

DENON

AV SURROUND RECEIVER

AVR-1906

OPERATING INSTRUCTIONS

MODE D'EMPLOI

SAFETY PRECAUTIONS



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION:

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



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



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

WARNING:

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

FCC INFORMATION (For US customers)

1. PRODUCT

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

2. IMPORTANT NOTICE: DO NOT MODIFY THIS PRODUCT

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

3. NOTE

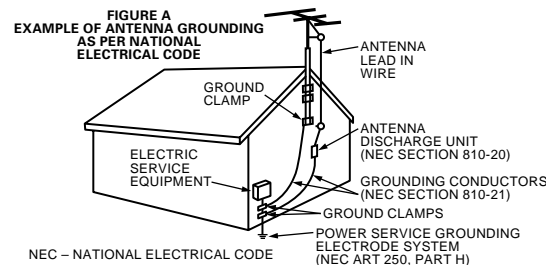
This product has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

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

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

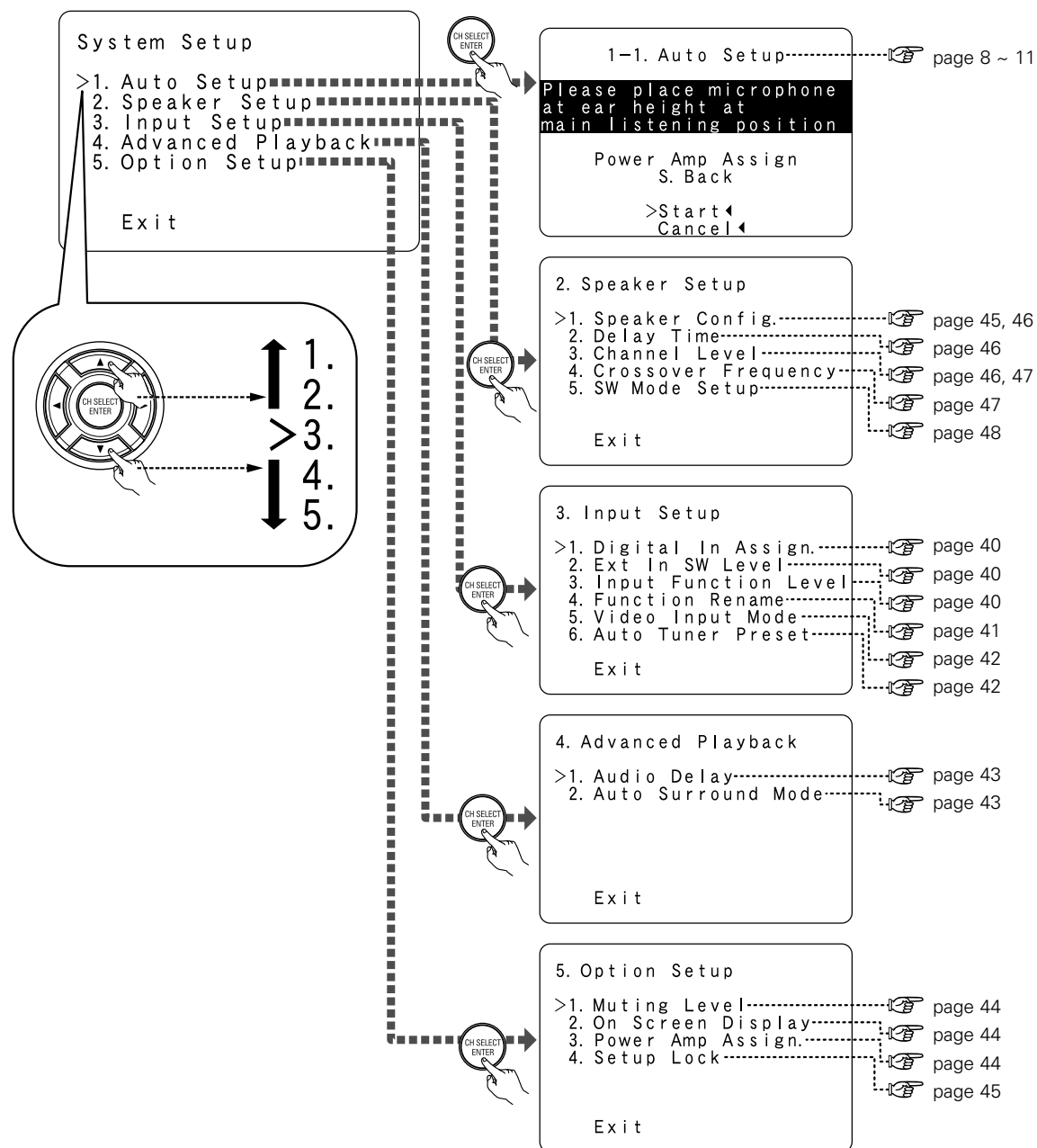
SAFETY INSTRUCTIONS

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.
3. Heed Warnings – All warnings on the product and in the operating instructions should be adhered to.
4. 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.
6. Attachments – Do not use attachments not recommended by the product manufacturer as they may cause hazards.
7. 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.
9. 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.
18. 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.
20. 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.
23. 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.
25. Heat – The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

■ System setup menu / Menu de configuration système



Getting Started

Thank you for choosing the DENON AVR-1906 A/V Surround Receiver. This remarkable component has been engineered to provide superb surround sound listening with home theater sources, such as DVD, as well as providing outstanding high fidelity reproduction of your favorite music sources.

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

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List of preset codes	End of this manual
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Getting Started

Accessories

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

① Operating instructions	1	⑤ R6P/AA batteries	2
② Warranty	1	⑥ AM loop antenna	1
③ Service station list	1	⑦ FM indoor antenna	1
④ Remote control unit (RC-978)	1	⑧ Omnidirectional microphone.....	1



Before using

Pay attention to the following before using this unit:

• Moving the unit

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

• Before turning the power switch on

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

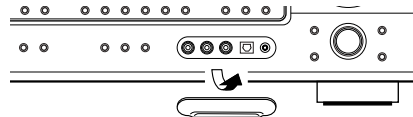
• Store these instructions in a safe place.

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

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

• V. AUX terminals

The AVR-1906's front panel is equipped with V. AUX terminals. Remove the cap covering the terminals when you want to use them.

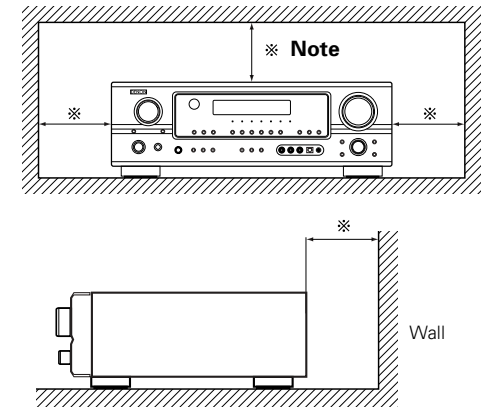


Cautions on installation

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 away as possible from the tuner or TV.
- Run the antenna wires from the tuner or TV away from this unit's power supply cord and input/output connection cables.
- Noise or disturbance tends to occur particularly when using indoor antennas or 300 Ω /ohm feeder wires. **We recommend using outdoor antennas and 75 Ω /ohm coaxial cables.**



Note:

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

Cautions on handling

• Switching the input source when input terminals are not connected.

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

• Muting of PRE OUT terminals, PHONES jack and SPEAKER terminals.

The PRE OUT terminals, PHONES jack and SPEAKER terminals include a muting circuit. Because of this, the output signals are greatly attenuated for several seconds after the power switch is turned on or the input source, 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.

• Whenever the power switch is in the STANDBY state, the unit is still connected to AC line voltage.

Please be sure to turn off the power switch or unplug the cord when you leave home for, say, a vacation.

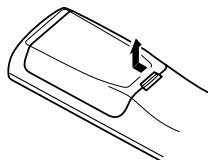
Preparing the remote control unit

The included remote control unit (RC-978) can be used to operate not only the AVR-1906 but other remote control compatible DENON components as well. In addition, the memory contains control signals for other remote control units, so it can be used to operate non-DENON remote control compatible products.

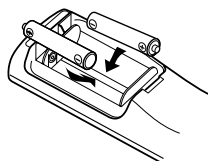
Getting Started

Inserting the batteries

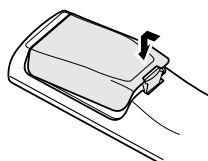
- 1 Remove the remote control unit's rear cover.



- 2 Set two R6P/AA batteries in the battery compartment in the indicated direction.



- 3 Put the rear cover back on.

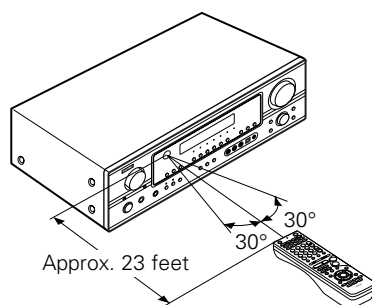


Notes on batteries:

- Replace the batteries with new ones if the set does not operate even when the remote control unit is operated nearby the unit. (The included batteries are only for verifying operation.)
- When inserting the batteries, be sure to do so in the proper direction, following the “+” and “-” marks in the battery compartment.
- To prevent damage or leakage of battery fluid:
 - Do not use a new battery together with an old one.
 - Do not use two different types of batteries.
 - Do not short-circuit, disassemble, heat or dispose of batteries in flames.
- If the battery fluid should leak, carefully wipe the fluid off the inside of the battery compartment and insert new batteries.
- When replacing the batteries, have the new batteries ready and insert them as quickly as possible.

Operating range of the remote control unit

- Point the remote control unit at the remote sensor on the main unit as shown in the diagram.
- The remote control unit can be used from a straight distance of approximately 23 feet from the main unit, but this distance will be shorter if there are obstacles in the way or if the remote control unit is not pointed directly at the remote sensor.
- The remote control unit can be operated at a horizontal angle of up to 30 degrees with respect to the remote sensor.



NOTE:

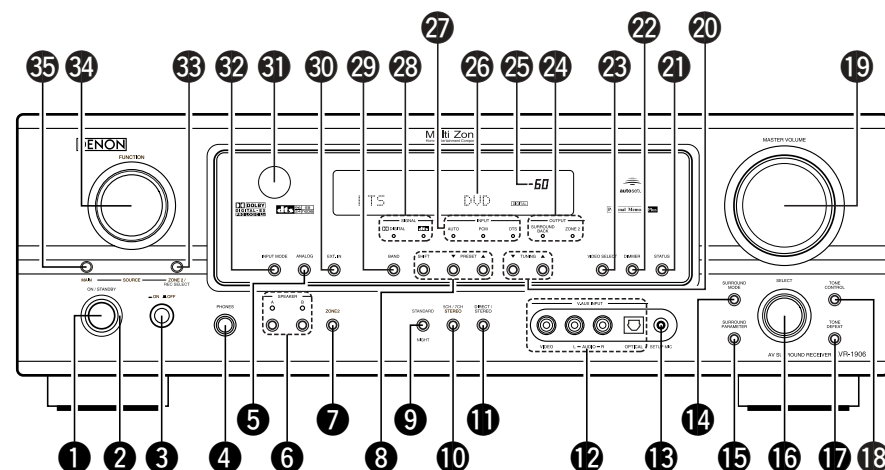
- It may be difficult to operate the remote control unit if the remote sensor is exposed to direct sunlight or strong artificial light.
- Do not press buttons on the main unit and remote control unit simultaneously. Doing so may result in malfunction.
- Neon signs or other devices emitting pulse-type noise nearby may result in malfunction, so keep the set as far away from such devices as possible.

Getting Started

Part names and functions

Front panel

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

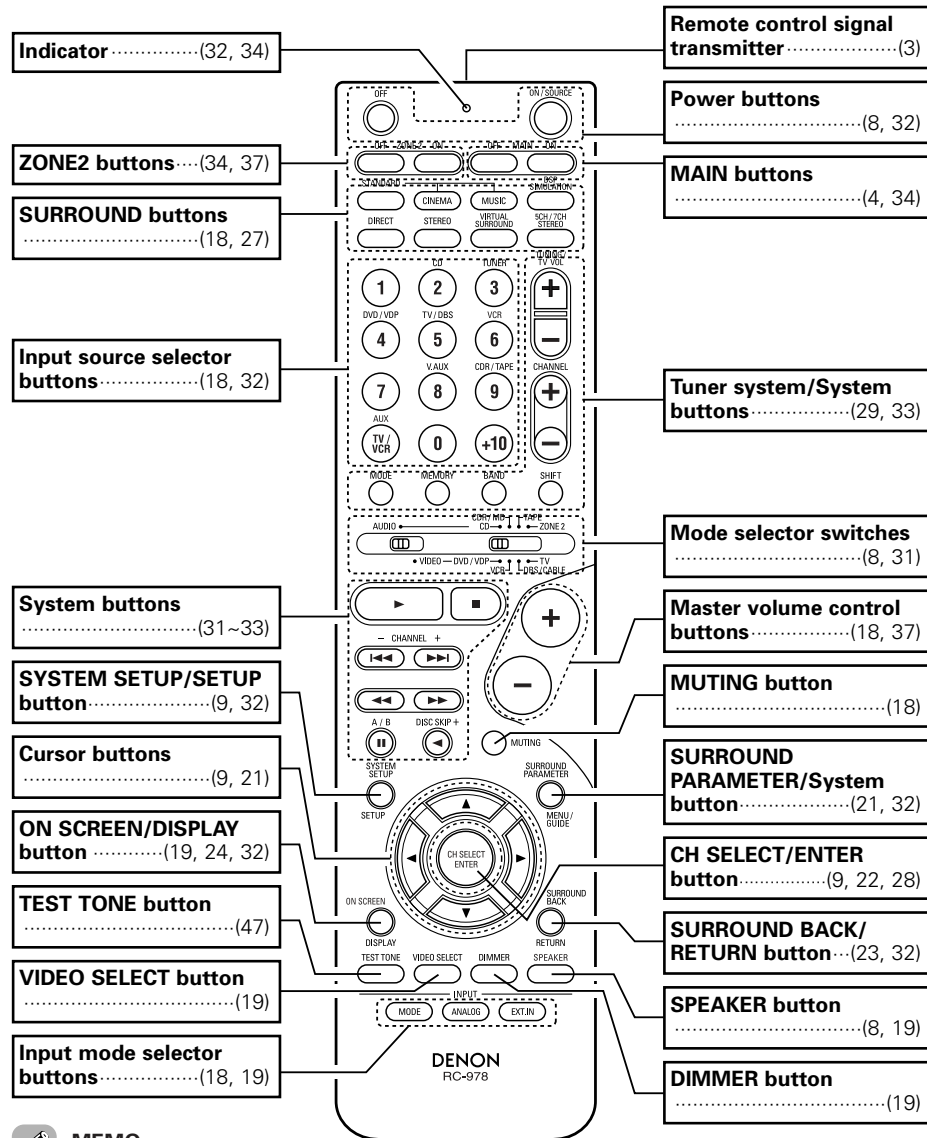


- | | |
|---|---|
| 1 Power ON/STANDBY switch(8) | 19 MASTER VOLUME control knob(18) |
| 2 Power indicator(8) | 20 TUNING ▲ (up)/▼ (down) buttons(29) |
| 3 Power switch(8, 38) | 21 STATUS button(19, 24) |
| 4 Headphones jack (PHONES)(19) | 22 DIMMER button(19) |
| 5 ANALOG button(20) | 23 VIDEO SELECT button(19) |
| 6 SPEAKER A/B buttons(19, 38) | 24 OUTPUT indicator(23, 37) |
| 7 ZONE2 button(37) | 25 Master volume indicator(18) |
| 8 Preset station select buttons(29, 30) | 26 Display |
| 9 STANDARD/NIGHT button(21~24) | 27 INPUT mode indicator(20) |
| 10 5CH/7CH STEREO button(26) | 28 SIGNAL indicator(20) |
| 11 DIRECT/STEREO button(21) | 29 BAND button(29) |
| 12 V. AUX INPUT terminals(13) | 30 EXT. IN button(18) |
| 13 SETUP MIC jack(8) | 31 Remote control sensor(3) |
| 14 SURROUND MODE button(18) | 32 INPUT MODE button(19) |
| 15 SURROUND PARAMETER button(21) | 33 ZONE2/REC SELECT button(37, 38) |
| 16 SELECT knob(18, 21, 28) | 34 FUNCTION knob(18, 37) |
| 17 TONE DEFEAT button(28) | 35 MAIN button(18) |
| 18 TONE CONTROL button(28) | |

Getting Started

Remote control unit

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

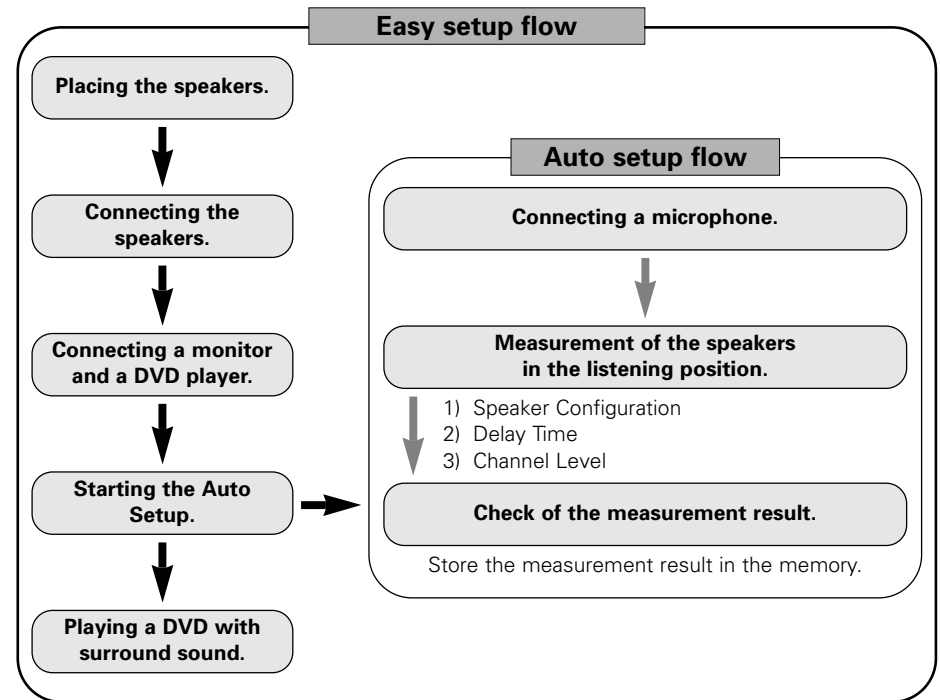


MEMO

- The Dolby Surround Pro Logic II(x) Cinema or Music mode can be chosen directly by pressing the **CINEMA** or **MUSIC** button on the remote control unit during playback in the Dolby Surround Pro Logic II(x) mode.
- 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.
- The main zone output can be turned on and off with the **MAIN** button.

Easy Setup and Operation

- This section contains the basic steps necessary to configure the AVR-1906 according to your listening room environment and the source equipment and loudspeakers you are using.
- For optimum performance, we recommend using the Auto Setup function.
- If you wish, you can set the various settings manually without using Auto Setup (▶ page 45 ~ 47).

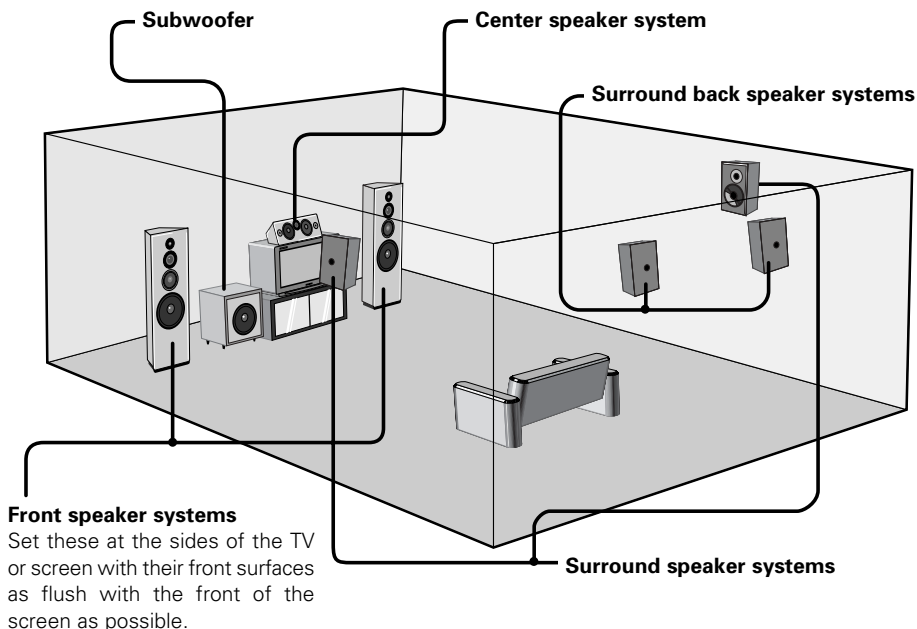


Easy Setup and Operation

Speaker system layout

Basic system layout

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



Speaker connections

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

NOTE:

NEVER touch the speaker terminals when the power is on. Doing so could result in electric shocks.

Speaker impedance

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

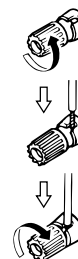
Note on speaker impedance

The protector circuit may be activated if the unit is operated 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 less than 4 Ω /ohms) are connected. If the protector circuit is activated, the speaker output is cut off. Turn off the unit's power, wait for the unit to cool down, improve the ventilation around the unit, then turn the power back on.

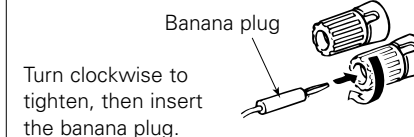
Easy Setup and Operation

Connecting the speaker cables

1. Loosen by turning counterclockwise.
2. Insert the cable.
3. Tighten by turning clockwise.



Connecting banana plugs



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.

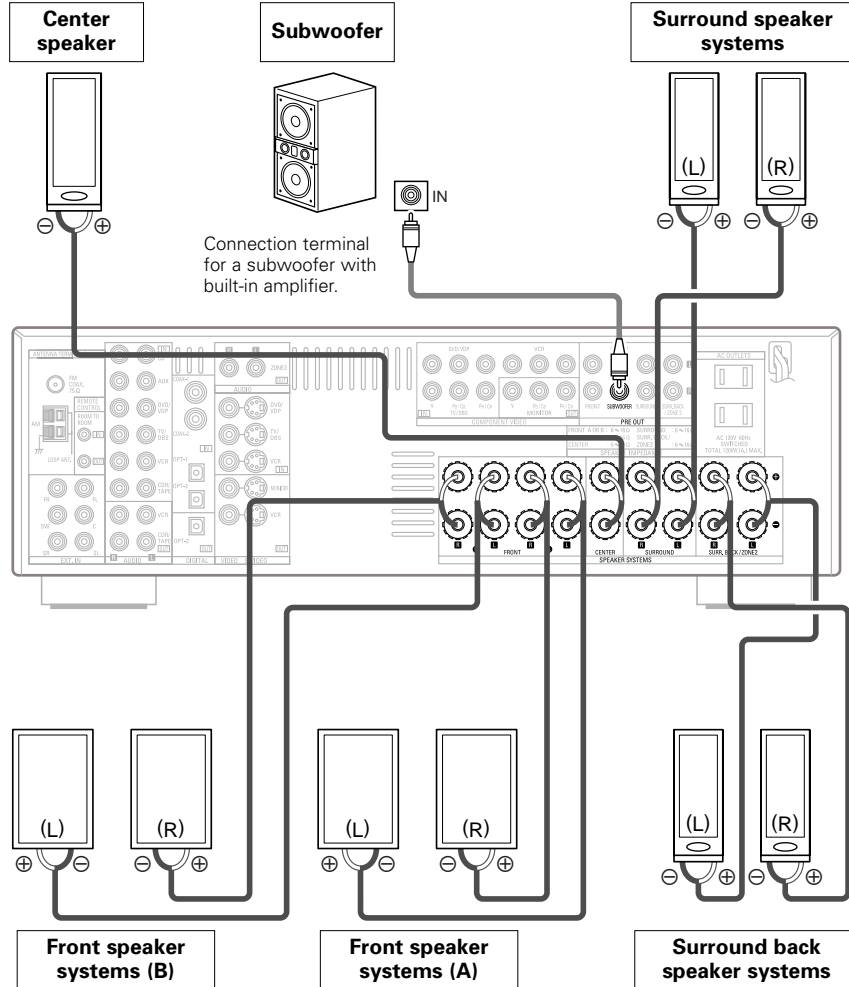
When the protection circuit is activated, the speaker output is cut off and the power supply indicator flashes. Should this occur, please follow these steps: be sure to switch off the power of this unit, check whether there are any faults with the wiring of the speaker cables or input cables, and wait 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.

Easy Setup and Operation

■ 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 cause this effect.

NOTE:

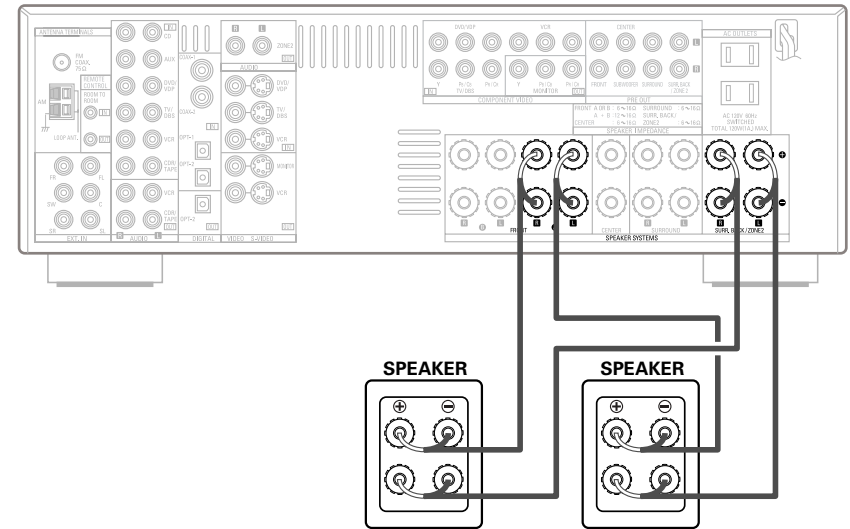
- When using only one surround back speaker, connect it to the left channel.

Easy Setup and Operation

■ Bi-Amp connections

Certain loudspeakers are equipped with two sets of input terminals, for bi-amplification. The AVR-1906 Power Amp Assign. mode allows you to power bi-amp-capable speakers with two amplifier channels (see page 44). Be sure to consult the owner's manual of your bi-amp-capable speakers for further information before proceeding.

AVR-1906



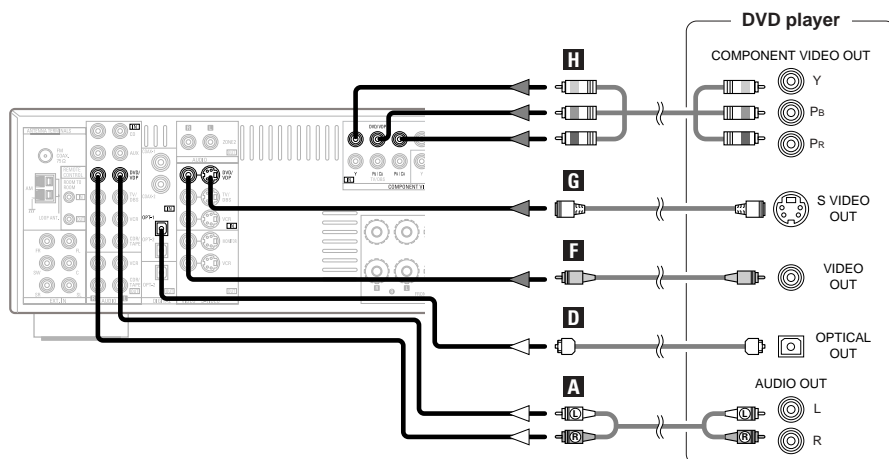
NOTE:

- When making Bi-Amp connections, be sure to remove the short-circuiting bar included with the speaker.

Easy Setup and Operation

Connecting a DVD player and monitor TV

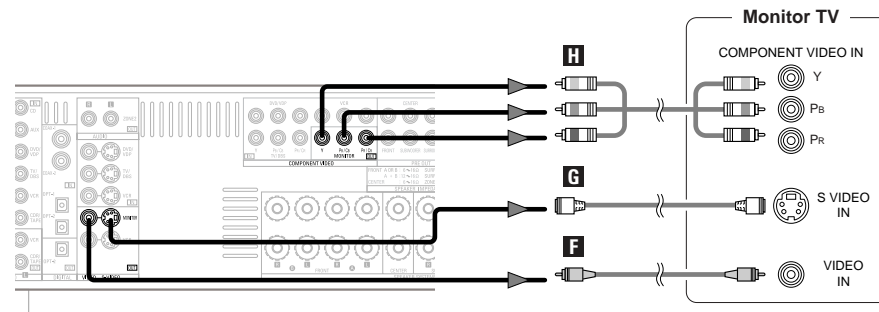
- To connect the video output from the DVD player to the AVR-1906, you only need to choose one connection type. Component video connection offers the best quality (and is required for progressive DVD playback), followed by S-Video, while composite video offers the lowest picture quality of the three connection types. For more information about the video up conversion function (page 12).
- To connect the digital audio output from the DVD player, you can choose from either the coaxial or optical connections. If you choose to use the coaxial connection, it needs to be assigned. For more information about Digital Input Assignment (page 40).
- Connect a non-DVD video disc player (such as a laser disc, VCD/SVCD, or future high definition disc player) to the DVD/VD terminals in the same way.



※ Audio signal flow is shown with white arrows; video signal flow is shown with gray arrows.

Easy Setup and Operation

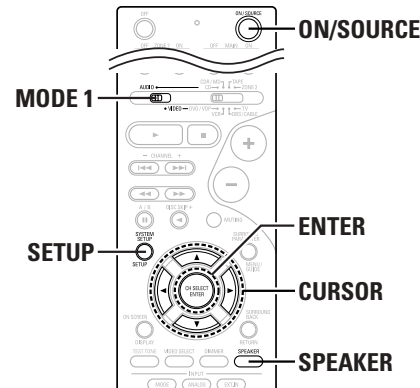
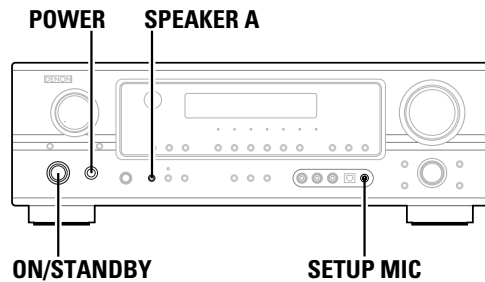
- For best picture quality (especially with progressive DVD and other high definition sources), choose the component video connection to your monitor TV. S-Video and composite video outputs are also provided if your TV does not have component video inputs.



NOTE:

- The component video input and/or output terminals may be labeled differently on some TVs, monitors or video components (Y, Pb, Pr; Y, Cb, Cr; Y, B-Y, R-Y). Check the owner's manuals for the other components for further information.

Easy Setup and Operation



Auto Setup

The Auto Setup function of this unit performs an analysis of the speaker system to permit an appropriate automatic setting.

■ Measurement and setting details

- ①: This sets the speaker connection, polarity, and bass reproduction ability.
- ②: This sets the delay time from each speaker corresponding to the listening position.
- ③: This sets the volume that is output from each speaker.



For accurate measurements

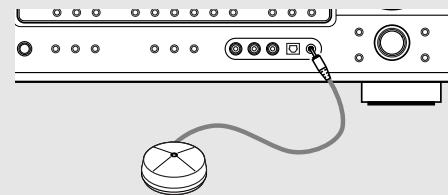
- Keep quiet during the auto setup procedure. It is recommended that you turn off the power of any air-conditioner, projector or other equipment that may produce noise.
- Do not stand between the microphone and speakers while Auto Setup is performed.
- Do not place any obstacles between the microphone and speakers. Also, be sure to point the speakers towards the listening position.

NOTE:

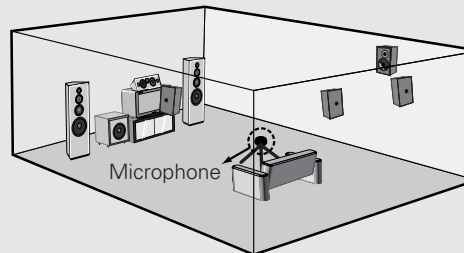
- A loud test tone is output during the measurement. Please consider this should you be planning night time measurements, and consider not allowing small children into the listening room at this time.

Connecting a microphone

- 1** Connect the microphone for Auto Setup to the **SETUP MIC** jack on the front panel of the unit.



- 2** Place the microphone for Auto Setup at the actual listening position which will be at the same height as your ears.



※ Place the microphone on a tripod or level surface.

Easy Setup and Operation

Turning on the power

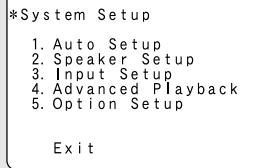
- 1** Turn on your subwoofer.
- 2** Turn on your monitor (TV).
- 3** Press the **POWER** switch.
 - **ON:**
The power turns on and the indicator lights.
Set the **POWER** switch to this position to turn the power on and off from the included remote control unit.
 - **OFF:**
The power turns off and the indicator is off.
In this position, the power cannot be turned on and off from the remote control unit.
- 4** Press the **ON/STANDBY** switch on the main unit or **ON/SOURCE** button on the remote control unit.
 - Turn on the power.
- 5** Press the **SPEAKER A** button to turn the speakers on.
- 6** Set the **MODE 1** switch to “**AUDIO**” (only when operating with the remote control unit).

Easy Setup and Operation

Starting Auto Setup

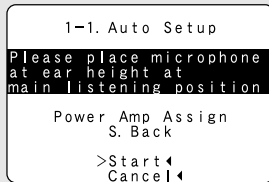
1 Press the **SETUP** button.

- The “System Setup” menu appears.

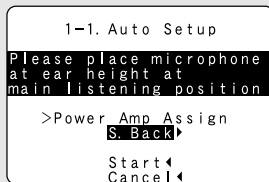


2 Press the **CURSOR** Δ or ∇ button to select “Auto Setup”, then press the **ENTER** button.

- The “Auto Setup” screen appears.



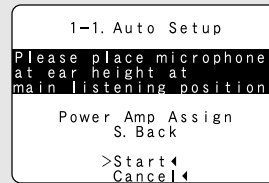
3 Press the **CURSOR** Δ or ∇ button to select “Power Amp Assign”, then press the **CURSOR** Δ or ∇ button to select “S. Back”, “ZONE2” or “Bi-Amp”.



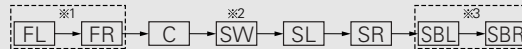
- ※ When “S. Back” is selected, the test tone during Auto Setup will be output from the surround back speaker.
- ※ When “ZONE2” is selected, change the setting to “ZONE2”. The test tone during Auto Setup is set so that it will not be output to ZONE2 (Another room).
- ※ When “Bi-Amp” is selected, change the setting to “Bi-Amp”. The test tone during Auto Setup is set so that it will be output from the Bi-Amp speaker.

4 Press the **CURSOR** Δ or ∇ button to select “Start”, then press the **CURSOR** Δ button.

- Start the measurements.

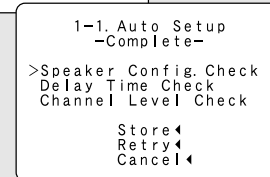
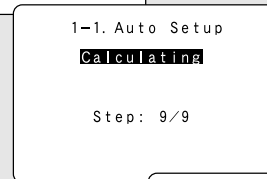
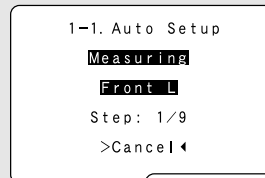


※ Measurement of each channel is performed as follows:



- ※ 1: Only the front speakers (A) are measured, front speakers (B) are not available. Even if the front speakers (B) are set, the setting automatically switches to the front speakers (A) once measurements are completed.
- ※ 2: The subwoofer speaker is measured twice.
- ※ 3: When “ZONE2” and “Bi-Amp” are selected, these are not displayed.

After each channel is measured, “Calculating” appears. The display switches to the Auto Setup check screen automatically.



Easy Setup and Operation

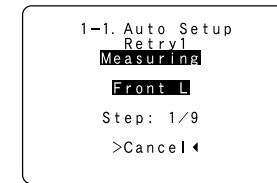


- Measurement is cancelled if the **MASTER VOLUME** control knob is operated while the Auto Setup is performed.
- If the output volume and crossover frequency of your subwoofer speaker can be changed, then set the volume to halfway and the crossover filter to maximum or switch off the low-pass filter.

About automatic retry

To confirm the results of the measurements, remeasurement is automatically performed.

Remeasurement is performed up to 2 times. During this time, “Retry1” or “Retry2” is displayed on the screen.



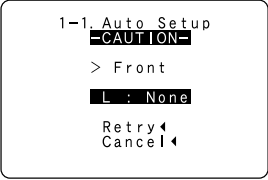
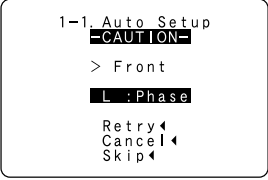
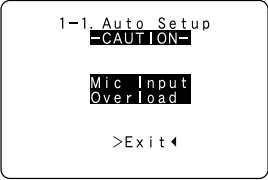
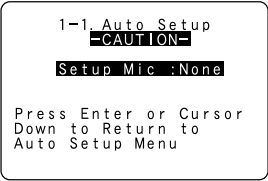
NOTE:

- When measurements have been made using the measurement microphone, speakers with built-in filters, such as a subwoofer, might be set to a value that differs from the physical distance because of the internal electrical delay.

Easy Setup and Operation

About error messages

- These error screens may be displayed when performing Auto Setup measurement and the automatic measurements can not be completed because of the speaker arrangement, measurement environment, or other factors. Please check the following matters, reset the pertinent items, and measure again.
- When there is too much noise in the room, the speakers may not be detected properly. Should this happen, perform the measurements when the noise level is low, or switch off the power of the equipment that is producing the noise for the duration of the measurements.

Screen example	Cause	Measures
	<p>① This screen will be displayed when the speakers required for producing suitable reproduction have not been detected.</p> <ul style="list-style-type: none"> • The front L or front R speaker was not properly detected. • Only one channel of the surround speakers was detected. • Sound was output from the R channel when only one surround back speaker was connected. • The surround back speaker was detected, but the surround speaker was not detected. 	<ul style="list-style-type: none"> • Check that the pertinent speakers are properly connected.
	<p>② This screen will be displayed when the speaker polarity is connected in reverse.</p>	<ul style="list-style-type: none"> • Check the polarity of the pertinent speakers. For some speakers, this screen may be displayed even though the speakers are properly connected. If so, select "Skip".
	<p>③ This screen will be displayed when accurate measurements cannot be made due to the input level of the microphone being too high.</p>	<ul style="list-style-type: none"> • Set up the speakers so that their position is farther away from the listening position. • Lower the volume of the subwoofer speaker.
	<p>④ This screen will be displayed when the measurement microphone is not connected.</p>	<ul style="list-style-type: none"> • Connect the measurement microphone to the microphone connector.

Easy Setup and Operation

Check of the measurement results

- 1** Press the **CURSOR** Δ or ∇ button to select an item, then press the **ENTER** button.

```

1-1. Auto Setup
-Complete-
>Speaker Config. Check
Delay Time Check
Channel Level Check

Store
Retry
Cancel

```

※ The measurement results of each item can be checked here.

- 2** Press the **ENTER** button.
- The verification screen appears.

Example: Speaker Config. Check

```

Speaker Config. Check
Front Sp.      Large
Center Sp.     Small
Surround Sp.   Small
S. Back Sp.    Small
S. Back Sp.    Zsp
Subwoofer      Yes

```

- 3** Press the **ENTER** button again once you have checked the results.

Easy Setup and Operation

4 Press the **CURSOR** \triangle or ∇ button to select from the following three items based on the measurement results, then press the **CURSOR** \triangleleft button.

Store:

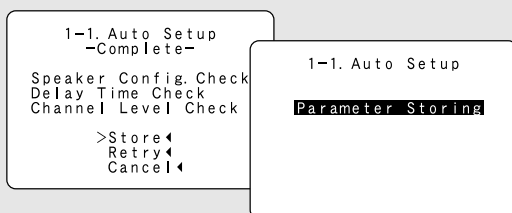
Store the checked measurement values.
All parameters are stored.

Retry:

Perform the measurement again.
Measurement is repeated.

Cancel:

Cancel the checked measurement values.



Playing a DVD with surround sound

1 Disconnect the microphone from the unit.

2 Select the input source to be played.

3 Select the play (surround) mode.

4 Start DVD playback.

5 Adjust the volume.

Connecting Other Sources

Cable indications

The hookup diagrams on the subsequent pages assume the use of the following optional connection cables (not supplied).

Audio cable	Video cable
<p>A Analog terminal (Stereo)</p> <p>(White) (L) (R) (R)</p> <p>Pin-plug cable</p> <p>B Analog terminal (Monaural, for subwoofer)</p> <p> </p> <p>Pin-plug cable</p> <p>C Digital terminal (Coaxial)</p> <p>(Orange) </p> <p>Coaxial cable (75 Ω/ohm pin-plug cable)</p> <p>D Digital terminal (Optical)</p> <p> </p> <p>Optical cable (Optical fiber cable)</p> <p>E Speaker terminal</p> <p>+ -</p> <p>Speaker cable</p>	<p>F Video terminal</p> <p>(Yellow) </p> <p>Video cable (75 Ω/ohm video pin-plug cable)</p> <p>G S-Video terminal</p> <p> </p> <p>S-Video cable</p> <p>H Component video terminal</p> <p>(Green) (Y) (Y)</p> <p>(Blue) (PB/CB) (PB/CB)</p> <p>(Red) (PR/CR) (PR/CR)</p> <p>Component video cable</p>
Signal direction	
<p>Audio signal </p> <p>Video signal </p>	

NOTE:

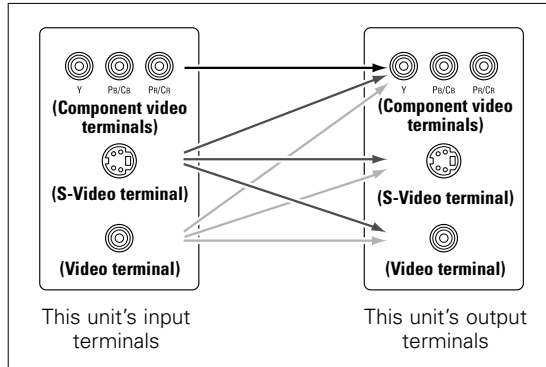
- Do not plug in the power supply cord until all connections have been completed.
- When making connections, also refer to the operating instructions of the other components.
- Be sure to connect the left and right channels properly (left with left, right with right).
- Note that binding pin-plug cables together with power supply cords or placing them near a power transformer will result in hum or other noise.

Connecting Other Sources

The video conversion function

With the AVR-1906, the Video signal and the S-Video signal which were inputted are mutually converted. And also the Video signal and the S-Video signal which were inputted are converted into a higher quality.

The flow of the video signals.



Cautions on the video conversion function:

When the component video terminals are used to connect the AVR-1906 with a TV (or monitor, projector, etc.) and the video (yellow) or S-Video terminals are used to connect the AVR-1906 with a VTR, depending on the combination of the TV and VTR the picture may flicker in the horizontal direction, be distorted, be out of sync not display at all when playing video tapes.

If this happens, connect a commercially available video stabilizer, etc., with a TBC (time base corrector) function between the AVR-1906 and the VTR, or if your VTR has a TBC function, turn it on.

Connecting Other Sources

On-screen display signals

	Signals input to the AVR-1906		On-screen display signal output		
	VIDEO signal input terminal (yellow)	S-Video signal input terminal	Video signal output to VIDEO MONITOR OUT terminal (yellow)	Video signal output to S-Video MONITOR OUT terminal	Video signal output to Color Difference (Component) Video MONITOR OUT terminal
1	×	×	○	○	○
2	○	×	○	○	○
3	×	○	○	○	○
4	○	○	×	○	○

(○: Signal

×: No signal)

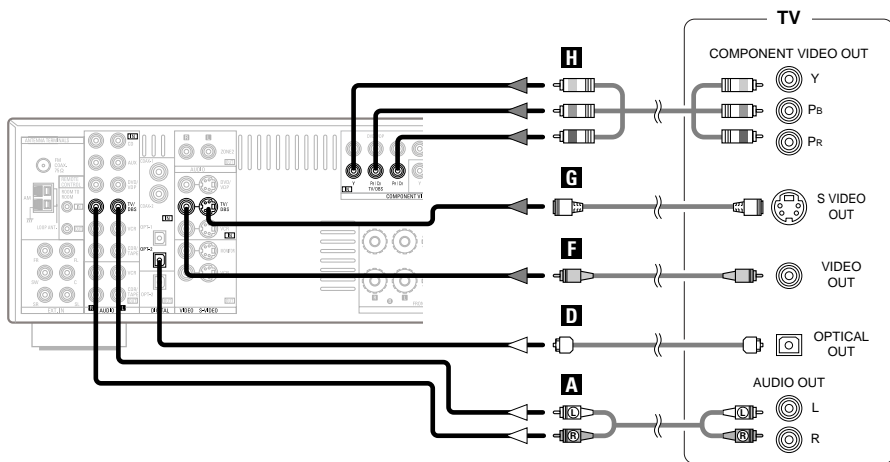
(○: On-screen signals output

×: On-screen signals not output)

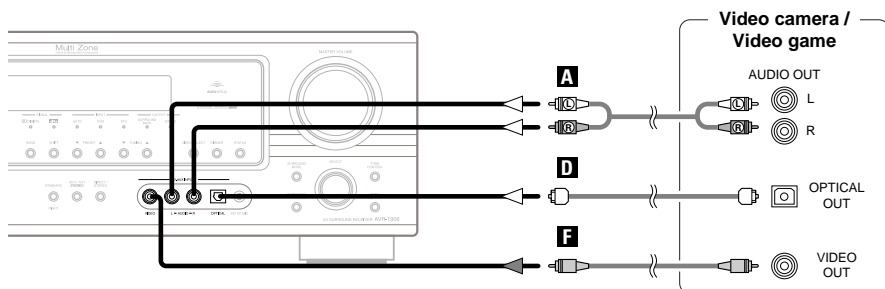
Connecting Other Sources

Connecting a TV/DBS tuner

- For best picture quality choose the component video connection to your TV or DBS tuner. S-Video and composite video inputs are also provided if your TV or DBS tuner does not have component video outputs.
- To connect the digital audio output from the TV or DBS tuner, you can choose from either the coaxial or optical connections. If you choose to use the coaxial connection, it needs to be assigned. For more information about Digital Input Assignment (🔧 page 40).



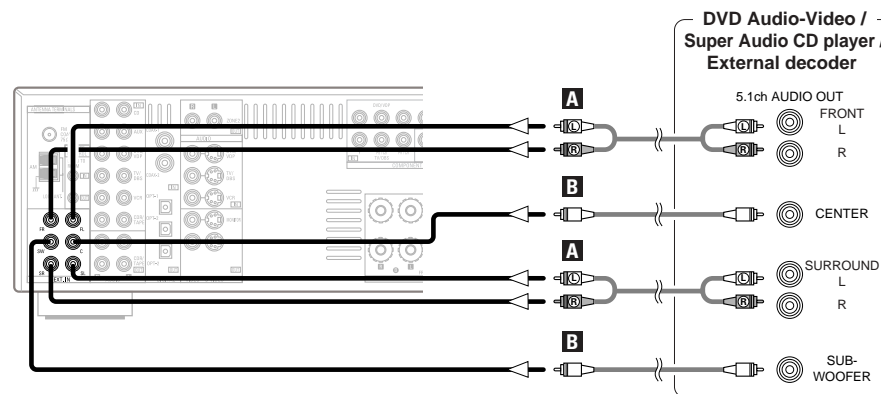
Connecting a video camera or video game



Connecting Other Sources

Connecting the external inputs (EXT. IN) terminals

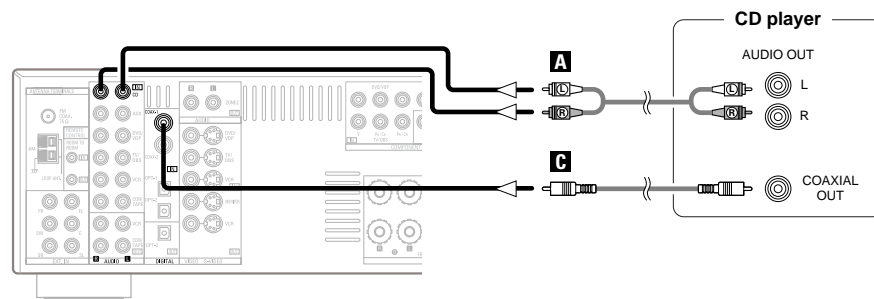
- These terminals are for inputting multi-channel audio signals from an external decoder, or a component with a different type of multi-channel decoder, such as a DVD Audio player, a multi-channel Super Audio CD player, or another future multi-channel sound format decoder.
- The video signal connection is the same as that for a DVD player.
- For instructions on playback using the external input (EXT. IN) terminals (🔧 page 18).



- With discs on which special copyright protection measures have been taken, the digital signals may not be output from the DVD player. In this case, connect the DVD player's analog multi-channel output to the AVR-1906's EXT. IN terminals for playback. Also refer to your DVD player's operating instructions.

Connecting a CD player

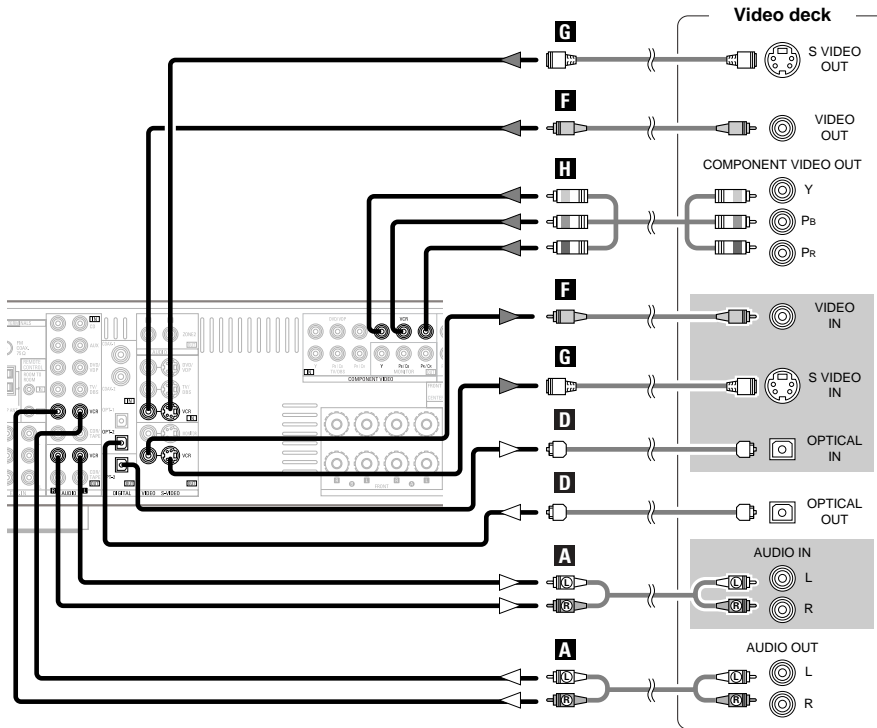
To connect the digital audio output from the CD player, you can choose either coaxial or optical connection. If you choose to use the optical connection, it needs to be assigned. For more information about Digital Input Assignment (🔧 page 40).



Connecting Other Sources

Connecting a VCR

- For best picture quality choose the component video connection to your VCR. S-Video and composite video outputs are also provided.
- If you wish to perform analog dubbing from a digital source, such as a DVD recorder to an analog recorder such as a cassette deck, you will need to connect the analog inputs and outputs as shown below, in addition to the digital audio connections.
- The digital inputs and outputs connection is the same as that for a CD (MD) recorder.



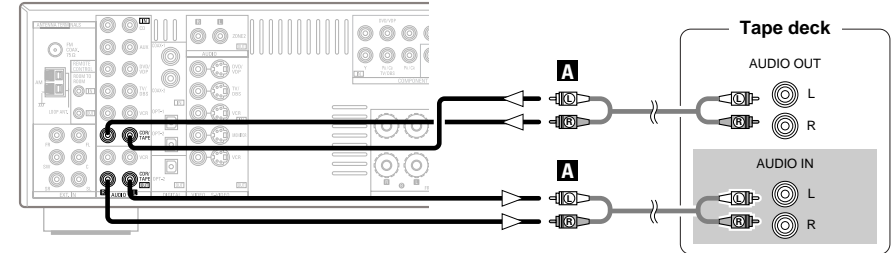
NOTE:

- When recording to a VCR, it is necessary that the type of cable used with the playback source equipment be the same type that is connected to the AVR-1906 VCR OUTPUT terminal.

Example: VCR IN → S-Video cable : VCR OUT → S-Video cable
VCR IN → Video cable : VCR OUT → Video cable

Connecting Other Sources

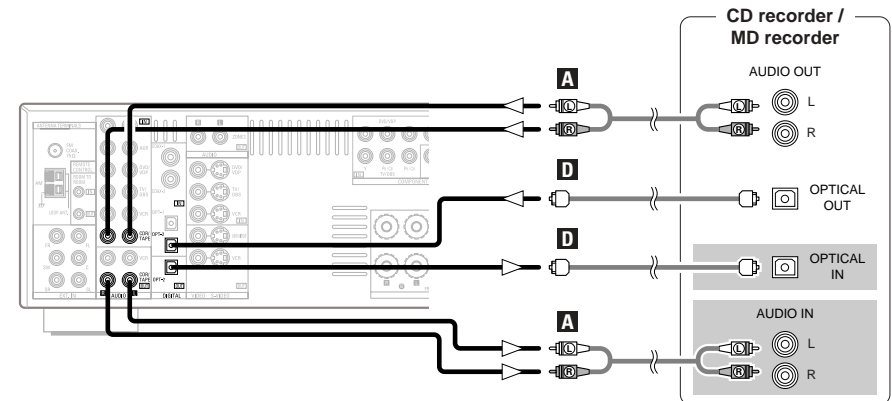
Connecting a tape deck



- If humming noise is generated, move the tape deck further away from the source of such noise.

Connecting a CD recorder or MD recorder

If you wish to perform analog dubbing from a digital source, such as a CD or MD recorder to an analog recorder such as a tape deck, you will need to connect the analog inputs and outputs as shown below, in addition to the digital audio connections.



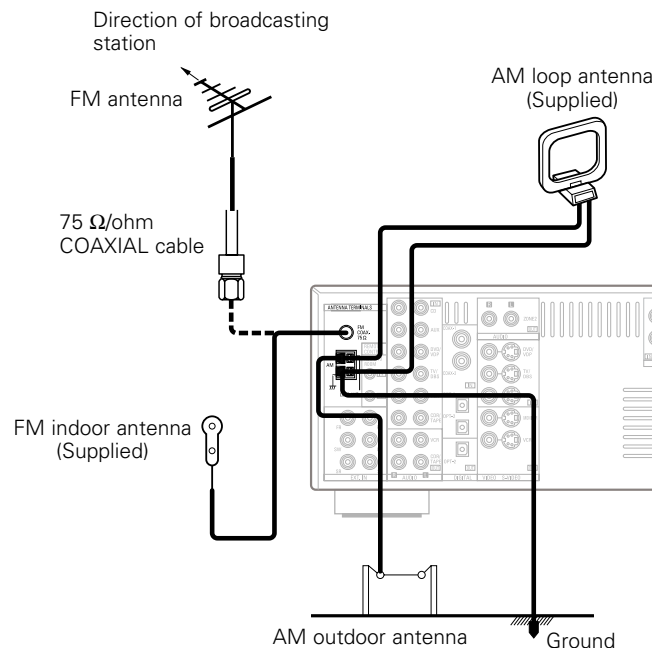
NOTE:

- Do not connect the output of the component connected to the OPTICAL 2 OUT terminal on the AVR-1906's rear panel to any terminal other than the OPTICAL 2 IN terminal (see page 40).

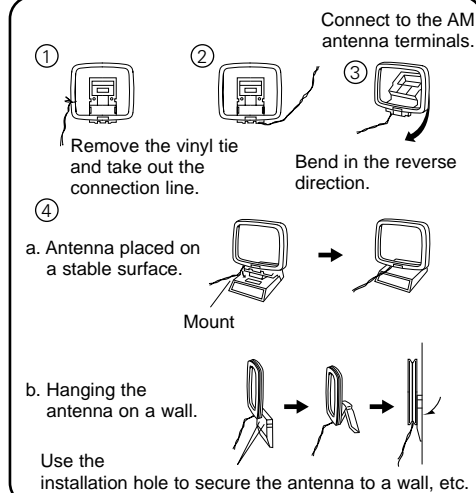
Connecting Other Sources

Connecting the antenna terminals

An F-type FM antenna cable plug can be connected directly to the unit.



AM loop antenna 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.

NOTE:

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

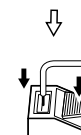
Connecting Other Sources

Connection of AM antennas

1. Push the lever.



2. Insert the conductor.



3. Return the lever.



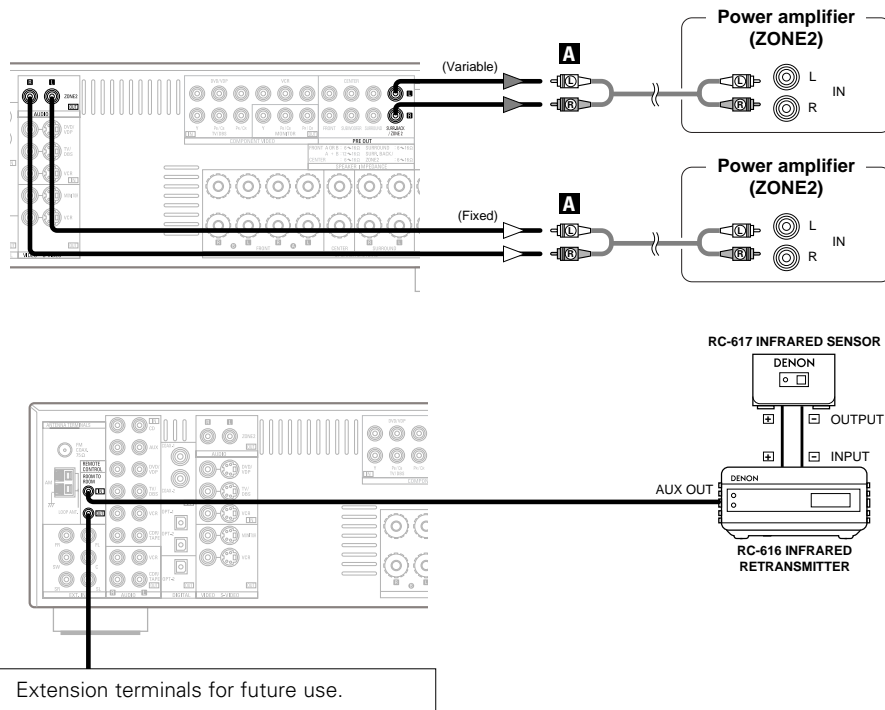
Connecting Other Sources

Connecting the MULTI ZONE terminals

※ For instructions on operations using the MULTI ZONE functions (page 35~37).

ZONE2 out connections

- If another power amplifier or pre-main (integrated) amplifier is connected, the ZONE2 out (variable/fixed level) terminals can be used to play a different program source in ZONE2 the same time (page 35, 36).
- 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.



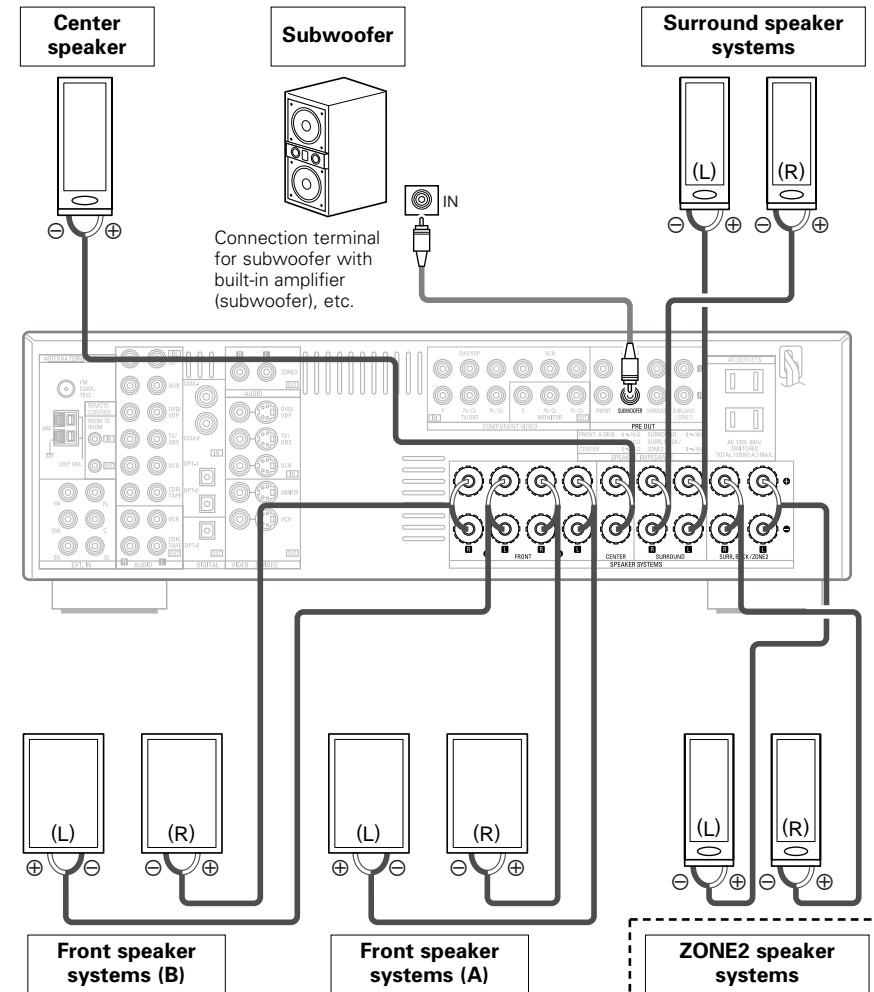
NOTE:

- For instructions on installation and operation of separately sold devices, refer to the devices' operating instructions.

Connecting Other Sources

ZONE2 speaker out connections

- When the power amplifier is assigned to the ZONE2 output channel at "Power Amp Assign." in the "System Setup" menu, the surround back speaker terminals can be used as the ZONE2 speaker out terminals (page 36).
- The connections diagram below is an example for when the surround back speaker is assigned to the ZONE2 stereo 2 channel. In this case, surround back speaker out can not be used for MAIN ZONE.



ZONE2 speaker systems

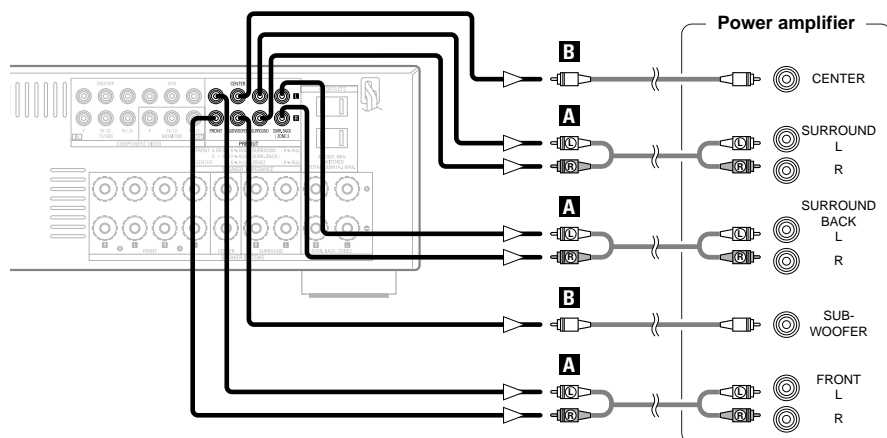
NOTE:

- The settings must be changed to use this speaker for ZONE2 (page 44).

Connecting Other Sources

Connecting the pre-out terminals

- Use these terminals if you wish to connect external power amplifier(s) to increase the power of the front, center, surround and surround back sound channels, or for connection to powered loudspeakers.
- When using only one surround back speaker, connect it to the left channel.



Connecting Other Sources

Connecting the power supply cord



AC OUTLETS

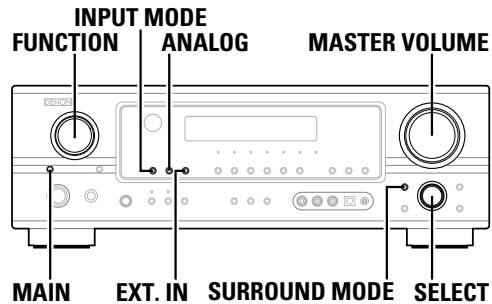
- **SWITCHED** (total capacity – 120 W (1 A.))
The power to these outlets is turned on and off in conjunction with the **POWER** switch on the main unit, and when the power is switched between on and standby from the remote control unit.
No power is supplied from these outlets when this unit's power is at standby. Never connect equipment whose total power consumption exceeds 120 W (1 A.).

NOTE:

- Only use the AC OUTLETS for connecting audio equipment. Never use it for hair driers, TVs or other electrical appliances.

Basic Operation

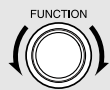
Playback



Playing the input source

1 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.

2 Select the play (surround) mode.

Example: STEREO

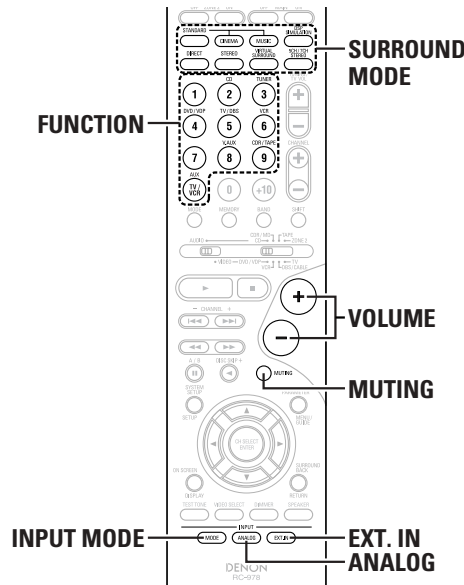


(Main unit)



(Remote control unit)

※ To select the surround mode while adjusting the surround parameters, tone defeat or tone control, press the **SURROUND MODE** button and then operate the selector.



3 Start playback on the selected component.

※ For operating instructions, refer to the component's manual.

4 Adjust the volume.



(Main unit)



(Remote control unit)

The volume level is displayed on the master volume level display.

※ The volume can be adjusted within the range of -70 to 0 to 18 dB, in steps of 1 dB. However, when the channel level is set as described (page 28), 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 level)".)

Playback using the external input (EXT. IN) terminals

The signals being input to the external decoder input terminals are played without passing through the surround circuitry.

Press the EXT. IN button to select the external input.



- Canceling the external input mode:
Press the **INPUT MODE** or **ANALOG** button to switch to the desired input mode (page 19, 20).
- 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.
- If the subwoofer output level is too high, set the "SW ATT." surround parameter to "ON".

NOTE:

- When the input mode is set to the external input (EXT. IN), the play mode (DIRECT, VIRTUAL SURROUND, STEREO, STANDARD (DOLBY/DTS SURROUND), 5CH/7CH STEREO or DSP SIMULATION) cannot be selected.
- In play modes other than the external input mode, the signals connected to the EXT. IN terminals cannot be reproduced. In addition, signals cannot be output from channels not connected to the input terminals.

Turning the sound off temporarily (MUTING)

Use this to turn off the audio output temporarily.

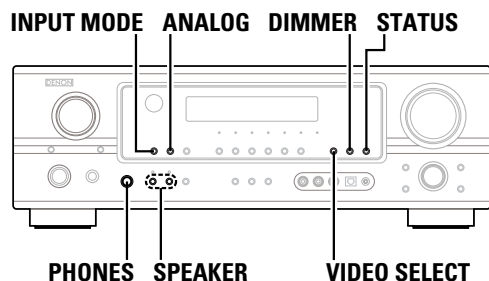
Press the MUTING button.

- You can adjust the muting level (page 44).



- Canceling the MUTING mode:
 - ① Press the **MUTING** button again.
 - ② Press the **VOLUME** button on the remote control unit, or adjust the volume up or down via the front panel **MASTER VOLUME** knob.

Basic Operation



Listening over headphones

Connect the headphones to the **PHONES** jack.

- The pre-out output (including the speaker output) is automatically turned off when headphones are connected.

NOTE:

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

Combining the currently playing sound with the desired image (VIDEO SELECT)

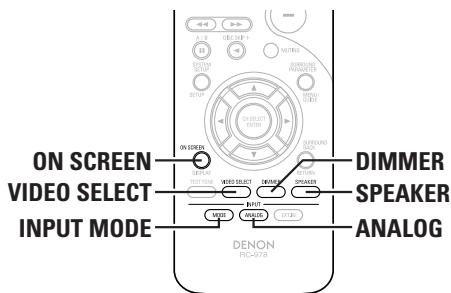
Press the **VIDEO SELECT** button repeatedly until the desired source appears on the display.

IN=V SOURCE

- ※ Use this switch to monitor a video source other than the audio source.



- Canceling simulcast playback:
 - ① Select "SOURCE" by pressing the **VIDEO SELECT** button.
 - ② Switch the program source to the component connected to the video input terminals.



Selecting the front speakers

Press the **SPEAKER A** or **B** button to turn the corresponding speaker pair on.

- ※ The front speaker A, B setting can be also be changed with the **SPEAKER** button on the remote control unit.

Checking the currently playing program source

■ On-screen display

Press the **ON SCREEN** button.

- ※ Each time an operation is performed, a description of that operation appears on the display connected to the unit's VIDEO MONITOR OUT terminal. Also, the unit's operating status can be checked during playback.
- ※ Such information as the position of the input selector and the surround parameter settings is output in sequence.

■ Front panel display

Press the **STATUS** button.

- ※ Descriptions of the unit's operations are also displayed on the front panel display. In addition, the display can be switched to check the unit's operating status while playing a source.

Basic Operation

■ Using the dimmer function

Press the **DIMMER** button.

- ※ The display brightness changes in four steps (bright, medium, dim and off).

Input mode

The AVR-1906 has an AUTO signal detection mode that automatically identifies the type of incoming audio signals, but is also equipped with a manual mode that can be switched according to the type of input audio signals.

■ Selecting the AUTO, PCM and DTS modes

Press the **INPUT MODE** button.

- ※ The mode switches as shown below each time the **INPUT MODE** button is pressed:



AUTO (auto mode):

In this mode, the types of signals being input to the digital and analog input terminals for the selected input source are detected and the program in the AVR-1906's surround decoder is selected automatically upon playback. This mode can be selected for all input sources other than TUNER.

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

Use this mode to play Dolby Digital signals.

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 signals other than PCM signals.

DTS (exclusive DTS signal playback mode):

Decoding and playback are only performed when DTS signals are being input.

Basic Operation

■ Selecting the analog mode

Press the **ANALOG** button to switch to the analog input.

ANALOG (exclusive analog audio signal playback mode):

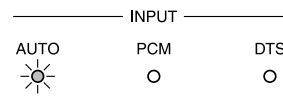
The signals input to the analog input terminals are decoded and played.

NOTE:

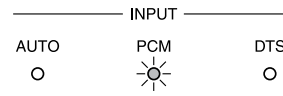
- Input mode when playing DTS sources:
Noise will be output if DTS-compatible CDs or LDs are played in the "ANALOG" or "PCM" mode.
When playing DTS-compatible sources, be sure to connect the source component to the digital input terminals (OPTICAL/COAXIAL) and set the input mode to "DTS".

■ Input mode display

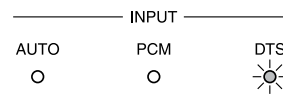
- In the AUTO mode



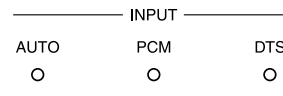
- In the DIGITAL PCM mode



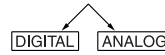
- In the DIGITAL DTS mode



- In the ANALOG mode



Depending on the input signal.



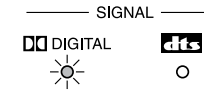
DIGITAL

DIGITAL

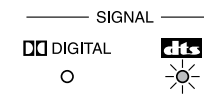
ANALOG

■ Input signal display

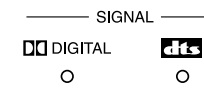
- DOLBY DIGITAL



- DTS



- PCM

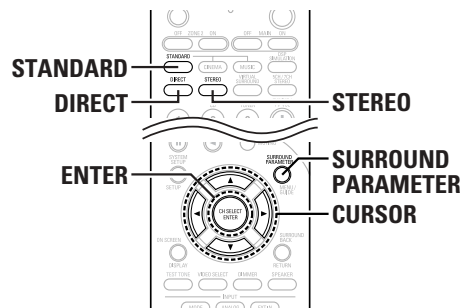
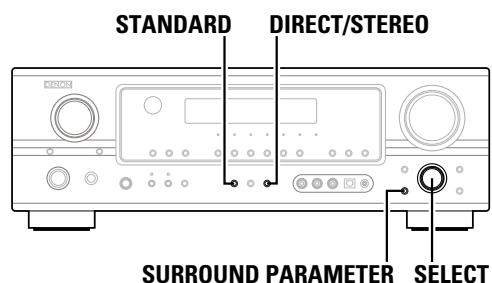


※ The "DIGITAL" indicator lights when digital signals are being input properly. If the "DIGITAL" indicator does not light, check whether the Digital In Assign. setup (page 40) and connections are correct and whether the component's power is turned on.

NOTE:

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

Basic Operation



Surround

Playing audio sources (CDs and DVDs) 2-channel playback modes

- The AVR-1906 is equipped with 2-channel playback modes exclusively for music.
- Select the mode to suit your tastes.

■ DIRECT mode

Use this mode to achieve good quality 2-channel sound while watching images. In this mode, the audio signals bypass such circuits as the tone circuit and are transmitted directly, resulting in good quality sound.

Press the DIRECT/STEREO button on the main unit or the DIRECT button on the remote control unit to select the DIRECT mode.

■ STEREO mode

Use this mode to adjust the tone and achieve the desired sound while watching images.

Press the DIRECT/STEREO button on the main unit or the STEREO button on the remote control unit to select the STEREO mode.

Dolby Pro Logic IIx (Pro Logic II) mode

- To play in the PLIIx mode, set "S. BackSp" at the "Speaker Configuration" setting to "1sp" or "2sp".
- To play in the PLIIx mode, set "Surround Back" at the "Power Amp Assign." setting.

1 Press the **STANDARD** button to select the Dolby Pro Logic IIx mode.

- The Dolby Pro Logic II indicator lights.



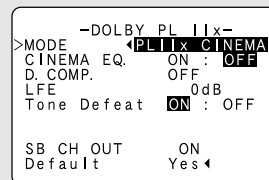
※ The mode switches as shown below each time the **STANDARD** button is pressed.

DOLBY PLIIx ↔ DTS NEO:6

2 Play a program source.

※ For operating instructions, refer to the manuals of the respective components.

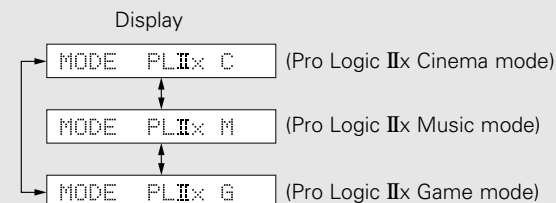
3 Press the **SURROUND PARAMETER** button to select the surround parameter mode.



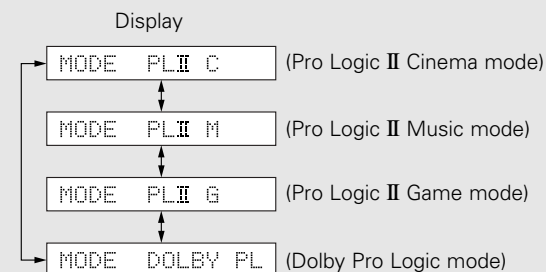
Basic Operation

4 Turn the **SELECT** knob, and press the **CURSOR** ◀ or ▶ button to select the optimum mode for the source.

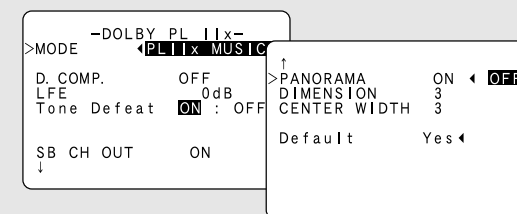
※ When the "SB CH OUT" parameter is set to "ON". (Set "S. BACK" at system setup to "SMALL" or "LARGE".)



※ When the "SB CH OUT" parameter is set to "OFF". (Set "S. BACK" at system setup to "NONE".)



5 Press the **SURROUND PARAMETER** button, and press the **CURSOR** ◀ or ▼ button to select the various parameters.



※ See "Surround parameters ①" for a description of the various parameters.

Basic Operation

6 Turn the **SELECT** knob, and press the **CURSOR** ◀ or ▶ button to set the various surround parameters.

※ When the surround parameters are set using the buttons on the main unit, stop operating the buttons after completing the settings. The settings are automatically finalized and the normal display reappears after several seconds.

7 Press the **ENTER** button to finish the surround parameter mode.



• 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.

■ Surround parameters ①

Pro Logic IIx and Pro Logic II Mode:

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

The Music mode is recommended for stereo music and surround-encoded stereo music sources.

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

The Game mode is for playing games. The game mode can only be used with 2-channel audio sources.

Select one of the modes ("Cinema", "Music", "Pro Logic" or "Game").

• 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 adjusts 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 adjusts 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 mode

1 Press the **STANDARD** button to select the **DTS NEO:6** mode.

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

DOLBY PLIIx ←→ DTS NEO:6

2 Play a program source.

3 Press the **SURROUND PARAMETER** button to select the surround parameter mode.

4 Turn the **SELECT** knob, and press the **CURSOR** ◀ or ▶ button to select the optimum mode for the source.

5 Press the **SURROUND PARAMETER** button, and press the **CURSOR** △ or ▽ button to select the various parameters.

6 Turn the **SELECT** knob, and press the **CURSOR** ◀ or ▶ button to set the various surround parameters.

※ When the surround parameters are set using the buttons on the main unit, stop operating the buttons after completing the settings. The settings are automatically finalized and the normal display reappears after several seconds.

7 Press the **ENTER** button to finish the surround parameter mode.



• 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.

Basic Operation

■ Surround parameters ②

DTS NEO:6 Mode:

• 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).

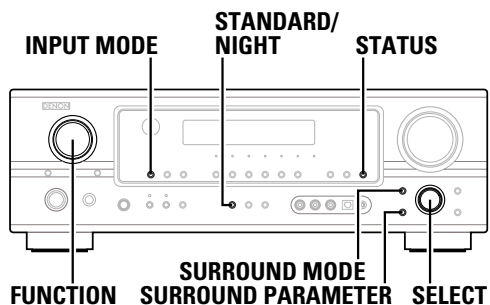
• Music:

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.

CENTER IMAGE (0.0 to 1.0: default 0.3):

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

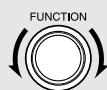
Basic Operation



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

1 Select an input source set to digital (COAXIAL/OPTICAL) (see page 40).

Example: DVD



(Main unit)



(Remote control unit)

2 Press the **INPUT MODE** button to set the input mode to "AUTO" or "DTS".

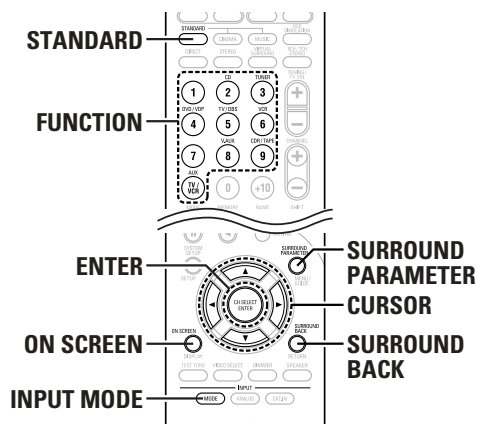
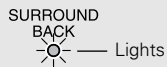
3 Press the **STANDARD** button to select the **STANDARD** (Dolby/DTS Surround) mode.

※ 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 IIx or DTS NEO:6.

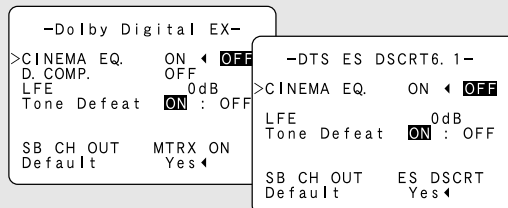
4 Play a program source with the or symbol.

- The Dolby Digital indicator lights when playing Dolby Digital sources. DIGITAL — Lights
- The DTS indicator lights when playing DTS sources. — Lights

※ Operate the **SURROUND BACK** button to switch Surround Back CH ON/OFF.
• The **SURROUND BACK** indicator lights when the **SURROUND BACK** button is on.



5 Press the **SURROUND PARAMETER** button.
• The surround parameter menu is displayed.



6 Press the **SURROUND PARAMETER** button, and press the **CURSOR** or button to select the various parameters.

7 Turn the **SELECT** knob, and press the **CURSOR** or button to adjust the parameter settings.

8 Press the **ENTER** button to finish the surround parameter mode.



• 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.

Basic Operation

■ **Surround parameters ③**

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 IIx, Dolby Digital, DTS Surround and DTS NEO:6 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 or DTS). 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.**

TONE:

This enables the tone control. This can be set individually for the separate surround modes other than DIRECT mode.

Basic Operation

SB CH OUT (Surround Back):

(1) Multi-channel source

- **OFF:**
Playback is conducted without using the surround back speaker.
- **NON MTRX:**
The same signals as those of the surround channels are output from the surround back channels.
- **MTRX ON:**
The surround back channel is reproduced using digital matrix processing.
- **ES MTRX:**
When playing DTS signals, the surround back signals undergo digital matrix processing for playback.
- **ES DSCRT:**
When a signal identifying the source as a discrete 6.1-channel source is included in the DTS signals, the surround back signals included in the source are played.
- **PLIIx Cinema:**
Processing is performed with the Cinema mode of the PLIIx decoder and the surround back channel is reproduced.
- **PLIIx Music:**
Processing is performed with the Music mode of the PLIIx decoder and the surround back channel is reproduced.

(2) 2ch source

- **OFF:**
Playback is conducted without using the surround back speaker.
 - **ON:**
Playback is conducted using the surround back speaker.
- ※ This operation can be performed directly by pressing the **SURROUND BACK** button.

■ Checking the input signal

The input signal can be checked by pressing the remote control unit's **ON SCREEN** button.

SIGNAL:

Displays the type of signal (DTS, DOLBY DIGITAL, PCM, etc.).

fs:

Displays the input signal's sampling frequency.

FORMAT:

Displays the input signal's number of channels.
"Number of front channels/Number of surround channels/ LFE on/off".
"SURROUND" is displayed for 2-channel signal sources recorded in Dolby Surround.

OFFSET:

Displays the dialog normalization offset value.

FLAG:

Displays the special identification signal recorded in the input signal.
"MATRIX" is displayed when matrix processing is conducted on the surround back channel, "DISCRETE" is displayed when discrete processing is conducted.
Not displayed if an identification signal has not been recorded.

- In addition, screen information is displayed in the following order when the **ON SCREEN** button is pressed repeatedly:

OSD-1 Input signal
OSD-2 Input/output
OSD-3 Auto surround mode
OSD-4~10 Tuner preset stations

Mode:Dolby Digital EX
SIGNAL:DOLBY DIGITAL
fs : 48 kHz
FORMAT: 3/3/. 1
OFFSET: -4dB
FLAG : MATRIX

OSD-1

Mode:DTS ES DSCRT6.1
SIGNAL:DTS
fs : 48 kHz
FORMAT: 3/3/. 1
FLAG : DISCRETE

OSD-1

NOTE:

- OSD-3:
This is displayed when the auto surround mode is set to "ON" and the input mode is set to "Auto".
It is not displayed when the input mode is set to "Analog" or "EXT. IN".

Basic Operation

■ Dialog normalization

The dialog normalization function is activated automatically when playing Dolby Digital program sources.

Dialog normalization is a basic function of Dolby Digital which automatically normalizes the dialog level (standard level) of the signals which are recorded at different levels for different program sources, such as DVD, DTV and other future formats that will use Dolby Digital.

These contents can be verified with the **STATUS** or **ON SCREEN** buttons.

Display

OFFSET - 4dB

The number indicates the normalization level when the currently playing program is normalized to the standard level.

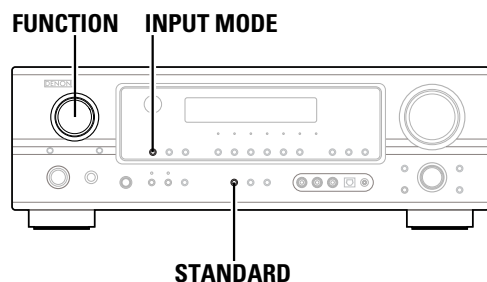
Night mode

When listening at night or at lower volumes, the night mode improves listenability.

Press and hold the STANDARD/NIGHT button for several seconds to enter the night mode.



- Canceling night mode:
Press and hold the **STANDARD/NIGHT** button again.
- The night mode only works when playing program sources recorded in Dolby Digital or DTS.

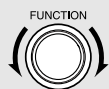


Adjusting the audio delay

- When watching a DVD or other video source, the picture on the monitor may seem delayed with respect to the sound. In this case, adjust the audio delay to delay the sound and synchronize it with the picture.
- The audio delay setting is stored separately for each input source.
- This adjustment can be performed with the system setup (page 43) or from the remote control unit, as described below.

1 Select the input source.

Example: DVD



(Main unit)



(Remote control unit)

2 Press the INPUT MODE button to set the input mode to "AUTO".

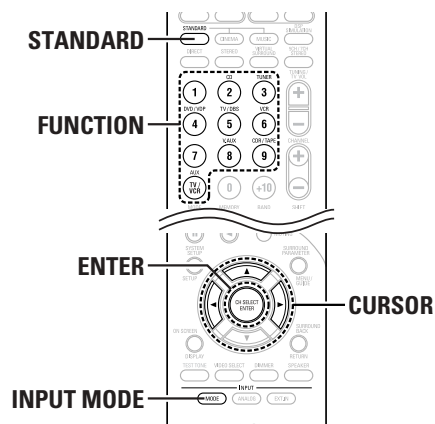
3 Select Dolby/DTS Surround.



(Main unit)



(Remote control unit)



4 Play a program source (DVD, etc.).

5 Press the CURSOR Δ button.

- Switch to the Audio Delay adjustment screen.

6 Press the CURSOR \triangleleft or \triangleright button to set the delay time (0 ms ~ 200 ms).

※ With a movie source, for example, adjust so that the movement of the actors' lips is synchronized with the sound.

7 Press the ENTER button to complete the setting.



- The audio delay setting does not apply when playing in the EXT. IN mode or in the analog input direct or stereo mode.

Basic Operation

Basic Operation

DENON original surround modes

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.

Surround modes and their features

1	5CH/7CH STEREO	The front left channel signals are output to the surround and surround back left channels, the front right channel signals are output to the surround and surround back right channels, and the in-phase component of the left and right channels is output to the center channel. Use this mode to enjoy stereo sound.
2	MONO MOVIE (NOTE)	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 component difference 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.

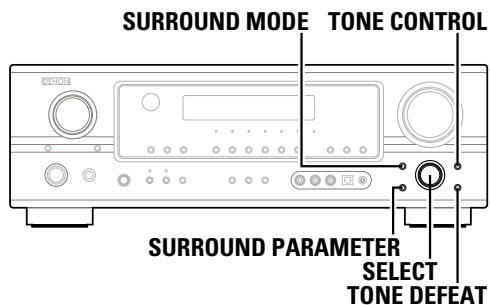
NOTE: When playing sources recorded in monaural, the sound will be one-sided if signals are only input to one channel (left or right), so input signals to both channels. If you have a source component with only one audio output (monophonic camcorder, etc.) obtain a "Y" adapter cable to split the mono output to two outputs, and connect to the L and R inputs.

■ Personal memory plus

This set is equipped with a personal memorize function that automatically memorizes the surround modes and input modes selected for the 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.

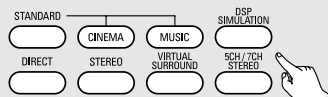
Basic Operation



DSP surround simulation

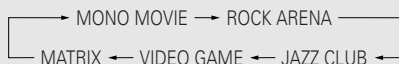
■ To operate the surround mode and the surround parameters from the remote control unit

1 Select the surround mode for the input channel.

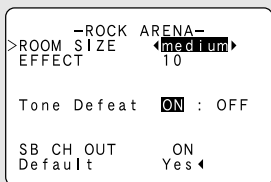


(Remote control unit)

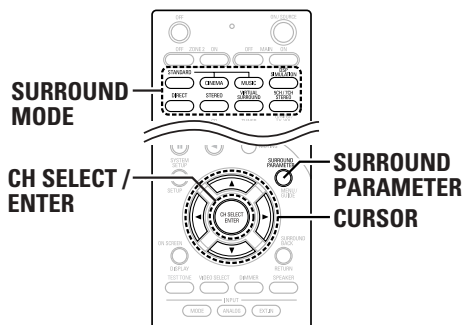
※ The surround mode switches in the following order each time the **DSP SIMULATION** button is pressed:



2 Press the **SURROUND PARAMETER** button to enter the surround parameter setting mode.



※ The surround parameter switches in the following order each time the **SURROUND PARAMETER** button is pressed for the different surround modes.



3 Press the **SURROUND PARAMETER** button, and press the **CURSOR** Δ or ∇ button to select the various parameters.

4 Press the **CURSOR** \triangleleft or \triangleright button to adjust the parameter settings.

5 Press the **ENTER** button to finish the surround parameter mode.

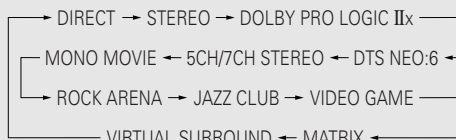


• When making parameter settings, the display will return to the regular condition several seconds after the last button was pressed and the setting will be completed.

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

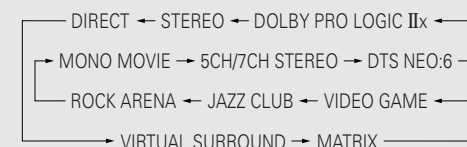
1 Turn the **SELECT** knob to select the surround mode.

※ When turned clockwise:



Basic Operation

※ When turned counterclockwise:



※ To select the surround mode while adjusting the surround parameters, tone defeat or tone control, press the **SURROUND MODE** button, then operate the selector.

2 Press and hold in the **SURROUND PARAMETER** button to select the parameter you want to set.

※ The parameters which can be set differ for the different surround modes are displayed. (Refer to "Surround modes and parameters" (page 57).)

3 Display the parameter you want to adjust, then turn the **SELECT** knob to set it.



• 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.

■ Surround parameters ④

ROOM SIZE:

This sets the size of the sound field. There are five settings: "small", "med.s" (medium-small), "medium", "med.l" (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:

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

STONE CONTROL:

This can be set individually for each surround mode except DIRECT.

Basic Operation

Tone control setting

■ Adjusting the sound quality (tone)

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

1 Press the **TONE CONTROL** button.

- ※ The tone switches as follows each time the **TONE CONTROL** button is pressed.

BASS ↔ TREBLE

2 Turn the **SELECT** knob to adjust the level of the bass or treble.

- ※ To increase the bass or treble:
Turn the control clockwise. (The bass or treble sound can be increased up to +12 dB in steps of 2 dB.)
- ※ To decrease the bass or treble:
Turn the control counterclockwise. (The bass or treble sound can be decreased down to -12 dB in steps of 2 dB.)

■ Tone defeat mode

If you do not want the bass and treble to be adjusted, turn on the tone defeat mode.

Press the **TONE DEFEAT** button.

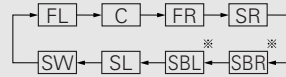
- ※ The signals do not pass through the bass and treble adjustment circuits, thus resulting in higher quality sound.

Channel Level

You can adjust the channel level either according to the playback sources or to suit your taste, as described below.

1 Press the **CH SELECT** button to select the speaker whose level you want to adjust.

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



- ※ When the surround back speaker setting is set to "1sp" for "Speaker Configuration", this is set to "SB".
- ※ "SB" appears only when the "Power Amp Assign." setting is the surround back mode.

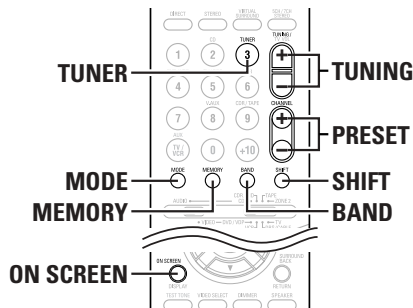
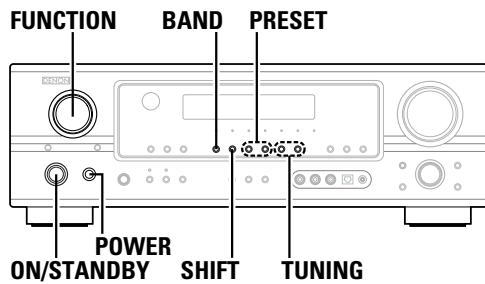
2 Press the **CURSOR** ◀ or ▶ button to adjust the level of the selected speaker.

- ※ The default setting of the channel level is 0 dB.
- ※ The level of the selected speaker can be adjusted within the range of +12 to -12 dB by pressing the **CURSOR** buttons.
- ※ The SW channel level can be turned off by decreasing it one step from -12 dB.

OFF ↔ -12 dB ↔ +12 dB

Basic Operation

Basic Operation



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.
- The "Auto tuner preset" operation can also be performed at "System setup" (🔧 page 42).

Hold the **PRESET ▲** button and press the **POWER** switch on the main unit.

- The unit automatically begins searching for FM broadcast stations.

- ※ 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 A1 to A8, B1 to B8, C1 to C8, D1 to D8, E1 to E8, F1 to F8 and G1 to G8 for a maximum of 56 stations.
- ※ Channel A1 is tuned in after the auto preset memory operation is completed.



- 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 **ON/STANDBY** switch.

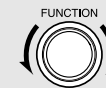
■ DEFAULT SETTINGS

Auto tuner presets	
A1 ~ A8	87.5 / 89.1 / 98.1 / 107.9 / 90.1 / 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
F1 ~ F8	90.1 MHz
G1 ~ G8	90.1 MHz

Basic Operation

Auto tuning

1 Set the input source to "TUNER".



(Main unit)



(Remote control unit)

2 Watching the display, press the **BAND** button to select the desired band (AM or FM).

3 Press the **MODE** button to set the auto tuning mode.



4 Press the **TUNING (+) or (-) button**.

- ※ Automatic searching begins, then stops when a station is tuned in.



- When in the auto tuning mode on the FM band, the "STEREO" indicator lights on the display when a stereo broadcast is tuned in. At open frequencies, the noise is muted and the "TUNED" and "STEREO" indicators turn off.

Basic Operation

Manual tuning

- 1** Set the input source to “TUNER”.
- 2** Watching the display, press the **BAND** button to select the desired band (AM or FM).
- 3** Press the **MODE** button to set the manual tuning mode.
- 4** Press the **TUNING** (+) or (–) button to tune in the desired station.

※ Check that the display’s “AUTO” indicator turns off.

※ The frequency changes continuously when the button is held in.



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

Preset stations

- 1** Use the “Auto tuning” or “Manual tuning” operation to tune in the station to be preset in the memory.
- 2** Press the **MEMORY** button.
- 3** Press the **SHIFT** button and select the desired memory block (A to G).
- 4** Press the **PRESET** (+) or (–) button to select the desired preset channel (1 to 8).
- 5** Press the **MEMORY** button again.

- Store the station in the preset memory.



- To preset other channels, repeat steps 1 to 4.
A total of 56 broadcast stations can be preset — 8 stations (channels 1 to 8) in each of blocks A to G.

Basic Operation

Checking the preset stations

The preset (broadcast) stations can be checked on the on-screen display.

Press the **ON SCREEN** button repeatedly until the “Tuner Preset Stations” screen appears on the OSD.

Tuner Preset Stations	
A1	FM 87.50MHz
A2	FM 89.10MHz
A3	FM 98.10MHz
A4	FM107.90MHz
A5	FM 90.10MHz
A6	FM 90.10MHz
A7	FM 90.10MHz
A8	FM 90.10MHz

OSD-4

Recalling preset stations

- 1** Watching the display, press the **SHIFT** button to select the preset memory block.
- 2** Watching the display, press the **PRESET** ▲ (+) or ▼ (–) button to select the desired preset channel.