ENON

AV SURROUND RECEIVER RÉCEPTEUR AUDIO-VIDÉO

AVR-1803/883

OPERATING INSTRUCTIONS MODE D'EMPLOI

OR ENGLISH READERS POUR LES LECTEURS FRANCAIS PAGE 2, 65 ~ PAGE 130

2~ PAGE 64, 126 ~ 130

- We greatly appreciate your purchase of the AVR-1803/883.
- To be sure you take maximum advantage of all the features the AVR-1803/883 has to offer, read these instructions carefully and use the set properly. Be sure to keep this manual for future reference should any questions or problems arise.
- Nous vous remercions de l'achat de l'AVR-1803/883.
- Pour être sûr de profiter au maximum de toutes les caractéristiques qu'a à offrir l'AVR-1803/883, lire avec soin ces instructions et bien utiliser l'appareil. Toujours conserver ce mode d'emploi pour s'y référer ultérieurement en cas de question ou de problème.

SAFETY PRECAUTIONS

WARNING:

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.



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.

FOR CANADA MODEL ONLY

CAUTION

TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

POUR LES MODELE CANADIEN UNIQUEMENT

ATTENTION

POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTERODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU' AU FOND.

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

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada

"SERIAL NO. _

PLEASE RECORD UNIT SERIAL NUMBER ATTACHED TO THE REAR OF THE CABINET FOR FUTURE REFERENCE"

"NO. DE SERIE

PRIERE DE NOTER LE NUMERO DE SERIE DE L'APPAREIL INSCRIT A L'ARRIERE DU COFFRET DE FAÇON A POUVOIR LE CONSULTER EN CAS DE PROBLEME."

■ NOTE ON USE / OBSERVATIONS RELATIVES A L'UTILISATION



SAFETY INSTRUCTIONS

- 1. Read Instructions All the safety and operating instructions should be read before the product is operated.
- 2. Retain Instructions The safety and operating instructions should be retained for future reference.
- Heed Warnings All warnings on the product and in the operating instructions should be adhered to.
- Follow Instructions All operating and use instructions should be followed.
- 5. Cleaning Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners.
- Attachments Do not use attachments not recommended by the product manufacturer as they may cause hazards.
- Water and Moisture Do not use this product near water for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.
- 8. Accessories Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a

mounting accessory recommended by the manufacturer.

 A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.



- 10. Ventilation Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
- 11. Power Sources This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.
- 12. Grounding or Polarization This product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.



- 13. Power-Cord Protection Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.
- 15. Outdoor Antenna Grounding If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure A.
- 16. Lightning For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
- 17. Power Lines An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
- Overloading Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.
- 19. Object and Liquid Entry Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
- Servicing Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
- 21. Damage Requiring Service Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - a) When the power-supply cord or plug is damaged,
 - b) If liquid has been spilled, or objects have fallen into the product,
 - c) If the product has been exposed to rain or water,
 - d) If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation,
 - e) If the product has been dropped or damaged in any way, and f) When the product exhibits a distinct change in performance
 - this indicates a need for service.
- 22. Replacement Parts When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
- Safety Check Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
- 24. Wall or Ceiling Mounting The product should be mounted to a wall or ceiling only as recommended by the manufacturer.
- Heat The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

ENGLISH

■ INTRODUCTION

Thank you for choosing the DENON AVR-1803/883 Digital Surround A / V receiver. This remarkable component has been engineered to provide superb surround sound listening with AV theater sources such as DVD, as well as providing outstanding high fidelity reproduction of your favorite music sources.

As this product is provided with an immense array of features, we recommend that before you begin hookup and operation that you review the contents of this manual before proceeding.

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ACCESSORIES

Check that the following parts are included in addition to the main unit:

 ① Operating instructions
 1

 ② Warranty (for North America model only)
 1

 ③ Service station list
 1

 ④ Remote control unit (RC-916)
 1

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 ⑤

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 ⑨
 FM antenna adapter

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1 BEFORE USING

Pay attention to the following before using this unit:

· Moving the set

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

· Before turning the power switch on

Check once again that all connections are proper and that there are not problems with the connection cords. Always set the power switch to the standby position before connecting and disconnecting connection cords.

• Store this instructions in a safe place.

After reading, store this instructions along with the warranty in a safe place.

- Note that the illustrations in this instructions may differ from the actual set for explanation purposes.
- V. AUX jacks The AVR-1803/883's front panel is equipped with a V. AUX jacks. Remove the cap covering the jacks when you want to use it.



Setting the power amplifier assignment:

• Make this setting to switch the power amplifier for the surround back channel to zone2.



* Disconnect the power plug and set the POWER AMP ASSIGN switch on the rear to the desired position. The plug in the AC main again.

2 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 power cord and input/output connection cords.
- Noise or disturbance tends to occur particularly when using indoor antennas or 300 Ω/ohms feeder wires. We recommend using outdoor antennas and 75 Ω/ohms coaxial cables.

For heat dispersal, leave at least 10 cm of space between the top, back and sides of this unit and the wall or other components.



- **3** CAUTIONS ON HANDLING
- Switching the input function when input jacks are not connected

A clicking noise may be produced if the input function is switched when nothing is connected to the input jacks. If this happens, either turn down the MASTER VOLUME control or connect components to the input jacks.

• Muting of PRE OUT jacks, HEADPHONE jack and SPEAKER terminals

The PRE OUT jack, HEADPHONE jack and SPEAKER terminals include a muting circuit. Because of this, the output signals are greatly reduced for several seconds after the power switch is turned on or input function, surround mode or any other-set-up is changed. If the volume is turned up during this time, the output will be very high after the muting circuit stops functioning. Always wait until the muting circuit turns off before adjusting the volume.

4 FEATURES

1. Multi Zone Music Entertainment System

Multi Source Function:

This unit's Multi Source function lets you select different audio sources for listening Different sources can thus be enjoyed in the main room (MAIN) and the subroom (ZONE 2) simultaneously.

2. Dolby Pro Logic II decoder

Dolby Pro Logic II is a new format for playing multichannel audio signals that offers improvements over conventional Dolby Pro Logic. It can be used to decode not only sources recorded in Dolby Surround but also regular stereo sources into five channels (front left/right, center and surround left/right). In addition, various parameters can be set according to the type of source and the contents, so you can adjust the sound field with greater precision.

3. Dolby Digital

Using advanced digital processing algorithms, Dolby Digital provides up to 5.1 channels of wide-range, high fidelity surround sound. Dolby Digital is the default digital audio delivery system for North American DVD and DTV.

 Whenever the power switch is in the STANDBY state, the apparatus is still connected on AC line voltage.
 Please be sure to unplug the cord when you leave home for, say, a vacation.

4. DTS (Digital Theater Systems)

DTS provides up to 5.1 channels of wide-range, high fidelity surround sound, from sources such as laser disc, DVD and specially-encoded music discs.

5. DTS-ES Extended Surround and DTS Neo:6

The AVR-1803/883 is compatible with DTS-ES Extended Surround, a new multi-channel format developed by Digital Theater Systems Inc. The AVR-1803/883 is also compatible with DTS Neo:6, a surround mode allowing 6.1-channel playback of regular stereo sources.

6. Component Video Switching

In addition to composite video and "S" video switching, the AVR-1803/883 provides 2 sets of component video (Y, PB/CB, PR/CR) inputs assignable, and one set of component video outputs to the television, for superior picture quality.

7. Auto Surround Mode

This function stores the surround mode last used for an input signal in the memory and automatically sets that surround mode the next time that signal is input.

5 PART NAMES AND FUNCTIONS

Front Panel

• For details on the functions of these parts, refer to the pages given in parentheses ().



0	Power ON/STANDBY switch	(20, 32, 53)
2	Headphones jack (PHONES)	(36)
8	ZONE2/REC button	(37)
4	ZONE2 button	(37, 39, 56)
6	SURROUND BACK button	(39, 45, 56)
6	TONE DEFEAT button	(35)
0	ANALOG button	(33, 35)
8	EXT. IN button	(33, 35)
9	DOLBY/DTS SURROUND button	.(40, 42, 44, 45)
Ð	5CH/6CH STEREO button	(48)
0	DIRECT/STEREO button	(48)
Ð	TUNING UP/DOWN buttons	(54)
B	V. AUX input jacks	(4, 14)
Ø	SURROUND MODE button	(34, 45, 51)
Ð	SURROUND PARAMETER button	, 44, 45, 49, 51)
16	SELECT knob(35	, 41, 42, 44, 51)
D	TONE CONTROL button	(35)

l	CH VOL button	(41)
C	MASTER VOLUME control	(34)
2	VIDEO SELECT button	(36)
2	STATUS button	(36)
Ű	DIMMER button	(36)
2	Master Volume indicator	(34)
24	Display	
2	Preset station select buttons	55)
26	BAND button	(54)
Q	INPUT MODE indicator	(34)
28	SIGNAL indicator	(34)
2	INPUT MODE button	45)
3	Remote control sensor (REMOTE SENSOR)	(18)
6	Power operation indicator	(32)
32	FUNCTION knob	54)
6	MAIN button	(33)

Remote control unit

• For details on the functions of these parts, refer to the pages given in parentheses ().



NOTE:

 The shaded buttons ////// do not function with the AVR-1803/883. (Nothing happens when they are pressed.)

6 READ THIS FIRST

This AV Surround Receiver must be setup before use. Following these steps.



7 SETTING UP THE SPEAKER SYSTEMS

Speaker system layout

- Basic system layout
- The following is an example of the basic layout for a system consisting of six speaker systems and a television monitor:



8 CONNECTIONS

- Do not plug in the AC cord until all connections have been completed.
- Be sure to connect the left and right channels properly (left with left, right with right).
- Insert the plugs securely. Incomplete connections will result in the generation of noise.
- Use the AC OUTLETS for audio equipment only. Do not use them for hair driers, etc.

Connecting the audio components

 When making connections, also refer to the operating instructions of the other components. The power to these outlets is turned on and off when the power is switched between on and standby from the remote control unit or power switch.

other noise.



Connecting the DIGITAL jacks

Use these for connections to audio (video) equipment with digital output Refer to page 24 for instructions on setting this terminal

NOTES:

- Use 75 Ω/ohms cable pin cords for coaxial connections
- Use optical cables for optical connections, removing the cap before connecting

Connecting a tape deck

Connections for recording:

Connect the tape deck's recording input jacks (LINE IN or REC) to this unit's tape recording (CDR/TAPE OUT) jacks using pin plug cords.

• Note that binding pin plug cords together with AC cords or placing

• Noise or humming may be generated if a connected audio

unit on. If this happens, turn on the power of the this unit.

equipment is used independently without turning the power of this

them near a power transformer will result in generating hum or

Connections for playback:

Connect the tape deck's playback output jacks (LINE OUT or PB) to this unit's tape playback (CDR/TAPE IN) jacks using pin plug cords.

Connecting video components

To connect the video signal, connect using a 75 Ω/ohms video signal cable cord. Using an improper cable can result in a drop in video quality.
When making connections, also refer to the operating instructions of the other components.



Connecting a video decks

• There are two sets of video deck (VCR) jacks, so two video decks can be connected for simultaneous recording or video copying

Video input/output connections:

• Connect the video deck's video output jack (VIDEO OUT) to the <u>VIDEO</u> (yellow) VCR-1 IN jack, and the video deck's video input jack (VIDEO IN) to the <u>VIDEO</u> (yellow) VCR-1 OUT jack using 75 Ω/ohms video coaxial pin plug cords

Connecting the audio output jacks

• Connect the video deck's audio output jacks (AUDIO OUT) to the AUDIO VCR-1 IN jacks, and the video deck's audio input jacks (AUDIO IN) to the AUDIO VCR-1 OUT jacks using pin plug cords.

* Connect the second video deck to the VCR-2 jacks in the same way



Connecting a video component equipped with S-Video jacks

• When making connections, also refer to the operating instructions of the other components.

A note on the S input jacks

The input selectors for the S inputs and pin jack inputs work in conjunction with each other.

• Precaution when using S-jacks

This unit's S-jacks (input and output) and video pin jacks (input and output) have independent circuit structures, so that video signals input from the S-jacks are only output from the S-jack outputs and video signals input from the pin jacks are only output from the pin jack outputs. When connecting this unit with equipment that is equipped with S-jacks, keep the above point in mind and make connections according to the equipment's instruction manuals.



Connecting a Video Component Equipped with Color Difference (Component - Y, PR/CR, PB/CB) Video Jacks (DVD Player)

- When making connections, also refer to the operating instructions of the other components.
- The signals input to the color difference (component) video jacks are not output from the VIDEO output jack (yellow) or the S-Video output jack. In addition, the video signals input to the VIDEO input (yellow) and S-Video input jacks are not output to the color difference (component) video jacks.
- Some video sources with component video outputs are labeled Y, CB, CR, or Y, Pb, Pr, or Y, R-Y, B-Y. These terms all refer to component video color difference output.
- At SYSTEM SETUP, the component video input terminal can be assigned for the input sources to which you want to connect AV devices. (For details, see page 25.)



Connecting the antenna terminals



AM loop antenna assembly





FM antenna adapter assembly



Note to CATV system installer:

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Notes:

- · Do not connect two FM antennas simultaneously.
- Even if an external AM antenna is used, do not disconnect the AM loop antenna.
- Make sure AM loop antenna lead terminals do not touch metal parts of the panel.

Connecting the external input (EXT. IN) jacks

- These jacks are for inputting multi-channel audio signals from an outboard decoder, or a component with a different type of multi-channel decoder, such as a DVD Audio player, or a multi-channel SACD player, or other future multi-channel sound format decoder.
- When making connections, also refer to the operating instructions of the other components.



* For instructions on playback using the external input (EXT. IN) jacks, see page 35.

Connecting the video component equipped with a V. AUX jacks

To connect the video signal, connect using a 75 Ω/ohms video signal cable cord. Using an improper cable can result in a drop in sound quality.



* The V. AUX jacks is covered with a cap. Remove this cap in order to use the terminal. (See page 4 for instructions on removing the cap.)

Connecting the ZONE2 jacks

• If another pre-main (integrated) amplifier is connected, the ZONE2 jacks can be used to play a different program source in ZONE2 at the same time.



Connecting the SURROUND BACK / ZONE2 speaker system

To use the surround back speaker in the MAIN ZONE:

- Set the POWER AMP ASSIGN switch to "SURR. BACK". Then plug in the AC main again.
- The same signal is output simultaneously to the SURR. BACK A and B terminals.



NOTE:

• To use surround back with one speaker, to SURR. BACK A CH. Surround back speaker can be used A + B.

To use the ZONE2 speaker system in ZONE2:

- Set the POWER AMP ASSIGN switch to "ZONE 2". Then plug in the AC main again.
- The same signal is output simultaneously to the ZONE 2 A and B terminals.



NOTE:

• To use ZONE2 with one speaker, to ZONE2 A CH. ZONE2 speaker can be used A + B.

NOTE:

Speaker system connections

Doing so could result in electric shocks.

- Connect the speaker terminals with the speakers making sure that like polarities are matched (⊕ with ⊕, ⊖ with ⊖). Mismatching of polarities will result in weak central sound, unclear orientation of the various instruments, and the sense of direction of the stereo being impaired.
- When making connections, take care that none of the individual conductors of the speaker cord come in contact with adjacent terminals, with other speaker cord conductors, or with the rear panel.

NEVER touch the speaker terminals when the power is on.

Speaker Impedance

- When speaker systems A and B are use separately, speakers with an impedance of 6 to 16 Ω /ohms can be connected for use as surround back/ZONE2 speakers.
- Be careful when using two pairs of Surround Back/ZONE2 speakers (A + B) at the same time, since use of speakers with an impedance of 12 to 16 Ω /ohms.
- Speakers with an impedance of 6 to 16 Ω/ohms can be connected for use as front, center and surround speakers.
- The protector circuit may be activated if the set is played for long periods of time at high volumes when speakers with an impedance lower than the specified impedance are connected.



Protector circuit

• This unit is equipped with a high-speed protection circuit. The purpose of this circuit is to protect the speakers under circumstances such as when the output of the power amplifier is inadvertently short-circuited and a large current flows, when the temperature surrounding the unit becomes unusually high, or when the unit is used at high output over a long period which results in an extreme temperature rise.

When the protection circuit is activated, the speaker output is cut off and the power supply indicator LED flashes. Should this occur, please follow these steps: be sure to switch off the power of this unit, check whether there are any faults with the wiring of the speaker cables or input cables, and wait for the unit to cool down if it is very hot. Improve the ventilation condition around the unit and switch the power back on.

If the protection circuit is activated again even though there are no problems with the wiring or the ventilation around the unit, switch off the power and contact a DENON service center.

Note on speaker impedance

The protector circuit may be activated if the set is played for long periods of time at high volumes when speakers with an impedance lower than the specified impedance (for example speakers with an impedance of lower than 4 Ω/ohms) are connected. If the protector circuit is activated, the speaker output is cut off. Turn off the set's power, wait for the set to cool down, improve the ventilation around the set, then turn the power back on.

Connections

• When making connections, also refer to the operating instructions of the other components.



• Precautions when connecting speakers

If a speaker is placed near a TV or video monitor, the colors on the screen may be disturbed by the speaker's magnetism. If this should happen, move the speaker away to a position where it does not have this effect.



Following the procedure outlined below, insert the batteries before using the remote control unit.

Range of operation of the remote control unit



Point the remote control unit at the remote control sensor as shown on the diagram at the left.

NOTES:

- The remote control unit can be used from a straight distance of approximately 23 feet/7 meters, but this distance will shorten or operation will become difficult if there are obstacles between the remote control unit and the remote control sensor, if the remote control sensor is exposed to direct sunlight or other strong light, or if operated from an angle.
- Neon signs or other devices emitting pulse-type noise nearby may result in malfunction, so keep the set as far away from such devices as possible.

Inserting the batteries

① Press as shown by the arrow and slide off.



② Insert the R6P/AA batteries properly, as shown on the diagram.





(3) Close the lid.



NOTES:

- Use only R6P/AA batteries for replacement.
- Be sure the polarities are correct. (See the illustration inside the battery compartment.)
- Remove the batteries if the remote control transmitter will not be used for an extended period of time.
- If batteries leak, dispose of them immediately. Avoid touching the leaked material or letting it come in contact with clothing, etc. Clean the battery compartment thoroughly before installing new batteries.
- Have replacement batteries on hand so that the old batteries can be replaced as quickly as possible when the time comes.
- Even if less than a year has passed, replace the batteries with new ones if the set does not operate even when the remote control unit is operated nearby the set. (The included battery is only for verifying operation. Replace it with a new battery as soon as possible.)

10 SETTING UP THE SYSTEM

- Once all connections with other AV components have been completed as described in "CONNECTIONS" (see pages 9 to 17), make the various settings described below on the display.
- These settings are required to set up the listening room's AV system centered around the this unit.
- Use the following buttons to set up the system:

Set the slide switch to "AUDIO".

2

1

Use the following buttons to set up the system:



• System setup items and default values (set upon shipment from the factory)

System setup						C	efault setting	3		
Speaker Input the combination of speakers in your system and their corresponding sizes (SMALL for regular speakers, LARGE for full-				Front Sp. Center Sp		nter Sp	Surround Sp.	Surround B	ack Sp. Su	Subwoofer
Configuration	Configuration size, full-range) to automatically set the composition of the signals output from the speakers and the frequency response				Small		Small Sma		1	Yes
Subwoofer mode	woofer mode This selects the subwoofer speaker for playing deep bass signals.						Normal			
Crossover Frequency	Trossover Set the frequency (Hz) below which the bass sound of the various Frequency speakers is to be output from the subwoofer		3 80 Hz							
Dalau Tima	This parameter is for optimizing the timing with which	Front & Sul	owoofer	er Center		Suri	Surround L & R		Surround Back	
Delay Inne	the listening position.	12 ft (3 6 m) 12 ft (3 6 m)		10 ft (3 0 m)		10 ft (3.0 m)				
Digital In	This assigns the digital input jacks for the different	Input source	CD	DVD/VE	OP	TV/DBS	VCR-1	VCR-2	CDR/TAPE	-
Assignment	gnment input sources.	Digital Inputs	COAXIAL	OPTICA	L 1	OPTICAL 2	OFF	OFF	OPTICAL 3	_
Video In	This assigns the component video input jacks for the	Input source	DVD/VDP	TV/DB	s	VCR-1	VCR-2	V. AUX	-	•
Assignment	ignment different video input sources	Component Inputs	VIDEO 1	VIDEO	2	OFF	OFF	OFF	-	
Auto Surround Mode	Auto Surround Auto surround mode function setting					Auto Su	urround Mode	e = ON		
Ext In SW Level Set the Ext In Subwoofer channel playback level					Ext. In	SW Level =	⊦15 dB		·	

NOTE:

The system setup is not displayed when "HEADPHONE ONLY" is selected.

ENGLISH

Before setting up the system





NOTE:

• When "Small" has been selected for the front speakers, "Large" cannot be selected for the surround speakers.



NOTE:

- When "Small" has been selected for the surround speakers, "Large" cannot be selected for the surround back speakers.
- This setting is not displayed when the POWER AMP ASSIGN switch on the main unit's rear panel is set to "ZONE 2". (See page 4)



• Parameters

Large..... Select this when using speakers that can fully reproduce low sounds of below 80 Hz.

- Small..... Select this when using speakers that cannot reproduce low sounds of below 80 Hz with sufficient volume. When this setting is selected, low frequencies of below 80 Hz are assigned to the subwoofer.
- None..... Select this when no speakers are installed.
- Yes/No.... Select "Yes" when a subwoofer is installed, "No" when it's not installed.

NOTE:

Select "Large" or "Small" not according to the physical size of the speaker, but according to the bass reproduction capacity at 80 Hz. If you cannot determine the best setting, try comparing the sound when set to "Small" and when set to "Large", at a level that will not damage the speakers.

Caution:

In case the subwoofer is not used, be sure to set "Subwoofer = No", or the bass sound of front channel is divided to subwoofer channel and not reproduced in some mode.

Setting the Subwoofer mode and Crossover Frequency

This screen is not displayed when not using a subwoofer.

• Set the crossover frequency and subwoofer mode according to the speaker system being used.



NOTES:

- Assignment of low frequency signal range -

• The signals produced from the subwoofer channel are LFE signals (during playback of Dolby Digital or DTS signals) and the low frequency signal range of channels set to "SMALL" in the setup. The low frequency signal range of channels set to "LARGE" are produced from those channels.

- Crossover Frequency -

- When "Subwoofer" is set to "Yes" at the "Speaker Configuration Setting", set the frequency (Hz) below which the bass sound of the various speakers is to be output from the subwoofer (the crossover frequency).
- For speakers set to "Small", sound with a frequency below the crossover frequency is cut, and the cut bass sound is output from the subwoofer instead.

NOTE: For ordinary speaker systems, we recommend setting the crossover frequency to 80 Hz. When using small speakers, however, setting the crossover frequency to a high frequency may improve frequency response for frequencies near the crossover frequency.

— Subwoofer mode —

 The subwoofer mode setting is only valid when "LARGE" is set for the front speakers and "YES" is set for the subwoofer in the "Speaker Configuration" settings (see pages 20, 21).
 If "SMALL" is set for the front speakers or "NO" is set for the subwoofer, the subwoofer mode setting does not affect playback of low.

If "SMALL" is set for the front speakers or "NO" is set for the subwoofer, the subwoofer mode setting does not affect playback of low frequency signal range.

When the "+MAIN" playback mode is selected, the low frequency signal range of channels set to "LARGE" are produced simultaneously
from those channels and the subwoofer channel.

In this playback mode, the low frequency range expand more uniformly through the room, but depending on the size and shape of the room, interference may result in a decrease of the actual volume of the low frequency range.

- When the "NORM" playback mode is selected, the low frequency signal range of channels set to "LARGE" are only produced from those channels. In this playback mode there tends to be little interference of the low frequency range in the room.
- Try playing the music or movie source and select the playback mode providing the stronger low frequency range sound.

Setting the delay time

• Input the distance between the listening position and the different speakers to set the delay time for the surround mode.

Preparations:

Measure the distances between the listening position and the speakers (L1 to L4 on the diagram at the right).

- L1: Distance between center speaker and listening position
- L2: Distance between front speakers/subwoofer and listening position
- L3: Distance between surround speakers and listening position
- L4: Distance between surround back speaker and listening position

CAUTION:

- ** Set the center speaker at the same distance from the front speakers (left and right) or the subwoofer, or so that the difference in distance (L2 – L1) is 5 feet or less.
- ** Set the surround speakers (left and right) at the same distance from the front speakers (left and right) or the subwoofer, or so that the difference in distance (L2 L3) is 15 feet or less.
- ** Set the surround back speaker at the same distance from the front speakers or the subwoofer, or so that the difference in distance (L2 – L4) is 15 feet or less.



Use the $\hat{\beta}$ (left) and $\hat{\beta}$ (right) buttons to set the distance from the front speakers and subwoofer to the listening position.



• The number changes in units of 1 foot each time one of the buttons is pressed. Select the value closest to the measured distance.

("/SW" appears only when subwoofer = yes.)

Press the ENTER or 🗢 (down) button to switch to the center speaker setting.

NOTE:

• The speaker distance can be adjusted between 0 and 60 feet in steps of 1 foot.



Use the () (left) and () (right) buttons to set the distance from the center speaker to the listening position.



9 CENTER 12ft

• The number changes in units of 1 foot each time one of the buttons is pressed. Select the value closest to the measured distance.

Press the ENTER or rightarrow (down) button to switch to the surround speakers setting.

NOTE:

• No setting when "None" has been selected for the center speaker.





Press the ENTER or \Leftrightarrow (down) button to switch to the surround back speaker setting.

NOTE:

• No setting when "None" has been selected for the surround speakers.





Use the () (left) and () (right) buttons to set the distance from the surround back speakers to the listening position.





• The number changes in units of 1 foot each time one of the buttons is pressed. Select the value closest to the measured distance.

Press the ENTER or 🗢 (down) button to enter the setting and switch the DIGITAL input (COAX) setting.

NOTE:

- No setting when "None" has been selected for the surround back speakers.
- This is not displayed either when ZONE 2 is set with the POWER AMP ASSIGN switch on the main unit's rear panel. (See page 4)

Setting the Digital In assignment

Input the type of components connected to the digital input terminals.







NOTE:

• PHONO, TUNER and V. AUX cannot be selected.

Setting the Video In assignment

Input the type of components connected to the component video input terminals.



Setting the Auto Surround Mode

For the three kinds of input signals as shown below, the surround mode played the last is stored in the memory. At next time it the same signal inputs, the memorized surround mode is automatically selected and the signal is played. Note that the surround mode setting is also stored separately for the different input function.

[SIGNAL	Default Auto Surround Mode
1	Analog and PCM 2-channel signals	STEREO
2	2-channel signals of Dolby Digital, DTS or other multichannel format	Dolby PLII Cinema
3	Multichannel signals of Dolby Digital, DTS or other multichannel format	Dolby or DTS Surround



Setting the Ext. In SW Level

Set the playback level of the analog input signal connected to the Ext. In terminal.



• Select according to the specifications of the player being used. Also refer to the player's operating instructions.

• +15dB (default) recommended. (0, +5, 10 and +15 can be selected.)

After setting up the system



Press the SYSTEM SETUP button to finish system set up.

This completes the system setup operations. Once the system is set up, there is no need to make the settings again unless other components or speakers are connected to or the speaker layout is changed.

11 REMOTE CONTROL UNIT

Operating DENON audio components

• Turn on the power of the different components before operating them.



Operate the audio component.

3

- For details, refer to the component's operating instructions.
- * While this remote control is compatible with a wide range of infrared controlled components, some models of components may not be operated with this remote control.
- 1. CD player (CD) and CD recorder and MD recorder (CDR/MD) system buttons



- Idd, ►►I : Auto search (cue)
 - II : Pause
- DISC : Switch discs
- SKIP+ (for CD changers only)

2. Tape deck (TAPE) system buttons



Stop

-

- Forward play
- Reverse play
- A/B : Switch between decks A and B

3. Tuner system buttons



SHIFT CHANNEL	:	Switch preset channel range Preset channel
+, TUNING +, -	:	Frequency up/down
BAND MODE MEMORY	:	Switch between the AM and FM bands Switch between auto and mono Preset memory

NOTE:

• TUNER can be operated when the switch is at "AUDIO" position.

Preset memory

DENON and other makes of components can be operated by setting the preset memory.

This remote control unit can be used to operate components of other manufacturers without using the learning function by registering the manufacturer of the component as shown on the List of Preset Codes (pages 126~130).

3

2

(VCR)

.

Ö (\mathbf{a}) Õ Ő

.

DENON

+

Operation is not possible for some models.



NOTES:

- The signals for the pressed buttons are emitted while setting the preset memory. To avoid accidental operation, cover the remote control unit's transmitting window while setting the preset memory.
- Depending on the model and year of manufacture, this function cannot be used for some models, even if they are of makes listed on the included list of preset codes.
- Some manufacturers use more than one type of remote control code. Refer to the included list of preset codes to change the number and check.
- The preset memory can be set for one component only among the following: CDR/MD, DVD/VDP and DBS/CABLE.

The preset codes are as follows upon shipment from the factory and after resetting:

TV, VCR	HITACHI
CD, TAPE	DENON
CDR/MD	DENON (CDR)
DVD/VDP	DENON (DVD)
DBS/CABLE	ABC (CABLE)

Operating component stored in the preset memory

1

2



Set mode switch 1 to "AUDIO" or "VIDEO".

Set the AUDIO side for the CD, tape deck or CDR/MD position, to the VIDEO side for the DVD/VDP, DBS/CABLE, VCR or TV position.

Set mode switch 2 to the component you want to operate.





3

Operate the component.

For details, refer to the component's operating instructions.
 Some models cannot be operated with this remote control unit.

1. Digital video disc player (DVD, DVD SETUP) system buttons

POWER : Power on/standby (ON/SOURCE)

```
44.ÞÞ
         : Manual search
             (forward and reverse)
           : Stop
    : Play
    •
I⊲⊲, ►►I : Auto search
             (to beginning of track)
    н
             Pause
0 ~ 9, +10 : 10 key
  skip + : Disc skip
             (for DVD changer only)
DISPLAY : Switch display
 MENU : Menu
RETURN : Return
 SETUP : Setup
\triangle, \nabla, \triangleleft, \triangleright: Cursor up, down, left
             and right
 ENTER : Enter setting
```

NOTE:

 Some manufacturers use different names for the DVD remote control buttons, so also refer to the instructions on remote control for that component.



2. Video disc player (VDP) system buttons

POWER : Power on/standby (ON/SOURCE)

44, PP	: Ivianual search
	(forward and reverse)
	: Stop
►	: Play
 ⊲⊲,⊳⊳ 	: Auto search (cue)
11	: Pause
0~9, +10	: 10 key



3. Video deck (VCR) system buttons

POWER : Power on/standby (ON/SOURCE) ◄◄,►► : Manual search (forward and reverse) ■ : Stop ► : Play ■ : Pause

Channel +, - : Channels



 Digital broadcast satellite (DBS) tuner and cable (CABLE) system buttons 					
POWER	: Power on/standby				
(ON/SOURCE	E)				
MENU	: Menu				
RETURN	: Return				
riangle, abla, abla, abla	: Cursor up, down, left and right				
ENTER	: Enter				
CHANNEL +, -	: Switch channels				
0~9, +10	: Channels				
DISPLAY	: Switch display				
VOL +, -	: Volume up/down				



5. Monitor TV (TV) system buttons

POWER	:	Power on/standby
(ON/SOURCE)		
MENU	:	Menu
RETURN	:	Return
riangle, abla, abla, abla, abla	:	Cursor up, down, left
		and right
ENTER	:	Enter
CHANNEL	:	Switch channels
+, -		
0~9, +10	:	Channels
DISPLAY	:	Switch display
TV/VCR	:	Switch between TV
		and video player
TV VOL	:	Volume up/down
+, -		



NOTES:

- For this CD, CDR, MD and TAPE components, buttons can be operated in the same way as for Denon audio components (page 27).
- The TV can be operated when the switch is at DVD/VDP, VCR, TV position.

Punch Through

 "Punch Through" is a function allowing you to operate the PLAY, STOP, MANUAL SEARCH and AUTO SEARCH buttons on the CD, TAPE, CDR/MD, DVD/VDP or VCR components when in the DBS/CABLE or TV mode. By default, nothing is set.





12 OPERATION

Before operating



3

Refer to "CONNECTIONS" (pages 9 to 17) and check that all connections are correct.

2 Set the remote control unit's slide switch to the AUDIO position. (only when operating with the remote control unit)

Turn on the power.

Press the ON/STANDBY button on the main unit or ON/SOURCE button on the remote control unit to turn on the power.



(Main unit) (Remote control unit)

• ON/STANDBY

When the button is pressed, the power turns on and the display lights after approximately 1 second.

When pressed again, the power turns off, the standby mode is set and the display turns off.

Several seconds are required from the time the power operation switch is set to the "ON" position until sound is output. This is due to the built-in muting circuit that prevents noise when the power switch is turned on and off.



Playing the input source



Select the input source to be played.

Example: CD





(Main unit)

(Remote control unit)

- To select the input source when ZONE2/REC OUT is selected, press the MAIN button then operate the input function selector.
- (Main unit)

Select the input mode.Selecting the analog

Selecting the analog mode
 Press the ANALOG button to switch to the analog input.





(Main unit)

(Remote control unit)

• Selecting the external input (EXT. IN) mode Press the EXT. IN to switch the external input.





- (Main unit) (Remote control unit)
- Selecting the AUTO, PCM and DTS modes The mode switches as shown below each time the INPUT MODE button is pressed.



(Main unit)

(Remote control unit)



Input mode selection function

Different input modes can be selected for the different input sources. The selected input modes for the separate input sources are stored in the memory.

① AUTO (auto mode)

In this mode, the types of signals being input to the digital and analog input jacks for the selected input source are detected and the program in the AVR-1803/883's surround decoder is selected automatically upon playback. This mode can be selected for all input sources other than PHONO and TUNER.

The presence or absence of digital signals is detected, the signals input to the digital input jacks are identified and decoding and playback are performed automatically in DTS, Dolby Digital or PCM (2 channel stereo) format. If no digital signal is being input, the analog input jacks are selected.

- Use this mode to play Dolby Digital signals.
- ② PCM (exclusive PCM signal playback mode) Decoding and playback are only performed when PCM signals are

being input. Note that noise may be generated when using this mode to play

Note that noise may be generated when using this mode to play signals other than PCM signals.

- ③ DTS (exclusive DTS signal playback mode) Decoding and playback are only performed when DTS signals are being input.
- ④ ANALOG (exclusive analog audio signal playback mode) The signals input to the analog input issue are deceded and
- The signals input to the analog input jacks are decoded and played. (5) EXT. IN (external decoder input jack selection mode)
 - The signals being input to the external decoder input jacks are played without passing through the surround circuitry.

NOTE:

 Note that noise will be output when CDs or LDs recorded in DTS format are played in the "PCM" (exclusive PCM signal playback) or "ANALOG" (exclusive PCM signal playback) mode. Select the AUTO or DTS mode when playing signals recorded in DTS.

Notes on playing a source encoded with DTS

- Noise may be generated at the beginning of playback and while searching during DTS playback in the AUTO mode. If so, play in the DTS mode.
- In some rare cases the noise may be generated when you preform the operation to stop playback of a DTS-CD or DTS-LD.



* The DIGITAL indicator lights when digital signals are being input properly. If the DIGITAL indicator does not light, check whether the digital input component setup (page 24) and connections are correct and whether the component's power is turned on.

NOTE:

• The DIGITAL indicator will light when playing CD-ROMs containing data other than audio signals, but no sound will be heard.

Input mode when playing DTS sources

level)".)

 Noise will be output if DTS-compatible CDs or LDs are played in the "ANALOG" or "PCM" mode.

to 18 dB, in steps of 1 dB. However, when the channel

level is set as described on page 41, if the volume for any

channel is set at +1 dB or greater, the volume cannot be adjusted up to 18 dB. (In this case the maximum volume

is adjusted to "18 dB - (Maximum value of channel

When playing DTS-compatible sources, be sure to connect the source component to the digital input jacks (OPTICAL/COAXIAL) and set the input mode to "DTS".

Playback using the external input (EXT. IN) jacks

Set the external input (EXT. IN) mode. Press the EXT. IN to switch the external input.



(Main unit) (Remote control unit)

Once this is selected, the input signals connected to the FL (front left), FR (front right), C (center), SL (surround left), and SR (surround right) channels of the EXT. IN jacks are output directly to the front (left and right), center, surround (left and right) speaker systems without passing through the surround circuitry.

In addition, the signal input to the SW (subwoofer) jack is output to the PRE OUT SUBWOOFER jack.

2

Cancelling the external input mode

To cancel the external input (EXT. IN) setting, press the INPUT MODE (AUTO, PCM, DTS) or ANALOG button to switch to the desired input mode. (See page 33.)



 When the input mode is set to the external input (EXT. IN), the play mode (DIRECT, STEREO, DOLBY/DTS SURROUND, 5CH/6CH STEREO or DSP SIMULATION) cannot be selected.





NOTES:

- In play modes other than the external input mode, the signals connected to EXT. IN jacks cannot be played. In addition, signals cannot be output from channels not connected to the input jacks.
- The external input mode can be set for any input source. To watch video while listening to sound, select the input source to which the video signal is connected, then set this mode.

After starting playback

[1] Adjusting the sound quality (tone)

The tone control function will not work in the direct mode.



[2] Listening over headphones



OFF 🚽

NOTE:

To prevent hearing loss, do not raise the volume level excessively when using headphones.








Multi-source recording

"MULTI" indicator turns off.

Playing one source while recording another (REC OUT mode)

1	Press the ZONE2/REC button.	ZONE2 / REC (Main unit)	
2	 With "RECOUT SOURCE" displayed, turn the FUNCTION knob to select the source you wish to record. The "REC" indicator and the indicator of the selected source light. 	(Main unit)	
3	Set the recording mode.For operating instructions, refer to the component on which you want to record	e manual of the I.	Display 2 (MIC PHONO CO TUNER DVO VOP TV / DES RECOUT SOURCE
4	To cancel, turn the function knob and select "SOURCE".When "SOURCE" is selected, the "REC" indicator turns off.	(Main unit)	 NOTES: Recording sources other than digital inputs selected in the REC OUT mode are also output to the multi source audio output jacks. Digital signals are not output from the REC SOURCE or audio output jacks.
13 M	MULTI ZONE ulti-source playback		

[1] Outputting a program source to an amplifier, etc., in a different room (ZONE2 mode)



(Main unit)

[2] Remote control unit operations during multi-source playback (selecting the source)



(Remote control unit)

Multi-zone playback with multi-source

MULTI ZONE MUSIC ENTERTAINMENT SYSTEM

- When the outputs of the "ZONE2" OUT terminals are wired and connected to integrated amplifiers installed in other rooms, different sources can be played in rooms other than the main zone in which this unit and the playback devices are installed. (Refer to ZONE2 on the diagram below.)
- ZONE2 SPEAKER OUT can be used when "ZONE2" is set to ZONE2 mode at the rear "POWER AMP ASSIGN" switch. In this case, Surround Back Speaker OUT cannot used for MAIN ZONE.
- When a sold separately room-to-room remote control unit (DENON RC-616, 617 or 618) is wired and connected between the main zone and zone2, the remote-controllable devices in the main zone can be controlled from zone2 using the remote control unit.

NOTES:

- For the AUDIO outputs, use high quality pin-plug cords and wire in such a way that there is no humming or noise.
- For instructions on installation and operation of separately sold devices, refer to the devices' operating instructions.
- When the main unit is set to the recording output mode, zone2 remote control key cannot be operated.

POWER AMP ASSIGN switch. SURROUND BACK button	.Set this to switch the surround back channel's power amplifier for use for the zone2. (main unit) (See pge 4) .Operate the surround back button to switch surround back channel ON/OFF. (main unit and remote control
ZONE2 button	unit) .Operate the zone2 button to switch zone2 line out and speaker out ON/OFF.(main unit and remote control unit)

MULTI ZONE MUSIC ENTERTAINMENT SYSTEM (When using LINE OUT)

"POWER AMP ASSIGN" switch is SURR. BACK position.

- 6.1-channel playback using the surround back speaker is possible in the MAIN ZONE.
- To use the surround back speaker, turn on the SURROUND BACK button.
- To use the ZONE2 line output, turn on the ZONE2 button.
- The ZONE2 OUT terminal's output level cannot be adjusted with the remote control unit.



MULTI ZONE MUSIC ENTERTAINMENT SYSTEM (When using SPEAKER OUT)

"POWER AMP ASSIGN" switch is ZONE2 position.

- The SPEAKER OUT and LINE OUT terminals can be used simultaneously in ZONE2.
- To use the zone 2 line output and speaker output, turn on the ZONE2 button.
- The output of the ZONE2 SPEAKER OUT terminals can be adjusted with the remote control unit's ZONE2 VOLUME + and keys.
- The SURROUND BACK button on the front panel cannot be used.



14 SURROUND

Before playing with the surround function

- Before playing with the surround function, be sure to use the test tones to adjust the playback level from each speakers. This adjustment can be performed from the remote control unit, as (described) below.
- The adjustment with the test tones is only effective in the DOLBY/DTS SURROUND modes.
- The adjusted playback levels for the different surround modes are automatically stored in the memory of each surround modes.



• After adjusting using the test tones, adjust the channel levels either according to the playback sources or to suit your tastes, as (described) below.



(Main unit) (Remote control unit)

The channel switches as shown below each time the button is pressed.



- * "SB" appears only when "POWER AMP ASSIGN" switch is SURR. BACK position.
- **NOTE:** Please make sure the "AUDIO" position of the slide switch on the remote control unit.



Adjust the level of the selected speaker.





(Remote control unit)

(Main unit)

Only adjustable when the channel is selected with the CH VOL buttons on the main unit.

- * Default setting of channel level is 0 dB.
- ** The level of the selected speaker can be adjusted within the range of +12 to -12 dB using the SELECT knob or cursor buttons.
- SW channel level can be turned off by decreasing one step from -12 dB.

 $OFF \leftrightarrow -12 \text{ dB} \leftrightarrow 12 \text{ dB}$





Dolby Surround Pro Logic II mode



Set the various surround parameters.

CINEMA EQ setting



PANORAMA setting



DIMENSION setting



CENTER WIDTH setting



DEFAULT setting



* Select "Yes" to reset to the factory defaults.

8 Pr

Press the ENTER button to finish surround parameter mode.



(Remote control unit)

NOTE:

• When making parameter settings, the display will return to the regular condition several seconds after the last button was pressed and the setting will be completed.

DTS NEO:6 mode



Select the function to which the component you want to play is connected.

Example:







The DTS NEO:6 Cinema or Music mode can be chosen directly by pressing the CINEMA or MUSIC button on the remote control unit during playback in the DTS NEO:6 mode.

ENGLISH



CENTER IMAGE setting



DEFAULT setting



* Select "Yes" to reset to the factory defaults.



Surround parameters 1

Pro Logic II Mode:

The Cinema mode is for use with stereo television shows and all programs encoded Dolby Surround.

The Music mode is recommended as the standard mode for autosound music systems (no video), and is optional for AV systems.

The Pro Logic Emulation mode offers the same robust surround processing as original Pro Logic in case the source contents is not of optimum quality.

Select one of the modes ("cinema", "music" or "emulation").

Panorama Control:

This mode extends the front stereo image to include the surround speakers for an exciting "wraparound" effect with side wall imaging.

Select "OFF" or "ON".

Dimension Control:

This control gradually adjust the soundfield either towards the front or towards the rear.

The control can be set in 7 steps from 0 to 6.

Center Width Control:

This control adjust the center image so it may be heard only from the center speaker; only from the left/right speakers as a phantom image; or from all three front speakers to varying degrees.

The control can be set in 8 steps from 0 to 7.

DTS NEO:6 MUSIC:

CENTER IMAGE (0.0 to 0.5: default 0.2)

The center image parameter for adjusting the expansion of the center channel in the DTS NEO:6 MUSIC mode has been added.

Dolby Digital mode (only with digital input) and DTS Surround (only with digital input)



Playback with a digital input

 Select an input source set to digital (COAXIAL/OPTICAL) (see page 24).

Example:



(Main unit)



(Remote control unit)

(2) Set the input mode to "AUTO" or DTS.



Ċ

(Remote control unit)

(Main unit)

(Main unit)





(Remote control unit)

When performing this operation from the main unit's panel, press the SURROUND MODE button, then turn the SELECT knob and select Dolby Pro Logic or DTS NEO:6.





4

2

Play a program source with the DIGUTAL , CITS mark.



• The Dolby Digital indicator lights when playing Dolby Digital sources.



• The DTS indicator lights when playing DTS sources.

Operate the SURROUND BACK button to switch Surround Back CH $\ensuremath{\mathsf{ON}}\xspace{\mathsf{OFF}}$



• Lights when the 6.1 Surround mode is on.

Set the surround parameter according to the source. First, press the SURROUND PARAMETER button.



NOTE:
Please make sure the "AUDIO" position of the slide switch on the remote control unit.

(Remote control unit)



3





Surround parameters 2

CINEMA EQ. (Cinema Equalizer):

The Cinema EQ function gently decreases the level of the extreme high frequencies, compensating for overly-bright sounding motion picture soundtracks. Select this function if the sound from the front speakers is too bright.

This function only works in the Dolby Pro Logic, Dolby Digital and DTS Surround modes. (The same contents are set for all operating modes.)

D.COMP. (Dynamic Range Compression):

Motion picture soundtracks have tremendous dynamic range (the contrast between very soft and very loud sounds). For listening late at night, or whenever the maximum sound level is lower than usual, the Dynamic Range Compression allows you to hear all of the sounds in the soundtrack (but with reduced dynamic range). (This only works when playing program sources recorded in Dolby Digital.) Select one of the four parameters ("OFF", "LOW", "MID" (middle) or "HI" (high)). Set to OFF for normal listening.

LFE (Low Frequency Effect):

This sets the level of the LFE (Low Frequency Effect) sounds included in the source when playing program sources recorded in Dolby Digital or DTS.

If the sound produced from the subwoofer sounds distorted due to the LFE signals when playing Dolby Digital or DTS sources when the peak limiter is turned off with the subwoofer peak limit level setting (system setup menu), adjust the level as necessary.

Program source and adjustment range:

1. Dolby Digital: -10 dB to 0 dB

2. DTS Surround: -10 dB to 0 dB

* When DTS encoded movie software is played, it is recommended that the LFE LEVEL be set to 0 dB for correct DTS playback.

* When DTS encoded music software is played, it is recommended that the LFE LEVEL be set to -10 dB for correct DTS playback.

SB CH OUT (Surround Back):

(1) Dolby Digital/DTS source

(2) Other source

"OFF"Playback is conducted without using the surround back speaker.

"ON"Playback is conducted using the surround back speaker.

NOTE: This operation can be performed directly using the "SURROUND BACK" button.

15 DSP SURROUND SIMULATION

• This unit is equipped with a high performance DSP (Digital Signal Processor) which uses digital signal processing to synthetically recreate the sound field. One of 7 preset surround modes can be selected according to the program source and the parameters can be adjusted according to the conditions in the listening room to achieve a more realistic, powerful sound. These surround modes can also be used for program sources not recorded in Dolby Surround Pro Logic, Dolby Digital or DTS.

Surround modes and their features

1	5CH/6CH STEREO	In this mode, the signals of the front left channel are output from the left surround channel, the signals of the front right channel are output from the right surround channel, and the same (in-phase) component of the left and right channels is output from the center channel. This mode provides all speaker surround sound, but without directional steering effects, and works with any stereo program source.
2	MONO MOVIE (NOTE 1)	Select this when watching monaural movies for a greater sense of expansion.
3	ROCK ARENA	Use this mode to achieve the feeling of a live concert in an arena with reflected sounds coming from all directions.
4	JAZZ CLUB	This mode creates the sound field of a live house with a low ceiling and hard walls. This mode gives jazz a very vivid realism.
5	VIDEO GAME	Use this to enjoy video game sources.
6	MATRIX	Select this to emphasize the sense of expansion for music sources recorded in stereo. Signals consisting of the difference component of the input signals (the component that provides the sense of expansion) processed for delay are output from the surround channel.
7	VIRTUAL	Select this mode to enjoy a virtual sound field, produced from the front 2-channel speakers or headphones.

* Depending on the program source being played, the effect may not be very noticeable.

- In this case, try other surround modes, without worrying about their names, to create a sound field suited to your tastes.
- NOTE 1: When playing sources recorded in monaural, the sound will be one-sided if signals are only input to one channel (left or right), so input signals to both channels. If you have a source component with only one audio output (monophonic camcorder, etc.) obtain a "Y" adapter cable to split the mono output to two outputs, and connect to the L and R inputs.

NOTE:

DIRECT, STEREO and 5CH/6CH STEREO mode can be used when playing PCM signals with a sampling frequency of 96 kHz (such as from DVD-Video discs that contain 24 bit, 96 kHz audio). If such signals are input during playback in the other surround modes, the mode automatically switches to STEREO.

Personal Memory Plus

This set is equipped with a personal memorize function that automatically memorizes the surround modes and input modes selected for the input different sources. When the input source is switched, the modes set for that source last time it was used are automatically recalled.

* The surround parameters, tone control settings and playback level balance for the different output channels are memorized for each surround mode.

DSP surround simulation

• To operate the surround mode and surround parameters from the remote control unit.





Display the parameter you want to adjust, then use the $\{
ho$ (left) and $\{
ho$ (right) buttons to set it.

(Remote control unit)

(1) ROOM SIZE



(Remote control unit)

(2) EFFECT LEVEL



(Remote control unit)



DEFAULT



DEFAULT

(Initial)





ENGLISH

(3) DELAY TIME



4

• Operating the surround mode and surround parameters from the main unit's panel.



NOTE:

- When playing PCM digital signals or analog signals in the 5CH/6CH STEREO, ROCK ARENA, JAZZ CLUB, VIDEO GAME, MONO MOVIE or MATRIX surround modes and the input signal switches to a digital signal encoded in Dolby Digital, the Dolby surround mode switches automatically. When the input signal switches to a DTS signal, the mode automatically switches to DTS surround.
- When the "5CH/6CH STEREO" mode is selected, the display differs according to the Surround Back CH ON/OFF. Surround Back CH ON: 6CH STEREO Surround Back CH OFF: 5CH STEREO

Surround parameters 3

ROOM SIZE:

This sets the size of the sound field.

There are five settings: "small", "med.s" (medium-small), "medium", "med.I" (medium-large) and "large". "small" recreates a small sound field, "large" a large sound field.

EFFECT LEVEL:

This sets the strength of the surround effect.

The level can be set in 15 steps from 1 to 15. Lower the level if the sound seems distorted.

DELAY TIME:

In the matrix mode only, the delay time can be set within the range of 0 to 110 ms.

Surround modes and parameters

· · ·	Channel output					When		When		
Mode	FRONT L/R	CENTER	SURROUND L/R	SURROUND BACK	SUB- WOOFER	playing Dolby Digital signals	vvnen playing DTS signals	playing PCM signals (96k)	VVhen playing ANALOG signals	
DIRECT	0	×	×	×	0	0	0	0 (0)	Q	
STEREO	0	×	×	×	O	0	0	0 (0)	0	
EXTERNAL INPUT	0	Ø	0	0	Ø	×	×	×	0	
DOLBY PRO LOGIC II	0	0	0	0	Ø	0 *	×	0	Ó	* Only for 2 ch contents.
DTS NEO:6	0	Ø	0	Ô	O	×	0	0	O	
DOLBY DIGITAL	0	0	0	0	Ø	0	×	×	×	
DTS SURROUND	0	0	©	0	Ø	×	0	×	×	
5CH/6CH STEREO	0	٥	0	0	O	×	×	0 (0)	Ç:	
ROCK ARENA	0	0	٥	0	Ô	×	×	0	Ċ.	
JAZZ CLUB	0	0	0	0	Ô	×	×	0	<u>Ģ</u>	
VIDEO GAME	0	Ø	0	Ø	Q	×	×	0	0	
MONO MOVIE	0	٥	0	O	0	×	×	0	0	
MATRIX	0	0	0	0	©	×	×	0	0	
VIRTUAL	0	×	×	×	Ô	0	0	0	C	
	0: Signal					O Ahle				

 O:
 Signal

 ×:
 No signal

 ©:
 Turned on or off by speaker configuration setting

×: Unable

	Parameter (default values are shown in parentheses)											·	
		SURROUND PARAMETER			PRO LOGIC II MUSIC MODE ONLY			NEO:6 MUSIC MODE ONLY]	Dolby Digital signals		DTS signals	
Mode	TONE CONTROL	ROOM SIZE	EFFECT LEVEL	DELAY TIME	MODE	PANORAMA	DIMENSION	CENTER WIDTH	CENTER IMAGE	CINEMA EQ	D COMP	LFE	LFE
DIRECT	×	×	×	×	×	×	×	×	×	×	O (OFF)	(0dB)	○ (0dB)
STEREO	○ (0dB)	×	×	×	×	×	×	×	×	×	O (OFF)	○ (0dB)	(0dB)
EXTERNAL INPUT	○ (0dB)	×	×	×	×	×	×	×	×	×	×	×	×
DOLBY PRO LOGIC JI	○ (0dB)	×	×	×	O (CINEMA)	O (OFF)	O (3)	O (0)	×	O (OFF)	O (OFF)	(0dB)	-
DTS NEO:6	O (0dB)	×	×	×	O (CINEMA)	-	-	-	O (0.2)	O (OFF)	-		(0dB)
DOLBY DIGITAL	○ (0dB)	×	×	×	×	×	×	×	×	O (OFF)	ି (OFF)	(0dB)	-
DTS SURROUND	○ (0dB)	×	×	×	×	×	×	×	×	O (OFF)	×		(0dB)
5CH/6CH STEREO	○ (0dB)	×	×	×	×	×	×	×	×	×	×	×	×
ROCK ARENA	O (0dB)	O (Medium)	0 (10)	×	×	×	×	×	×	×	×	×	×
JAZZ CLUB	○ (0dB)	⊖ (Medium)	0 (10)	×	×	×	×	×	×	×	×	×	×
VIDEO GAME	○ (0dB)	O (Medium)	O (10)	×	×	×	×	×	×	×	×	×	×
MONO MOVIE	○ (0dB)	O (Medium)	0 (10)	×	×	×	×	×	×	×	×	×	X
MATRIX	○ (0dB)	×	×	(30msec)	×	×	×	×	×	×	×	×	×
VIRTUAL	O (0dB)	×	×	×	×	×	×	×	×	×	O (OFF)	○ (0dB)	0

○ : Adjustable
 × : Not adjustable

16 LISTENING TO THE RADIO

Auto preset memory

This unit is equipped with a function for automatically searching for FM broadcast stations and storing them in the preset memory.

1



When the main unit's power operation switch turn on while pressing the set's PRESET \triangle button the unit automatically begins searching for FM broadcast stations.



2 When the first FM broadcast station is found, that station is stored in the preset memory at channel A1. Subsequent stations are automatically stored in order at preset channels A2 to A8, B1 to B8, C1 to C8, D1 to D8 and E1 to E8, for a maximum of 40 stations.

Channel A1 is tuned in after the auto preset memory operation is completed.

NOTES:

3

- If an FM station cannot be preset automatically due to poor reception, use the "Manual tuning" operation to tune in the station, then preset it using the manual "Preset memory" operation.
- To interrupt this function, press the power operation button.

DEFAULT VALUE

AUTO TUNER PRESETS	
A1 ~ A8	87.5/89.1/98.1/107.9/90.1/90.1/90.1 MHz
B1 ~ B8	520/600/1000/1400/1500/1710 kHz/90.1/90.1 MHz
C1 ~ C8	90.1 MHz
D1 ~ D8	90.1 MHz
E1 ~ E8	90.1 MHz

Auto tuning



Manual tuning

1	Set the input function to "TUNER".	3	Press the MODE button to set the manual tuning mode. Check that the display's "AUTO" indicator turns off.
2	Watching the display, press the BAND button to select the desired band (AM or FM).	4	Press the TUNING UP or DOWN button to tune in the desired station. The frequency changes continuously when the button is held in.

NOTE:

• When the manual tuning mode is set, FM stereo broadcasts are received in monaural and the "STEREO" indicator turns off.

Preset stations



Preparations:

Use the "Auto tuning" or "Manual tuning" operation to tune in the station to be preset in the memory.



A total of 40 broadcast stations can be preset – 8 stations (channels 1 to 8) in each of blocks A to E.

Recalling preset stations Watching the display, press the SHIFT button to select the 12 preset memory block. SHIE 000 0 0 (Main unit) (Remote control unit) 0 0 ò ò o 0 0 000 0000 $^{\circ}$ NOTE: Please make sure the "AUDIO" position of the slide switch on the remote control unit. Watching the display, press the PRESET UP or DOWN button 2 to select the desired preset channel. 8 ί+ 2 PRESET (VČA (+10) (Main unit) (Remote control unit)



- This unit is equipped with a last function memory which stores the input and output setting conditions as they were immediately before the power is switched off.
- This function eliminates the need to perform complicated resettings when the power is switched on.
- The unit is also equipped with a back-up memory. This function provides approximately one week of memory storage when the main unit's power switch is off and with the power cord disconnected.

18 INITIALIZATION OF THE MICROPROCESSOR

When the indication of the display is not normal or when the operation of the unit does not shows the reasonable result, the initialization of the microprocessor is required by the following procedure.

1	Switch off the unit and remove the AC cord from the wall outlet.
2	Hold the following ZONE2 button and SURROUND BACK button, and plug the AC cord into the outlet.

3 Check that the entire display is flashing with an interval of about 1 second, and release your fingers from the 2 buttons and the microprocessor will be initialized.

NOTES:

- If step 3 does not work, start over from step 1.
- If the microprocessor has been reset, all the button settings are reset to the default values (the values set upon shipment from the factory).



19 ADDITIONAL INFORMATION

Optimum surround sound for different sources

There are currently various types of multi-channel signals (signals or formats with more than two channels).

Types of multi-channel signals

Dolby Digital, Dolby Pro Logic, DTS, high definition 3-1 signals (Japan MUSE Hi-Vision audio), DVD-Audio, SACD (Super Audio CD), MPEG multichannel audio, etc.

"Source" here does not refer to the type of signal (format) but the recorded content. Sources can be divided into two major categories.

Types of sources

• Movie audio

Signals created to be played in movie theaters. In general sound is recorded to be played in movie theaters equipped with multiple surround speakers, regardless of the format (Dolby Digital, DTS, etc.).







In this case it is important to achieve the same sense of expansion as in a movie theater with the surround channels. To do so, in some cases the number of surround speakers is increased (to four or eight) or speakers with bipolar or dipolar properties are used.

- SL: Surround L channel
- SR: Surround R channel

SB: Surround back channel (1 spkr or 2 spkrs)

• Other types of audio These signals are designed to recreate a 360° sound field using three to five speakers.



In this case the speakers should surround the listener from all sides to create a uniform sound field from 360°. Ideally the surround speakers should function as "point" sound sources in the same way as the front speakers.

These two types of sources thus have different properties, and different speaker settings, particularly for the surround speakers, are required in order to achieve the ideal sound.

Surround back speakers

A 6.1-channel system is a conventional 5.1-channel system to which the "surround back" (SB) channel has been added. This makes it easy to achieve sound positioned directly behind the listener, something that was previously difficult with sources designed for conventional multi surround speakers. In addition, the acoustic image extending between the sides and the rear is narrowed, thus greatly improving the expression of the surround signals for sounds moving from the sides to the back and from the front to the point directly behind the listening position.



With this set, speaker(s) for 1 or 2 channels are required to achieve a 6.1-channel system (DTS-ES, etc.). Adding these speakers, however, increases the surround effect not only with sources recorded in 6.1 channels but also with conventional 2- to 5.1-channel sources. All the Denon original surround modes (see page 48) are compatible with 7.1-channel playback, so you can enjoy 6.1-channel sound with any signal source.

Number of surround back speakers

Though the surround back channel only consists of 1 channel of playback signals for 6.1-channel sources (DTS-ES, etc.), we recommend using two speakers. When using speakers with dipolar characteristics in particular, it is essential to use two speakers.

Using two speakers results in a smoother blend with the sound of the surround channels and better sound positioning of the surround back channel when listening from a position other than the center.

■ Placement of the surround left and right channels when using surround back speakers

Using surround back speakers greatly improves the positioning of the sound at the rear. Because of this, the surround left and right channels play an important role in achieving a smooth transition of the acoustic image from the front to the back. As shown on the diagram above, in a movie theater the surround signals are also produced from diagonally in front of the listeners, creating an acoustic image as if the sound were floating in space.

To achieve these effects, we recommend placing the speakers for the surround left and right channels slightly more towards the front than with conventional surround systems. Doing so sometimes increases the surround effect when playing conventional 5.1-channel sources in the 6.1 surround or DTS-ES Matrix 6.1 mode. Check the surround effects of the various modes before selecting the surround mode.

Speaker setting examples

Here we describe a number of speaker settings for different purposes. Use these examples as guides to set up your system according to the type of speakers used and the main usage purpose.

- 1. DTS-ES compatible system (using surround back speakers)
 - (1) Basic setting for primarily watching movies



· Set the front speakers with their front surfaces as flush with the TV or monitor screen as possible. Set the center speaker between the front left and right speakers and no further from the listening position than the front speakers.

- Consult the owner's manual for your subwoofer for advice on placing the subwoofer within the listening room.
- If the surround speakers are direct-radiating (monopolar) then place them slightly behind and at an angle to the listening position and parallel to the walls at a position 60 to 90 centimeters (2 to 3 feet) above ear level at the prime listening position.
- When using two surround back speakers, place them at the back
- Point slightly Front speal downwards 60 to 90 cm As seen from the side

Surround speaker

Surround back

- facing the front at a narrower distance than the front left and right speakers. When using one surround back speaker,
- place it at the rear center facing the front at a slightly higher position (0 to 20 cm) than the surround speakers. We recommend installing the surround back speaker(s) at a slightly downward facing angle. This effectively prevents
- the surround back channel signals from reflecting off the monitor or screen at the front center, resulting in interference and making the sense of movement from the front to the back less sharp.

(2) Setting for primarily watching movies using diffusion type speakers for the surround speakers

For the greatest sense of surround sound envelopment, diffuse radiation speakers such as bipolar types, or dipolar types, provide a wider dispersion than is possible to obtain from a direct radiating speaker (monopolar). Place these speakers at either side of the prime listening position, mounted above ear level.

Path of the surround sound from the speakers to the listening position



As seen from above

- · Set the front speakers, center speaker and subwoofer in the same positions as in example (1).
- It is best to place the surround speakers directly at the side or slightly to the front of the viewing position, and 60 to 90 cm above the ears.
- Same as surround back speaker installation method (1). Using dipolar speakers for the surround back speakers as well is
- more effective. Connect the surround speakers to the surround speaker jacks.
- · The signals from the surround channels reflect off the walls as shown on the diagram at the left, creating an enveloping and realistic surround sound presentation.



As seen from the side

For multi-channel music sources however, the use of bipolar or dipolar speakers mounted at the sides of the listening position may not be satisfactory in order to create a coherent 360 degree surround sound field. Connect another pair of direct radiating speakers as described in example (3) and place them at the rear corners of the room facing towards the prime listening position.

2. When not using surround back speakers



- Set the front speakers with their front surfaces as flush with the TV or monitor screen as possible. Set the center speaker between the front left and right speakers and no further from the listening position than the front speakers.
- Consult the owner's manual for your subwoofer for advice on placing the • subwoofer within the listening room.
- · If the surround speakers are direct-radiating (monopolar) then place them slightly behind and at an angle to the listening position and parallel to the walls at a position 60 to 90 centimeters (2 to 3 feet) above ear level at the prime listening position.



As seen from the side

Surround

The AVR-1803/883 is equipped with a digital signal processing circuit that lets you play program sources in the surround mode to achieve the same sense of presence as in a movie theater.

Dolby Surround

(1) Dolby Digital

Dolby Digital is the multi-channel digital signal format developed by Dolby Laboratories.

Dolby Digital consists of up to "5.1" channels - front left, front right, center, surround left, surround right, and an additional channel exclusively reserved for additional deep bass sound effects (the Low Frequency Effects – LFE – channel, also called the ".1" channel, containing bass frequencies of up to 120 Hz).

Unlike the analog Dolby Pro Logic format, Dolby Digital's main channels can all contain full range sound information, from the lowest bass, up to the highest frequencies – 22 kHz. The signals within each channel are distinct from the others, allowing pinpoint sound imaging, and Dolby Digital offers tremendous dynamic range from the most powerful sound effects to the quietest, softest sounds, free from noise and distortion.

Dolby Digital and Dolby Pro Logic

Comparison of home surround systems	Dolby Digital	Dolby Pro Logic
No. recorded channels (elements)	5 1 ch	2 ch
No. playback channels	5.1 ch	4 ch
Playback channels (max.)	L, R, C, SL, SR, SW	L, R, C, S (SW - recommended)
Audio processing	Digital discrete processing Dolby Digital encoding/decoding	Analog matrix processing Dolby Surround
High frequency playback limit of surround channel	20 kHz	7 kHz

Dolby Digital compatible media and playback methods

Marks indicating Dolby Digital compatibility:

The following are general examples. Also refer to the player's operating instructions.

DOLBY

Media	Dolby Digital output jacks	Playback method (reference page)
LD (VDP)	Coaxial Dolby Digital RF output jack	Set the input mode to "AUTO" (Page 33)
DVD	Optical or coaxial digital output (same as for PCM) ※2	Set the input mode to "AUTO" (Page 33)
Others (satellite broadcasts, CATV, etc.)	Optical or coaxial digital output (same as for PCM)	Set the input mode to "AUTO". (Page 33)

*1 Please use a commercially available adapter when connecting the Dolby Digital RF output jack of the LD player to the digital input jack. Please refer to the instruction manual of the adapter when making connection.

*2 Some DVD digital outputs have the function of switching the Dolby Digital signal output method between "bit stream" and "(convert to) PCM". When playing in Dolby Digital surround on the AVR-1803/883, switch the DVD player's output mode to "bit stream". In some cases players are equipped with both "bit stream + PCM" and "PCM only" digital outputs. In this case connect the "bit stream + PCM" jacks to the AVR-1803/883.

(2) Dolby Pro Logic II

- Dolby Pro-Logic II is a new multi-channel playback format developed by Dolby Laboratories using feedback logic steering technology and offering improvements over conventional Dolby Pro Logic circuits.
- Dolby Pro Logic II can be used to decode not only sources recorded in Dolby Surround (*) but also regular stereo sources into five channels (front left, front right, center, surround left and surround right) to achieve surround sound.
- Whereas with conventional Dolby Pro Logic the surround channel playback frequency band was limited, Dolby Pro Logic II offers a wider band range (20 Hz to 20 kHz or greater). In addition, the surround channels were monaural (the surround left and right channels were the same) with previous Dolby Pro Logic, but Dolby Pro Logic II they are played as stereo signals.
- Various parameters can be set according to the type of source and the contents, so it is possible to achieve optimum decoding (see page 42).

* Sources recorded in Dolby Surround

These are sources in which three or more channels of surround have been recorded as two channels of signals using Dolby Surround encoding technology.

Dolby Surround is used for the sound tracks of movies recorded on DVDs, LDs and video cassettes to be played on stereo VCRs, as well as for the stereo broadcast signals of FM radio, TV, satellite broadcasts and cable TV.

Decoding these signals with Dolby Pro Logic makes it possible to achieve multi-channel surround playback. The signals can also be played on ordinary stereo equipment, in which case they provide normal stereo sound.

There are two types of DVD Dolby surround recording signals.

- ① 2-channel PCM stereo signals
- ② 2-channel Dolby Digital signals

When either of these signals is input to the AVR-1803/883, the surround mode is automatically set to Dolby Pro Logic II when the "DOLBY/DTS SURROUND" mode is selected.

Sources recorded in Dolby Surround are indicated with the logo mark shown below.

Dolby Surround support mark: DO DOLBY SURROUND

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

DTS Digital Surround

Digital Theater Surround (also called simply DTS) is a multi-channel digital signal format developed by Digital Theater Systems.

DTS offers the same "5.1" playback channels as Dolby Digital (front left, front right and center, surround left and surround right) as well as the stereo 2-channel mode. The signals for the different channels are fully independent, eliminating the risk of deterioration of sound quality due to interference between signals, crosstalk, etc.

DTS features a relatively higher bit rate as compared to Dolby Digital (1234 kbps for CDs and LDs, 1536 kbps for DVDs) so it operates with a relatively low compression rate. Because of this the amount of data is great, and when DTS playback is used in movie theaters, a separate CD-ROM synchronized with the film is played.

With LDs and DVDs, there is of course no need for an extra disc; the pictures and sound can be recorded simultaneously on the same disc, so the discs can be handled in the same way as discs with other formats.

There are also music CDs recorded in DTS. These CDs include 5.1-channel surround signals (compared to two channels on current CDs). They do not include picture data, but they offer surround playback on CD players that are equipped with digital outputs (PCM type digital output required). DTS surround track playback offers the same intricate, grand sound as in a movie theater, right in your own listening room.

DTS compatible media and playback methods

Marks indicating DTS compatibility:

The following are general examples. Also refer to the player's operating instructions.

and TIT

Media .	Dolby Digital output jacks	Playback method (reference page)
CD	Optical or coaxial digital output (same as for PCM) ※2	Set the input mode to "AUTO" or "DTS" (page 33). Never set the mode to "ANALOG" or "PCM". *1
LD (VDP)	Optical or coaxial digital output (same as for PCM) ※2	Set the input mode to "AUTO" or "DTS" (page 33). Never set the mode to "ANALOG" or "PCM". *1
DVD	Optical or coaxial digital output (same as for PCM) ※3	Set the input mode to "AUTO" or "DTS" (page 33).

- **1 DTS signals are recorded in the same way on CDs and LDs as PCM signals. Because of this, the un-decoded DTS signals are output as random "hissy" noise from the CD or LD player's analog outputs. If this noise is played with the amplifier set at a very high volume, it may possibly cause damage to the speakers. To avoid this, be sure to switch the input mode to "AUTO" or "DTS" before playing CDs or LDs recorded in DTS. Also, never switch the input mode to "ANALOG" or "PCM" during playback. The same holds true when playing CDs or LDs on a DVD player or LD/DVD compatible player. For DVDs, the DTS signals are recorded in a special way so this problem does not occur.
- *2 The signals provided at the digital outputs of a CD or LD player may undergo some sort of internal signal processing (output level adjustment, sampling frequency conversion, etc.). In this case the DTS-encoded signals may be processed erroneously, in which case they cannot be decoded by the AVR-1803/883, or may only produce noise. Before playing DTS signals for the first time, turn down the master volume to a low level, start playing the DTS disc, then check whether the DTS indicator on the AVR-1803/883 (see page 45) lights before turning up the master volume.
- **3 A DVD player with DTS-compatible digital output is required to play DTS DVDs. A DTS Digital Output logo is featured on the front panel of compatible DVD players. Recent DENON DVD player models feature DTS-compatible digital output – consult the player's owner's manual for information on configuring the digital output for DTS playback of DTS-encoded DVDs.

Manufactured under license from Digital Theater Systems, Inc. US Pat. No. 5,451,942, 5,956,674, 5,974,380, 5,978,762 and other world-wide patents issued and pending.

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DTS-ES Extended Surround ™

DTS-ES Extended Surround is a new multi-channel digital signal format developed by Digital Theater Systems Inc. While offering high compatibility with the conventional DTS Digital Surround format, DTS-ES Extended Surround greatly improves the 360-degree surround impression and space expression thanks to further expanded surround signals. This format has been used professionally in movie theaters since 1999.

In addition to the 5.1 surround channels (FL, FR, C, SL, SR and LFE), DTS-ES Extended Surround also offers the SB (Surround Back, sometimes also referred to as "surround center") channel for surround playback with a total of 6.1 channels. DTS-ES Extended Surround includes two signal formats with different surround signal recording methods, as described below.

■ DTS-ESTM Discrete 6.1

DTS-ES Discrete 6.1 is the newest recording format. With it, all 6.1 channels (including the SB channel) are recorded independently using a digital discrete system. The main feature of this format is that because the SL, SR and SB channels are fully independent, the sound can be designed with total freedom and it is possible to achieve a sense that the acoustic images are moving about freely among the background sounds surrounding the listener from 360 degrees.

Though maximum performance is achieved when sound tracks recorded with this system are played using a DTS-ES decoder, when played with a conventional DTS decoder the SB channel signals are automatically down-mixed to the SL and SR channels, so none of the signal components are lost.

■ DTS-ESTM Matrix 6.1

With this format, the additional SB channel signals undergo matrix encoding and are input to the SL and SR channels beforehand. Upon playback they are decoded to the SL, SR and SB channels. The performance of the encoder used at the time of recording can be fully matched using a high precision digital matrix decoder developed by DTS, thereby achieving surround sound more faithful to the producer's sound design aims than with conventional 5.1- or 6.1-channel systems.

In addition, the bit stream format is 100% compatible with conventional DTS signals, so the effect of the Matrix 6.1 format can be achieved even with 5.1-channel signal sources. Of course it is also possible to play DTS-ES Matrix 6.1 encoded sources with a DTS 5.1-channel decoder.

When DTS-ES Discrete 6.1 or Matrix 6.1 encoded sources are decoded with a DTS-ES decoder, the format is automatically detected upon decoding and the optimum playing mode is selected. However, some Matrix 6.1 sources may be detected as having a 5.1-channel format, so the DTS-ES Matrix 6.1 mode must be set manually to play these sources.

(For instructions on selecting the surround mode, see page 45.)

The DTS-ES decoder includes another function, the DTS Neo:6 surround mode for 6.1-channel playback of digital PCM and analog signal sources.

■ DTS Neo:6[™] surround

This mode applies conventional 2-channel signals to the high precision digital matrix decoder used for DTS-ES Matrix 6.1 to achieve 6.1channel surround playback. High precision input signal detection and matrix processing enable full band reproduction (frequency response of 20 Hz to 20 kHz or greater) for all 6.1 channels, and separation between the different channels is improved to the same level as that of a digital discrete system.

DTS Neo:6 surround includes two modes for selecting the optimum decoding for the signal source.

DTS Neo:6 Cinema

This mode is optimum for playing movies. Decoding is performed with emphasis on separation performance to achieve the same atmosphere with 2-channel sources as with 6.1-channel sources.

This mode is effective for playing sources recorded in conventional surround formats as well, because the in-phase component is assigned mainly to the center channel (C) and the reversed phase component to the surround (SL, SR and SB channels).

• DTS Neo:6 Music

This mode is suited mainly for playing music. The front channel (FL and FR) signals bypass the decoder and are played directly so there is no loss of sound quality, and the effect of the surround signals output from the center (C) and surround (SL, SR and SB) channels add a natural sense of expansion to the sound field.



20 TROUBLESHOOTING

If a problem should arise, first check the following.

- 1. Are the connections correct ?
- 2. Have you operated the receiver according to the Operating Instructions ?
- 3. Are the speakers, turntable and other components operating property ?

If this unit is not operating properly, check the items listed in the table below. Should the problem persist, there may be a malfunction. Disconnect the power immediately and contact your store of purchase.

	Symptom	Cause	Measures	Page
listening to the CD, records, tapes and FM broadcasts, etc.	DISPLAY not lit and sound not produced when power switch set to on.	Power cord not plugged in securely.	 Check the insertion of the power cord plug. Turn the power on with the remote control unit after turning the POWER switch on. 	9 32
	DISPLAY lit but sound not produced.	 Speaker cords not securely connected. Improper position of the audio function button. Volume control set to minimum. MUTING is on. Digital signals not input Digital input selected. 	 Connect securely. Set to a suitable position. Turn volume up to suitable level. Switch off MUTING. Input digital signals or select input jacks to which digital signals are being input. 	16, 17 33 34 36 33
vhen listening to the CD, records	DISPLAY not lit and power indicator is flashing rapidly.	 Speaker terminals are short-circuited. Block the ventilation holes of the set. The unit is operating at continuous high power conditions and/or inadequate ventilation. 	 Switch power off, connect speakers properly, then switch power back on. Turn off the set's power, then ventilate it well to cool it down. Once the set is cooled down, turn the power back on. Turn off the set's power, then ventilate it well to cool it down. Once the set is cooled down, turn the power back on. 	16, 17 9, 16 9, 16
Common problems w	Sound produced only from one channel.	 Incomplete connection of speaker cords. Incomplete connection of input/output cords. 	Connect securely.Connect securely.	16, 17 9 ~ 17
	Positions of instruments reversed during stereo playback	 Reverse connections of left and right speakers or left and right input/output cords. 	Check left and right connections.	17
	Humming noise produced when record is playing.	 Ground wire of turntable not connected properly. Incomplete PHONO jack connection. TV or radio transmission antenna nearby. 	Connect securely.Connect securely.Contact your store of purchase.	9 9
n playing records	Howling noise produced when volume is high.	 Turntable and speaker systems too close together. Floor is unstable and vibrates easily. 	 Separate as much as possible. Use cushions to absorb speaker vibrations transmitted by floor. If turntable is not equipped with insulators, use audio insulators (commonly available). 	_
Whe	Sound is distorted.	Stylus pressure too weak.Dust or dirt on stylus.Cartridge defective.	Apply proper stylus pressure.Check stylus.Replace cartridge.	
	Volume is weak.	MC cartridge being used.	 Replace with MM cartridge or use a head amplifier or step-up transformer. 	9
Remote control unit	This unit does not operate properly when remote control unit is used.	 Batteries dead. Remote control unit too far from this unit. Obstacle between this unit and remote control unit. Different button is being pressed. ⊕ and ⊖ ends of battery inserted in reverse. 	 Replace with new batteries. Move closer. Remove obstacle. Press the proper button. Insert batteries properly. 	18 18 18 — 18



Audio section				
Power amplifier	Fronti	00 10/ 00 10/	100 Olohome 201	Hz - 20 kHz with 0.08% TH D)
	FIOIIL.	110 W + 110 W	$(6 \Omega/ohms, 1 k)$	Hz with 0.7% T.H.D.)
	Center:	80 W 110 W	(8 Ω/ohms, 20 (6 Ω/ohms, 1 k)	Hz ~ 20 kHz with 0.08% T.H.D.) Hz with 0.7% T.H.D.)
	Surround:	80 W + 80 W	(8 Ω/ohms, 20	Hz ~ 20 kHz with 0.08% T.H.D.)
	Surround Back:	80 W	$(8 \Omega/ohms, 1 k)$ $(8 \Omega/ohms, 20)$	Hz with 0.7% T.H.D.) Hz ~ 20 kHz with 0.08% T.H.D.) Hz with 0.7% T.H.D.)
Dynamic power:	100 W x 2 ch 145 W x 2 ch 170 W x 2 ch	(8 Ω/ohms) (4 Ω/ohms) (2 Ω/ohms)		
Output terminals:	Front, Center, S Surr. Back:	6 Gurround: 6 A or B 6 A + B 12	~ 16 Ω /ohms ~ 16 Ω /ohms ~ 16 Ω /ohms	
 Analog Input sensitivity / input impedance: Frequency response: S/N: Distortion: Bated output: 	200 mV / 47 k 10 Hz ~ 100 kH 100 dB (IHF-A v 0.008% (20 Hz 1.2 V	Ω/kohms lz: +1, –3 dB (DIRE veighted) (DIRECT ~ 20 kHz) (DIRECT	CT mode) mode) mode)	
Phono equalizer (PHONO input - REC OUT)				
Input sensitivity:	2.5 mV	00.111.1		
RIAA deviation:	±1 dB (20 Hz to) 20 kHz) ting with 5 m\/ inr	() (†)	
Signal-to-noise ratio: Rated output / Maximum output: Distortion factor:	150 mV / 7 V 0.03% (1 kHz, 3	ang, with s niv inc 3 V)	uu()	
Video section				
Standard video jacks Input / output level and impedance: Frequency response:	1 Vp-p, 75 Ω/oh 5 Hz ~ 10 MHz	nms — +1, -3 dB		
S-video jacks Input / output level and impedance:	Y (brightness) s C (color) signal	ignal — 1 Vp-p, 7 — 0.286 Vp-p, 75	5 Ω /ohms Ω /ohms	
Frequency response: Color component video jacks		+1, -3 UD		
Input / output level and impedance:	Y (brightness) s Рв/Св (blue) sig Рв/Св (red) sign	ignal — 1 Vp-p, 7 nal — 0.7 Vp-p, 7 al — 0.7Vp-p, 75	5 Ω/ohms 5 Ω/ohms Ω/ohms	
Frequency response:	5 Hz ~ 27 MHz	— +1,3 dB		
Tuner section				[
Receiving Range: Usable Sensitivity: 50 dB Quieting Sensitivity:	[FW] (note: μν 87.50 MHz ~ 1 1.0 μV (11.2 dB MONO 1.6 STEREO 23	at 75 Ω/onms, 0 de 07.90 MHz f) μV (15.3 dBf) μV (38.5 dBf)	SI=1 X 10-13 VV)	520 kHz ~ 1710 kHz 18 μV
S/N (IHF-A):	MONO 80	dB (IHF-A weighted	(t	
Total Harmonic Distortion (at 1 kHz):	MONO 0.1 STEREO 0.3	5% (1kHz) % (1kHz)	11	
General Power supply: Power consumption:	AC 120 V, 60 F 4.5 A	Hz		
Maximum external dimensions: Weight:	434 (W) x 171 (11.7 kg (25 lbs	H) x 417 (D) mm (6 oz)	1 7-3/ 32" × 6-47/	/64″ × 16-27/64″)
Remote control unit (RC-916) Batteries: External dimensions: Weight:	R6P/AA Type (t 55 (W) x 225 (H 165 g (Approx.	hree batteries) 1) x 34.5 (D) mm (2 5.8 oz) (including	2-11/64" x 8-55/i batteries)	64" × 1-9/64")

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

DENON SERVICE NETWORK/ 服務網絡

- Please contact one of our overseas service centers, listed below, for follow-up service consultation.
- Wenden Sie sich für anfallende Wartungs-bzw. Reparaturarbeiten bitte an eine der folgend aufgeführten Kundendienststellen.
- Adressez-vous à nos centres de service d'outre-mer indiqués ci-dessous, pour le service aprèsvente.

• Per il servizio dopo vendita rivolgete Vi al nostro centro di servizio estero appropriato della lista seguente.

- Para consultas de servicio porfavor dírigirse a cualquiera de nuestros centros de servicio en el extranjero, enlistados abajo.
- Neem kontakt op met één van onze reparatie-inrichtingen in het buitenland, waarvan hier een lijst volgt, voor na-service.
- Ta kontakt med nedan angivna servicecentraler för rådfrågning om servicearbeten efter försäljningen.
- Favor contactar um de nossos centros de serviços internacionais, abaixo listados, para consulta de serviços de acompanhamento.
- 請據下表所列本公司海外服務中心查詢售后服務事宜。

Australia	Audio Products Australia Pty Ltd. 67 O'Riordan Street, Alexandria NSW 2015, Australia Tel: (02) 9669-3477, Fax: (02) 9578-0140
Austria	Digital-Professional-Audio Vertriebsges.m.b.H., 1170 Wien, Rupertusplatz 3 Tel: 0222-4501006~9 Fax: 0222-457679
Belgium Canada China	Transtel-Sabima PV.B.A. Harmoniestraat 13, 2018 Antwerpen 1, België Tel: 03-237-3607 Denon Canada Inc. 17 Denison Street, Markham Ontario, Canada L3R 1B5 Tel: 905-475-4085 Fax: 905-475-4159 中國遠望機電技術發展中心(北京天龍特約維修中心)北京,東城區,建國門內東總布胡同28號 郵編: 100005 電話: (010) 64064558 傅真: (010) 64015151 天龍音響上海特約技術維修服務中心 上海金沙江路253號 郵編: 200062 電話: 86-21-6257-9958 傅真: 86-21-6260-5645
Czecho	EUROSTAR OSTORAVA s.r.o. areal Vodni stavby Praha a.s., budova A2 Dobronicka 635,148 00 Praha 4 Czech Rep.
Denmark Finland France F.R. Germany Greece Hong Kong	Hifi Klubben A/S Dali Alle 1, 9610 Noerager, Denmark Tel: 45-96 72 10 00 Fax: 45-96 72 10 14 Suomen Hi-Fi Klubi OY Nylandsgatan 4-6, Helsingfors Tel: 09 25 30 36 12 Denon France S.A. 3 Boulevard Ney, 75018 Paris Tel: 44-89-68-69 Denon Electronic GmbH An der Landwehr 19, 41334 Nettetal Tel: +49 2157 12 08 78 Fax: +49 2157 12 08 13 KINOTECHNIKI LTD. 14, PYRGOU STR. 166 75, GLYFADA ATHENS Tel: (01)960-1071 Fax: (01)960-1072 DENON ASIA COMPANY LTD. Suite 501, Ocean Centre, Harbour City, Canton Road, Tsimshatsui Kowloon, Hong Kong Tel: 852-2516-6862, Fax: 852-2516-5940 无罪言颦([西渊])有限公司 委选力 费全沙阳 廣言道海港城海洋中心 5樓501 索 露託: 952 2516 6962 傅直: 852 2516 5940
Hungary	八龍百音(空前)月秋云句 百裕) 龍天沙塘 廣木道 [時花城(時)中小13 (安50) 主 電船 - 652-2516-6602 停員 - 652-2516-5540 InfoVox Ltd. Terez krt. 31, 1067 Budapest Hungary Tel / Fax: 01-302-2515
Iceland Israel Indonesia Italy	Japis Ltd. Brautarholt 2, P.O.Box 396, 121 Reykjavik, Iceland Tel: 354-58009-800 Fax: 354-5800-888 Newpan Ltd. 14 Rosansky st. Rishon Lezion 75706. Tel: 03-9535900 Fax: 03-9616193 PT Autoaccindo Jaya. Cideng Barat No. 7 Jakarta, Indonesia Tel: 633-2730 Audiodelta S.r.I.19 Via Pietro Calvi 20129 Milan Italy
Varias	Tel: 39-02-5411-6008 / 39-02-5412-8253 Fax: 39-02-5518-1961
Korea	Tel: 02-521-1404 Fax: 02-3486-2135
Malaysia	HWEE SENG (ELECTRONICS) SDN BHD. 13-1, Jalan Raja Laut, 50350 Kuala Lumpur Malaysia
Mexico Netherlands New Zealand Norway Poland	Labrador, S.A. de C.V. Callejon del Naranjo 35, Naucalpan, 53560, Edo. Mex., Mexico Tel: 52-5359-5161 Fax: 52-5357-1775 Penhold B.V. Poppenbouwing 58, NL-4191 NZ Geldermalsen, Netherland Tel: 31-345-588 080 Fax: 31-345-588 085 Avalon Audio Corpn. Limited 630B Great South Road Ellerslie Auckland, New Zealand Tel: 64-9-579-1280 Fax: 64-9-579-3350 Hi-Fi Klubben AS Sandakerveien 64 0483 Oslo Tel: 47 22 79 66 66 Fax: 47 22 79 66 67 HORN DISTRIBUTION S.A. Ulica Kurantow 34, 02-873 Warszawa Poland
Portugal	Videoacustica Qta. Do Paizinho-Armazém 5-Estrada De Circunvalação-Apart. 3127 1303 Lisboa Codex Tel: (01)417-00-04/00-96 Fax: (01)418-80-93
Singapore	Hwee Seng (Electronics) Pte Ltd. 81 Genting Lane #02-02, Everich Industrial Building Singapore 349566
South Africa	Mandarin Distributors S.A. 10 Thora Crescent, Wynberg Ext.3 Sandton, P.O.Box 5137, Johannesburg Republic of South Africa Tel: 27-11-444-8445 Fax: 27-11-444-8363
Spain Sweden Switzerland	Gaplasa S.A.AV. Ing. Conde de Torroja, 25, 28022 Madrid Tel: 91-329-29-60 Fax: 91-329-16-75 Sveriges Hi-Fi Klubb Box 5116, S-402 23 Göteborg Tel: 031 33 51000 KOENIG APPARATE AG, Abteilung Elektronik. Eggbühlstrasse 28, CH-8052 Zürich, Switzerland
Taiwan R.O.C.	KOLIN-DENON ENTERTAINEMENTY INC. 5th FL.,NO.63, Po-Ai Road, Taipei, Taiwan, R.O C. Tel: (02)2381-5876 Fax: (02)2381-5811
進口廠商 Thailand	歌林天龍音樂事業股份有限公司 台北市博愛市路63號10樓 電話:(02)2381-5876 傅真:(02)2381-5811 Mahajak Development Co., Ltd. 46 Mahajak Building, Sukhumvit Soi 3 (Nana-Nua) Klongtoey, Bangkok Thailand. 10110 Tel: 66-2-256-0020 Fax: 66-2-253-1696
United Kingdom & Eire U.S.A.	Hayden Laboratories Ltd. Hayden House, Chiltern Hill, Chalfont St Peter, Gerrards Cross, Bucks, SL9 9UG Tel: 01753-888447 Fax: 01753-880109 DENON ELECTRONICS, a Division of Denon Corporation (U.S.A.) 19 Chapin Road, Pine Brook, NJ 07058-9777 Tel: 973-396-7499, Fax: 888-544-8434
 If there is no servic Falls sich in Ihrer Na 	e center in your local area, consult the outlet where the equipment was purchased. ähe keine Kundendienststelle befindet, wenden Sie sich an das Geschäft, wo das Gerät gekauft wurde

- * S'il n'y a aucun centre de service dans votre région, consultez votre revendeur.
- * Se nella Vostra zona non c'è il centro di servizio, rivolgete Vi al negozio dove avete acquistato l'apparecchio.
- * Si no hay centros de servicio en su área local, consulte en donde haya comprado su equipo
- * Als er in uw streek geen reparatie-inrichting is, neemt u kontakt op met de vestiging waar u de apparatuur gekocht heeft.
- * Saknas servicecentral i närheten där du bor, bör kontakt tas medåterförsäljaren för apparaten
- * Se não existir um centro de serviços em sua área local, consulte o estabelecimento onde o equipamento foi adquirido
- * 若當地無服務中心,可向你購入本機的商號查詢。

13-16-11, YUSHIMA, BUNKYO-KU, TOKYO 113-0034, JAPAN

H11001



Length of Warranty

This warranty on your DENON audio product which is distributed and warranted by DENON ELECTRONICS, a Division of DENON Corporation (U.S.A.) remains in effect for the following periods from the date of the original consumer purchase from an AUTHORIZED DENON ELECTRONICS, a Division of DENON Corporation (U.S.A.) DEALER.

Product Category		
Turntables (1) Autolift	(DP-L)	4 years
(2) Full Automatic	$(DP \cdot F)$	2 years
Tuners, Integrated Amplifiers	(TU, PMA)	3 years
Preamps, Digital Preamps, Poweramps, Head Amplifiers	(PRA, AVP. DAP, POA, HA)	3 years
Digital Surround Decoder	(AVD)	3 years
A/V Controllers, A/V Receivers, AM/FM Receivers	(AVC, AVR, DRA)	2 years
Compact Disc Players, DVD Players	(DCD, DCM, DP, DA, DVD, DVM)	l year
Tape Recorders, Compact Disc Recorders, Minidisc Recorders	(DRM, DRR, DRS, DRW, CDR, DMD)	1 year
Karaoke Systems	(DCG, HMA)	1 year
Cartridges, Accessories	(DL, AU)	90 days

What is Covered

Except as specified below, this Warranty covers all defects in material and workmanship in this product. The following are not covered by the Warranty: (1) Any product which is not distributed in the U.S.A. by DENON ELECTRONICS (2) Any product which is not purchased in the U.S.A. from an authorized DENON dealer, unless the product is purchased through the U.S.A. Military Exchange Service where the Warranty will be One (1) year for all products listed above except in the case of Cartridges which will remain at 90 days. (Note: AUTHORIZED DENON DEALERS can be identified by DENON AUTHORIZED DEALER sticker displayed in the stores. If you are uncertain as to whether a dealer is a DENON AUTHORIZED DEALER, please contact DENON as listed below.) (3) Any product on which the serial number has been defaced, modified or removed. (4) Damaged deterioration or malfunction resulting from; a) Accident, act of nature, abuse, misuse, neglect, unauthorized product repair or modification or failure to follow instructions supplied with the product. b) Repair or attempted repair by anyone not authorized by DENON. c) Any shipment of the product (claim must be presented to carrier). (5) Items subject to wear from normal usage (tape heads, cartridges, stylus, battery, etc.), (6) Periodic check-ups which do not disclose any defect. (7) Use of the product outside the U.S.A. (8) Damaged magnetic tape or CD discs. (9) Use in industrial, commercial, and/or professional applications. (10) Any installation or removal charges resulting from product failure.

What We Will Pay For

If during the applicable warranty period from date of original consumer purchase your DENON audio product is found to be defective by DENON, DENON will repair, or at its option, replace with new, used or equivalent model, such defective product without charge for parts or labor,

How to Obtain Warranty Performance

If your unit ever needs service, it may be taken or shipped to any authorized DENON service station or DENON ELECTRONICS (if you are uncertain as to whether a service station is DENON authorized, please contact DENON as listed below.). In all other cases, the following procedures apply whenever your unit must be transported for warranty service:

- You are responsible for transporting your unit or arranging for its transportation. b.
 - If shipment of your unit is required;
 - You must pay the initial shipping charges, but we will pay the return shipping charges if the repairs are covered by the Warranty.
- WHEN RETURNING YOUR UNIT FOR WARRANTY SERVICE, A COPY OF THE ORIGINAL SALES SLIP MUST BE ATTACHED. с. You should include the following: your name, address, daytime telephone number, model and serial number of the product and a description of the A problem. In the case of a Compact Disc Player, please enclose ONE (1) disc that the unit has failed with for test reasons. It will be returned with the unit.

THIS WARRANTY IS VALID IN THE U.S.A. ONLY

If your product does not require service, but you have questions regarding its operation, please contact our Technical Services Department as listed below.

THIS WARRANTY IS EXPRESSLY MADE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

OUR LIABILITY IS LIMITED TO THE REPAIR OR REPLACEMENT, AT OUR OPTION, OF ANY DEFECTIVE PRODUCT AND SHALL IN NO EVENT INCLUDE INCIDENTAL OR CONSEQUENTIAL COMMERCIAL OR PROPERTY DAMAGES OF ANY KIND. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS AND/OR DO NOT ALLOW THE EXCLUSION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS AND EXCLUSIONS MAY NOT APPLY

TO YOU.

This Warranty gives you specific legal rights, but you may also have other rights which vary from state to state.

DENON[®] ELECTRONICS, a Division of DENON Corporation (U.S.A.)

Mailing address only:

DENON ELECTRONICS, P.O. Box 5370 Parsippany, N.J. 07054-5370

DENON ELECTRONICS, 222 New Boad

Parsippany, N.J. 07054 (973) 396-7499 (888) 544-8434 FAX DENON ELECTRONICS, 13825 Cerritos Corporate Dr., Suite B, Cerritos, CA 90703-2456

(562) 565-1730

(562) 565-1740 FAX

DENON REGIONAL SUPER SERVICE CENTERS (Repair only - No parts orders please)

DENON

PYRAMID AUDIO

8711 Burnett Rd. Building F, Suite 65 Austin, TX. 78758 (512) 458-8292 (512) 453 4542 FAX

ELECTRO SERVICES

2144 Columbia Avenue Lancaster, PA 17603 (717) 397-0509 (717) 397-9565 FAX

UNITED RADIO

2949 Erie Boulevard East Syracuse, N.Y. 13224 (315) 446-8700 (315) 446-8505 FAX AUDIO SERVICES 544 Central Dr., Suite 101 Virginia Beach, VA 23454 (757) 498-8277 (757) 498-9554 FAX

INNER SOUND

1818 S.E. Division St. Port land, OR 97202 (503) 238-1955 (503) 238-1787 FAX

DENON[®] WARRANTY REGISTRATION

	MODEL NO.		SERIAL NO.		DATE SOLD	
DE.	ALER NAME	_				
DÉ	ALER ADDRESS	-	PU	RCHA	SER'S NAME	
		_	S	TREET	ADDRESS	_
		_	CITY	ST	ATE ZII	P
DE	ALER TELEPHONE	_	AREA CODE		PHONE NO.	- 1
A)	Who/What was the greatest infl to purchase this product? 1. Advertising 5. 2. Denon brand name 6. 3. Product features 7. 4. Friend/Relative 8.	Pric Proc Sale	e in your final decision e duct brochure/literature esperson r (snecity :	C)	What equipment do you pl purchase in the next 6 mor Category	an to 1ths ?
B)	What other audio equipment do indicate the make and model.	you	presently own? Please		Price Level	
	Turntable I Cartridge S Tonearm I Head Amp/Transf. I Amplifier I Integrated Amp I Tuner I Receiver Cassette Deck	Reel-t Speak Headp Blank Bran Acces Clea cabi etc.	o-Reel ers hones Tape d Length sories ners, les,	D)	Please list the periodicals (azines, newspapers, etc.) w you read regularly.	Mag- vhich



DENON[®] ELECTRONICS, a Division of Denon Corporation (U.S.A.) P.O. Box 5370 Parsippany, N.J. 07054

List of Preset Codes / Liste von voreingestellten Codes / Liste de codes préréglés / Lista dei codici pre-regolati / Lista de Códigos Pre-ajustados / Lijst van vooringestelde codes / Förteckning över förinställda koder

DVD

Denon	014, *[111]
Aiwa	009
Hitachi	010
JVC	006, 011
Konka	012, 013
Magnavox	005
Mitsubishi	004
Panasonic	014
Philips	005, 015, 016, 017
Pioneer	003, 008
Sanyo	018
Sony	002, 019, 020
Toshiba	001, 021, 022, 024
Zenith	023
VDP	
Denon	028, 029, 112
Magnavox	026
Mitsubishi	028
Panasonic	029, 030
Philips	026
Pioneer	028, 031
RCA	032
Sony	033, 034, 035, 036

VCR

Admiral	081
Aiko	095
Aiwa	009
Akai	026, 027, 070, 072, 082, 083,
	084
Amstrad	009
ASA	042
Asha	087
Audio Dynamic	005, 085
Audiovox	088
Beaumark	087
Broksonic	086, 093
Calix	088
Candle	006, 087, 088, 089, 090
Canon	049, 057
Capehart	025, 055, 056, 071
Carver	015
CCE	095
Citizen	006, 007, 087, 088, 089, 090,
	095

Craig	007, 087, 088, 091, 115
Curtis Mathes	006, 049, 073, 080, 087, 090,
	092
Cybernex	087
Daewoo	025, 055, 059, 074, 089, 093,
	095, 096
Daytron	025, 055
DBX	005, 085
Dumont	053
Dynatech	009
Electrohome	001, 088, 097
Electrophonic	088
Emerson	001, 009, 017, 027, 086, 088,
	089, 092, 093, 097, 100, 101,
	102, 103, 104, 117
Fisher	009, 028, 031, 053, 054, 091,
	098, 099, 111
GE	007, 011, 049, 050, 051, 052,
	073, 080, 087
Go Video	047, 048
Goldstar	000, 006, 012, 062, 088
Gradiente	094
Grundig	042
Harley Davidson	094
Harman Kardon	040, 062
Hi-Q	091
Hitachi	009, 013, 023, 026, 058, *(108),
	109, 110, 111
JC Penny	004, 005, 007, 023, 028, 049,
	062, 085, 087, 088
Jensen	013, 026
JVC	004, 005, 006, 026, 029, 043,
	044, 045, 046, 085
Kenwood	004, 005, 006, 026, 029, 033,
	045, 085, 090
Kodak	088
Lloyd	009, 094
LXI	
Magnavox	015, 016, 042, 049, 063, 106
Magnin	087
Marantz	004, 005, 005, 015, 042, 049,
h 4 4 -	000
IVIARTA	030
Magazak	000 022 040 052 060 091
Memorex	009, 033, 049, 053, 060, 081,
	087, 088, 091, 094, 115

MGA 001, 017, 027, 041, 097		
MGN Technology	/ 087	
Midland	011	
Minolta	013, 023	
Mitsubishi	001.003.008.013.014.017.	
	027 029 039 040 041 045	
	097	
Meteorolo	001	
NUCLOIOIA		
wonigomery wa	10 001, 002, 007, 009, 049, 063,	
	081, 115, 117	
MTC	009, 087, 094	
Multitech	007, 009, 011, 087, 090, 094	
NAD	038	
NEC	004, 005, 006, 018, 026, 029,	
	045.061.062.085	
Nikko	088	
Mablex	097	
Octionus	001 000	
Optimus	081, 088	
Optonica	021	
Panasonic	024, 049, 064, 066, 067, 068,	
	069, 107	
Perdio	009	
Pentax	009, 013, 023, 058, 090	
Philco	015. 016. 049	
Philips	015 021 042 049 105	
Pilot	088	
Pionoor	005 012 020 026 027 029	
FIDDEEL	005, 013, 029, 036, 037, 038,	
	045, 085	
Portland	025, 055, 090	
Proscan	063, 080	
Pulsar	060	
Quartz	033	
Quasar	034, 035, 049	
Radio Shack	001, 002, 021, 081, 087, 088,	
	091, 094, 097, 098, 115	
Badix	088	
Bandoy	099	
- nonuex	000 010 010 000 050 000	
NUA	007, 013, 019, 023, 068, 063,	
	064, 065, 073, 080, 082, 087	
Realistic	009, 021, 031, 033, 049, 053,	
	081, 087, 088, 091, 094, 097,	
	098	
Ricoh	055	
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- *[]: Preset codes set upon shipment from the factory.
- *[]: Sie Voreinstellungscodes wurden vor der Auslieferung werkseitig eingestellt
- *[]: Les codes préréglés diffèrent en fonctiom des livraison de l'usine
- I codici di presettaggio sono impostati in fabbrica prima della consegna.
- *[] : Los códigos vienen preprogramados de fábrica
- *[]: Vooringestelde codes bij hey verlaten van de fabriek
- *[]: Förinställda koder har ställts in vid transporten från fabriken

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