

DENON

BLU-RAY DISC / DVD VIDEO PLAYER

DBP-1610

Owner's Manual
Bedienungsanleitung
Manuel de l'Utilisateur
Manuale delle istruzioni
Manual del usuario
Gebruiksaanwijzing
Bruksanvisning

- * Button illustrations used in this manual for operation explanation are for the Remote Control Unit.
You can operate the unit using the button of the same name on the front panel of the unit.
- * Die in diesem Handbuch verwendeten Tasten-Illustrationen für die Betriebserklärung beziehen sich auf die Fernbedienung.
Sie können das Gerät mit der gleichnamigen Taste an der Frontkonsole des Gerätes bedienen.
- * Les illustrations des boutons présentes dans ce manuel servent à expliquer le fonctionnement de la télécommande.
Vous pouvez contrôler l'appareil à l'aide du bouton portant le même nom sur la façade de l'appareil.
- * Le illustrazioni dei pulsanti mostrate in questo manuale di spiegazione si riferiscono al telecomando.
E' possibile adoperare l'unità utilizzando i pulsanti del nome corrispondente presenti sul pannello frontale dell'unità.
- * Las ilustraciones de los botones utilizadas en este manual con propósitos de explicación son para la unidad del mando a distancia.
Puede operar la unidad utilizando el botón del mismo nombre en el panel delantero de la unidad.
- * De gebruikte toetsillustraties in deze handleiding voor uitleg van de bediening zijn voor de afstandsbediening.
U kunt het toestel bedienen door de toets met dezelfde naam op het voorpaneel van het toestel te gebruiken.
- * Bilder på knappar i denna bruksanvisning för att förklara användningen gäller fjärrkontrollen.
Du kan också använda knapparna med samma namn på frontpanelen på enheten.

SAFETY PRECAUTIONS



CAUTION

RISK OF ELECTRIC SHOCK

DO NOT OPEN



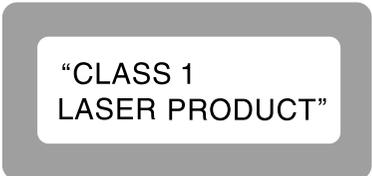
CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

 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.

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT



- ADVARSEL:** USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.
- VAROITUS!** LAITTEEN KÄYTTÄMINEN MUULLA KUINTÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAÄ ALTISTAA KÄYTTÄJÄNTURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄMTTÖMÄLLE LASERSÄTEILYLLE.
- VARNING:** OM APPARATEN ANVÄNDS PÅ ANNAT SÄTT ÄN I DENNA BRUKSANVISNING SPECIFICERATS, KAN ANVÄNDAREN UTSÄTTAS FÖR OSYNLIG LASERSTRÅLNING SOM ÖVERSKRIDER GRÄNSEN FÖR LASERKLASS 1.



ATTENZIONE: QUESTO APPARECCHIO E' DOTATO DI DISPOSITIVO OTTICO CON RAGGIO LASER. L'USO IMPROPRIO DELL'APPARECCHIO PUO' CAUSARE PERICOLOSE ESPOSIZIONI A RADIAZIONI!

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
10. Only use attachments/accessories specified by the manufacturer.
11. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. Batteries shall not be exposed to excessive heat such as sunshine, fire or the like.



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 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.

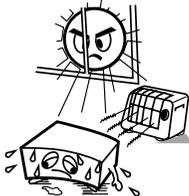
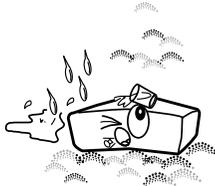
FÖRSIKTIHETSMÅTT:

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.

CAUTION:

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE. THIS PRODUCT SHOULD NOT BE ADJUSTED OR REPAIRED BY ANYONE EXCEPT PROPERLY QUALIFIED SERVICE PERSONNEL.

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

 <ul style="list-style-type: none"> 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 monteringen i ett rack. 	 <ul style="list-style-type: none"> 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. 	 <ul style="list-style-type: none"> 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. 	<p>CAUTION:</p> <ul style="list-style-type: none"> 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. <p>ACHTUNG:</p> <ul style="list-style-type: none"> 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.
 <ul style="list-style-type: none"> 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. Manneggiare 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 nätkablen varsamt. Håll i kablarna när den kopplas från el-uttaget. 	 <ul style="list-style-type: none"> 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 stopcontact wanneer het apparaat gedurende een lange periode niet wordt gebruikt. Koppla loss nätkablen om apparaten inte kommer att användas i lång tid. 	 <ul style="list-style-type: none"> 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. Voorom dat insecticiden, benzeen of verfverdunder met dit toestel in contact komen. Se till att inte insektsmedel på spraybruk, bensen och thinner kommer i kontakt med apparatens hölje. 	<p>ATTENTION:</p> <ul style="list-style-type: none"> 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. <p>ATTENZIONE:</p> <ul style="list-style-type: none"> 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.
	 <p>* (For apparatuses with ventilation holes)</p> <ul style="list-style-type: none"> 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 geblokkeerd. Täpp inte till ventilationsöppningarna. 	 <ul style="list-style-type: none"> 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. 	<p>PRECAUCIÓN:</p> <ul style="list-style-type: none"> 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. <p>WAARSCHUWING:</p> <ul style="list-style-type: none"> 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. <p>OBSERVERA:</p> <ul style="list-style-type: none"> 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.

DECLARATION OF CONFORMITY

We declare under our sole responsibility that this product, to which this declaration relates, is in conformity with the following standards: EN60065, EN55013, EN55020, EN61000-3-2 and EN61000-3-3. Following the provisions of 2006/95/EC and 2004/108/EC Directive.

ÜBEREINSTIMMUNGSERKLÄRUNG

Wir erklären unter unserer Verantwortung, daß dieses Produkt, auf das sich diese Erklärung bezieht, den folgenden Standards entspricht: EN60065, EN55013, EN55020, EN61000-3-2 und EN61000-3-3. Entspricht den Verordnungen der Direktive 2006/95/EC und 2004/108/EC.

DECLARATION DE CONFORMITE

Nous déclarons sous notre seule responsabilité que l'appareil, auquel se réfère cette déclaration, est conforme aux standards suivants: EN60065, EN55013, EN55020, EN61000-3-2 et EN61000-3-3. D'après les dispositions de la Directive 2006/95/EC et 2004/108/EC.

DICHIARAZIONE DI CONFORMITÀ

Dichiariamo con piena responsabilità che questo prodotto, al quale la nostra dichiarazione si riferisce, è conforme alle seguenti normative: EN60065, EN55013, EN55020, EN61000-3-2 e EN61000-3-3. In conformità con le condizioni delle direttive 2006/95/EC e 2004/108/EC. QUESTO PRODOTTO E' CONFORME AL D.M. 28/08/95 N. 548

DECLARACIÓN DE CONFORMIDAD

Declaramos bajo nuestra exclusiva responsabilidad que este producto al que hace referencia esta declaración, está conforme con los siguientes estándares: EN60065, EN55013, EN55020, EN61000-3-2 y EN61000-3-3. Siguiendo las provisiones de las Directivas 2006/95/EC y 2004/108/EC.

EENVORMIGHEIDSVERKLARING

Wij verklaren uitsluitend op onze verantwoordelijkheid dat dit produkt, waarop deze verklaring betrekking heeft, in overeenstemming is met de volgende normen: EN60065, EN55013, EN55020, EN61000-3-2 en EN61000-3-3. Volgens de bepalingen van de Richtlijnen 2006/95/EC en 2004/108/EC.

ÖVERENSSTÄMMELSESINTYG

Härmed intygas helt på eget ansvar att denna produkt, vilken detta intyg avser, uppfyller följande standarder: EN60065, EN55013, EN55020, EN61000-3-2 och EN61000-3-3. Enligt stadgarna i direktiv 2006/95/EC och 2004/108/EC.

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

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.



Pb

Contents

Introduction

Important2
Power Supply2
Warning2
Installation Location2
Cautions on Installation2
Cautions on Handling2
Dew Warning2
Avoid the Hazards of Electrical Shock and Fire2
Before Using2
About Copyright2
Features3
Supplied Accessories3
About Discs3
 Disc Handling3
 Cleaning Discs3
 Playable Discs and Files4
 Unplayable Discs5
 Colour Systems5
 Region Codes5
 Structure of Disc/SD Memory Card Contents5
 Symbols Used in this Owner's Manual5
About the Remote Control6
 Loading the Batteries6
 Using a Remote Control6
 Setting this Unit not React to Other DENON's DVD Player's Remote Control6
 Changing the Signal Code of a Remote Control6
Part Names and Functions7
 Front Panel7
 Rear Panel7
 Remote Control8
 Front Panel Display9
 Adjusting the Brightness of the Display9
 Examples of Displays during Operation9

Connections

Connecting to a TV11
Connecting to a Display Device with HDMI Cable11
Connecting to a Display Device and an Amplifier/Receiver with HDMI Cable11
HDMI Output Mode and Actual Output Signals12
Audio Setting13
Digital Connection to an AV Amplifier with Built-in Decoder13
Connection to a Device with 2-channels of Analogue Audio Inputs14
Network Connection with LAN15
Connecting the AC cord15

Playback

Turning the Power On16
Direct Playback16
Operations Using Disc Menu, Title Menu, and Popup Menu17
Playing Back a VR mode DVD-RW/-R17
Pause17
Resume Playback17
Fast Forward / Fast Reverse Playback18
Slow Forward Playback18
Step by Step Playback18
Dialogue Speed18
Repeat Playback19
 A-B Repeat19
Programme Playback19
PIP (Picture in Picture) (BONUSVIEW) Setting19
Random Playback20
Zoom20
Camera Angle21
Search21
On-Screen Display22

Selecting the Format of Audio and Video23

Selecting Audio Streams/Channels23
Selecting Subtitle Language24
Virtual Surround24
Pure Direct Mode24
Setting the BD Audio Mode24
Adjusting the Picture25

Playing Back an Audio CD or a Disc with DivX®/MP3/Windows Media™ Audio/JPEG File25

Kodak Picture CD27
Reading the SD Memory Card27
Enjoying BD-Live Discs with Internet28

Function Setup

Using the Setup Menu29
Quick29
Custom29
Network Connection38
 Connection Test38
 Enable(Easy)38
 Enable(Custom)38
 Disable40
Network Update40
Initialise41

Others

Trademark Information42
Explanation of Terms42
Index45
Troubleshooting46
Language Code47
Specifications48

Introduction

Important

Use only discs marked with logos listed on page 4.

Power Supply

The main power supply is engaged when the main plug is plugged in a 110-240V, 50/60Hz AC outlet. To operate the unit, press **[POWER ON]** or **<ON/STANDBY>** to turn on the unit.

Warning

To avoid fire or electric shock, do not expose this unit to rain or moisture.

WARNING:
LIVE PARTS INSIDE.
DO NOT REMOVE ANY SCREWS.

Installation Location

For safety and optimum performance of this unit:

- Do not stand the unit up vertically. Install the unit in a horizontal and stable position. Do not place anything directly on top of the unit. Do not place the unit directly on top of the TV.
- Shield it from direct sunlight and keep it away from sources of intense heat. Avoid dusty or humid places. Avoid places with insufficient ventilation for proper heat dissipation. Do not block the ventilation holes on the sides of the unit. Avoid locations subject to strong vibration or strong magnetic fields.
- Be sure to remove a disc and unplug the AC cord from the outlet before carrying the unit.

Non-use periods - Turn off the unit when it is not in use. Unplug the unit from the household AC outlet if it is not to be used for a long time. Unplug the unit during lightning storms.

Please read this owner's manual carefully before using the unit, and keep it for future reference.

Cautions on Installation

Noise or disturbance of the picture may be generated if this unit or any other electronic equipment using microprocessors is used near a tuner or TV.

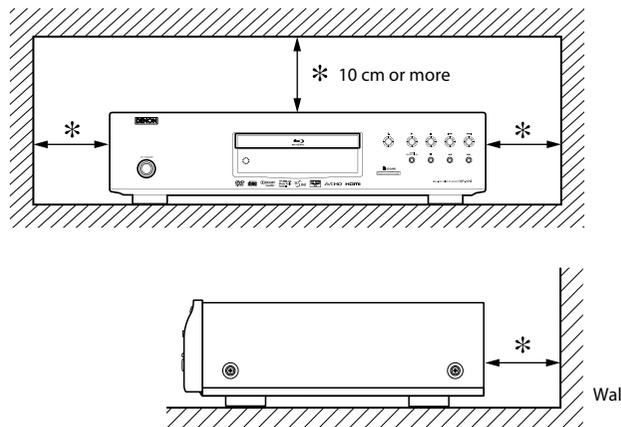
If this happens, take the following steps:

- Install this unit as far as possible from the tuner or TV.
- Set the antenna wires from the tuner or TV away from this unit's AC cord and input/output connection cords.

- Noise or disturbance tends to occur particularly when using indoor antennas or 300Ω/ohms feeder wires. We recommend using outdoor antennas and 75Ω/ohms coaxial cables.

Note

- For heat dispersal, do not install this equipment in a confined space such as a book case or similar unit.



Cautions on Handling

• 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.

• Before turning the power operation button on.

Check once again that all connections are correct and that there are no problems with the connection cables. Always set the power operation button to the standby position before connecting and disconnecting connection cables.

• Sufficiently ventilate the place of installation.

If the unit is left in a room full of the smoke from cigarettes, etc., for long periods of time, the surface of the optical pickup could get dirty, in which case it will not be able to read the signals properly.

Dew Warning

Moisture condensation may occur inside the unit when it is moved from a cold place to a warm place, or after heating a cold room or under conditions of high humidity. Do not use the unit at least for 2 hours until its inside is dry.

Avoid the Hazards of Electrical Shock and Fire

- Do not handle the AC cord with wet hands.
- Do not pull on the AC cord when disconnecting it from AC wall outlet. Grasp it by the plug.
- If, by accident, water is spilled on this unit, unplug the AC cord immediately and take the unit to our authorised service centre for servicing.

Before Using

Pay attention to the following before using this unit:

• Moving the unit.

To prevent short-circuits or damaged wires in the connection cables, always unplug the power supply cord and disconnect the connection cables between all other audio components when moving the unit.

• Store the owner's manual in a safe place.

After reading the owner's manual, store it in a safe place as it could come in handy in the future.

• Whenever <ON/STANDBY> is in the STANDBY state, the unit is still connected to AC line voltage.

Please be sure to unplug the cord when you leave home for, say, a vacation.

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

About Copyright

Unauthorised copying, broadcasting, public performance and lending of discs are prohibited.

This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorised by Macrovision, and is intended for home and other limited viewing uses only unless otherwise authorised by Macrovision. Reverse engineering or disassembly is prohibited.

U. S. Patent No's, 6,836,549; 6,381,747; 7,050,698; 6,516,132 and 5,583,936.

Introduction

Features

● **PIP (Picture in Picture) (BONUSVIEW) Setting**

Some BD-Video have the PIP (picture-in-picture) function which enables you to display the secondary video in the primary video. You can call up the secondary video by pressing [MODE] whenever the scene contains the secondary video.

● **Pure Direct**

The sound quality of analogue audio output is improved by stop output of video signals, etc.

● **On-Screen Display**

Information about the current operation can be displayed on a screen, allowing you to confirm the currently active functions (such as programme playback) using the remote control.

● **Picture Control**

Picture control adjusts the picture quality of the specific display.

● **DRC (Dynamic Range Control)**

Use this procedure to set the dynamic range of the output signals when playing back BD/DVD/AVCHD recorded in Dolby Digital/Dolby Digital Plus/Dolby TrueHD.

● **Playing Back the Contents in SD Memory Card**

- You can playback AVCHD, MP3, Windows Media™ Audio, or JPEG stored in an SD Memory Card.
- You can store picture-in-picture commentary, subtitles or other extras for BD-ROM ver. 2 (Profile 2.0/ Profile 1.1) files in an SD Memory Card and playback with the BD-ROM.

● **Playing Back AVCHD Files**

This unit supports playback of AVCHD format files (new format for high definition video camcorders) recorded on disc/SD card. Your high definition personal archive is playable in HD quality.

● **Playing Back DivX® File**

You can enjoy DivX® files which are recorded on BD-RE/-R, DVD-RW/-R or CD-RW/-R.

- Official DivX® Certified product
- Plays all versions of DivX® video (including DivX® 6/DivX® HD) with standard playback of DivX® media files.

● **Playing Back an MP3 File**

You can enjoy MP3 files which are recorded on BD-RE/-R, DVD-RW/-R, CD-RW/-R or SD Memory Card.

● **Playing Back Windows Media™ Audio File**

You can enjoy Windows Media™ Audio files which are recorded on BD-RE/-R, DVD-RW/-R, CD-RW/-R or SD Memory Card.

● **Displaying a JPEG picture**

Kodak Picture CD can be played back. Still images stored in JPEG format on BD-RE/-R, DVD-RW/-R, CD-RW/-R or SD Memory Card can also be played back.

● **BD-J Application**

- With some BD that supports Java applications (BD-J), you can enjoy interactive function (e.g. game).

● **BD-Live**

BD-Live (BD-ROM version 2 Profile 2.0) that allows interactive functions to be used when this unit is connected to the Internet in addition to the BONUSVIEW function. The various functions differ depending on the disc.

● **x.v.Color**

This unit supports playback of video contents on discs recorded with "x.v.Color" technology. To watch this video content with the "x.v.Color" space, a TV or other display device supporting both video image reproduction using "x.v.Color" standard and capability of manual switching of its colour space setting is required. Please refer to the owner's manual of your display device for further information.

Supplied Accessories

Please check to make sure the following items are included with the main unit in the carton.

remote control (RC-1129)



AC cord (1.6m)



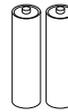
service station list



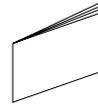
RCA video cable (1.0m)



"R6" (AA) batteries x2



owner's manual



RCA audio cable (1.0m)



Introduction

About Discs

Disc Handling

- Handle the discs so that fingerprints and dust do not adhere to the surfaces of the discs.
- Always store the disc in its protective case when it is not used.
- Note that discs with special shapes cannot be played on this product. Do not attempt to play back such discs, as they may damage the unit.

Cleaning Discs

- When a disc becomes dirty, clean it with a cleaning cloth. Wipe the disc from the centre to out. Do not wipe in a circular motion.
- Do not use solvents such as benzine, thinner, commercially available cleaners, detergent, abrasive cleaning agents or antistatic spray intended for analogue records.

Introduction

Playable Discs and Files

This unit is compatible to play back the following discs. To play back a BD or DVD, make sure that it meets the requirements for region codes and colour systems as described on page 5. You can play back discs that have the following logos on the disc. Other disc types are not guaranteed to play back.

Playable discs	Logos
Blu-ray Disc - BD-Video - BD-RE (ver. 2.1) (Recorded in BDMV format) - BD-R (ver. 1.1/ 1.2/ 1.3) (Recorded in BDMV format) (Unclosed discs may not be played back.)	
DVD-Video	
DVD-RW (Finalised discs only)	
DVD-R DVD-R DL (Finalised discs only)	
CD-DA (audio CD)	
CD-RW	
CD-R	
Kodak Picture CD	
DTS-CD (5.1 Music Disc)	—

Playable files	Logos	Media
AVCHD		DVD-RW/-R SD Memory Card (including SDHC) miniSD Card microSD Card
DivX®		BD-RE/-R DVD-RW/-R CD-RW/-R
MP3	—	BD-RE/-R DVD-RW/-R CD-RW/-R SD Memory Card (including SDHC) miniSD Card microSD Card
Windows Media™ Audio		SD Memory Card (including SDHC) miniSD Card microSD Card
JPEG	—	SD Memory Card (including SDHC) miniSD Card microSD Card

Note

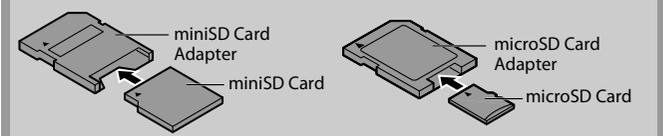
- ABOUT DIVX VIDEO: DivX® is a digital video format created by DivX, Inc. This is an official DivX Certified device that plays DivX video. Visit www.divx.com for more information and software tools to convert your files into DivX video.
- ABOUT DIVX VIDEO-ON-DEMAND: This DivX Certified® device must be registered in order to play DivX Video-on-Demand (VOD) content. To generate the registration code, locate the DivX VOD section in the device setup menu. Go to vod.divx.com with this code to complete the registration process and learn more about DivX VOD.
- Discs containing the DivX® files with the DivX® GMC (Global Motion Compensation) playback feature, which is DivX® supplemental function, cannot be played back on this unit.
- This unit cannot play back the disc contents protected by Windows Media™ Digital Rights Management (DRM).
- "WMA" (Windows Media™ Audio) is an audio codec developed by Microsoft® in the United States of America.

Introduction

Readable cards	Playable files / data
SD Memory Card (8MB - 2GB)	AVCHD, MP3, Windows Media™ Audio, JPEG, Picture-in-picture commentary, subtitles or other extras for BD-ROM ver. 2 (Profile 2.0/ Profile 1.1)
SDHC Memory Card (4GB - 8GB)	
miniSD Card (8MB - 2GB)	
microSD Card (8MB - 2GB)	

Note for SD Memory Cards

- Do not remove the SD Memory Card or turn the unit to the standby mode while the contents of the card is in playback. It may result in malfunction or loss of the card's data.
- Please keep the SD Memory Cards in their cases when you are not using them.
- Do not try to open or modify the card.
- Do not touch the terminal surface with your fingers or any metals.
- Do not attach additional labels or stickers to cards.
- Do not remove the label of the SD Memory Cards.
- This unit supports SD Memory Card with FAT12/FAT16 file system, and SDHC Memory Card with FAT32 file system.
- This unit may not read the SD Memory Cards formatted on computer. If that is the case, please reformat the SD Memory Cards on this unit and try again.
- This unit does not support mini SDHC and micro SDHC Memory Card.
- For miniSD Card and microSD Card adapter is necessary.



• Portions of this product are protected under copyright law and are provided under license by ARIS/SOLANA/4C.

Introduction

Connections

Playback

Function Setup

Others

Introduction

Unplayable Discs

The following discs will not play back on this unit.

- BD-RE (ver. 1.0) (BD-disc with cartridge)
- BD-RE (ver. 2.1) (Recorded in BDAV format)
- BD-R (ver. 1.1/ 1.2/ 1.3) (Recorded in BDAV format)
- BD that contains AVCHD files
- Multi-session burn BD/DVD with DivX® files
- Multi-session burn BD-RE/-R with MP3/Windows Media™ Audio/JPEG files
- BD/DVD hybrid disc (e.g. Total Hi Def hybrid disc)
- BD-Video that does not include “B” on its region code.
- DVD-Video that does not include either “2” nor “ALL” on its region code.
- DVD-ROM/RAM (For DVD-ROM discs, data files in DivX® 3.11, 4.x, 5.x and 6.x can be played)
- DVD-RW/-R recorded in non-compatible recording format
- CD-ROM (Data files in DivX® 3.11, 4.x, 5.x and 6.x can be played)
- CDV (Only the audio part can be played)
- CD-G (Only the audio signals can be output)
- Compact Disc-Interactive (CD-I)
- Video Single Disc (VSD)
- Video CD, Super Video CD
- Super audio CD (Only the sound on the CD layer can be heard. The sound on the high-density super audio CD layer cannot be heard.)
- DVD-Audio
- HD DVD
- Disc with recording area less than 55mm in diameter
- Unauthorised disc (Pirated disc)
- Unfinalised disc

Colour Systems

BD and DVD are recorded in different colour systems throughout the world. The most common colour system, used primarily in the U.K. and other EU countries, is PAL. This unit uses the PAL system. However, it is also possible to play back BD and DVD using other colour systems, such as NTSC.

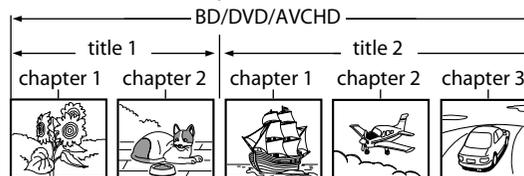
Region Codes

This unit has been designed to play back BD with region B and DVD-Video with region 2. You cannot play back BD or DVD-Video that are labelled for other regions. Look for the symbols on the right on your BD or DVD-Video. If these region symbols do not appear on your BD or DVD-Video, you cannot play back the disc in this unit. The letter or number inside the globe refers to region of the world. A BD or DVD-Video labelled for a specific region can only play back on the unit with the same region code.



Structure of Disc/SD Memory Card Contents

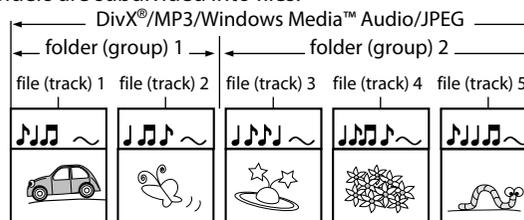
The contents of disc are generally divided into titles. Titles may be further subdivided into chapters.



Audio CDs are divided into tracks.



Data discs or SD Memory Cards containing DivX® (in discs only)/MP3/Windows Media™ Audio/JPEG are divided into folders, and the folders are subdivided into files.



Introduction

Symbols Used in this Owner's Manual

To specify for which media type each function is, we put the following symbols at the beginning of each item to operate.

Symbol	Description
BD-V	Description refers to BD-Video and BD-RE (ver. 2.1)/BD-R (ver. 1.1/ 1.2/ 1.3) recorded in BDMV format
DVD-V	Description refers to DVD-Video and DVD-RW/-R recorded in video mode
DVD-VR	Description refers to DVD-RW/-R recorded in VR mode
CD	Description refers to audio CD and DTS-CD
AVCHD	Description refers to DVD-RW/-R and SD Card with AVCHD files
DivX®	Description refers to BD-RE/-R, DVD-RW/-R and CD-RW/-R with DivX® files
MP3	Description refers to BD-RE/-R, DVD-RW/-R, CD-RW/-R and SD Memory Card with MP3 files
WMA	Description refers to BD-RE/-R, DVD-RW/-R, CD-RW/-R and SD Memory Card with Windows Media™ Audio files
JPEG	Description refers to BD-RE/-R, DVD-RW/-R, CD-RW/-R and SD Memory Card with JPEG files

If you do not find any of the symbols listed above under the function heading, the operation is applicable to all media.

About the button names in this explanation

- < > : Buttons on the main unit
- [] : Buttons on the remote control

Button name only:

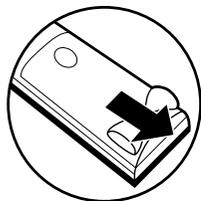
Buttons on the main unit and remote control

Introduction

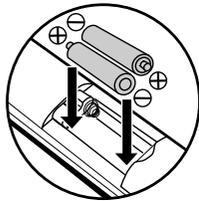
About the Remote Control

Loading the Batteries

① Open the battery compartment cover.



② Insert two "R6" (AA) batteries, with each one oriented correctly.



③ Close the cover.

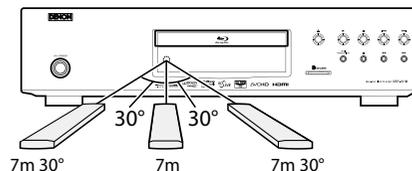
Cautions on Batteries

- Use "R6" (AA) batteries in this remote control.
- Replace the batteries with new ones approximately once a year, though this depends on the frequency with which the remote control is used.
- If the remote control does not operate within a close proximity of the main unit, replace the batteries with new ones, even if less than a year has passed.
- The included batteries serve only for verifying operation. Replace them with new batteries as soon as possible.
- When inserting the batteries, be careful to do so in the proper direction, following the ⊕ and ⊖ marks in the remote control's battery compartment.
- To prevent damage or battery fluid leakage:
 - Do not mix a new battery with an old one.
 - Do not mix two different types of batteries such as alkaline and manganese.
 - Do not short-circuit, disassemble, heat or dispose of batteries in flames.
- Remove the batteries when not planning to use the remote control for a long period of time.
- If the batteries should leak, carefully wipe off the fluid from the inside of the battery compartment, then insert new batteries.

Using a Remote Control

Keep in mind the following when using the remote control:

- Make sure that there are no obstacles between the remote control and infrared sensor window on the unit.
- Remote operation may become unreliable if strong sunlight or fluorescent light is shining on infrared sensor window of the unit.
- Remote control for different devices can interfere with each other. Avoid using remote control for other equipment located close to the unit.
- Replace the batteries when you notice a fall off in the operating range of the remote control.
- The maximum operable ranges from the unit are as follows.
 - **Line of sight:** approx. 7m
 - **Either side of the centre:** approx. 7m within 30°



Setting this Unit not React to Other DENON's DVD Player's Remote Control

If you have other DENON's DVD players around this unit, this unit reacts to the commands you made for DVD players through its remote control. To avoid this situation, you can set this unit not react to other DENON's DVD player's remote control.

- 1) In stop mode, press [SETUP].
 - 2) Press [7],[8],[9],[2].
 - 3) Press [SETUP].
 - "Only Attached Remocon" will be displayed on the upper right corner of the screen and this unit only react to the commands from this unit's remote control.
- To set back to default, press [7],[8],[9],[1] at step 2). "Normal Remocon" will be displayed on the upper right corner of the screen and this unit react to both the commands from this unit's remote control and the other DENON's DVD players' remote control.

Note

- The setting remains after you turn the unit to the standby mode or unplug the AC cord.
- If you try to operate this unit with the other DENON's DVD players' remote control, some of the operation may not be available depending on the manufactured year or type of the remote control.

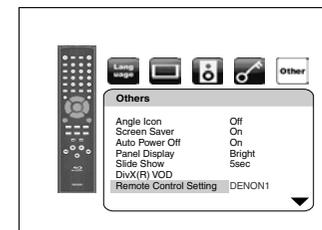
Introduction

Changing the Signal Code of a Remote Control

To avoid the other DENON's BD players responding the remote signal of this unit, you can change the signal code of the remote control. If the signal code of the remote control does not match to the signal code of the unit, you cannot control the unit with the remote control.

Change the signal code of the unit

- 1) In stop mode, press [SETUP].
- 2) Use [◀ / ▶] to select **CUS**, then press [ENTER].
- 3) Use [◀ / ▶] to select **Other**, then press [ENTER].
- 4) Use [△ / ▽] to select "Remote Control Setting".
- 5) Press [ENTER] to select "DENON1" or "DENON2".



6) Press [SETUP] to exit.

- At this point the new signal code of the unit is effective. Please change the signal code of the remote control to match to the signal code of the unit with following procedure.

Change the signal code of the remote control

Set to "DENON1":

Press and hold [RETURN], and press [3], [2], [1].

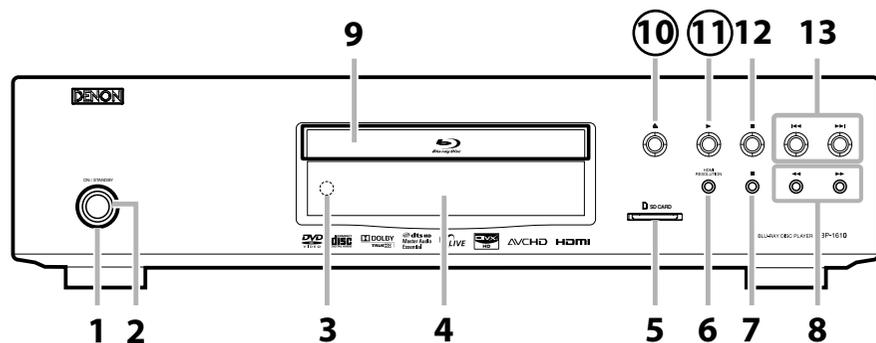
Set to "DENON2":

Press and hold [RETURN], and press [1], [2], [3].

- If the signal code does not match, the signal code of the main unit will be displayed on the front panel display.
- The default setting and the setting after you change the batteries is "DENON1".
- If the code setting on the unit is "DENON1", and the setting on the remote control is "DENON2", "PLAYER 1" is shown on the front panel display.

Part Names and Functions

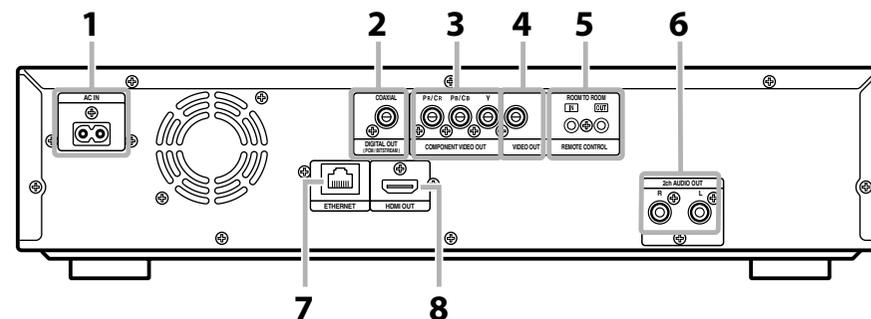
Front Panel



The unit can also be turned on by pressing the buttons with circled numbers.

- 1. Power indicator**
This indicator lights up in green when the power is on, and lights up in red in standby mode.
- 2. ON/STANDBY button**
Press to turn on the unit, or to turn the unit to the standby mode. (In standby mode, this unit still consumes small amount of power. To completely shut down the unit, you must unplug the AC cord.)
- 3. Infrared sensor window**
Receives signals from your remote control so that you can control the unit from a distance.
- 4. Display**
Refer to "Front Panel Display" on page 9.
- 5. SD CARD slot**
Insert an SD Memory Card, and play back the contents in it.
- 6. HDMI RESOLUTION button**
Press to set the HDMI jack's video signal output mode.
- 7. II (STILL/PAUSE) button**
Press to pause playback.
- 8. ◀◀ / ▶▶ (FAST FORWARD/REVERSE) button**
Press to search forward / backward through a disc.
- 9. Disc tray**
Place a disc when opening the disc tray.
- 10. ▲ (OPEN/CLOSE) button**
Press to open or close the disc tray.
- 11. ▶ (PLAY) button**
Press to start or resume playback.
- 12. ■ (STOP) button**
Press to stop playback.
- 13. ◀◀ / ▶▶ (SKIP DOWN/UP) button**
Press to skip down/up titles/chapters/tracks/ files.

Rear Panel

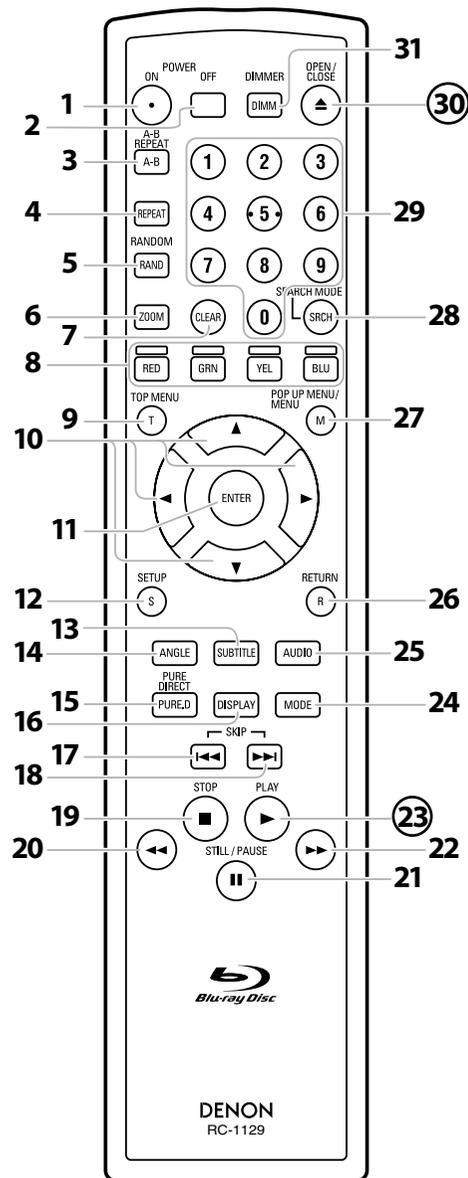


- 1. AC Inlet (AC IN)**
Use to connect the AC cord to supply the power.
- 2. DIGITAL OUT (COAXIAL) jack**
Use digital audio coaxial cable to connect to an AV receiver, Dolby Digital decoder or other device with a digital audio coaxial input jack.
- 3. COMPONENT VIDEO OUT jacks**
Use a component video cable to connect to a display device with component input jacks.
- 4. VIDEO OUT jack**
Use an RCA video cable to connect to a TV monitor, AV receiver or other device.
- 5. REMOTE CONTROL IN / OUT jacks**
Connecting the DENON Satellite Remote Control to these jacks enables you to operate more than one DENON components with one remote control.
- 6. 2ch AUDIO OUT jacks**
Use an RCA audio cable to connect these jacks to the 2-channel audio input jacks of your amplifier with 2- channel input terminals.
- 7. ETHERNET terminal**
Use to connect a telecommunications equipment with LAN cable.
- 8. HDMI OUT jack**
Use an HDMI cable to connect to a display with an HDMI input jack.

Note

- Do not touch the inner pins of the jacks on the rear panel. Electrostatic discharge may cause permanent damage to the unit.

Remote Control



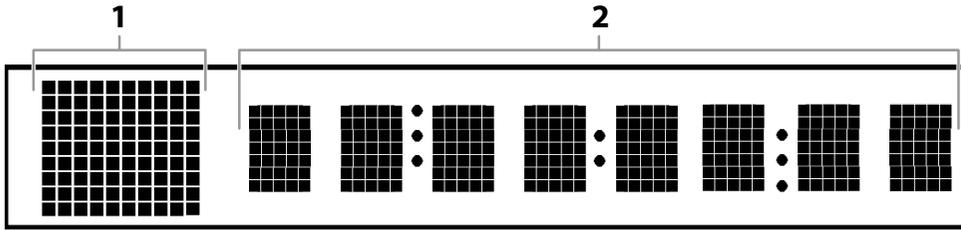
The unit can also be turned on by pressing the buttons with circled numbers.

- 1. POWER ON button**
 - Press to turn the unit on.
- 2. POWER OFF button**
 - Press to turn the unit to standby mode.
- 3. A-B REPEAT button**
 - Press to mark a segment between A and B for A-B repeat playback.
- 4. REPEAT button**
 - Press to select the repeat mode.
- 5. RANDOM button**
 - Press to display the random playback screen for shuffling the playback order of tracks/files.
- 6. ZOOM button**
 - During playback, press to enlarge the picture on the screen.
- 7. CLEAR button**
 - Press to clear the information once entered, to clear the marker settings, or to cancel the programming for CD, etc.
- 8. RED/GRN/YEL/BLU button**
 - Press to select item on some BD menus.
 - When file list / thumbnail list is shown, press to switch between pages.
- 9. TOP MENU button**
 - Press to display the top menu.
- 10. Cursor Δ / ∇ / \triangleleft / \triangleright buttons**
 - Press to select items or settings.
- 11. ENTER button**
 - Press to confirm or select menu items.
- 12. SETUP button**
 - Press to display the setup menu.
- 13. SUBTITLE button**
 - Press to display the subtitle menu.
- 14. ANGLE button**
 - Press to access various camera angles on the disc.
 - Press to rotate the JPEG/Kodak Picture images clockwise by 90 degrees.
- 15. PURE DIRECT button**
 - Press to stop output of video signals, etc., and output only the analogue audio signals to achieve high quality sound from analogue audio outputs.
- 16. DISPLAY button**
 - Press to display the On-Screen display menu.
- 17. SKIP $\triangleleft\triangleleft$ button**
 - During playback, press to return to the beginning of the current title, chapter, track or file.
- 18. SKIP $\triangleright\triangleright$ button**
 - During playback, press to skip the next chapter, track or file.
- 19. STOP \blacksquare button**
 - Press to stop playback.
 - Press to exit from the title menu.
- 20. REW $\triangleleft\triangleleft$ button**
 - During playback, press to fast reverse the playback.
- 21. STILL/PAUSE \parallel button**
 - Press to pause playback.
 - When playback is in pause, press repeatedly to forward the playback step by step.
- 22. FFW $\triangleright\triangleright$ button**
 - During playback, press to fast forward the playback.
 - When playback is in pause, press to slow forward the playback.
- 23. PLAY \blacktriangleright button**
 - Press to start playback or resume playback.
- 24. MODE button**
 - During playback, press to display the picture adjustment menu, and dialogue speed.
 - During the JPEG playback, press to display menus for changing the visual effect for switching the image or changing the size of the image.
 - In stop mode with BD inserted, press to display a menu for setting the BD audio mode.
 - During playback of BD, DVD, audio CD, AVCHD, DivX[®], MP3 or Windows Media[™] Audio, press to display a menu for setting the virtual surround.
 - During BD playback, press to turn the picture-in-picture feature on or off (only applicable to BD-Video which supports the PIP (BONUSVIEW) function).
 - In stop mode with audio CD, or disc with MP3, Windows Media[™] Audio, JPEG files inserted, press to display menus for programme and random playback.
- 25. AUDIO button**
 - Press to display the audio menu.
- 26. RETURN button**
 - Press to return to the previously displayed menu screen.
- 27. POP UP MENU / MENU button**
 - Press to display the pop-up menu/disc menu/file list.
 - Press to change "Original" and "Playlist" on the TV screen.
- 28. SEARCH MODE button**
 - Press to display the search menu.
- 29. Number buttons**
 - Press to enter the title/chapter/track/file numbers.
- 30. OPEN/CLOSE \blacktriangle button**
 - Press to open or close the disc tray.
- 31. DIMMER button**
 - Press to adjust the brightness of the front panel display.

Note

- [ZOOM] is not available for BD and AVCHD.
- [RANDOM] is not available for BD, DVD, AVCHD and DivX[®].

Front Panel Display



* Brightness of the display can be adjusted. Refer to "Panel Display" in "Function Setup" on page 36.

- 1) Displays playback status icon. Refer to the table below.
- 2) Displays various kinds of information such as title number, elapsed time, repeat mode, etc.

Playback status icon		Mode
Disc	SD Memory Card	
		Playback is in progress
		Stop mode
		Pause mode
		Fast forward mode
		Fast reverse mode
	 (for AVCHD only)	Slow forward mode
		Appears while repeat function is set

Adjusting the Brightness of the Display

You can adjust the brightness of the display by the pressing [DIMMER] repeatedly. The brightness changes as bright → dimmer → auto each time you press [DIMMER]. If you select auto, the display gets dimmer during playback.

Note

- [DIMMER] is not available when the setup menu is displayed.

Examples of Displays during Operation

Display	Description
P-ON	Power on
P-OFF	Standby mode
OPEN	Tray open
CLOSE	Tray is closing
LOADING	Loading the disc
NO DISC	No disc inserted
-----	This unit cannot read the disc or SD Memory Card inserted.
STOP	Stop mode
480i	HDMI output mode (480i) is selected.
576i	HDMI output mode (576i) is selected.
480P	HDMI output mode (480p) is selected.
576P	HDMI output mode (576p) is selected.
720P	HDMI output mode (720p) is selected.
1080i	HDMI output mode (1080i) is selected.
1080P	HDMI output mode (1080p) is selected.
1080P24	HDMI output mode (1080p24 frame) is selected.
Source D	HDMI output mode (Source Direct) is selected.
Normal	Pure direct mode is set to pure direct off.
VideoOff	Pure direct mode is set to video signal off.
Disp.Off	Pure direct mode is set to front panel display off.
All Off	Pure direct mode is set to video signal and front panel display off.
HDCP NOK	Appears when the connected display device or other device does not support HDCP.

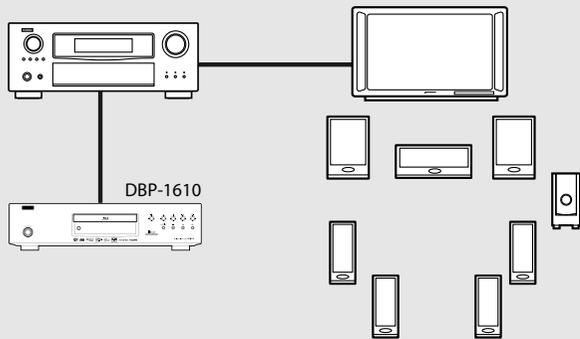
Note

- When playing back the disc that contains more than 100 titles, display of the chapter and time on the front panel display will be moved a few dots to the right.

Connections

Connect the DBP-1610 as follows before using. Make connections according to the equipment you are connecting. Some DBP-1610 settings may be necessary depending on the connection method. Check each connection item for more information.

1 Home theater playback - Playing back using multi-channel system



Multi-channel Audio + Video

- **HDMI connection**
"Connecting to a Display Device and an Amplifier/Receiver with HDMI Cable" (page 11)

..... or

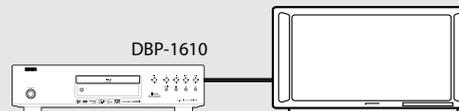
Multi-channel Audio

- **Digital audio connection**
"Digital Connection to an AV Amplifier with Built-in Decoder" (page 13)

Video

- **Connecting to a TV (VIDEO OUT/COMPONENT VIDEO OUT)** : page 11

2 Playing back with a direct connection to a TV



Audio + Video

- **Connecting to a Display Device with HDMI Cable** : page 11

..... or

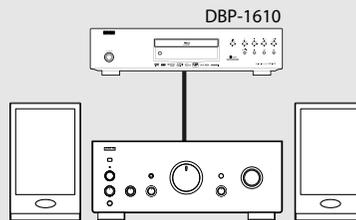
Audio

- **Connecting to a TV (2ch AUDIO OUT)** : page 11

Video

- **Connecting to a TV (VIDEO OUT/COMPONENT VIDEO OUT)** : page 11

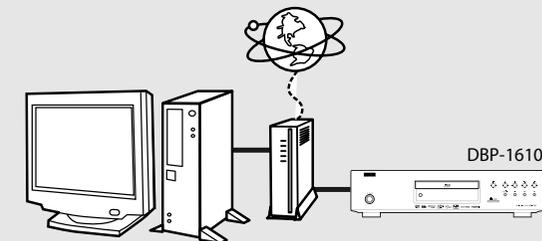
3 Playing back 2-channel audio



2ch audio connection

- "Connection to a Device with 2-channels of Analogue Audio Inputs" (page 14)

4 Using BD-Live function or updating the software version of DBP-1610



LAN connection

- "Network Connection with LAN" (page 15)

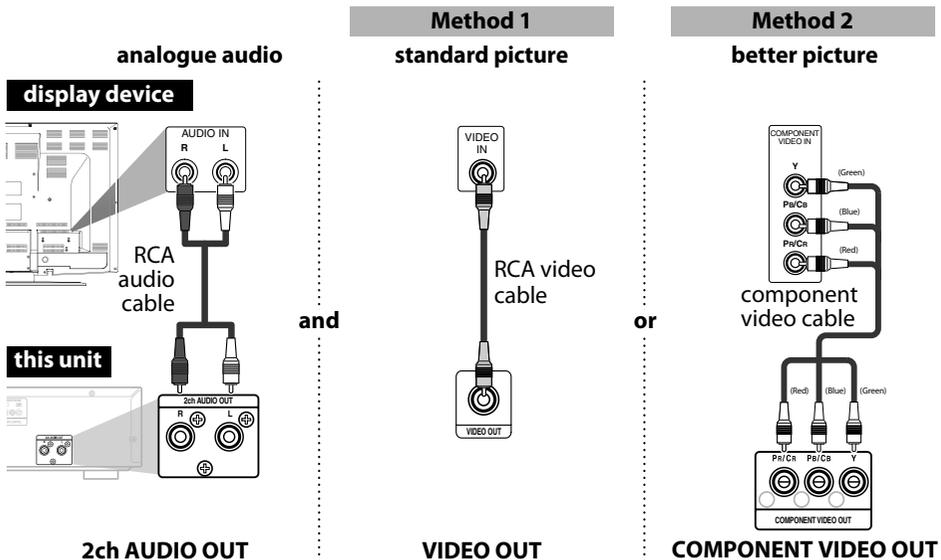
Connecting the AC cord

- : page 15

Connections

Connecting to a TV

Make one of the following connections, depending on the capabilities of your existing device.



Supplied cables used in this connection are as follows:

- RCA audio cable (L/R) x 1
- RCA video cable x 1

Please purchase the rest of the necessary cables at your local store.

Note

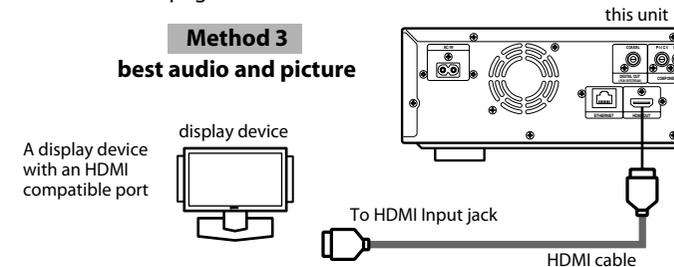
- Connect this unit directly to the TV. If the RCA audio/video cables are connected to a VCR, pictures may be distorted due to the copy protection system.
- If the display device to which the player is to be connected is compatible with progressive scan video, connect to the component video input.
- This unit's COMPONENT VIDEO OUT jacks are compatible for 480i/576i/480p/576p/720p/1080i video resolution. If the connected display device is not compatible for 480p/576p/720p/1080i video resolution, set "Component Output" to "480i/576i".
- If the picture is not output properly to the display device because of the "HDMI Video Resolution" or "Component Output" setting, press and hold **▶** on the front panel for more than 5 seconds. The "HDMI Video Resolution" setting will be reset to the default automatically.
- If you are using HDMI connection and set "HDMI Video Resolution" to "Source Direct", "1080p" or "1080p24", picture may not be output properly to the display device. In that case, set "HDMI Video Resolution" to "480i/576i", "480p/576p", "720p" or "1080i".

Connections

Connecting to a Display Device with HDMI Cable

Connecting this unit to device with an HDMI jack using an HDMI cable enables digital transfer of both digital video signals and multi-channel audio signals.

After making the connection, please make HDMI settings on setup menu according to your display device. Refer to pages 30-32.



Cables not included.

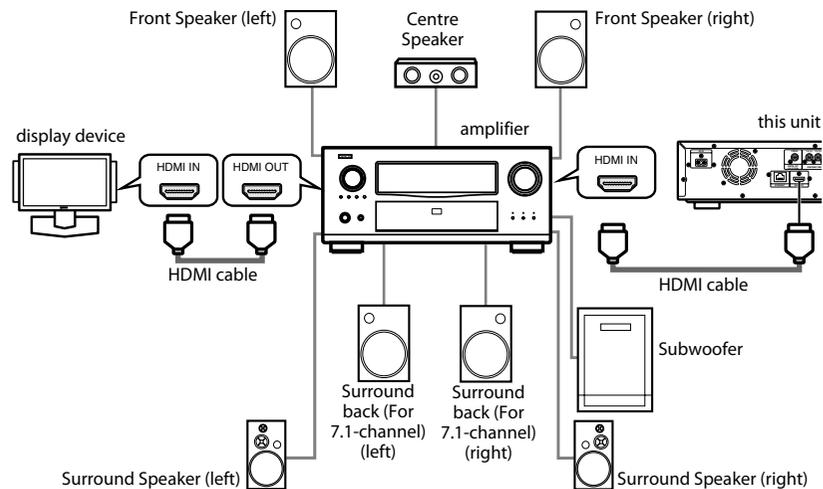
Please purchase the necessary cables at your local store.

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).

Connecting to a Display Device and an Amplifier/Receiver with HDMI Cable

Connecting this unit to display device and an amplifier/receiver with an HDMI jack using HDMI cables enables digital surround sound with high quality video.

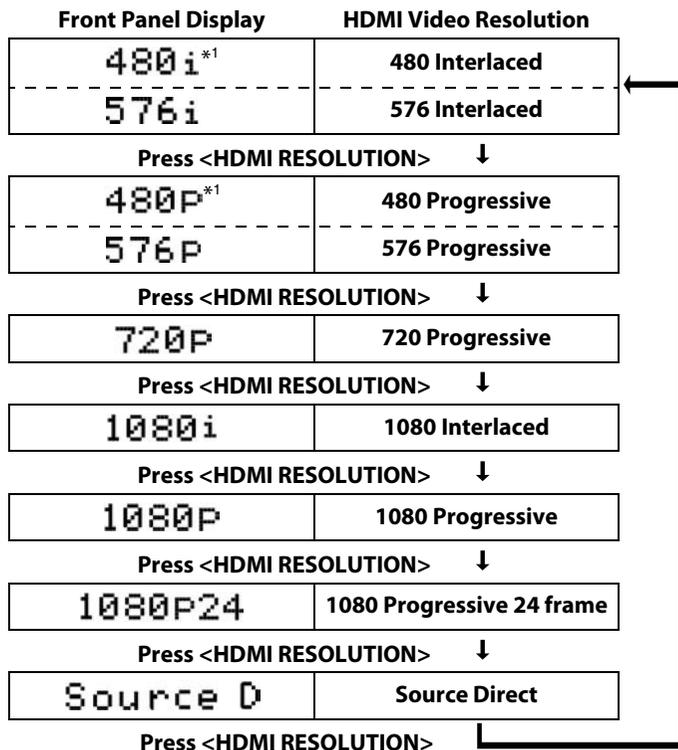


Cables not included.

Please purchase the necessary cables at your local store.

HDMI Output Mode and Actual Output Signals

Press <HDMI RESOLUTION> to select the HDMI output mode. HDMI video resolution changes as following.



*1 "480i" and "480p" will be displayed only when an NTSC disc or a 1080p/24 frame material is being played back.

Note

- You can change the HDMI output mode with <HDMI RESOLUTION> during playback as well. (This is not available during BD/AVCHD playback.)
- Video and audio signals may be distorted temporarily when switching to/from the HDMI output mode.
- You can also change the HDMI output mode from "HDMI Video Resolution" in the "Video" menu on the setup menu. Refer to page 31.
- In order to get natural and high quality film reproduction of 24-frame film material, use HDMI cable (High Speed HDMI cable is recommended) and select "1080p24", "Auto" or "Source Direct" if the connected display device is compatible with 1080p24 frame input.
- If the disc contains 1080p24 frame material, 60-frame or 50-frame image will be output unless "1080p24" is selected.
- For AVCHD and DivX®, 24-frame film material will be output as 60 frame, even if the connected device is compatible with 1080p24 frame input and "HDMI Video Resolution" is set to "1080p24", "Auto" or "Source Direct".
- When "HDMI Video Resolution" is set to "1080p", "1080p24" or "Source Direct", the "Component Output" will be set to "480i/576i" automatically.
- If the video is not properly from HDMI OUT jack after you set the "HDMI Video Resolution" setting, change the HDMI video resolution to the compatible resolution by pressing <HDMI RESOLUTION> or press and hold ► on the front panel for more than 5 seconds to reset the setting.
- "HDMI Deep Color" is available only when the display device is connected by HDMI cable and supports HDMI Deep Color.
- For "Auto" in "HDMI Deep Color", using the High Speed HDMI cable is recommended.

Connections

Audio Setting

When using HDMI connections make the "HDMI Audio Out" settings in the "Audio" menu on the setup menu according to the specifications of the device or monitor to be connected.

Device to be connected	"HDMI Audio Out" setting	Output HDMI audio signal
Device compatible with DTS, DTS-HD, Dolby Digital, Dolby Digital Plus or Dolby TrueHD decoding	HDMI Multi(Normal)	Dolby Digital, Dolby Digital Plus, Dolby TrueHD, DTS, or DTS-HD bitstream are output from HDMI OUT. Make the speaker settings on the connected AV amplifier, etc.
Device compatible with 3 or more channels of audio inputs (not DTS, DTS-HD, Dolby Digital, Dolby Digital Plus or Dolby TrueHD compatible)	HDMI Multi(LPCM)	Multi-channel audio signals are output from the HDMI OUT. Make the speaker settings with the speaker setting items appear after you select "HDMI Multi(LPCM)". Refer to page 32.
Device compatible with 2-channel audio input or device not compatible with audio input	HDMI 2ch	Down-mixed 2-channel audio signals are output from HDMI OUT.
HDMI connection to a display device, and digital audio connection (coaxial) to an AV amplifier.	Audio Mute	HDMI audio will be muted, and Dolby Digital/DTS bitstream or PCM will be output from DIGITAL OUT depending on the "Digital Out" setting. Refer to page 14.

Audio signals output from HDMI OUT

Disc type	Audio recording format	"HDMI Audio Out" setting		
		HDMI Multi(Normal)	HDMI Multi(LPCM)	HDMI 2ch
BD-Video	Dolby Digital	Dolby Digital	Multi PCM	2ch Downmix PCM
	Dolby Digital Plus	Dolby Digital Plus*1	Multi PCM*4	2ch Downmix PCM*4
	Dolby TrueHD	Dolby TrueHD*2	Multi PCM*5	2ch Downmix PCM*5
	DTS	DTS	Multi PCM	2ch Downmix PCM
	DTS-HD	DTS-HD*3	Multi PCM*6	2ch Downmix PCM*6
	PCM	Multi PCM	Multi PCM	2ch Downmix PCM
DVD-Video	Dolby Digital	Dolby Digital	Multi PCM	2ch Downmix PCM
	DTS	DTS	Multi PCM	2ch Downmix PCM
	PCM	2ch PCM	2ch PCM	2ch PCM
	MPEG	MPEG	Multi PCM	2ch Downmix PCM
DTS-CD	DTS	Multi PCM	2ch Downmix PCM	
AVCHD	Dolby Digital	Dolby Digital	Multi PCM	2ch Downmix PCM
	PCM	Multi PCM	Multi PCM	2ch Downmix PCM
DivX®	Dolby Digital	Dolby Digital	Multi PCM	2ch Downmix PCM
	MP3/ MP2	2ch PCM	2ch PCM	2ch PCM

Connections

Disc type	Audio recording format	"HDMI Audio Out" setting		
		HDMI Multi(Normal)	HDMI Multi(LPCM)	HDMI 2ch
audio CD/ MP3/ Windows Media™ Audio		2ch PCM	2ch PCM	2ch PCM

- If "BD Audio Mode" is set to "HD Audio Output" or the BD title does not have secondary or interactive audio, the audio will be output as shown in the table.
- If the "BD Audio Mode" is set to "Mix Audio Output" and the BD title has secondary or interactive audio, the audio will be output as follows:
 - *1 Dolby Digital or Multi PCM (Only the independent substream is decoded.)
 - *2 Dolby Digital or Multi PCM (Only the Dolby Digital substream is decoded.)
 - *3 DTS or Multi PCM (Only the core substream is decoded.)
 - *4 As shown in the table (Only the independent substream is decoded.)
 - *5 As shown in the table (Only the Dolby Digital substream is decoded.)
 - *6 As shown in the table (Only the core substream is decoded.)
- If the connected device is not compatible with the HDMI BITSTREAM, audio will be output as Multi PCM or 2ch Downmix PCM depending on the capability of the connected device, even if you select "HDMI Multi(Normal)" in "HDMI Audio Out" setting. Refer to page 32.

Copyright protection system

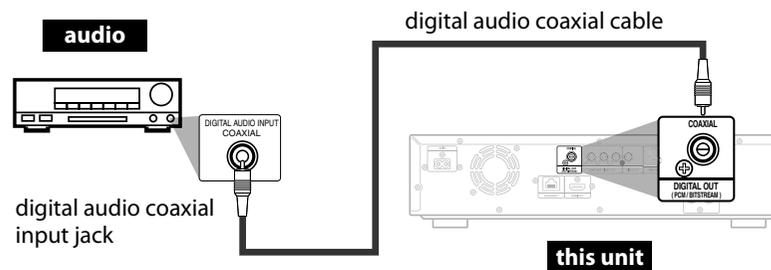
To play back the digital video images of a BD/DVD via an HDMI connection, it is necessary that both the unit and the display device (or an AV amplifier) support a copyright protection system called HDCP (high-bandwidth digital content protection system). HDCP is copy protection technology that comprises data encryption and authentication of the connected AV device. This unit supports HDCP. Please read the owner's manual of your display device (or AV amplifier) for more information.

* HDMI: High-Definition Multimedia Interface

Note

- When using HDCP-incompatible display device, the image will not be viewed properly.
- The audio signals from the HDMI jack (including the sampling frequency, the number of channels and bit length) maybe limited by the device that is connected.
- Among the monitors that support HDMI, some do not support audio output (e.g. projectors). In connections with device such as this unit, audio signals are not output from the HDMI output jack.

Digital Connection to an AV Amplifier with Built-in Decoder



Connections

Audio signals output from DIGITAL OUT (COAXIAL)

When both HDMI and DIGITAL OUT is connected to other devices, the audio signals currently output from the HDMI OUT will be output from the DIGITAL OUT jack as well, except that HDMI 2ch signal will be output from HDMI OUT jack, when connected device does not support Dolby Digital and DTS.

< When HDMI is not connected or "Audio Mute" is selected...>

When HDMI is not connected or the "Audio Mute" is selected in "HDMI Audio Out" setting, the audio signals output from DIGITAL OUT changes depending on the "Digital Out" setting. Refer to the following table.

To set "Digital Out", press [SETUP], then select "Quick" → "HDMI Audio Out" → "Audio Mute" or "Custom" → "Audio" → "HDMI Audio Out" → "Audio Mute".

Disc type	Audio recording format	"Digital Out" setting	
		Bitstream	LPCM
BD-Video	Dolby Digital	Dolby Digital	2ch Downmix PCM
	Dolby Digital Plus	Dolby Digital	2ch Downmix PCM*1
	Dolby TrueHD	Dolby Digital	2ch Downmix PCM*2
	DTS	DTS	2ch Downmix PCM
	DTS-HD	DTS	2ch Downmix PCM*3
	PCM	2ch Downmix PCM	2ch Downmix PCM
DVD-Video	Dolby Digital	Dolby Digital	2ch Downmix PCM
	DTS	DTS	2ch Downmix PCM
	PCM	2ch PCM	2ch PCM
	MPEG	MPEG	2ch Downmix PCM
DTS-CD		DTS	2ch Downmix PCM
AVCHD	Dolby Digital	Dolby Digital	2ch Downmix PCM
	PCM	2ch Downmix PCM	2ch Downmix PCM
DivX®	Dolby Digital	Dolby Digital	2ch Downmix PCM
	MP3/ MP2	2ch PCM	2ch PCM
audio CD/ MP3/ Windows Media™ Audio		2ch PCM	2ch PCM

• This table applies only when HDMI is not connected or the "Audio Mute" is selected in "HDMI Audio Out" setting.

• If "BD Audio Mode" is set to "HD Audio Output" or the BD title does not have secondary or interactive audio, the audio will be output as shown in the table.

• If the "BD Audio Mode" is set to "Mix Audio Output" and the BD title has secondary or interactive audio, the audio will be output as follows:

*1 Only the independent substream is decoded.

*2 Only the Dolby Digital substream is decoded.

*3 Only the core substream is decoded.

Note

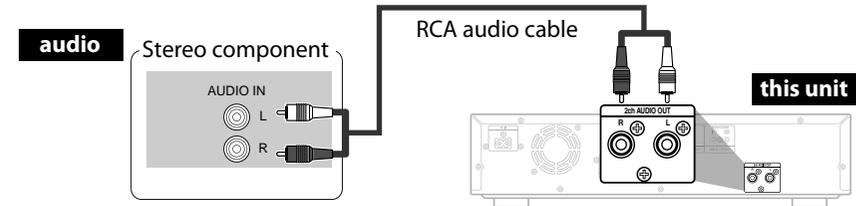
• In order to output PCM signal from DIGITAL OUT jack while outputting the HDMI audio signal, set "BD Audio Mode" to "Mix Audio Output" and set "HDMI Audio Out" to "HDMI Multi(LPCM)".

Connections

Cables not included.

Please purchase the necessary cables at your local store.

Connection to a Device with 2-channels of Analogue Audio Inputs



Supplied cables used in this connection are as follows:

- RCA audio cable (L/R) x 1

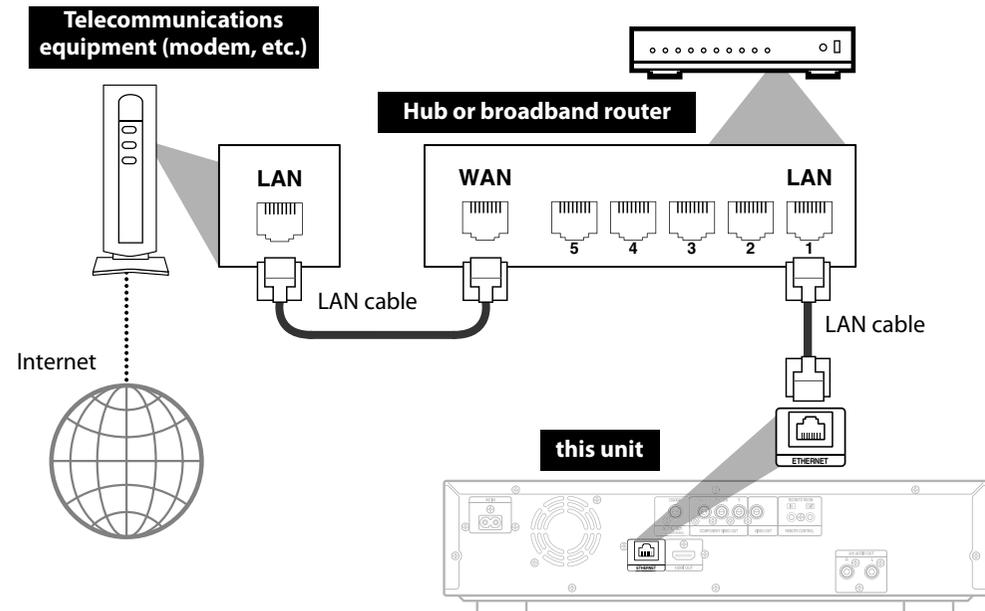
Note

• When connecting to a 2-channel audio stereo device, use the 2ch AUDIO OUT jacks. For software recorded in multi-channel, analogue signals that have been down-mixed into 2 channels are output.

Connections

Network Connection with LAN

- You can use a disc which offers BD-Live function by connecting the unit to the Internet. (For BD-Live information, please refer to page 28.)



No supplied cables are used in this connection:

Please purchase the necessary cables at your local store.

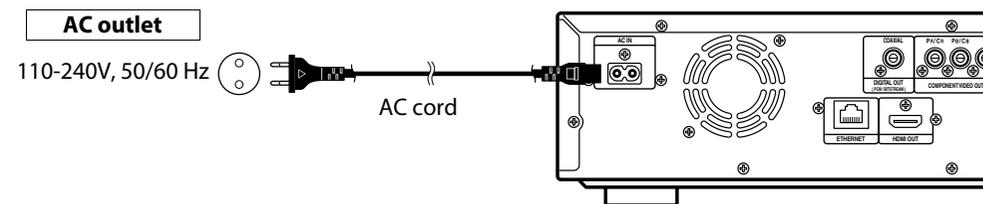
Note

- After connecting to the Internet, set up necessary network settings.
- Do not insert any cable other than a LAN cable to the ETHERNET terminal to avoid damaging the unit.
- If your telecommunications equipment (modem, etc.) does not have broadband router functions, connect a broadband router.
- If your telecommunications equipment (modem, etc.) has broadband router functions but there is no vacant port, use a hub.
- For a broadband router, use a router which supports 10BASE-T/100BASE-TX.
- Do not connect your PC directly to the ETHERNET terminal of this unit.

Connections

Connecting the AC cord

After you made all necessary connections, connect the AC cord to the AC IN. Then connect the AC cord to the AC outlet.



Supplied cables used in this connection are as follows:

- AC cord x 1

Note

- Insert the plugs securely. Incomplete connections will result in the generation of noise.

Playback

Disc playback

- **Direct Playback (BD/DVD-Video/AVCHD)** : page 16
- **Playing Back a VR mode DVD-RW/-R** : page 17
- **Playing Back an Audio CD or a Disc with DivX®/MP3/Windows Media™ Audio/JPEG File** : page 25
- **Kodak Picture CD** : page 27

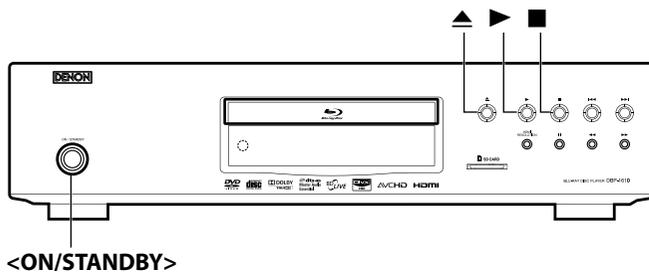
SD Card playback

- **Reading the SD Memory Card** : page 27

Operations Using Disc Menu, Title Menu, and Popup Menu : page 17

NOTE

-  may appear at the top-right on the screen when the operation is prohibited by the disc or this unit.
- During the playback of 2-layered disc, pictures may stop for a moment. This happens when the 1st layer switches to the 2nd layer. This is not a malfunction.
- The operation may vary when you play back with disc menu. Refer to the manual accompanying the disc for details.

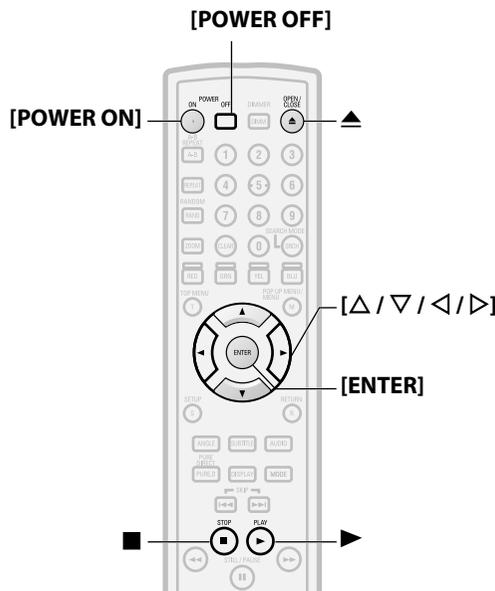


About the button names in this explanation

- < > : Buttons on the main unit
- [] : Buttons on the remote control

Button name only:

Buttons on the main unit and remote control



Turning the Power On

Press **[POWER ON]** or **<ON/STANDBY>** to turn on the unit. The power indicator lights green.

Turning the unit to the standby mode

Press **[POWER OFF]** or **<ON/STANDBY>** to turn the unit to the standby mode. The power indicator lights red.

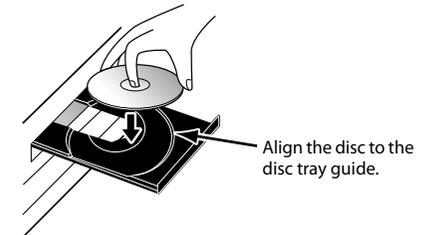
Note

- 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 travelling, unplug the AC cord from the AC outlet.

Direct Playback

BD-V **DVD-V** **DVD-VR** **AVCHD**

- 1** Turn on the power of this unit. (Refer to "Turning the Power On" on this page.)
- 2** Turn on the display device and select the appropriate input on the device to which the unit is connected.
- 3** Press **▲** to open the disc tray.
- 4** Place the disc on the disc tray with its label side facing up.



- 5** Press **▲** to close the disc tray.

It may take a while to load the disc.

Some discs may start playback automatically.

- 6** Press **▶** to start playback. Menu screen may appear. In this case, use **[Δ / ▽ / ◀ / ▶]** to select the desired item, then press **[ENTER]**.

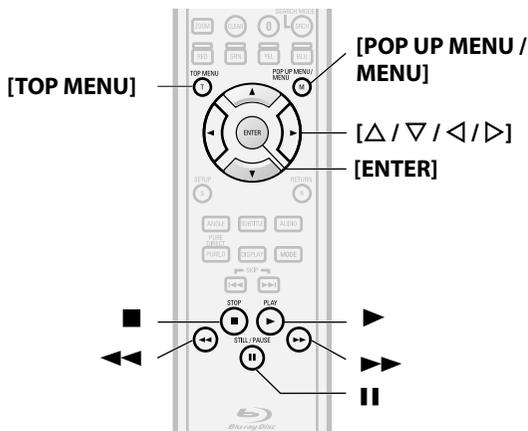
- 7** Press **■** once to stop playback temporarily.

Refer to "Resume Playback" on page 17.

To eject the disc:

Press **▲** to open the disc tray, then remove the disc before turning the unit to the standby mode.

Playback



Operations Using Disc Menu, Title Menu, and Pop-up Menu

BD-V **DVD-V** **AVCHD**

Many of BD and DVD disc contains Disc menu (DVD), Title menu (BD/DVD/AVCHD) or Pop-up menu (BD-Video) which describes the contents of the disc, or a disc menu, which guides you through the available functions in the disc. The contents of the menus may differ depending on the discs.

Disc menu (DVD)

- 1) Press **[POP UP MENU / MENU]**.
 - The disc menu will appear.
- 2) Use **[Δ / ▽ / ◀ / ▶]** to select an item, then press **[ENTER]**.

Title menu (BD/DVD/AVCHD)

- 1) Press **[TOP MENU]**.
- 2) Use **[Δ / ▽ / ◀ / ▶]** to select an item, then press **[ENTER]**.

Pop-up menu (BD-Video)

- This is a special feature available for some BD. When you press **[POP UP MENU / MENU]**, a menu pops out on the screen while the contents still play back.
- 1) During BD playback, press **[POP UP MENU / MENU]**.
 - 2) Use **[Δ / ▽ / ◀ / ▶]** to select an item, then press **[ENTER]**.

Note

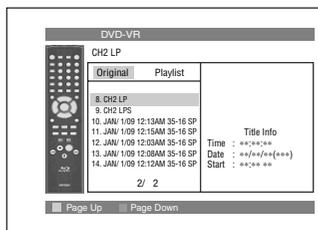
- If the feature is not available, may appear on the TV screen.
- Contents of menus and corresponding menu operations may vary among discs. Refer to the manual accompanying the disc for details.
- BD/DVD/AVCHD menu varies depending on discs.

Playing Back a VR mode DVD-RW/-R

DVD-VR

When you are playing back a VR mode DVD-RW/-R, you can choose "Original" or "Playlist" if the disc contains a "Playlist".

- 1) In stop mode, press **[POP UP MENU / MENU]** to call up the DVD menu.
- 2) Use **[◀ / ▶]** to select "Original" or "Playlist".



- 3) Use **[Δ / ▽]** to select desired title, then press **▶** or **[ENTER]**.

Note

- "Original" is the title which is actually recorded on the disc.
- Playlist is edited version of the Original.
- If the disc does not contain Playlist, Playlist will not be displayed on the DVD menu.

Playback

Pause

- 1) During playback, press **[II]**. Playback will be paused.



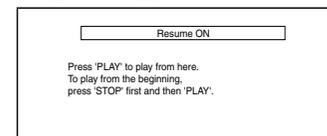
- 2) Press **▶** to return to normal playback.

Note

- For BD, DVD and DivX[®], set "Still Mode" to "Field" in the "Video" menu if pictures in the pause mode are blurred (refer to page 31).

Resume Playback

- 1) During playback, press **■**.
 - Resume message will appear on the screen.



<Example: BD>

- 2) Press **▶**. In a few seconds, playback will resume from the point at which it stopped last. To cancel the resume playback and start playing back the disc from the beginning, press **■** again while the playback is stopped.

Note

- For MP3, Windows Media™ Audio or JPEG, playback will resume from the beginning of the current file.
- The resume information will be saved even when the power is in standby mode.
- If you open the disc tray or press **■** again in stop mode, the resume information will be cleared.
- Resume playback may not be available for the BD that supports Java applications (BD-J).
- In the "SD Card" mode, the resume information will be cleared when:
 - the SD Memory Card is removed.
 - the unit is turned to the standby mode.

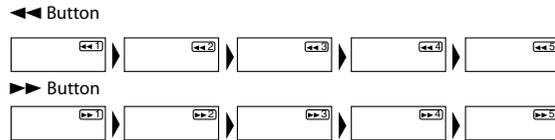
Playback

Playback

Fast Forward / Fast Reverse Playback

- BD-V DVD-V DVD-VR CD AVCHD DivX®
- MP3 WMA

1) During playback, press ◀◀ or ▶▶ repeatedly to select a desired forward or reverse speed.



2) Press ▶ to return to normal playback.

- For BD, DVD and AVCHD, speed changes in 5 different levels.
- For audio CD, DivX®, MP3 and Windows Media™ Audio, speed changes in 3 different levels.
- For audio CD, MP3 and Windows Media™ Audio, sound will be output at any speed of fast forward and reverse search.

Note

- For MP3 and Windows Media™ Audio, fast forward/fast reverse search between different files are not available.
- For audio CD, fast forward/fast reverse search between different tracks are not available during the programme and random playback.
- For some DivX® files, fast forward/fast reverse search may not function.

Slow Forward Playback

- BD-V DVD-V DVD-VR AVCHD DivX®

1) During playback, press II.

2) Press ▶▶.

- Slow motion playback will begin and sound will be muted.

3) Press ▶▶ repeatedly to select a desired speed.

- Slow forward speed changes in 3 different levels.



4) Press ▶ to return to normal playback.

Note

- Set "Still Mode" to "Field" in the "Video" menu if pictures in the slow playback mode are blurred (refer to page 31).
- Slow reverse is not available.

Step by Step Playback

- BD-V DVD-V DVD-VR AVCHD DivX®

1) During playback, press II.

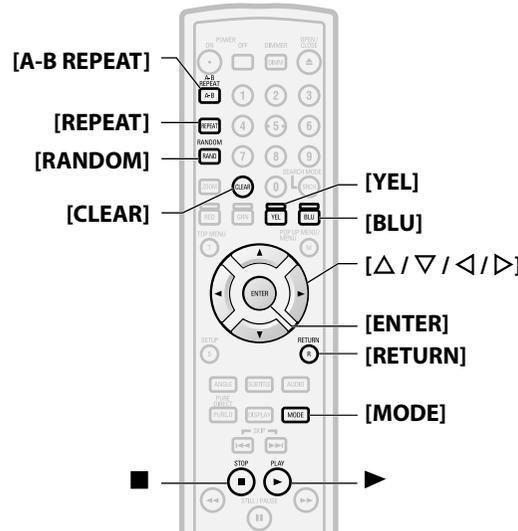
- Playback will pause and sound will be muted. The disc advances frame by frame each time II is pressed.



2) Press ▶ to return to normal playback.

Note

- Set "Still Mode" to "Field" in the "Video" menu if pictures in the pause mode are blurred (refer to page 31).
- Only step by step forward is available.



Dialogue Speed

- BD-V DVD-V DVD-VR AVCHD

This function plays back approximately at 1.3 times of normal playback while keeping the sound output. This function is available only on discs recorded in the Dolby Digital format.

1) During playback, press [MODE] repeatedly until the dialogue speed setting appears.



2) Press [ENTER] or [◀ / ▶] to switch ♪♪ (x1.3), or off.

"Off" : Plays back in normal speed.

"♪♪" : Plays back approximately at 1.3 times of normal playback.

3) Press ▶ to return to normal playback.

Note

- Every time you press ■, the setting will be turned "Off".
- Subtitle can be viewed during this function.
- Picture adjustment, and audio language setting cannot be changed during this function.
- Virtual surround does not function during this function.
- This function may not work at some points on a disc.
- During this function, Multi/2ch PCM will be output from HDMI output, 2ch PCM will be output from digital audio output, or 2ch analogue sound will be output from analogue audio out.

Playback

Introduction

Connections

Playback

Function Setup

Others

Repeat Playback

Available repeat function may vary depending on the discs.

- 1) **During playback, press [REPEAT] repeatedly until desired repeat mode appears on the screen.**

The following repeat modes are available.

Repeat mode	Available media
Chapter repeat The current chapter will be played back repeatedly.	BD-V DVD-V DVD-VR AVCHD
Title repeat The current title will be played back repeatedly.	BD-V DVD-V DVD-VR AVCHD
Track repeat The current track or file will be played back repeatedly.	CD DivX [®] MP3 WMA JPEG
Group repeat The current folder will be played back repeatedly.	DivX [®] MP3 WMA JPEG
All repeat All titles, tracks or files in the media will be played back repeatedly.	DVD-VR CD DivX [®] MP3 WMA JPEG

A-B Repeat

BD-V DVD-V DVD-VR CD AVCHD DivX[®]

Desired section can be played back repeatedly.

- 1) **Press [A-B REPEAT] at the desired starting point A.**
- 2) **Press [A-B REPEAT] at the desired ending point B.**
 - The repeat sequence begins.
- 3) **Press [A-B REPEAT] to exit the sequence.**

Note

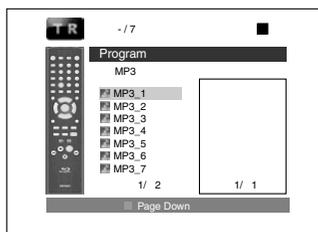
- The chapter/title/track/group repeat setting will be cleared when moving to other chapter, title, track/file or folder.
- Repeat playback does not function during A-B repeat playback.
- Repeat chapter/title is not available with some scenes.
- A-B Repeat can only be set within the current title or current track/file.
- A-B Repeat is not available with some scenes.
- To cancel the A point which was set, press [CLEAR].
- A-B Repeat playback does not function during chapter, title, track, group or all repeat playback.
- For some DivX[®] files, A-B Repeat playback may not function.

Programme Playback

CD MP3 WMA JPEG

You can programme the disc to play back in your desired order.

- 1) **In stop mode, press [MODE].**
 - The programme screen will appear.
- 2) **Use [Δ / ∇] to select a track/file, then press [ENTER].**



<Example : MP3>

- For MP3, Windows Media™ Audio, and JPEG, use [Δ / ∇] to select a folder, then press [ENTER] first, and then use [Δ / ∇] to select a track/file, then press [ENTER].
- Press [CLEAR] to erase the last track/file of the programme.
- Select "All Clear" at the bottom of the list to erase all the tracks/files in the programme.
- The programmed track/file is displayed in the right hand screen.
- If the entire programme cannot be displayed on the screen, "▼" or "▲" appears.
- Use [◀ / ▶] to go back forward between the hierarchy of folders.
- If eight or more tracks/files were set in a programme, use [YEL]/[BLU] to see all the tracks/files.

Playback

- 3) **Press ► to start programme playback.**

- Programme playback will start.

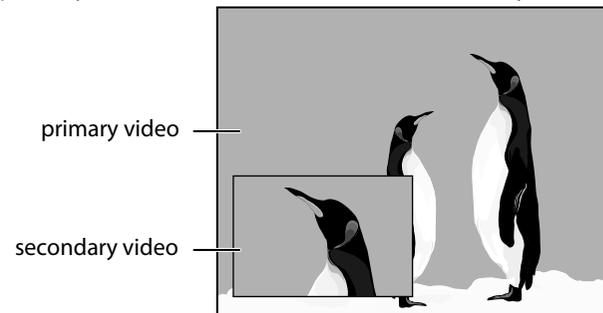
Note

- During the programme playback, press ■ once to set the resume point, and then press ► to resume the programme playback from where ■ was pressed (audio CD) or from beginning of the file where ■ was pressed (MP3, Windows Media™ Audio, or JPEG).
- During the programme playback, press ■ twice to display the programme screen. To go back to the normal programme playback, press [RETURN] to exit from the programme screen, then press ►.
- Your programme is still stored until either the disc tray is open or power is turned to the standby mode.
- Up to 99 tracks/files can be entered.
- To repeat the current track/file in the programme, press [REPEAT] repeatedly until "◀ Track" appears during playback. To repeat the entire programme press [REPEAT] repeatedly until "◀ All" appears during playback.
- Even if an inserted disc contains mixed MP3 and Windows Media™ Audio files, programme function allows 99 files in combination of MP3 and Windows Media™ Audio files.
- The total number of selected tracks for the programme playback will be displayed in the front panel display.
- Playback from a desired track/ file and random playback are not available during programme playback.

PIP (Picture in Picture) (BONUSVIEW) Setting

BD-V

Some BD-Video have the PIP (picture-in-picture) function which enables you to display the secondary video in the primary video. You can call up the secondary video by pressing [MODE] repeatedly whenever the scene contains the secondary video.



Playback

- 1) During playback, press [MODE] repeatedly until the PIP setting appears.
 - PIP information will appear.
- 2) Use [Δ / ▽] to select the secondary video you want.
 - The secondary video will be displayed and the secondary audio will be output.
- 3) Press [RETURN] or [MODE] to remove the PIP information.

Note

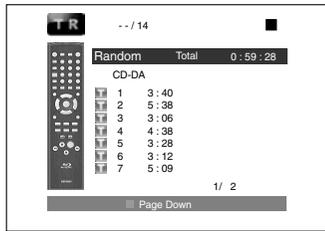
- The secondary audio will not be output when the secondary audio is set to "Off" or when "BD Audio Mode" is set to "HD Audio Output". Refer to "Setting the BD Audio Mode" on page 24.

Random Playback

CD MP3 WMA JPEG

This function shuffles the play back order of tracks/files.

- 1) In stop mode, press [RANDOM].

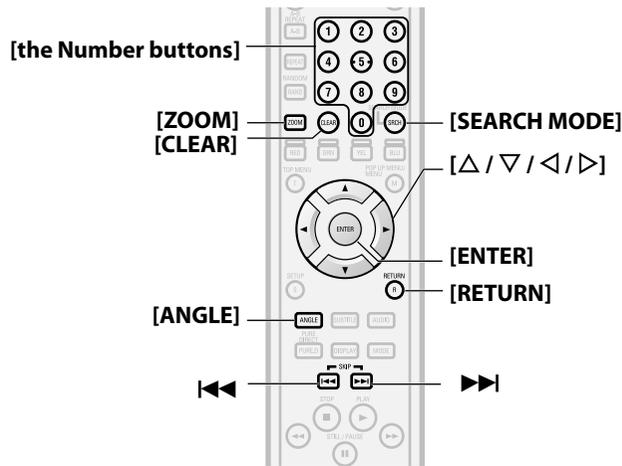


<Example: audio CD>

- 2) Press ► to start random playback.

Note

- During the random playback, press ■ once to set the resume point, and then press ► to resume the random playback from where ■ was pressed (audio CD) or from beginning of the file where ■ was pressed (MP3, Windows Media™ Audio, or JPEG).
- During the random playback, press ■ twice to display the random playback screen. To cancel the random playback, press [RANDOM] when the random playback screen is displayed.
- To repeat the current track/file in the random selection, press [REPEAT] repeatedly until "Track" appears during playback. To repeat the entire random selection press [REPEAT] repeatedly until "All" appears during playback.
- You cannot go back to the previous track/file during random playback.
- For a disc containing mixed MP3 and Windows Media™ Audio files, random playback of those files will be performed.

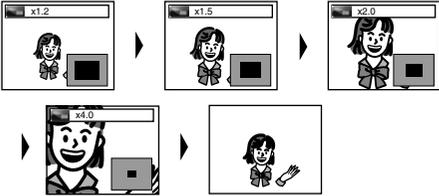


Zoom

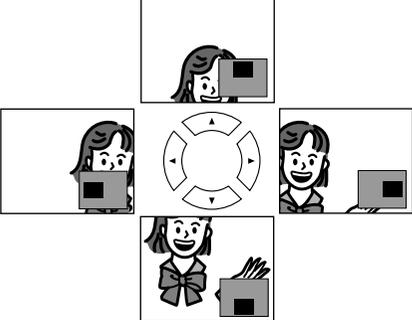
DVD-V DVD-VR DivX® JPEG

This function allows you to enlarge the video image and to pan through the zoomed image.

- 1) Press [ZOOM] during playback.
 - Playback will continue.
- 2) Press [ZOOM] repeatedly to select a desired zoom factor: x1.2, x1.5, x2.0, x4.0 or off.
 - "x4.0" zoom is not available for DivX® and JPEG.



- 3) Use [Δ / ▽ / ◀ / ▶] to move the zoomed picture across the screen.



- 4) Press [ZOOM] repeatedly to exit zoom mode.

Playback

Note

- For BD and AVCHD, zoom function is not available.
- Zoom function does not work while disc menu is shown.
- Navigation screen is not available on JPEG.
- You cannot pan through the zoomed picture on some JPEG files.
- For some DVD, "x4.0" zoom is not available.
- For DivX[®] files with small image, zoom function is not available.
- For DivX[®], depending on the size of the image, some zoom factor may not be available.
- For DivX[®], when changing the zoom factor or moving the zoom position, the screen may become black for a moment. This is not a malfunction.

Camera Angle

BD-V **DVD-V**

Some BD and DVD contain scenes which have been shot simultaneously from various angles. You can change the camera angle when  appears on the screen.

1) Press [ANGLE] during playback.

- The selected angle will be displayed on the display bar at the top of the screen.

2) Use [Δ / ∇] to select your desired angle.**Note**

- If the "Angle Icon" setting is "Off" in the "Others" menu,  will not appear. Refer to page 36.

Search**Using \lll / \ggg** **1) Press \ggg to skip to the next chapter, track or file during playback.**

To go back to the previous chapter, track or file, press \lll twice in quick successions.

Note

- If title contains no chapters, \lll / \ggg changes the title.

Using [SEARCH MODE]

By using the [SEARCH MODE], you can select following search options.

Search mode	Available media
 Title / Chapter search	BD-V DVD-V DVD-VR AVCHD
 Track Search	CD DivX[®] MP3 WMA JPEG
 Time Search	BD-V DVD-V DVD-VR CD AVCHD DivX[®]
 Marker Search	BD-V DVD-V DVD-VR AVCHD

1) Select a type of search by pressing [SEARCH MODE].

- Every time you press [SEARCH MODE], type of search changes.

2) Enter the desired chapter, track, file, title number or time to search for using [the Number buttons].

- Chapter, title, track or time search will start.
- e.g.
- For the disc with less than 10 titles, press the title number directly.
- For discs with 10 or more but less than 100 titles, to play back a single-digit title, press [0] first, then the title number (e.g. for title 3, press [0], [3]). To play back a double-digit title, press the title number.
- For discs with 100 or more titles, to play back a single or a double-digit title, press [0] first, then the title number (e.g. for title 3, press [0], [0], [3] and for title 26, press [0], [2], [6]). To play back a triple-digit title, press the title number.

Note

- During programme and random playback, search functions are not available except the search using \lll / \ggg .
- Time search function is available only in the same track, file or title.
- For some DivX[®] files, time search may not function.
- For BD and AVCHD, chapter and time search are available only during playback.

Playback

Marker search

This feature allows you to assign a specific point on a title or track to be called back later.

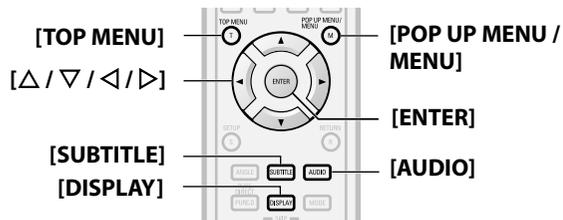
1) During playback, press [SEARCH MODE] repeatedly until marker setting appears.**2) Use [\ll / \gg] to select a marker number (1-9).****3) When the disc reaches the point you want to set a marker, press [ENTER].**

- The title or track and elapsed playback time will appear on the screen.

4) Press [SEARCH MODE] or [RETURN] to exit.**5) To return to the marker later, call the marker setting by pressing [SEARCH MODE] repeatedly during playback or in stop mode, and use [\ll / \gg] to choose a desired marker, then press [ENTER].****Note**

- Opening the disc tray, turning the unit to the standby mode or selecting "AC" at step 2) and pressing [ENTER] will erase all markers.
- To clear a marker, use [\ll / \gg] to select the marker number to be cleared and press [CLEAR].
- You can mark up to 9 points.
- For BD-Video and AVCHD, marker search between different titles is not available.
- For BD and AVCHD, you can return to the maker only during playback.

Playback



On-Screen Display

You can check information about the current disc by pressing [DISPLAY].

To call the On-Screen Display, press [DISPLAY] during playback. Each time you press [DISPLAY], the information changes. Depending on the media, available information varies.

BD-V AVCHD

OFF → Title/Chapter information → Title information (elapsed time) → Title information (remaining time) → HDMI information → OFF

DVD-V DVD-VR

OFF → Chapter information (elapsed time) → Chapter information (remaining time) → Title information (elapsed time) → Title information (remaining time) → Bit rate information → HDMI information → OFF

CD

OFF (Track information (elapsed time) → Track information (remaining time) → Disc information* (elapsed time) → Disc information* (remaining time) → OFF (Track information (elapsed time)) (* not available during the programme/random playback)

DivX®

OFF → File information (elapsed time) → File information (remaining time) → File name information → HDMI information → OFF

MP3

OFF (File information (elapsed time) → File name information → OFF (File information (elapsed time))

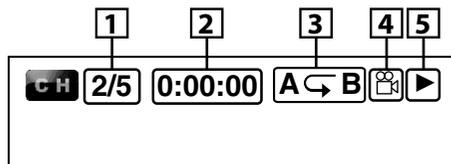
WMA

OFF (File information (elapsed time)) → File name information → Tag information (title name) → Tag information (artist name) → OFF (File information (elapsed time))

JPEG

OFF → File information → File name information → OFF

Chapter information

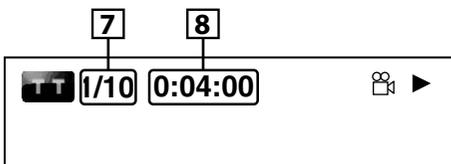


<Title / Chapter information for BD/AVCHD>



- 1 Current chapter number/total number of chapters
- 2 Elapsed time/remaining time of the current chapter
- 3 Current repeat setting (Only when repeat setting is active) (C: Chapter repeat, T: Title repeat, AB: A-B repeat)
- 4 Indicates that the multi camera angle images are available on the scene
- 5 Current playback status
- 6 Current title number

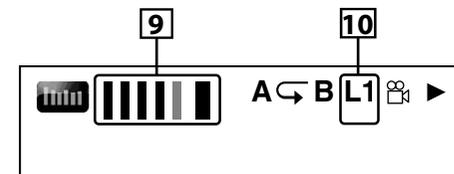
Title information



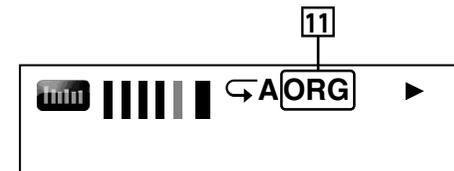
- 7 Current title number/total number of titles
- 8 Elapsed time/remaining time of the current title

Playback

Bit rate information

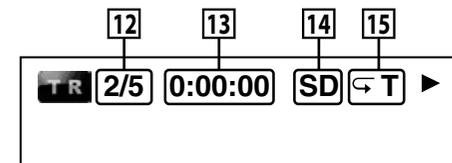


<For VR mode DVD-RW/-R>



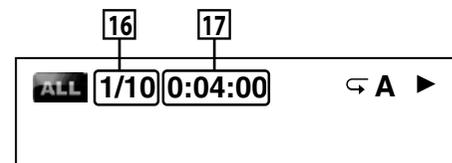
- 9 Bit rate (the amount of video data currently being read)
- 10 Layer number (Only for 2-layered discs) (L0: Layer 0 is played back. L1: Layer 1 is played back)
- 11 Type of title (ORG: original, PL: playlist)

Track/File information



- 12 Current track (file) number/total number of track (file)
- 13 Elapsed time/remaining time of the current track (file)
- 14 Indication of SD Memory Card playback
- 15 Current repeat setting (Only when repeat setting is active) (T: Track/file repeat, G: Group repeat, A: All repeat)

Disc information



- 16 Current track number/Total number of tracks
- 17 Elapsed time/remaining time of the current disc

Introduction

Connections

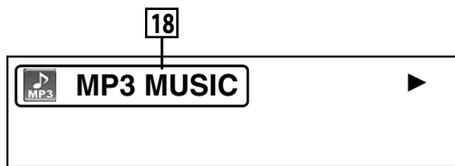
Playback

Function Setup

Others

Playback

■ File name information



18 Media icon and File name

- : DivX® file
- : MP3 file
- : Windows Media™ Audio file
- : JPEG file

■ Tag information

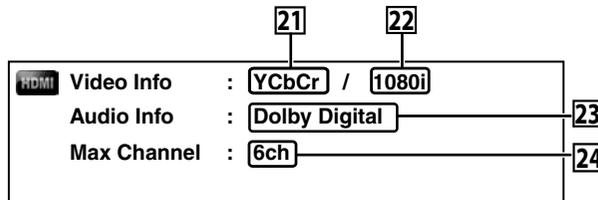


[DISPLAY]



- 19 Title name based on tag information of current Windows Media™ Audio file
- 20 Artist name based on tag information of current Windows Media™ Audio file

■ HDMI information



- 21 HDMI video format
- 22 Resolution of the HDMI output image
- 23 HDMI audio format
- 24 Maximum numbers of audio channels that can be accepted by the connected device

Note

• If HDMI is not connected, “---” will be displayed for HDMI information.

Selecting the Format of Audio and Video

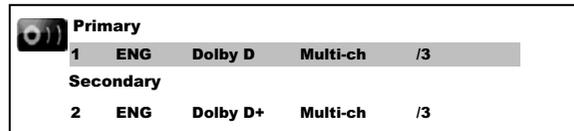
Selecting Audio Streams/Channels



Some discs or SD Cards with AVCHD files contain multiple audio streams. Those are often in different audio languages or audio formats. For BD, available audio varies depending on the “BD Audio Mode” setting. Refer to page 24 for more information.

■ BD-V

- 1) During playback, press [AUDIO].
- 2) Use [△ / ▽] to select “Primary” or “Secondary” audio to set, then press [ENTER].

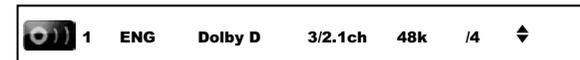


- “Primary” : Sets the audio for the main picture.
 - “Secondary” : Sets the audio for the sub-picture. When sub-picture is on, the “Secondary” audio will be output with the sub-picture.
- In order to listen to the secondary audio, the “BD Audio Mode” must be set to “Mix Audio Output”. Refer to page 24.
- 3) Use [△ / ▽] to select your desire audio stream/channel.
 - 4) Press [AUDIO] to exit.

Playback



- 1) During playback, press [AUDIO].
- 2) Use [△ / ▽] to select your desired audio stream/channel.



- For audio CD, you can select following options.
 - “Stereo” : Both right and left channels are active (stereo)
 - “L-ch” : Only left channel is active
 - “R-ch” : Only right channel is active
- 3) Press [AUDIO] to exit.

Note

- For VR mode DVD-RW/-R with MTS (Multi-channel Television Sound) system, you can switch between “1.Main” (main audio), “1. Sub” (sub audio), and “1.Main/Sub” (main and sub audio).
- For some BD, secondary audio will be output even when sub-picture is off.
- The sound mode cannot be changed during playback of discs not recorded in multiple sound.
- Some discs allow to change audio language setting on the disc menu. (Operation varies between discs. Refer to the manual accompanying the disc.)
- Pressing [AUDIO] may not work on some discs with multiple audio Streams/Channels (e.g. DVD which allow to change audio setting on the disc menu).
- If you choose a language that has a 3-letter-language code, the code will be displayed every time you change the Audio Language setting. If you choose any other Languages, “---” will be displayed instead (refer to page 47).
- Audio Language selection cannot be made during dialogue speed (refer to page 18).
- If the disc has no audio language, “Not Available” will be displayed.
- For discs with DivX® files, only MP3, MP2 or Dolby Digital audio is displayed. Other audio will be displayed with “---”.
- For DTS-CD (5.1 music disc), “DTS” will be displayed. (Selecting audio streams or channels is not available.)

Playback

Selecting Subtitle Language

BD-V **DVD-V** **AVCHD** **DivX®**

BD, DVD-Video, AVCHD and DivX® may have subtitles in 1 or more languages. Available subtitle languages can be found on the disc case. You can switch subtitle languages anytime during playback.

■ **BD-V**

- 1) During playback, press [SUBTITLE].
- 2) Use [△ / ▽] to select “Primary Subtitle”, “Secondary Subtitle” or “Subtitle Style”, then press [ENTER].

	Primary Subtitle	2 ENG/11
	Secondary Subtitle	2 ENG/11
	Subtitle Style	2/25

- “Primary Subtitle” : Sets the subtitle for the main picture.
 “Secondary Subtitle” : Sets the subtitle for the sub-picture.
 “Subtitle Style” : Sets style of the subtitle.
- 3) Use [△ / ▽] to select your desired subtitle.
 - 4) Press [SUBTITLE] to exit.

■ **DVD-V** **AVCHD** **DivX®**

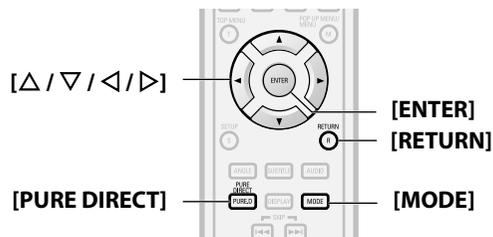
- 1) During playback, press [SUBTITLE].
- 2) Use [△ / ▽] to select your desired subtitle.

	1	ENG	/3	◆
---	---	-----	----	---

- 3) Press [SUBTITLE] to exit.

Note

- Some discs will only allow you to change the subtitle from the disc menu. Press [TOP MENU] or [POP UP MENU / MENU] to display the disc menu.
- If 4-digit language code appears in the subtitle menu, refer to “Language Code” on page 47.
- If the disc has no subtitle language or subtitle style, “Not Available” will be displayed.
- For DivX®, the screen only displays the number of subtitle languages.



Virtual Surround

BD-V **DVD-V** **DVD-VR** **CD** **AVCHD** **DivX®**
MP3 **WMA**

You can enjoy stereo phonic virtual space through your existing 2-channel stereo system.

- 1) During playback, press [MODE] repeatedly until the virtual surround setting appears.



- 2) Use [△ / ▽] to select “1” (Natural effect), “2” (Emphasised effect) or “Off”.
- 3) Press [RETURN] to exit.

Note

- Select virtual surround “Off” or lower the volume if the sound is distorted.
- This function cannot be used during dialogue speed (refer to page 18).
- For the virtual surround, audio signal will always be 2-channel PCM.

Pure Direct Mode

BD-V **DVD-V** **DVD-VR** **CD** **AVCHD** **DivX®**
MP3 **WMA**

Use this function to shut down unused circuitry to achieve high quality analogue sound.

- 1) Press [PURE DIRECT] repeatedly to select your desired pure direct mode.
 - Each time you press [PURE DIRECT], the pure direct mode changes as “Normal” → “VideoOff” → “Disp.Off” → “All Off” → “Normal”. The modes will be displayed on the front panel display.

Playback

Video / audio outputs for each mode

- “Normal” : Normal playback mode (pure direct mode is off).
- “VideoOff” : Video signal will not be output.
- “Disp.Off” : Circuitry for front panel display and indicators will be shut down.
- “All Off” : Video signal will not be output and circuitry for front panel display and indicators will be shut down.

Note

- If you turn off the unit or put this unit to standby mode, the pure direct mode will go back to “Normal”.
- [PURE DIRECT] is not available when the setup menu is displayed.

Setting the BD Audio Mode

■ **BD-V**

BD audio mode is to choose between two ways; you could output the secondary and interactive audio accompanied by the primary audio or you could output the primary audio only. Depending on the setting of the mode, Dolby Digital, DTS, Dolby Digital Plus, Dolby TrueHD, or DTS-HD output changes between Multi PCM and bitstream.

- 1) In stop mode with BD inserted, press [MODE].
- 2) Use [△ / ▽] to select desired setting.

■ “Mix Audio Output”

If it is available, BD-Video’s secondary and interactive audio will be output with the primary audio.

- The secondary audio is the audio for the sub picture (Director’s comment etc.) and the interactive audio is the audio for the interactive application (Button click sounds etc.).

■ “HD Audio Output”

Only the primary audio will be output. Set this mode in order to output Dolby Digital, Dolby Digital Plus, Dolby TrueHD, DTS or DTS-HD sound of BD through HDMI connection.

- 3) Press [RETURN] to exit.
 - You can also set “BD Audio Mode” from the setup menu. Refer to page 32.

Note

- Refer to pages 13 - 14 for more information of audio settings.

Playback

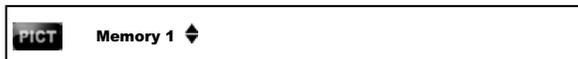
Adjusting the Picture

BD-V **DVD-V** **DVD-VR** **AVCHD** **DivX®**

You can adjust the picture quality and store the setting you have adjusted on memory 1-5.

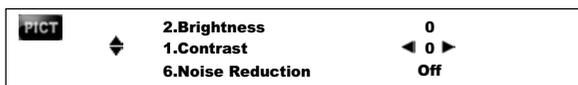
1) During playback, press [MODE] repeatedly until the picture adjustment menu appears.

- Picture adjustment menu:



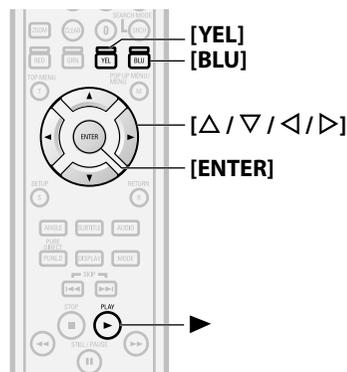
2) Use [Δ / ▽] to select a memory from "Memory 1" to "Memory 5" to store your setting, then press [ENTER].

3) Use [Δ / ▽] to select an item to be adjusted, then use [◀ / ▶] to adjust the setting.



Item	Description	Adjustment range (* : Default setting)
Contrast	Adjusts the difference between the bright and dark parts of the picture.	-7 to +7 (0*)
Brightness	Adjusts the brightness of the picture.	0 to +15 (0*)
Sharpness	Adjusts the sharpness of the picture.	-6 to +6 (0*)
Gamma Correction	Changes the amount of gamma correction to adjust overall brightness of a picture. Make dark/bright section easier to see.	0 to +5 (0*)
Color	Adjusts the balance between green and red.	-7 to +7 (0*)

Item	Description	Adjustment range (* : Default setting)
Noise Reduction (Not available for BD/AVCHD)	Reduces the noise of the playback picture.	Off* +1: Execute MPEG noise reduction which reduce the block noise and mosquito noise on the subtitle on movie. +2: Execute 3D noise reduction which detect and delete the noise by comparing each picture frames. +3: Execute both MPEG noise reduction and 3D noise reduction.



Playback

Playing Back an Audio CD or a Disc with DivX®/MP3/Windows Media™ Audio/JPEG File

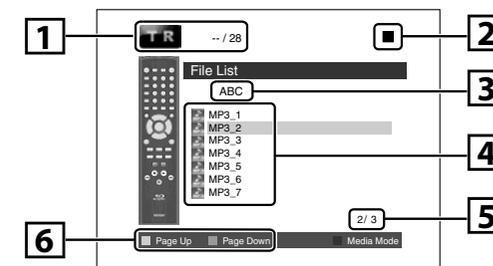
CD **DivX®** **MP3** **WMA** **JPEG**

1 Insert a disc with DivX®, MP3, Windows Media™ Audio, JPEG files.

- The file list will appear on the screen.

2 Use [Δ / ▽] to select a desired folder, file or title, then press [ENTER]. Use [◀ / ▶] to go back and forward between the hierarchies.

- If you press ▶ or [ENTER] on the files, playback will start.



- Track/ file information
- Playback status
- Current disc or folder name will be displayed. (For audio CD, "CD-DA" will be displayed.)
- List of the file/ folder names in the current folder/disc
- Current page/ total page number
- Operation guide

Icons:

- [Folder icon] : Folders
- [DivX icon] : DivX® files
- [MP3 icon] : MP3 files
- [WMA icon] : Windows Media™ Audio files
- [JPEG icon] : JPEG files

It is recommended that files to be played back in this unit are recorded under the following specifications:

Playback

<DivX®>

Official DivX® Certified product

- Playable codec of AVI files : DivX® 3.x, DivX® 4.x, DivX® 5.x, DivX® 6.x
- Maximum size of image : 1920 x 1080 @30 fps
1280 x 720 @60 fps
- Sampling frequency of audio : 16 kHz - 48 kHz
- Audio type : MPEG1 audio layer 3 (MP3), MPEG1 audio layer 2, Dolby Digital

<MP3 / Windows Media™ Audio>

- Sampling frequency : 44.1 kHz or 48 kHz
- Constant bit rate : 112 kbps - 320 kbps (MP3), 48 kbps - 192 kbps (Windows Media™ Audio)

<JPEG>

- Upper limit : 2,560 x 1,900 dots (sub sampling is 4:4:4)
5,120 x 3,840 dots (sub sampling is up to 4:2:2)
- Lower limit : 32 x 32 dots
- File size of image maximum : 12 MB

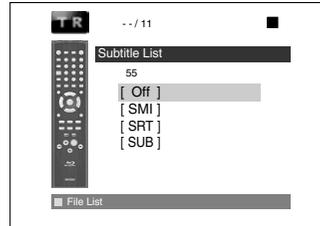
Note

- The system can recognise up to 255 folders/999 files for CD, 999 folders/9999 files for BD, DVD and SD Memory Card.
- The name of folder and file can be displayed up to 28 characters. Unrecognizable characters will be replaced with asterisks.
- The 9th and deeper hierarchies cannot be displayed for CD and the 10th and deeper hierarchies cannot be displayed for BD, DVD and SD Memory Card.
- Files whose extension is other than ".avi/ .divx (DivX®)", ".mp3 (MP3)", ".wma (Windows Media™ Audio)" or ".jpg / .jpeg (JPEG)" will not be listed.
- Some unplayable folders or files may be listed due to the recording status.
- High-resolution JPEG files take longer to be displayed.
- Progressive JPEG files (JPEG files saved in progressive format) cannot be played back on this unit.
- This unit recognise up to 8 characters of file name in the SD Memory Card. Characters after 8th will not be displayed.
- If a disc contains AVCHD files, the playback of other files which are in the same disc is not available.
- File list cannot be called up during playback of DivX® or JPEG files.

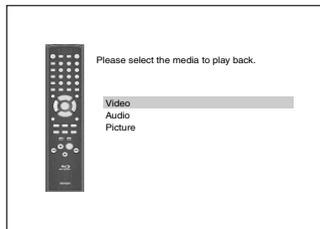
To Play Back the DivX® Subtitle Created by the User.

The subtitle created by the user can be displayed during DivX® playback.

- 1) **After selecting the DivX® file, use [Δ / ▽] to select the file you want to playback, then press [YEL]. Subtitle list will appear.**



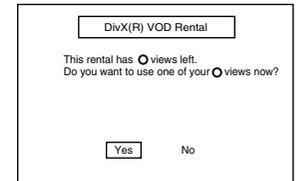
- If there is more than one extension, the extension selection appears in the subtitle list.
- 2) **Use [Δ / ▽] to select the desired extension of the subtitle file you want to display, then press [ENTER].**
- If you insert a BD-RE/-R, DVD-RW/-R, CD-RW/-R with DivX® files that are mixed with MP3/Windows Media™ Audio/JPEG files, the playback media selection screen will be displayed. Use [Δ / ▽] to select your desired media to play back then press [ENTER].



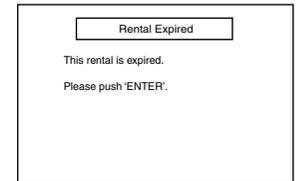
- Press [BLU] to call up the playback media selection screen in stop mode.

Hint for the purchased or rental official DivX® Certified product

- When you purchased or rented a DivX® file through the official site of DivX® video which is called DivX® Video-On-Demand (VOD) services, a registration code is required every time you get the new file from the DivX® VOD services. Refer to "DivX(R) VOD" on page 37.
- Some DivX® VOD files are restricted with the limited playable times (you cannot play them back beyond the limit). If your DivX® VOD file has such limit, the playback confirmation screen will appear.



- Use [◀ / ▶] to select "Yes" if you want to play back the file, or to select "No" if you do not wish to play it back. Then, press [ENTER] to confirm the selection.
- You cannot play back the DivX® VOD files, of which rental period has been expired. In such case, press [ENTER] and select other files that can be played back.



- You cannot play back the DivX® VOD files obtained with different registration codes on this unit. Press [ENTER] and select other files that can be played back.



- You cannot playback the DivX® file that has the resolution which this unit does not support. This unit does not support the DivX® files that have the image size that exceeds 1920 x 1080 @30 fps or 1280 x 720 @60 fps.



- For DivX® files with audio format other than MPEG1 audio layer 3 (MP3), MPEG1 audio layer 2 and Dolby Digital, audio will not be output and only the video will be output.



What is DivX®?

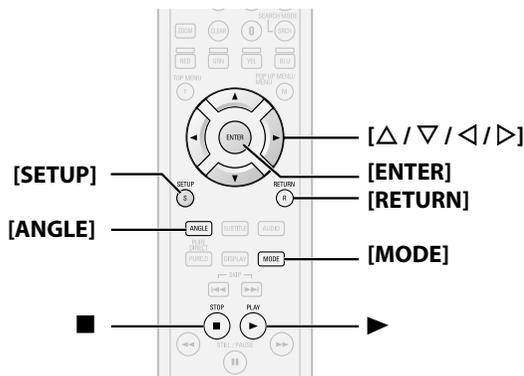
- DivX® is a codec (compression/decompression) that can compress images to a very small amount of data. The software can compress video data from almost any devices to the size that can be sent on the Internet without compromising visual quality of the images.
- A file with an extension of “.avi” and “.divx” is called an DivX® file. All files with the DivX® extension are recognised as MPEG4.
- For more information for DivX®, please visit <http://www.divx.com>.

Note for DivX®

- Even if the file has an extension of either “.avi” and “.divx”, this unit cannot play it back if it is recorded in the format other than DivX®.
- It may take a while for audio and images to be output after you inserted a disc and pressed ►.
- When playing back the files recorded in high bit rates, the images can be interrupted in some occasions.
- Although DivX® logo has been obtained for this unit, it may not be able to play back some data, depending on the characteristics, bit rates, or audio format settings, etc.
- A DivX® file whose file size exceeds 32 GB cannot be played back.
- If a large-sized DivX® file is selected, it may take awhile to start the playback (over 20 seconds sometimes).
- If you try to playback the DivX® file that has the screen resolution which this unit does not support, the playback will be stopped and error message will appear.
- Some DivX® files cannot be played back on this unit due to the configuration and characteristics of the disc, or due to the condition of recording and authoring software.
- If DivX® files written on a CD-RW/-R or DVD-RW/-R cannot be played back, rewrite them on a BD-RE/-R and try to play back.

Note for DivX® Subtitle

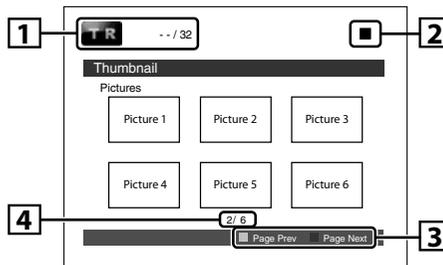
- To utilise this function, the following conditions must meet.
 - Playback file and the subtitle file must have the same name.
 - Playback file and the subtitle file must locate in the same folder.
 - Only the subtitle files with the following extensions are supported; .smi (.SMI), .srt (.SRT), .sub (.SUB), .ass (.ASS), .ssa (.SSA), .txt (.TXT). (.sub (.SUB) and .txt (.TXT) files may not be recognised.)
 - The subtitles that exceeds the playback time of the DivX® file will not be displayed.



Kodak Picture CD

This unit can also run JPEG files stored on Kodak Picture CD. You can enjoy picture images on the display device set by playing back the Picture CD. This unit confirms to ver.7.0 of Kodak Picture CD. For details of Kodak Picture CD, contact a shop that provides developing service of Kodak Inc.

1 When Kodak Picture CD is inserted in this unit, Kodak Picture CD menu appear automatically on the screen.



- 1 File information**
- 2 Playback status**
- 3 Operation guide**
- 4 Current page/ total page number**

2 Use [Δ / ▽ / ◀ / ▶] to select a desired track to be played back, then press ► or [ENTER].

- An image will be played back from the selected track and go to the next one in turn.

3 Press ■ to stop playback.

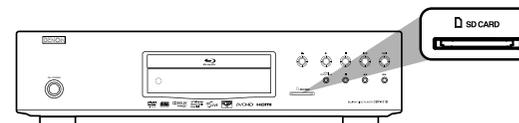
Tips for JPEG/Kodak Picture Playback

- Every press on [ANGLE] will turn the image clockwise by 90 degrees when an image is displayed.
- To change the visual effect for switching the playback image, press [MODE] once, then use [◀ / ▶] or [ENTER] to switch between “Cut In/Out” and “Fade In/Out”. The size change may have no effect on some files (e.g. files with a small picture size).
- To change the size of the playback image, during the JPEG/Kodak Picture playback. Press [MODE] twice, then use [◀ / ▶] or [ENTER] to switch between “Normal” (100%) and “Small” (93%). The size change may have no effect on some files (e.g. files with a small picture size).

Reading the SD Memory Card

AVCHD MP3 WMA JPEG

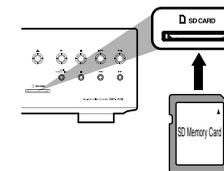
You can play back the AVCHD, MP3, Windows Media™ Audio and JPEG files in an SD Memory Card. With the SD Memory Card, you can also enjoy the special additional contents for BD-ROM Profile 1.1 which can be downloaded from the Internet. You can store the contents on an SD Memory Card via computer and play them back with the BD-Video. For more information about the special additional contents, please refer to the instruction book that came with the disc.



Inserting the SD Memory Card and playback

1 Insert an SD Memory Card, with the label side facing up, into the SD CARD slot until it clicks.

If no disc is in operation, “Media Select” screen will appear on the TV screen.



2 Use [Δ / ▽] to select “SD Card”, then press [ENTER].

The file list will appear.

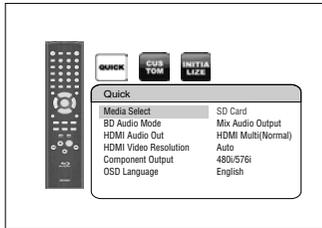
Playback

- 3** Follow the step 2 in "Playing Back an Audio CD or a Disc with DivX®/MP3/Windows Media™ Audio/JPEG File" on page 25.

■ Setting the media

If the "Media Select" screen disappears before you make the selection, follow the following procedure to select the media to playback.

- 1** Press [SETUP] in stop mode.
- 2** Use [◀/▶] to select **QUICK**, then press [ENTER].
- 3** Use [△/▽] to select "Media Select".
- 4** Press [ENTER] repeatedly to select "SD Card".



- This will set the unit to "SD Card" mode. To playback the contents in any discs, exit "SD Card" mode by selecting "Disc".

- 5** Press [SETUP] to exit.

Playback

■ Removing the SD Memory Card

- 1** In stop mode, push the SD Memory Card and then slowly remove your finger.
- 2** Grasp the card and pull it out from the SD CARD slot.
This will set the unit to "Disc" mode.

Compatible Cards:

- SD Memory Card (8MB - 2GB)
- SDHC Memory Card (4GB - 8GB)
- miniSD Card (8MB - 2GB)
- microSD Card (8MB - 2GB)
- For miniSD Card and microSD Card, adapter will be required.

Note

- The "Media Select" screen will disappear under the conditions listed below:
 - when the screen saver is activated.
 - when [RETURN] is pressed.
 - when the setup menu is called up.
- Do not remove the card during its playback.
- This unit supports SD Memory Card with FAT12/FAT16 file system, and SDHC Memory Card with FAT32 file system.
- Do not delete the folders or files in the SD Memory Card with your computer. This unit might not read the SD Memory Card.
- This unit recognises up to 8 characters of file name in the SD Memory Card. Characters after 8th will not be displayed.
- If a folder or file name includes one of the following unrecognisable characters, the folder or file name may not be displayed correctly.
 - Unrecognisable characters: ., " = + [] ; / \ : | ¥
- Even if you turn the unit to the standby mode in "SD Card" mode, it will be in "Disc" mode the next time you turn it on.

Enjoying BD-Live Discs with Internet

BD-V

You can enjoy the BD-Live functions which enable you to use the interactive functions when the unit is connected to the Internet. (For the Network connection, refer to page 38.)

Examples for BD-Live interactive functions :

- Download the additional contents such as the movie's trailer, subtitles and BD-J, etc.
- While downloading, special video data may be played back.

- **Service and functions differ depending on the disc.**
- **Follow the instructions given by the disc when using the BD-Live function.**
- **You must insert an SD Memory Card when using the BD-Live function. (SD Memory Card of 1GB is recommended.)**
- **Do not remove the SD Memory Card when using the BD-Live function.**

Note

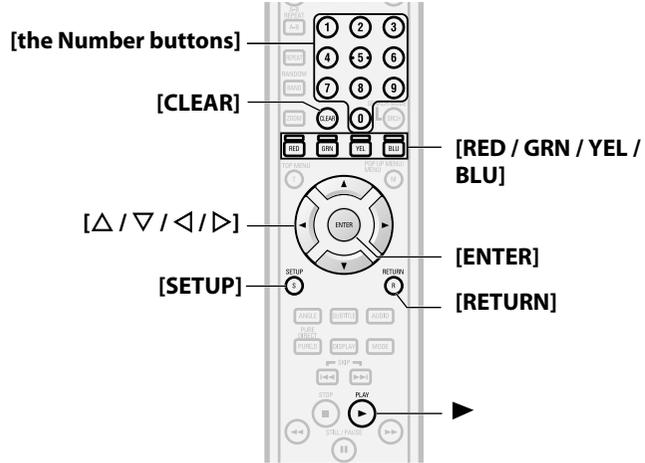
- You must connect the unit to the Internet and set up necessary settings in order to use the BD-Live function.
- For certain discs, setting for "BD-Live Setting" may need to be changed.
- Depending on your connection environment, it may take time to connect to the Internet or the Internet may not be connected.
- When BD-Live functions are used and the unit is connected to the Internet, you may be charged for this communication.
- Some discs with BD-Live function require memory when playing back the content. If you cannot playback a disc with BD-Live function, insert an SD card (1GB or more) which is formatted on this unit.

Note for AACs Online

- The player or disc IDs may be sent to the content provider when playing back a disc with BD-Live function.
- If you save your viewing history on the server by using these IDs, you will be introduced to other similar movies.
- You can save game score histories.

Function Setup

Introduction
Connections
Playback
Function Setup
Others



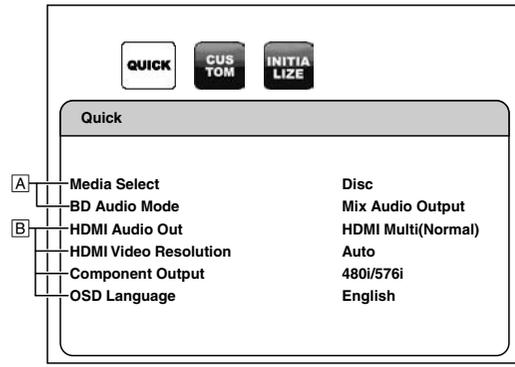
Using the Setup Menu

In the setup menu, you can change the setting for audio, video, language, etc. You cannot change the setting during playback.

Quick

Quick setting menu contains setting items extracted from **CUS TOM** custom setting menu which may be used frequently.

- 1 Press [SETUP] in stop mode.
- 2 Use [◀ / ▶] to select **QUICK**, then press [ENTER].



- 3 Use [Δ / ▽] to select setting items.
- 4 Follow the procedure below depending on the setting items.
For setting item **A**: Press [ENTER] repeatedly to change options.
For setting item **B**:
1) Press [ENTER].
2) Use [Δ / ▽] to select options, then press [ENTER].
• Use [◀] or [RETURN] to go back to the previous screen.

- 5 Press [SETUP] to exit.

Custom

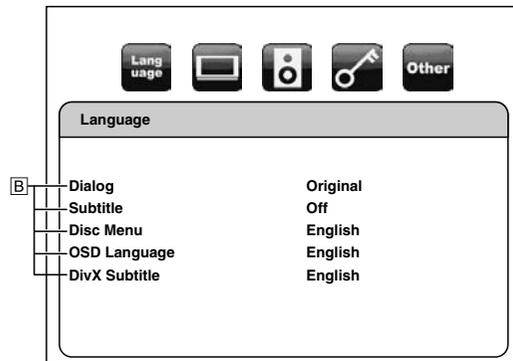
Custom menu contains all the setting items.

- 1 Press [SETUP] in stop mode.
- 2 Use [◀ / ▶] to select **CUS TOM**, then press [ENTER].
- 3 Use [◀ / ▶] to select your desired setting category, then press [ENTER].
Lang: Language Video: Video Audio: Audio Ratings: Ratings
Others
• For "Ratings", follow the procedure on page 35.
- 4 Use [Δ / ▽] to select setting items.
• The setting items which are not available with current situation of this unit will be displayed in gray and you cannot select the items.

- 5 Follow the procedure below depending on the setting items.
For setting item **A**: Press [ENTER] repeatedly to change options.
For setting item **B**:
1) Press [ENTER].
2) Use [Δ / ▽] to select options, then press [ENTER].
• Use [◀] or [RETURN] to go back to the previous screen.

- 6 Press [SETUP] to exit.

Function Setup
Language



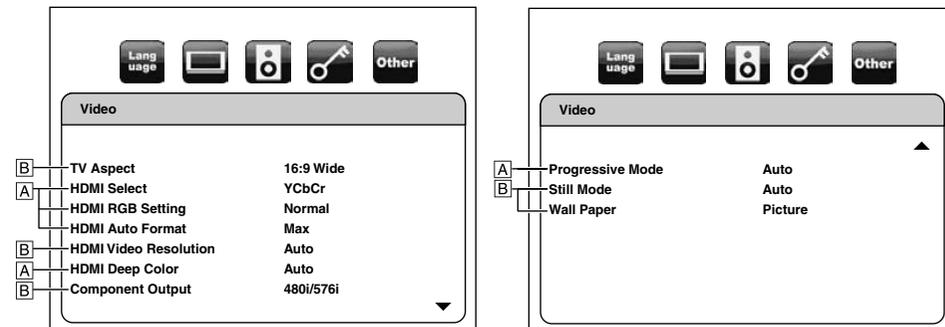
• For how to select the setting items and options, refer to "Custom" on page 29.

Setting items	Options
Dialog Sets the language for audio.	Original*/English/German/French/Italian/Spanish/Dutch/Swedish/Russian/Chinese/Japanese/Korean/Danish/Finnish/Norwegian/Icelandic/Hungarian/Romanian/Turkish/Greek/Irish/Portuguese/Polish/Czech/Slovak/Bulgarian/Other
Subtitle Sets the language for subtitle.	Off*/English/German/French/Italian/Spanish/Dutch/Swedish/Russian/Chinese/Japanese/Korean/Danish/Finnish/Norwegian/Icelandic/Hungarian/Romanian/Turkish/Greek/Irish/Portuguese/Polish/Czech/Slovak/Bulgarian/Other
Disc Menu Sets the language for disc menu.	English*/German/French/Italian/Spanish/Dutch/Swedish/Russian/Chinese/Japanese/Korean/Danish/Finnish/Norwegian/Icelandic/Hungarian/Romanian/Turkish/Greek/Irish/Portuguese/Polish/Czech/Slovak/Bulgarian/Other
OSD Language Sets the language for OSD (on-screen display).	Auto/English*/Deutsch/Français/Italiano/Español/Nederlands/Svenska/Русский/Português/Polski
DivX Subtitle Sets the language for DivX® Subtitle.	English*/German/French/Italian/Spanish/Dutch/Swedish/Russian1/Russian2/Portuguese/Polish

- Settings with (*) are the default.
- Quick menu consists of the setting menus frequently used, and they are accompanied with  mark.
- If you select "Other", enter the 4-digit number code for the desired language (refer to "Language Code" on page 47). Only the languages supported by the disc can be selected.

Function Setup

Video



• For how to select the setting items and options, refer to "Custom" on page 29.

Setting items	Options
TV Aspect Sets a picture size according to aspect ratio of the connected display device.	16:9 Wide*: Select this when a wide-screen TV is connected. Disc recorded in wide screen format is played over the entire screen. 4:3 Pan & Scan: Select this to play back the disc recorded in wide screen format with 4:3 TV in the pan & scan mode (with the sides of the picture cut off). Discs which pan & scan is not specified are played in the letter box mode. 4:3 Letter Box: Select this to play back the disc recorded in wide screen format with 4:3 TV in the letter box mode (with black strips at the top and bottom). 4:3 Squeeze Auto: When playing 4:3 images, the picture is displayed in the centre of the 16:9 screen with a 4:3 aspect ratio. 4:3 Squeeze On: The picture is displayed in the centre of the 16:9 TV screen with a 4:3 aspect ratio, regardless of the original image size.
HDMI Select Select an HDMI output mode between "YCbCr" and "RGB".	YCbCr*: Component format video signals and audio signals are output from the HDMI OUT. RGB: RGB format video signals and audio signals are output from the HDMI OUT.

Remote control operation buttons

 : Displaying the menu
 : Cancel the menu

 : Move the cursor (Up/Down/Left/Right)

 : Confirm the setting

 : Return to previous menu

Function Setup

Function Setup

Introduction
Connections
Playback
Function Setup
Others

Setting items	Options
HDMI RGB Setting Sets the digital RGB image range (data range) output from the HDMI OUT.	Normal*: Output as "16 (black)" to "235 (white)".
	Enhanced: Output as "0 (black)" to "255 (white)". Depending on the display device you are using, the black colours may seem to stand out when using HDMI connections. If so, set to "Enhanced".
HDMI Auto Format Makes the setting of the "Auto" for "HDMI Video Resolution".	Max*: The maximum resolution that can be input to the connected HDMI device is detected and the HDMI output resolution is selected automatically.
	Panel: The number of pixels of the connected HDMI device's panel is detected and the HDMI output resolution is selected automatically.
HDMI Video Resolution  Sets the HDMI video resolution.	Auto*: HDMI video resolution will be selected automatically depending on the connected HDMI device and setting of the "HDMI Auto Format".
	Source Direct: HDMI video resolution will be set to the recorded resolution of a playback media.
	480i/576i
	480p/576p
	720p
	1080i
	1080p
	1080p24: Gives a natural and high quality film reproduction of 24-frame film material. The connected display device has to be compatible with 1080p24 frame input.
HDMI Deep Color Sets whether output the picture from HDMI with the Deep Color or not.	Auto*: The picture through the HDMI will be output with Deep Color if the connecting device supports Deep Color.
	Off: The picture through the HDMI will be output without Deep Color.
Component Output  Sets the video resolution for component output.	480i/576i*
	480p/576p
	720p
	1080i

Setting items	Options
Progressive Mode Sets the optimum progressive mode for the image material output from HDMI OUT jack and COMPONENT VIDEO OUT jacks.	Auto*: The progressive mode will detect 24-frame film material (movies) and automatically select appropriate progressive mode.
	Video: Suited for playing video material discs (TV shows or animation).
Still Mode Adjusts picture resolution and quality in still mode.	Auto*: Automatically selects the best resolution setting ("Frame" or "Field") based on the data characteristics of the pictures.
	Field: Stabilises the pictures, although the picture quality may become coarse due to the limited amount of data. Select "Field" when the pictures are still unstable even if "Auto" is selected.
	Frame: Displays relatively motionless pictures in higher resolution. "Frame" improves the picture quality, although it may unbalance the pictures due to alternate output of 2-field data.
Wall Paper Sets the picture to be displayed on the screen for stop mode or audio playback mode.	Picture*
	Blue
	Black
	Gray

- Settings with (*) are the default.
- Quick menu consists of the setting menus frequently used, and they are accompanied with  mark.
- For "HDMI RGB Setting", select "Enhanced" if the black-white contrast is not clear. The setting is effective only for HDMI RGB output.
- Even if "HDMI Video Resolution" is set to "1080p24", for the BD that is not recorded by 1080p24 frame or for DVD, a video resolution supported by the disc and the display device will be output instead of 1080p24 frame.
- An individual picture on the screen is called as "Frame", which consists of two separate images called as "Field". Some pictures may be blurred at the auto setting in "Still Mode" due to their data characteristics.
- If the picture is not output properly to the display device because of the "HDMI Video Resolution" or "Component Output" setting, press and hold  on the front panel for more than 5 seconds. Both settings will be reset to the default automatically.
- If "Component Output" is set to "480i/576i" or "480p/576p", "4:3 Squeeze Auto" and "4:3 Squeeze On" in "TV Aspect" are not available.
- If HDMI is connected, for video resolution for the component output, you can only select video resolution that currently output from HDMI OUT or 480i/576i.
- For 50 frame BD materials, only resolution lower than 720p is available for the "Component Output".

Remote control operation buttons

 : Displaying the menu
 : Cancel the menu

 : Move the cursor (Up/Down/Left/Right)

 : Confirm the setting

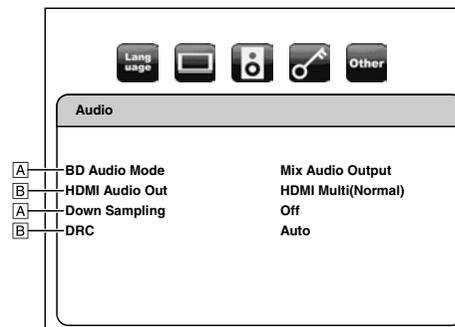
 : Return to previous menu

Function Setup

- If the video resolution for the component output and HDMI video resolution does not match, the video resolution for the component output will be switched to current HDMI output resolution. COMPONENT VIDEO OUT jacks may not output any signals depend on the disc material.
- If you play back copy-protected DVD-Video, 480p/576p signal will be output from the COMPONENT VIDEO OUT jacks, when "Component Output" is set to "720p" or "1080i".
- If you set to "1080p24" for the "HDMI Video Resolution", and the contents of the disc is not compatible for 1080p24 frame, 1080p60 frame will be output if it is an NTSC disc, and 1080p50 frame will be output if it is a PAL disc.
- The setting items which are not available with current situation of this unit will be displayed in gray and you cannot select the items.
- Even if "HDMI Select" is set to "YCbCr", if the display device does not support YCbCr, RGB will be output.
- If "HDMI Video Resolution" is set to "Source Direct", "1080p" or "1080p24", you cannot set "Component Output".

Function Setup

Audio



• For how to select the setting items and options, refer to "Custom" on page 29.

Setting items	Options
BD Audio Mode For BD, select whether to output the secondary and interactive audio with primary audio if it is available or only the primary audio. Refer to "Setting the BD Audio Mode" on page 24.	Mix Audio Output*: Output the secondary and interactive audio with primary audio if it is available.
	HD Audio Output: Output only the primary audio. Set this mode in order to output Dolby Digital, Dolby Digital Plus, Dolby TrueHD, DTS or DTS-HD sound of BD through HDMI connection.
HDMI Audio Out Sets the audio format for the audio output from the HDMI OUT.	HDMI Multi(Normal)*: The multi-channel audio signals are output from the HDMI OUT with a bitstream or PCM.
	HDMI Multi(LPCM): The multi-channel audio signals are output from the HDMI OUT with a PCM. • Refer to pages 33-35 for speaker setting options.
	HDMI 2ch: The audio signals are output from the HDMI OUT with a downmixed to 2ch PCM.
	Audio Mute: Mutes the HDMI audio signal, and set the signal format of the DIGITAL OUT. • Refer to the "Digital Out Setting" on page 33 for setting options.

• The default setting of the "BD Audio Mode" is "Mix Audio Output". If you want to output only the high quality primary audio, set "BD Audio Mode" to "HD Audio Output".

Remote control operation buttons

: Displaying the menu
 : Cancel the menu

: Move the cursor
 : (Up/Down/Left/Right)

: Confirm the setting

: Return to previous menu

Function Setup

Function Setup

Introduction
Connections
Playback
Function Setup
Others

Setting items	Options
Down Sampling Sets the digital audio output when playing BD or DVD recorded in PCM.	On: PCM signals are converted to 48 kHz for output. • Set to "On" when using digital connections to an AV amplifier that is not compatible with sampling frequencies of 96 kHz.
	Off*: For BD or DVD recorded in PCM without copyright protection, 2-channel audio signals up to 192 kHz are output as PCM signals with no conversion.
DRC Sets whether to compress the range of sound volume (Dynamic Range Control) when Dolby Digital, Dolby Digital Plus or Dolby TrueHD audio is played back.	Auto*: When the discs that are recorded in the Dolby TrueHD format is in playback, this unit detects DRC setting of the disc and set the DRC setting of this unit to "On" or "Off" automatically.
	Off
	On

- Settings with (*) are the default.
- Quick menu consists of the setting menus frequently used, and they are accompanied with  mark.
- Under following circumstances, "HDMI Multi(Normal)", "HDMI Multi(LPCM)" and "HDMI 2ch" is not available.
 - HDMI cable is not connected to HDMI OUT jack.
 - Connected display device is off.
 - Connected display device is not compatible with audio output.

Digital Out Setting

When the "Audio Mute" is selected in "HDMI Audio Out" setting, audio signal of the HDMI is muted and the audio signals output from DIGITAL OUT changes depending on the "Digital Out" setting.

<"Digital Out" setting>

Audio → HDMI Audio Out → Audio Mute

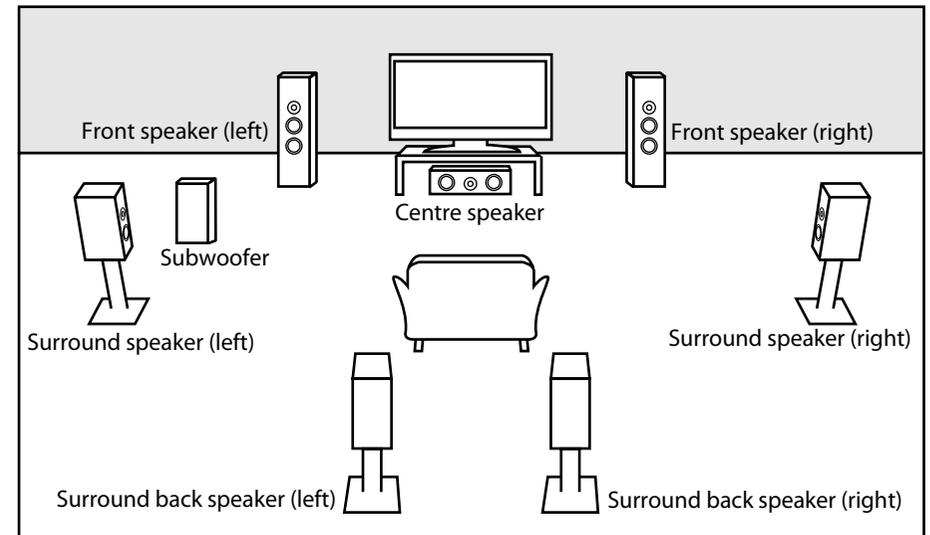
Bitstream*: When playing back discs recorded in Dolby Digital, Dolby Digital Plus, Dolby TrueHD, DTS or DTS-HD, the corresponding core stream (Dolby Digital or DTS) are output.
LPCM: Full decoded 2ch PCM signal will be output from DIGITAL OUT.

- This setting is not effective when the HDMI audio signal is output.
- When both HDMI and DIGITAL OUT is connected to other devices, the audio signals currently output from the HDMI OUT will be output from the DIGITAL OUT jack as well, except that HDMI 2ch signal will be output from HDMI OUT jack, when connected device does not support Dolby Digital and DTS.
- When "BD Audio Mode" is set to "Mix Audio Output", the audio output from DIGITAL OUT will follow the setting in the "HDMI Audio Out". (When outputting Multi PCM from HDMI OUT, 2ch Downmix PCM will be output from DIGITAL OUT.)
- Refer to pages 13 - 14 for more information of audio settings.

Speaker Setting

This unit allows you to enjoy multi-channel surround sound such as 7.1-channel / 5.1-channel surround.

<Example of basic layout with 7.1ch surround system>



Remote control operation buttons

 : Displaying the menu	 : Cancel the menu	 : Move the cursor (Up/Down/Left/Right)	 : Confirm the setting	 : Return to previous menu
---	---	--	---	---

Function Setup

To make the most of its feature, set up your speakers appropriately by referring to the table below. Speaker setting options are available in SETUP → Quick → HDMI Audio Out → HDMI Multi(LPCM) or SETUP → Custom → Audio → HDMI Audio Out → HDMI Multi(LPCM).

How to navigate through the “HDMI Multi(LPCM)” setting

1) Use [△ / ▽] to select the menu item.

2) Use [△ / ▽] to select setting items.

• Use [RETURN] to go back to the previous screen.

3) Use [◀ / ▶] to select desired options. (Except for “Test Tone” and “Default”.)

For “Test Tone”:

Use [◀ / ▶] to select “Manual” or “Auto”, then press [ENTER].

• The test tone will be output. If you select “Manual”, use [△ / ▽] to select desired speaker, then use [◀ / ▶] to adjust the volume. If you select “Auto”, use [◀ / ▶] to adjust the volume of the speaker that output the test tone.

• If you want to stop the test tone, press [RETURN].

For “Default”:

Press [ENTER] to reset the “Speaker Configuration”, “Channel Level” or “Delay Time” setting to the default.

4) Press [SETUP] to exit.

Menu	Setting items	Options	Descriptions
Speaker Configuration Select the desired speaker to set. Then change the setting appropriately by referring to the descriptions.	Front*	Large*	Large: For the large speakers with strong low frequency reproduction capabilities.
		Small	
	Center	Large*	Small: For the small speakers which do not provide strong bass sound.
		Small	
	Subwoofer	On*	You cannot change the setting of “Subwoofer”. If connected device is not compatible with subwoofer, “Subwoofer” will be displayed in gray.
	Surround	Large*	Select “Default”, then press [ENTER] to reset the “Speaker Configuration” setting to the default.
		Small	
	Surround Back	Large*	
		Small	
	Default		

Function Setup

• For “Speaker Configuration” setting, the settings of each speaker size may be adjusted automatically corresponding to each setting. (e.g. If “Front” is set to “Small”, you cannot set “Center”, “Surround” and “Surround Back” to “Large”.)

Menu	Setting items	Options	Descriptions
Channel Level Tests or sets the volume for each speaker.	Test Tone*: “Test Tone” is the test tone which can be output from the speakers so that you can adjust the volume for each speaker.	Off*	Select “Off” to deactivate the “Test Tone” feature. Select “Manual”, then press [ENTER] to manually set the volume for the desired speaker. Select “Auto”, then press [ENTER] to automatically output the test tone from each speaker.
		Manual	
		Auto	
	Front Lch	0 dB to -12 dB (0 dB*)	If you have selected “Manual” in “Test Tone”, select the desired speaker to set and adjust the volume for the selected speaker. If you have selected “Auto” in “Test Tone”, test tone will be output automatically in order. Adjust the volume of the speaker that output the test tone.
	Center	0 dB to -12 dB (0 dB*)	
	Front Rch	0 dB to -12 dB (0 dB*)	
	Surround Rch	0 dB to -12 dB (0 dB*)	
	Surround Back Rch	0 dB to -12 dB (0 dB*)	
	Surround Back Lch	0 dB to -12 dB (0 dB*)	
	Surround Lch	0 dB to -12 dB (0 dB*)	
Subwoofer	0 dB to -12 dB (0 dB*)		
Default			

Introduction

Connections

Playback

Function Setup

Others

Remote control operation buttons

SETUP : Displaying the menu
S : Cancel the menu

: Move the cursor (Up/Down/Left/Right)

ENTER : Confirm the setting

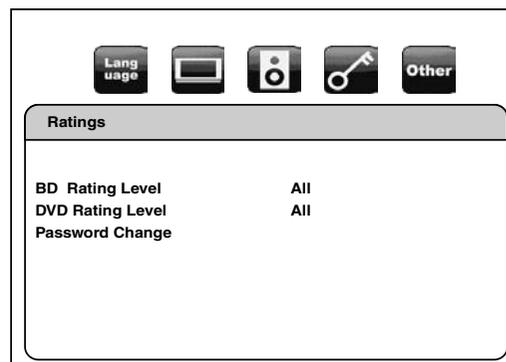
RETURN : Return to previous menu
R

Menu	Setting items	Options	Descriptions	
Delay Time This is a parameter for optimizing the timing at which the sound is output from the speakers according to their distance from the listening position.	Distance*	Feet	Set the desired measure system. This measure system will be used for "Delay Time" setting. Press [ENTER] to switch the setting.	
		Meters*		
	Front	0m to 18m (3.6m*) (0ft to 60ft (12ft*))		Select the distance from the listening point to the speaker to get the ideal delay time.
	Center	0m to 18m (3.6m*) (0ft to 60ft (12ft*))		
	Surround	0m to 18m (3.0m*) (0ft to 60ft (10ft*))		
	Surround Back	0m to 18m (3.0m*) (0ft to 60ft (10ft*))		
Default		Select "Default", then press [ENTER], to reset the "Delay Time" setting to the default.		

- Settings with (*) are the default.
- For "Delay Time", the difference between the value of the "Front", "Surround" and "Surround Back" setting cannot exceed 4.5m (15 ft), and the difference between the value of the "Front" and "Center" setting cannot exceed 1.5m (5 ft).
- For "Delay Time", the value of the "Center", "Surround" and "Surround Back" setting cannot exceed the value of the "Front" setting.
- For "Delay Time", the setting of "Center", "Surround" and "Surround Back" will be changed automatically to the setting value of the "Front". (e.g. If the "Front" is set to 18m (60ft), the setting of "Center", "Surround" and "Surround Back" will be changed to 18m (60ft) as well.)
- If you want to stop the test tone, press [RETURN].

Ratings

Ratings control allows you to set a limit, which prevents your children from viewing inappropriate materials. Playback will stop if the ratings exceed the levels you set, and it will require you to enter a password before the disc will play back.



- 1) Use [◀ / ▶] to select , then press [ENTER].
- 2) Press [the Number buttons] to enter your 4-digit password.
 - **For the first time use:** Press [the Number buttons] to enter any 4-digit number (except for 4737), then press [ENTER]. That number will be used as the password from the second time. Record your password in case you forget it.
 - If you forgot the password, enter [4], [7], [3], [7]. The password will be cleared and rating level will be set to "All".
 - While you input the password, press [CLEAR] to clear the number, then re-enter the password.

Proceed to A – C

- A) BD Rating Level**
 - 1) Use [△ / ▽] to select "BD Rating Level", then press [ENTER].
 - 2) Use [△ / ▽] to select your desired option, then press [ENTER].
 - "All" : To release the limitation.
 - "Age Setting" : To set the age limitation.
 - After selecting "Age Setting", use [the Number buttons] to enter the age from 0 – 254. (e.g. for age 15, press [0], [1], [5])
 - 3) Press [SETUP] to exit.
- B) DVD Rating Level**
 - 1) Use [△ / ▽] to select "DVD Rating Level", then press [ENTER].
 - 2) Use [△ / ▽] to select a desired level, then press [ENTER].
 - 3) Press [SETUP] to exit.

Remote control operation buttons

SETUP  : Displaying the menu
Cancel the menu

 : Move the cursor
(Up/Down/Left/Right)

ENTER  : Confirm the setting

RETURN  : Return to previous menu

Function Setup

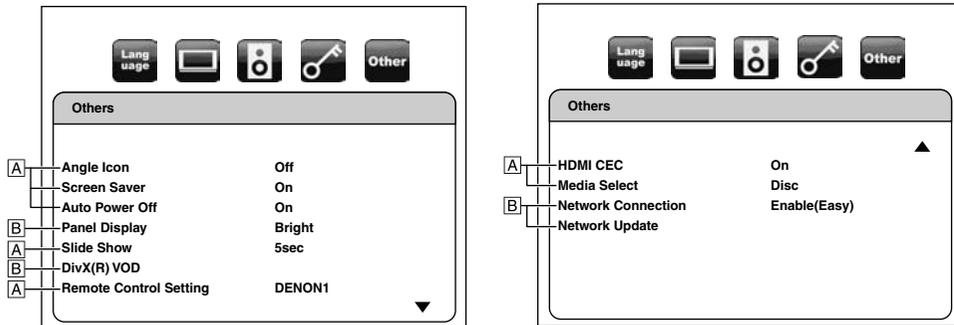
RATING EXPLANATIONS

- All : Parental control is inactive; all discs can play back.
- 8 [Adult] : DVD software of any grades (adult/general/children) can be played back.
- 7 [NC-17] : No one under 17 admitted.
- 6 [R] : Restricted; under 17 requires accompanying parent or adult guardian.
- 5 [PGR] : Parental guidance recommended.
- 4 [PG13] : Unsuitable for children under 13.
- 3 [PG] : Parental guidance suggested.
- 2 [G] : General audience.
- 1 [Kid Safe] : Suitable for children.

C) Password Change

- 1) Use [△ / ▽] to select "Password Change", then press [ENTER].
- 2) Enter a new 4-digit password, then press [ENTER].
- 3) Press [SETUP] to exit.

Other



• For how to select the setting items and options, refer to "Custom" on page 29.

Function Setup

Setting items	Options	Description
Angle Icon	On	On: The angle icon appears on the screen when playback the scene with various angle.
	Off*	Off: The angle icon disappears on the screen.
Screen Saver *	On*	On: If this unit is left with no activity for more than 5 minutes, the screen saver will be activated.
	Off	Off: Sets off the screen saver.
Auto Power Off	On*	On: If this unit is left with no activity for more than 30 minutes, this unit turns to the standby mode automatically.
	Off	Off: Sets off the auto power off.
Panel Display Sets the brightness of the front panel display.	Bright*	Bright: Front panel display gets brighter.
	Dimmer	Dimmer: Front panel display gets darker.
	Auto	Auto: Front panel display gets darker during playback.
Slide Show Sets the display time for the still picture (in JPEG format) playback.	5sec* 10sec	

*Screen saver does not function during playback or when the playback is paused.

Introduction
Connections
Playback
Function Setup
Others

Function Setup

Introduction

Connections

Playback

Function Setup

Others

Setting items	Options	Description
DivX(R) VOD	Registration Code Your registration code is: ○○○○○○○○○○○○ To learn more visit www.divx.com/vod	This menu item provides you with the DivX® VOD registration code. The DivX® registration code is required when downloading the DivX® VOD files from the Internet. To learn more about DivX® VOD, visit www.divx.com/vod.
	Deactivation Code Your deactivation code is: ○○○○○○○○○ To learn more visit www.divx.com/vod	This menu item provides you with the DivX® VOD deactivation code. The DivX® deactivation code is required when re-downloading the DivX® VOD files from the Internet after deactivating. To learn more about DivX® VOD, visit www.divx.com/vod.
	Deactivation	Yes No*
Remote Control Setting Changes the signal code of a remote control. (Refer to page 6.)	DENON1* DENON2	
HDMI CEC Sets whether to utilise the HDMI CEC function.	On* Off	
Media Select  Select the media to playback.	Disc* SD Card	Disc: Select this when you play back a disc.
		SD Card: Select this when you play back a SD Memory Card.

Function Setup

Setting items	Options	Description
Network Connection Refer to "Network Connection" on page 38 for more details of each setting.	Connection Test	Perform the network connection test to check if the network settings are correctly made.
	Enable(Easy)*	Set all the network settings to the default settings. (In most cases, you can connect to the Internet without making any changes to the default settings.)
	Enable(Custom)	Set the network settings manually in accordance with your network environment, if necessary.
	Disable	Deactivate the network connection.
Network Update Refer to "Network Update" on page 40 for more detail.	Yes No*	You can update the firmware version by connecting this unit to the Internet.

Remote control operation buttons

 : Displaying the menu
 : Cancel the menu

 : Move the cursor (Up/Down/Left/Right)

 : Confirm the setting

 : Return to previous menu

Function Setup

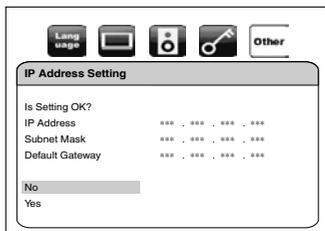
Introduction

Connections

Playback

Function Setup

Others



Use [△ / ▽] to select "Yes", then press [ENTER] to complete the setting.

5) Press [SETUP] to exit.

■ DNS Setting

1) Follow steps 1) to 2) in "IP Address Setting" on page 38.

2) Use [△ / ▽] to select "DNS Setting".

3) Press [ENTER] repeatedly to select the desired setting.

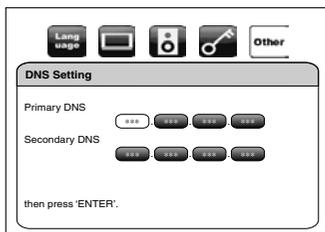
"Auto(DHCP)" : If your router has DHCP server function select "Auto(DHCP)".

"Manual" : If your router does not have DHCP server function, select "Manual".

If you select "Manual", follow the following instruction to set the DNS.

Use [△ / ▽] to select "Primary DNS", then press [ENTER].

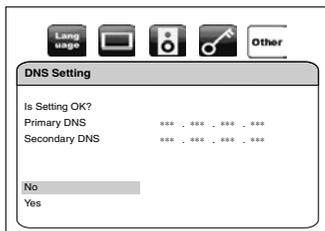
• DNS setting screen will appear. Enter primary DNS and secondary DNS with [△ / ▽ / < / >] and [the Number buttons].



- Enter the numbers instructed by your Internet provider.
- If the number is unknown, check the number of other devices (e.g. PC connected via LAN cable) and assign the same number.

After you enter all correctly, press [ENTER].

• Confirmation message will appear.



Use [△ / ▽] to select "Yes", then press [ENTER] to complete the setting.

4) Press [SETUP] to exit.

■ Proxy Setting

1) Follow steps 1) to 2) in "IP Address Setting" on page 38.

2) Use [△ / ▽] to select "Proxy Setting".

3) Press [ENTER] repeatedly to select the desired setting.

- For default settings, select "Do Not Use".
- Please use this setting when instructed by your Internet service provider.

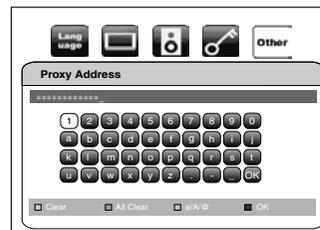
If you select "Use", follow the following instruction to set the proxy address and proxy port.

Proxy Address

Use [△ / ▽] to select "Proxy Address", then press [ENTER].

Enter proxy address.

- The keyboard screen will appear.



[△ / ▽ / < / >] : Move the highlight.

[the Number buttons] : Enter number.

[ENTER] : Enter the highlighted number/word.

[RED] : Clear the entered number or word.

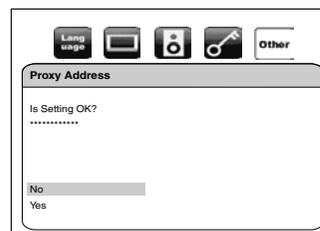
[GRN] : Clear all the entered numbers or words.

[YEL] : Switch between abc ? ABC ? @!?

[BLU] : Set the entered number or word.

After you enter all correctly, press [BLU].

- Confirmation message will appear.



Use [△ / ▽] to select "Yes", then press [ENTER] to complete the setting and go back to the proxy setting screen.

Remote control operation buttons

SETUP (S) : Displaying the menu
Cancel the menu

(Left/Right/Up/Down arrows) : Move the cursor (Up/Down/Left/Right)

ENTER (E) : Confirm the setting

RETURN (R) : Return to previous menu

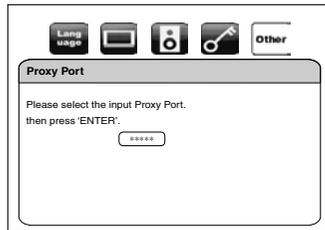
Function Setup

Proxy Port

Use [Δ / ∇] to select "Proxy Port", then press [ENTER].

- Proxy port setting screen will appear.

Enter proxy port number with [the Number buttons].



After you enter all correctly, press [ENTER] to complete the setting.

- 4) Press [SETUP] to exit.

Note**For IP Address Settings and DNS Settings:**

- The range of input number is between 0 and 255.
- If you enter a number larger than 255, the number will automatically be 255.
- The manually entered number will be saved even if you change the setting to "Auto(DHCP)".
- When you enter a wrong number, press [CLEAR] to cancel. (The number will be back to "0".)
- If you want to enter 1 or 2-digit number in one cell, press [D>] to move on to the next cell.
- If the entered IP address or the default gateway or primary DNS number is same as the default setting, IP address setting will be set to "Auto(DHCP)". (The manually entered number will be saved.)
- When IP address setting is set to "Manual", the setting of DNS setting will automatically be "Manual" and when IP address setting is set to "Auto(DHCP)", you can set either "Auto(DHCP)" or "Manual" for DNS setting.

For Proxy Settings:

- The range of input number for the proxy port number is between 0 and 65535. (If you enter a number larger than 65535, it will be regarded as 65535.)
- For proxy port, the selected ports may be blocked and not be able to use depending on your network.

Connection Speed

You can set connection speed as your preference. (The default setting is "Auto".)

- 1) Follow steps 1) to 2) in "IP Address Setting" on page 38.
- 2) Use [Δ / ∇] to select "Connection Speed", then press [ENTER].
- 3) Use [Δ / ∇] to select the desired setting, then press [ENTER].

"Auto" : Set the appropriate connection speed automatically, in accordance with your network environment.

"10BASE Half" : Set the connection speed to "10BASE Half".

"10BASE Full" : Set the connection speed to "10BASE Full".

"100BASE Half" : Set the connection speed to "100BASE Half".

"100BASE Full" : Set the connection speed to "100BASE Full".

- 4) Press [RETURN] to go back to previous screen, or press [SETUP] to exit.

BD-Live Setting

You can limit the Internet access from the BD-Live functions. (The default setting is "Allow".)

- 1) Follow steps 1) to 2) in "IP Address Setting" on page 38.
- 2) Use [Δ / ∇] to select "BD-Live Setting", then press [ENTER].
- 3) Use [Δ / ∇] to select the desired setting, then press [ENTER].

"Allow" : Internet access is permitted from all BD-Live contents.

"Limited Allow" : Internet access is permitted only for BD-Live contents which have content owner certificates. Internet access without the certificates are prohibited.

"Prohibit" : Internet access is prohibited from all BD-Live contents.

- 4) Press [RETURN] to go back to previous screen, or press [SETUP] to exit.

Disable

You can deactivate all the network connection and settings by following the instructions below.

- 1) Follow steps 1) to 4) in "Connection Test" on page 38.
- 2) Use [Δ / ∇] to select "Disable", then press [ENTER].
- 3) Press [RETURN] to go back to previous screen, or press [SETUP] to exit.

Note

- The network connection can be reactivated by setting the network connection to "Enable(Easy)" or "Enable(Custom)".

Network Update

You can update the software by connecting the unit to the Internet.

- 1) Follow steps 1) to 3) in "Connection Test" on page 38.
- 2) Use [Δ / ∇] to select "Network Update", then press [ENTER].
 - Confirmation message will appear.
- 3) Use [Δ / ∇] to select "Yes", then press [ENTER].
 - This unit will start checking for the latest firmware version.
- 4) Confirmation message will appear.
 - Use [Δ / ∇] to select "Yes", then press [ENTER].
 - The unit will start downloading the latest firmware version.
- 5) When the download completes, confirmation message will appear.
 - Press [ENTER].
 - The unit will start updating the firmware version.
 - It may take a while to complete the updating. (Please wait until "100%" appears on the front panel display.)
- 6) After updating finishes, this unit will restart and open the disc tray automatically.

Remote control operation
buttons



SETUP : Displaying the menu
Cancel the menu



: Move the cursor
(Up/Down/Left/Right)



: Confirm the setting



RETURN : Return to previous menu

Function Setup

Introduction

Connections

Playback

Function Setup

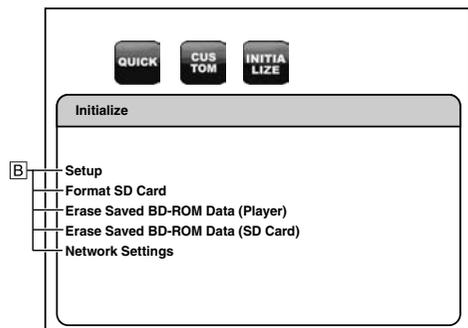
Others

Note

- Please do not unplug the AC cord or LAN cable while executing the "Network Update".
- All settings will remain the same even if you update the firmware version.
- The disc tray will open automatically after updating finishes. This is not a malfunction.

INITIALIZE Initialise

Initialise the setting or SD Memory Card.



• For how to select the setting items and options, refer to "Custom" on page 29.

Setting items	Options	Description
Setup	Yes	Yes: Resets all settings in setup, except for "Ratings" and "Network Connection", to the factory default.
	No*	No: Does not perform the initialization.
Format SD Card	Yes	Yes: Re-format SD Card.
	No*	No: Does not perform the initialization.
Erase Saved BD-ROM Data (Player)	Yes	Yes: Re-format BD-ROM Data (Player) used for BD-Java.
	No*	No: Does not perform the initialization.

Function Setup

Setting items	Options	Description
Erase Saved BD-ROM Data (SD Card)	Yes	Yes: Re-format BD-ROM Data (SD Card) used for BD-Java.
	No*	No: Does not perform the initialization.
Network Settings	Yes	Yes: Initialise all the network settings.
	No*	No: Does not perform the initialization.

- 1) Press [SETUP] in stop mode.
- 2) Use [◀ / ▶] to select **INITIALIZE**, then press [ENTER].
- 3) Use [△ / ▽] to select a desired option, then press [ENTER].
 - "Setup" : All the settings except for the "Ratings" and "Network Connection" setting will be reset to default.
 - "Format SD Card" : Initialise the SD Memory Card.
 - "Erase Saved BD-ROM Data (Player)" : BD-ROM data for Player used for BD-Java will be initialised.
 - "Erase Saved BD-ROM Data (SD Card)" : BD-ROM data for SD Card (available only when an SD Memory Card is inserted) used for BD-Java will be initialised.
 - "Network Settings" : Reset the network setting to the default.
- 4) Confirmation message will appear. Use [△ / ▽] to select "Yes", then press [ENTER].
- 5) Press [SETUP] to exit.

Note

- Do not remove the SD Memory Card while executing the "Format SD Card" or "Erase Saved BD-ROM Data (SD Card)". It will damage the card.
- "Format SD Card" and "Erase Saved BD-ROM Data (SD Card)" are not available when a Blu-ray Disc is in the unit.

Remote control operation buttons

SETUP : Displaying the menu
S : Cancel the menu

: Move the cursor (Up/Down/Left/Right)

ENTER : Confirm the setting

RETURN : Return to previous menu

Others

Trademark Information



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



Manufactured under license under U.S. Patent #'s: 5,451,942; 5,956,674; 5,974,380; 5,978,762; 6,226,616; 6,487,535; 7,392,195; 7,272,567; 7,333,929; 7,212,872 & 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 | Essential are trademarks of DTS, Inc. ©1996-2008 DTS, Inc. All Rights Reserved.



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

x.v.Color

"x.v.Color" and the "x.v.Color" logo are trademarks of Sony Corporation.



Java POWERED

Java and all other trademarks and logos are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States and/or other countries.



"AVCHD" and the "AVCHD" logo are trademarks of Panasonic Corporation and Sony Corporation.



DivX®, DivX Certified®, and associated logos are trademarks of DivX, Inc. and are used under license.



Windows Media and the Windows logo are trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries.

BONUSVIEW™

"BONUSVIEW" is a trademark of Blu-ray Disc Association.



"BD-LIVE" logo is trademark of Blu-ray Disc Association.

"Blu-ray Disc" and  are trademarks.

 is a trademark of DVD Format/Logo Licensing Corporation.

 is trademark of Eastman Kodak Company.

 SDHC logo is a trademark.

Explanation of Terms

Numerics

4:3 Letter Box

When a wide (16 : 9) disc is played back by connecting a 4 : 3 TV and the DBP-1610, this function plays back the image with black area at the top and bottom.

4:3 Pan-and-Scan

When a wide (16 : 9) disc is played back by connecting a 4 : 3 TV and the DBP-1610, this function cuts left and right of the played back image to the 4 : 3 size according to the disc's control information.

A

Analogue Audio

An electrical signal that directly represents sound. Compare this to digital audio which can be an electrical signal, but is an indirect representation of sound. See also "Digital Audio".

Aspect Ratio

This is the length and width ratio of the TV screen. The conventional TV's screen ratio is 4 : 3 and the wide screen TV's screen ratio is 16 : 9.

AVCHD

AVCHD is a new format for high definition video camcorders which can record and play high-resolution HD images.

B

BD-J (Java)

With BD-Videos, there are fun software with more interactive functions (games) using Java applications.

BD-Live

BD-Live is a BD-Video (BD-ROM version 2 Profile 2.0) which contains new functions (e.g. Internet connection), in addition to the BONUSVIEW function.

Bit Rate

This expresses the read amount per 1 second of video/audio data recorded in a disc.

Blu-ray Disc

This is one-side 1 layer disc having 25GB capacity and can record high vision video movie and games.

Introduction
Connections
Playback
Function Setup
Others

Introduction	<p>Others BONUSVIEW Special images for BD-Videos. It includes comment of the movie director, simultaneously developing sub-story, and images from different angles.</p> <p>C</p> <p>Chapter This is a break intended by a producer who organises the title of BD or DVD-Video. The chapter search function searches the beginning of this break.</p>	<p>Dolby Digital Plus This is an extension version of Dolby Digital and is a high sound quality digital audio technology adopted as an optional audio for Blu-ray disc.</p> <p>Dolby TrueHD This lossless coding technology is adopted as optional audio for Blu-ray disc and supports 7.1 channels.</p>	<p>HDMI This is an abbreviation of High-Definition Multimedia Interface, which is an AV digital interface that can be connected to a TV or amplifier. Video signal and audio signal can be connected using 1 cable.</p> <p>Hub A device used for connecting multiple devices to the network.</p> <p>I</p>
Connections	<p>Component Video Output Each signal of luminance (Y) and component (Pb/Cb, Pr/Cr) is independent to output so that you can experience picture colour as it is. Also, due to compatibility with progressive video (480p/576p), you can experience higher-density picture than that in interlace (480i/576i).</p> <p>D</p>	<p>Downmix This function converts the number of channels of surround audio to less number of channels and plays back.</p> <p>DTS This is an abbreviation of Digital Theater System, which is a digital audio system developed by DTS. When playing back audio by connecting this system with a device such as DTS amplifier, accurate sound field position and realistic sound effect as if you are in a movie theater can be obtained.</p>	<p>Interactive Audio Audio such as click sound that is generated during operation and is recorded in the title of BD-Videos.</p> <p>Interlacing (interlaced scanning) This conventional method used to project images on a TV displays 1 frame of image in half and half, respectively as 2 fields.</p>
Playback	<p>Deep Color This technology allows expression of more number of colours than the conventional 8 bits and can reproduce colours close to natural ones without colour streak.</p> <p>DHCP (Dynamic Host Configuration Protocol) This mechanism automatically perform network configuration such as IP address for network devices including DBP-1610, PC, and broadband router.</p>	<p>DTS-HD This audio technology provides higher sound quality and enhanced functionality than the conventional DTS and is adopted as an optional audio for Blu-ray disc. This technology supports multi-channel, high data transfer speed, high sampling frequency, and lossless audio playback. Maximum 7.1 channels are supported in Blu-ray disc.</p> <p>Dynamic Range The difference between the maximum undistorted sound level and the minimum sound level that is discernible above the noise emitted by the device.</p>	<p>IP Address A set of numbers which are assigned to devices participating in a computer network.</p> <p>J</p> <p>JPEG (Joint Photographic Experts Group) JPEG is a method of compressing still picture files. You can copy JPEG files on disc or SD Memory Card from a computer and play back the files on this unit.</p>
Function Setup	<p>Digital Audio An indirect representation of sound by numbers. During recording, the sound is measured at discrete intervals (44,100 times a second for CD audio) by an analogue-to-digital converter, generating a stream of numbers. On playback, a digital-to-analogue converter generates an analogue signal based on these numbers. See also "Sampling Frequency" and "Analogue Audio".</p>	<p>F</p> <p>Finalise This is processing that enables playing back of disc of BD/DVD/CD, which was recorded using a recorder, by other players.</p>	<p>L</p> <p>LAN (Local Area Network) A group of computer networks covering a small area like a company, school or home.</p>
Others	<p>DivX® DivX® is a codec (compression/decompression) that can compress pictures to a very small amount of data. The software can compress video data from almost any devices to the size that can be sent on the Internet without compromising visual quality of the pictures.</p> <p>DNS Server A server which translates Internet domain names into IP addresses.</p> <p>Dolby Digital (5.1ch Surround) This is a stereophonic effect developed by Dolby Laboratories. This is maximum 5.1 channels of independent multi-channel audio system.</p>	<p>G</p> <p>Gateway IP address of the electronic devices (such as router) which provide Internet access.</p> <p>H</p> <p>HDCP When transmitting digital signals between devices, this copyright protection technology encrypts the signals to prevent content from being copied without authorization.</p>	<p>Linear PCM This signal is uncompressed PCM (Pulse Code Modulation) signal. This is the same system as the CD audio but this uses 192kHz, 96kHz, and 48kHz sampling frequencies in BD or DVD and provides higher sound quality than CD.</p> <p>Local Storage A storage area of sub contents for playing virtual packages on BD-Video.</p> <p>M</p> <p>MPEG This is an abbreviation of Moving Picture Experts Group, which is an international standard of the moving picture audio compression method. Images of BD and DVD are recorded using this method.</p>

Others

P

PCM (Pulse Code Modulation)

The most common system of encoding digital audio, found on CD and DAT. Excellent quality, but requires a lot of data compared to formats such as Dolby Digital and MPEG audio. For compatibility with digital audio recorders (CD, MD and DAT) and AV amplifiers with digital inputs, this unit can convert Dolby Digital and MPEG audio to PCM. See also "Digital Audio".

Picture-in-Picture

This BD-Video function allows you to view making or commentary scenes in the secondary video while viewing the main story in the primary video.

Popup Menu

This menu recorded in BD software. While playing back a BD, this menu can be displayed on the front of the screen and can be operated.

Primary Audio

This audio signal is recorded in the main story in BD-Video.

Progressive (sequential scanning)

This is a scanning system of video signal that displays 1 frame of video as one image. Compared to the interlace system, this system provides images with less flickering and bleeding.

Proxy Server

Proxy server is a server which acts as an intermediary between a workstation user and the Internet to ensure security.

R

Rating

Depending on the age of the viewer, this function restricts playing back of BD-Video or DVD-Video. DBP-1610 can be set to restrict viewing in 1 to 254 level for BD-Video, and 1 to 8 level for DVD-Video.

Region Code

This code indicates country or region where the BD or DVD-Video can be played back.

Router

A networking device which distinguishes the IP address assigned to each device and routing and forwarding information in the computer network.

S

Sampling Frequency

The rate which sound is measured by a specified interval to turn into digital audio data. The numbers of sampling in one second defines as sampling frequency. The higher the rate, the better the sound quality.

Secondary Audio

The audio signals recorded in the BONUSVIEW of BD-Video. (e.g. Comment of movie director)

Subnet Mask

A mask which is used to determine what subnet an IP address belongs to.

T

Title

This is the unit of content that consists of chapters of BD or DVD-Video. Some BD or DVD-Video may include multiple titles.

V

Virtual Package

The function which copies data to other media (local storage) from the Internet and play the secondary video, secondary audio and the subtitle at the same time. The method of the playback varies depending on discs.

W

Windows Media™ Audio

Windows Media™ Audio is the audio compressing technology developed by Microsoft. You can copy Windows Media™ Audio files on disc or SD Memory Card from a computer and play them back on this unit.

X

x.v.Color

"x.v.Color" is a promotion name given to the products that have the capability to realise a wide colour space based on the xvYCC specifications and is a trademark of Sony Corporation.

Others

Introduction

Connections

Playback

Function Setup

Others

Others

Index

A page

A-B Repeat 8, 19
 AC cord 3, 15
 Angle 8, 21, 36
 Aspect ratio 30, 42
 Audio language 23
 Audio signal 13, 14
 Audio stream/channel 23
 AVCHD 3, 4, 5, 13, 14, 42

B page

BD audio mode 24, 32
 BD-Live 3, 15, 28, 40, 42
 BD-Video 4, 5, 13, 14
 Brightness 9, 25, 36

C page

CD-DA 4
 CD-RW/-R 4, 5
 Channel level 34
 Chapter 5, 19, 21, 22, 43
 Component video cable 7, 11
 Connections 10, 11, 13, 14, 15, 37, 38, 39, 40

D page

Dialogue speed 18
 Dimmer 8, 9, 36
 Disc menu 8, 17, 30
 DivX® 3, 4, 5, 13, 14, 25, 26, 27, 30, 43
 DivX® VOD 26, 37
 Dolby Digital 13, 14, 24, 32, 33, 43
 Dolby Digital Plus 13, 14, 24, 32, 33, 43
 Dolby TrueHD 13, 14, 24, 32, 33, 43
 DRC (Dynamic Range Control) 3, 33
 DTS 13, 14, 24, 32, 33, 42, 43
 DTS-CD 4, 5, 13, 14
 DTS-HD 13, 14, 24, 32, 33, 42, 43
 DVD-RW/-R 4, 5, 17
 DVD-Video 4, 5, 13, 14

F page

Fast forward 7, 8, 9, 18
 Fast reverse 7, 8, 9, 18
 Format 4, 13, 14, 26, 31, 32

H page

HDMI cable 7, 11
 HDMI Deep Color 31, 43
 HDMI resolution 7, 12

I page

Initialise 41
 Interactive audio 24, 32, 43
 Interlace 12, 43

J page

JPEG 3, 4, 5, 25, 26, 27, 36, 43

L page

LAN cable 7, 15
 Language code 30, 47

M page

Marker 21
 MP3 3, 4, 5, 13, 14, 25, 26

N page

Network update 37, 40
 Noise reduction 25

O page

On-screen display 3, 8, 22

P page

Parental 35, 36
 Password 35, 36
 Pause 7, 8, 9, 17
 Picture Adjustment 25
 Picture control 3
 Playback (BD/DVD/AVCHD) 16, 17, 18, 19
 Playback (DivX®/MP3/WMA/JPEG) 18, 19, 20, 25, 26
 Playback (DVD-RW/-R) 17, 20
 Playback (Kodak Picture CD) 27

Others

Playback (SD Card) 27, 28
 Popup menu 8, 17, 44
 Programme playback 19
 Progressive 12, 31, 44
 Pure direct mode 9, 24

R page

Random playback 8, 20
 RCA audio cable 3, 11, 14
 RCA video cable 3, 7, 11
 Region code 5, 44
 Remote control 6, 7, 8, 37
 Repeat playback 8, 19
 Resume playback 17

S page

SD Card 4, 7, 27, 28, 37, 41
 Sharpness 25
 Slow forward 9, 18
 Source Direct 9, 12, 31
 Speaker setting 33, 34, 35
 Step by step playback 18
 Subtitle language 24
 Supplied accessories 3

T page

Title 5, 17, 19, 21, 22, 44
 Top menu 8
 Track 5, 19, 21, 22

V page

Virtual surround 24

W page

Windows Media™ Audio 3, 4, 5, 13, 14, 25, 26

X page

x.v.Color 3, 42, 44

Z page

Zoom 8, 20

Troubleshooting

If the unit does not perform properly when operated as instructed in this owner's manual, check the unit, consulting the following checklist.

Problem	Solution	Page
No power	- Check if the AC cord is properly connected. - Unplug the AC cord once, and wait for 5-10 seconds and then plug it in again.	- -
No sound or picture	- Check if the connected display device is turned on. - Check the HDMI connection. (Check the status of the HDMI related indications.) - Check the RCA audio/video cable connections. - Check if the pure direct mode is set to "VideoOff" or "All Off". If it is the case, set it to "Disp.Off" or "Normal". - Check whether the connected display device or other device supports HDCP. (This unit will not output a video signal unless the other device supports HDCP.) - Check whether the output format of this unit (HDMI FORMAT) matches the supported input format of other connected device. - Check if the "HDMI Deep Color" is set to "Auto". If it is the case, set it to "Off".	- 11 11, 14 24 13 11, 30, 31 31
Distorted picture	- Sometimes a small amount of picture distortion may appear. This is not a malfunction. - Connect this unit directly to the TV. If the RCA audio/video cables are connected to a VCR, pictures may be distorted due to the copy protection system.	- 11
Completely distorted picture or black/white picture with BD/DVD	- Make sure the disc is compatible with this unit.	4
No sound or distorted sound	- Adjust the volume. - Check that the speakers are connected correctly. - Check the HDMI connections. - Check the "Audio" settings.	- 11, 13, 14 11 32, 33
Picture freezes momentarily during playback	- Check the disc for fingerprints/scratches and clean with a soft cloth wiping from centre to edge. - Clean the disc.	3 3
Disc cannot be played back	- Clean the disc. - Ensure the disc label is facing up. - Check if the disc is defective by trying another disc. - Cancel the ratings control or change the control level. - Insert a correct disc that can be played back on this unit.	3 16 - 35 4
SD Memory Card cannot be read	- The format of the card does not match to this unit or the card is not compatible.	-
No return to start-up screen when disc is removed	- Reset this unit by turning it off, then on again.	-
The unit does not respond to the remote control	- Aim the remote control directly at infrared sensor window on the front of the unit. - Reduce the distance to infrared sensor window. - Replace the batteries in the remote control. - Re-insert the batteries with their polarities (+/- signs) as indicated. - Make the signal code of the remote control match to the signal code of the unit.	6 - 6 6 6

Problem	Solution	Page
Buttons do not work or the unit stops responding	- To completely reset the unit, unplug the AC cord from the AC outlet for 5-10 seconds.	-
The unit does not respond to some operating commands during playback	- Operations may not be permitted by the disc. Refer to the instructions of the disc.	16
The unit cannot read BD/DVD/CD	- Condensation ? (Let sit 1 or 2 hours) - You are attempting to play a disc other than one with one of the marks on page 4. - Wipe the dirt off the disc or replace the disc.	2 4 3
Angle does not switch	- The angle cannot be switched for BD/DVD which do not contain multiple angles. In some cases multiple angles are only recorded for specific scenes.	21
Playback does not start when the title is selected	- Check the "Ratings" setting.	35
The password for rating level has been forgotten	- Enter the default password "4737", then your forgotten password will be cleared.	35
Cannot connect to the network	- Check if the LAN cable connection is properly made. - Turn on the modem or broadband router. - Check the network settings. - Check if the broadband router and/or modem is correctly connected. - Check the "BD-Live Setting".	15 - 38 15 40
Cannot connect to the network while my PC is connected to the network	- Check the content of your Internet service contract to see if your Internet Service Provider prevents multiple terminals connecting at the same time.	-
Cannot use the BD-Live function	- Use an SD card with enough space. - Remove the write protection of an SD card.	- -
The playback of BD-Video or download of data does not perform properly	- Check if an SD card is correctly inserted. - Do not remove the card during playback as some BD-Videos require an SD card during playback.	27 28
"HDCP NOK" appears on the front panel display	"HDCP NOK" appears under the following conditions: - When the connected device does not support HDCP. - When the connected device is recognised as an HDCP incompatible by HDMI SRM. - When the connected device supports HDCP but cannot be recognised as an HDCP compatible for some reason.	9

Note

- Some functions are not available in specific modes, but this is not a malfunction. Read the description in this owner's manual for details on correct operations.
- Some functions are prohibited on some discs.

Introduction
Connections
Playback
Function Setup
Others

Language Code

Language	Code
A-B	
Abkhazian	4748
Afar	4747
Afrikaans	4752
Albanian	6563
Amharic	4759
Arabic	4764
Armenian	5471
Assamese	4765
Aymara	4771
Azerbaijani	4772
Bashkir	4847
Basque	5167
Bengali;Bangla	4860
Bhutani	5072
Bihari	4854
Bislama	4855
Breton	4864
Bulgarian [BUL]	4853
Burmese	5971
Byelorussian	4851
C-E	
Cambodian	5759
Catalan	4947
Chinese [CHI]	7254
Corsican	4961
Croatian	5464
Czech [CZE]	4965
Danish [DAN]	5047
Dutch [DUT]	6058
English [ENG]	5160

Language	Code
Esperanto	5161
Estonian	5166
F-H	
Faroese	5261
Fiji	5256
Finnish [FIN]	5255
French [FRE]	5264
Frisian	5271
Galician	5358
Georgian	5747
German [GER]	5051
Greek [GRE]	5158
Greenlandic	5758
Guarani	5360
Gujarati	5367
Hausa	5447
Hebrew	5569
Hindi	5455
Hungarian [HUN]	5467
I-K	
Icelandic [ICE]	5565
Indonesian	5560
Interlingua	5547
Interlingue	5551
Inupiak	5557
Irish [IRI]	5347
Italian [ITA]	5566
Japanese [JPN]	5647
Javanese	5669
Kannada	5760
Kashmiri	5765
Kazakh	5757

Language	Code
Kinyarwanda	6469
Kirghiz	5771
Kirundi	6460
Korean [KOR]	5761
Kurdish	5767
L-N	
Laothian	5861
Latin	5847
Latvian;Lettish	5868
Lingala	5860
Lithuanian	5866
Macedonian	5957
Malagasy	5953
Malay	5965
Malayalam	5958
Maltese	5966
Maori	5955
Marathi	5964
Moldavian	5961
Mongolian	5960
Nauru	6047
Nepali	6051
Norwegian [NOR]	6061
O-R	
Occitan	6149
Oriya	6164
Oromo(Afan)	6159
Panjabi	6247
Pashto;Pushto	6265
Persian	5247
Polish [POL]	6258
Portuguese [POR]	6266

Language	Code
Quechua	6367
Rhaeto-Romance	6459
Romanian [RUM]	6461
Russian [RUS]	6467
S	
Samoan	6559
Sangho	6553
Sanskrit	6547
Scots Gaelic	5350
Serbian	6564
Serbo-Croatian	6554
Sesotho	6566
Setswana	6660
Shona	6560
Sindhi	6550
Singhalese	6555
Siswat	6565
Slovak [SLO]	6557
Slovenian	6558
Somali	6561
Spanish [SPA]	5165
Sundanese	6567
Swahili	6569
Swedish [SWE]	6568
T	
Tagalog	6658
Tajik	6653
Tamil	6647
Tatar	6666
Telugu	6651
Thai	6654
Tibetan	4861

Language	Code
Tigrinya	6655
Tonga	6661
Tsonga	6665
Turkish [TUR]	6664
Turkmen	6657
Twi	6669
U-Z	
Ukrainian	6757
Urdu	6764
Uzbek	6772
Vietnamese	6855
Volapuk	6861
Welsh	4971
Wolof	6961
Xhosa	7054
Yiddish	5655
Yoruba	7161
Zulu	7267

Introduction
Connections
Playback
Function Setup
Others

Note

• If you choose a language that has a 3-letter-language code (written in bracket), the code will be displayed every time you change the audio or subtitle language setting on pages 23-24. If you choose any other languages, '----' will be displayed instead.

Specifications

SIGNAL SYSTEM

NTSC/PAL colour

APPLICABLE DISCS

- (1) BD/DVD-Video Discs
1-layer 12cm single-sided discs, 2-layer 12cm single-sided discs, 2-layer 12cm double-sided discs (1 layer per side) / 1-layer 8cm single-sided discs (DVD)
- (2) BD-RE/BD-R (Recorded in BDMV format)
1-layer 12cm single-sided discs, 2-layer 12cm single-sided discs
1-layer 8cm single-sided discs, 2-layer 8cm single-sided discs
- (3) DVD-R
1-layer 12cm single-sided discs, 2-layer 12cm single-sided discs
1-layer 8cm single-sided discs, 2-layer 8cm single-sided discs
- (4) DVD-RW
1-layer 12cm single-sided discs
1-layer 8cm single-sided discs
- (5) Compact discs (audio CD)
12cm discs, 8cm discs
- (6) CD-RW/-R
12cm discs, 8cm discs

APPLICABLE MEMORY CARDS

- (1) SD Memory Card
- (2) SDHC Memory Card
- (3) miniSD Card
- (4) microSD Card

VIDEO OUTPUT

Y output level: 1Vp-p (75Ω/ohms)

Output connectors: Pin jack, 1 set

COMPONENT OUTPUT

Y output level: 1Vp-p (75Ω/ohms)

Pb/Cb output level: 0.7Vp-p (75Ω/ohms)

Pr/Cr output level: 0.7Vp-p (75Ω/ohms)

Output connectors: Pin jacks, 1 set

HDMI OUTPUT

Output jack: 19-pin HDMI terminal, 1 set

HDMI ver. 1.3a (Deep Color, Dolby Digital Plus, Dolby TrueHD, DTS-HD)

ETHERNET TERMINAL

10BASE-T/100BASE-TX, 1 set

ANALOGUE AUDIO OUTPUT

Output level: 2Vrms (10kΩ/kohms)

2 channel (L, R) output connector: Pin jacks, 1 set

AUDIO OUTPUT PROPERTIES

- (1) Frequency response

1 BDs (linear PCM)	: 20Hz to 22kHz (48kHz sampling)
	: 20Hz to 44kHz (96kHz sampling)
	: 20Hz to 88kHz (192kHz sampling)
2 DVDs (linear PCM)	: 20Hz to 22kHz (48kHz sampling)
	: 20Hz to 44kHz (96kHz sampling)
3 CDs	: 20Hz to 20kHz
- (2) S/N ratio : 115dB
- (3) Total harmonic distortion : 1kHz 0.004%
- (4) Dynamic range : 100dB (BD/DVD) / 98dB (CD)

DIGITAL AUDIO OUTPUT

Coaxial digital output: Pin jack, 1 set

POWER SUPPLY

AC 110-240V, 50/60Hz

POWER CONSUMPTION

30W (Standby: 0.3W)

MAXIMUM EXTERNAL DIMENSIONS

W : 435mm

H : 106mm

D : 309.3mm

(including protruding parts)

MASS

4.1 kg

REMOTE CONTROL

RC-1129

Infrared pulse type

Supply: DC 3V, 2 R6/AA batteries

External dimensions:

W : 52mm

H : 227mm

D : 30mm

Mass: 138g (including batteries)

• For purposes of improvement, specifications and design are subject to change without notice.

This section describes software license used for DBP-1610. To maintain the correct content, the original (English) is used.

Exhibit A GPL

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software—to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

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

- You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.
- You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

- Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
- Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
- Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type 'show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type 'show c' for details.

The hypothetical commands 'show w' and 'show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than 'show w' and 'show c'; they could even be mouse-clicks or menu items—whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program 'Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.

Exhibit B LGPL

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software—to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages—typically libraries—of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is less protective of the users' freedom, it does ensure that the user of a program that is linked with the library has the freedom and the wherewithal to run that program using a modified version of the library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this license"). Each licensee is addressed as "you".

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

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

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

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

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

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

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

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

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

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

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

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

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

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

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoodyne, Inc., hereby disclaims all copyright interest in the library 'Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

Exhibit C Free Type

The FreeType Project LICENSE

2006-Jan-27

Copyright 1996-2002, 2006 by
David Turner, Robert Wilhelm, and Werner Lemberg

Introduction

The FreeType Project is distributed in several archive packages; some of them may contain, in addition to the FreeType font engine, various tools and contributions which rely on, or relate to, the FreeType Project.

This license applies to all files found in such packages, and which do not fall under their own explicit license. The license affects thus the FreeType font engine, the test programs, documentation and makefiles, at the very least.

This license was inspired by the BSD, Artistic, and IJG (Independent JPEG Group) licenses, which all encourage inclusion and use of free software in commercial and freeware products alike. As a consequence, its main points are that:

- We don't promise that this software works. However, we will be interested in any kind of bug reports. ('as is' distribution)
- You can use this software for whatever you want, in parts or full form, without having to pay us. ('royalty-free' usage)
- You may not pretend that you wrote this software. If you use it, or only parts of it, in a program, you must acknowledge somewhere in your documentation that you have used the FreeType code. ('credits')

We specifically permit and encourage the inclusion of this software, with or without modifications, in commercial products. We disclaim all warranties covering The FreeType Project and assume no liability related to The FreeType Project.

Finally, many people asked us for a preferred form for a credit/disclaimer to use in compliance with this license. We thus encourage you to use the following text:

Portions of this software are copyright© <year> The FreeType Project (www.freetype.org). All rights reserved.

Please replace <year> with the value from the FreeType version you actually use.

Legal Terms

0. Definitions

Throughout this license, the terms 'package', 'FreeType Project', and 'FreeType archive' refer to the set of files originally distributed by the authors (David Turner, Robert Wilhelm, and Werner Lemberg) as the 'FreeType Project', be they named as alpha, beta or final release.

'You' refers to the licensee, or person using the project, where 'using' is a generic term including compiling the project's source code as well as linking it to form a 'program' or 'executable'. This program is referred to as 'a program using the FreeType engine'.

This license applies to all files distributed in the original FreeType Project, including all source code, binaries and documentation, unless otherwise stated in the file in its original, unmodified form as distributed in the original archive. If you are unsure whether or not a particular file is covered by this license, you must contact us to verify this.

The FreeType Project is copyright (C) 1996-2000 by David Turner, Robert Wilhelm, and Werner Lemberg. All rights reserved except as specified below.

1. No Warranty

THE FREETYPE PROJECT IS PROVIDED 'AS IS' WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT WILL ANY OF THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY DAMAGES CAUSED BY THE USE OR THE INABILITY TO USE, OF THE FREETYPE PROJECT.

2. Redistribution

This license grants a worldwide, royalty-free, perpetual and irrevocable right and license to use, execute, perform, compile, display, copy, create derivative works of, distribute and sublicense the FreeType Project (in both source and object code forms) and derivative works thereof for any purpose; and to authorize others to exercise some or all of the rights granted herein, subject to the following conditions:

- Redistribution of source code must retain this license file (FTL.TXT) unaltered; any additions, deletions or changes to the original files must be clearly indicated in accompanying documentation. The copyright notices of the unaltered, original files must be preserved in all copies of source files.

- Redistribution in binary form must provide a disclaimer that states that the software is based in part of the work of the FreeType Team, in the distribution documentation. We also encourage you to put an URL to the FreeType web page in your documentation, though this isn't mandatory.

These conditions apply to any software derived from or based on the FreeType Project, not just the unmodified files. If you use our work, you must acknowledge us. However, no fee need be paid to us.

3. Advertising

Neither the FreeType authors and contributors nor you shall use the name of the other for commercial, advertising, or promotional purposes without specific prior written permission.

We suggest, but do not require, that you use one or more of the following phrases to refer to this software in your documentation or advertising materials: 'FreeType Project', 'FreeType Engine', 'FreeType library', or 'FreeType Distribution'.

As you have not signed this license, you are not required to accept it. However, as the FreeType Project is copyrighted material, only this license, or another one contracted with the authors, grants you the right to use, distribute, and modify it. Therefore, by using, distributing, or modifying the FreeType Project, you indicate that you understand and accept all the terms of this license.

4. Contacts

There are two mailing lists related to FreeType:

- freetype@nongnu.org
Discusses general use and applications of FreeType, as well as future and wanted additions to the library and distribution. If you are looking for support, start in this list if you haven't found anything to help you in the documentation.
- freetype-devel@nongnu.org
Discusses bugs, as well as engine internals, design issues, specific licenses, porting, etc.

Our home page can be found at

<http://www.freetype.org>

LibJPEG

In plain English:

1. We don't promise that this software works. (But if you find any bugs, please let us know!)
2. You can use this software for whatever you want. You don't have to pay us.
3. You may not pretend that you wrote this software. If you use it in a program, you must acknowledge somewhere in your documentation that you've used the IJG code.

In legalese:

The authors make NO WARRANTY or representation, either express or implied, with respect to this software, its quality, accuracy, merchantability, or fitness for a particular purpose. This software is provided "AS IS", and you, its user, assume the entire risk as to its quality and accuracy.

This software is copyright (C) 1991-1998, Thomas G. Lane. All Rights Reserved except as specified below.

Permission is hereby granted to use, copy, modify, and distribute this software (or portions thereof) for any purpose, without fee, subject to these conditions:

- (1) If any part of the source code for this software is distributed, then this README file must be included, with this copyright and no-warranty notice unaltered; and any additions, deletions, or changes to the original files must be clearly indicated in accompanying documentation.
- (2) If only executable code is distributed, then the accompanying documentation must state that "this software is based in part on the work of the Independent JPEG Group".
- (3) Permission for use of this software is granted only if the user accepts full responsibility for any undesirable consequences; the authors accept NO LIABILITY for damages of any kind.

These conditions apply to any software derived from or based on the IJG code, not just to the unmodified library. If you use our work, you ought to acknowledge us.

Permission is NOT granted for the use of any IJG author's name or company name in advertising or publicity relating to this software or products derived from it. This software may be referred to only as "the Independent JPEG Group's software".

We specifically permit and encourage the use of this software as the basis of commercial products, provided that all warranty or liability claims are assumed by the product vendor.

Open SSL

OpenSSL License

/*

Copyright (c) 1998-2008 The OpenSSL Project. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgment: "This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (http://www.openssl.org/)"
4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to endorse or promote products derived from this software without prior written permission. For written permission, please contact openssl-core@openssl.org.
5. Products derived from this software may not be called "OpenSSL" nor may "OpenSSL" appear in their names without prior written permission of the OpenSSL Project.
6. Redistributions of any form whatsoever must retain the following acknowledgment: "This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/)"

THIS SOFTWARE IS PROVIDED BY THE OPENSSL PROJECT "AS IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OPENSSL PROJECT OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

This product includes cryptographic software written by Eric Young (eay@cryptsoft.com). This product includes software written by Tim Hudson (tjh@cryptsoft.com).

*/

Original SSLey License

/* Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com) All rights reserved.

This package is an SSL implementation written by Eric Young (eay@cryptsoft.com). The implementation was written so as to conform with Netscapes SSL.

This library is free for commercial and non-commercial use as long as the following conditions are adhered to. The following conditions apply to all code found in this distribution, be it the RC4, RSA, lhash, DES, etc., code; not just the SSL code. The SSL documentation included with this distribution is covered by the same copyright terms except that the holder is Tim Hudson (tjh@cryptsoft.com).

Copyright remains Eric Young's, and as such any Copyright notices in the code are not to be removed. If this package is used in a product, Eric Young should be given attribution as the author of the parts of the library used. This can be in the form of a textual message at program startup or in documentation (online or textual) provided with the package.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgement: "This product includes cryptographic software written by Eric Young (eay@cryptsoft.com)" The word "cryptographic" can be left out if the routines from the library being used are not cryptographic related :-).
4. If you include any Windows specific code (or a derivative thereof) from the apps directory (application code) you must include an acknowledgement: "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"

THIS SOFTWARE IS PROVIDED BY ERIC YOUNG "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The licence and distribution terms for any publically available version or derivative of this code cannot be changed. i.e. this code cannot simply be copied and put under another distribution licence [including the GNU Public Licence.]

*/

License Information for the Software Used in the Unit

About GPL (GNU-General Public License), LGPL (GNU Lesser General Public License) License

This product uses GPL/LGPL software and software made by other companies. After you purchase this product, you may procure, modify or distribute the source code of the GPL/LGPL software that is used in the product. DENON provides the source code based on the GPL and LGPL licenses at the actual cost upon your request to our customer service center. However, note that we make no guarantees concerning the source code. Please also understand that we do not offer support for the contents of the source code.

Printed in China
5411 10286 202D

DENON
www.denon.com

Denon Brand Company, D&M Holdings Inc.
E5LC1ED / 1VMN27973A ★★★



1VMN27973A