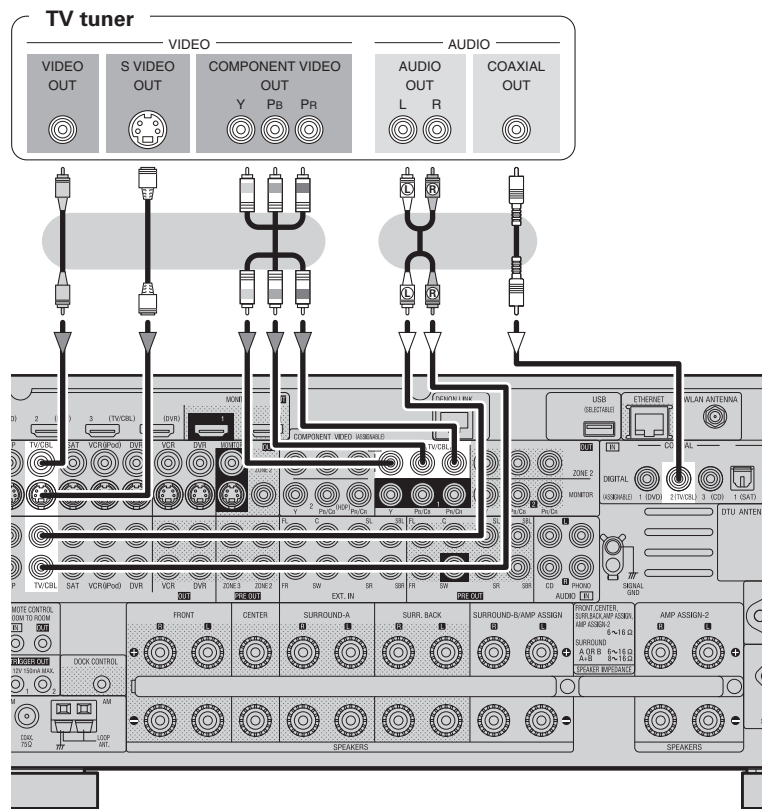
TV tuner

VIDEO — AUDIO

| VIDEO OUT | S VIDEO OUT | COMPONENT VIDEO OUT | AUDIO OUT | COAXIAL OUT |
| | | Y PB PR | L R | |

✏
When using an optical cable for the digital audio connection, make the settings at GUI menu "Source Select" – "TV/CBL" – "Assign" – "Digital" (☞ page 43).

Satellite Receiver

Connect the cables to be used.

DBS / BS tuner

VIDEO — AUDIO

| VIDEO OUT | S VIDEO OUT | AUDIO OUT | OPTICAL OUT |
| | | L R | |
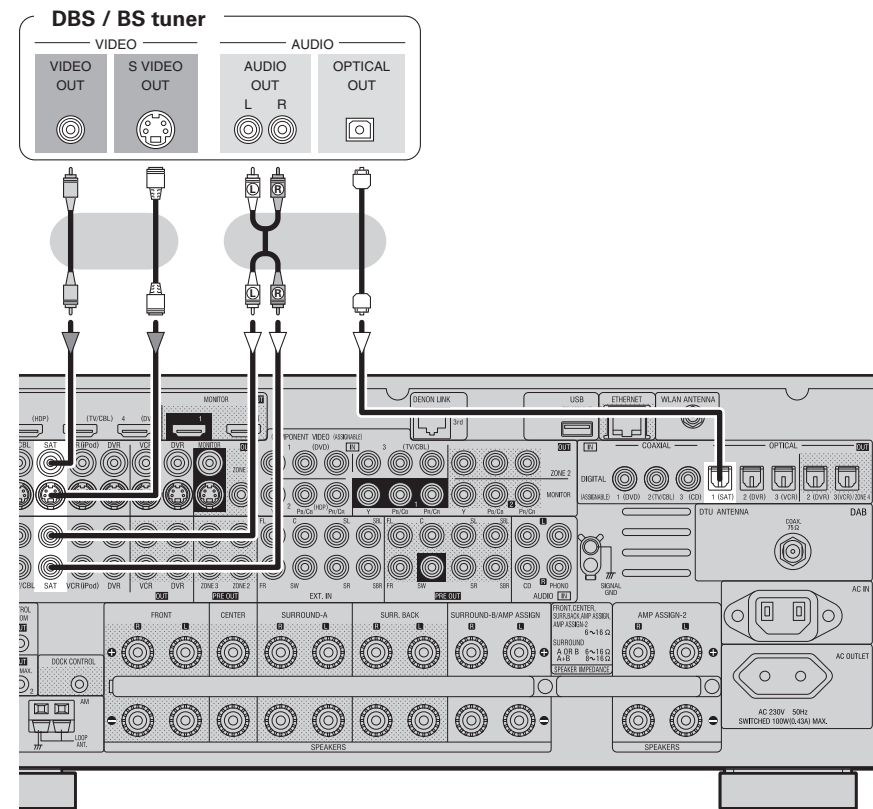
✏
• When using a coaxial digital cable for the digital audio connection, make the settings at GUI menu "Source Select" – "SAT" – "Assign" – "Digital" (☞ page 43).
• When using a component video cable for the video connection, make the settings at GUI menu "Source Select" – "SAT" – "Assign" – "Component" (☞ page 43).

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Connecting the Recording Components

Carefully check the left (L) and right (R) channels and the inputs and outputs, and be sure to interconnect correctly.

Digital Video Recorder

Connect the cables to be used.

Digital video recorder

VIDEO

VIDEO	S VIDEO
OUT	IN	IN	OUT

AUDIO

AUDIO	OPTICAL
IN	OUT	OUT	IN
L	R	L	R		

or   or
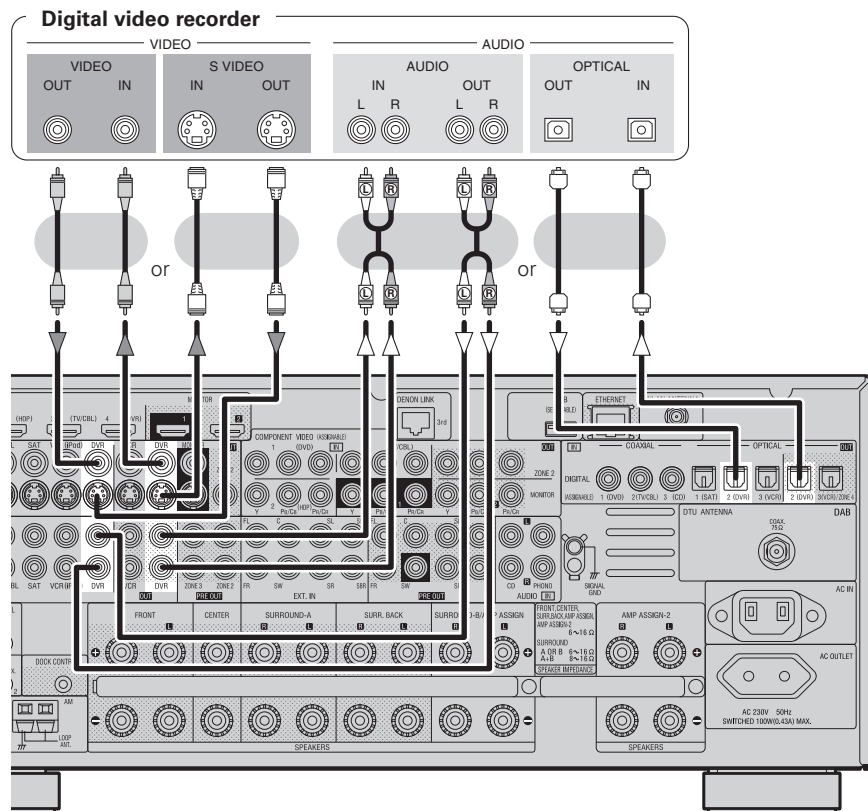
✎
• Make analog connections if you wish to record analog audio signals.
• When recording via the AVR-4308, the playback device's cable must be of the same type as the cable used to connect the AVR-4308's DVR OUT connector.
  Example: TV IN → S-Video cable : DVR OUT → S-Video cable
         TV IN → Video cable : DVR OUT → Video cable
• When using a component video cable for the video connection, make the settings at GUI menu "Source Select" – "DVR" – "Assign" – "Component" (☞ page 43).

NOTE

Do not connect the output of the component connected to the AVR-4308's OPTICAL2 output connector to any input connector other than OPTICAL2.

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Video Cassette Recorder

Connect the cables to be used.
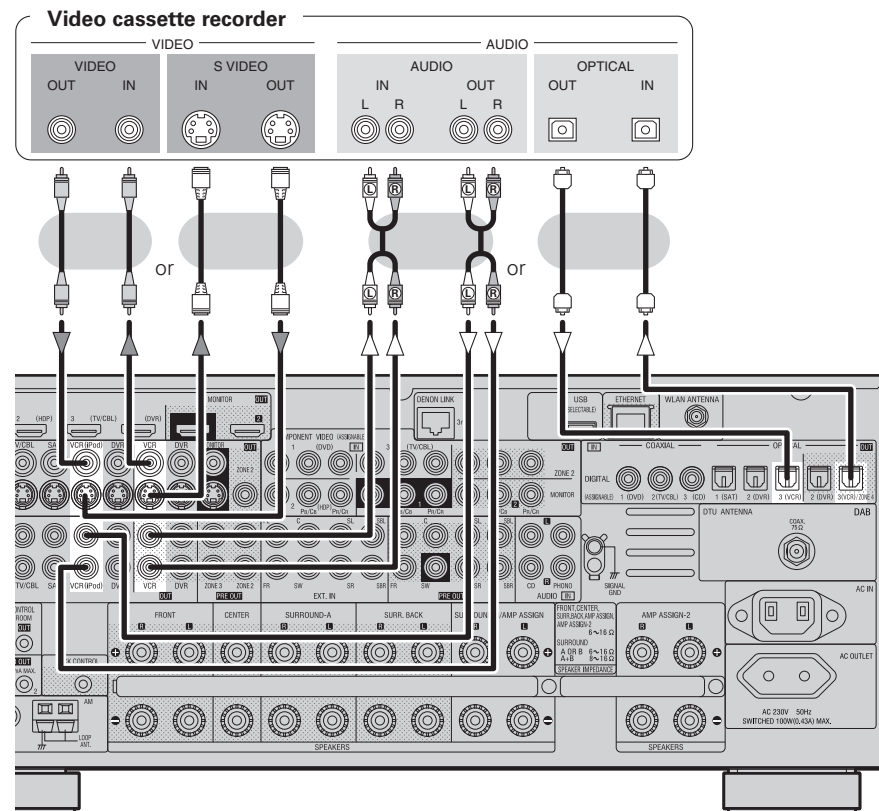
Video cassette recorder

VIDEO   AUDIO

VIDEO	S VIDEO
OUT	IN	IN	OUT

AUDIO	OPTICAL
IN	OUT	OUT	IN
L	R	L	R		

or   or

✎
• When recording via the AVR-4308, the playback device's cable must be of the same type as the cable used to connect the AVR-4308's VCR OUT connector.
  Example: TV IN → S-Video cable : VCR OUT → S-Video cable
         TV IN → Video cable : VCR OUT → Video cable
• When using a component video cable for the video connection, make the settings at GUI menu "Source Select" – "VCR" – "Assign" – "Component" (☞ page 43).

NOTE

Do not connect the output of the component connected to the AVR-4308's OPTICAL3 output connector to any input connector other than OPTICAL3.

CD Recorder / MD Recorder / Tape Deck

Make analog connections if you wish to record analog audio signals, or digital connections if you wish to record digital audio signals, depending on the types of connectors on the components being used.
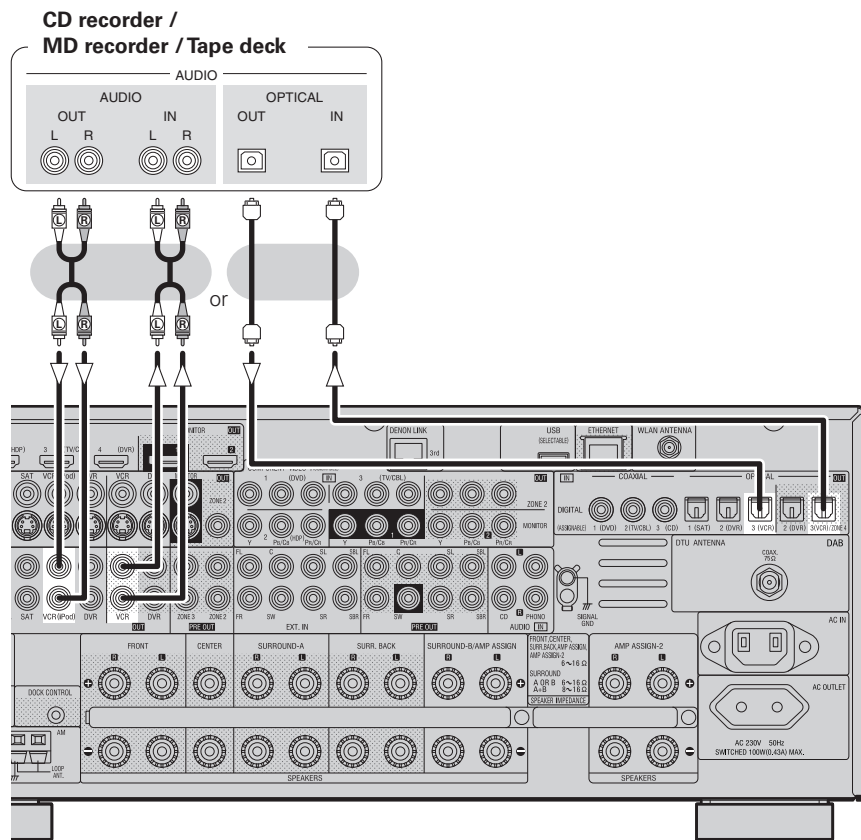
CD recorder /
MD recorder / Tape deck

AUDIO

AUDIO   OPTICAL
OUT   IN   OUT   IN
L   R   L   R

or

NOTE

Do not connect the output of the component connected to the AVR-4308's OPTICAL3 output connector to any input connector other than OPTICAL3.

Connections to Other Devices

Carefully check the left (L) and right (R) channels and the inputs and outputs, and be sure to interconnect correctly.

Components Equipped with a DENON LINK connector

Multi-channel playback is possible with DVD-Audio discs, Super Audio CD, etc.

DVD player

AUDIO
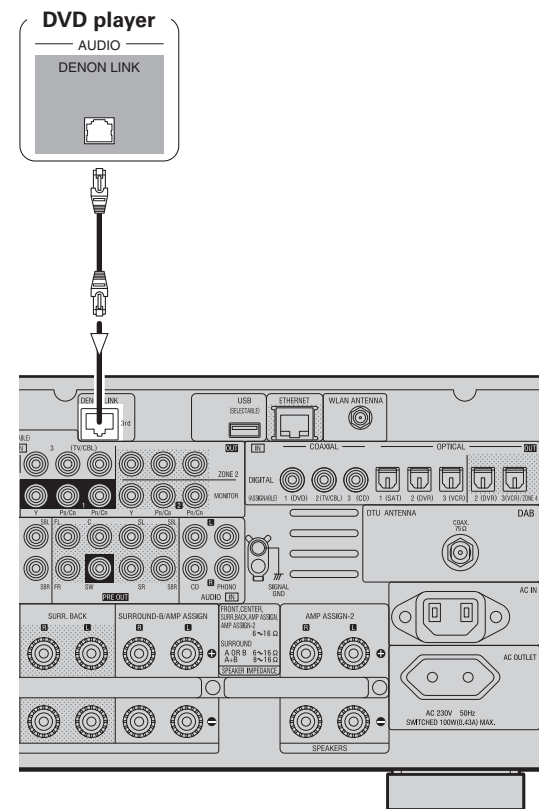
DENON LINK

To use with DENON LINK connections, make the settings at GUI menu "Source Select" – "Assign" – "Digital" – "DENON LINK" ().

Video Camera / Game Console

Video camera / Game console

VIDEO		AUDIO	
S VIDEO OUT	VIDEO OUT	AUDIO OUT L R	OPTICAL OUT
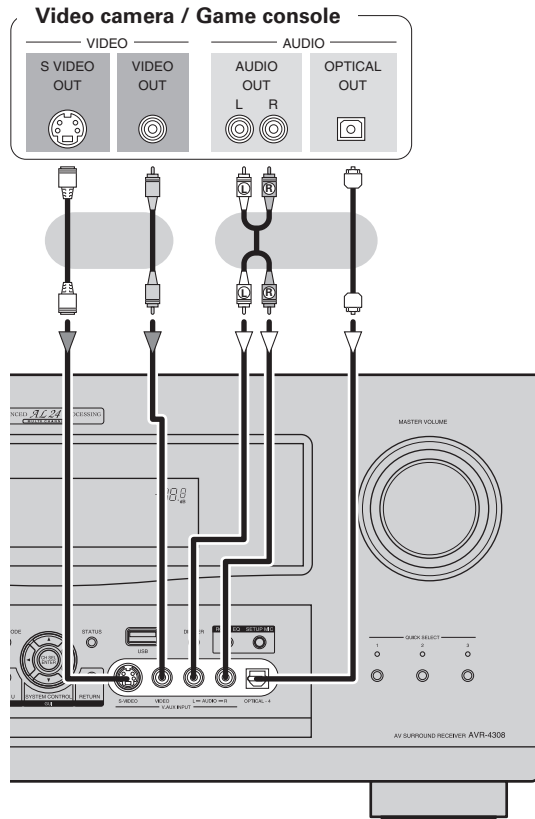
Component with Multi-channel Output connectors

DVD player / Super Audio CD player / External decoder

AUDIO

| SUB-WOOFER | FRONT L R | CENTER | SURROUND L R | SURROUND BACK L R |
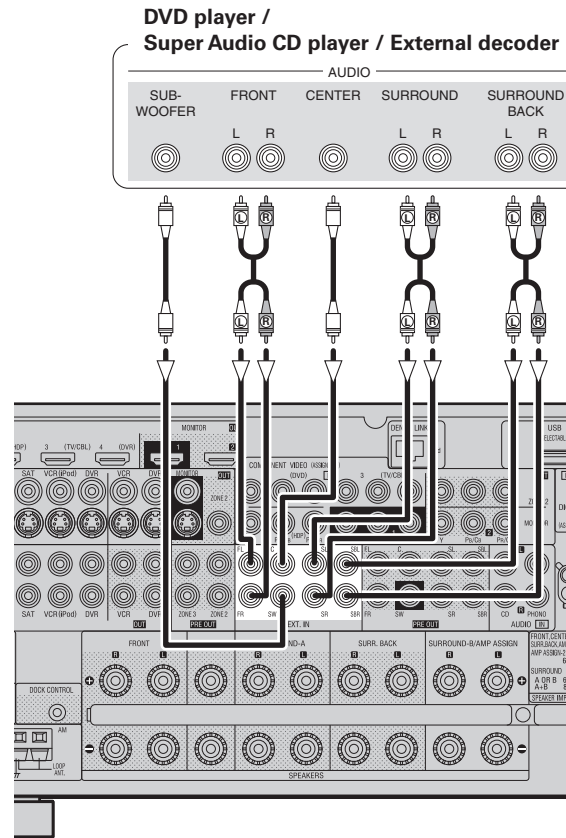
- To play the analog input signals input to the EXT. IN connectors, press the **INPUT MODE** button on the main unit or **INPUT** button on the main remote control unit and select "EXT. IN" or make the settings at GUI menu "Source Select" – "(input source)" – "Input Mode" – "Input Mode" – "EXT. IN" (☞page 42).
- The video signal can be connected in the same way as a DVD player (☞page 13).
- To play copyright-protected discs, connect the AVR-4308's EXT. IN connector with the DVD player's analog multi-channel output connector.

External Power Amplifier

Power amplifier

AUDIO

| SUB-WOOFER | FRONT L R | CENTER | SURROUND L R | SURROUND BACK L R |
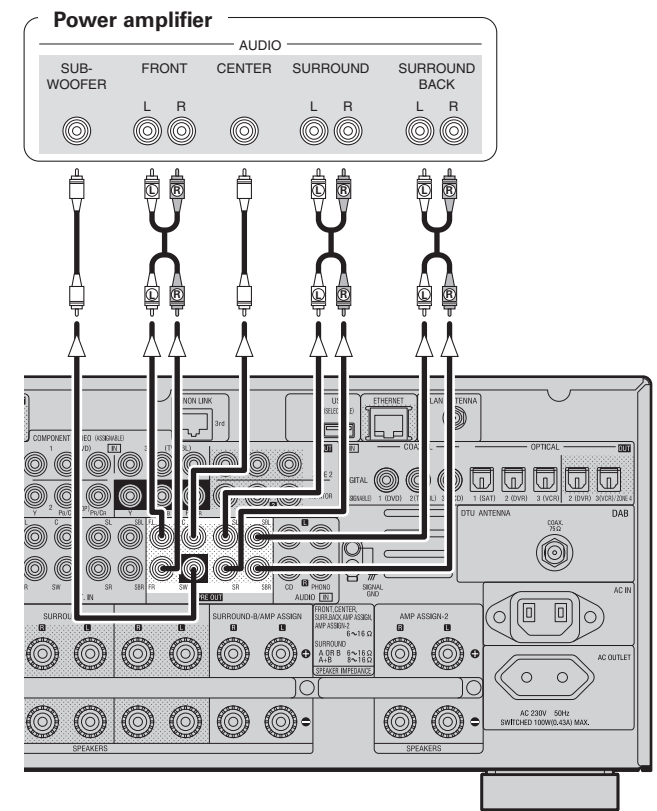
When using just one surround back speaker, connect it to the left channel (SBL).

USB Port

❏ **Front panel**

USB memory device
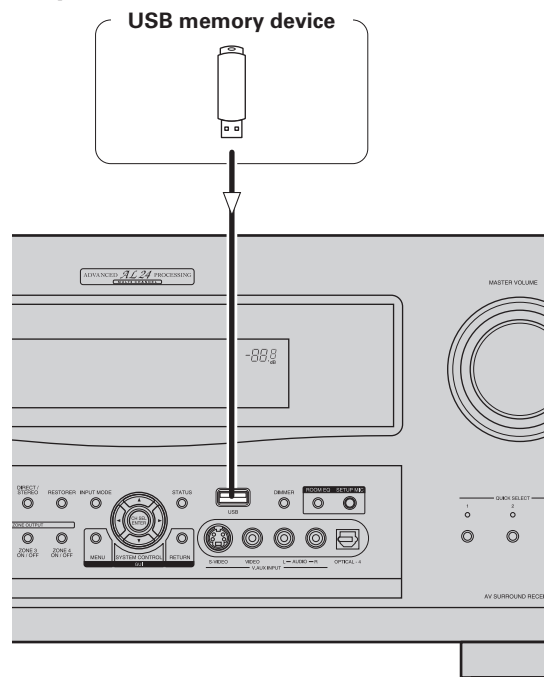
❏ **Rear panel**
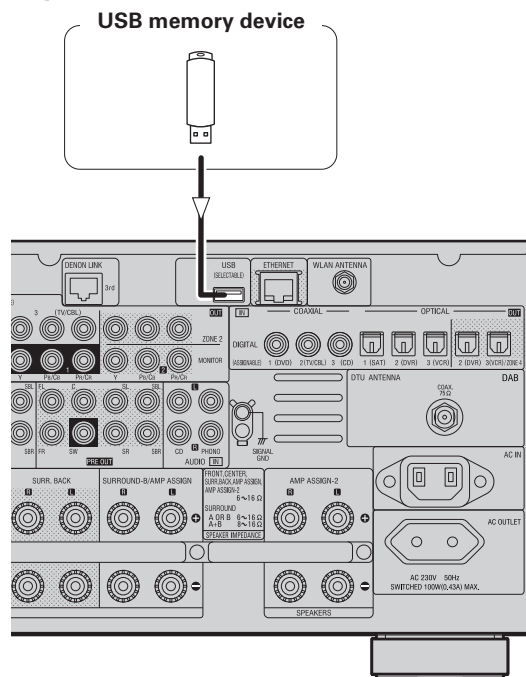
USB memory device

• In the initial status, USB memory devices can be used by connecting them to the USB port on the front panel.

NOTE

• Set to the USB port you want to use.
• The AVR-4308 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 the GUI menu "Source Select" – "NET/USB" – "Playback Mode" – "USB Select".

• Do not use the extension cable for connecting the USB memory device to the AVR-4308's USB port.
  Use of the extension cable may cause harmful interference.

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Antenna terminals

An FM antenna cable plug can be connected directly.

AM/FM

Direction of broadcasting station

FM antenna

AM loop antenna (supplied)

75 Ω/ohms Coaxial cable

FM indoor antenna (supplied)

Ground
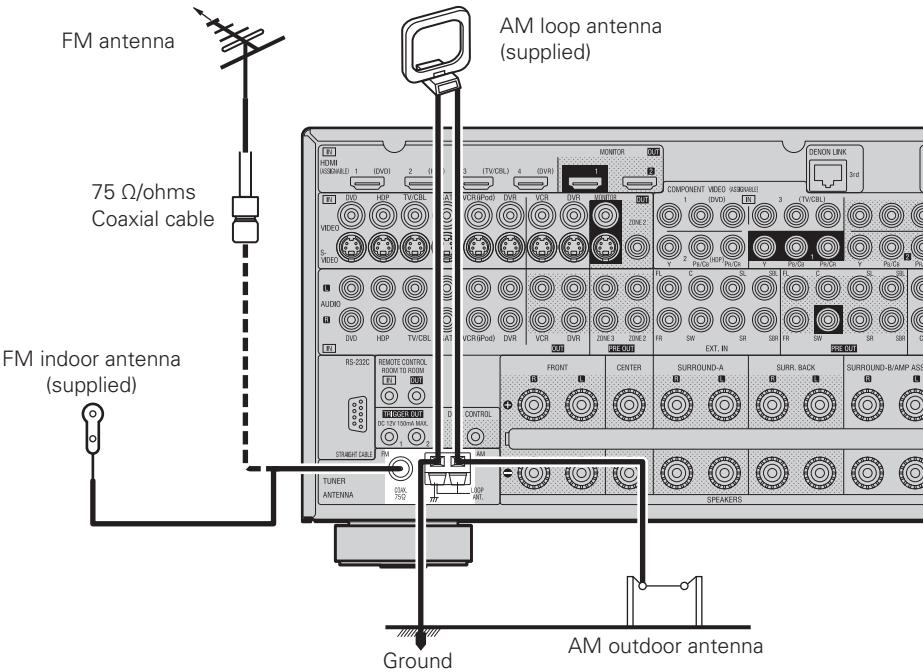
AM outdoor antenna

AM loop antenna assembly

① Remove the vinyl tie and take out the connection line.

② Connect to the AM antenna terminals.

③ Bend in the reverse direction.

④
a. With the antenna on top of any stable surface.

Mount

b. With the antenna attached to a wall.

Installation hole Mount on wall, etc.
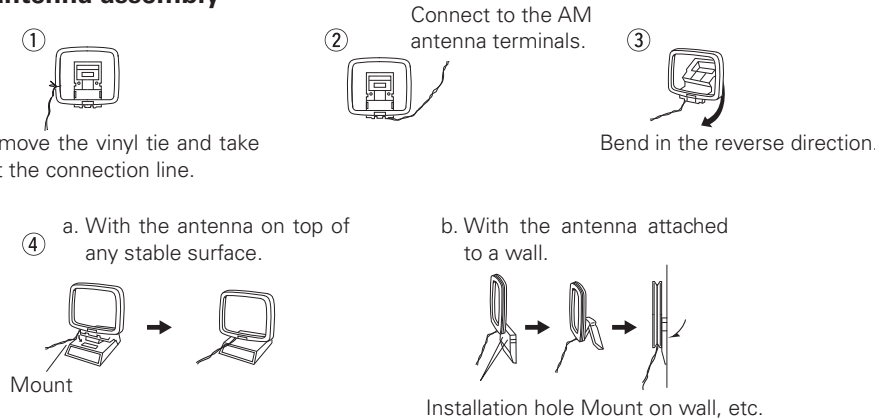
DAB

Connecting an DAB outdoor antenna
If good reception cannot be achieved with the included DAB indoor antenna, use an DAB outdoor antenna. Connect an F male type connector to the coaxial cable and connect the antenna to the DAB COAX 75 Ω/ohms terminal.

Installing the DAB indoor antenna
① DAB station reception (☞ page 56).
② Use "Tuning Aid" to set position at which reception sensitivity is optimum (☞ page 44).

DAB outdoor antenna

DAB indoor antenna (supplied)

Connection of AM antennas		
1. Push the lever.	2. Insert the conductor.	3. Return the lever.
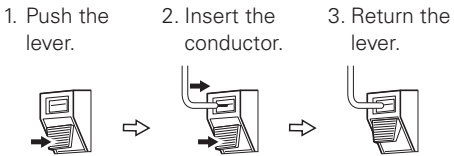
NOTE
- Do not connect two FM antennas simultaneously.
- Even if an external AM antenna is used, do not disconnect the AM loop antenna.
- Make sure the AM loop antenna lead terminals do not touch metal parts of the panel.

DAB indoor antenna assembly

Mount the antenna's screw to the stand.

①   ②

Network Audio

[Wired LAN]

Computer

Modem

Internet

To WAN side

To LAN port
To LAN port

LAN port/Ethernet connector

Router

DENON LINK   USB (SELECTABLE)   ETHERNET   WLAN ANTENNA
3rd
(TV/CBL)   OUT   IN   COAXIAL   OPTICAL   OUT
ZONE 2   DIGITAL

[Wireless LAN]

Computer

Modem

Internet

To WAN side

Rod antenna (supplied)

Router with access point

Turn clockwise.

DENON LINK   USB (SELECTABLE)   ETHERNET   WLAN ANTENNA
3rd
(TV/CBL)   OUT   IN   COAXIAL
ZONE 2   DIGITAL

Required system

❏ Broadband Internet connection

A broadband line connection to the Internet is required in order to use the AVR-4308's Internet radio function and firmware update.

❏ Modem

This is a device that is connected to the broadband line to communicate with the Internet. Some are integrated with the router.

❏ Router

• When using the AVR-4308, we recommend you use a router equipped with the following functions:
  · Built-in DHCP (Dynamic Host Configuration Protocol) 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.
• When using with a wireless LAN, prepare a broadband router with built-in access point.

❏ Ethernet cable (CAT-5 or greater recommended)

Use for wired LAN.
• The AVR-4308 does not come with an Ethernet cable.
• Some flat type Ethernet cables are easily affected by noise.
  We recommend using a normal type cable.
• For the Ethernet cable, used a shielded twisted pair (STP) cable.
  Do not use an unshielded twisted pair (UTP) cable, as it may exceed noise standard limits.

❏ Computer

A computer with the following specifications is required to use a music server:
• OS
  Windows® XP Service Pack2, Windows Vista
• Software (Prepare one of the following.)
  · .NET Framework 1.1 and Windows Media Connect (Windows XP)
  · Windows Media Player ver.11
  · DLNA-compatible server software
• Internet browser
  Microsoft Internet Explorer 5.01 or later
• LAN port
• 300 MB or more free disk space

※ Free disk space is required to store music and video files. The following sizes are approximate.

Format	Bit rate	Per minute	Per hour
MP3 / WMA MPEG-4 AAC	128 kbps	Approx. 1 MB	Approx. 60 MB
	192 kbps	Approx. 1.5 MB	Approx. 90 MB
	256 kbps	Approx. 2 MB	Approx. 120 MB
	392 kbps	Approx. 3 MB	Approx. 180 MB
WAV (LPCM)	1400 kbps	Approx. 10 MB	Approx. 600 MB
FLAC	1080 kbps	Approx. 7.7 MB	Approx. 464 MB

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

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-4308.

❏ Others

• If you have an Internet provider contract for a line on which network settings are made manually, make the settings at GUI menu "Manual Setup" – "Network Setup" (☞ page 33 ~ 36).
• With the AVR-4308, it is possible to use the DHCP and Auto IP functions to make the network settings automatically.
• When using a broadband router (DHCP function), the AVR-4308 sets the IP address, etc., automatically.
  When using the AVR-4308 connected to a network with no DHCP function, make the settings for the IP address, etc., at GUI menu "Manual Setup" – "Network Setup" (☞ page 33 ~ 36).
• The AVR-4308 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-4308 in the same way.

Multi Zone

ZONE2 or ZONE3 Pre-out Connections

• If another power amplifier or pre-main (integrated) amplifier is connected, the ZONE2 or ZONE3 pre-out (variable or fixed level) connectors can be used to play a different program source in ZONE2 or ZONE3 the same time (☞ page 77 ~ 81).

• When using a component video cable to connect the AVR-4308 and input device, connect the ZONE2 monitor output to the component video connectors. When using an S-Video cable or a video cable, please connect the cable to the video connectors.

• The ZONE2 video out is only for ZONE2.

Monitor (ZONE2)

VIDEO

VIDEO IN

COMPONENT VIDEO IN
Y   PB   PR

Power amplifier (ZONE2 or ZONE3)

AUDIO

AUDIO IN
L   R

AUX OUT

Input   Output

Infrared retransmitter   Infrared sensor

Extension jack for future use.
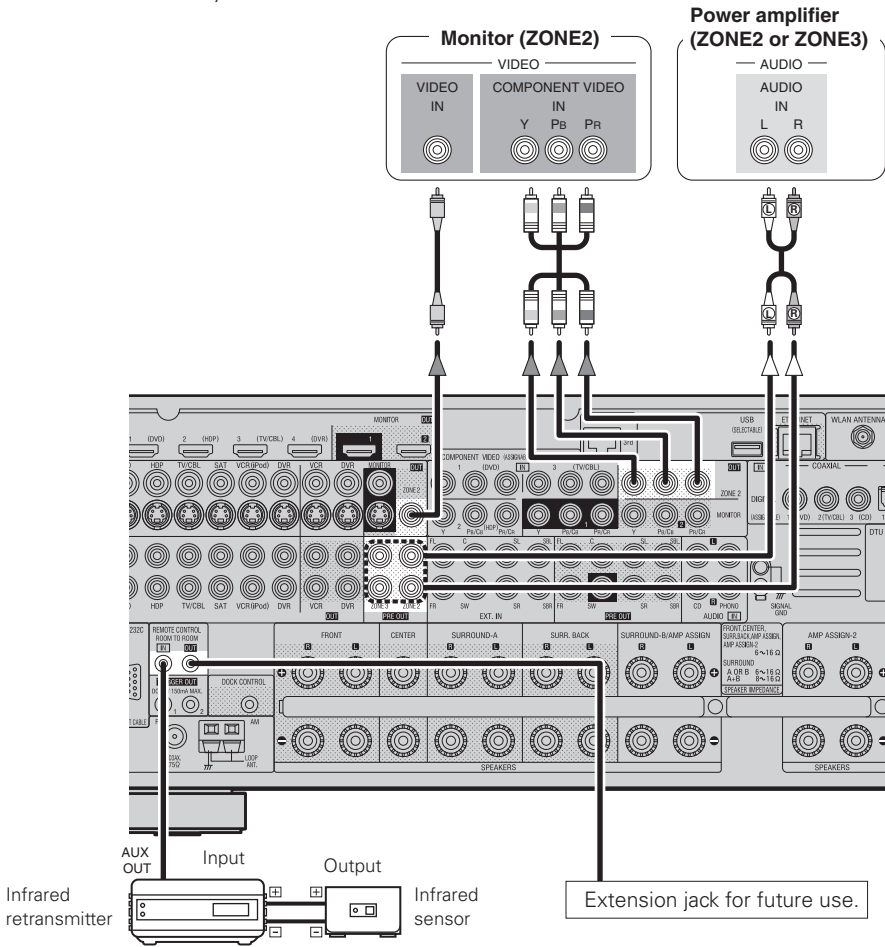
NOTE

• For the audio output, use high quality pin-plug cords so that no induction humming or noise is produced.
• For instructions on installing and operating separately sold devices, refer to the respective devices' operating instructions.
• To conduct multi-zone playback, see "Amp Assign / Multi-Zone Connections and Operations" (☞ page 77 ~ 81).

22

External Controller
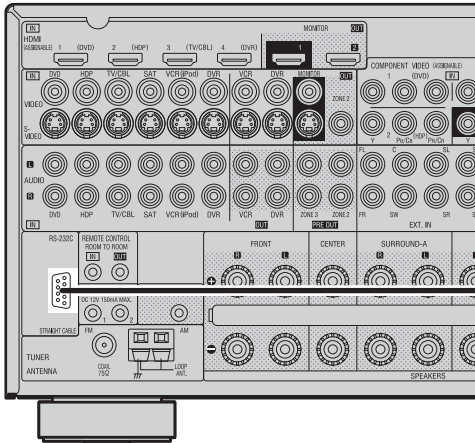
RS-232C connector

This connector is used for an external controller.

※ If you wish to control the AVR-4308 from an external controller using the RS-232C connector, perform the operation below beforehand.

① Turn the AVR-4308's power.
② Turn off the AVR-4308's power from the external controller.
③ Check that the AVR-4308 is in the standby mode.

• When using in combination with an RF Remote Controller (RC-7000CI, sold separately) or RF Remote Receiver (RC-7001RCI, sold separately) two-way communication with an RF Remote Controller is possible.
The AVR-4308'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.
• When used in combination with an RF Remote Controller or RF Remote Receiver, make the settings at GUI menu "Manual Setup" – "Option Setup" – "2Way Remote" – "Used" (☞ page 39).
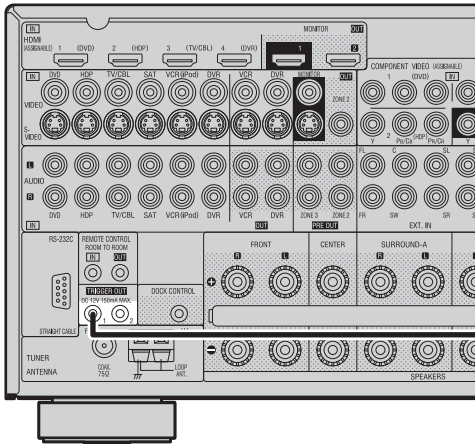
Trigger output jacks

The power of an external device equipped with a trigger input jack can be turned on and off in association with operations on the AVR-4308. For details, see GUI menu "Manual Setup" – "Option Setup" – "Trigger Out 1" or "Trigger Out 2" (☞ page 38).

• Output level: 150 mA/12 V
Check the trigger input conditions of the connected device.

• If the trigger input level of the connected device is higher than 150 mA/12 V and depending on the short-circuiting conditions, the AVR-4308's protection circuit may be activated, in which case "TRIGGER PROTECT" appears on the display. If this happens, turn off the AVR-4308's power and disconnect the connected device.

Connecting the Power Cord

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

Power cord
(included)

To household
power outlet
(AC 230 V, 50 Hz)

Connection to the AC outlet

• This outlet supply power to external audio devices.
• The power supplied from these outlets turns on and off together with the set's power switch.
• Audio equipment with a total power consumption of 100 W (0.43 A) can be connected.
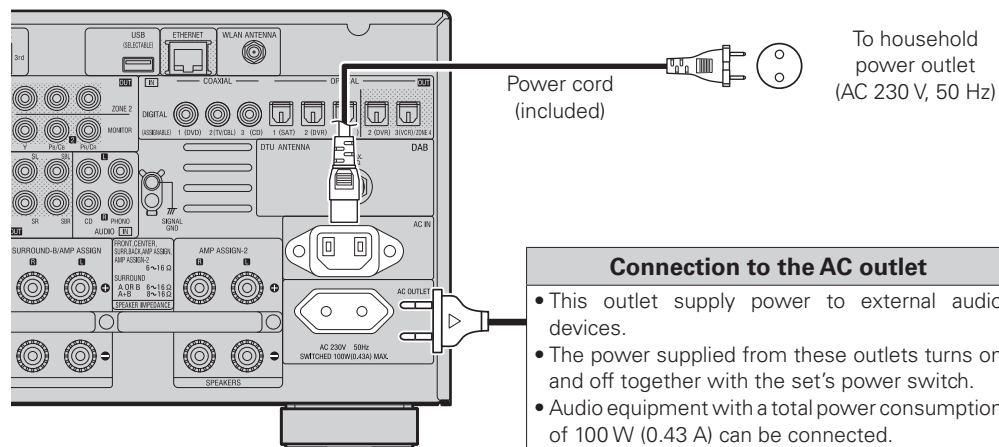
NOTE

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

Once Connections are Completed

Turning the Power On (☞ page 51)

Getting Started

Connections

Setup

Playback

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Specifications

GUI Menu Operations

With the AVR-4308, settings and operations for most functions can be performed by operating while looking at the GUI menus displayed on the monitor screen.

The GUI cannot be superimposed when xvYCC signals and component 1080p signal, computer's resolution (e.g. VGA) are input.

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.

Auto Setup GUI

Optimize settings for speakers in use.

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

Example of Display of Default Values

In lists of selectable items or adjustable ranges, the item surrounded by a border is the default value.

[Selectable items] 7.1 (B) 7.1 5.1

Examples of GUI Screen Displays

Some typical examples are described below.

Example: Browse Menu (Top Menu)

DENON
■ SOURCE SELECT — Selected item name
TUNER / PHONO / CD / DVD / HDP / TV/CBL — List of subsequent items
Guidance text for item at cursor position
Select input source and make playback settings
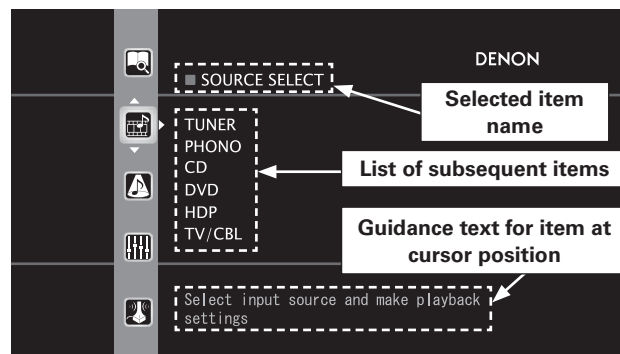
Example: Menus with Illustrations (Auto Setup)

Operation guidance text — Operation step indicators
AUTO SETUP — AUDYSSEY MULTEQ XT — DENON
STEP1 Speaker Detection Please place the microphone at ear height at main listening position. 1 2 3 4 5
Illustration
Start
Config 7.1(B)
Amp Assign
Enter RETURN Cancel
Start Auto Setup
Guidance text for item at cursor position
Operation button guidance
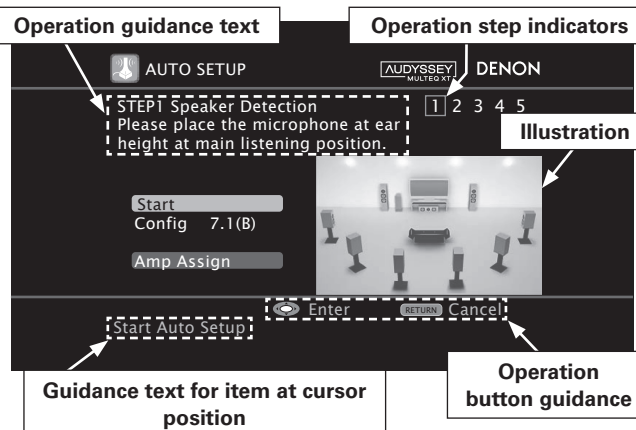
Cursor Position Display

❏ Icon
Switch the selected item
Switch to the next item
Selected item
Switch the selected item

❏ List
Selected item
Assign
Input Mode — Switch to the next item
Rename
Other
※ Switch the selected item using △▽.
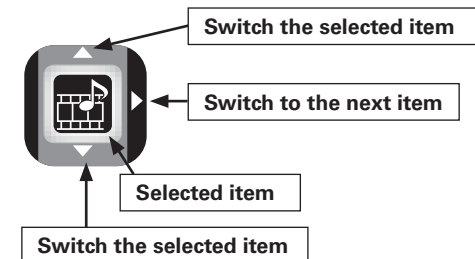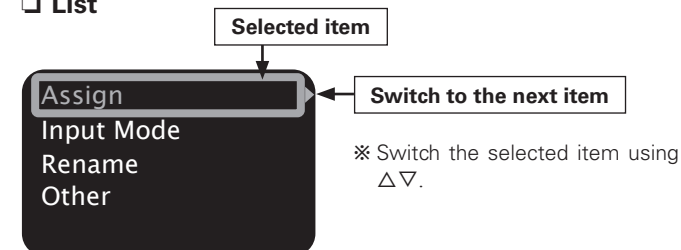
Operations

The same operation is possible on the main unit or remote control unit.

1 **Press the MENU button.**
The GUI menu is displayed.
※ To operate from the main remote control unit, be sure to set the remote control unit to the AMP mode.

2 **Press the △ ▽ ▷ button to select the menu to be set or operated.**
※ To return to the previous item, press the ◁ or RETURN button.

3 **Press the ENTER button to enter the setting.**

4 **Press the MENU button to finish.**

24

GUI Menu Map

Information (℡ page 49, 50)

❏ **Status**
  • **MAIN ZONE**
  • **ZONE2/3/4**
❏ **Audio Input Signal**
❏ **HDMI Information**
❏ **Auto Surround Mode**
❏ **Quick Select**
❏ **Preset Station**

Parameter (℡ page 46 ~ 49)

❏ **Audio**
  • **Surround Parameters**
    · **Mode**
    · **Cinema EQ**
    · **DRC**
    · **D.COMP**
    · **LFE**
    · **Center Image**
    · **Panorama**
    · **Dimension**
    · **Center Width**
    · **Delay Time**
    · **Effect**
    · **Effect Level**
    · **Room Size**
    · **AFDM**
    · **SB CH Out**
    · **Subwoofer Att.**
    · **Subwoofer**
    · **Default**
  • **Tone**
    · **Tone Defeat**
    · **Bass**
    · **Treble**
  • **Room EQ**
  • **RESTORER**
  • **Night Mode**
  • **Audio Delay**
❏ **Picture Adjust**
  • **Contrast**
  • **Brightness**
  • **Chroma Level**
  • **Hue**

Source Select (℡ page 40 ~ 44)

❏ **TUNER (FM/AM)**
  • **Play**
  • **Auto Preset**
  • **Preset Skip**
  • **Preset Name**
  • **Input Mode**
  • **Rename**
  • **Other**
    · **Video Select**
    · **Source Level**

❏ **PHONO**
  • **Input Mode**
  • **Rename**
  • **Other**
    · **Video Select**
    · **Source Level**

❏ **CD, DVD, HDP, TV/CBL, SAT, VCR, DVR, V.AUX**
  • **Play (iPod)**
  • **Playback Mode (iPod)**
  • **Assign**
  • **Input Mode**
  • **Rename**
  • **Other**
    · **Video Select**
    · **Video Convert** (Excluding CDs)
    · **Source Level**

❏ **NET/USB**
  • **Play**
  • **Playback Mode**
  • **Still Picture**
  • **Input Mode**
  • **Rename**
  • **Other**
    · **Video Select**
    · **Source Level**

❏ **DAB**
  • **Play**
  • **Auto Tune**
  • **Preset Skip**
  • **Tuning Aid**
  • **DRC Value**
  • **Input Mode**
  • **Rename**
  • **Other**
    · **Video Select**
    · **Source Level**

Surround Mode (℡ page 45, 46)

❏ **STEREO**
❏ **DIRECT**
❏ **STANDARD**
❏ **DOLBY PLⅡx, DOLBY PLⅡ or DOLBY PL**
❏ **DTS NEO:6**
❏ **7CH STEREO**
❏ **WIDE SCREEN**
❏ **SUPER STADIUM**
❏ **ROCK ARENA**
❏ **JAZZ CLUB**
❏ **CLASSIC CONCERT**
❏ **MONO MOVIE**
❏ **VIDEO GAME**
❏ **MATRIX**
❏ **VIRTUAL**

Auto Setup (℡ page 26 ~ 28)

❏ **Auto Setup**
  • **STEP1: Speaker Detection**
  • **STEP2: Measurement**
  • **STEP3: Calculation**
  • **STEP4: Check**
  • **STEP5: Store**

❏ **Option**
  • **Room EQ**
  • **Direct Mode**
  • **Mic Select**

❏ **Parameter**
  • **Speaker Configuration Check**
  • **Distance Check**
  • **Channel Level Check**
  • **Crossover Check**
  • **EQ Check**
  • **Restore**

Manual Setup (℡ page 29 ~ 40)

❏ **Speaker Setup** (℡ page 29, 30)
  • **Speaker Configuration**
  • **Subwoofer Mode**
  • **Distance**
  • **Channel Level**
  • **Crossover Frequency**
  • **Surround Speaker**
❏ **HDMI Setup** (℡ page 31)
  • **i/p Scaler**
  • **Resolution**
  • **Progressive Mode**
  • **Aspect**
  • **Color Space**
  • **RGB Range**
  • **Auto Lip Sync**
  • **Audio**
  • **Monitor Out**
❏ **Audio Setup** (℡ page 32)
  • **EXT. IN Setup**
    · **Surround Speaker**
    · **Subwoofer Level**
  • **2ch Direct/Stereo**
  • **Downmix Option**
  • **Auto Surround**
  • **Manual EQ**

❏ **Network Setup** (℡ page 33 ~ 36)
  • **Network Setup**
  • **Other**
    · **Power Saving**
    · **Character**
    · **PC Language**
  • **Network Information**
❏ **Zone Setup** (℡ page 37)
  • **ZONE2**
    · **Bass**
    · **Treble**
    · **HPF**
    · **Lch Level**
    · **Rch Level**
    · **Channel**
    · **Volume Level**
    · **Volume Limit**
    · **Power On Level**
    · **Mute Level**
  • **ZONE3**
    · **Bass**
    · **Treble**
    · **HPF**
    · **Lch Level**
    · **Rch Level**
    · **Channel**
    · **Volume Level**
    · **Volume Limit**
    · **Power On Level**
    · **Mute Level**

❏ **Option Setup** (℡ page 37 ~ 40)
  • **Amp Assign**
  • **Volume Control**
    · **Volume Limit**
    · **Power On Level**
    · **Mute Level**
  • **Source Delete**
  • **GUI**
    · **Screensaver**
    · **Wall Paper**
    · **Format**
    · **Text**
    · **Master Volume**
    · **NET/USB**
    · **iPod**
    · **Tuner**
  • **Quick Select Name**
  • **Trigger Out 1**
  • **Trigger Out 2**
  • **Digital Out**
  • **Remote ID**
  • **2Way Remote**
  • **Dimmer**
  • **Setup Lock**
  • **Maintenance Mode**
  • **Firmware Update**
  • **Add New Feature**
❏ **Language** (℡ page 40)

✎ When "Screensaver" is set to "ON", the screensaver is activated if no operation is performed for about 3 minutes.

GUI

Auto Setup

- Audyssey MultEQ® XT automatically measures the acoustical problems in the listening environment to create the best audio experience for your home theater.
- It optimizes a large listening area where one or more listeners are seated.

Measurements are performed by placing the calibrated microphone (DM-A505Z) successively at multiple positions throughout the listening area as shown in **Example** ①. For best results, it is strongly recommended to measure 6 or more positions so that the measurements have the proper spatial weighting.

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.

Example ①   **Example ②**
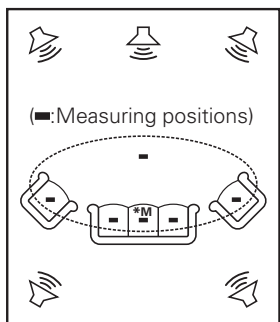
(■:Measuring positions)
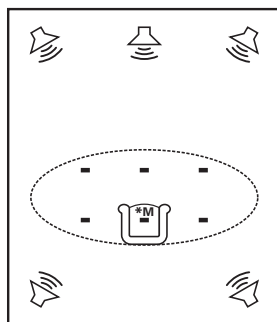
About the main listening position (*M)

The main listening position refers to the most central position where one would normally sit within the listening environment.

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

To make manual adjustments to the settings, see page 29 ~ 31.

Preparations

1 **Connect the included calibrated setup microphone to the SETUP MIC jack on the main unit.**
The auto setup screen appears automatically.

Sound receptor
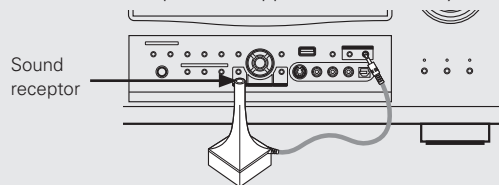
2 **Place the microphone at ear height on a tripod or stand with the microphone pointing directly up towards the ceiling.**

Setup microphone
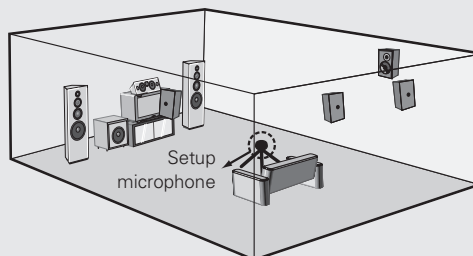
※ It is not recommended to hold it in your hand. Be sure that the path from microphone to the speakers is not blocked by objects. Avoid placing the microphone close to a seat back or wall as sound reflections may give inaccurate results.

When using a subwoofer, make the following settings before starting the auto setup procedure:
- Defeat the volume and crossover controls if possible
- If this is not possible then set
  ・ Volume: "12 o'clock" position
  ・ Crossover frequency: "Maximum/Highest Frequency"
  ・ Low pass filter: "Off"
  ・ Standby mode: "Off"

NOTE
- Do not disconnect the setup microphone until the auto setup procedure is completed.
- When using headphones, unplug the headphones before starting the auto setup procedure.

Auto Setup GUI

Optimize settings for speakers in use.

● **Menu tree** ●

Auto Setup

> 1 **Auto Setup**
>
> 2 **Option**
>
> 3 **Parameter**

1 Auto Setup

The settings are performed automatically.

【Auto setup flow】

STEP1: Speaker Detection

⬇

STEP2: Measurement (2 to 8 positions)

⬇

STEP3: Calculation

⬇

STEP4: Check

⬇

STEP5: Store

Start

Start Auto Setup.
The Audyssey MultEQ XT Auto Setup process automatically calculates the size, level, distance, bass management crossover frequency, and optimal settings for each speaker and subwoofer. Audyssey MultEQ XT corrects acoustical distortions within the listening area.
Before starting, connect and position all your speakers.
Once started, MultEQ XT will play a series of test tones through each speaker.

✎

If an error message appears during the measurements, check "Error Messages" (☞ page 28), take the advised action, then start the measurements again.

Configuration

The speaker system to be measured can be selected ahead of time here.

[Selectable items] **7.1 (B)** **7.1** **5.1**

✎

Setting the correct speaker configuration can reduce the time required to measure during the auto setup procedure as the system will not have to look for speakers that are not connected.

Amp Assign

Advanced setting : changes power amplifier assignment.

NOTE

The items selectable at "Config." differ according to the "Amp Assign" settings.

STEP1 : Speaker Detection

The speaker connection and polarity are detected at the first measurement position. The following attributes are also determined at this time: "Speaker Size", "Speaker Distance", "Channel Level", "Crossover Frequency".
Once the measurements are completed, the results are displayed.

NOTE

• Loud test tone 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 tones 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.
• Quiet the listening environment before beginning measurements and refrain from talking. Turn off air conditioning units or other devices that emit noise if at all possible as measurements may be affected by these sounds.
• Operating the **MASTER VOLUME** knob on the main unit or the **VOL +/–** buttons on the remote control unit during the measurements will cancel the measurements.
• Do not change the speaker connections or subwoofer volume after "STEP1".

STEP2: Measurement

After completing a measurement position, move the microphone to the next position.

✎

Measure at least 6 positions (main listening position and at least 5 other surrounding positions). For best results it is recommend measuring **6 or more positions** (with a maximum of 8 positions).

STEP3: Calculation

When "Calculate" is selected at "STEP2", the measurements taken are analyzed automatically to determine how the speaker system interacts with the room.

✎

The time required for this analysis depends on the number of speakers connected. The higher the number of speakers, the longer the time required for analysis.

STEP4: Check

Once the auto setup procedure is complete, a measuring result check screen appears.
Select any item whose results you want to check to review the results.

✎

Values that are different from the actual distance may be set for speakers with built-in filters (subwoofers, etc.). This is because filters add electrical delay to the signal that should be compensated.

STEP5: Store

The auto setup measurement results are stored in the AVR-4308.

NOTE

Do not turn the power off while the settings are being stored.

Error Messages

If the auto setup procedure could not be completed due to speaker installation, the measuring environment, etc., an error message is displayed. If this happens, check the relevant items, be sure to take the necessary measures, then perform the auto setup procedure over again.

Error messages (examples)	Cause	Measures
No microphone or speaker	• Included setup microphone is not connected. • Not all speakers could be detected.	• Connect the included setup microphone to the **SETUP MIC** jack on the main unit. • Check the speaker connections.
Ambient noise is too high or Level is too low	• Too much noise in the room for accurate measurements to be made. • Speaker or subwoofer sound is too low for accurate measurements to be made.	• Either turn off any device generating noise or move it away. • Try again when the surroundings are quieter. • Check the speaker installation and the direction in which the speakers are facing. • Adjust the subwoofer's volume.
None	• Displayed speaker could not be detected. · The front L and front R speakers were not properly detected. · Only one channel of the surround (A) and surround (B) speakers was detected. · Sound was output from the R channel when only one surround back speaker was connected. · The surround back or the surround (B) speaker was detected, but the surround (A) speaker was not detected.	• Check the connections of the displayed speaker.
Phase	• Displayed speaker connected with the polarities reversed.	• Check the polarities of the displayed speaker. • For some speakers, this error message may be displayed even if the speaker is properly connected. If you are sure that the wiring is correct, select "Skip".

✎ Select "Retry" to make the measurements again.

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

❷ Option

Select settings for room EQ, mic, etc.

Room EQ

Select room EQ setting method.

[Selectable items] All | Assign

Direct Mode

Select room EQ use for DIRECT or PURE DIRECT mode.

[Selectable items] ON | OFF

Mic Select

Select the microphone type if not using supplied mic.
The microphone connected to V.AUX Lch is used.

[Selectable items] Mic | V.AUX L

✎

Only a professionally certified installer should ever connect a professionally-calibrated microphone to the V.AUX L input on the front panel.

❸ Parameter Check

Check auto setup measurement results.
This is displayed after the auto setup procedure is completed.

[Items to be checked] Spkr Config Check | Distance Check | Ch. Level Check | Crossover Check | EQ Check

✎

The auto setup results can be reset to what was originally calculated by MultEQ XT when "Restore" is selected.

28

Manual Setup

GUI

Make detail settings for various parameters.

Speaker Setup

GUI

Use this procedure to set the speakers manually or if you wish to change the settings made with the auto setup procedure.

● Menu tree ●

Manual Setup

Speaker Setup

 1 Speaker Configuration
 2 Subwoofer Mode
 3 Distance
 4 Channel Level
 5 Crossover Frequency
 6 Surround Speaker

1 Speaker Configuration

Select speaker configuration and size.
(bass reproduction capability)

Front

Select front speaker size.

[Selectable items] Large Small

Center

Select center speaker use and size.

[Selectable items] Large Small None

Subwoofer

Select subwoofer use.

[Selectable items] Yes No

Surround A

Select surround speakers A use and size.

[Selectable items] Large Small None

Surround B

Select surround speakers B use and size.

[Selectable items] Large Small None

Surround Back

Select surround back speaker use and size.

[Selectable items] Large Small None
 2spkrs 1spkr

Large : Select this for a large speaker with strong bass reproduction.

Small : Select this for a smaller speaker with weaker bass reproduction.

🖉

• 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" (☞ page 30).
• When "Front" is set to "Small", "Subwoofer" is automatically set to "Yes".
• If "Subwoofer" is set to "No", "Front" is automatically set to "Large".
• If "Surround A" is set to "None", "Surround B" and "Surround Back" are automatically set to "None".
• When using just one surround back speaker, connect it to the left channel (SBL).

2 Subwoofer Mode

Select low range signal to be reproduced by subwoofer.

[Selectable items] LFE LFE+Main

🖉

• This can be set when GUI menu "Speaker Configuration" – "Subwoofer" is set to "Yes".
• 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.

3 Distance

Set distance from listening position to speakers.
Before making the settings, measure the distance from the listening position to the different speakers.

Meters / Feet

Select unit for distance.

Step

Select step. (smallest distance)

[Selectable items]

0.1m 0.01m : Can be selected when "Meters" is set.

1ft 0.1ft : Can be selected when "Feet" is set.

Default

Resets the settings to the default values.

Distance measurement

Select the speaker you want to set, then set the distance.
Set the value closest to the measured distance.

[Variable range]

0.00m ~ 18.00m : Display when "Meters" is set.

0.0ft ~ 60.0ft : Display when "Feet" is set.

NOTE

Set the distance between the listening position and the various speakers to no more than 6.00 meters (20.0 ft).

4 Channel Level

Adjust channel levels to obtain equal volume from all speakers.

Mode

Select test tone playback method.

[Selectable items] Auto Manual

Surround

Select surround speaker from which test tone is output.

[Selectable items] A B A+B

Start

Output test tone.

[Variable range] –12dB ~ 0dB ~ +12dB

Default

Resets the settings to the default values.

Operating from the main remote control unit

Adjusting with the main remote control unit using the test tones is only possible in the "Auto" mode and only effective in the STANDARD mode. The adjusted levels for the different modes are automatically stored in the memory.

〔Adjusting using test tones〕

① Press the **TEST** button.

Test tones are output from the various speakers.

② Use the ◁ ▷ button to adjust so that the volume is equal for all speakers.

③ When the adjustments are completed, press the **TEST** button again.

- When the GUI menu "Speaker Configuration" – "Surround Back" setting (☞ page 29) is set to "1spkr", the surround back speaker display is set to "Surround Back".
- Speakers set to "None" in the "Speaker Configuration" settings are not displayed.
- "Surround" can be set when GUI menu "Speaker Configuration" – "Surround B" is set to "Large" or "Small" (☞ page 29).
- When using surround speakers, be sure to adjust the volume of the different speakers.
- When "Channel Level" is adjusted, the adjusted values are set for all the surround modes. To adjust the channel level separately for the different surround modes, use the operation see page 66.

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5 Crossover Frequency

Select crossover frequency from which subwoofer handles low range signal.

[Selectable items]

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

Only the portion of the bass sound of the various speakers output from the subwoofer that has a frequency below the frequency set here is output.

Set this according to the low frequency reproduction capabilities of the speakers you are using.

Advanced :

Set the crossover frequency separately for the different speakers.

- The "Crossover Frequency" can be set when there are speakers that have been set to "Small" at GUI menu "Speaker Configuration" or when "Subwoofer" is set to "Yes" (☞ page 29).
- If in the "Advanced" settings, "Subwoofer Mode" (☞ page 29) in the GUI menu is set to "LFE", it is possible to make this setting for speakers set to "Small" at "Speaker Configuration". If set to "LFE+Main", this setting can be made regardless of the speaker size.
- For speakers set to "Small", sound below the crossover frequency is cut from the sound output. The cut bass sound is output from the subwoofer or front speakers.
- Always set the crossover frequency to "80Hz". When using small speakers, however, we recommend setting the crossover frequency to a higher frequency.

6 Surround Speaker

Select surround speakers to use for each surround mode.

[Selectable items] A B A+B

Operating from the main remote control unit

Press the **SPKR** button.

Surround A ⟶ Surround B
Surround A+B

- This can be set when GUI menu "Speaker Configuration" – "Surround A" and "Surround B" are used (☞ page 29).
- When using the pre-out connectors, select and use either "Surround A" or "Surround B".
- Make the surround speaker settings when the input mode is set to "EXT. IN" at GUI menu "Manual Setup" – "Audio Setup" – "EXT. IN Setup" (☞ page 32).

About Speaker Type Setting when Using Both Surround speakers A and B

If "Small" is set for either surround speakers A or B, the output is the same as when "Small" is set for both A and B.

HDMI Setup

Make settings for HDMI video/audio output.

GUI

● Menu tree ●

Manual Setup

HDMI Setup

1 **i/p Scaler**
2 **Resolution**
3 **Progressive Mode**
4 **Aspect**
5 **Color Space**
6 **RGB Range**
7 **Auto Lip Sync**
8 **Audio**
9 **Monitor Out**

1 i/p Scaler

Make settings for i/p scaler function.

[Selectable items] | A to H | A to H & H to H | OFF

🖊

A to H & H to H setting
• Deep color (10 bit/12 bit) signals are converted into 8-bit signals.
• The i/p scaler function does not work if xvYCC or computer's resolution signals are input.

2 Resolution

Make settings for resolution of HDMI video output signal.

[Selectable items] | Auto | 480p/576p | 1080i | 720p | 1080p

🖊

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

NOTE

• It is not possible to convert "1080i" signals into "720p" format.
• It is not possible to convert "720p" signals into "1080i" format.

3 Progressive Mode

Select optimum progressive mode for video material.

[Selectable items] | Auto | Video1 | Video2

🖊

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

4 Aspect

This sets the aspect ratio when outputting 480i/576i or 480p/576p input signals from the HDMI output connector.

[Selectable items] | Full | Normal

🖊

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

5 Color Space

Make settings for output color space.

[Selectable items] | YCbCr | RGB

🖊

When connected to a monitor with a DVI-D connector (HDCP compatible) using an HDMI/DVI converter cable, the signals are output in RGB format, regardless of this setting.

6 RGB Range

Make settings for RGB output range.

[Selectable items] | Normal | Enhanced

🖊

When "YCbCr" is selected under "Color Space", "RGB Range" will have no effect.

7 Auto Lip Sync

Automatic compensation for timing shift in audio and video output.

[Selectable items] | ON | OFF

8 Audio

Select HDMI audio output device.

[Selectable items] | Amp | TV

9 Monitor Out

Make settings for HDMI monitor output.

[Selectable items] | Auto (Dual) | Monitor 1 | Monitor 2

👆 **Operating from the main remote control unit**

Press the **M. SEL** button.

Auto (Dual) ⟶ Monitor 1 ⟶ Monitor 2

🖊

• When "Monitor Out" is set to "Auto (Dual)", connections with the MONITOR 1 or MONITOR 2 connectors are recognized automatically.
• If both the MONITOR 1 and 2 connectors are connected and "Resolution" is set to "Auto", the signals are output with a resolution compatible with both monitors.
• If "Resolution" is set to something other than "Auto", check the resolutions with which your monitor is compatible at GUI menu "Information" – "HDMI Information" – "Monitor 1" and "Monitor 2" and set accordingly (☞page 50).

NOTE

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".

Audio Setup

GUI

Make settings for audio playback.

● Menu tree ●

Manual Setup

Audio Setup

1 EXT.IN Setup

2 2ch Direct/Stereo

3 Downmix Option

4 Auto Surround Mode

5 Manual EQ

1 EXT. IN Setup

Make speaker settings for EXT. IN mode playback.

Surround Speaker

Select the surround speakers to use.

[Selectable items] A B A+B

Subwoofer Level

Set the subwoofer level for playback.
Select according to the player in use.

[Selectable items] 0dB +5dB +10dB +15dB

✎

We recommend setting to "+15 dB".

2 2ch Direct/Stereo

Make speaker settings for 2-channel mode playback.

Setting

To change the settings, select "Custom".

[Selectable items] Basic * Custom

＊:Use the same settings as in "Speaker Setup".

Front

Select front speaker size.

[Selectable items] Large Small

Subwoofer

Select subwoofer use.

[Selectable items] Yes No

Subwoofer Mode

Select low range signal to be reproduced by subwoofer.

[Selectable items] LFE LFE+Main

Crossover

Select crossover frequency from which subwoofer handles low range signal.

[Selectable items] 40Hz 60Hz 80Hz 90Hz 100Hz 110Hz 120Hz 150Hz 200Hz 250Hz

Distance FL

Set distance from listening position to front left speaker.

[Variable range] 0.00m ~ 18.00m

Distance FR

Set distance from listening position to front right speaker.

[Variable range] 0.00m ~ 18.00m

3 Downmix Option

Set dynamic range for downmix playback of Dolby Digital sources.

[Selectable items] ON OFF

✎
• Set this to "ON" if the sound from the front speakers seems distorted.
• When not using the center speaker or surround speakers, the playback sound is down-mixed and output from the front speakers.

4 Auto Surround Mode

Make setting for memorizing surround mode setting for each input signal type.

[Selectable items] ON OFF

✎
• 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
  ④ Multi-channel signals other than Dolby Digital and DTS (PCM, DSD, etc.)
• When playing in the PURE DIRECT mode, the surround mode does not change even if the input signal is changed.

5 Manual EQ

Adjust tonal quality for each speaker using graphic equalizer.

Adjust CH

Select speaker adjustment method.

[Selectable items] Each L/R All

Manual EQ

Select the speaker and frequency band and adjust the level.

[Selectable items] 63 125 250 500 1k 2k 4k 8k 16k

[Variable range] –20dB ~ 0dB ~ +6dB

Curve Copy

Copy the Room EQ's "Audyssey Flat" correction curve.

[Selectable items] Yes No

✎

"Curve Copy" is displayed after the auto setup procedure has been performed.

Default

Resets the settings to the default values.

32

Network Setup

Make network settings.

GUI

● **Menu tree** ●

Manual Setup

    Network Setup

        1 **Network Setup**

        2 **Other**

        3 **Network Information**

✎

• If you are using a broadband router (DHCP function), there is no need to make the settings at "Setting the IP Address" and "Setting the Proxy", since the DHCP function is set to "ON" in the AVR-4308's default settings.

• If the AVR-4308 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 (☞ page 21).

• If you do not understand about Internet connection, contact your ISP (Internet Service Provider) or the store from which you purchased your computer.

📖

• **DHCP (Dynamic Host Configuration Protocol)** :

These are systems by which the IP address and other network settings are automatically set for the AVR-4308, computer, broadband router and network devices.

• **DNS (Domain Name System)** :

This is a system for converting the domain names used when browsing Internet sites (for example, "www.denon.jp") into the IP addresses actually used for communications (for example, "202.221.192.106").

---

1 Network Setup

Make settings for wired or wireless LAN.

Wired LAN settings

Use this procedure to configure the Wired LAN settings.

1 **Connect the LAN cable (☞ page 21).**

2 **Turn on the AVR-4308 (☞ page 51).**
AVR-4308 performs automatic network setup due to the DHCP function.
When connecting to a network that has no DHCP function, perform the setting in step 3.

3 **Set the IP address at the GUI menu "Manual Setup" "Network Setup" – "Network Setup".**

① **Select "Detail".**

② **Set "OFF".**

③ **Input the address.**

④ **Select "Exit".**
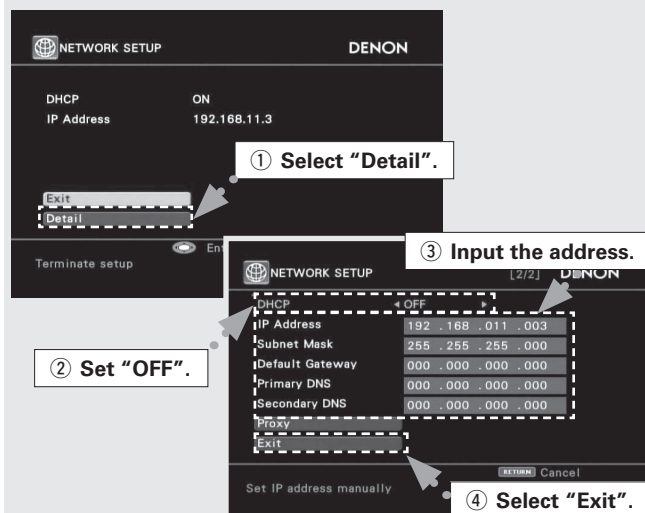
① Select "Detail" and press the **ENTER** button.

② Use the ◁ ▷ button to set "DHCP" to "OFF", then press the ▽ button.
The DHCP function is disabled.

---

③ Use the △▽ ▷ button to input the address and press the **ENTER** button.

  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-4308, 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 the ▽ button to select "Exit" and press the **ENTER** button.
Setup is complete.

※ When connecting to the network via a Proxy server, select "Proxy" and press the **ENTER** button (☞ page 36 "Proxy settings").

33

Wireless LAN settings

Use this procedure to configure the Wireless LAN settings.

1 **Fitting a rod antenna (☞ page 21).**

※ If a LAN cable is connected, remove it.

2 **Turn on the AVR-4308 (☞ page 51).**

3 **Set the access point at the GUI menu "Manual Setup" – "Network Setup" – "Network Setup".**

When searching access points to connect automatically, refer to "Automatic settings".
When searching access points to connect manually, refer to "Manual settings".

❑ Automatic settings

① **Select "Search".**

② **Select the access point.**
Example) DENON
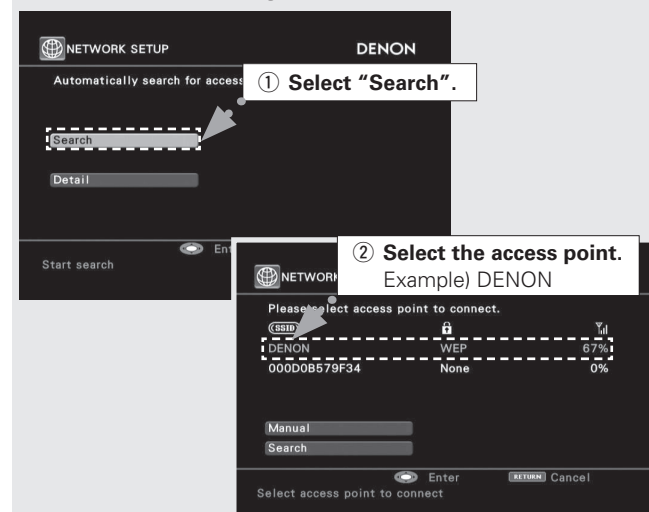
① Select "Search" and press the **ENTER** button.
The access point you have set is displayed.

② Use the △▽ button to select the access point, and then press the **ENTER** button.

※ If the access points are not detected automatically, use the ▽ button to select the "Manual" and press the **ENTER** button.
Setting becomes manual. For details, see "Manual settings" (☞ page 35).

Select when access points cannot be searched automatically.
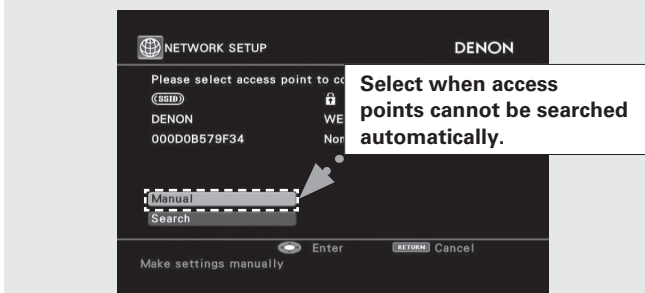
※ If the access points are repeat search, use the ▽ button to select the "Search" and press the **ENTER** button.

Select when searching access points again.
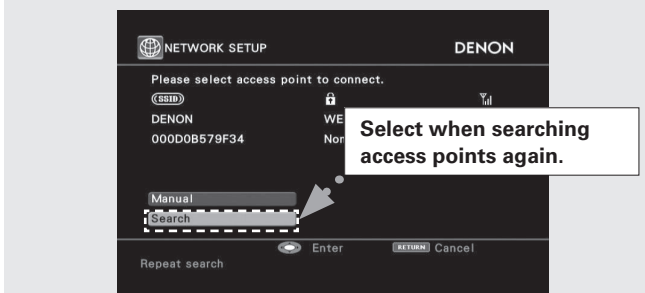
③ If there is an encryption setting for the access point you selected in step ②, enter same encryption key as used for the access point. (If there is no encryption setting, proceed to step ⑤).
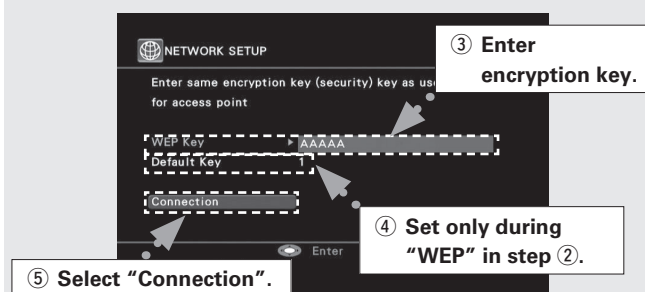
③ **Enter encryption key.**

④ **Set only during "WEP" in step ②.**

⑤ **Select "Connection".**

Use the △▽◁ ▷ button to input the "Key" (encryption key) and press the **ENTER** button.
Enter the same encryption key as used for the access point.

[Characters that can be input]

A ~ Z a ~ z 0 ~ 9 ! " # % & ' ( ) * + , - . / : ; < = > ? @ [\ ] (space)

When no security settings have been used in the Internet connection settings, this step is not necessary.

④ When encryption is by "WEP", select the "Default Key" using the ▽ button, and then press the ◁ ▷ button.

[Selectable items] 1 2 3 4

Select the same default key as used for the access point. This should normally be set to "1".

⑤ Use the ▽ button to select "Connection" and press the **ENTER** button.
Network connection starts.
When connection is established with the access point, "Connection completed." is displayed.
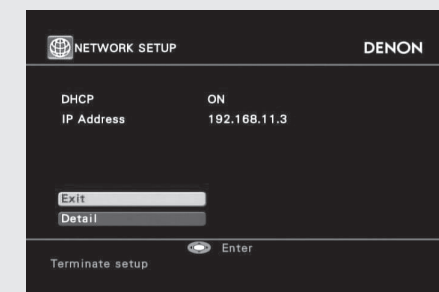
AVR-4308 performs automatic network setup due to the DHCP function.
When connecting to a network that has no DHCP function, perform the setting in step 4.

❏ **Manual settings**

① **Select "Detail".**

② **Select the communication mode.**
Example) Infrastructure

③ **Input the SSID.**

④ **Select the encryption method.**
Example) WEP

⑤ **Enter encryption key.**

⑥ **Set only during "WEP" in step ④.**

⑦ **Select "Connection".**
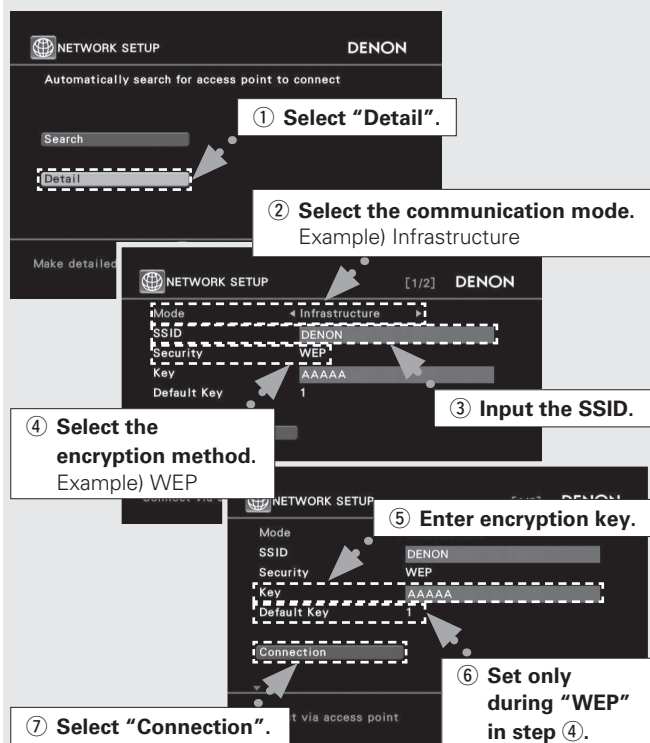
① Select "Detail" and press the **ENTER** button.

② Use the ◁ ▷ button to select the Mode and press the ▽ button.

[Selectable items]

Infrastructure : Select when communication is via an access point.

Ad-hoc : Select during direct communication, when an access point is not used.

③ Use the △▽◁ ▷ button to input the name of the wireless network (SSID) and press the **ENTER** button.

[Characters that can be input]

A ~ Z   **a ~ z**   **0 ~ 9**   **! " # % & ' ( ) * + , - . / : ; < = > ? @ [\ ]** (space)

④ Use the △▽ button to select the Security and press the ▽ button.

[Selectable items]

None :

Select if not encrypted.
Can also be used even without encryption, through we recommend encryption for improved security.

WEP   **WPA-PSK(TKIP)**   **WPA-PSK(AES)**   **WPA2-PSK(TKIP)**

WPA2-PSK(AES) :

Select the encryption method according to the encryption setting of the access point you are using.

⑤ Use the △▽◁ ▷ button to input the "Key" (encryption key) and press the **ENTER** button.
Enter the same encryption key as used for the access point.

[Characters that can be input]

A ~ Z   **a ~ z**   **0 ~ 9**   **! " # % & ' ( ) * + , - . / : ; < = > ? @ [\ ]** (space)

When no security settings have been used in the Internet connection settings, this step is not necessary.

⑥ When encryption is by "WEP", select the "Default Key" using the ▽ button, and then press the ◁ ▷ button.

[Selectable items]   **1**   **2**   **3**   **4**

Select the same default key as used for the access point. This should normally be set to "1".

⑦ Use the ▽ button to select "Connection" and press the **ENTER** button.
Network connection starts.
When connection is established with the access point, "Connection completed." is displayed.
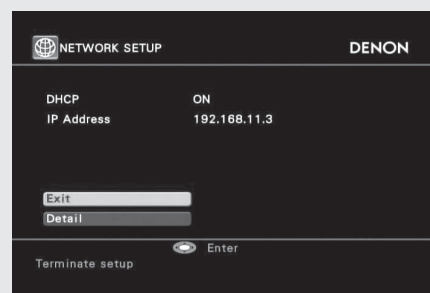
AVR-4308 performs automatic network setup due to the DHCP function.
When connecting to a network that has no DHCP function, perform the setting in step 4.

4 **Set the IP address.**

※ For details, see page 33 "Wired LAN settings" in step 3.

🖉

If you are using a router with no DHCP function to automatically assign the IP address, set the IP address manually.

❑ **Proxy settings**

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

① **Select "Detail".**

② **Select "Proxy".**

③ **Set "ON".**

④ **Selecting the input method.**
Example) Address

⑤ **Input the address or domain name.**

⑥ **Input the port number.**

⑦ **Select "Exit".**
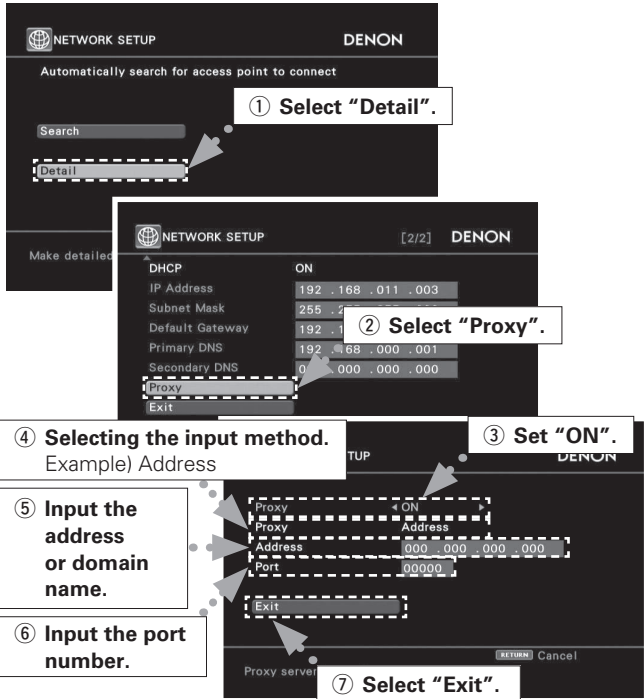
① On the GUI menu, select "Manual Setup" – "Network Setup" – "Network Setup" – "Detail" and press the **ENTER** button.

② Use the △▽ button to set "Proxy" and press the **ENTER** button

③ Use the ◁ ▷ button to set "Proxy" to "ON" and press the ▽ button.
The proxy server is enabled.

④ Use the ◁ ▷ button to select the proxy server input method, and then press the ▽ button.

  [Selectable items]

  Address : Select when inputting by address.

  Name : Select when inputting by domain name.

⑤ Use the △▽ ▷ button to input the proxy server address or domain name and press the **ENTER** button.
When "Address" is selected in step ④ :
Input the address
When "Name" is selected in step ④ :
Input the domain name

  [Characters that can be input]

  A ~ Z   a ~ z   0 ~ 9   ! " # % & ' ( ) * + , - . / : ; < = > ? @ [\ ] (space)

36

⑥ Use the △▽◁ ▷ button to input the proxy server port number and press the **ENTER** button.

⑦ Use the ▽ button to select "Exit" and press the **ENTER** button. Setup is complete.

❷ **Other**

Make setting for amp power save mode and computer language environment.

Power Saving

Make setting for power saving when not connected to network.

[Selectable items]   ON   OFF

Character

Set the character code type of the MP3 ID3-Tag played by USB.

[Selectable items]   Auto   Latin   Japanese

✎

If the characters are not properly displayed when set to "Auto", set to "Latin" or "Japanese".

PC Language

Select computer environment language.

[Selectable items]

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

❸ **Network Information**

Display network information.

[Items to be checked]   Wired or Wireless   SSID   DHCP= ON or OFF   IP Address   MAC Address

Zone Setup GUI

Make settings for audio playback in a multi-zone system.

● **Menu tree** ●

Manual Setup
└─ Zone Setup
   ├─ **1** ZONE2
   └─ **2** ZONE3

1 ZONE2

Make settings for audio playback in a ZONE2 system.

2 ZONE3

Make settings for audio playback in a ZONE3 system.

Bass

Adjust low frequency range (bass).

[Variable range]   –10dB ~ 0dB ~ +10dB

Treble

Adjust high frequency range (treble).

[Variable range]   –10dB ~ 0dB ~ +10dB

HPF

When using speakers that cannot satisfactorily play low frequencies, distortion of the bass sound can be reduced by setting "HPF" to "ON".

[Selectable items]   ON   OFF

Lch Level

Adjust the left channel output level.

[Variable range]   –12dB ~ 0dB ~ +12dB

Rch Level

Adjust the right channel output level.

[Variable range]   –12dB ~ 0dB ~ +12dB

Channel

Switch between stereo and mono output.

[Selectable items]   Stereo   Mono

✎

When GUI menu "Manual Setup" – "Option Setup" – "Amp Assign" (☞page 37) is set to "ZONE (MONO)", "Bi-Wiring & ZONE (MONO)" or "ZONE2/3 (MONO)", the "Channel" setting is automatically set to "Mono".

Volume Level

Adjust the main volume level.

[Selectable items]   Variable   –40dB   0dB

✎

"Variable" is displayed when a power amplifier is assigned to the ZONE2 output channel at GUI menu "Manual Setup" – "Option Setup" – "Amp Assign" (☞page 37).

Volume Limit

Make a setting for maximum volume.

[Selectable items]   OFF   –20dB   –10dB   0dB

Power On Level

Define the volume setting that is active when the power is turned on.

[Selectable items]   Last   – – –   –70dB ~ +18dB

Mute Level

Set the amount of attenuation when muting is on.

[Selectable items]   Full   –40dB   –20dB

Option Setup GUI

Make various other settings.

● **Menu tree** ●

Manual Setup
└─ Option Setup
   ├─ **1** Amp Assign
   ├─ **2** Volume Control
   ├─ **3** Source Delete
   ├─ **4** GUI
   ├─ **5** Quick Select Name
   ├─ **6** Trigger Out 1
   ├─ **7** Trigger Out 2
   ├─ **8** Digital Out
   ├─ **9** Remote ID
   ├─ **10** 2Way Remote
   ├─ **11** Dimmer
   ├─ **12** Maintenance Mode
   ├─ **13** Service-Modus
   ├─ **14** Firmware Update
   └─ **15** Add New Feature

1 Amp Assign

Define how the amplifier for the surround and/or surround back speaker channels is used.

The places where the surround amplifier and surround back amplifier are used can be set freely according to the usage environment. This makes it possible to output sound to rooms other than the room (the main zone) where surround playback is performed (multi-zone playback) or play the sound with high quality using the front speakers (bi-wiring/bi-amp connections).

[Selectable items]

7.1CH   ZONE2   ZONE3   ZONE(MONO)   Bi-Wiring

Bi & ZONE2   Bi & ZONE3   Bi & ZONE(MONO)   Bi-Amp

ZONE2/3   ZONE2/3(MONO)   2CH Bi-Wiring   2CH Bi-Amp

✎

For details, see "Amp Assign / Multi-Zone Connections and Operations" (☞page 77 ~ 81).

❷ Volume Control

Set the main zone volume setting.

Volume Limit

Make a setting for maximum volume.

[Selectable items] OFF –20dB –10dB 0dB

Power On Level

This sets the volume set when the main zone's power is turned on.

[Selectable items] Last – – – –80dB ~ +18dB

Mute Level

This sets the amount of attenuation of the volume when the mute mode is set in the main zone.

[Selectable items] Full –40dB –20dB

❸ Source Delete

Remove input sources that are not used from the display.

[Selectable items] ON Delete

NOTE
• Input sources being used in the various zones cannot be deleted.
• Input sources set to "Delete" cannot be selected from GUI menu "Source Select" or using the **SOURCE SELECT** knob on the main unit or **SOURCE SELECT** button on the remote control unit.

❹ GUI

Make GUI related settings.

Screensaver

Make screensaver settings.
Use the screensaver to prevent burn-in on the monitor screen.
When set to "ON", the screensaver is activated if there is no activity for about 3 minutes.

[Selectable items] ON OFF

Wall Paper

Change the GUI background.

[Selectable items] Picture Black Gray Blue

38

Format

Select the video output signal format to match the monitor.

[Selectable items] PAL NTSC

NOTE
When a format other than the video format of the connected monitor is set, the picture will not be displayed properly. Use the procedure described below to change the video format.

Operating from the main unit

① Press and hold the **STATUS** and **RETURN** buttons for at least 3 seconds.
   "Video Format" appears on the display.
② Use the ◁ ▷ button to make the setting.
③ Press the **ENTER**, **MENU** or **RETURN** button to complete the setting.

```
✳Video Format
    < PAL  >
```

Text

Text information display.

[Selectable items] ON OFF

Master Volume

Master volume display during adjustment.

[Selectable items] ON OFF

NET/USB / iPod / Tuner

This sets the time the on-screen display is displayed when an operation is performed.

[Selectable items] Always 30s 10s OFF

❺ Quick Select Name

Change the Quick Select name.
Up to 16 characters can be input.

[Input characters]

  A ~ Z   a ~ z   0 ~ 9

  ! " # % & ' ( ) * + , - . / : ; < = > ? @ [\ ] (space)

❻ Trigger Out 1

Select the conditions to turn on the trigger out 1 with respect to the zone, input source, surround mode, HDMI monitor, etc.
For details about the trigger out function, see page 22.

❼ Trigger Out 2

This sets the conditions to turn on the trigger out 2, in the same way as "Trigger Out 1" above.

[Selectable items] ON – – –

Setting with Respect to the Zone

• When the power of the zone turned on/off, the trigger out turns on.
• Associated with the power supply of zones set to "ON".

Setting with Respect to the Input Source

• When the input source set to on is selected, the trigger out turns on.
• Associated with respect to the input source for zones set to "ON" at "Setting with Respect to the Zone".

Setting with Respect to the Surround Mode

• When the surround mode set to on is selected, the trigger out turns on.
• Associated with respect to surround modes that are set to "ON".
• This can be set if the "MAIN ZONE" setting at "Setting with Respect to the Zone" is set to "ON".
• Associated when an input source for which "Setting with Respect to the Input Source" is set to "ON" is selected.

Setting with Respect to the Monitor

• When the HDMI monitor set to on is selected, the trigger out turns on.
• Associated with respect to HDMI monitor that are set to "ON".
• This can be set if the "MAIN ZONE" setting at "Setting with Respect to the Zone" is set to "ON".
• Associated when an input source for which "Setting with Respect to the Input Source" is set to "ON" is selected.

8 Digital Out

Set usage of OPT3 OUT.

[Selectable items] ZONE4 Select | Rec Select

NOTE

The ZONE4 operations cannot be performed when set to "Rec Select".

9 Remote ID

Set remote control ID.
Match the ID setting of the remote control unit and the receiver.

[Selectable items] 1 | 2 | 3 | 4

🖉

• When changing the remote ID, also change the AMP, iPod, TU and NET/DTU modes of the main remote control unit at the same time (☞ page 71).
• When changing the remote ID, also change the sub remote control unit at the same time (☞ page 76).

10 2Way Remote

Make setting for 2-way remote control unit.

[Selectable items] Used | Not Used

🖉

When using a 2-way remote control unit (RC-7000CI and RC-7001RCI, sold separately), set this to "Used".

11 Dimmer

Adjust display brightness of the receiver.

[Selectable items] Bright | Dim | Dark | OFF

👆 Operating from the main unit

Press the **DIMMER** button.

Bright ⟶ Dim ⟶ OFF ⟵ Dark ⟵
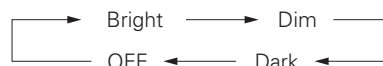
12 Setup Lock

Protect settings from inadvertent change.

[Selectable items] ON | OFF

🖉

• When "Setup Lock" is set to "ON", the settings listed below can no longer be changed. Also, "SETUP LOCKED!" is displayed if you attempt to operate related buttons.
  · GUI menu operations
  · RESTORER
  · Night Mode
  · Parameter
  · Room EQ
  · Channel Level
  · Audio Delay
• To cancel the setting, press the **MENU** button to re-display the "Setup Lock" screen, then change the setting to "OFF".

13 Maintenance Mode

This sets the function for maintenance by a DENON serviceperson or installer. (For professional use only.)

This function allows a DENON serviceperson or installer to check the AVR-4308's status and make settings via the Internet.

NOTE

Only use this function if so instructed by a DENON serviceperson or installer.

14 Firmware Update

Update the firmware of the receiver.

Check for Update

You can check for firmware updates. You can also check approximately how long it will take to complete an update.

Start

Execute the update process.
When updating starts, the power indicator becomes red and the GUI screen is shut down. The amount of update time which has elapsed is displayed.
When updating is complete the power indicator becomes green and normal status is resumed.

※ If the display reads as shown below, check the settings and network environment, then update again.

Display	Description
Updating failed	Updating failed.
Login failed	Failure to log into server.
Server is busy	Server is busy. Wait a while then try again.
Connection fail	Failure connecting to server.

15 Add New Feature

Display the new functions (payment required) which can be purchased for downloading to the AVR-4308 and upgrade.

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

✎

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 screen.
To display the ID number on the screen, hold the ▷ and **STATUS** buttons on the main unit down for 3 seconds or more.

Upgrade

Execute the upgrade process.
When updating starts, the power indicator becomes red and the GUI screen is shut down. The amount of update time which has elapsed is displayed.
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.

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 / upgrading 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 / upgrading starts, normal operations on the AVR-4308 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-4308.

✎

Information regarding the "Firmware Update" function and "Add New Feature" will be announced on the DENON web site each time related plans are defined.

Language

GUI

This sets the language used on the display screens.

Aa

● Menu tree ●

Manual Setup
Language

[Selectable items]

English	Deutsch	Français	Italiano
Español	Nederlands	Svenska	日本語

🖐 Operating from the main unit

※ The GUI menu is not displayed when performing this setting.
① Press and hold the **STATUS** and **RETURN** buttons for at least 3 seconds.
"Video Format" appears on the display.
② Use the △▽ button to set "GUI Language".
③ Use the ◁ ▷ button to make the setting.
④ Press the **ENTER**, **MENU** or **RETURN** button to complete the setting.

```
*GUI Language
 <  ENGLISH  >
```

GUI

Source Select

Use this procedure to select the input source and make the settings related to playing input sources.

Input Source Selection

● Menu tree ●

Source Select
TUNER
PHONO
CD
DVD
HDP
TV/CBL
SAT
VCR
DVR
V.AUX
NET/USB
DAB

🖐 Operating from the main unit or main remote control unit

【Operation on the main unit】
Turn the **SOURCE SELECT** knob.
※ If "Rec Select" or "Video Select" is selected for the input source, press the **SOURCE** button before turning the **SOURCE SELECT** knob.

【Operation on the main remote control unit】
Press the **SOURCE SELECT** button.
The desired input source can be selected directly.

SOURCE SELECT
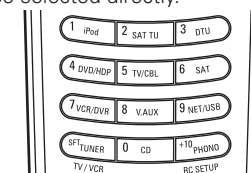
(Main unit)   (Main remote control unit)

To operate the AVR-4308 using the main remote control unit, set the remote control unit to the AMP mode (☞page 68 "Remote Control Unit Operations").

Settings Related to Playing Input Sources GUI

● Menu tree ●

Source Select

  TUNER
- **1** Play
- **2** Auto Preset
- **3** Preset Skip
- **4** Preset Name
- **5** Input Mode
- **6** Rename
- **7** Other

  PHONO
- **5** Input Mode
- **6** Rename
- **7** Other

  CD, DVD, HDP, TV/CBL, SAT, VCR, DVR, V.AUX
- **1** Play ＊
- **8** Playback Mode (iPod) ＊
- **9** Assign
- **5** Input Mode
- **6** Rename
- **7** Other

  NET/USB
- **1** Play
- **10** Playback Mode
- **11** Still Picture
- **5** Input Mode
- **6** Rename
- **7** Other

Source Select

  DAB
- **1** Play
- **12** Auto Tune
- **3** Preset Skip
- **13** Tuning Aid
- **14** DRC Value
- **5** Input Mode
- **6** Rename
- **7** Other

＊ : "Play" and "Playback Mode (iPod)" are displayed for input sources for which "iPod dock" is assigned.

1 Play
The playback screen is displayed.

[Input source] TUNER NET/USB DAB (iPod)

2 Auto Preset
Use the auto preset function to program radio stations.

[Input source] TUNER

[Selectable items] Start

If an FM station cannot be preset automatically, select the desired station by tuning it in manually, then preset it manually.

3 Preset Skip
Set the preset memories that you do not want to display when tuning.

A ~ G
Select the preset channel(s) you do not want to display.

[Input source] TUNER DAB

[Selectable items] All 1 2 3 4 5 6 7 8

[Selectable items] ON Skip

When set "All" to "Skip", it is possible to skip entire preset memory blocks (A to G).

4 Preset Name
Assign name to a preset memory.
Names containing up to 8 characters can be input.

A1 ~ G8
Select the preset memory number.

[Input source] TUNER

[Characters that can be input]

A ~ Z a ~ z 0 ~ 9 ! " # % & ' ( ) * + , - . / : ; < = > ? @ [\ ] (space)

❺ Input Mode

Make input mode and decode mode settings for this source.
The selectable input modes depend on the input source and "Assign" setting (☞ page 43).

Input Mode

Set the input mode for this source.

[Input source]   TUNER   PHONO   (iPod)

[Selectable items]   Analog   EXT. IN

[Input source]   NET/USB   DAB

[Selectable items]   Auto   EXT. IN

[Input source]

CD   DVD   HDP   TV/CBL   SAT   VCR   DVR   V.AUX

[Selectable items]

Auto   HDMI   Digital   Analog   EXT. IN

✎

• When a digital signal is 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".

☞ Operating from the main unit or main remote control unit

Press the **INPUT MODE** button on the main unit or the **INPUT** button on the main remote control unit.

Auto ⟶ HDMI *1 ⟶ Digital *2
EXT. IN ⟵ Analog ⟵

*1: This can be selected for input sources for which the GUI menu "Assign" setting is set to "HDMI" (☞ page 43). Excluding CD.
*2: This can be selected for input sources for which the GUI menu "Assign" setting is set to "Digital" (☞ page 43).

Decode Mode

Set the decode mode for this source.

[Input source]   CD   DVD   HDP   TV/CBL   SAT   VCR   DVR   V.AUX

[Selectable items]   Auto   PCM   DTS

✎

• This can be selected for input sources for which the GUI menu "Assign" setting is set to "HDMI" or "Digital" (☞ page 43).
• Only set "PCM" and "DTS" when playing the respective signals.

❻ Rename

Change the display name for this source.
Names containing up to 8 characters can be input.

[Characters that can be input]

A ~ Z   a ~ z   0 ~ 9   ! " # % & ' ( ) * + , - . / : ; < = > ? @ [\ ] (space)

❼ Other

Make various other settings.

Video Select

Switch video input source while listening to audio signal.

[Selectable items]

DVD   HDP   TV/CBL   SAT   VCR   DVR   V.AUX   SOURCE

☞ Operating from the main unit

Press the **VIDEO SELECT** button, then turn the **SOURCE SELECT** knob until the desired picture appears.
※ To cancel, press the main unit's **VIDEO SELECT** button, then turn the main unit's **SOURCE SELECT** knob and select "SOURCE".

NOTE

• It is not possible to select HDMI input signals.
• When playing HDMI video input signals, the analog video signal of another input source cannot be selected for the HDMI video output.
• Input sources for which "Delete" is selected at "Source Delete" cannot be selected.

Video Convert

Automatically convert video input signal to monitor output format.

[Input source]   DVD   HDP   TV/CBL   SAT   VCR   DVR   V.AUX

[Selectable items]   ON   OFF

NOTE

When a non-standard video signal from a game machine or some other source is input, the video conversion function might not operate. If this happens, please set the conversion mode to "OFF".

Source Level

Corrects the playback level of the selected input source's audio input.

[Variable range]   –12dB ~ 0dB ~ +12dB

✎

For input sources for which "HDMI" and "Digital" are set at the GUI menu "Assign" setting, the analog input level and digital input level can be set separately.

❽ Playback Mode (iPod)

Make settings for "iPod" playback.

Repeat

Make settings for repeat mode.

[Input source]   CD   DVD   HDP   TV/CBL   SAT   VCR   DVR   V.AUX

[Selectable items]   All   One   OFF

Shuffle

Make settings for shuffle mode.

[Input source]   CD   DVD   HDP   TV/CBL   SAT   VCR   DVR   V.AUX

[Selectable items]   Songs   Albums   OFF

✎

This can be selected for input sources for which "Assign" is assigned at the "iPod dock" setting.

9 Assign

Assign input sources to input connectors.

HDMI

Select HDMI connector to assign to this source.

[Input source] DVD HDP TV/CBL SAT VCR DVR V.AUX

[Selectable items] 1 2 3 4 None

Input source	DVD	HDP	TV/CBL	SAT	VCR	DVR	V.AUX
Default setting	HDMI1	HDMI2	HDMI3	None	None	HDMI4	None

✎

• With HDMI, the video and audio signals are transferred simultaneously. To play the video signal assigned at "HDMI" combined with the audio signal assigned at "Digital", select "Digital" at GUI menu "Source Select" – "Input Mode" (☞ page 42).
• When the AVR-4308 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.

NOTE

This cannot be set for input sources for which "iPod dock" is assigned.

Digital

Select digital input connector to assign to this source.

[Input source] CD DVD HDP TV/CBL SAT VCR DVR V.AUX

[Selectable items] Coaxial1 ~ 3 Optical1 ~ 4 DENON LINK ✳ None

Input source	CD	DVD	HDP	TV/CBL	SAT	VCR	DVR	V.AUX
Default setting	Coaxial 3	Coaxial 1	None	Coaxial 2	Optical 1	Optical 3	Optical 2	Optical 4

✳ : When a DENON DVD player and the DENON LINK have been connected, be sure to make a setting to "DENON LINK".

NOTE

• This cannot be set for input sources for which "iPod dock" is assigned.
• When an input source to which "DENON LINK" has been assigned is selected in the MAIN ZONE, the PCM signal and network audio signal (Internet radio, music server or USB) input from the digital input connector cannot be output to the analog REC OUT connector or multi-zone.

Component

Select component video input to assign to this source.

[Input source] DVD HDP TV/CBL SAT VCR DVR V.AUX

[Selectable items] 1 2 3 None

Input source	DVD	HDP	TV/CBL	SAT	VCR	DVR	V.AUX
Default setting	Component 1	Component 2	Component 3	None	None	None	None

NOTE

This cannot be set for input sources for which "iPod dock" is assigned.

iPod dock

Assign Control Dock for iPod to this source.

[Input source] CD DVD HDP TV/CBL SAT VCR DVR V.AUX

[Selectable items] Assign None

✎

• With the default settings, the Control Dock for iPod can be used connected to the VCR (iPod) connector.
• Even if "iPod dock" is set to "Assign", if the AVR-4308 is not connected to a Control dock for iPod, the input source can be used as the normal input source.

10 Playback Mode

Make settings for "NET/USB" playback.

[Input source] NET/USB

USB Select

Select USB port to use.

[Selectable items] Front Rear

✎

Match the port to be used and the setting.

Repeat

Make settings for repeat mode.

[Selectable items] All One OFF

Random

Make random mode settings.

[Selectable items] ON OFF

Direct Play

Set the folder to be played using the **DIRECT PLAY** button on the sub remote control unit.

[Selectable items] Favorites All Music

ⅦStill Picture

Make settings for still picture (JPEG) playback.

[Input source]   NET/USB

Slide Show

Make slideshow settings.

[Selectable items]   ON   OFF

Interval

Set the playback time per image.

[Variable range]   5s ~ 60s

ⅧAuto Tune

Search for available stations. Use this the first time or after moving.

[Input source]   DAB

Full Band

Select full band (band Ⅲ or L band).

BandⅢ

Select band Ⅲ.

UK Band

Select UK band.

[Selectable items]   Start

ⅩⅢTuning Aid

Adjust antenna angle and position while checking signal strength indication.
The reception sensitivity of the currently tuned in frequency is displayed.

[Input source]   DAB

After selecting "Tuning Aid", perform the following operation:
Press the △▽ button to display the frequency of the ensemble that you want to receive.
Display the signal strength for that ensemble.

ⅩⅣDRC Value

Change DRC (dynamic range control) value from broadcast station setting.
The DRC (Dynamic Range Control) function lets you change the dynamic range of the received sound depending on the content of the broadcast so that the sound is easier to hear even when the volume is low.
The dynamic range can be fine-adjusted in three steps.

[Input source]   DAB

[Selectable items]   OFF 1/2 1

44

Surround Modes

Standard Playback

This is the standard mode for enjoying surround sound according to the program source.

To select these surround modes pressing the **STANDARD** button on the main unit or press the **STD** button on the main remote control unit. The mode switches each time the button is pressed.

Surround Playback of 2-channel Sources

❏ When using a surround back speaker

[Selectable items] **DOLBY PLⅡx** **DTS NEO:6**

❏ When not using a surround back speaker

[Selectable items] **DOLBY PLⅡ** **DTS NEO:6**

DOLBY PLⅡx or DOLBY PLⅡ : The signals are decoded in DOLBY PLⅡx or DOLBY PLⅡ for playback.

Cinema : This mode is suited for movie sources.

Music : This mode is suited for music sources.

Game : This mode is suited for games.

Pro Logic : This is the Pro Logic playback mode. This can be selected when playing with a DOLBY PLⅡ decoder. When this mode is selected, "DOLBY PL" is displayed.

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

Cinema : This mode is suited for movie sources.

Music : This mode is suited for music sources.

Select the "Cinema", "Music", "Game" and "Pro Logic" modes at GUI menu "Parameter" – "Audio" – "Surround Parameters" – "Mode" (☞page 46 ~ 48).

Playing Multi-channel Sources (Dolby Digital, DTS, etc.)

[Selectable items]

STANDARD :

This mode is for decoding the input signals according to their format and playing surround sound.
The display when the STANDARD mode is selected depends on the input signal and surround back output playback mode.

Input signal		Display
Dolby Digital Source	DOLBY DIGITAL (other than 2ch) / DOLBY DIGITAL EX	DOLBY DIGITAL
		DOLBY DIGITAL EX
		DOLBY DIGITAL+PLⅡx CINEMA
		DOLBY DIGITAL+PLⅡx MUSIC
	DOLBY DIGITAL Plus	DOLBY DIGITAL +
	DOLBY TrueHD	DOLBY TrueHD
DTS Surround Source	DTS (5.1ch) / DTS-ES Discrete 6.1 / DTS-ES Matrix 6.1 / DTS 96/24	DTS SURROUND
		DTS+PLⅡx CINEMA
		DTS+PLⅡx MUSIC
		DTS+NEO:6
		DTS ES MTRX6.1 (＊1)
		DTS ES DSCRT6.1 (＊2)
		DTS 96/24 (＊3)
	DTS-HD High Resolution Audio	DTS-HD HI RES
	DTS-HD Master Audio	DTS-HD MSTR
DVD-Audio, SACD	PCM (multi ch) / DSD (multi ch)	MULTI CH IN
		MULTI IN+PLⅡx CINEMA
		MULTI IN+PLⅡx MUSIC
		MULTI CH IN 7.1

＊1 : This is displayed when the input signal is "DTS-ES Matrix 6.1" and the AVR-4308'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 87.

DSP Simulation Playback

The desired mode according to the program source and viewing situation can be selected from among 10 DENON original surround modes.
The surround parameters can be adjusted (☞page 85, 86) to achieve an even more realistic, powerful sound field.

[Selectable items]

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.

MATRIX : This mode lets you add a sense of expansion to stereo music sources.

VIRTUAL : This mode is for enjoying surround effects using only the front speakers or headphones.

＊ : 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.

• To select these surround modes using the buttons on the main remote control unit, press the **SIMU** button. The mode switches each time the button is pressed.
• 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.

Getting Started

Connections

Setup

Playback

Remote Control

Multi-Zone

Information

Troubleshooting

Specifications

Stereo Playback

[Selectable items]

STEREO :

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.

Direct Playback

[Selectable items]

DIRECT :

In this mode the signals bypass the tone control circuitry for high quality sound.

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

The display when the DIRECT mode is selected depends on the input signal.

For multi-channel sources, the display depends on the surround back output's play mode.

Input signal	Display
Analog signal / PCM (2ch) / Dolby Digital source / DTS source / Other 2-channel digital signals	DIRECT
DSD (2ch)	DSD DIRECT (∗)
PCM (multi ch)	MULTI CH DIRECT
	M DIRECT + PLⅡx CINEMA
	M DIRECT + PLⅡx MUSIC
	M DIRECT 7.1
DSD (multi ch)	DSD MULTI 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 88.

Playback in the PURE DIRECT Mode

This is the mode that recreates the original sound most faithfully, providing extremely high quality sound.

Press the PURE DIRECT button on the main unit or the PURE button on the main remote control unit.

• When in the PURE DIRECT mode, the GUI screen is not displayed and the display on the main unit is turned off.
• If the HDMI input connector is selected, video outputs are output in the PURE DIRECT mode.
• The channel level and surround parameters in the PURE DIRECT mode are the same as in the DIRECT mode.

GUI

Parameter

Parameters can be called out directly by pressing the **PARA** button on the main remote control unit.

Audio GUI
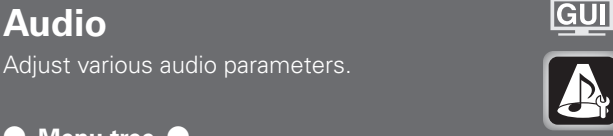
Adjust various audio parameters.

● **Menu tree** ●

Parameter

Audio

1 **Surround Parameters**

2 **Tone**

3 **Room EQ**

4 **RESTORER**

5 **Night Mode**

6 **Audio Delay**
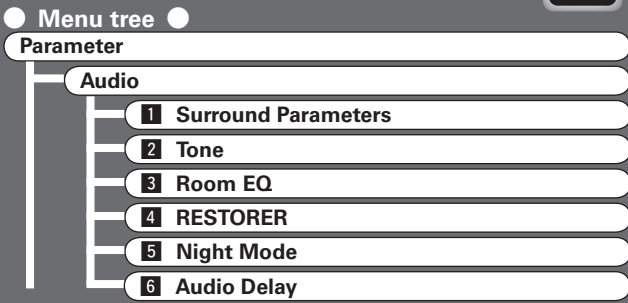
1 Surround Parameters

Adjust surround sound parameters.
The adjustable parameters differ for the different surround modes (☞ page 85, 86).

Mode

Select the mode according to the playback source.

[Selectable items]

In the PLⅡx or PLⅡ mode: **Cinema** **Music** **Game**

Pro Logic ∗

In the DTS NEO:6 mode: **Cinema** **Music**

∗ : Can be selected in the PLⅡ mode.

The "Music" mode is also effective for movie sources including a lot of stereo music.

46

Cinema EQ

Soften the treble range of movie soundtracks for better understanding.

[Selectable items]   ON   OFF

DRC

Compress dynamic range (difference between loud and soft sounds).

[Selectable items]   Auto   Low   Middle   High   OFF

✎

This can be set in the Dolby TrueHD mode.

D.COMP

Compress dynamic range (difference between loud and soft sounds).

[Selectable items]   OFF   Low   Middle   High

✎

When playing DTS sources, this is only displayed for compatible software.

LFE

Adjust the low-frequency effects level (LFE).

[Variable range]   –10dB   ~   0dB

✎

For proper playback of the different program sources, we recommend setting to the values below.
• Dolby Digital sources: "0 dB"
• DTS movie sources: "0 dB"
• DTS music sources: "–10 dB"

Center Image

Assign center channel signal to front left and right channels for wider sound.

[Variable range]   0.0   ~   0.3   ~   1.0

Panorama

Assign front L/R signal also to surround channels, for wider sound.

[Selectable items]   ON   OFF

Dimension

Shift sound image center to front or rear, to adjust playback balance.

[Variable range]   0   ~   3   ~   6

Center Width

Assign center channel signal to front left and right channels for wider sound.

[Variable range]   0   ~   3   ~   7

Delay Time

Adjust delay time to control sound stage size.

[Variable range]   0 ms   ~   30 ms   ~   300 ms

Effect

Switch effect signal for multi-surround speakers on and off.

[Selectable items]   ON   OFF

Effect Level

Adjust effect signal level.

[Variable range]   1   ~   10   ~   15

✎

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.

[Selectable items]   Small   Medium small   Medium   Medium large   Large

NOTE

"Room Size" does not indicate the size of the room in which sources are played.

AFDM

Auto-select surround mode by source.
This function only works for software containing a special identification signal.
If the software being played is recorded in Dolby Digital EX or DTS-ES, it is played in 6.1-channels. If not, it is played in 5.1-channels.

[Selectable items]   ON   OFF

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 "SB CH Out" 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 "SB CH Out" to "MTRX ON" or "PLIIx CINEMA".

SB CH Out (for Multi-channel sources)

Select playback mode for surround back channels.

[Selectable items]

NON MTRX   MTRX ON   PLIIx CINEMA *1   PLIIx MUSIC *2
ES MTRX *3   ES DSCRT *4   DSCRT ON   OFF

*1: This can be selected when "Surround Back" is set to "2spkrs" at the GUI menu "Manual Setup" – "Speaker Setup" – "Speaker Configuration" setting (☞page 29).
*2: This can be selected when "Surround Back" is set to "2spkrs" or "1spkr" at the GUI menu "Manual Setup" – "Speaker Setup" –"Speaker Configuration" setting.
*3: This can be selected when playing DTS sources.
*4: This can be selected when playing DTS sources including a discrete 6.1-channel signal identification signal.

✎

When using the surround back speaker, you can change the "SB CH Out" setting by pressing the STANDARD button.

SB CH Out (for 2-channel sources)

Determine whether to use surround back speakers.

[Selectable items]   ON   OFF

Subwoofer Att.

Attenuate subwoofer level when using EXT. IN mode.

[Selectable items] ON OFF

✎

Set this to "ON" if the subwoofer channel level seems too high when playing Super Audio CD.

Subwoofer

Turn subwoofer output on and off.

[Selectable items] ON OFF

Default

Resets the settings to the default values.

2 Tone

Adjust the tonal quality of the sound.

Tone Defeat

Turn tone adjustments off.

[Selectable items] ON OFF

✎

The tone cannot be adjusted when in the DIRECT mode.

Bass

Adjust low frequency range (bass).

[Variable range] –6dB ~ +6dB

Treble

Adjust high frequency range (treble).

[Variable range] –6dB ~ +6dB

✎

"Bass" and "Treble" can be set when "Tone Defeat" is set to "OFF".

3 Room EQ

Select room equalizer for current environment.

[Selectable items]

Audyssey	: Optimize frequency response of all speakers.
Audyssey Byp. L/R	: Optimize frequency response of speakers except front L and R speakers.
Audyssey Flat	: Optimize frequency response of all speakers to flat response.
Manual	: Apply frequency response set with "Manual EQ" (☞ page 32).
OFF	: Turn equalizer off.

👆 **Operating from the main unit or main remote control unit**

Press the **ROOM EQ** button on the main unit or the **EQ** button on the main remote control.

```
  → OFF → Audyssey → Audyssey Byp. L/R ┐
  └ Manual ← Audyssey Flat ←
```
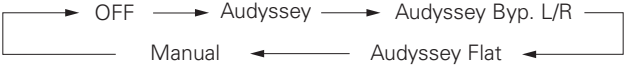
When "Audyssey" is selected, " AUDYSSEY MULTEQ XT " lights.

When "Audyssey Byp. L/R" or "Audyssey Flat" is selected, or when the auto setup measuring results have changed, " AUDYSSEY MULTEQ XT " lights.

✎

• "Audyssey", "Audyssey Byp. L/R" and "Audyssey Flat" can be selected after the auto setup procedure has been performed.
• If the settings of the speakers for which "None" has been determined at "Auto Setup" are changed, "Audyssey", "Audyssey Byp. L/R" and "Audyssey Flat" cannot be selected and measurements have to be taken again to include the newly-added speakers.
• When using headphones, "Room EQ" is always set to "OFF".

4 RESTORER

This function restores compressed audio signals to how they were before compression and corrects the sense of volume of the bass and treble to obtain richer playback sound.

[Selectable items]

OFF

Mode1 (RESTORER 64)

Mode2 (RESTORER 96)

Mode3 (RESTORER HQ)

The default setting for "NET/USB" and "iPod" is "Mode3". All others are set to "OFF".

👆 **Operating from the main unit or main remote control unit**

During playback, press the **RESTORER** button on the main unit or the **RSTR** button on the main remote control unit.

When set to something other than "OFF", " RESTORER " is displayed.

```
  → OFF → Mode 1 → Mode 2 ┐
          (RESTORER 64)  (RESTORER 96)
  └──── Mode 3 ←
        (RESTORER HQ)
```
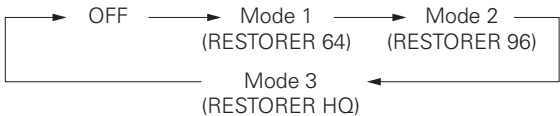
About the RESTORER function

• 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 "DAB" or "NET/USB", or when analog signals (including AM/FM signals) or PCM signals (fs = 44.1/48 kHz) are input.

5 Night Mode

Optimized setting for late-night listening.

[Selectable items] **OFF** **Low** **Middle** **High**

✎ Operating from the main remote control unit

Press the **NGT** button.
The " **NIGHT** " indicator lights when "Low", "Middle" or "High" is selected.

OFF → Low → Middle → High (loop)

6 Audio Delay

Compensate for mismatched timing between video and audio.

Delay audio.
This sets the delay time for audio signals.

[Variable range] **0 ms** ~ **200 ms**

✎ Operating from the main remote control unit

① Press the **A. DL** button.
② Use the ◁ ▷ button to set.

✏

• This cannot be adjusted when playing in the EXT. IN, DIRECT or STEREO mode (with "Front" set to "Large", "Tone Defeat" to "ON" and "Room EQ" to "OFF".)
• The adjustment range is 0 to 100 ms when the Auto Lipsync Correction function is activated.

Picture Adjust

GUI

Adjust the picture quality.

● **Menu tree** ●

Parameter
└ Picture Adjust
  ├ **1 Contrast**
  ├ **2 Brightness**
  ├ **3 Chroma Level**
  └ **4 Hue**

1 Contrast

Adjust picture contrast.

[Variable range] **–6** ~ **0** ~ **+6**

2 Brightness

Adjust picture brightness.

[Variable range] **0** ~ **+12**

3 Chroma Level

Adjust picture chroma level (saturation).

[Variable range] **–6** ~ **0** ~ **+6**

4 Hue

Adjust color hue.

[Variable range] **–6** ~ **0** ~ **+6**

✏

• Adjusting the "Contrast", "Brightness", "Chroma Level" and "Hue" settings does not affect the HDMI input signal.
• "Hue" can be adjusted for composite video and S-Video signals.
• The adjustment values are stored for the individual input sources.

Information

GUI

Status

GUI

Shows information about current settings.

● **Menu tree** ●

Information
└ Status
  ├ **1 MAIN ZONE**
  └ **2 ZONE2/3/4**

1 MAIN ZONE

Shows information about settings for main zone.
The items displayed differ according to the input source.

[Items to be checked]

Select Source **Name** **Surround Mode** **Input Mode**

Assign **Room EQ** **Video Select** **Src Level** **Rec Select**

Night Mode **RESTORER** etc.

2 ZONE2/3/4

Shows information about settings for multi-zone.

[Items to be checked] **Power** **Select Source** **Volume Level**

Audio Input Signal GUI

Shows information about audio input signals.

● **Menu tree** ●

Information
├── Audio Input Signal

[Items to be checked]

Surround Mode	:	The currently set surround mode is displayed.
Signal	:	The input signal type is displayed.
fs	:	The input signal's sampling frequency is displayed.
Format	:	The number of channels in the input signal (front, surround, LFE) is displayed.
Offset	:	The dialogue normalization correction value is displayed.
Flag	:	"MATRIX" is displayed if the input signal has undergone matrix processing, "DISCRETE" if the input signal has undergone discrete processing.

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** button on the main unit.

```
Dial.Norm
Offset  - 4dB
```

The figure is the correction value when the standard level is corrected.

HDMI Information GUI

Shows information about HDMI input/output signals and monitor.

● **Menu tree** ●

Information
├── HDMI Information
    ├── 1 Signal Information
    ├── 2 Monitor1
    └── 3 Monitor2

1 Signal Information

The HDMI input/output signal information is displayed.

[Items to be checked] Resolution | Color Space | Pixel Depth

2 Monitor1

The HDMI monitor 1 information is displayed.

3 Monitor2

The HDMI monitor 2 information is displayed.

[Items to be checked] Interface | Supported resol.

Auto Surround GUI

Shows information about auto surround mode settings.
The surround mode for which the last memory function was used for the different input signal types is displayed.

● **Menu tree** ●

Information
├── Auto Surround

[Items to be checked]

Analog/PCM 2ch | Digital 2ch | Digital 5.1ch | Multi ch

Quick Select GUI

Shows information about quick select settings.

● **Menu tree** ●

Information
├── Quick Select
    ├── 1
    ├── 2
    └── 3

[Items to be checked]

Select Source | Input Mode | Room EQ

Auto Surround Mode setting | Volume Level

✎

Preset Station GUI

Shows information about preset stations.

● **Menu tree** ●

Information
├── Preset Station
    ├── A
    ├── B
    ├── C
    ├── D
    ├── E
    ├── F
    └── G

[Input source] TUNER | DAB | NET/USB

[Items to be checked] A1 ~ G8

✎

When the **STATUS** button on the main unit is pressed, the set's status can be checked on the display.
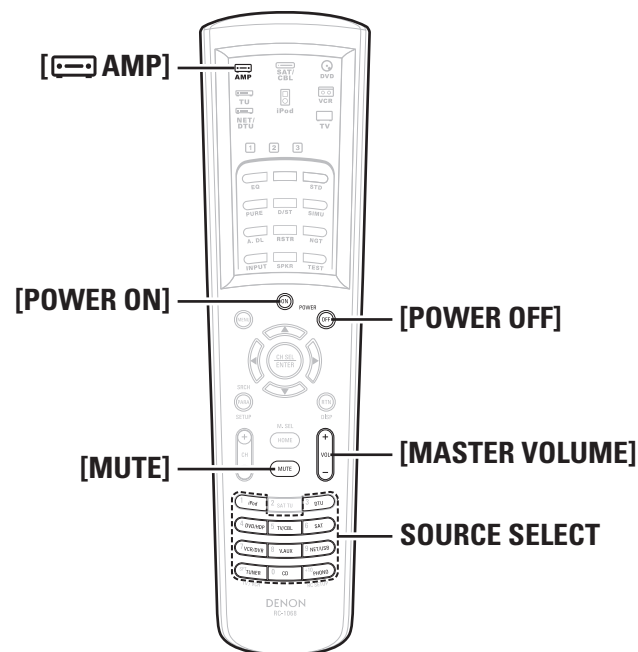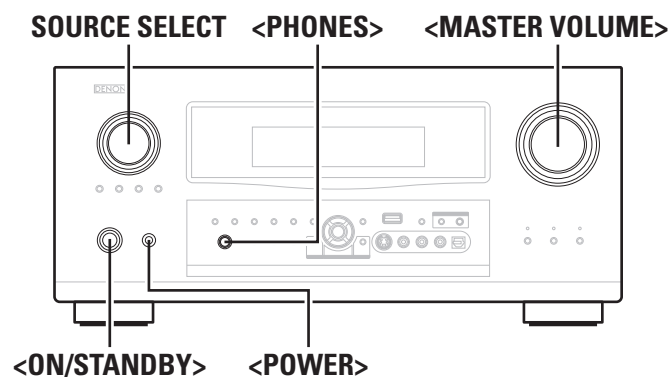
Getting Started

Connections

Setup

Playback

Remote Control

Multi-Zone

Information

Troubleshooting

Specifications

SOURCE SELECT **<PHONES>** **<MASTER VOLUME>**

<ON/STANDBY> **<POWER>**

[AMP]

[POWER ON]

[MUTE]

[POWER OFF]

[MASTER VOLUME]

SOURCE SELECT

About the button names in these explanations

< > : Buttons on the main unit
[ ] : Buttons on the remote control unit
Button name only:
Buttons on the main unit and remote control unit

Playback

Preparations

Turning the Power On

1 **Press <POWER>.**
The power indicator lights red and the power is set to the standby mode.

2 **Press <ON/STANDBY> or [POWER ON].**
The power indicator flashes green and the power turns on.

To operate the AVR-4308 using the main remote control unit, set the remote control unit to the AMP mode (☞ page 68 "Remote Control Unit Operations").

Turning the Power Off

①Press **<ON/STANDBY>** or **[POWER OFF]**.
The power is set to the standby mode.
②Press **<POWER>**.
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.

Operations During Playback

Adjusting the Master Volume

Either turn <MASTER VOLUME> or press [MASTER VOLUME].

Turning Off the Sound Temporarily (Muting)

Press [MUTE].

To cancel, press **[MUTE]** again. Muting can also be canceled by adjusting the master volume.

Listening with Headphones

Plug the headphones into <PHONES>.
The sound from the speakers and pre-out connectors is automatically cut.

NOTE

Be careful not to set the volume too high when using headphones.

Playing Video and Audio Equipment

Basic Operation

1 **Prepare the equipment.**

①Load the DVD, CD or other software in the player.
(☞ See the operating instructions of the respective devices.)
②To play a video device, switch the monitor input.
(☞ See the monitor's operating instructions.)

2 **To operate using the main remote control unit, set the remote control unit to the AMP mode.**
(☞ page 68 "Remote Control Unit Operations")

3 **Use SOURCE SELECT to select the input source.**

GUI : **"Source Select"** (☞ page 40, 41)

4 **Start playback.**
(☞ See the operating instructions of the respective devices.)
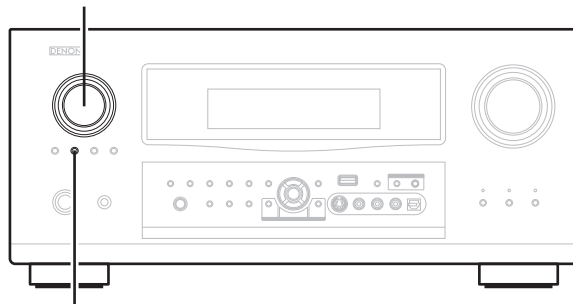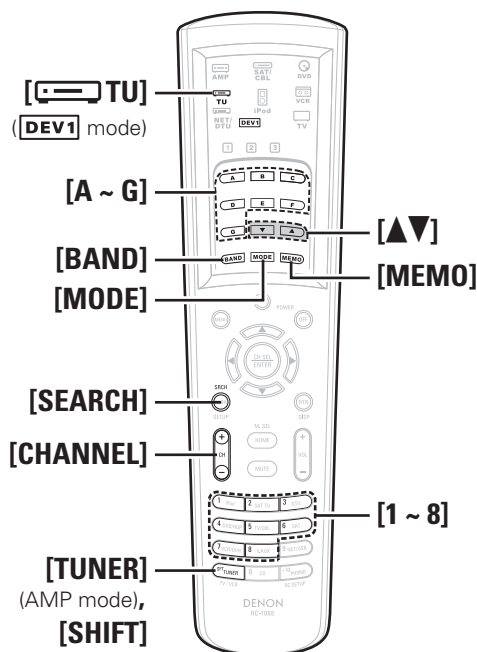
<SOURCE SELECT>

<TUNING PRESET>

[□──□ TU]
(**DEV1** mode)

[A ~ G]

[BAND]

[MODE]

[SEARCH]

[CHANNEL]

[TUNER]
(AMP mode),

[SHIFT]

[▲▼]

[MEMO]

[1 ~ 8]

About the button names in these explanations

< > : Buttons on the main unit

[ ] : Buttons on the remote control unit

Button name only:

Buttons on the main unit and remote control unit

Listening to FM/AM Broadcasts

Basic Operation

1 Either turn **<SOURCE SELECT>** or press **[TUNER]** (AMP mode) to select "TUNER".

GUI : **"Source Select"** (☞ page 40, 41)

2 To operate using the main remote control unit, set the remote control unit to the TUNER (**DEV1**) mode.
(☞ page 68 "Remote Control Unit Operations")

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

4 Tune in the desired broadcast station.

① **To tune in automatically (Auto Tuning)**

Press **[MODE]** to light the "AUTO" indicator on the display, then use **[▲▼]** to select the station you want to hear.

② **To tune in manually (Manual Tuning)**

Press **[MODE]** to turn off the display's "AUTO" indicator, then use **[▲▼]** to select the station you want to hear.

🖉

• It is also possible to switch to "FM" or "AM" in step 1 by pressing **[TUNER]**.

• If the desired station cannot be tuned in with auto tuning, tune it in manually.

• When tuning in stations manually, press and hold **[▲▼]** to change frequencies continuously.

• The time for which the GUI menus are displayed can be set at GUI menu "Manual Setup" – "Option Setup" – "GUI" – "Tuner" (☞ page 38).

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.

1 Tune in the broadcast station you want to preset.

2 Press **[MEMO]**.

3 Press **[A ~ G]** to select the block in which the station 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]**.

4 Press **[MEMO]** again to complete the setting.

🖉

• To preset other stations, repeat steps 1 to 4.

• Stations can be preset automatically at GUI menu "Source Select" – "Tuner" – "Auto Preset" (☞ page 41).

NOTE

Preset stations are erased by overwriting them.

Listening to Preset Stations

Operation on the Main Unit

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

Operation on the Main Remote Control Unit

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

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

❏ **Default settings**

Auto tuner presets	
A1 ~ A8	87.5 / 89.1 / 98.1 / 108.0 / 90.1 / 90.1 / 90.1 / 90.1 MHz
B1 ~ B8	522 / 603 / 999 / 1404 / 1611 kHz, 90.1 / 90.1 / 90.1 MHz
C1 ~ C8	90.1 MHz
D1 ~ D8	90.1 MHz
E1 ~ E8	90.1 MHz
F1 ~ F8	90.1 MHz
G1 ~ G8	90.1 MHz

RDS (Radio Data System)

RDS (works only on the FM band) is a broadcasting service which allows a station to send additional information along with the regular radio program signal.

The following three types of RDS information can be received with this unit:

Program Type (PTY)

PTY identifies the type of RDS program.
The program types and their displays are as follows:

NEWS	News	**WEATHER**	Weather
AFFAIRS	Current Affairs	**FINANCE**	Finance
INFO	Information	**CHILDREN**	Children's programmes
SPORT	Sports		
EDUCATE	Education	**SOCIAL**	Social Affairs
DRAMA	Drama	**RELIGION**	Religion
CULTURE	Culture	**PHONE IN**	Phone In
SCIENCE	Science	**TRAVEL**	Travel
VARIED	Varied	**LEISURE**	Leisure
POP M	Pop Music	**JAZZ**	Jazz Music
ROCK M	Rock Music	**COUNTRY**	Country Music
EASY M	Easy Listening Music	**NATION M**	National Music
		OLDIES	Oldies Music
LIGHT M	Light Classical	**FOLK M**	Folk Music
CLASSICS	Serious Classical	**DOCUMENT**	Documentary
OTHER M	Other Music		

Traffic Program (TP)

TP identifies programs that carry traffic announcements.
This allows you to easily find out the latest traffic conditions in your area before leaving home.

Radio Text (RT)

RT allows RDS stations to send text messages that appear on the display.

NOTE

The operations described below using **[SEARCH]** will not function in areas in which there are no RDS broadcasts.

RDS Search

Use this function to automatically tune to FM stations that provide the RDS service.

1 Either turn **<SOURCE SELECT>** or press **[TUNER]** (AMP mode) to select "TUNER".

2 To operate using the main remote control unit, set the remote control unit to the TUNER (**DEV1**) mode.
(☞ page 68 "Remote Control Unit Operations")

3 Press **[SEARCH]** to select "RDS".

4 Press **[CHANNEL]**.
The search for RDS stations begins automatically.

※ If no RDS stations are found with the above operation, all the reception bands are searched.
※ When a broadcast station is found, that station's name appears on the display.

5 To continue searching, repeat steps 2 to 3.

※ If no RDS station is found when all the frequencies have been searched, "NO RDS" is displayed.
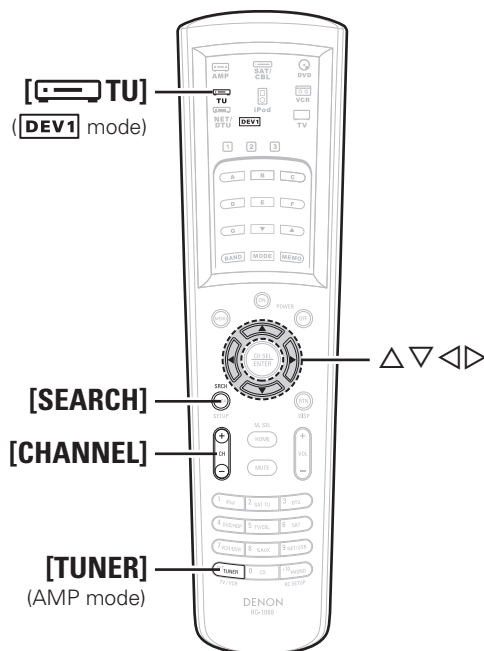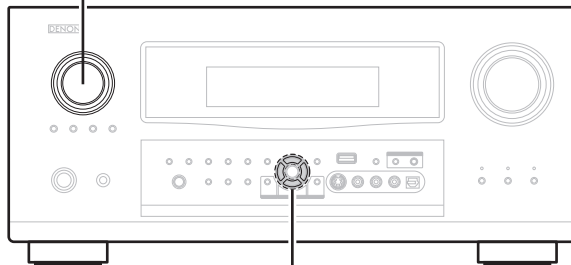
53

<SOURCE SELECT>

△▽◁▷

[⬜TU]
(DEV1 mode)

△▽◁▷

[SEARCH]

[CHANNEL]

[TUNER]
(AMP mode)

About the button names in these explanations
< > : Buttons on the main unit
[ ] : Buttons on the remote control unit
Button name only:
Buttons on the main unit and remote control unit

PTY Search

Use this function to find RDS stations broadcasting a designated program type (PTY).
For a description of each program type, refer to "Program Type (PTY)".

1 Either turn **<SOURCE SELECT>** or press **[TUNER]** (AMP mode) to select "TUNER".

2 To operate using the main remote control unit, set the remote control unit to the TUNER (DEV1) mode.
(☞page 68 "Remote Control Unit Operations")

3 Press **[SEARCH]** to select "PTY".

4 Watching the display, press △▽ to call out the desired program type.

5 Press **[CHANNEL]**.
PTY search begins automatically.

※ If there is no station broadcasting the designated program type with the above operation, all the reception bands are searched.
※ The station name is displayed on the display after searching stops.

6 To continue searching, repeat steps 2 to 4.

※ If no station broadcasting the designated program type is found when all the frequencies have been searched, "NO PROGRAMME" is displayed.

TP Search

Use this function to find RDS stations broadcasting traffic programs (TP stations).

1 Either turn **<SOURCE SELECT>** or press **[TUNER]** (AMP mode) to select "TUNER".

2 To operate using the main remote control unit, set the remote control unit to the TUNER (DEV1) mode.
(☞page 68 "Remote Control Unit Operations")

3 Press **[SEARCH]** to select "TP".

4 Press **[CHANNEL]**.
TP search begins automatically.

※ If no TP station is found with the above operation, all the reception bands are searched.
※ The station name is displayed on the display after searching stops.

5 To continue searching, repeat steps 2 to 3.

※ If no other TP station is found when all the frequencies have been searched, "NO PROGRAMME" is displayed.

RT (Radio Text)

"RT" appears on the display when radio text data is received.

1 **Either turn <SOURCE SELECT> or press [TUNER] (AMP mode) to select "TUNER".**

2 **To operate using the main remote control unit, set the remote control unit to the TUNER (DEV1) mode.**
(☞page 68 "Remote Control Unit Operations")

3 **Press [SEARCH] to select "RT".**

※ While receiving an RDS broadcast station, the text data broadcast from the station is displayed.
※ To turn the display off, press ◁▷.
※ If no text data is being broadcast, "NO TEXT DATA" is displayed.

Listening to DAB broadcasts

About DAB (Digital Audio Broadcasting)

• Since the DAB system is broadcasted in digital format, DAB system can supply crystal-clear audio and stable reception even in mobile objects. DAB is a new generation radio which can provide data service and supplementary multi-media services.
• DAB broadcasts multiple services under one Ensemble that are called service components.
• Each component contains inherent programmes; news, music, sports, and many more.
• Each Ensemble and service component has its label, and users can recognize a current broadcasting station and service contents by using the label.
• The main service component is broadcast as Primary while the others are broadcast as Secondary.
• Also rich character information is serviced through Dynamic Labels; song title, artist composer etc.
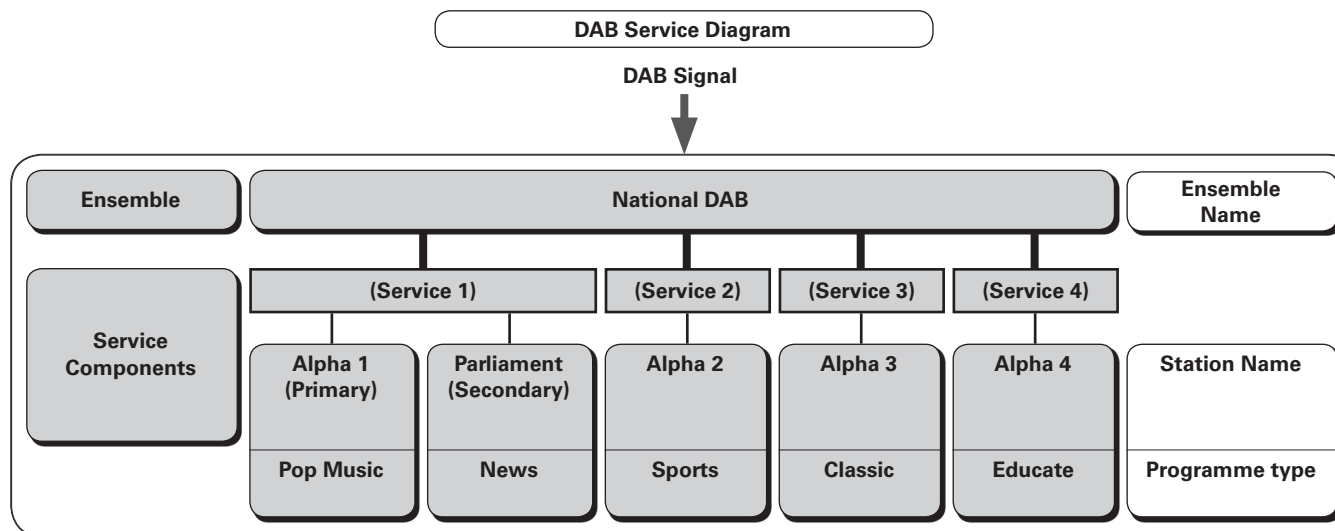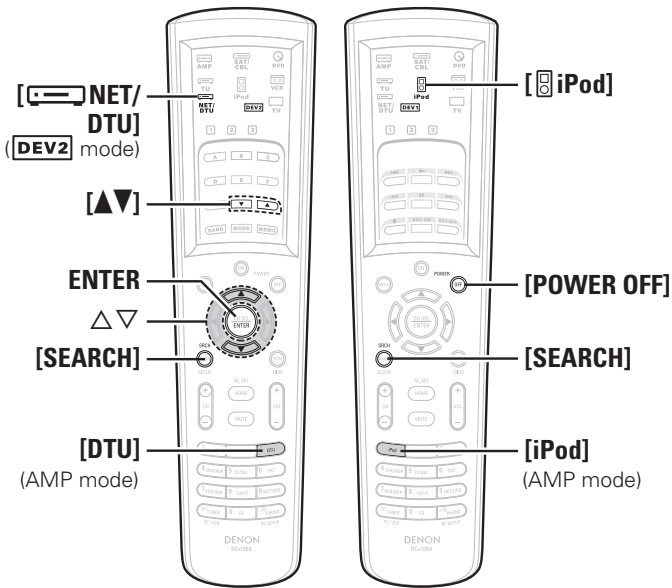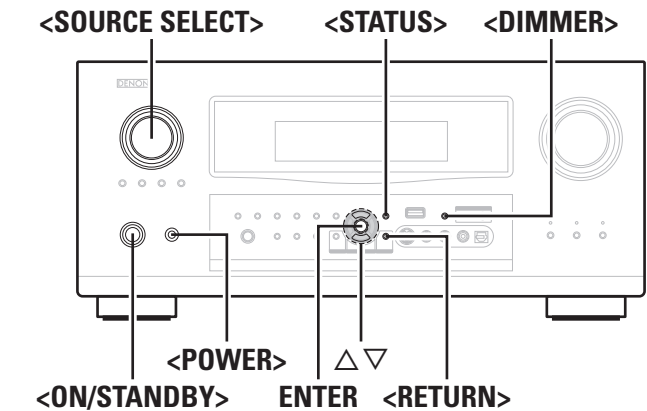
DAB Service Diagram

DAB Signal

Ensemble	National DAB				Ensemble Name
Service Components	(Service 1)		(Service 2)	(Service 3)	(Service 4)	
	Alpha 1 (Primary)	Parliament (Secondary)	Alpha 2	Alpha 3	Alpha 4	Station Name
	Pop Music	News	Sports	Classic	Educate	Programme type

55

<SOURCE SELECT>   **<STATUS>**   **<DIMMER>**

<POWER>   △▽

<ON/STANDBY>   **ENTER**   **<RETURN>**

[◁═▷NET/ DTU]
(DEV2 mode)

[▲▼]

ENTER

△▽

[SEARCH]

[DTU]
(AMP mode)

[◻iPod]

[POWER OFF]

[SEARCH]

[iPod]
(AMP mode)

About the button names in these explanations

<   > : Buttons on the main unit
[   ] : Buttons on the remote control unit
Button name only:
Buttons on the main unit and remote control unit

Basic Operation

1 **Either turn <SOURCE SELECT> or press [DTU] (AMP mode) to select "DAB".**

GUI : **"Source Select"** (☞page 40, 41)

2 **To operate using the main remote control unit, set the remote control unit to the NET/DTU (DEV2) mode.**
(☞page 68 "Remote Control Unit Operations")

3 **Press [▲ ▼] to select the station.**
If the station you select is in stereo, the "STEREO" indicator will light up.

※ **About secondary service**
When receiving a Secondary service, ">>" is indicated to the right of "station name".
When [▲] is pressed, the Secondary service Component is received and "<<" indicator lights.
Press [▼] to go back to the primary service again.

✐

• When using DABs function for the first time, perform the GUI menu "Source Select" – "DAB" – "Auto Tune" procedure (☞page 44).
• DAB stations can be preset using the same procedure as for FM/AM stations (☞page 52, 53 "Presetting Radio Stations (Preset Memory)" and "Listening to Preset Stations").
• The time for which the GUI menu is displayed can be set at GUI menu "Manual Setup" – "Option Setup" – "GUI" – "Tuner" (☞page 38).

Station Order Selection

1 **Press [SEARCH].**
The Station Order selection mode is set.

2 **Use △▽ to select the desired mode.**

Alphanumeric
Select "Alphanumeric" to browse through all of the registered DAB services in the alphanumeric order.
↓
Active station
Select "Active Station" to browse through all of the receivable DAB services in the alphabetical order.
↓
Favourite station
Select "Favourite Station" to browse through the top 10 services most frequently selected with this unit.
↓
Ensemble
Select "Ensemble" to browse through the registered DAB services from the lowest to the highest channel labels.

3 **Press ENTER to set.**

Check the DAB Reception Information

Press <STATUS> to switch the DAB reception information.

※ The display switches as shown below each time **<STATUS>** is pressed.

① **DLS** (Dynamic Label Segment) **:**
The text data included in the broadcast scrolls.
↓
② **PTY** (Programme Type) **:**
The category of the broadcast being received is displayed.
↓
③ **Ensemble Name :**
The ensemble name is displayed.
↓
④ **Channel and Frequency :**
The frequency is displayed.
Audio Information :
The bit rate and mode of the broadcast being received is displayed.
↓
⑤ **Time and Date :**
The current time and date are displayed.
Signal Quality :
The reception signal sensitivity is displayed (0 to 100).
※ If the reception signal sensitivity is 80 or greater, the program can be received without noise.

DAB Initialize

When the "DAB Initialize" procedure is performed, all the preset memory settings for the stations and DABs are reset.

1 Tune off the power using **<POWER>**.

2 Press **<POWER>** while simultaneously pressing **<DIMMER>** and **<RETURN>**.

3 After the "Initialize" procedure is performed, the "Auto Tune" procedure is conducted automatically.

4 Once the "Auto Tune" procedure is completed, receivable channels are played.

iPod® Playback

The music on an iPod can be played by using the Control Dock for iPod (ASD-1R, sold separately).
The operation can also be performed using the buttons on the main unit or remote control unit while watching the GUI menus.

Made for iPod | 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.

Basic Operation

1 Make the necessary preparations.

① Set the iPod in the DENON Control Dock for iPod.
(☞ See the Control Dock for iPod's operating instructions.)
② Assign the Control Dock for iPod's input.

GUI : **"Source Select"** – **"**(input source)**"** – **"Assign"**– **"iPod dock"** (☞ page 43)

2 Either turn **<SOURCE SELECT>** or press **[iPod]** (AMP mode) to select the input source assigned in step 1-② above.

I Pod

DENON

OK to disconnect.
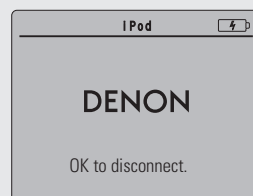
(iPod screen)

※ If the screens above are not displayed, the iPod may not be properly connected. Try connecting again.

GUI : **"Source Select"** – **"**(input source)**"** – **"Play"** (☞ page 41)

3 To operate using the main remote control unit, set the remote control unit to the iPod mode.
(☞ page 68 "Remote Control Unit Operations")

4 Press **[SEARCH]** and hold it down for a 2 seconds or more to select the display mode.
To switch between modes, press and hold down the button. When remote mode is active, "Remote" is displayed.

[Display mode]		Browse mode	Remote mode
Display location		Main unit display	iPod display
Playable files	Audio file	○	○
	Video file	×	○＊
Active buttons	Remote control unit (AVR-4308)	○	○
	iPod	×	○

＊ : Video may not be output, depending on the combination of ASD-1R and iPod.

• With the default settings, the iPod can be used connected to the VCR (iPod) connector.
• 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".
• Press **<ON/STANDBY>** or **[POWER OFF]** and set the AVR-4308's power to the standby mode before disconnecting the iPod. Also switch the input source to one to which the GUI menu "iPod dock" 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 data.
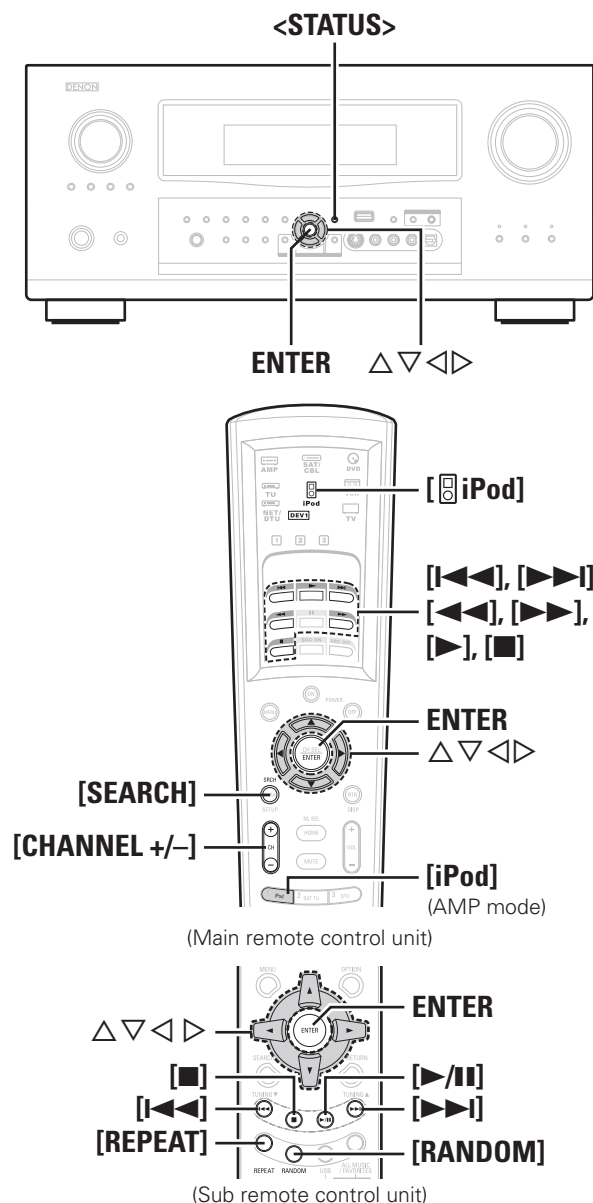
<STATUS>

ENTER △▽◁▷

[iPod]

**[I◄◄], [►►I],
[◄◄], [►►],
[►], [■]**

ENTER
△▽◁▷

[SEARCH]

[CHANNEL +/–]

[iPod]
(AMP mode)

(Main remote control unit)

△▽◁ ▷   **ENTER**

[■]   **[►/II]**
[I◄◄]   **[►►I]**
[REPEAT]   **[RANDOM]**

(Sub remote control unit)

About the button names in these explanations
< > : Buttons on the main unit
[ ] : Buttons on the remote control unit
Button name only:
Buttons on the main unit and remote control unit

Listening to Music

1 Use △▽ to select the menu, then press **ENTER** or ▷
to select the music file to be played.

2 Press **ENTER** or ▷.
Playback starts.

Stopping playback temporarily
During playback, press **ENTER**, [►] or [►/II] on the sub remote control unit.
Press again to resume playback.

Fast-forwarding or fast-reversing
During playback, either press and hold △ (to fast-reverse) or ▽ (to fast-forward), or press [◄◄] or [►►].

To cue to the beginning of a track
During playback, either press △ (to cue to the previous track) or ▽ (to cue to the next track), or press [I◄◄] or [►►I].

To stop
During playback, either press and hold **ENTER** or press [■].

Playing repeatedly
Press [CHANNEL –] or [REPEAT] on the sub remote control unit.

[Selectable items] All One OFF

GUI : "Source Select" – "(input source)" –
"Playback Mode (iPod)" – "Repeat" (☞ page 42)

Shuffling playback
Press [CHANNEL +] or [RANDOM] on the sub remote control unit.

[Selectable items] Albums Songs OFF

GUI : "Source Select" – "(input source)" –
"Playback Mode (iPod)" – "Shuffle" (☞ page 42)

Searching up or down pages
Press [SEARCH], then press ◁ (down) or ▷ (up).
To cancel, press △▽ or [SEARCH].

To switch between the Browse and Remote modes
Either press and hold [SEARCH].

✎

• The title name, artist name and album name can be checked by pressing **<STATUS>** during playback.
• On the AVR-4308, folder and file names can be displayed as titles. Any characters that cannot be displayed are replaced with " . (period)".
• The time for which the GUI menus are displayed can be set at GUI menu "Manual Setup" – "Option Setup" – "GUI" – "iPod" (☞ page 38).

Viewing Still Pictures or Videos on the iPod

Photo and video data on the iPod can be viewed on the monitor. (Only for iPods equipped with slideshow or video functions.)

1 Press and hold [SEARCH] to set the Remote mode.

2 Watching the iPod's screen, use △▽ to select "Photos" or "Video".

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

✎

• "TV Out" at the iPod's "Slideshow 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.
• When unable to operate by the remote control unit, use the iPod unit.

Playing Network Audio or 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.

❏ 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-4308 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 computer.
    ※ 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-4308'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-4308.
  vTuner services may be discontinued without notice.

❏ Music server

This function lets you play music files and playlists (m3u, wpl) stored on a computer (music server) connected to the AVR-4308 via a network.
With the AVR-4308'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 music 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-4308, 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.

Installing Windows Media Player ver. 11

① If Windows XP Service Pack 2 has not yet been installed, either download it free of charge from Microsoft or install it via a Windows update installer.
② Download the latest version of Windows Media Player ver. 11, either directly from Microsoft or using a Windows update installer.
※ When using Windows Vista, there is no need to download a new version of Windows Media Player.

❏ USB memory devices

A USB memory device can be connected to the AVR-4308's USB port to play music and still picture (JPEG) files stored on the USB memory device.
· Only USB memory devices conforming to mass storage class and MTP (Media Transfer Protocol) standards can be played on the AVR-4308.
· The AVR-4308 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-4308, 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	Music server※	USB※
WMA (Windows Media Audio)	○	○	○＊
MP3 (MPEG-1 Audio Layer-3)	○	○	○
WAV＊	–	○	○
MPEG-4 AAC	–	○＊	○＊
FLAC (Free Lossless Audio Codec)	–	○	○
JPEG	–	○	○

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

＊：Only files that are not protected by copyright can be played on the AVR-4308.
  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.

※ Music server and USB
  · The AVR-4308 is compatible with MP3 ID3-Tag (Ver. 2) standards.
  · The AVR-4308 is compatible with WMA META tags.

[Playable formats]

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

WAV format Quantization bit rate: 16 bits.
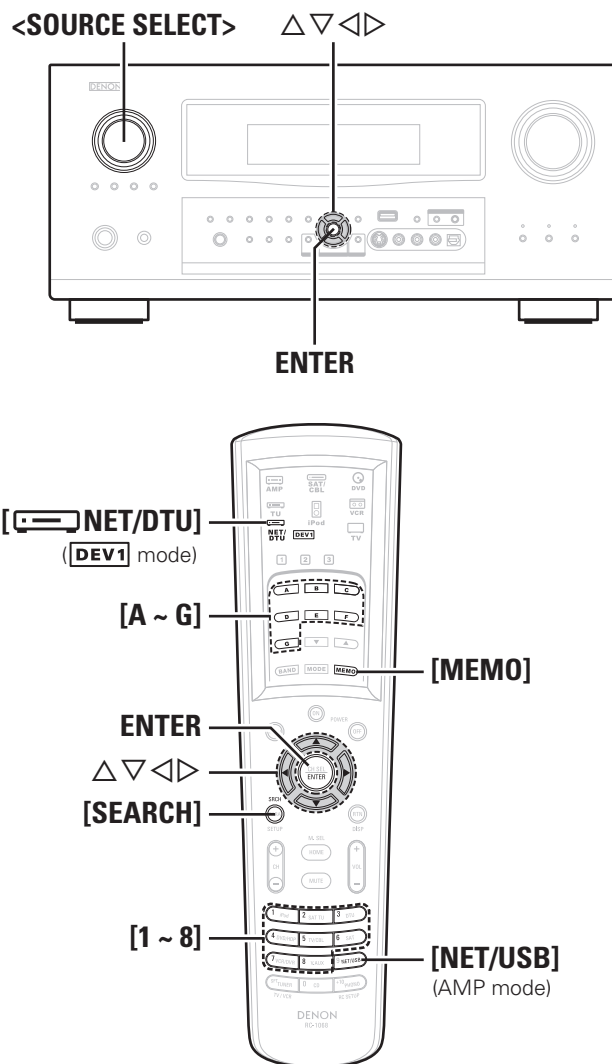
<SOURCE SELECT> $\triangle \triangledown \triangleleft \triangleright$

ENTER

[$\square$ NET/DTU]
($\boxed{\text{DEV1}}$ mode)

[A ~ G]

[MEMO]

ENTER

$\triangle \triangledown \triangleleft \triangleright$

[SEARCH]

[1 ~ 8]

[NET/USB]
(AMP mode)

About the button names in these explanations

< > : Buttons on the main unit
[ ] : Buttons on the remote control unit
Button name only:
Buttons on the main unit and remote control unit

Basic Operation

1 **Make the necessary preparations.**

① Check the network environment, then turn on the AVR-4308's power. (☞ page 21 "Network Audio")
② If settings are required, make the network settings.
(☞ page 33 ~ 36 "Network Setup")
③ Prepare the computer. (☞ Computer's operating instructions) Install "Windows Media Player ver. 11".

2 **Either turn <SOURCE SELECT> or press [NET/USB] (AMP mode) to select "NET/USB".**

$\boxed{\text{GUI}}$ **: "Source Select" –"NET/USB" –"Play"**
(☞ page 41)

3 **To operate using the main remote control unit, set the remote control unit to the NET/DTU ($\boxed{\text{DEV1}}$) mode.**
(☞ page 68 "Remote Control Unit Operations")

4 **Use $\triangle \triangledown$ to select the menu, then press ENTER or $\triangleright$ to select the file you want to play.**

5 **Press ENTER or $\triangleright$.**
Playback starts.

Stopping playback temporarily
During playback, press **ENTER**.
Press again to resume playback.

To stop
During the play or pause mode, press and hold **ENTER**.

Searching up or down pages
Press **[SEARCH]**, then press $\triangleleft$ (down) or $\triangleright$(up).
To cancel, press $\triangle \triangledown$ or **[SEARCH]**.

Searching by first letter (Character search)
This operation is convenient for choosing items from the menu screens for Internet radio stations or files stored on the computer.
① When the menu screen is displayed, press **[SEARCH]** twice.
② Use $\triangleleft \triangleright$ 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.

✏

• 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 for which the GUI menus are displayed can be set at GUI menu "Manual Setup" – "Option Setup" – "GUI" – "NET/USB" (☞ page 38).
• The display can be switched between the artist name, track name, album name.
• The track display order differs with the server specification. When, due to the server specification, track display is not in alphabetical order, character search may not operate correctly.

Listening to Internet Radio

1 Use △▽ to select "Internet Radio", then press **ENTER** or ▷.

2 Use △▽ to select the item you want to play, then press **ENTER** or ▷.
The station list is displayed.

3 Use △▽ to select the station, then press **ENTER** or ▷.
Playback starts once buffering reaches "100%".

🖊
• 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-4308, folder and file names can be displayed as titles. Any characters that cannot be displayed are replaced with " . (period)".

Recently Played Internet Radio Stations

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

1 Use △▽ to select "Recently Played", then press **ENTER** or ▷.

2 Use △▽ to select the item you want to play, then press **ENTER** or ▷.

NOTE

Up to 20 stations stored in "Recently Played".

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]**.

2 Use △▽ to select "Preset", then press **ENTER**.

3 Press **[A ~ G]**, then press **[1 ~ 8]** to select the desired preset number.
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

With the input source set to "NET/USB", press [A ~ G], then press [1 ~ 8].
The AVR-4308 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.

2 Use △▽ 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

1 Use △▽ to select "Favorites", then press **ENTER** or ▷.

2 Use △▽ to select the Internet radio station, then press **ENTER** or ▷.
The AVR-4308 automatically connects to the Internet and playback begins.

Clearing Internet Radio Stations from Your Favorites

1 Use △▽ to select "Favorites", then press **ENTER** or ▷.

2 Use △▽ 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 ▷.
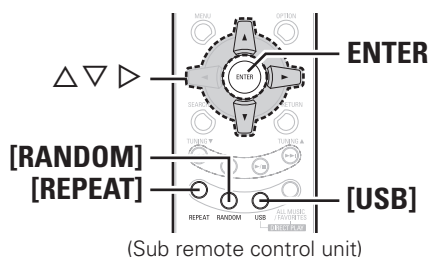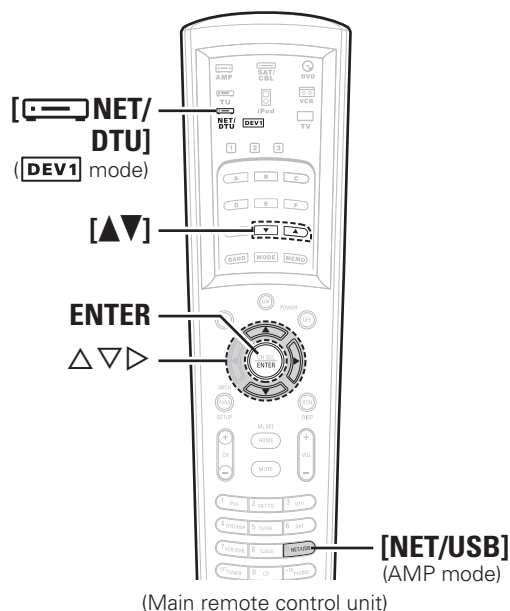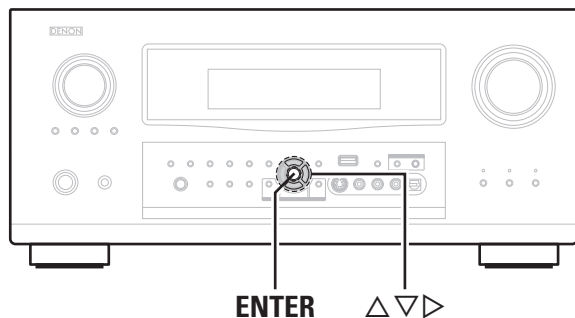
ENTER   △▽▷

[━━NET/
DTU]
(DEV1 mode)

[▲▼]

ENTER

△▽▷

[NET/USB]
(AMP mode)

(Main remote control unit)

△▽ ▷

ENTER

[RANDOM]
[REPEAT]

[USB]

(Sub remote control unit)

About the button names in these explanations

< > : Buttons on the main unit

[ ] : Buttons on the remote control unit

Button name only:

Buttons on the main unit and remote control unit

Playing Files Stored on a Computer

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

1 Use △▽ to select the host name of the computer on which the music file you want to play is located, then press **ENTER** or ▷.

2 Use △▽ to select the search item or folder, then press **ENTER** or ▷.

3 Use △▽ to select the file, then press **ENTER** or ▷.
Playback starts once buffering reaches "100%".

Selecting tracks

During playback, either press △ (previous track) or ▽ (next track).

✎

• When playing still picture (JPEG) files, files can also be selected using the operation described below.
  During playback, either press **[▲]** (previous file) or **[▼]** (next file).
• Connections to the required system and specific settings must be made in order to play music files (☞ page 21).
• 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.

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.

NOTE

• Presettings are erased by overwriting them.
• When the operation described below is performed, the music server's database is updated and it may no longer be possible to play preset or favorite music files.
  • When you quit the music server and then restart it.
  • When music files are deleted or added on the music server.

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-4308.

Basic Operation

1 Make the necessary preparations.
• Set the USB port to be used.

  GUI : **"Source Select"** – **"NET/USB"** –
  "Playback Mode" – **"USB Select"** (☞ page 43)

• Connect the USB memory device to the set USB port.

2 Use △▽ to select "USB", then press **ENTER** or ▷.

3 Use △▽ to select the search item or folder, then press **ENTER** or ▷.

4 Use △▽ to select the file, then press **ENTER** or ▷.
Playback starts once buffering reaches "100%".

✎

• 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.

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Playing repeatedly

Press **[REPEAT]** on the sub remote control unit.

[Selectable items] All One OFF

> **GUI** : **"Source Select"** – **"NET/USB"** –
> **"Playback Mode"** – **"Repeat"** (☞page 43)

Playing in random order

Press **[RANDOM]** on the sub remote control unit.

[Selectable items] ON OFF

> **GUI** : **"Source Select"** – **"NET/USB"** –
> **"Playback Mode"** – **"Random"** (☞page 43)

Selecting tracks

During playback, either press △ (previous track) or ▽ (next track).

✎

• When playing still picture (JPEG) files, tracks can also be selected using the operation described below.
  During playback, either press **[▲]** (previous file) or **[▼]** (next file).
• If the USB memory device is divided into multiple partitions, only the top partition can be selected.
• The AVR-4308 is compatible with MP3 files conforming to "MPEG-1 Audio Layer-3" standards.
• If **[USB]** on the sub remote control unit is pressed when the USB memory device or folder is selected, all the tracks on the USB memory device or in the folder are played.

NOTE

• The AVR-4308 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 the "Source Select" – "NET/USB" – "Playback Mode" – "USB Select" menu.
• 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-4308.
• 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 USB connection type portable hard disk of the type for which power can be supplied by connecting an AC adapter, we recommend using the AC adapter.
• It is not possible to connect and use a computer via the AVR-4308's USB port using a USB cable.
• The AVR-4308 is not compatible with the iPod shuffle.

Operating the AVR-4308 Using a Browser (Web control)

This function lets you operate the AVR-4308 using Internet Explorer.

1 Switch "OFF" the "Power Saving" setting under "Manual Setup" – "Network Setup" – "Other" on the GUI menu (☞page 36).

2 Check the AVR-4308's IP address with "Manual Setup" – "Network Setup" – "Network Information" on the GUI menu (☞page 36).

Checking the IP address.
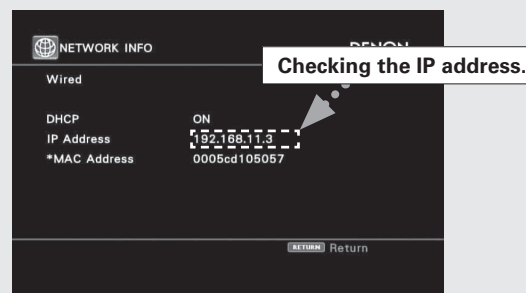
3 Enter the AVR-4308 IP address in Internet Explorer's address box.

For example, if the IP address of AVR-4308 is "192.168.11.3", enter "http://192.168.11.3".

Entering the IP address.

4 When the top menu is displayed, click on the menu you want to operate.

Click when you operate the setup menu. (☞Example 2)

Click when you operate a small screen such as a PDA screen, etc. (☞Example 4)

Click when you operate each zone. (☞Example 1)

Click to change zone name. (☞Example 3)
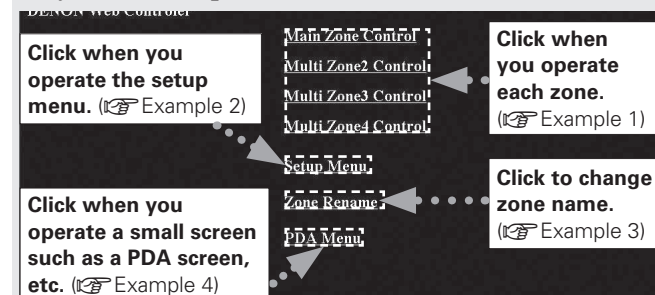
5 Operate.

[Example 1] Main zone control screen

Click when you update to the latest information. (*1)

Click to perform each operation.
Changes to each operation screen.
(☞Example 5)

Click to return to the top menu. (*2)

Click to add a setting to the "Favorites" in your browser. (*3)
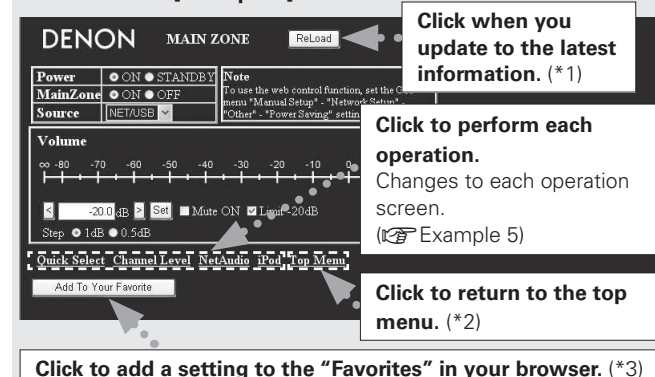
*1 : Normally, there is a change to the latest information each time you operate. When operated from the main unit, click because the screen is not updated.
*2 : Displayed when setting "Top Menu Link Setup" to "ON" in [Example 3].
*3 : To avoid mistakenly performing menu operations of a zone you are not operating, we recommend that you register the setting contents for each zone under Favorites in your browser.

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[Example 2] Setup menu screen

Click to determine a setting.

SOURCE SELECT ReLoad

Source NET/USB

Play

SOURCE SELECT
SURROUND MODE
PARAMETER
AUTO SETUP
MANUAL SETUP
INFORMATION
SAVE
LOAD

Click "v" and select from the displayed items.

Playback Mode
USB Select ● Front ● Rear
Repeat ● All ● One ● Off
Random ● On ● Off
Direct Play ● Favorite ● Music

After entering characters, click "Set" to set, or click "Def" to return to initial setting.

Video
Video Select SOURCE
i/p Scaler ● AtoH ● OFF
Resolution ● Auto ● 480p/576p ● 1080i ● 720p ● 1080p ● 1080p-24Hz
Aspect ● Full ● Normal

Enter figures or click "<" or ">" to make the setting, and then click "Set".

Input Mode
Input Mode Auto

Rename NET/USB Set Def

Source Level < 0dB > Set

Click the menu from which you want to make settings.
The display on the right becomes each setting screen.

Click "SAVE" when you want to save settings, and click "LOAD" when you want to call settings.
Becomes each operation screen.

[Example 3] Zone name change screen

Click "ON" when performing Top Menu Link Setup.
When set up, return to the top menu from each operation screen.
(Default setting : "OFF")

Main Zone
MAIN ZONE

Multi Zone2
ZONE2

Multi Zone3
ZONE3

Multi Zone4
ZONE4

Enter zone name.

Click to set zone name.

Click when changing the background color of each operation screen.

Set Zone Name

Top Menu Link Setup
● ON ● OFF

Color Choice
● Black ● Blue ● Gray

Back Top Menu

Click to return to the top menu.

[Example 4] PDA menu screen

NON Web Controler

Select to operate each zone.

Main Zone Control
Multi Zone2 Control
Multi Zone3 Control
Multi Zone4 Control
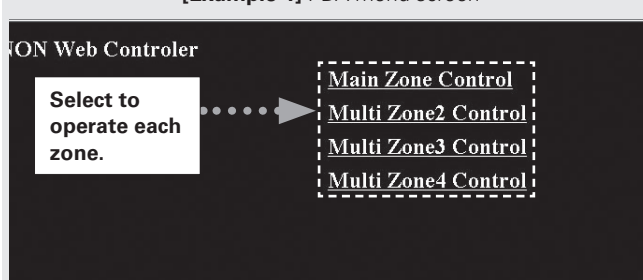
NOTE

You cannot change setup menu operations and zone name on the PDA menu screen.

[Example 5] Net Audio operating screen

Net Audio
PAGE DOWN PAGE UP

Click to move up/down the menu pages.

Network Audio

> Favorites
Internet Radio
Media Server
Recently Played

Click the menu from which you want to make settings.

Click when selecting menu.

[1/4] STOP

Click to stop play.

Click to repeat play.

Play Mode
Repeat   Random

Click to random play.

REPEAT 1 REPEAT OFF   ON OFF

Preset Station
A1 MEMORY

When registering presets, click "v" to select the channel you want to register, and then click "MEMORY".

Preset Jump
Preset-A Preset-B Preset-C

Character Se.

Jump To vTuner

Click "v" to select the preset channel you want to play.

When searching using an acronym, click "v" and select from the displayed characters.

NOTE

- To perform web control, you must connect a web control device such as a PC to the same network as the AVR-4308.
- With web control, some network settings, etc., cannot be set.
- When updating firmware, settings made by the web controller may be reset.

<SOURCE SELECT> INPUT MODE
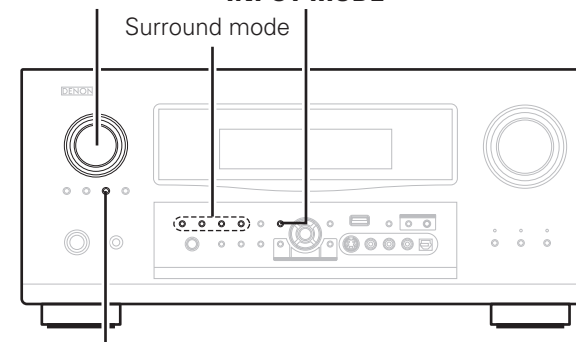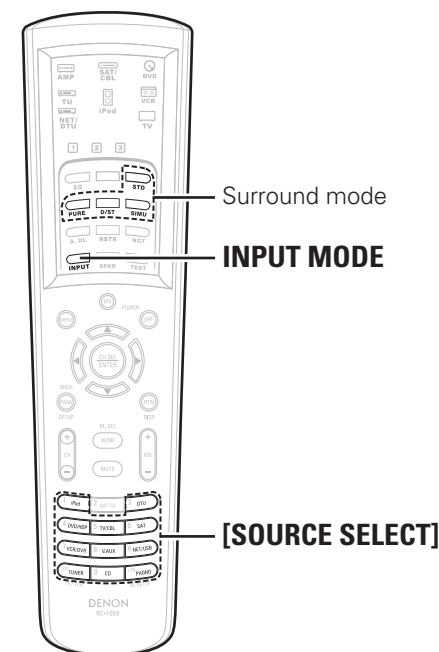
Surround mode

<ZONE2/3/4 / REC SELECT>

Surround mode

INPUT MODE

[SOURCE SELECT]

About the button names in these explanations
< > : Buttons on the main unit
[ ] : Buttons on the remote control unit
Button name only:
Buttons on the main unit and remote control unit

Other Operations and Functions

Other Operations

Playing Super Audio CD

1 **Assign "DENON LINK" or "HDMI" at the "Digital" or "HDMI" setting (☞ page 43).**

2 **Either turn <SOURCE SELECT> or press [SOURCE SELECT] to select the input source assigned in step 1.**
The "D.LINK" or "HDMI" indicator lights on the display.

3 **Use INPUT MODE to select the input mode (☞ page 42).**
Select the input mode according to the program source to be played.

4 **Select the surround mode (☞ page 45, 46).**
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 2-channel 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.

1 **Press <ZONE2/3/4 / REC SELECT>.**
"ZONE2 SOURCE" is shown on the display.

ZONE2 SOURCE ←→ ZONE2 TUNER ←→ .... ←→ ZONE2 DAB

RECOUT DAB ←→ RECOUT NET/USB ←→ .... ←→ RECOUT SOURCE

2 **Turn <SOURCE SELECT> until "RECOUT SOURCE" is displayed.**
The " REC " indicator lights.

3 **Turn <SOURCE SELECT> to choose the input source to be recorded.**

4 **Play the program source.**
For operating instructions, refer to the respective equipment's operating instructions.
To record FM or AM broadcasts, select the broadcast (☞ page 52).

5 **Start recording.**
For operating instructions, refer to the respective equipment's operating instructions.

🖊

• To cancel, press **<ZONE2/3/4 / 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.
• When the "Digital Out" setting is set to "ZONE4 Select", the OPTICAL3 output connector becomes the ZONE4 output. When using for recording, set to "Rec Select".
• The "DAB" digital audio output signals are not output from the OPTICAL2 or OPTICAL3 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.
• When an input source to which "DENON LINK" has been assigned is selected in the MAIN ZONE, the PCM signal and network audio signal (Internet radio, music server or USB) input from the digital input connector cannot be output to the analog REC OUT connectors.
• Input sources for which "Delete" is selected at "Source Delete" cannot be selected.
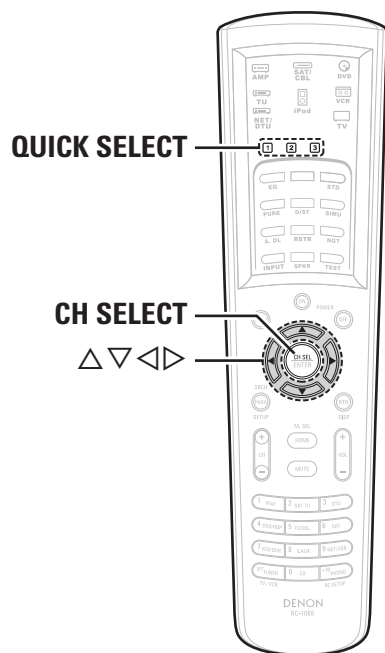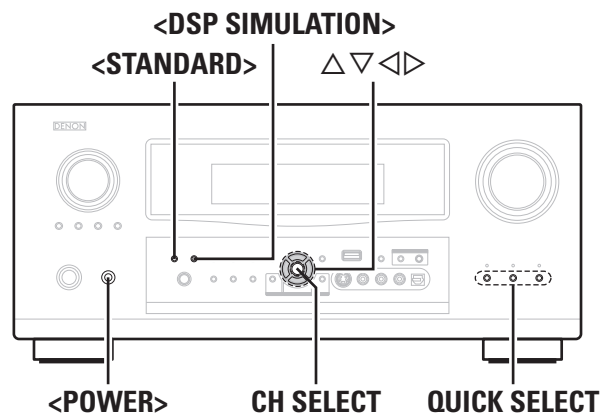
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<DSP SIMULATION>

<STANDARD> △ ▽ ◁ ▷

<POWER>   **CH SELECT**   **QUICK SELECT**

QUICK SELECT

CH SELECT

△ ▽ ◁ ▷

About the button names in these explanations

< > : Buttons on the main unit

[ ] : Buttons on the remote control unit

Button name only:

Buttons on the main unit and remote control unit

Convenient Functions

Channel Level

You can adjust the channel level either according to the playback sources or to suit your taste, as described below.

1 Press **CH SELECT**.

2 Use △ ▽ or **CH SELECT** to select the speaker.
The speaker that can be set switches each time one of the buttons is pressed.

3 Use ◁ ▷ to adjust the volume.

※ "OFF" can be set by pressing ◁ when the subwoofer's volume is set to –12 dB.

Fader Function

This function lets you adjust (fade) the sound from all the front or rear speakers at once.

1 Press **CH SELECT**.

2 Press △ ▽ or **CH SELECT** to select "Fader".

3 Use ◁ ▷ to adjust the volume of the speakers.
(◁: front, ▷: 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.

Quick Select Function

With this function, the currently playing input source, input mode, surround mode, room EQ settings and volume can be stored in the memory.

1 Set the input source, input mode, surround mode, room EQ settings and volume to the conditions you want to store.

2 Press and hold the desired **QUICK SELECT**.
Keep pressing the button until the quick select indicator lights.

[Quick Select Defaults]

	Input Source	Volume
Quick Select 1	DVD	–40 dB
Quick Select 2	TV/CBL	–40 dB
Quick Select 3	VCR	–40 dB

🖉

• To call out the settings, press **QUICK SELECT** at which the desired settings were stored.

• The Quick Select name can be changed (☞ page 38).

NOTE

Input sources stored with the quick select function cannot be selected if they have been deleted at GUI menu "Manual Setup" – "Option Setup" – "Source Delete" (☞ page 38). In this case, store them again.

Personal Memory Plus Function

This function sets the settings (input mode, surround mode, etc.) last selected for the individual input sources.
When you switch to an input source, the settings are automatically set to the ones that were set the last time that input source was used.

🖉

The surround parameters, tone control, room EQ settings and the volumes of the different speakers are stored for the individual surround modes.

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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.

Backup Memory

The various settings are backed up for about 1 week, even if the power is turned off or the power cord is disconnected.

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>**.

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.

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Remote Control Unit Operations

Main Remote Control Unit

• On the main remote control unit, the display switches according to the device being operated and the mode.

• In modes other than iPod, the mode switches between " DEV1 " and " DEV2 " each time the [MODE SELECTOR] is pressed.

• In the AMP, TUNER, NET/DTU and iPod modes, when the remote ID is set, the AVR-4308 can be used independently even in an environment containing multiple DENON amplifiers.

Signal transmission indicator

[▭▭AMP]

[MODE SELECTOR]

[HOME]

[NUMBER]

[RC SETUP]
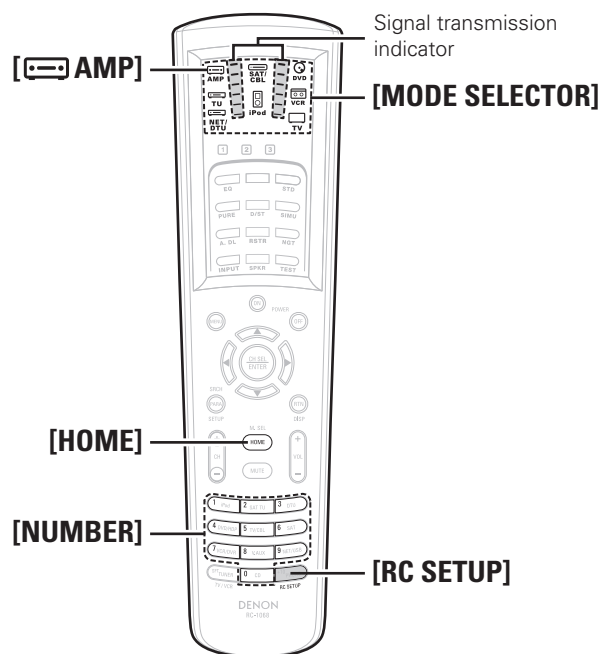
Depending on the model and year of manufacture of your equipment, some buttons may not operate.

NOTE

The device mode (" DEV1 " or " DEV2 ") cannot be changed while the setting is being made.

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Operating DENON Audio Components

1 **Press [MODE SELECTOR] for the component to be operated.**

The indicator for the component to be operated flashes.

▭▭ AMP : AMP / ZONE2 / ZONE3 / ZONE4 / SYSTEM CALL

🎧 iPod : iPod

▭▭ TU : TUNER (FM/AM)

🔘 DVD : DVD player (Recorder) / CD player (Recorder)

▭▭ NET/ DTU : NETWORK/USB / DIGITAL TUNER (DAB)

▭▭ VCR : VCR / TAPE

▭▭ SAT/ CBL : Satellite Receiver / Cable TV

▭ TV : TV

※ On the AVR-4308, the TUNER (DEV2) mode is not used.

※ The mode switches each time [AMP] is pressed.

【AMP mode】 　　　【ZONE2 mode】 　　　【ZONE3 mode】

【SYSTEM CALL mode】 　　　【ZONE4 mode】
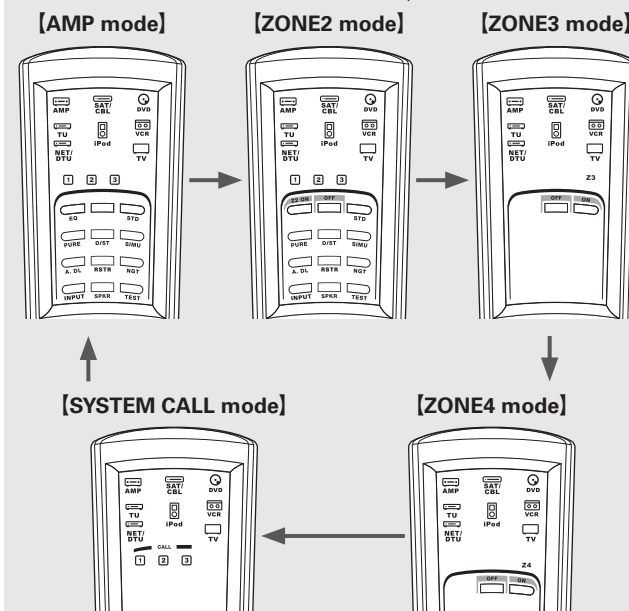
2 **Operate the component.**

※ For details, refer to the component's operating instructions.

[HOME] is used to return to the AMP mode (AMP, ZONE2, ZONE3, ZONE4 or SYSTEM CALL) when in any mode other than AMP.

Presetting

The included main remote control unit can be preset to operate devices of various brands.

1 **Press [MODE SELECTOR] 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 [NUMBER] and input the 5-digit number of the brand of the component to be preset. The numbers are shown in the Preset Code Table (☞ 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.

Operating Preset Components

1 **Press [MODE SELECTOR] for the component to be operated.**
The mode indicator of the device to be operated flashes.

2 **Operate the component.**

※ For details, refer to the component's operating instructions.

Functions of Buttons by Component

EL Display

[MODE SELECTOR]

[▶], [I◀◀ ▶▶I], [◀◀ ▶▶], [❚❚], [■], [SOURCE ON], [SOURCE OFF]

[MENU]

[SETUP/ SEARCH]

[CH + / SHUFFLE], [CH – / REPEAT]

[ENTER]

[△▽◁▷]

[RETURN]

[0 ~ 9, +10]

Buttons

EL Display							
MODE SELECTOR	DVD				VCR		iPod
Device Mode	DEV1		DEV2		DEV1	DEV2	DEV1
Device operated	DVD (Default setting)	DVD Recorder	CD (Default setting)	CD Recorder	VCR	TAPE	iPod
▶	Playback	Playback	Playback	Playback	Playback	Playback	Playback/Pause
I◀◀ ▶▶I	Auto search (cue)	Auto search (cue)	Auto search (cue)	Auto search (cue)	Auto search (cue)	Auto search (cue)	Auto search (cue)
◀◀ ▶▶	Manual search (fast-reverse/ fast-forward)	Manual search (fast-reverse/ fast-forward)	Manual search (fast-reverse/ fast-forward)	Manual search (fast-reverse/ fast-forward)	Manual search (fast-reverse/ fast-forward)	Manual search (fast-reverse/ fast-forward)	Manual search (fast-reverse/ fast-forward)
❚❚	Pause	Pause	Pause	Pause	Pause	Pause	–
■	Stop	Stop	Stop	Stop	Stop	Stop	Stop
SOURCE ON	Power on	Power on	–	–	Power on	–	–
SOURCE OFF	Power off	Power off	–	–	Power off	–	–
Buttons							
MENU	Menu/guide	Menu/guide	–	–	Menu/guide	–	Menu
△ ▽ ◁ ▷	Cursor	Cursor	–	–	Cursor	–	Cursor
ENTER	Enter setting	Enter setting	–	–	Enter setting	–	Enter
SETUP/SEARCH	Set up	Set up	–	–	Set up	–	Page forward screen / Browse/ Remote mode switching (Press and hold)
RETURN	Return	Return	–	–	Cancel	–	Return
CH + / SHUFFLE	–	–	–	–	Switch channels	–	1-track/album shuffle play
CH – / REPEAT	–	–	–	–	Switch channels	–	1-track/All-track repeat play
0 ~ 9, +10	Select track	Select track	Select track	Select track	–	–	–
Special Remarks	①, ②		①		①	①	–

【Special Remarks】
① Only one component can be preset for each mode. If a new code is preset, the previous code is automatically cleared.
② The names of the functions for the DVD remote control buttons differ from brand to brand. Check beforehand.

NOTE

• Preset a DVD player or DVD recorder for the "DVD" – " DEV1 " mode. Preset a CD player or CD recorder for the "DVD" – " DEV2 " mode.
• Preset a VCR for the "VCR" – " DEV1 " mode. Preset a tape deck for the "VCR" – " DEV2 " mode.

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EL Display

[MODE SELECTOR]

[▶],
[I◀◀ ▶▶I],
[◀◀ ▶▶], [II],
[■],
[SOURCE ON],
[SOURCE OFF]

[MENU]

[ENTER]

[△ ▽ ◁ ▷]

[SETUP]

[DISPLAY]

[CH +/–]

[0 ~ 9, +10]

[TV/VCR]

Buttons

EL Display

[MODE SELECTOR]

[A ~ G], [▲ ▼],
[BAND],
[MODE],
[MEMO]

[ENTER]

[△ ▽ ◁ ▷]

[SEARCH]

[CH +/–]

[0 ~ 9]

[SHIFT]

Buttons
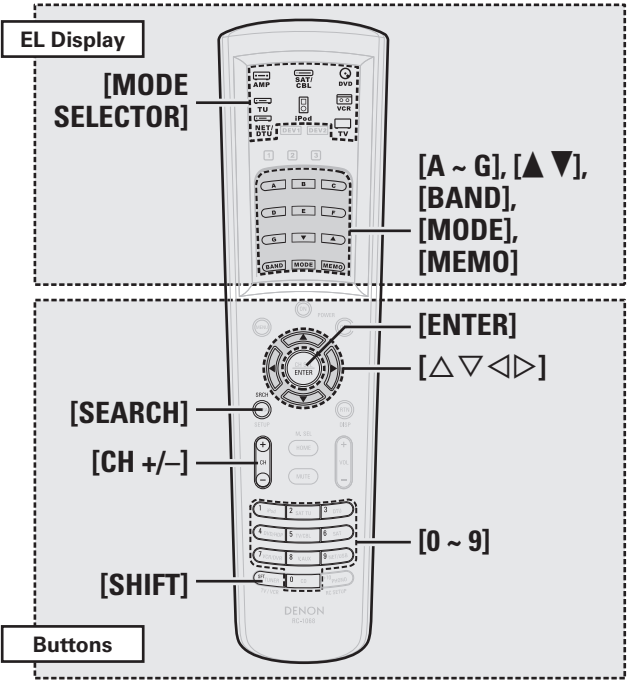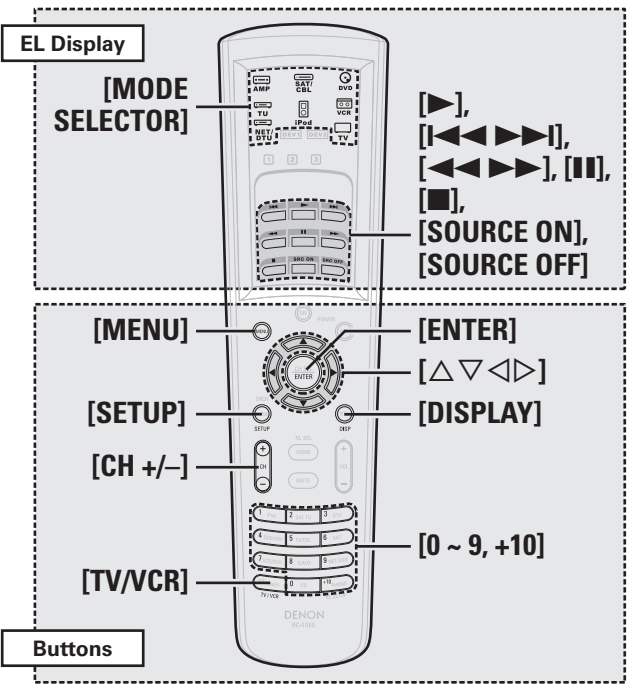
EL Display				
MODE SELECTOR	**TV**		**Satellite Receiver / Cable TV**	
Device Mode	DEV1	DEV2	DEV1	DEV2
Device operated	TV (HITACHI)	TV (SONY)	SAT	SAT
▶				
I◀◀ ▶▶I				
◀◀ ▶▶	Punch through	Punch through	Punch through	Punch through
II				
■				
SOURCE ON	Power on	Power on	Power on	Power on
SOURCE OFF	Power off	Power off	Power off	Power off
Buttons				
MENU	Menu/guide	Menu/guide	Menu/guide	Menu/guide
△ ▽ ◁ ▷	Cursor	Cursor	Cursor	Cursor
ENTER	Enter setting	Enter setting	Enter setting	Enter setting
SETUP	Set up	Set up	Set up	Set up
DISPLAY	Display	Display	Display	Display
CH + / –	Switch channels	Switch channels	Switch channels	Switch channels
0 ~ 9, +10	Channel selection	Channel selection	Channel selection	Channel selection
TV/VCR	Switch inputs	Switch inputs	–	–
Special Remarks	①, ③	①, ③	①, ③	①, ③

【**Special Remarks**】
① Only one component can be preset for each mode. If a new code is preset, the previous code is automatically cleared.
③ The CD, VCR or DVD buttons (one only set) can be assigned to the TV, satellite receiver and cable TV mode (☞page 72 "Punch Through Function").

EL Display			
MODE SELECTOR	**TU**	**NET / DTU**	
Device Mode	DEV1	DEV1	DEV2
Device operated	Analog tuner	NET / USB	DAB
A ~ G	Preset memory block selection	Preset memory block selection	Preset memory block selection
▲ ▼	Tuning + / –	–	Channel selection
BAND	AM/FM switching	–	–
MODE	Switch search modes	–	Switch search modes
MEMO	Preset memory registration	Favorites / Preset memory registration	–
Buttons			
△ ▽ ◁ ▷	–	Cursor	–
ENTER	–	Enter, Playback/Pause	–
SEARCH	RDS search	Search	Station order selection
CH + / –	Preset channel selection	Preset channel selection	Preset channel selection
0 ~ 9	Preset channel selection (1 ~ 8)	Preset channel selection (1 ~ 8)	Preset channel selection (1 ~ 8)
SHIFT	Switch memory block	Switch memory block	Switch memory block

[⊏⊐ AMP]

[⊏⊐ TU]

[⊏⊐ NET/DTU]

Signal transmission indicator

[MODE SELECTOR]

[◦ iPod]

[NUMBER]

[RC SETUP]

MODE SELECTOR Remote ID	AMP (MAIN)	TUNER		iPod	NET/DTU	
		DEV1 (Analog TUNER)			DEV1 (Net Audio)	DEV2 (DAB)
1 (Default)	81001	52863		72815	62865	62840
2	82001	52795		72816	62837	62841
3	83001	52800		72817	62838	62842
4	84001	52805		72818	62839	62843

NOTE

• When changing a setting, be sure to set the same remote ID as the AVR-4308's (☞ page 39).
• When changing the AMP mode's remote ID, also change the "TUNER", "iPod" and "NET/DTU" remote ID at the same time.
• Set the remote ID of an analog tuner for "TUNER" – " DEV1 ".

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-4308's main remote control unit.

1 Press **[MODE SELECTOR]** for the device you want to set.

2 Press and hold in **[RC SETUP]** for at least 3 seconds.
The signal transmission indicator flashes twice.

3 Press **[9]**, **[7]** and **[5]**, in that order.
The signal transmission indicator flashes twice and the learning mode is 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.

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.

1 Press **[AMP]** to set the main remote control unit to the AMP mode.

2 Press and hold in **[RC SETUP]** for at least 3 seconds.
The signal transmission indicator flashes twice.

3 Refer to the table at the right, and use **[NUMBER]** to input the 5-digit number corresponding to the remote ID to be changed.
The signal transmission indicator flashes twice.

4 Press **[TU]**, **[iPod]** or **[NET/DTU]** to select the mode to be set.

5 Repeat steps 2 to 4 to set the remote IDs for all modes.

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.

Other device's remote control unit

AVR-4308's main remote control unit (RC-1068)
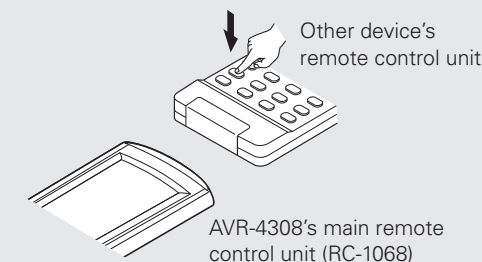
※ If you want to learn other buttons, repeat steps 4 and 5.
※ The mode can be switched by pressing **[MODE SELECTOR]**.
※ The signal transmission indicator lights once for a long time if learning was not possible

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 73).

NOTE

• **[HOME]** cannot be learned.
• Do not learn any remote control signals at **[RC SETUP]**.
• The AMP, ZONE2, ZONE3, ZONE4 and SYSTEM CALL modes cannot be learned.

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Signal transmission indicator

[⊡ AMP]

[MODE SELECTOR]

[SYSTEM CALL]

[POWER ON]

[CHANNEL +/–]

[NUMBER]

[RC SETUP]

[|◀◀],
[▶▶|],
[◀◀],
[▶▶],
[▶], [❙❙],
[■]
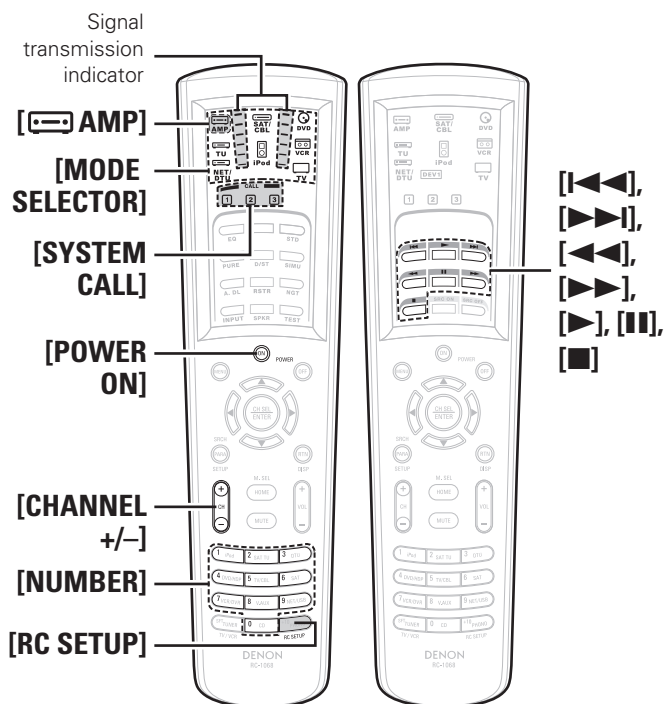
System Call Function

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 **[SYSTEM CALL]** (**1, 2** or **3**).

Registering

1 Press **[MODE SELECTOR]** for the device you want to register.

2 Press and hold in **[RC SETUP]** for at least 3 seconds.
The signal transmission indicator flashes twice.

3 Press **[9]**, **[7]** and **[8]**, in that order.
The signal transmission indicator flashes twice and the system call registration mode is set.

4 Press **[SYSTEM CALL]** (**1, 2** or **3**) at which you want to register the signals.

5 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 **[MODE SELECTOR]** – **[DVD]**.
↓
Press **[▶]**.
※ The mode can be switched by pressing **[MODE SELECTOR]**.
※ Perform the registration procedure for all the buttons you want to register.

6 Press and hold in **[RC SETUP]** for at least 3 seconds.
The signal transmission indicator flashes twice and the setting is completed.

Calling out

1 Press **[AMP]**, to select "SYSTEM CALL".

2 Press **[SYSTEM CALL]** (**1, 2** or **3**) at which the signals were registered.
The registered signals are transmitted in the registered sequence.

Punch Through Function

CD, DVD or 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.

1 Press **[MODE SELECTOR]** for the device you want to punch through (CD, DVD or VCR).

2 Press and hold in **[RC SETUP]** for at least 3 seconds.
The signal transmission indicator flashes twice.

3 Press **[9]**, **[8]** and **[4]**, in that order.
The signal transmission indicator flashes twice and the punch through setting mode is set.

4 Press the button you want to punch through (▶, ■, ◀◀, ▶▶, |◀◀, ▶▶| or ❙❙).

5 Press **[MODE SELECTOR]** for the device you want to punch through (TV or SAT/CBL).

6 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

1 **Press and hold in [RC SETUP] for at least 3 seconds.**
The signal transmission indicator flashes twice.

2 **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 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 3)

1 **Press and hold in [RC SETUP] for at least 3 seconds.**
The signal transmission indicator flashes twice.

2 **Press [CHANNEL +] or [CHANNEL −].**
The display gets one step brighter when **[+]** is pressed.
The display gets one step darker when **[−]** is pressed.

3 **Press [RC SETUP] to complete the setting.**

Resetting the Main Remote Control Unit

Learning Function

[Resetting button by button]

1 **Press [MODE SELECTOR] for the device you want to reset.**

2 **Press and hold in [RC SETUP] for at least 3 seconds.**
The signal transmission indicator flashes twice.

3 **Press [9], [7] and [6], in that order.**
The signal transmission indicator flashes twice.

4 **Press the button you want to reset twice.**
The signal transmission indicator flashes twice.

[Resetting by device mode]

1 **Press [MODE SELECTOR] for the device you want to reset.**

2 **Press and hold in [RC SETUP] for at least 3 seconds.**
The signal transmission indicator flashes twice.

3 **Press [9], [7] and [6], in that order.**
The signal transmission indicator flashes twice.

4 **Press [MODE SELECTOR] for the device you want to reset twice.**
The signal transmission indicator flashes twice.

System call function

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.

3 **Press [SYSTEM CALL] (1, 2 or 3) you want to reset.**

4 **Press and hold in [RC SETUP] for at least 3 seconds.**
The signal transmission indicator flashes twice.

Punch-through function

1 **Press [MODE SELECTOR] for the device you want to reset (TV or SAT/CBL).**

2 **Press and hold in [RC SETUP] for at least 3 seconds.**
The signal transmission indicator flashes twice.

3 **Press [9], [8] and [4], in that order.**
The signal transmission indicator flashes twice.

4 **Press and hold in [RC SETUP] for at least 3 seconds.**
The signal transmission indicator flashes twice.

All settings

1 **Press and hold in [RC SETUP] for at least 3 seconds.**
The signal transmission indicator flashes twice.

2 **Press [9], [8] and [1], in that order.**
The signal transmission indicator flashes 4 times.
All the settings are restored to their defaults.

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Sub Remote Control Unit Operations

• 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-4308 from other rooms.

• The operations listed below can be performed with the sub remote control unit.
 • Switching the input source
 • Adjusting the volume
 • Tuner (AM/FM), DAB 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.

[ZONE OFF]
[ZONE SELECT]
[ZONE ON]
[SOURCE SELECT]
[CHANNEL +/–]
[VOLUME +/–]
[MUTE]
[SHIFT]
[MENU]
[ENTER]
[△ ▽ ◁ ▷]
[RETURN]
[SEARCH]
[|◄◄ ►►|], [■], [►/II], [TUNING ▲ ▼]
[REPEAT]
[ALL MUSIC], [FAVORITES]
[RANDOM]
[USB]
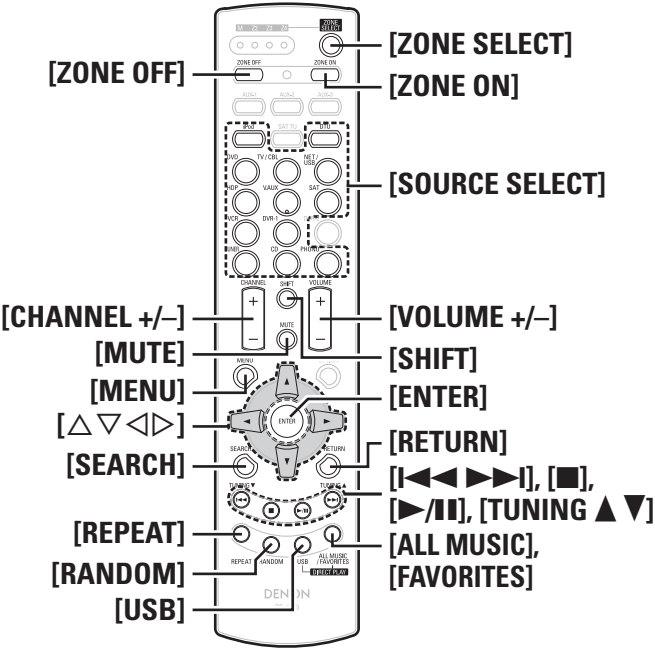
Functions of Buttons by Component

Device operated	DVD, HDP, TV / CBL, DVR1, VCR, V.AUX, SAT, CD, PHONO				TUNER (AM/FM)				DTU (DAB)			
Zone selection	M	Z2	Z3	Z4	M	Z2	Z3	Z4	M	Z2	Z3	Z4
ZONE SELECT	Zone operation mode selection				Zone operation mode selection				Zone operation mode selection			
ZONE OFF	Power turned off (※1)				Power turned off (※1)				Power turned off (※1)			
ZONE ON	Power turned on (※1)				Power turned on (※1)				Power turned on (※1)			
SOURCE SELECT	Input source selection (※2)				Input source selection			–	Input source selection			–
CHANNEL + / –	–				Preset channel selection			–	Preset channel selection			–
SHIFT	–				Preset channel memory block selection			–	Preset channel memory block selection			–
VOLUME + / –	Adjustment of volume (※1)			–	Adjustment of volume (※1)			–	Adjustment of volume (※1)			–
MUTE	Muting (※1)			–	Muting (※1)			–	Muting (※1)			–
MENU	Selected zone menu			–	Selected zone menu			–	Selected zone menu			–
△ ▽ ◁ ▷	–				–				–			–
SEARCH	–				RDS search			–	Station order selection			–
|◄◄ ►►|, TUNING ▲ ▼	–				Tuning			–	Channel selection			–
USB	※3			–	※3			–	※3			–
ALL MUSIC * (Music server only)	※4			–	※4			–	※4			–
FAVORITES *	※5			–	※5			–	※5			–

※1: Affects the currently selected zone.

※2: In ZONE4, it is not possible to select "DAB", or sources with no digital input signals ("TUNER", "PHONO", "iPod", etc.).
Network audio signals (Internet radio, music server, USB) can be played as long as they are not copyright-protected.

※3: The input source switches to "NET/USB" and the files on the USB memory device are played.

※4: The input source switches to "NET/USB" and the files in "All Music" on the music server are played.

※5: 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 43).

DIRECT PLAY button

• Playback is possible in the mode selected at GUI menu "Source Select" – "NET/USB" – "Playback Mode" – "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.

Device operated	NET / USB				iPod			
Zone selection	M	Z2	Z3	Z4	M	Z2	Z3	Z4
ZONE SELECT	Zone operation mode selection				Zone operation mode selection			
ZONE OFF	Power turned off (※1)				Power turned off (※1)			
ZONE ON	Power turned on (※1)				Power turned on (※1)			
SOURCE SELECT	Input source selection (※2)				Input source selection			–
CHANNEL + / –	Preset channel selection				–			
SHIFT	Preset channel memory block selection				–			
VOLUME + / –	Adjustment of volume (※1)			–	Adjustment of volume (※1)			–
MUTE	Muting (※1)			–	Muting (※1)			–
MENU	Selected zone menu			–	Selected zone menu			–
△ ▽ ◁ ▷	File operations			–	File operations			–
ENTER	File operations			–	File operations			–
SEARCH	Page forward screen / Character search			–	Page forward screen / Browse/Remote mode switching (press and hold)			–
RETURN	File operations			–	–			
⏮ ⏭, TUNING ▲ ▼	Track search				Track search			–
■	Stop				Stop			–
▶/❙❙	Play/pause				Play/pause			–
REPEAT	1-track/All-track repeat play (USB)				1-track/All-track repeat play			–
RANDOM	1-track random play (USB)				1-track/album shuffle play			–
USB	※3				※3			–
ALL MUSIC * (Music server only)	※4				※4			–
FAVORITES *	※5				※5			–

※1: Affects the currently selected zone.
※2: In ZONE4, it is not possible to select "DAB", or sources with no digital input signals ("TUNER", "PHONO", "iPod", etc.).
Network audio signals (Internet radio, music server, USB) can be played as long as they are not copyright-protected.
※3: The input source switches to "NET/USB" and the files on the USB memory device are played.
※4: The input source switches to "NET/USB" and the files in "All Music" on the music server are played.
※5: 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 43).

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Multi-zone indicator

[ZONE SELECT]

[ADVANCED SETUP]

[ZONE OFF]

[MENU]

[RANDOM]   **[USB]**

[REPEAT]   **[ALL MUSIC/ FAVORITES]**

Switching Zones

Use this procedure to select the zone to be operated by the sub remote control unit.

1 **Press [ZONE SELECT].**
The currently selected multi-zone indicator lights.

2 **While the multi-zone indicator is light, press [ZONE SELECT] to select the zone to be operated.**
The currently selected multi-zone indicator lights.

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.

1 **Use the tip of a pen to press [ADVANCED SETUP].**
All the multi-zone indicators light.

2 **Select the multi-zone to be set.**
The selected multi-zone indicator lights.

①To set to main zone : Press **[REPEAT]**.
②To set to ZONE2 : Press **[RANDOM]**.
③To set to ZONE3 : Press **[USB]**.
④To set to ZONE4 : Press **[ALL MUSIC/FAVORITES]**.

3 **Use the tip of a pen to press [ADVANCED SETUP].**
The multi-zone indicator turns off.

To Cancel

1 **Use the tip of a pen to press [ADVANCED SETUP].**
The currently selected multi-zone indicator lights.

2 **Press [ZONE SELECT].**
All the multi-zone indicators light.

3 **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.

1 **While pressing [MENU], press [ADVANCED SETUP] with the tip of a pen.**
The multi-zone indicator corresponding to the currently selected remote ID flashes.

2 **Select the remote ID to be set.**

①To set to 1 : Press **[REPEAT]**.
The "M" indicator flashes.
②To set to 2 : Press **[RANDOM]**.
The "Z2" indicator flashes.
③To set to 3 : Press **[USB]**.
The "Z3" indicator flashes.
④To set to 4 : Press **[ALL MUSIC/FAVORITES]**.
The "Z4" indicator flashes.

3 **While pressing [MENU], press [ADVANCED SETUP] 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-4308's (☞ page 39).

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.

Amp Assign / Multi-Zone Connections and Operations

The AVR-4308 is compatible with the following types of playback:
- **Multi-zone playback (ZONE2 & ZONE3)**
- **Bi-amp playback (front speaker)**
- **Bi-wiring playback (front speaker)**

NOTE

- For bi-amp and bi-wiring playback, use speakers compatible with that type of connection.
- When conducting bi-amp or bi-wiring playback, remove the short-circuiting boards (or wires) from the speaker terminals.

Multi-Zone Settings with the Amp Assign Function

The amp assign function lets you assign the amplifiers for the different channels built into the AVR-4308 to the speaker outputs for the different zones.
Select the desired playback environment from among "Setting 2" to "Setting 7", then set the corresponding "Amp Assign" mode at GUI menu "Manual Setup" – "Option Setup" – "Amp Assign" (☞ page 37).
Connect the speakers as described at "Speaker connections".

🖉

With "Setting 5" to "Setting 7", it is possible to switch the Amp Assign mode between the 7.1-channel mode and the multizone mode without changing the speaker connections.

Setting 1:
● 7.1-channel playback

Main zone

FL SW C FR

SL 7.1ch SR

A A
B B

SBL SBR
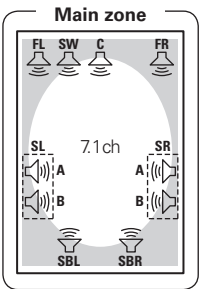
Amp Assign mode:

→ 7.1CH (Default)

❏ Speaker connections

Speaker terminal	FRONT		CENTER	SURR-A		SURR. BACK		SURR-B/ AMP ASSIGN		AMP ASSIGN-2	
	R	L		R	L	R	L	R	L	R	L
Speaker to connect	FR	FL	C	SR-A	SL-A	SBR	SBL	SR-B	SL-B	–	–

❏ Channels outputting to the various speaker terminals

Speaker terminal / Amp Assign mode	FRONT		CENTER	SURR-A		SURR. BACK		SURR-B/ AMP ASSIGN		AMP ASSIGN-2	
	R	L		R	L	R	L	R	L	R	L
7.1CH	FR	FL	C	SR-A	SL-A	SBR	SBL	SR-B	SL-B	–	–

Setting 2: With this setting it is possible to switch between the following two playback modes.
- ●**7.1-channel playback**
- ●**Switching between bi-amp and bi-wiring playback using speakers exclusively for 2-channel playback**
  Switching ··············Surround Mode switching
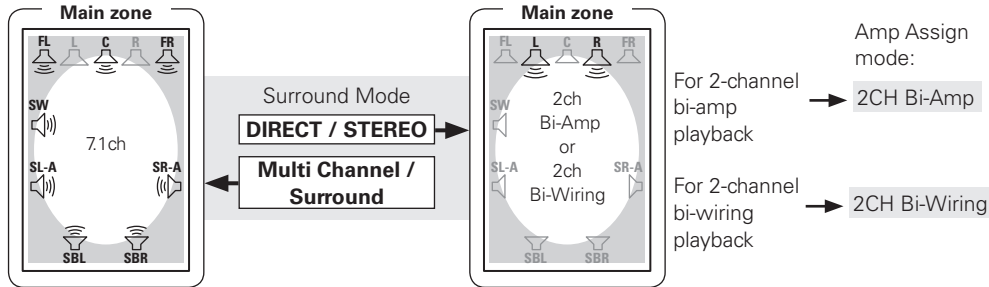
Setting 3:
- ●**Making bi-amp connections for the FL and FR channels in the main zone and conducting 5.1-channel playback**
  (switching with other modes not possible)

Both A and B can be installed for SR and SL.

Setting 4:
- ●**Making bi-wiring connections for the FL and FR channels in the main zone and conducting 7.1-channel playback**
  (switching with other modes not possible)

Both A and B can be installed for SR and SL.

❏ Speaker connections

Speaker terminal	FRONT		CENTER	SURR-A		SURR. BACK		SURR-B/ AMP ASSIGN		AMP ASSIGN-2	
	R	L		R	L	R	L	R	L	R	L
Speaker to connect	FR	FL	C	SR-A	SL-A	SBR	SBL	R	L	R	L
								2ch L/R Bi-Amp connection or 2ch L/R Bi-Wiring connection			

❏ Channels outputting to the various speaker terminals

Amp Assign mode	Speaker terminal / Status	FRONT		CENTER	SURR-A		SURR. BACK		SURR-B/ AMP ASSIGN		AMP ASSIGN-2	
	Surround Mode	R	L		R	L	R	L	R	L	R	L
2CH Bi-Amp	DIRECT / STEREO	–	–	–	–	–	–	–	R	L	R	L
									2ch L/R Bi-Amp connection			
2CH Bi-Wiring		–	–	–	–	–	–	–	R	L	R	L
									2ch L/R Bi-Wiring connection			
2CH Bi-Amp	Multi Channel / Surround	FR	FL	C	SR-A	SL-A	SBR	SBL	–	–	–	–
2CH Bi-Wiring		FR	FL	C	SR-A	SL-A	SBR	SBL	–	–	–	–

❏ Speaker connections

Amp Assign mode	Speaker terminal	FRONT		CENTER	SURR-A		SURR. BACK		SURR-B / AMP ASSIGN		AMP ASSIGN-2	
		R	L		R	L	R	L	R	L	R	L
Bi-Amp	Speaker to connect	FR	FL	C	SR-A	SL-A	–	–	SR-B	SL-B	FR	FL
											FL/FR Bi-Amp connection	
Bi-Wiring		FR	FL	C	SR-A	SL-A	SBR	SBL	SR-B	SL-B	FR	FL
											FL/FR Bi-Wiring connection	

❏ Channels outputting to the various speaker terminals

Amp Assign mode	FRONT		CENTER	SURR-A		SURR. BACK		SURR-B / AMP ASSIGN		AMP ASSIGN-2	
	R	L		R	L	R	L	R	L	R	L
Bi-Amp	FR	FL	C	SR-A	SL-A	–	–	SR-B	SL-B	FR	FL
										FL/FR Bi-Amp connection	
Bi-Wiring	FR	FL	C	SR-A	SL-A	SBR	SBL	SR-B	SL-B	FR	FL
										FL/FR Bi-Wiring connection	

Setting 5: With this setting it is possible to switch between the following two playback modes.

● **7.1-channel playback**

● **Multi-zone playback**

• 5.1-channel playback + ZONE2 or ZONE3 stereo playback with bi-wiring connections

• 5.1-channel playback + ZONE2 monaural playback + ZONE3 monaural playback with bi-wiring connections

Switching ················**ZONE2 ON/OFF** button, **ZONE3 ON/OFF** button

🖉
Both A and B can be installed for SR and SL.

🖉
Both A and B can be installed for SR and SL.

❏ **Speaker connections**

Speaker terminal	FRONT		CENTER	SURR-A		SURR. BACK		SURR-B / AMP ASSIGN		AMP ASSIGN-2	
	R	L		R	L	R	L	R	L	R	L
Speaker to connect	FR	FL	C	SR-A	SL-A	SBR	SBL	FR / FL/FR Bi-Wiring connection	FL	Z2R Z3R Z3 (MONO)	Z2L Z3L Z2 (MONO)

❏ **Channels outputting to the various speaker terminals**

Amp Assign mode \ Speaker terminal	Status ZONE2 & ZONE3	FRONT		CENTER	SURR-A		SURR. BACK		SURR-B / AMP ASSIGN		AMP ASSIGN-2	
		R	L		R	L	R	L	R	L	R	L
Bi & ZONE2	ON	FR	FL	C	SR-A	SL-A	–	–	FR / FL/FR Bi-Wiring connection	FL	Z2R	Z2L
Bi & ZONE3											Z3R	Z3L
Bi & ZONE (MONO)											Z3 (MONO)	Z2 (MONO)
Bi & ZONE2	OFF	FR	FL	C	SR-A	SL-A	SBR	SBL	FR / FL/FR Bi-Wiring connection	FL	–	–
Bi & ZONE3												
Bi & ZONE (MONO)												

Setting 6: With this setting it is possible to switch between the following two playback modes.

● **7.1-channel playback**

● **Multi-zone playback**

• 5.1-channel playback + ZONE2 or ZONE3 stereo playback

• 5.1-channel playback + ZONE2 monaural playback + ZONE3 monaural playback

Switching ················**ZONE2 ON/OFF** button, **ZONE3 ON/OFF** button

🖉
Both A and B can be installed for SR and SL.

🖉
Both A and B can be installed for SR and SL.

❏ **Speaker connections**

Speaker terminal	FRONT		CENTER	SURR-A		SURR. BACK		SURR-B / AMP ASSIGN		AMP ASSIGN-2	
	R	L		R	L	R	L	R	L	R	L
Speaker to connect	FR	FL	C	SR-A	SL-A	SBR	SBL	SR-B	SL-B	Z2R Z3R Z3 (MONO)	Z2L Z3L Z2 (MONO)

❏ **Channels outputting to the various speaker terminals**

Amp Assign mode \ Speaker terminal	Status ZONE2 & ZONE3	FRONT		CENTER	SURR-A		SURR. BACK		SURR-B / AMP ASSIGN		AMP ASSIGN-2	
		R	L		R	L	R	L	R	L	R	L
ZONE2	ON	FR	FL	C	SR-A	SL-A	–	–	SR-B	SL-B	Z2R	Z2L
ZONE3											Z3R	Z3L
ZONE (MONO)											Z3 (MONO)	Z2 (MONO)
ZONE2	OFF	FR	FL	C	SR-A	SL-A	SBR	SBL	SR-B	SL-B	–	–
ZONE3												
ZONE (MONO)												

Setting 7: With this setting it is possible to switch between the following two playback modes.
● 7.1-channel playback
● Multi-zone playback
• 3.1-channel playback + ZONE2 stereo playback + ZONE3 stereo playback
• 3.1-channel playback + ZONE2 monaural playback + ZONE3 monaural playback

Switching ················· **ZONE2 ON/OFF** button, **ZONE3 ON/OFF** button
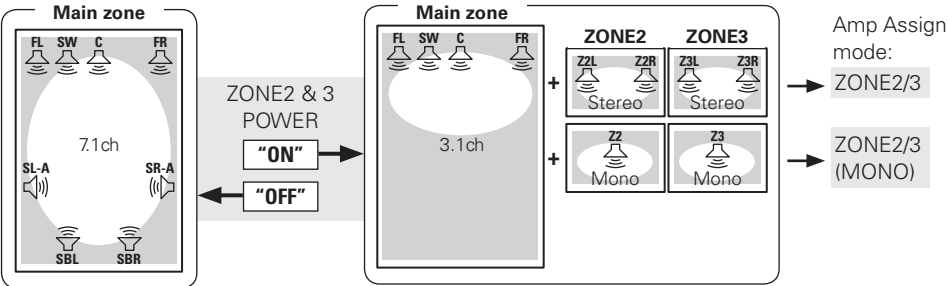
✎
• When the **ZONE2 ON/OFF** button is set to "ON" and the **ZONE3 ON/OFF** button is set to "OFF", the main zone is set to 5.1-channel playback.
• When the **ZONE3 ON/OFF** button is set to "ON", the main zone is set to 3.1-channel playback.

❏ Speaker connections

Speaker terminal	FRONT		CENTER	SURR-A		SURR. BACK		SURR-B / AMP ASSIGN		AMP ASSIGN-2	
	R	L		R	L	R	L	R	L	R	L
Speaker to connect	FR	FL	C	SR-A	SL-A	SBR	SBL	Z3R	Z3L	Z2R	Z2L
								Z3 (MONO)		Z2 (MONO)	

❏ Channels outputting to the various speaker terminals

Amp Assign mode / Speaker terminal	Status ZONE2 & ZONE3	FRONT		CENTER	SURR-A		SURR. BACK		SURR-B / AMP ASSIGN		AMP ASSIGN-2	
		R	L		R	L	R	L	R	L	R	L
ZONE2/3	ON	FR	FL	C	–	–	–	–	Z3R	Z3L	Z2R	Z2L
ZONE2/3 (MONO)									Z3 (MONO)		Z2 (MONO)	
ZONE2/3	OFF	FR	FL	C	SR-A	SL-A	SBR	SBL	–	–	–	–
ZONE2/3 (MONO)												

Multi-Zone Settings and Operations with Zone Pre-out Output

Prepare power amplifiers for ZONE2 and ZONE3, an amplifier that is compatible with bit-stream input for ZONE4.

	Connectors for audio output	Audio signals	Connectors for video output
ZONE2	ZONE2 PRE OUT	Stereo	ZONE2 VIDEO OUT, ZONE2 COMPONENT VIDEO OUT
ZONE3	ZONE3 PRE OUT	Stereo	–
ZONE4	ZONE4 OPTICAL3 OUT	Bit-stream	–

·············· : Multi-zone video cable
———— : Multi-zone audio cable
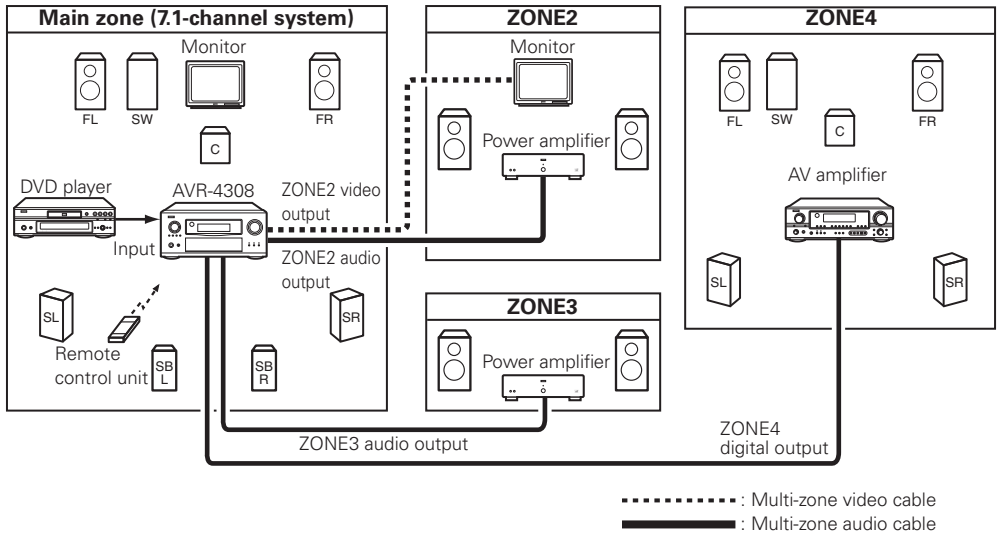
✎
• When only using one speaker for ZONE2 or ZONE3, set to "Mono". In this case, the ZONE2 (ZONE3) monaural output is output from the ZONE2 (ZONE3) pre-out L and R connectors, so connect as desired.
• Separate power amplifiers are needed for ZONE2 and ZONE3.
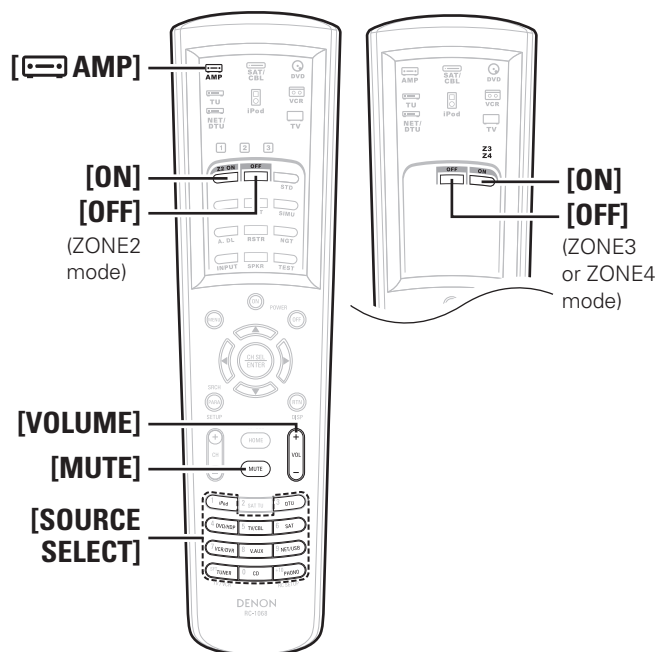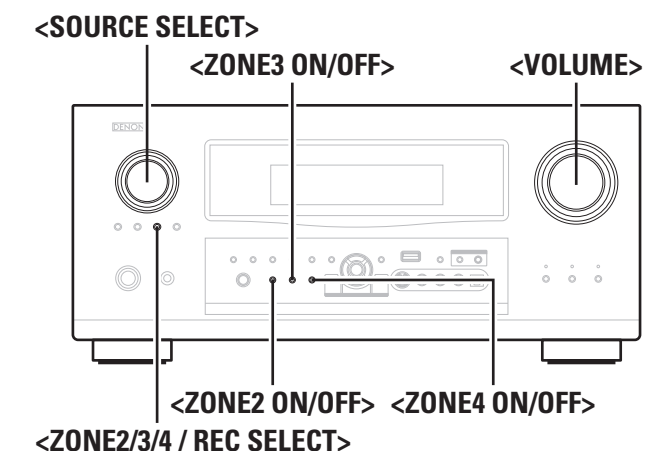
<SOURCE SELECT>

<ZONE3 ON/OFF> **<VOLUME>**

<ZONE2 ON/OFF> **<ZONE4 ON/OFF>**

<ZONE2/3/4 / REC SELECT>

[⊡ AMP]

[ON]
[OFF]
(ZONE2 mode)

[ON]
[OFF]
(ZONE3 or ZONE4 mode)

[VOLUME]

[MUTE]

[SOURCE SELECT]

About the button names in these explanations

< > : Buttons on the main unit

[ ] : Buttons on the remote control unit

Button name only:

Buttons on the main unit and remote control unit

Multi-Zone Operations

Turning the Power On and Off

【Operation on the main unit】

Press **<ZONE2 ON/OFF>**, **<ZONE3 ON/OFF>** or **<ZONE4 ON/OFF>** for the zone to be operated.

When the power turns on, the multi-zone indicator lights on the display.

【Operation on the remote control unit】

In the zone mode you want to operate, press **[ON]** or **[OFF]**.

Selecting the Input Source

【Operation on the main unit】

① Press **<ZONE2/3/4 / REC SELECT>** and select the zone to be adjusted.
② Turn **<SOURCE SELECT>**.

【Operation on the remote control unit】

In the zone mode you want to operate, press **[SOURCE SELECT]**.

Adjusting the Volume

【Operation on the main unit】

① Press **<ZONE2/3/4 / 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]**.

[Variable range]   − − −   −70dB ~ −40dB ~ +18dB

✏

• The volume can be adjusted when GUI menu "Manual Setup" – "Zone Setup" – "(select the zone)" – "Volume Level" is set to "Variable". The volume can be increased up to the value set at GUI menu "Manual Setup" – "Zone Setup" – "(select the zone)" – "Volume Limit" (☞ page 37).
• The volume for ZONE2 and ZONE3 can be adjusted with the remote control unit.

Turning off the Sound Temporarily

In the zone mode for which you want to mute the sound, press **[MUTE]**.

The sound is reduced to the level set at GUI menu "Manual Setup" – "Zone Setup" – "(select the zone)" – "Mute Level" (☞ page 37).

To cancel, either adjust the volume or press **[MUTE]** again.

The setting is canceled when the zone's power is turned off.

✏

• The source selected for ZONE2 is also output from the recording output connectors.
• For ZONE2, the "Zone Setup" can be made while watching the on-screen 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.

```
ZONE2 MENU

 INPUT :DVD
 SIGNAL:ANALOG
 VOL.  :−40dB              ZONE2 MENU

 >Bass          ◄  0dB►   >Channel      ◄STEREO►
  Treble        ◄  0dB►    Vol.Lev.     ◄ VAR  ►
  HPF           ◄ OFF►     Vol.Limit    ◄ OFF  ►
  Lch Lev.      ◄  0dB►    P.On Lev.      LAST►
 ↓Rch Lev.      ◄  0dB►    Mute Lev.    ◄ FULL►
```
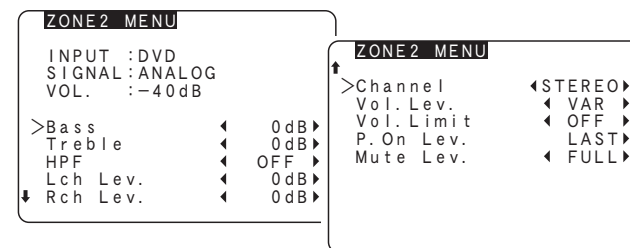
NOTE

• When connected to the component video output connectors, the on-screen display is not displayed.
• 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.
• Digital audio signals input from the DENON LINK or HDMI connectors cannot be played in multi-zone.
• In ZONE4, it is not possible to select "DAB", or sources with no digital input signals ("TUNER", "PHONO", "iPod", etc.). Network audio signals (Internet radio, music server, USB) can be played as long as they are not copyright-protected.
• When certain digital signals are being input, noise may be output from the ZONE2 and ZONE3 audio output connectors.
• When an input source to which "DENON LINK" has been assigned is selected in the MAIN ZONE, the PCM signal and network audio signal (Internet radio, music server or USB) input from the digital input connector cannot be output to the ZONE2 and ZONE3 audio output connectors.

Other Information

About Speaker Installation

Surround back speakers

Sound positioning directly to the rear can be achieved easily by adding a surround back speaker to a 5.1-channel system.

In addition, the acoustic image extending between the sides and the rear is narrowed, thus greatly improving the expression of the surround signals for sounds moving from the sides to the back and from the front to the point directly behind the listening position.

Change of positioning and acoustic image with 5.1-channel systems
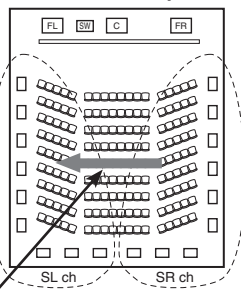
Movement of acoustic image from SR to SL

Change of positioning and acoustic image with 6.1-channel systems
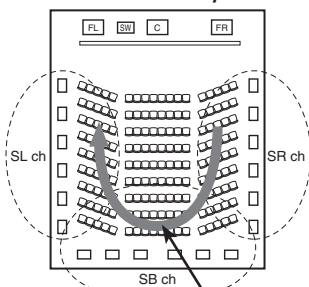
Movement of acoustic image from SR to SB to SL

In addition to sources recorded in 6.1-channels, the surround effect of conventional 2- to 5.1-channel sources can also be enhanced.

Number of surround back speakers

We recommend using 2 speakers.
When using dipolar speakers in particular, be sure to use 2 speakers.

Placement of the surround left and right channels when using surround back speakers

We recommend installing the speakers for the surround "L" and "R" channels a bit forward.

Examples of speaker layouts

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.

【1】 Using surround back speaker(s)

① **When mainly playing movies**
Recommended when your surround speakers are single or 2-way speakers.
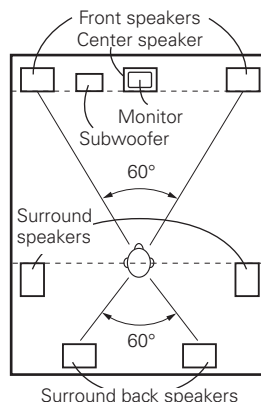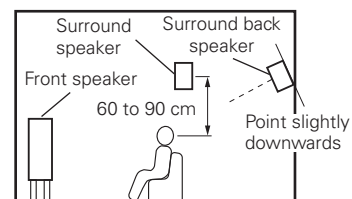
[As seen from above]   **[As seen from the side]**

② **Setting for primarily watching movies using diffusion type speakers for the surround speakers**
For the greatest sense of surround sound envelopment, diffuse radiation speakers such as bipolar types, or dipolar types, provide a wider dispersion than is possible to obtain from a direct radiating speaker (monopolar). Place these speakers at either side of the prime listening position, mounted above ear level.

Path of the surround sound from the speakers to the listening position
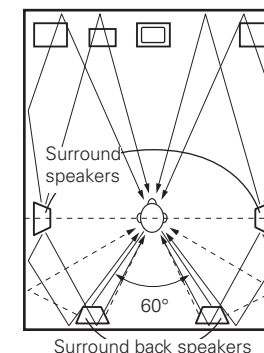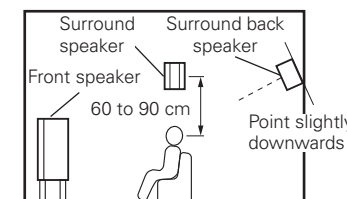
[As seen from above]   **[As seen from the side]**

③ **When playing movies and music**
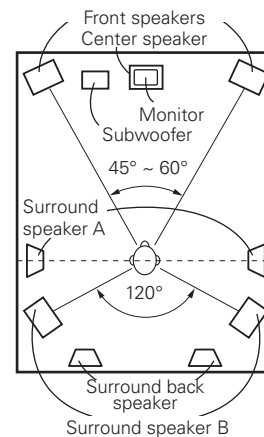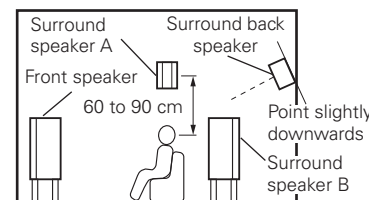
[As seen from above]   **[As seen from the side]**

[2] When not using surround back speakers

Front speakers
Center speaker
Monitor
Subwoofer
60°
120°
Surround speakers

[As seen from above]

Surround speaker
Front speaker
60 to 90 cm

[As seen from the side]
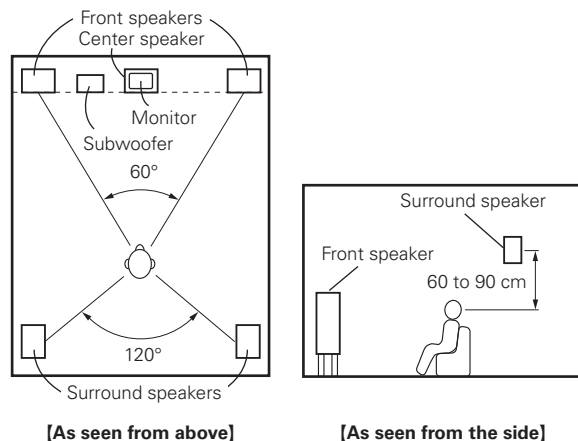
Surround

The AVR-4308 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 Surround

Dolby Digital

Dolby Digital is a multichannel 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 II 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.

※ Sources recorded in Dolby Surround

Sources recorded in Dolby Surround are indicated with the following logo marks.

Dolby Surround support mark : ▯▯ DOLBY SURROUND

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

DTS-ES™ 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.

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 & 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.© 1996-2007 DTS, Inc. All Rights Reserved.

Audyssey MultEQ® XT

Audyssey MultEQ® XT is the first technology to properly measure sound information throughout a listening area, then combine this information to accurately represent the acoustical problems in the room. Based on these measurements, MultEQ XT calculates an equalization solution that corrects for both time and frequency response problems in every seat.

Audyssey MultEQ XT not only corrects frequency response problem in a large listening area, it also performs a fully automated surround system setup.

For a detailed description, see page 26.

AUDYSSEY
MULTEQ XT

Audyssey MultEQ® XT is a trademark of Audyssey Laboratories. It is licensed under U.S. and National Patent Applications 20030235318 and 10/700,220. Additional U.S. and Foreign Patents pending. MultEQ XT and the Audyssey MultEQ XT logo are trademarks of Audyssey Laboratories, Inc. All rights reserved.

HDCD®
(High Definition Compatible Digital®)

HDCD® 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.

HDCD®, 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 DVD players 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.

Advanced AL24 Processing Multi channel

Equipped with "Advanced AL24 Processing" time axis region information volume expansion

In addition to the existing "AL24 Processing Plus" bit expansion technology, DENON has also developed "Advanced AL24 Processing" that dramatically improves information volume in the time axis region using high-speed signal detection and processing technology. In addition to expanding original 16-bit digital data to 24 bits, "Advanced AL24 Processing" uses data interpolation along the time axis or up-converted sampling to achieve natural interpolation without losing the original data. A digital filter is used to further expand adaptability and perform optimum filtering calculations for ringing-free pulse response, pulsive music data and attack sounds.

This results in the reproduction of such spatial information as the delicate nuances in the music, the positions of the performers, and the breadth, height, and depth of the concert hall. "Advanced AL24 Processing" is conducted for all channels and modes other than DSD DIRECT.

HDMI (High-Definition Multimedia Interface)

HDMI is a digital interface standard for next generation TVs based on DVI (Digital Visual Interface) standards and optimized for use in consumer equipment.

Non-compressed digital video and multi-channel audio signals are transmitted with a single connection.

HDMI is also compatible with HDCP (High-bandwidth Digital Contents Protection), a technology for protecting copyrights that encrypts digital video signals in the same was as with DVI.

Deep Color

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

Enables increased contrast ratio.

Can represent many times more shades of gray between black and white.

At 30-bit pixel depth, a four times improvement would be the minimum, and the typical improvement would be eight times or more.

xvYCC

Next-generation "xvYCC" color space supports 1.8 times as many colors as existing HDTV signals.

Lets HDTVs display colors more accurately.

Enables displays with natural, vivid colors.

Lip Sync

Because consumer electronics devices are using increasingly complex digital signal processing to enhance the clarity and detail of the content, synchronization of video and audio in user devices has become a greater challenge and could potentially require complex end-user adjustments. HDMI 1.3 incorporates an automatic video/audio synching capability that allows devices to perform this synchronization automatically with total accuracy.

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

Surround Modes and Parameters

| Surround Mode | Signals and adjustability in the different modes | | | | | | | | | | |
| | Channel output | | | | | Parameter (default values are shown in parentheses) | | | | | |
	Front L/R	Center	Surround L/R	Surround Back L/R	Subwoofer	D. COMP *1	DRC *2	LFE *3	AFDM *1	SB CH Out	Cinema EQ.
PURE DIRECT, DIRECT	○	×	×	×	◎	○ (OFF)	○ (Auto)	○ (0 dB)	×	×	×
DSD DIRECT	○	×	×	×	×	×	×	×	×	×	×
DSD MULTI DIRECT	○	◎	◎	◎	◎	×	×	○ (0 dB)	×	○	×
MULTI CH DIRECT	○	◎	◎	◎	◎	×	×	○ (0 dB)	○ (ON)	○	×
STEREO	○	×	×	×	◎	○ (OFF)	○ (Auto)	○ (0 dB)	×	×	×
EXT. IN	○	◎	◎	◎	◎	×	×	×	×	×	×
MULTI CH IN	○	◎	◎	◎	◎	×	×	○ (0 dB)	○ (ON)	○	×
WIDE SCREEN	○	◎	◎	◎	◎	○ (OFF)	○ (Auto)	○ (0 dB)	×	○	○ (OFF)
DOLBY PRO LOGIC IIx	○	◎	◎	◎	◎	○ (OFF)	○ (Auto)	×	×	○	○ (NOTE1)
DOLBY PRO LOGIC II	○	◎	◎	×	◎	○ (OFF)	○ (Auto)	×	×	○	○ (NOTE2)
DTS NEO:6	○	◎	◎	◎	◎	○ (OFF)	○ (Auto)	×	×	○	○ (NOTE1)
DOLBY DIGITAL	○	◎	◎	◎	◎	○ (OFF)	×	○ (0 dB)	○ (ON)	○	○ (OFF)
DOLBY DIGITAL Plus	○	◎	◎	◎	◎	○ (OFF)	×	○ (0 dB)	○ (ON)	○	○ (OFF)
DOLBY TrueHD	○	◎	◎	◎	◎	○ (OFF)	○ (Auto)	○ (0 dB)	○ (ON)	○	○ (OFF)
DTS SURROUND	○	◎	◎	◎	◎	○ (OFF)	×	○ (0 dB)	○ (ON)	○	○ (OFF)
DTS 96/24	○	◎	◎	◎	◎	○ (OFF)	×	○ (0 dB)	○ (ON)	○	○ (OFF)
DTS-HD	○	◎	◎	◎	◎	○ (OFF)	×	○ (0 dB)	○ (ON)	○	○ (OFF)
7CH STEREO	○	◎	◎	◎	◎	○ (OFF)	○ (Auto)	○ (0 dB)	×	○	×
SUPER STADIUM	○	◎	◎	◎	◎	○ (OFF)	○ (Auto)	○ (0 dB)	×	○	×
ROCK ARENA	○	◎	◎	◎	◎	○ (OFF)	○ (Auto)	○ (0 dB)	×	○	×
JAZZ CLUB	○	◎	◎	◎	◎	○ (OFF)	○ (Auto)	○ (0 dB)	×	○	×
CLASSIC CONCERT	○	◎	◎	◎	◎	○ (OFF)	○ (Auto)	○ (0 dB)	×	○	×
MONO MOVIE	○	◎	◎	◎	◎	○ (OFF)	○ (Auto)	○ (0 dB)	×	○	×
VIDEO GAME	○	◎	◎	◎	◎	○ (OFF)	○ (Auto)	○ (0 dB)	×	○	×
MATRIX	○	◎	◎	◎	◎	○ (OFF)	○ (Auto)	○ (0 dB)	×	○	×
VIRTURL	○	×	×	×	◎	○ (OFF)	○ (Auto)	○ (0 dB)	×	×	×

○ : Signal / Adjustable
× : No signal / Not adjustable
◎ : Turned on or off by speaker configuration setting

○ : Enable
× : Unable
NOTE1 : This parameter is availabe when the GUI menu "Parameter" – "Audio" – "Surround Parameters" – "Mode" is set to "Cinema" (☞ page 46).
NOTE2 : This parameter is availabe when the GUI menu "Parameter" – "Audio" – "Surround Parameters" – "Mode" is set to "Cinema" or "Pro Logic" (☞ page 46).

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.

Surround Mode	Signals and adjustability in the different modes													
	Parameter (default values are shown in parentheses)													
	Mode	Room Size	Effect Level	Delay Time	Subwoofer	PRO LOGIC II/IIx MUSIC mode only			NEO:6 MUSIC mode only	EXT. IN only	Tone	Night Mode	Room EQ	RESTORER
						Panorama	Dimension	Center Width	Center Image	Subwoofer Att.				
PURE DIRECT, DIRECT	×	×	×	×	○	×	×	×	×	×	×	○ (OFF)	○ (NOTE5)	○
DSD DIRECT	×	×	×	×	◎	×	×	×	×	×	×	×	×	×
DSD MULTI DIRECT	×	×	×	×	×	×	×	×	×	×	×	×	×	×
MULTI CH DIRECT	×	×	×	×	×	×	×	×	×	×	×	○ (OFF)	○ (NOTE5)	×
STEREO	×	×	×	×	×	×	×	×	×	×	○ (0 dB)	○ (OFF)	○ (OFF)	○
EXT. IN	×	×	×	×	×	×	×	×	×	○	×	×	×	×
MULTI CH IN	×	×	×	×	×	×	×	×	×	×	○ (0 dB)	○ (OFF)	○ (OFF)	×
WIDE SCREEN	×	×	○ (ON, 10)	×	×	×	×	×	×	×	○ (0 dB)	○ (OFF)	○ (OFF)	○
DOLBY PRO LOGIC IIx	○ (Cinema)	×	×	×	×	○ (OFF)	○ (3)	○ (3)	×	×	○ (0 dB)	○ (OFF)	○ (OFF)	○
DOLBY PRO LOGIC II	○ (Cinema)	×	×	×	×	○ (OFF)	○ (3)	○ (3)	×	×	○ (0 dB)	○ (OFF)	○ (OFF)	○
DTS NEO:6	○ (Cinema)	×	×	×	×	×	×	×	○ (0.3)	×	○ (0 dB)	○ (OFF)	○ (OFF)	○
DOLBY DIGITAL	×	×	×	×	×	×	×	×	×	×	○ (0 dB)	○ (OFF)	○ (OFF)	×
DOLBY DIGITAL Plus	×	×	×	×	×	×	×	×	×	×	○ (0 dB)	×	○ (OFF)	×
DOLBY TrueHD	×	×	×	×	×	×	×	×	×	×	○ (0 dB)	×	○ (OFF)	×
DTS SURROUND	×	×	×	×	×	×	×	×	×	×	○ (0 dB)	○ (OFF)	○ (OFF)	×
DTS 96/24	×	×	×	×	×	×	×	×	×	×	○ (0 dB)	○ (OFF)	○ (OFF)	×
DTS-HD	×	×	×	×	×	×	×	×	×	×	○ (0 dB)	×	○ (OFF)	×
7CH STEREO	×	×	×	×	×	×	×	×	×	×	○ (0 dB)	○ (OFF)	○ (OFF)	○
SUPER STADIUM	×	○ (Medium)	○ (10)	×	×	×	×	×	×	×	○ (NOTE3)	○ (OFF)	○ (OFF)	○
ROCK ARENA	×	○ (Medium)	○ (10)	×	×	×	×	×	×	×	○ (NOTE4)	○ (OFF)	○ (OFF)	○
JAZZ CLUB	×	○ (Medium)	○ (10)	×	×	×	×	×	×	×	○ (0 dB)	○ (OFF)	○ (OFF)	○
CLASSIC CONCERT	×	○ (Medium)	○ (10)	×	×	×	×	×	×	×	○ (0 dB)	○ (OFF)	○ (OFF)	○
MONO MOVIE	×	○ (Medium)	○ (10)	×	×	×	×	×	×	×	○ (0 dB)	○ (OFF)	○ (OFF)	○
VIDEO GAME	×	○ (Medium)	○ (10)	×	×	×	×	×	×	×	○ (0 dB)	○ (OFF)	○ (OFF)	○
MATRIX	×	×	×	○ (30 ms)	×	×	×	×	×	×	○ (0 dB)	○ (OFF)	○ (OFF)	○
VIRTURL	×	×	×	×	×	×	×	×	×	×	○ (0 dB)	○ (OFF)	○ (OFF)	○

○ : Signal / Adjustable
× : No signal / Not adjustable
◎ : Turned on or off by speaker configuration setting

○ : Adjustable
× : Not adjustable
NOTE3 : BASS +6 dB, TREBLE 0 dB
NOTE4 : BASS +6 dB, TREBLE +4 dB
NOTE5 : Can be used according to the "Direct Mode" setting.

Differences in Surround Mode Names Depending on the Input Signals

Surround Mode	Note	ANALOG	LINEAR PCM / WAV	WMA (Windows Media Audio) / MP3 / MPEG-4 AAC / FLAC	DTS-HD Master Audio	DTS-HD High Resolution Audio	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)	DVD-Audio (multi ch)	DVD-Audio (2ch)	DSD (multi ch)	DSD (2ch)
STANDARD																					
DTS SURROUND																					
DTS-HD MSTR		✕	✕	✕	●	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
DTS-HD HI RES		✕	✕	✕	✕	●	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
DTS ES DSCRT6.1	*1	✕	✕	✕	✕	✕	● ◎	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
DTS ES MTRX6.1	*1	✕	✕	✕	✕	✕	✕	● ◎	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
DTS SURROUND		✕	✕	✕	✕	✕	○	○	●	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
DTS 96/24		✕	✕	✕	✕	✕	✕	✕	✕	●	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
DTS (–HD) + PLIIx CINEMA	*2	✕	✕	✕	○	○	○	○	○	○	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
DTS (–HD) + PLIIx MUSIC	*1	✕	✕	✕	○	○	○	○	○	○	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
DTS (–HD) + NEO:6	*1	✕	✕	✕	○	○	✕	○	○	○	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
DTS NEO:6 CINEMA		○	○	○	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	○	✕	○	✕	○
DTS NEO:6 MUSIC		○	○	○	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	○	✕	○	✕	○
DOLBY SURROUND																					
DOLBY TrueHD		✕	✕	✕	✕	✕	✕	✕	✕	✕	●	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
DOLBY DIGITAL +		✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	●	✕	✕	✕	✕	✕	✕	✕	✕	✕
DOLBY DIGITAL EX	*1	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	○	○	○	○	✕	✕	✕	✕	✕
DOLBY (D+) (HD) + EX	*1	✕	✕	✕	✕	✕	✕	✕	✕	✕	○	○	✕	✕	✕	✕	✕	✕	✕	✕	✕
DOLBY DIGITAL		✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	○	●	●	●	✕	✕	✕	✕	✕
DOLBY (D) (D+) (HD) + PLIIx CINEMA	*2	✕	✕	✕	✕	✕	✕	✕	✕	✕	○	○	● ◎	○	○	○	✕	✕	✕	✕	✕
DOLBY (D) (D+) (HD) + PLIIx MUSIC	*1	✕	✕	✕	✕	✕	✕	✕	✕	✕	○	○	○	○	○	○	✕	✕	✕	✕	✕
DOLBY PRO LOGIC IIx CINEMA		○	○	○	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	○	✕	○	✕	○
DOLBY PRO LOGIC IIx MUSIC		○	○	○	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	○	✕	○	✕	○
DOLBY PRO LOGIC IIx GAME		○	○	○	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	○	✕	○	✕	○
DOLBY PRO LOGIC II CINEMA		○	○	○	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	○	✕	○	✕	○
DOLBY PRO LOGIC II MUSIC		○	○	○	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	○	✕	○	✕	○
DOLBY PRO LOGIC II GAME		○	○	○	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	○	✕	○	✕	○
DOLBY PRO LOGIC		○	○	○	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	○	✕	○	✕	○
MULTI CH IN																					
MULTI CH IN		✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	●	✕	●	✕
MULTI IN + PLIIx CINEMA	*2	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	○	✕	○	✕
MULTI IN + PLIIx MUSIC	*1	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	○	✕	○	✕
MULTI IN + Dolby EX	*1	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	○	✕	○	✕
MULTI CH IN 7.1		✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	● ◎ (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".

● : Mode selectable in initial status
◎ : Mode fixed when "AFDM" is "ON"
○ : Selectable mode
✕ : Non-selectable mode

Surround Mode	Note	ANALOG	LINEAR PCM / WAV	WMA (Windows Media Audio) / MP3 / MPEG-4 AAC / FLAC	DTS-HD Master Audio	DTS-HD High Resolution Audio	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)	DVD-Audio (multi ch)	DVD-Audio (2ch)	DSD (multi ch)	DSD (2ch)
DIRECT																					
DIRECT		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	×	○	×	○
DSD DIRECT		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	○
DSD MULTI DIRECT		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	○	×
MULTI CH DIRECT		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	○	×	○	×
M DIRECT + PLIIx CINEMA	*2	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	○	×	○	×
M DIRECT + PLIIx MUSIC	*1	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	○	×	○	×
M DIRECT + Dolby EX	*1	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	○	×	○	×
M DIRECT 7.1		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	○ (7.1)	×	×	×
PURE DIRECT																					
PURE DIRECT		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	×	○	×	○
DSD PURE DIRECT		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	○
DSD MULTI PURE		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	○	×
MULTI CH PURE DIRECT		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	○	×	○	×
M PURE D + PLIIx CINEMA	*2	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	○	×	○	×
M PURE D + PLIIx MUSIC	*1	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	○	×	○	×
M PURE D + Dolby EX	*1	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	○	×	○	×
M CH PURE DIRECT 7.1		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	○ (7.1)	×	×	×
DSP SIMULATION																					
7CH STEREO	*3	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
WIDE SCREEN		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
SUPER STADIUM		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
ROCK ARENA		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
JAZZ CLUB		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
CLASSIC CONCERT		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MONO MOVIE		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
VIDEO GAME		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MATRIX		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
VIRTUAL		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
STEREO																					
STEREO		●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	●	○	●	○	●

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: If the surround back speaker setup is set to "None", then "5CH STEREO" is displayed.

● : Mode selectable in initial status

○ : Selectable mode

× : Non-selectable mode

Getting Started　Connections　Setup　Playback　Remote Control　Multi-Zone　**Information**　Troubleshooting　Specifications

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

This product is protected by certain intellectual property rights of Nothing Else Matters Software and BridgeCo. Use or distribution of such technology outside of this product is prohibited without a license from Nothing Else Matters Software and BridgeCo or an authorized subsidiary.

DLNA

• DLNA and DLNA CERTIFIED are trademarks and/or service marks of Digital Living Network Alliance.
• Some contents may not be compatible with other DLNA CERTIFIED™ products.

Windows Media DRM

A copyright-protected technology developed by Microsoft.

• Windows Vista and the Windows logo are trademarks of the Microsoft group of companies.
• The PlaysForSure logo, Windows Media and the Windows logo are trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries.
• 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.

About Wireless LAN

Wi-Fi®

Wi-Fi Certification assures tested and proven interoperability by the Wi-Fi Alliance, a group certifying interoperability among wireless LAN devices.

IEEE 802.11b

This is one wireless LAN standard set by the 802 working group that establishes LAN technology standards at the IEEE (Institute of Electrical and Electronics Engineers) of the United States. It uses the 2.4 GHz band usable freely without a radio frequency license (ISM band), enabling communications at a maximum speed of 11 Mbps.

🖋

The value indicated above is the maximum theoretical value for the wireless LAN standard, and does not indicate the actual data transfer rate.

IEEE 802.11g

This is another wireless LAN standard set by the 802 working group that establishes LAN technology standards at the IEEE (Institute of Electrical and Electronics Engineers) of the United States, and is compatible with IEEE 802.11b. It also uses the 2.4 GHz band, but enables communications at a maximum speed of 54 Mbps.

🖋

The value indicated above is the maximum theoretical value for the wireless LAN standard, and does not indicate the actual data transfer rate.

Infrastructure Communications

"Infrastructure Communications" refers to networks using wireless LAN access points.

This function can be used to connect to the Internet or a wired LAN via a wireless LAN access point. Wireless LAN access points include wireless broadband routers.

Ad-hoc Communications

Signal transfer through wireless interconnection of computers is referred to as "ad hoc communications". With such ad hoc communications there is no connection to the Internet. Ad hoc communications are suited for establishing simple temporary networks.

Network Names (SSID: Security Set Identifier)

When forming wireless LAN networks, groups are formed to prevent interference, data theft, etc. This grouping is done by "SSID" or "Security Set Identifiers". For further security, a WEP key is set and signal transfer is not possible unless the SSID and WEP key match.

WEP Key (Network Key)

This is key information used for encrypting data when conducting data transfer. On the AVR-4308, the same WEP key is used for data encryption and decryption, so the same WEP key must be set on both devices in order for communications to be established between them.

WPA (Wi-Fi Protected Access)

This is a security standard established by the Wi-Fi Alliance. In addition to the conventional SSID (network name) and WEP key (network key), it also uses a user identification function and encrypting protocol for stronger security.

WPA2 (Wi-Fi Protected Access 2)

This is a new version of the WPA established by the Wi-Fi Alliance, compatible with more secure AES encryption.

WPA-PSK/WPA2-PSK (Pre-shared Key)

This is a simple authentication system for mutual authentication when a preset character string matches on the wireless LAN access point and client.

Passphrase

This refers to the code key used for WPA-PSK/WPA2-PSK authentication, a WPA authentication method.

TKIP (Temporal Key Integrity Protocol)

This is a network key used for WPA. The encryption algorithm is RC4, the same as for WEP, but the security level is increased by changing the network key used for encryption for each packet.

AES (Advanced Encryption Standard)

This is a next generation standard encryption method replacing the current DES and 3DES, and because of its high security it is expected to be applied widely to wireless LANs in the future. It uses the "Rijndael" algorithm developed by two Belgian cryptographers to divide the data into blocks of fixed lengths and encrypt each block. It supports data lengths of 128, 192 and 256 bits and key lengths of 128, 192 and 256 bits as well, offering extremely high encryption security.

DAB frequency table

Band Ⅲ (174 to 240 MHz)

Frequency	Label	Frequency	Label
174.928 MHz	5A	211.648 MHz	10B
176.640 MHz	5B	213.360 MHz	10C
178.352 MHz	5C	215.072 MHz	10D
180.064 MHz	5D	216.928 MHz	11A
181.936 MHz	6A	※ 218.640 MHz	11B
183.648 MHz	6B	※ 220.352 MHz	11C
185.360 MHz	6C	※ 222.064 MHz	11D
187.072 MHz	6D	※ 223.936 MHz	12A
188.928 MHz	7A	※ 225.648 MHz	12B
190.640 MHz	7B	※ 227.360 MHz	12C
192.352 MHz	7C	※ 229.072 MHz	12D
194.064 MHz	7D	230.784 MHz	13A
195.936 MHz	8A	232.496 MHz	13B
197.648 MHz	8B	234.208 MHz	13C
199.360 MHz	8C	235.776 MHz	13D
201.072 MHz	8D	237.488 MHz	13E
202.928 MHz	9A	239.200 MHz	13F
204.640 MHz	9B		
206.352 MHz	9C		
208.064 MHz	9D		
209.936 MHz	10A		

※ : UK Band

L-Band (1452 to 1490 MHz)

Frequency	Label
1452.960 MHz	LA
1454.672 MHz	LB
1456.384 MHz	LC
1458.096 MHz	LD
1459.808 MHz	LE
1461.520 MHz	LF
1463.232 MHz	LG
1464.944 MHz	LH
1466.656 MHz	LI
1468.368 MHz	LJ
1470.080 MHz	LK
1471.792 MHz	LL
1473.504 MHz	LM
1475.216 MHz	LN
1476.928 MHz	LO
1478.640 MHz	LP
1480.352 MHz	LQ
1482.064 MHz	LR
1483.776 MHz	LS
1485.488 MHz	LT
1487.200 MHz	LU
1488.912 MHz	LV
1490.624 MHz	LW

Relationship Between Video Signals and Monitor Output

❏ Main zone

Video Convert	(monitor)	Input signal HDMI	COMPONENT	S-VIDEO	VIDEO	Monitor output HDMI	COMPONENT	S-VIDEO	VIDEO	Monitor output (GUI) HDMI	COMPONENT	S-VIDEO	VIDEO
ON		×	×	×	×	※	(wallpaper)			※ *3	*3	*3	*3
		×	×	×	○	※ VIDEO*1	VIDEO*1	VIDEO*1 *4	VIDEO*1 *4	※ VIDEO*2	VIDEO*2	VIDEO*2	VIDEO*2
		×	×	○	×	※ S-VIDEO*1	S-VIDEO*1	S-VIDEO*1	S-VIDEO*1	※ S-VIDEO*2	S-VIDEO*2	S-VIDEO*2	S-VIDEO*2
		×	×	○	○	※ S-VIDEO*1	S-VIDEO*1	S-VIDEO*1	S-VIDEO*1	※ S-VIDEO*2	S-VIDEO*2	S-VIDEO*2	S-VIDEO*2
		×	○ (1080p)	×	×	×	COMPONENT	×	×	*3	*3	*3	*3
		×	○ (480p ~ 720p)	×	×	※ COMPONENT*1	COMPONENT*1	×	×	※ COMPONENT*2	COMPONENT*2	×	×
		×	○ (480i/576i)	×	×	※ COMPONENT*1	COMPONENT*1	COMPONENT*1	COMPONENT*1	※ COMPONENT*2	COMPONENT*2	COMPONENT*2	COMPONENT*2
		×	○ (1080p)	×	○	※ VIDEO*1	COMPONENT	VIDEO*1 *4	VIDEO*1 *4	※ VIDEO*2	VIDEO*2	VIDEO*2	VIDEO*2
		×	○ (480p ~ 720p)	×	○	※ COMPONENT*1	COMPONENT*1	×	VIDEO	※ COMPONENT*2	COMPONENT*2	×	VIDEO
		×	○ (480i/576i)	×	○	※ COMPONENT*1	COMPONENT*1	COMPONENT*1	COMPONENT*1	※ COMPONENT*2	COMPONENT*2	COMPONENT*2	COMPONENT*2
		×	○ (1080p)	○	×	※ S-VIDEO*1	COMPONENT	S-VIDEO*1	S-VIDEO*1	※ S-VIDEO*2	S-VIDEO*2	S-VIDEO*2	S-VIDEO*2
		×	○ (480p ~ 720p)	○	×	※ COMPONENT*1	COMPONENT*1	S-VIDEO	S-VIDEO	※ COMPONENT*2	COMPONENT*2	S-VIDEO	S-VIDEO
		×	○ (480i/576i)	○	×	※ COMPONENT*1	COMPONENT*1	COMPONENT*1	COMPONENT*1	※ COMPONENT*2	COMPONENT*2	COMPONENT*2	COMPONENT*2
		×	○ (1080p)	○	○	※ S-VIDEO*1	COMPONENT	S-VIDEO*1	S-VIDEO*1	※ S-VIDEO*2	S-VIDEO*2	S-VIDEO*2	S-VIDEO*2
		×	○ (480p ~ 720p)	○	○	※ COMPONENT*1	COMPONENT*1	S-VIDEO	S-VIDEO	※ COMPONENT*2	COMPONENT*2	S-VIDEO	S-VIDEO
		×	○ (480i/576i)	○	○	※ COMPONENT*1	COMPONENT*1	COMPONENT*1	COMPONENT*1	※ COMPONENT*2	COMPONENT*2	COMPONENT*2	COMPONENT*2
	With HDMI monitor	○	×	×	×	HDMI	×	×	×	HDMI*2	×	×	×
		○	×	×	○	HDMI	VIDEO*1	VIDEO*1 *4	VIDEO*1 *4	HDMI*2	VIDEO	VIDEO	VIDEO
		○	×	○	×	HDMI	S-VIDEO*1	S-VIDEO*1	S-VIDEO*1	HDMI*2	S-VIDEO	S-VIDEO	S-VIDEO
		○	×	○	○	HDMI	S-VIDEO*1	S-VIDEO*1	S-VIDEO*1	HDMI*2	S-VIDEO	S-VIDEO	S-VIDEO
		○	○ (1080p)	×	×	HDMI	COMPONENT	×	×	HDMI*2	COMPONENT	×	×
		○	○ (480p ~ 720p)	×	×	HDMI	COMPONENT*1	×	×	HDMI*2	COMPONENT	×	×
		○	○ (480i/576i)	×	×	HDMI	COMPONENT*1	COMPONENT*1	COMPONENT*1	HDMI*2	COMPONENT	COMPONENT	COMPONENT
		○	○ (1080p)	×	○	HDMI	COMPONENT	VIDEO*1 *4	VIDEO*1 *4	HDMI*2	COMPONENT	VIDEO	VIDEO
		○	○ (480p ~ 720p)	×	○	HDMI	COMPONENT*1	×	VIDEO	HDMI*2	COMPONENT	×	VIDEO
		○	○ (480i/576i)	×	○	HDMI	COMPONENT*1	COMPONENT*1	COMPONENT*1	HDMI*2	COMPONENT	COMPONENT	COMPONENT
		○	○ (1080p)	○	×	HDMI	COMPONENT	S-VIDEO*1	S-VIDEO*1	HDMI*2	COMPONENT	S-VIDEO	S-VIDEO
		○	○ (480p ~ 720p)	○	×	HDMI	COMPONENT*1	S-VIDEO	S-VIDEO	HDMI*2	COMPONENT	S-VIDEO	S-VIDEO
		○	○ (480i/576i)	○	×	HDMI	COMPONENT*1	COMPONENT*1	COMPONENT*1	HDMI*2	COMPONENT	COMPONENT	COMPONENT
		○	○ (1080p)	○	○	HDMI	COMPONENT	S-VIDEO*1	S-VIDEO*1	HDMI*2	COMPONENT	S-VIDEO	S-VIDEO
		○	○ (480p ~ 720p)	○	○	HDMI	COMPONENT*1	S-VIDEO	S-VIDEO	HDMI*2	COMPONENT	S-VIDEO	S-VIDEO
		○	○ (480i/576i)	○	○	HDMI	COMPONENT*1	COMPONENT*1	COMPONENT*1	HDMI*2	COMPONENT	COMPONENT	COMPONENT
	Without HDMI monitor or with HDMI monitor off	○	×	×	×	×	(wallpaper)			×	*3	*3	*3
		○	×	×	○	×	VIDEO*1	VIDEO*1 *4	VIDEO*1 *4	×	VIDEO*2	VIDEO*2	VIDEO*2
		○	×	○	×	×	S-VIDEO*1	S-VIDEO*1	S-VIDEO*1	×	S-VIDEO*2	S-VIDEO*2	S-VIDEO*2
		○	×	○	○	×	S-VIDEO*1	S-VIDEO*1	S-VIDEO*1	×	S-VIDEO*2	S-VIDEO*2	S-VIDEO*2
		○	○ (1080p)	×	×	×	COMPONENT	×	×	×	*3	*3	*3
		○	○ (480p ~ 720p)	×	×	×	COMPONENT*1	×	×	×	COMPONENT*2	×	×
		○	○ (480i/576i)	×	×	×	COMPONENT*1	COMPONENT*1	COMPONENT*1	×	COMPONENT*2	COMPONENT*2	COMPONENT*2
		○	○ (1080p)	×	○	×	COMPONENT	VIDEO*1 *4	VIDEO*1 *4	×	VIDEO*2	VIDEO*2	VIDEO*2
		○	○ (480p ~ 720p)	×	○	×	COMPONENT*1	×	VIDEO	×	COMPONENT*2	×	VIDEO
		○	○ (480i/576i)	×	○	×	COMPONENT*1	COMPONENT*1	COMPONENT*1	×	COMPONENT*2	COMPONENT*2	COMPONENT*2
		○	○ (1080p)	○	×	×	COMPONENT	S-VIDEO*1	S-VIDEO*1	×	S-VIDEO*2	S-VIDEO*2	S-VIDEO*2
		○	○ (480p ~ 720p)	○	×	×	COMPONENT*1	S-VIDEO	S-VIDEO	×	COMPONENT*2	S-VIDEO	S-VIDEO
		○	○ (480i/576i)	○	×	×	COMPONENT*1	COMPONENT*1	COMPONENT*1	×	COMPONENT*2	COMPONENT*2	COMPONENT*2
		○	○ (1080p)	○	○	×	COMPONENT	S-VIDEO*1	S-VIDEO*1	×	S-VIDEO*2	S-VIDEO*2	S-VIDEO*2
		○	○ (480p ~ 720p)	○	○	×	COMPONENT*1	S-VIDEO	S-VIDEO	×	COMPONENT*2	S-VIDEO	S-VIDEO
		○	○ (480i/576i)	○	○	×	COMPONENT*1	COMPONENT*1	COMPONENT*1	×	COMPONENT*2	COMPONENT*2	COMPONENT*2

○ : Signal present
× : No signal
480p ~ 720p : 480p / 576p / 1080i / 720p

× : No output
*1 : The "Picture Adjust" setting can be made.
*2 : Superimposed over video signal
*3 : Only displayed when the **MENU** button is pressed
*4 : If the input signal is in SECAM format, it is converted to PAL for output

※ : Output according to "Resolution" setting (i/p Scaler : When "A to H" is set) (☞ page 31).
▓ : Wallpaper or set background color displayed
▒ : Output according to "Resolution" setting (i/p Scaler : When "H to H" is set) (☞ page 31).
░ : GUI menu not displayed

✎

• The main zone video conversion function is compatible with the following formats: NTSC, PAL, SECAM, NTSC4,43, PAL -N, PAL -M and PAL -60.
• When SECAM signals of video input are up-converted, the signals are output in PAL format from the S-Video connector.
• If the input signal is a component 1080p signal, up-converting to HDMI is not possible.
• The GUI menu display cannot be superimposed when xvYCC signals and component 1080p signal, computer's resolution (e.g. VGA) are input.

Video Convert	SIGNAL IN				MONITOR OUT (Normally)				MONITOR OUT (when GUI menu displayed)			
	HDMI	COMPONENT	S-VIDEO	VIDEO	HDMI	COMPONENT	S-VIDEO	VIDEO	HDMI	COMPONENT	S-VIDEO	VIDEO
OFF	×	×	×	×	×	×	×	×	○	○	○	○
	×	×	×	○	×	×	×	○ (VIDEO)	○	○	○	○
	×	×	○	×	×	×	○ (S-VIDEO)	×	○	○	○	○
	×	×	○	○	×	×	○ (S-VIDEO)	○ (VIDEO)	○	○	○	○
	×	○	×	×	×	○ (COMPONENT)	×	×	○	○	○	○
	×	○	×	○	×	○ (COMPONENT)	×	○ (VIDEO)	○	○	○	○
	×	○	○	×	×	○ (COMPONENT)	○ (S-VIDEO)	×	○	○	○	○
	×	○	○	○	×	○ (COMPONENT)	○ (S-VIDEO)	○ (VIDEO)	○	○	○	○
	○	×	×	×	○ (HDMI)	×	×	×	○ (HDMI)*2	×	×	×
	○	×	×	○	○ (HDMI)	×	×	○ (VIDEO)	○ (HDMI)*2	×	×	×
	○	×	○	×	○ (HDMI)	×	○ (S-VIDEO)	×	○ (HDMI)*2	×	×	×
	○	×	○	○	○ (HDMI)	×	○ (S-VIDEO)	○ (VIDEO)	○ (HDMI)*2	×	×	×
	○	○	×	×	○ (HDMI)	○ (COMPONENT)	×	×	○ (HDMI)*2	×	×	×
	○	○	×	○	○ (HDMI)	○ (COMPONENT)	×	○ (VIDEO)	○ (HDMI)*2	×	×	×
	○	○	○	×	○ (HDMI)	○ (COMPONENT)	○ (S-VIDEO)	×	○ (HDMI)*2	×	×	×
	○	○	○	○	○ (HDMI)	○ (COMPONENT)	○ (S-VIDEO)	○ (VIDEO)	○ (HDMI)*2	×	×	×

○ : Signal present
× : No signal

○ : Output present
× : No output
*2 : Superimposed over video signal

To display the GUI menu on an HDMI monitor, output with a resolution of 480p/576p.

❏ ZONE2

Input			MONITOR OUT	
COMPONENT	S-VIDEO	VIDEO	COMPONENT	VIDEO
×	×	×	×	×
×	×	○	×	○ (VIDEO)
×	○	×	×	○ (S-VIDEO)
×	○	○	×	○ (S-VIDEO)
○	×	×	○ (COMPONENT)	×
○	×	○	○ (COMPONENT)	○ (VIDEO)
○	○	×	○ (COMPONENT)	○ (S-VIDEO)
○	○	○	○ (COMPONENT)	○ (S-VIDEO)

○ : Signal present
× : No signal

○ : Output present
× : No output
▢ : On-screen display not displayed

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Relationship Between Amp Assign Setting and Speaker Output

STEREO or DIRECT (2ch) Mode

Setting	Status	Speaker terminal			
	Surround mode	SURROUND A	SURROUND BACK	SURROUND B/ASSIGN	ASSIGN-2
2ch Bi-Wiring	STEREO/DIRECT	–	–	FL/FR	FL/FR
	Other	SLA/SRA	SBL/SBR	–	–
2ch Bi-Amp	STEREO/DIRECT	–	–	FL/FR	FL/FR
	Other	SLA/SRA	SBL/SBR	–	–

Multi-Zone Power On/Off

Setting	Status		Speaker terminal			
	ZONE2	ZONE3	SURROUND A	SURROUND BACK	SURROUND B/ASSIGN	ASSIGN-2
ZONE2	ON	ON	SLA/SRA	–	SLB/SRB	Z2 L/R
		OFF	SLA/SRA	–	SLB/SRB	Z2 L/R
	OFF	ON	SLA/SRA	SBL/SBR	SLB/SRB	–
		OFF	SLA/SRA	SBL/SBR	SLB/SRB	–
ZONE3	ON	ON	SLA/SRA	–	SLB/SRB	Z3 L/R
		OFF	SLA/SRA	SBL/SBR	SLB/SRB	–
	OFF	ON	SLA/SRA	–	SLB/SRB	Z3 L/R
		OFF	SLA/SRA	SBL/SBR	SLB/SRB	–
ZONE (MONO)	ON	ON	SLA/SRA	–	SLB/SRB	Z2/Z3
		OFF	SLA/SRA	–	SLB/SRB	Z2/Z3
	OFF	ON	SLA/SRA	–	SLB/SRB	Z2/Z3
		OFF	SLA/SRA	SBL/SBR	SLB/SRB	–
Bi-Wiring & ZONE2	ON	ON	SLA/SRA	–	FL/FR	Z2 L/R
		OFF	SLA/SRA	–	FL/FR	Z2 L/R
	OFF	ON	SLA/SRA	SBL/SBR	FL/FR	–
		OFF	SLA/SRA	SBL/SBR	FL/FR	–
Bi-Wiring & ZONE3	ON	ON	SLA/SRA	–	FL/FR	Z3 L/R
		OFF	SLA/SRA	SBL/SBR	FL/FR	–
	OFF	ON	SLA/SRA	–	FL/FR	Z3 L/R
		OFF	SLA/SRA	SBL/SBR	FL/FR	–
Bi-Wiring & ZONE(MONO)	ON	ON	SLA/SRA	–	FL/FR	Z2/Z3
		OFF	SLA/SRA	–	FL/FR	Z2/Z3
	OFF	ON	SLA/SRA	–	FL/FR	Z2/Z3
		OFF	SLA/SRA	SBL/SBR	FL/FR	–
ZONE2/ ZONE3	ON	ON	–	–	Z3 L/R	Z2 L/R
		OFF	SLA/SRA	–	SLB/SRB	Z2 L/R
	OFF	ON	–	–	Z3 L/R	Z2 L/R
		OFF	SLA/SRA	SBL/SBR	SLB/SRB	–
ZONE2/3 (MONO)	ON	ON	–	–	Z3(MONO)	Z2(MONO)
		OFF	SLA/SRA	–	SLB/SRB	Z2(MONO)
	OFF	ON	–	–	Z3(MONO)	–
		OFF	SLA/SRA	SBL/SBR	SLB/SRB	–

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
Power does not turn on, or turns off directly after it was turned on.	• Connection of the power cord is faulty.	• Check that the power plugs are securely inserted into the AVR-4308's AC inlet and the wall power outlet.	23
No sound is produced from speakers.	• Connection with the input devices or connection of the speaker cables is faulty.	• Check the connections.	10
	• Device you want to play and set input source do not match.	• Select an appropriate input source.	40, 41
	• Master volume is turned too low.	• Adjust the master volume to an appropriate level.	51
	• Mute mode is set.	• Cancel the mute mode.	51
	• Headphones are connected.	• Disconnect the headphones.	51
	• No digital signals are being input.	• Select an input source for which the digital input setting has been made.	43
	• The connectors to which the digital inputs are assigned and the settable input modes do not match.	• Set the input mode.	43
Display is off.	• The "Dimmer" setting is set to "OFF".	• Set to something other than "OFF".	39
	• The PURE DIRECT mode is set.	• Set a surround mode other than the PURE DIRECT mode.	45, 46
"DOLBY DIGITAL" indicator does not appear on display.	• DVD player's digital audio output setting is not proper.	• Check the DVD player's audio output setting. For details, read the DVD player's operating instructions.	–

Symptom	Cause	Countermeasure	Page
Power turns off suddenly and power indicator flashes red.	• Protection circuit activated due to rise of internal temperature.	• Turn off the power, wait for the set to fully cool down, then turn the power back on.	11
		• Place the set in a well-ventilated place.	11
	• Core wires of two speakers are touching each other or a core wire is sticking out of the terminal and touching the set's rear panel, activating the protection circuit.	• First unplug the power cord, then twist the core wires tightly or terminate the speaker cables, then reconnect.	11
	• Speakers with an impedance other than specified are being used.	• Use speakers with the specified impedance.	11
	• Set is damaged.	• Turn off the power and contact a DENON service center.	–

【Remote Control Unit】

Symptom	Cause	Countermeasure	Page
Set does not work properly when remote control unit operated.	• Batteries are worn.	• Replace with new batteries.	4
	• You are operating outside of the specified range.	• Operate within the specified range.	4
	• Obstacle between main unit and remote control unit.	• Remove the obstacle.	4
	• The batteries are not inserted in the proper direction, as indicated by the polarity marks in the battery compartment.	• Insert the batteries in the proper direction, following the polarity marks in the battery compartment.	4
	• 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.	4
	• The remote ID of the main unit and remote control unit do not match.	• Set the same remote IDs for the main unit and remote control unit.	39, 71

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【Audio】

Symptom	Cause	Countermeasure	Page
No sound is produced from center speaker.	• Monaural source (monitor, AM station, etc.) being played in "STANDARD" mode.	• The mode is set to something other than "STANDARD".	45, 46
No sound is produced from surround speakers.	• The surround mode is set to "STEREO", "DIRECT" or "PURE DIRECT".	• Set to a surround playback mode.	45, 46
	• The surround speaker's power amplifier is assigned to a different channel.	• Check the setting and change it as necessary.	37
No sound is produced from surround back speaker.	• Surround back speaker setting is set to "None".	• Set to something other than "None".	29
	• Surround mode not set to a mode for 6.1- or 7.1-channel playback.	• Select a surround playback mode.	45, 46
	• The surround back speaker's power amplifier is assigned to a different channel.	• Check the setting and change it as necessary.	37
No sound is produced from subwoofer.	• Subwoofer's power not turned on.	• Turn on the subwoofer's power.	–
	• The "Subwoofer" setting at "Speaker configuration" is set to "No".	• Set to "Yes".	29
	• The subwoofer is not properly connected.	• Check the connections.	10
	• The subwoofer's volume is turned off.	• Adjust the subwoofer's volume to an appropriate level.	66
No test tones are produced when main remote control unit's **TEST TONE** button is pressed.	• Surround mode not set to "STANDARD".	• Set to the "STANDARD" mode.	45
DTS sound is not output.	• DVD player's audio output setting is not set to bitstream.	• Set the DVD player. For details, refer to the DVD player's operating instructions.	–
	• DVD player is not compatible with DTS sound playback.	• Use a DTS-compatible player.	–
	• The AVR-4308's "Decode Mode" setting is set to "PCM".	• Set to the "Auto" or "DTS" mode.	42
HDMI audio signals are not output from speakers.	• The "Manual Setup" – "HDMI Setup" – "Audio" setting is set to "TV".	• Set to "Amp".	31

Symptom	Cause	Countermeasure	Page
No sound is output from the monitor connected with HDMI connections.	• The "Manual Setup" – "HDMI Setup" – "Audio" setting is set to "Amp".	• Set to "TV".	31

【Video】

Symptom	Cause	Countermeasure	Page
The on-screen display does not appear.	• The format of the GUI and TV (PAL or NTSC) do not match.	• Match the format of the GUI and TV.	38
No picture appears.	• The connections between the AVR-4308 and monitor are faulty.	• Check the connections.	12 ~ 23
	• The monitor's input setting is wrong.	• Set properly.	–
	• PURE DIRECT mode is set.	• Cancel the PURE DIRECT mode.	45, 46
	• The player is connected using the component input connectors, the monitor is connected using the video (yellow) or S-Video output connectors.	• High definition (1080i/720p) and progressive (480p/576p) video signals are not down-converted. Set the player to interlace (480i/576i) signals.	–
No picture appears with HDMI connections.	• The connections to the HDMI connectors are faulty.	• Check the connections.	12
	• HDMI input setting is improper.	• Check the HDMI input setting.	43
	• The monitor is not compatible with copyright protection (HDCP).	• Connect a monitor that is compatible with copyright protection (HDCP).	12
	• The HDMI format of the player and monitor do not match.	• Match the HDMI format of the player and monitor.	12
	• Depending on the monitor you have connected, the display may not be correct when you set to "Auto (Dual)".	• Set to either "Monitor 1" or "Monitor 2".	31
Picture cannot be recorded.	• Input source does not match recorder's video connection connector (video or S-Video).	• The video conversion function does not work for the REC OUT connectors. Match the input source and recorder connections.	16
DVDs cannot be copied on a VCR.	–	• This is not a malfunction. Most movie software includes copy prevention signals and cannot be copied.	–

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【iPod】

Symptom	Cause	Countermeasure	Page
iPod cannot be played.	• The input source assigned to "iPod dock" is not selected.	• Switch to the input source assigned at "iPod dock".	43
	• Cable is not properly connected.	• Reconnect.	14
	• Control Dock for iPod's AC adapter is not connected to power outlet.	• Plug the Control Dock for iPod's AC adapter into a power outlet.	–

【NET/USB】

Symptom	Cause	Countermeasure	Page
When a USB memory device is connected, "USB" is not displayed on the GUI menu.	• The set cannot recognize a USB memory device.	• Check the connection.	19
	• 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.	–
	• The set port and the connected port do not match.	• Connect to the port set at "USB Select".	43
	• 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.	59
	• You are attempting to play a file that is copyright protected.	• Files that are copyright protected cannot be played on this set.	59
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)".	–

Symptom	Cause	Countermeasure	Page
Internet radio cannot be played.	• Ethernet cable is not properly connected or network is disconnected.	• Check the connection status.	21
	• Program is being broadcast in non-compatible format.	• Only Internet radio programs in MP3 and WMA can be played on this set.	59
	• 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.	61
	• IP address is wrong.	• Check the set's IP address.	33 ~ 36
Files stored on a computer cannot be played.	• Files are stored in a non-compatible format.	• Record in a compatible format.	59
	• You are attempting to play a file that is copyright protected.	• Files that are copyright protected cannot be played on this set.	59
	• Set and computer are connected by USB cable.	• The set's USB port cannot be used for connection to a computer.	–
Server is not found, or it is not possible to connect to the server.	• The computer's or router's firewall is activated.	• Check the computer's or router's firewall settings.	–
	• 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.	33 ~ 36
Cannot connect to preset or favorite radio stations.	• Radio station is not currently broadcasting.	• Wait a while before trying again.	–
	• 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.	–

【Wireless LAN】

Symptom	Cause	Countermeasure	Page
Cannot connect to network.	• The settings of the SSID and network key (WEP) are incorrect.	• Match the network settings with the AVR-4308's settings.	34 ~ 36
	• The reception is poor and the signals cannot be received.	• Shorten the distance from the wireless LAN's access point, remove any obstacles and otherwise improve visibility, then try reconnecting. Also install away from microwave ovens and the access points of other networks.	–
	• There are multiple networks and the usable channels overlap.	• Set the access point's channel settings away from the channels used for other networks. Alternatively, connect using a network cable.	–
Played sound is interrupted or sound cannot be played.	• There are multiple networks and the usable channels overlap.	• Set the access point's channel settings away from the channels used for other networks. Alternatively, connect using a network cable.	–
Noise in sound or picture when viewing TV or listening to radio.	• The wireless LAN waves are causing interference.	Try one of the following methods:	
		• Try changing the product's place of installation and the direction of the antenna.	–
		• Increase the separation between the equipment and AVR-4308.	–
		• Connect the product into an outlet on a circuit different from that to which the AVR-4308 is connected.	–

Specifications

❏ **Audio section**
• **Power amplifier**

Rated output:	Front:
	140 W + 140 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:
	140 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):
	140 W + 140 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:
	140 W + 140 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:	150 W x 2ch (8 Ω/ohms)
	220 W x 2ch (4 Ω/ohms)
Output connectors:	Front, Center, Surround back 6 ~ 16 Ω/ohms
	Surround: A or B 6 ~ 16 Ω/ohms
	A + B 8 ~ 16 Ω/ohms

• **Analog**

Input sensitivity / Input impedance:	200 mV / 47 kΩ/kohms
Frequency response:	10 Hz ~ 100 kHz — +1, –3 dB (DIRECT mode)
S/N:	102 dB (DIRECT mode)
Distortion:	0.005 % (20 Hz ~ 20 kHz) (DIRECT mode)
Rated output:	1.2 V

• **Digital**

D/A output:	Rated output — 2 V (at 0 dB playback)
	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)

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Getting Started Connections Setup Playback Remote Control Multi-Zone Information Troubleshooting **Specifications**

❏ 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
• **S-Video connectors**
  Input / output level and impedance: Y (brightness) signal — 1 Vp-p, 75 Ω/ohms
  C (color) signal — 0.3 (PAL) / 0.286 (NTSC) Vp-p, 75 Ω/ohms
  Frequency response: 5 Hz ~ 10 MHz — +0, –3 dB
• **Color component video connector**
  Input / output level and impedance: Y (brightness) signal — 1 Vp-p, 75 Ω/ohms
  P_B / C_B signal — 0.7 Vp-p, 75 Ω/ohms
  P_R / C_R signal — 0.7 Vp-p, 75 Ω/ohms
  Frequency response: 5 Hz ~ 100 MHz — +0, –3 dB (when video convert set to "OFF")

❏ Tuner section

	[FM]	**[AM]**
	(note: µV at 75 Ω/ohms, 0 dBf = 1 x 10^-15 W)	
Receiving Range:	87.5 MHz ~ 108.0 MHz	522 kHz ~ 1611 kHz
Usable Sensitivity:	1.0 µV (11.2 dBf)	18 µV
50 dB Quieting Sensitivity:	MONO 1.6 µV (15.3 dBf)	
	STEREO 23 µV (38.5 dBf)	
S/N (IHF-A):	MONO 77 dB	
	STEREO 72 dB	
Total harmonic Distortion (at 1 kHz):	MONO 0.15 %	
	STEREO 0.3 %	

❏ DAB section
Frequency range: 174.928 (5A) ~ 239.200 (13F) MHz (BAND Ⅲ)
1452.960 (LA) ~ 1490.624 (LW) MHz (L–BAND)
Sensitivity: –98 dBm (BAND Ⅲ) –94 dBm (L-BAND)
S/N: 100 dB (IHF-A weighted)
THD+N: 0.006 % (1 kHz)
Channel separation: 95 dB (1 kHz)
Frequency response: +0.5/–0.5 dB (20 Hz ~ 20 kHz)
Aerial terminal: 75 Ω/ohm, F female

❏ Wireless LAN
Network type (wireless LAN standards) : Conforming to IEEE 802.11b
Conforming to IEEE 802.11g
(Conforming to Wi-Fi®) *
Transfer rate: DS-SS: 11 / 5.5 / 2 / 1 Mbps (Automatic switching)
OFDM: 54 / 48 / 36 / 24 / 18 / 12 / 9 / 6 Mbps (Automatic switching)
Security: SSID (Network name)
WEP key (network key) (64/128 bits)
WPA-PSK (TKIP/AES)
WPA2-PSK (TKIP/AES)
Used frequency range: 2,412 MHz ~ 2,472 MHz
No. of channels: Conforming to IEEE 802.11b : 13ch (DS-SS) (Of which 1 channel used)
Conforming to IEEE 802.11g : 13ch (OFDM) (Of which 1 channel used)

❏ General
Power supply: AC 230 V, 50 Hz
Power consumption: 580 W
0.3 W (Standby)
Maximum external dimensions: 434 (W) x 195 (H) x 455 (D) mm
Weight: 18.9 kg

❏ Main remote control unit (RC-1068)
Batteries: LR6/AA Type (two batteries)
Maximum external dimensions: 63 (W) x 238 (H) x 31 (D) mm
Weight: 190 g (including batteries)

❏ Sub remote control unit (RC-1070)
Batteries: R03/AAA Type (two batteries)
Maximum external dimensions: 49 (W) x 220 (H) x 24.5 (D) mm
Weight: 114 g (including batteries)

∗ : Wi-Fi® conformity indicates tested and proven interoperability by the "Wi-Fi Alliance", a group certifying interoperability among wireless LAN devices.

※ For purposes of improvement, specifications and design are subject to change without notice.

List of preset codes / Liste von voreingestellten Codes / Liste de codes préréglés / Lista dei codici pre-regolati / Lista de códigos pre-ajustados / Lijst van vooringestelde codes / Förteckning över förinställda koder

Denon Amp

D	Denon	81001, 82001, 83001, 84001

Denon Tuner

D	Denon (Analog)	52863, 52795, 52800, 52805

Denon Digital Tuner

D	Denon (NET)	62865, 62837, 62838, 62839
	Denon (DAB)	62840, 62841, 62842, 62843

Denon iPod

D	Denon	72815, 72816, 72817, 72818

Cable

A	A-Mark	00008, 00144
	ABC	00237, 00003, 00008
	Accuphase	00003
	Acorn	00237
	Action	00237
	Active	00237
	ADB	01230
	Aichi Denshi	01512
	Americast	00899
	Amstrad	01222
	Archer	00237
	Auna	01230
	Austar	00276
B	BCC	00276
	Bell South	00899
	Bestlink	00303
	Birmingham Cable Communications	00276
	British Telecom	00003
C	Cable & Wireless	01068
	Century	00008
	Coship	01462
D	Daehan	00778
	Daeryung	01877, 00877, 00477, 00008
	Digeo	01187
	Director	00476
	DX Antenna	01500
E	Emerson	00303
	Encon	00008
F	Fosgate	00276
	Foxtel	01222
	France Telecom	00817
	Freebox	01482

	Fujitsu	01497
G	Galaxi	00008
	GE	00237, 00144
	Gehua	00476
	General Instrument	00476, 00810, 00276, 00003
	Gibralter	00003
	GNI	01466
	GoldStar	00144
H	Hitachi	00003, 00008
	Hongtian Jiangsu	01462
	Hwalin	00303
I	Insight	00476, 00810
J	Jerrold	00476, 00810, 00276, 00003
	Jiuzhou	01445
K	KNC	00008
L	LG	00144
M	Macab	00817
	Madritel	01230
	Maspro	01510
	Matav	01082
	Memorex	00000
	Mitsubishi	00003
	Motorola	01376, 00476, 00810, 00276, 01187
	MS	00303
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	Noos	00817
	Nova Vision	00008
	Novaplex	00008
	NTL	00276, 00003, 01060, 01068
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	Ono	01068
	Optus	00276, 01060
P	Pace	01877, 00877, 00237, 00008, 01060, 01068, 01577
	Panasonic	00000, 00008, 00144, 01488
	Paragon	00000, 00008, 00525
	Penney	00000
	Philips	01305, 00317, 00817
	Pioneer	01877, 00877, 00144, 00533, 01500
	Pulsar	00000
	PVP Stereo Visual Matrix	00003
Q	Quasar	00000
R	RadioShack	00303
	Regal	00276
	Runco	00000
S	Sagem	00817
	Salora	00000
	Samsung	00003, 00000, 00144, 00778, 00840, 01060, 01666

	Scientific Atlanta	01877, 00877, 00477, 00237, 00003, 00000, 00008, 01510
	Skyworth	01464
	Sony	01006, 01460
	Sprucer	00144
	Starcom	00003
	StarHub	00276
	Sumitomo	01500, 01504
	Supercable	00276
T	Taihan	00778
	TCL	01445
	Telewest	01068
	Time Warner cable	01877
	TongKook	00840
	Torx	00003
	Toshiba	00000, 01509
	Trans PX	00276, 00303
	TS	00003, 00303
U	United Cable	00276, 00003
	US Electronics	00276, 00003, 00008
V	Videoway	00000
	Visiopass	00817
Z	Zenith	00000, 00525, 00899

Cable/PVR Combination ※1

A	Americast	00899
D	Digeo	01187
F	Freebox	01482
G	General Instrument	00810
J	Jerrold	00810
M	Motorola	01376, 00810, 01187
P	Pace	01877, 00237
	Pioneer	01877, 00877
S	Scientific Atlanta	01877, 00877
	Sony	01006
	Supercable	00276
T	Time Warner cable	01877
Z	Zenith	00899

CD Player

A	Acoustic Research	40420
	Advantage	40032
	Aiwa	40157
	Arcam	40157
	Audio Research	40157
	Audiolab	40157
	Audiomeca	40157
	Audioton	40157
	AVI	40157

B	Balanced Audio Technology	40157
	Burmester	40420
	Bush	40388
C	Cairn	40157
	California Audio Labs	40029, 40303
	Cambridge	40157
	Cambridge Audio	40157
	Cambridge Soundworks	40157
	Carver	40157, 40179
	CDC	40420
	CEC	40420
	Copland	40393
	Curtis Mathes	40032
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D	Denon	40873, 40003, 40766, **[42867]** * , 42868
	DKK	40000
	DMX Electronics	40157
	Dual	40003
	Dynaco	40157
	Dynamic Bass	40179
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G	Garrard	40393, 40420
	Genexxa	40000, 40032, 40037, 40179
	Goldmund	40157
	Grundig	40157
H	Hafler	40173
	Harman/Kardon	40100, 40157, 40173
	Hitachi	40032
I	Inkel	40157
	Integra	40101
J	Jerrold	40003
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K	Kenwood	40681, 40000, 40029, 40157, 40028, 40037, 40036, 40190
	KLH	41318
	Krell	40157
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	Loewe	40157
	Luxman	40393
	LXI	40179
M	Magnavox	40157
	Marantz	40029, 40157
	Matsui	40157
	MCS	40029
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	Micromega	40157
	Miro	40000

	Mission	40157
	Modulaire	40000, 40032, 40087, 40179, 40420, 40468
	MTC	40420
	Musical Fidelity	40393
	Myryad	40157
N	NAD	40000, 40721
	Naim	40157
	NSM	40157
O	Onkyo	40868, 40101
	Optimus	40000, 40032, 40037, 40087, 40179, 40393, 40420, 40468
	Orion	40393
P	Panasonic	40029, 40303, 40388, 40752
	Parasound	40420
	Penney	40029
	Philips	40157
	Pioneer	40032, 40101, 40468
	Polk Audio	40157
	Proceed	40420
	Proton	40157
Q	QED	40157
	Quad	40157
	Quasar	40029
R	Radiola	40157
	RadioShack	40000, 40032, 40179, 40420, 40468
	RCA	40032, 40053, 40179, 40420, 40468
	Realistic	40000, 40032, 40087, 40179, 40420, 40468
	Restek	40157
	Revox	40157
	Roksan	40420
	Rotel	40157, 40420
	Royal	40420
S	SAE	40157
	Saisho	40000
	Sansui	40000, 40157
	Sanyo	40000, 40087, 40179
	SAST	40157
	Sears	40179
	Sharp	40037
	Siemens	40157
	Silsonic	40036
	Simaudio	40157
	Sonic Frontiers	40157
	Sony	40490, 40000, 40100, 41364, 40185
	Sugden	40157
	Sylvania	40157
T	TAG McLaren	40157
	Tandy	40032

	Tascam	40393, 40420
	Teac	40490, 40393, 40420
	Technics	40029, 40303
	Techwood	40303
	Thomson	40053
	Thorens	40157
	Thule Audio	40157
	Tokai	40420
U	Universum	40157, 40053
V	Victor	40072
W	Wadia	40393
	Wards	40000, 40032, 40157, 40053, 40087, 40179
Y	Yamaha	40490, 40868, 40032, 40036
	Yorx	40000

CD Recorder

D	Denon	40766, 42868
J	JVC	40072
R	RCA	40053, 40420
S	Sony	40000, 40100, 41364
T	Teac	40420
	Thomson	40053

Tape Deck

A	Aiwa	20029, 20197, 20200, 21315
	Akai	20283, 20439
	Arcam	20076
	Audiolab	20029
C	Carver	20029
D	Denon	20076, 20371, 21311, [22471] *
F	Fisher	20074
G	Garrard	20308, 20309, 20375, 20439
	Genexxa	20439
	GoldStar	20375
	Grundig	20029, 20375
H	Harman/Kardon	20182, 20029, 21314
I	Inkel	20070, 20071, 20337
J	JVC	20244, 20273, 20274, 20303, 20304, 20310, 21309
K	Kenwood	20070, 20071, 20092, 20233, 20234, 21364
L	LG	20375
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Chun Yun	10000, 10180, 10092, 10009, 10700, 10843
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Cineral	10451, 10092
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Clatronic	10009, 10037, 10217, 10218, 10264, 10370, 10371, 10714
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Continental Edison	10109, 10287, 10487
Cosmel	10009, 10037
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Crosley	10054, 10000, 10180, 10030, 10171, 10074, 10163, 10370
Crown	10093, 10180, 10053, 10009, 10037, 10208, 10370, 10418, 10486, 10487, 10606, 10672, 10712, 10714, 10715, 11037
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Eaton	10060
Ecco	10773
ECE	10037
Edison-Minerva	10487
Elbe	10037, 10217, 10218, 10362, 10610
Elcit	10163
Electroband	10000
Electrograph	11755
Electrohome	10154, 10000, 10463, 10150, 10178, 10030, 10073
Elekta	10009, 10264
Elfunk	11037, 11208
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Elin	10009, 10037, 10361, 10548
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Fer0	10335
Ferguson	10053, 10037, 10073, 10109, 10195, 10287, 10335, 10343, 10443, 10548, 10560, 10625, 11037
Fidelity	10171, 10037, 10163, 10217, 10264, 10361, 10371, 10512
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Finlandia	10163, 10208, 10346, 10361, 10548
Finlux	10037, 10070, 10163, 10217, 10346, 10480, 10556, 10631, 10714, 10715, 10808, 11556
Firstar	10236, 10009
Firstline	10009, 10037, 10208, 10217, 10361, 10374, 10556, 10668, 10714, 10808, 11037, 11191, 11363, 11371
Fisher	10047, 10054, 10154, 10000, 10036, 10208, 10217, 10361, 10370
Flint	10037, 10218, 10264, 10455, 10610
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Formenti	10037, 10163
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Fraba	10037, 10370
Friac	10009, 10037, 10370, 10499, 10610
Frontech	10009, 10163, 10217, 10264
Fujimaro	10865, 11498
Fujitsu	10009, 10217, 10352, 10683, 10809, 10853
Fujitsu General	10009, 10217, 10683
Fujitsu Siemens	10808, 10809, 11163, 11298
Funai	10000, 10180, 10171, 10264, 10668, 11271, 11904
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Galaxis	10037, 10370
Ganxin	10817
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GBC	10009, 10163, 10218, 10374
GE	11447, 10047, 11454, 10000, 10051, 10451, 10093, 10180, 10060, 10178, 10030, 10092, 11922, 11917, 11347, 11147, 10625, 10560, 10335, 10035
GEC	10037, 10163, 10217, 10361
Geloso	10009, 10163, 10374
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Genexxa	10009, 10037, 10163, 10218
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Gorenje	10370
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Granada	10036, 10037, 10108, 10163, 10208, 10217, 10226, 10343, 10548, 10560
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Hanseatic	10009, 10037, 10217, 10361, 10370, 10394, 10499, 10556, 10634, 10661, 10714, 10808
Hantarex	10009, 10037, 10865
Hantor	10037
Harley Davidson	10000, 10180, 10060, 10178, 10030, 11904
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Harsper	10865
Harvard	10180
Harwa	10773, 11196, 11269
Harwood	10009, 10037, 10487
Hauppauge	10037
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HCM	10009, 10037, 10217, 10218, 10264, 10418
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Hema	10009, 10217
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Highline	10037, 10264
Hikona	10218
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Hinari	10009, 10036, 10037, 10163, 10208, 10218, 10264, 10352, 10443
Hisawa	10218, 10455, 10610, 10714
Hisense	10156, 10748, 10145, 10009, 10208, 10508, 10556, 10780, 10821, 10860, 11022, 11156, 11170, 11208, 11363
Hitachi	10047, 10054, 10017, 10000, 11256, 10156, 10051, 10150, 10178, 10030, 11145, 10145, 10092, 10744, 10877, 10634, 11137, 11149, 11156, 11170, 11225, 11576, 11904, 11960, 10578, 10548, 10508, 10499, 10481, 10480, 10343, 10217, 10163, 10109, 10108, 10037, 10036, 10035, 10009
Hitachi Fujian	10150, 10108, 10860
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Hitsu	10009, 10218, 10455, 10610
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Hongmei	10093, 10009, 10264, 10817
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Inno Hit	10009, 10217, 10218, 11163
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Irradio	10009, 10037, 10218, 10371
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ITT	10163, 10208, 10346, 10361, 10480, 10548, 10610
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ITV	10037, 10264, 10374
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JEC	10035
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JiaLiCai	10009, 10264
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Jinfeng	10051, 10208, 10226, 10817
Jinque	10009, 10264, 10817
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Jinxing	10054, 10156, 10145, 10009, 10037, 10264, 10556, 10698, 10817, 10821, 11011
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Juhua	10264, 10817
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Karcher	10264, 10370, 10606, 10610, 10714, 10778, 11556
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Lifetec	10009, 10037, 10218, 10374, 10668, 10683, 10714, 11037, 11137
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Loewe	10037, 10370, 10512, 10633, 10790
Logik	10236, 10180, 10060, 10001, 10009, 10011, 10371, 10698, 10773, 10880, 11037, 11217
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M Electronic	10009, 10037, 10109, 10163, 10195, 10217, 10287, 10343, 10346, 10374, 10480, 10512, 10634, 10661, 10714
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Magnasonic	10054, 10000, 10156, 10093, 10030, 10092, 10109
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	Philips	30539, 30854, 31260
R	RCA	31022
S	Saivod	31367
	Samsung	30899
	Sansui	30695
	Schneider	31367
	SEG	30713, 30884
	Sliding	31115
	Stevison	31367
	Sylvania	30630, 30675, 31268
T	Technica	31367
	Thomson	30551
	Toshiba	30695
U	United	30713, 30884, 31367
	Universum	30713
V	Vestel	30884

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A	Aiwa	11904, 11911
	America Action	10180
	Amstrad	10171
	Audiovox	10180
B	Beko	10486
	Black Diamond	11909

	Broksonic	10463, 11911
	Bush	11556
C	Curtis Mathes	10051
D	Daewoo	11909
E	Emerson	10236, 10463, 11909, 11911
F	Ferguson	10073, 10625
	Fidelity	10171
	Funai	11904
G	GE	10047, 10051, 10093, 11917, 11922
	GoldStar	10037
	Goodmans	10374, 11909
	Grundig	10037, 10195, 10556
H	Harley Davidson	11904
	Hinari	10036
	Hitachi	11904
I	Internal	11909
J	JVC	11923
L	LG	10178
	Lloyd's	11904
M	Magnavox	10054, 11904
	Memorex	10250
	Mitsubishi	10093, 10556, 11917
O	Orion	10463, 11911
P	Palsonic	11904
	Panasonic	10250, 10051
	Penney	10051
	Philips	10037, 10556
Q	Quasar	10250, 10051
R	Radiola	10556
	RadioShack	11904
	RCA	10047, 10051, 10093, 11917, 11922
S	Saba	10625
	Samsung	11959
	Sansui	10463, 11904, 11911
	Schneider	10037, 10556, 11904
	Sears	11904
	Sharp	10093, 11917
	Siemens	10037
	Sony	10000, 11505, 11904
	Sylvania	10054
	Symphonic	11904
T	Teac	10178, 10171
	Technics	10556
	Thomas	11904
	Thomson	10625
	Toshiba	11971
W	White Westinghouse	11909
Z	Zenith	11904, 11909, 11911

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A	Aiwa	20000, 20352, 20479, 20742, 21137

	Akai	20352
	Alba	20352
	America Action	20278
	Amstrad	20000
	Audiovox	20278
B	Beko	20104
	Bestar	20278
	Blue Sky	20278, 20352, 20742
	BPL	20046
	Broksonic	20002, 20479, 21479
	Bush	20352, 20742
C	Citizen	20278, 21278
	Curtis Mathes	20035, 21035
D	Daewoo	20278, 20637, 21278
	Dantax	20352
E	Emerson	20002, 20278, 20479, 20637, 21278, 21479
F	Ferguson	20000, 20278
	Fidelity	20000
	Firstline	20278
	Funai	20000
G	GE	20060, 20035, 20048, 20240, 20807, 21035, 21060
	GoldStar	20037, 20480, 21237
	Goodmans	20278, 20352, 20637
	Grandin	20278, 20742
	Grundig	20081, 20347, 20352, 20742
H	Hanimex	20352
	Harley Davidson	20000
	Hinari	20352
	Hitachi	20000
	Hypson	20037
I	Internal	20278, 20637
J	JBL	20278
	JMB	20352
K	Kambrook	20037
	Kneissel	20278, 20352
L	LG	20037, 20480, 21237
	Lloyd's	20000
	Loewe	20037
M	Magnasonic	20278, 21278
	Magnavox	20081, 20000, 21781
	Magnin	20240
	Matsui	20352, 20742
	Medion	20352
	Memorex	20162, 20037, 21162, 21237, 21262
	MGA	20240
	Mitsubishi	20048, 20081, 20043, 20807
O	Optimus	20162, 21162, 21262
	Orion	20002, 20352, 20479, 20742, 21479
P	Pace	20352
	Pacific	20742

	Palsonic	20000
	Panasonic	20035, 20162, 21035, 21162, 21262
	Penney	20035, 20037, 20240, 21035, 21237
	Philips	20081
	Portland	20637
Q	Quasar	20035, 20162, 21035, 21162
R	Radiola	20081
	RadioShack	20000
	RCA	20060, 20035, 20048, 20240, 20807, 21035, 21060
S	Saba	20320
	Samsung	20240, 20432, 21014
	Sansui	20000, 20479, 21479
	Sanyo	20240
	Saville	20352
	Schneider	20081, 20000
	Sears	20037, 20000, 21237
	SEG	20637
	Sharp	20037, 20048, 20807
	Shivaki	20037
	Siemens	20081
	Sinudyne	20352
	Sony	20032, 20000, 21232
	Supra	20348
	Sylvania	20081, 21781
	Symphonic	20000
T	Tatung	20352
	Teac	20037, 20000, 20637, 20642
	Technics	20081
	Technosonic	20352
	Telefunken	20278
	Thomas	20000
	Thomson	20278
	Toshiba	20352, 20432, 20845, 21145
U	United	20742
W	White Westinghouse	20278, 20637
Z	Zenith	20000, 20479, 20637, 21479

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T	Thomson	30551

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A	Akai	11903
B	Broksonic	11938
E	Emerson	11944
	ESA	11944
M	Magnavox	11944
P	Panasonic	11946, 11947
R	RCA	11953

S	Sharp	11917
	Sylvania	11944
	Symphonic	11944
T	Toshiba	11945

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S	Sharp	20807

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A	Akai	30899
E	Emerson	30821
	ESA	30821
M	Magnavox	30821
P	Panasonic	31362, 31462
R	RCA	31132
S	Sharp	30630
	Superscan	30821
	Sylvania	30821
	Symphonic	30821
T	Toshiba	31045

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	ABS	21972
	Admiral	20060, 20048, 20039, 20047, 20104, 20121, 20209, 20479
	Adventura	20037, 20240, 20000
	Aiko	20278
	Aim	20278, 20348, 20642
	Aiwa	20037, 20032, 20000, 20209, 20041, 20348, 20352, 20479, 20742, 21137
	Akai	20037, 20240, 20041, 20106, 20315, 20348, 20352, 20642
	Akura	20041
	Alba	20081, 20000, 20209, 20278, 20315, 20348, 20352
	Alienware	21972
	Allegro	20039, 21137
	Allorgan	20240
	Allstar	20081
	America Action	20278
	American High	20035, 20081
	Amoisonic	20479
	Amstrad	20000, 20278
	Anam	20162, 20037, 20240, 20278, 20226, 20480
	Anam National	20162, 20226, 21162, 21562
	Ansonic	20000
	Aristona	20081
	ASA	20037, 20081
	Asha	20240
	Astra	20035, 20240
	Asuka	20037, 20081, 20000, 20038

	Audiolab	20081
	Audiosonic	20278
	Audiovox	20037, 20278, 20038
	Avis	20000
	AVP	20000, 20352
	Awa	20037, 20043, 20278, 20642
B	Baird	20000, 20104, 20041, 20278, 20046, 20106
	Basic Line	20104, 20278, 20046
	Beaumark	20240
	Beko	20104
	Bell & Howell	20035, 20048, 20039, 20000, 20104, 20046, 20479
	Bestar	20278
	Black Diamond	20642
	Black Panther	20278
	Blaupunkt	20162, 20081, 20226
	Blue Sky	20037, 20209, 20278, 20348, 20352, 20480, 20642, 20742, 21137
	BPL	20046
	Brandt	20041, 20320
	Brandt Electronique	20041
	Brinkmann	20209, 20348
	Broksonic	20184, 20121, 20209, 20002, 20348, 20479, 21479
	Bush	20081, 20000, 20209, 20278, 20315, 20348, 20352, 20642, 20742
C	Calix	20037
	Candle	20037, 20038
	Canon	20035
	Capehart	20002
	Carena	20081, 20209
	Carrefour	20045
	Carrera	20240
	Carver	20035, 20081
	Casio	20000
	Cathay	20278
	CCE	20278
	CGE	20000, 20041
	Changhong	20048, 20081
	Cimline	20209
	Cineral	20278
	CineVision	21137
	Citizen	20035, 20037, 20240, 20000, 20209, 20278, 20479, 21278
	Classic	20037
	Clatronic	20000, 21593
	Colortyme	20060, 20035, 20045, 20278
	Colt	20000
	Combitech	20352
	Condor	20278
	Craig	20037, 20047, 20240
	Criterion	20000

	Crosley	20035, 20081, 20000
	Crown	20037, 20278, 20480
	Curtis Mathes	20060, 20035, 20162, 20240, 20000, 20041, 20278, 20432, 21035
	Cybernex	20240
	CyberPower	21972
	Cyrus	20081
D	Daewoo	20037, 20045, 20104, 20209, 20278, 20046, 20352, 20637, 20642, 21137, 21278
	Dansai	20278
	Dantax	20352
	Daytron	20037, 20278
	De Graaf	20048, 20081, 20042, 20104, 20046
	Decca	20081, 20000, 20067, 20209, 20041, 20352
	Degraff	20048, 20081, 20042, 20104
	Deitron	20278
	Dell	21972
	Denon	20081, 20042
	Derwent	20041
	Diamant	20037
	Diamond	20348
	Digitor	20642
	DirecTV	20739
	Domland	20209
	DSE	20642
	Dual	20081, 20000, 20041, 20278, 20348
	Dumont	20081, 20000, 20104
	Durabrand	20039, 20038, 20642
	Dynatech	20240, 20000
E	Elbe	20278, 20038
	Electrohome	20060, 20037, 20240, 20000, 20043, 20209
	Electrophonic	20037
	Elin	20240
	Elta	20278
	Emerald	20184, 20121
	Emerex	20032
	Emerson	20035, 20037, 20184, 20039, 20240, 20045, 20000, 20121, 20043, 20209, 20002, 20278, 20348, 20479, 20637, 21278, 21479, 21593
	ESA	21137
	ESC	20240, 20278
	EuroLine	21593
F	Ferguson	20000, 20041, 20278, 20320, 20348
	Fidelity	20240, 20000, 20352, 20432
	Finlandia	20037, 20048, 20081, 20000, 20042, 20104, 20043, 20046, 20106, 20226
	Finlux	20081, 20000, 20042, 20104

	Firstline	20037, 20045, 20042, 20043, 20209, 20278, 20348, 20480, 21137
	Fisher	20039, 20047, 20000, 20104, 20046
	Flint	20209, 20348
	Fuji	20035, 20033
	Fujitsu	20037, 20045, 20000
	Fujitsu General	20037
	Funai	20037, 20000, 20278, 21593
G	Galaxi	20000
	Galaxis	20278
	Garrard	20000
	Gateway	21972
	GE	20060, 20035, 20048, 20240, 20000, 20226, 20320, 20807, 21035, 21060
	GEC	20081
	Gemini	20060
	General	20045
	General Technic	20348
	Genexxa	20037, 20000, 20104, 20278
	Go Video	20240, 20432, 20614, 21137
	GoldStar	20035, 20037, 20039, 20000, 20209, 20278, 20038, 20225, 20226, 20480, 21137, 21237
	Goodmans	20037, 20081, 20240, 20000, 20209, 20278, 20348, 20352, 20637, 20642, 20742
	GPX	20037
	Gradiente	20000
	Graetz	20240, 20104, 20041
	Granada	20035, 20037, 20048, 20081, 20240, 20000, 20042, 20104, 20046, 20226
	Grandin	20037, 20000, 20209, 20278, 20742
	Grundig	20081, 20226, 20320, 20347, 20348, 20352, 20742
H	Haaz	20348
	Hanimex	20352
	Hanseatic	20037, 20081, 20209, 20038
	Haojie	20240
	Harley Davidson	20000
	Harman/Kardon	20081, 20038
	Headquarter	20046
	Hewlett Packard	21972
	HI-Q	20035, 20047, 20000
	Hinari	20240, 20209, 20041, 20278, 20352
	Hisawa	20209, 2035
	Hischito	20045
	Hitachi	20035, 20037, 20081, 20240, 20045, 20000, 20042, 20041, 20046, 20089
	Hoeher	20278, 20642
	Hornyphon	20081
	Howard Computers	21972
	HP	21972

	Hughes Network Systems	20042, 20739
	Humax	20739
	Hush	21972
	Hypson	20037, 20000, 20209, 20278, 20352, 20480
	Hytek	20047, 20000
I	iBUYPOWER	21972
	Imperial	20000
	Ingersol	20240, 20209
	Interbuy	20037
	Interfunk	20081, 20104
	Internal	20278, 20637
	International	20037, 20278, 20642
	Intervision	20037, 20000, 20209, 20278, 20348
	Irradio	20037, 20081, 21137
	ITT	20240, 20104, 20041, 20046, 20106
	ITT Nokia	20240, 20104, 20041, 20106
	ITV	20037, 20278
J	Janeil	20240
	JBL	20278
	Jensen	20067, 20041
	JMB	20209, 20348, 20352, 20742
	Joyce	20000
	JVC	20184, 20081, 20045, 20067, 20041, 21162
K	Kambrook	20037
	Karcher	20081, 20278, 20642
	KEC	20037, 20278
	Kendo	20037, 20209, 20278, 20106, 20315, 20348, 20642
	Kenwood	20067, 20041, 20038, 20046
	KIC	20000
	Kimari	20047
	Kneissel	20037, 20209, 20278, 20348, 20352
	Kodak	20035, 20037
	Kolin	20043, 20041
	Kolster	20209
	KTV	20000
	Kuba	20047
	Kuba Electronic	20047
L	Lenco	20278
	LG	20037, 20240, 20045, 20000, 20042, 20209, 20278, 20038, 20225, 20480, 21137, 21237
	Lifetec	20209, 20348
	Linksys	21972
	Lloyd's	20240, 20000, 20038
	Loewe	21062, 20162, 20037, 20081, 21262, 21562
	Logik	20240, 20000, 20209, 20106
	Lumatron	20278, 21137
	Lunatron	21137

Brand	Code
Luxor	20048, 20047, 20104, 20043, 20046, 20106, 20315
LXI	20037, 20000, 20042, 20067
M M Electronic	20037, 20240, 20000, 20038
Magnadyne	20081
Magnasonic	20037, 20240, 20000, 20278, 21278
Magnavox	20035, 20037, 20048, 20039, 20081, 20240, 20000, 20226, 20618, 20642, 21593, 21781
Magnin	20240
Magnum	20642
Manesth	20081, 20045, 20209
Marantz	20035, 20081, 20209, 20038
Mark	20000, 20278
Marta	20037
Mastec	20642
Master's	20278
Matsui	20037, 20240, 20209, 20278, 20348, 20352, 20742
Matsushita	20035, 20162, 20081, 20226, 21162
Media Center PC	21972
Mediator	20081
Medion	20209, 20348, 20352, 20642
MEI	20035
Memorex	20035, 20162, 20037, 20048, 20039, 20047, 20240, 20000, 20104, 20209, 20278, 20046, 20348, 20479, 21162, 21237, 21262
Metronic	20081
Metz	21062, 20162, 20037, 20081, 20226, 20347, 20836, 21162, 21262, 21562
MGA	20060, 20240, 20043
MGN Technology	20240
Micormay	20348
Micromaxx	20209
Microsoft	21972
Midland	20240
Migros	20000
Mind	21972
Minolta	20042
Mitsubishi	20060, 20048, 20047, 20081, 20000, 20042, 20067, 20043, 20041, 20480, 20642, 20807
Motorola	20035, 20048
MTC	20240, 20000
MTX	20000
Multitec	20037
Multitech	20039, 20000
Murphy	20000
Myryad	20081
N NAD	20240, 20104
Naiko	20348, 20642
NAP	20039
National	20226
Nebula Electronics	20033
NEC	20035, 20037, 20048, 20104, 20067, 20041, 20278, 20038, 21137
Neckermann	20081, 20041
Nesco	20000
Neufunk	20209
Newave	20037
Nikkai	20278
Nikko	20037, 20278
Nikkodo	20037, 20278
Nishi	20240
Niveus Media	21972
Noblex	20240
Nokia	20048, 20081, 20240, 20042, 20104, 20041, 20278, 20046, 20106, 20315
Nordmende	20067, 20041, 20320
Northgate	21972
Nu-Tec	20209
O Oceanic	20048, 20081, 20000, 20104, 20041, 20046, 20106
Okano	20209, 20278, 20315, 20348
Olympus	20035, 20162, 20104, 20226
Onimax	20642
Onkyo	20222
Optimus	21062, 20035, 20162, 20037, 20048, 20047, 20240, 20000, 20104, 20432, 21162, 21262
Orion	20184, 20240, 20000, 20104, 20121, 20209, 20002, 20278, 20348, 20352, 20479, 20742, 21479
Orson	20000
Osaki	20037, 20000
Otake	20209
Otto Versand	20081
P Pace	20352
Pacific	20000, 20348, 20642, 20742
Packard Bell	21972
Palladium	20037, 20209, 20041, 20348
Palsonic	20000, 20642
Panama	20035
Panasonic	21062, 20035, 20162, 20000, 20225, 20226, 20614, 20616, 20836, 21035, 21162, 21262, 21562
Pathe Cinema	20043
Pathe Marconi	20041
Penney	20035, 20162, 20037, 20047, 20081, 20240, 20000, 20042, 20067, 20038, 21035, 21237
Pentax	20042
Perdio	20000, 20209
Philco	20035, 20081, 20000, 20209, 20038, 20226, 20479
Philips	20035, 20162, 20048, 20081, 20045, 20000, 20209, 20226, 20616, 20618, 20739, 21081, 21181
Phoenix	20278
Phonola	20081
Pilot	20037
Pioneer	20162, 20081, 20042, 20067
Polk Audio	20081
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Prinz	20000
Profitronic	20081, 20240
Proline	20000, 20278, 20320, 20642
Proscan	20060, 21060
Prosco	20278
Prosonic	20209, 20278
Protec	20000
Protech	20081
ProVision	20278
Pulsar	20039, 20240, 20278
Pulser	20240
Pye	20081, 20000
Q Qisheng	20060
Quarter	20046
Quartz	20035, 20047, 20046
Quasar	20035, 20162, 20002, 20278, 20226, 21035, 21162
Quelle	20081
R Radialva	20037, 20048, 20081
Radiola	20081
Radionette	20037, 21137
RadioShack	20035, 20162, 20037, 20048, 20047, 20240, 20000, 20104, 20046, 21162
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Randex	20037
Rank	20041
Rank Arena	20041
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Realistic	20035, 20162, 20037, 20048, 20047, 20240, 20000, 20104, 20121, 20278, 20046, 21162
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Ricavision	21972
Rio	21137
Roadstar	20037, 20081, 20240, 20278, 20038, 20742
Runco	20039
S Saba	20041, 20278, 20320
Saisho	20209, 20348
Salora	20104, 20043, 20046, 20106
Sampo	20037, 20048
Samsung	20060, 20240, 20045, 20000, 20038, 20432, 20739, 21014
Samtron	20240
Sanky	20048, 20039
Sansei	20048
Sansui	20240, 20000, 20067, 20209, 20041, 20002, 20106, 20348, 20479, 21479
Sanyo	20048, 20047, 20240, 20000, 20104, 20067, 20209, 20046, 20348, 20479, 21137
Saville	20240, 20278, 20352
SBR	20081
ScanSonic	20240
Schaub Lorenz	20000, 20104, 20041, 20106, 20315, 20348
Schneider	20037, 20081, 20240, 20000, 20042, 20278, 20348, 20352, 20642, 21137
Scott	20184, 20045, 20121, 20043
Sears	20060, 20035, 20162, 20037, 20048, 20039, 20047, 20033, 20045, 20000, 20042, 20104, 20067, 20043, 20209, 20041, 21237, 20046
Seaway	20278
SEG	20081, 20240, 20278, 20637, 20642
SEI	20081
Sei-Sinudyne	20081
Seleco	20037, 20041
Semp	20045
Sentra	20278
Sharp	20037, 20048, 20047, 20032, 20000, 20209, 20807
Shinco	20000
Shintom	20039, 20240, 20000, 20104
Shivaki	20037
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Siemens	20037, 20081, 20104, 20046, 20320, 20347
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Silva	20037
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Singer	20037, 20240, 20045, 20348
Sinudyne	20081, 20209, 20352
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Sonwa	20642
Sony	20035, 20048, 20047, 20032, 20033, 20000, 20067, 20046, 20106, 20226, 20636, 21232, 21972
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Soundwave	20037, 20209, 20348
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Sunstar	20000
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Supra	20037, 20278, 20348
Susumu	20037
SV2000	20000
SVA	20000
Sylvania	20035, 20081, 20000, 20043, 21593, 21781
Symphonic	20240, 20000, 20002, 21593
Systemax	21972
T T+A	20162
Tagar Systems	21972
Taisho	20209
Tandberg	20278
Tandy	20000, 20104
Tashiko	20037, 20048, 20081, 20240, 20000
Tatung	20048, 20081, 20045, 20000, 20067, 20043, 20209, 20041, 20348, 20352
Tchibo	20348
TCM	20348
Teac	20037, 20000, 20067, 20041, 20278, 20637, 20642, 21593
Technics	20035, 20162, 20037, 20081, 20000, 20226, 21162
TechniSat	20348
Technosonic	20352
Teco	20035, 20037, 20048, 20041, 20038
Tedelex	20037, 20209, 20348, 20642
Teknika	20035, 20037, 20000
Teleavia	20041
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Telefunken	20209, 20041, 20278, 20320, 20642
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Teletech	20000, 20278
Tensai	20037, 20000, 20278
Tevion	20209, 20348, 20479, 20642
Texet	20278
Thomas	20000, 20002
Thomson	20060, 20067, 20041, 20278, 20320
Thorn	20037, 20104, 20041, 20320
Tisonic	20278
Tivo	20618, 20636, 20739, 21996
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TNIX	20037	
Tocom	20240	
Tokai	20037, 20104, 20041	
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Toshiba	20081, 20240, 20045, 20000, 20042, 20067, 20043, 20209, 20041, 20352, 20432, 20742, 20845, 21008, 21145, 21972, 21996	
Tosonic	20278	
Totevision	20037, 20240	
Touch	21972	
Toyoda	20278	
Tradex	20081	
Triad	20278	
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DENON Model No. Modellnr Modéle numéro Modello No N° de modelo Modelnr Modellnr	DVD-550 DVD-700 DVD-900 DVD-1000 DVD-1400 DVD-1500 DVD-1710 DVD-1910 DVD-1930 DVD-2200 DVD-2800	DVD-2800II DVD-2900 DVD-2910 DVD-2930 DVD-3800 DVD-3910 DVD-3930 DVD-A11 DVD-A1 DVD-A1XV	DVD-800 DVD-1600 DVD-2000 DVD-2500 DVD-3000 DVD-3300

[ ] ∗ : Preset codes set upon shipment from the factory.
   : Sie Voreinstellungscodes wurden vor der Auslieferung werkseitig eingestellt.
   : Les codes préréglés diffèrent en fonctiom des livraison de l'usine.
   : I codici di presettaggio sono impostati in fabbrica prima della consegna.
   : Los códigos vienen preprogramados de fábrica.
   : Vooringestelde codes bij hey verlaten van de fabriek.
   : Förinställda koder har ställts in vid transporten från fabriken.

※1 : These preset codes can be recorded in the SAT/CBL mode.
   : Diese voreingestellten Codes können im SAT/CBL-Modus aufgenommen werden.
   : Ces codes de présélection peuvent être enregistrés en mode SAT/CBL.
   : I codici preimpostati possono essere registrati nel modo SAT/CBL.
   : Es posible guardar estos códigos preajustados en el modo SAT/CBL.
   : Deze voorkeuzecodes kunnen worden opgenomen in de SAT/CBL-modus.
   : Dessa förinställningskoder kan lagras i SAT/CBL-läget.

※2 : These preset codes can be recorded in the TV mode.
   : Diese voreingestellten Codes können im TV-Modus aufgenommen werden.
   : Ces codes de présélection peuvent être enregistrés en mode TV.
   : I codici preimpostati possono essere registrati nel modo TV.
   : Es posible guardar estos códigos preajustados en el modo TV.
   : Deze voorkeuzecodes kunnen worden opgenomen in de TV-modus.
   : Dessa förinställningskoder kan lagras i TV-läget.

※3 : These preset codes can be recorded in the VCR mode.
   : Diese voreingestellten Codes können im VCR-Modus aufgenommen werden.
   : Ces codes de présélection peuvent être enregistrés en mode VCR.
   : I codici preimpostati possono essere registrati nel modo VCR.
   : Es posible guardar estos códigos preajustados en el modo VCR.
   : Deze voorkeuzecodes kunnen worden opgenomen in de VCR-modus.
   : Dessa förinställningskoder kan lagras i VCR-läget.

※4 : These preset codes can be recorded in the DVD mode.
   : Diese voreingestellten Codes können im DVD-Modus aufgenommen werden.
   : Ces codes de présélection peuvent être enregistrés en mode DVD.
   : I codici preimpostati possono essere registrati nel modo DVD.
   : Es posible guardar estos códigos preajustados en el modo DVD.
   : Deze voorkeuzecodes kunnen worden opgenomen in de DVD-modus.
   : Dessa förinställningskoder kan lagras i DVD-läget.

DENON