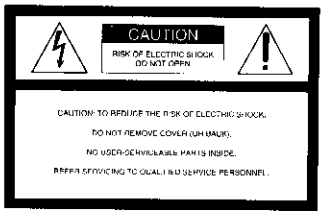
SONY

Digital Surround Processor

SDP-E800

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.



This symbol 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.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT

This equipment 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 equipment 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 equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment 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 equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION

You are cautioned that any change or modifications not expressly approved in this manual could void your authority to operate this equipment.

Owner's record

The model and serial numbers are located on the rear of the unit. Record the serial number in the space provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. SDP-E800
Serial No. _____

For the customers in Canada

CAUTION

TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

Precautions

On safety

- Should any solid object or liquid fall into the cabinet, unplug the processor and have it checked by qualified personnel before operating it any further.

On power sources

- Before operating the processor, check that the operating voltage is identical with your local power supply. The operating voltage is indicated on the nameplate at the rear of the processor.
- This unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.
- If you are not going to use the processor for a long time, be sure to disconnect the processor from the wall outlet. To disconnect the AC power cord, grasp the plug itself; never pull the cord.
- One blade of the plug is wider than the other for the purpose of safety and will fit into the wall outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.
- AC power cord must be changed only at the qualified service shop.

On placement

- Do not install the appliance in a confined space, such as a bookcase or built-in cabinet.
- Place the processor in a location with adequate ventilation to prevent heat buildup and prolong the life of the processor.
- Do not place the processor near heat sources, or in a place subject to direct sunlight, excessive dust or mechanical shock.
- Do not place anything on top of the cabinet that might block the ventilation holes and cause malfunctions.

On operation

- Before connecting other components, be sure to turn off and unplug the processor.

On cleaning

- Clean the cabinet, panel and controls with a soft cloth slightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

For customers in the USA

For detailed safety precautions, see the "IMPORTANT SAFEGUARDS" leaflet.

If you have any question or problem concerning your processor, please consult your nearest Sony dealer.

About This Manual

Conventions

- The instructions in this manual describe the controls on the processor. You can also use the controls on the remote if they have the same or similar names as those on the processor.
- The following icons are used in this manual:


Indicates that you can use only the remote to do the task.


Indicates hints and tips for making the task easier.

This processor incorporates the Dolby Pro Logic Surround system. Manufactured under license from Dolby Laboratories Licensing Corporation. DOLBY, the double-D symbol ⊡⊡, "AC-3" and "PRO LOGIC" are trademarks of Dolby Laboratories Licensing Corporation.

TABLE OF CONTENTS

EN

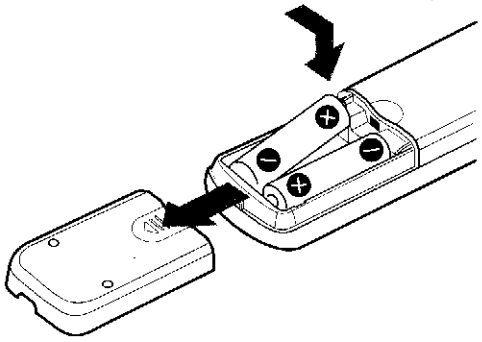
Unpacking

Check that you received the following items with the processor:

- Remote commander (remote) (1)
- Size AA (R6) batteries (2)
- Connecting cords (3)

Inserting batteries into the remote

Insert two size AA (R6) batteries with the + and – on the battery compartment. When using the remote, point it at the remote sensor ▣ on the processor.



When to replace batteries

Under normal use, the batteries should last for about 6 months. When the remote no longer operates the processor, replace both batteries with new ones.

Notes

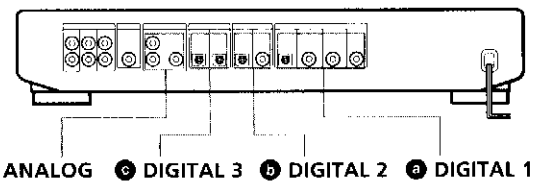
- Do not leave the remote in an extremely hot or humid place.
- Do not use a new battery with an old one.
- Do not expose the remote sensor to direct sunlight or lighting apparatuses. Doing so may cause a malfunction.
- If you don't use the remote for an extended period of time, remove the batteries to avoid possible damage from battery leakage and corrosion.

Before you get started

- Do not connect the power cord to an AC outlet or press the POWER switch before completing all connections.
- The cable connectors should be fully inserted into the jacks. Loose connection may cause hum and noise.

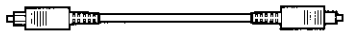
Source Component Hookups

The surround processor allows you to connect up to 3 digital audio (video) source components, such as a DVD player, LD player (with AC-3 RF output) and CD player (etc.). You can also connect 1 analog source component, such as a VCR.

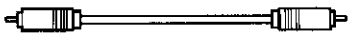


What cords will I need?

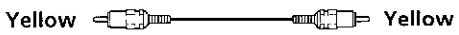
- Optical digital connecting cord (not supplied)



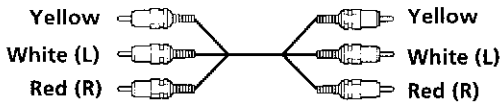
- Coaxial digital connecting cord (not supplied)



- Video cable (not supplied)



- Audio/video cable (not supplied)

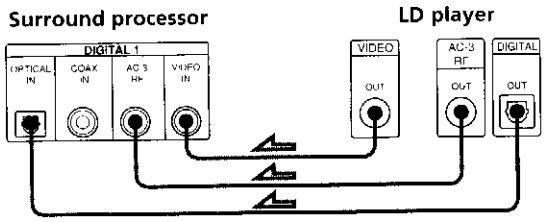


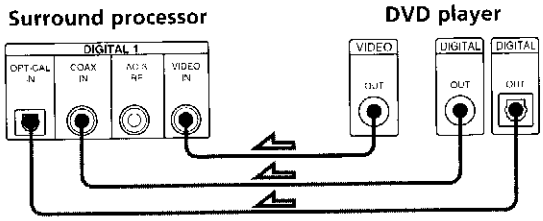
Make sure to match the color of the plugs and the jacks:

- Yellow jacks and plugs: Video signal
- Red jacks and plugs: Right audio channel
- White jacks and plugs: Left audio channel

: signal flow

a DIGITAL 1 (to a LD or DVD player)

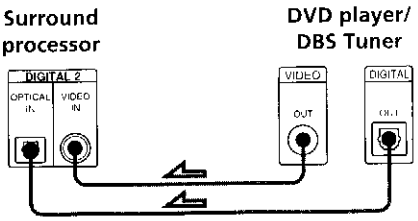




Notes for LD players

- Be sure to connect the LD player's AC-3 RF output to the surround processor's AC-3 RF input jack.
- If your LD player has an optical digital output, connect it to the DIGITAL 1 OPTICAL IN jack on this unit. This connection can be used together with the AC-3 RF connection.

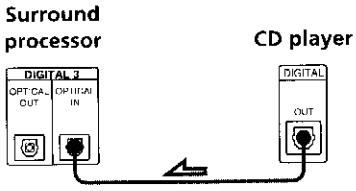
b DIGITAL 2 (to a DVD player or DBS tuner)

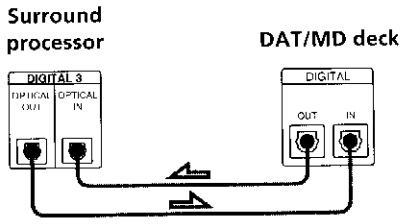


Note

If your DVD player has a coaxial digital output, we recommend connecting the DVD player's COAXIAL DIGITAL OUTPUT to the this unit's DIGITAL 1 COAX IN instead of making the optical connection to DIGITAL 2.

c DIGITAL 3 (to a CD player or DAT/MD deck)

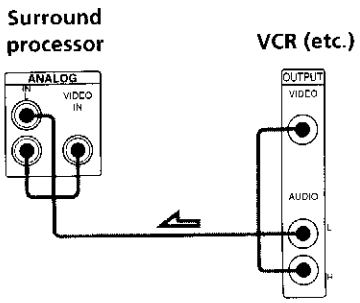




Note

This unit is only compatible with digital components using 32 kHz/44.1 kHz/48 kHz sampling frequencies. It is not compatible with 96 kHz.

d ANALOG (to a VCR, etc.)

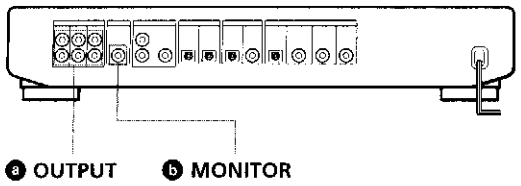


Warning regarding the playback of DAT/MD sources

When playing DAT/MD sources through this unit, do not play a DAT/MD that contains digital recordings made from a DVD player whose digital output was set to "DOLBY DIGITAL". High volume noise will be output which may damage this unit or your speakers.

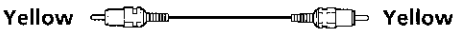
Amplifier Hookups

Connect the audio and video signals output from the surround processor to a multi-channel amplifier with 5.1 ch input and video input capability.

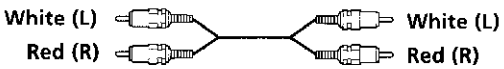


What cords will I need?

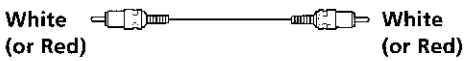
- Video cable (not supplied)



- Audio cable (supplied)



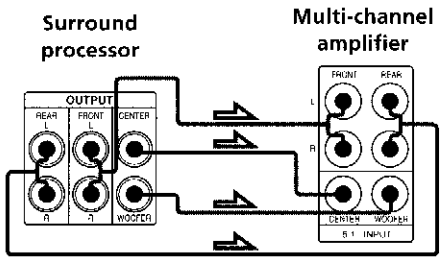
- Audio cable (not supplied)



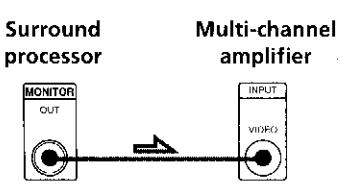
Make sure to match the color of the plugs and the jacks:

- Yellow jacks and plugs: Video signal
- Red jacks and plugs: Right audio channel
- White jacks and plugs: Left audio channel
- You can use either red or white cables for the center and sub woofer audio channels.

Ⓐ OUTPUT (to 5.1 ch audio input)



Ⓑ MONITOR (to 5.1 ch video input*)



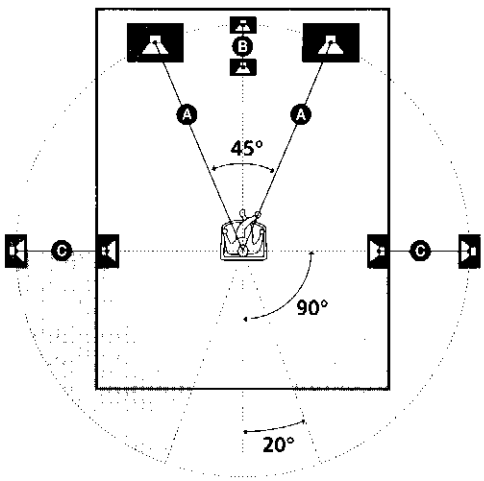
* If the 5.1 ch input does not have a corresponding video input jack, connect MONITOR to the video input jack of the function that is selected when the 5.1 input is activated. (Refer to the operating instructions supplied with your amplifier for details regarding its operation.)

Speaker Placement

Normally, to obtain the best possible surround sound all speakers should be placed the same distance from your listening position (Ⓐ).
This unit, however, allows you to place the center speaker closer (Ⓑ), so that it lines up with the front speakers. The rear speakers can also be placed closer (Ⓒ), according to the shape of your room.
If you feel that this placement reduces the surround effects, you can adjust the center and rear delay parameters to obtain the effect you desire (see page 9).

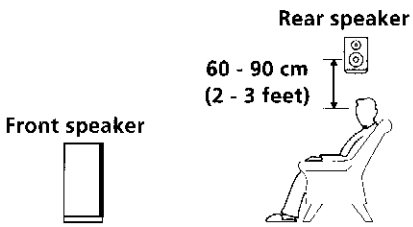
Note

To take full advantage of Dolby Digital (AC-3) surround effects we reccommend using high quality speakers. We also reccommend using front, center, and rear speakers that are of the same size and quality.

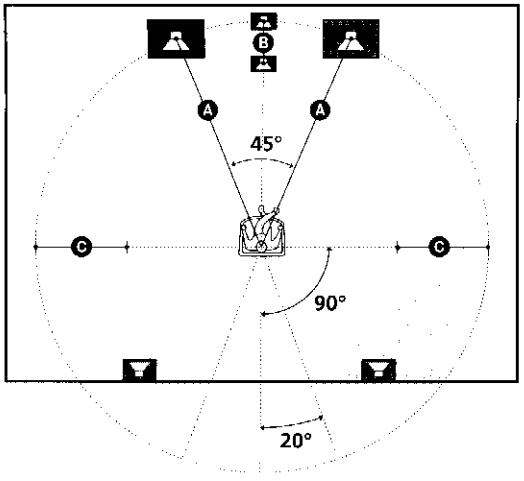


Notes

- Do not place the center or rear speakers farther away from the listening position than the front speakers.
- When mounting the rear speakers on side walls perpendicular to the listening position they should be placed 60 - 90 cm (2 - 3 feet) above the listening position.



Depending on the shape of your room (etc.), you may wish to place the rear speakers behind you instead of on the side walls. One advantage of this placement is that you can use a pair of large floor standing speakers matching your front speakers.



Note

If you place the rear speakers behind you, be sure to check the speaker location setting in the SP. SETUP menu when using VIRTUAL MULTI REAR and VIRTUAL REAR SHIFT sound fields (see pages 8 and 13 for details).

Before You Use Your Processor

Before you start using your processor, make sure that you have:

- Turned MASTER VOLUME to near the center position.

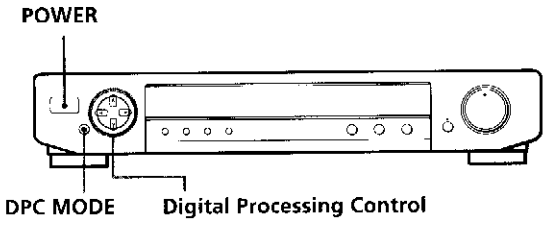
Turn on the processor and check the following indicator.

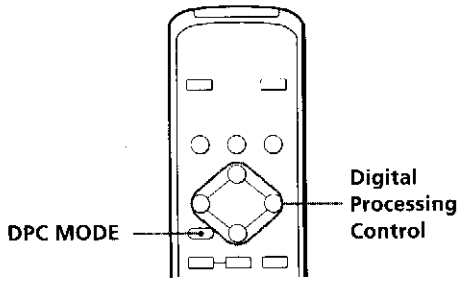
- Press MUTING on the remote if "MUTING" appears in the display.

Speaker Set Up

To obtain the best possible surround sound, first specify the type of speakers you have connected. Then use the test tone to adjust the speaker volumes to the same level.

Specifying the speaker type





1 Press POWER on the front panel to turn on the processor.

2 Press DPC MODE repeatedly until "SP · SETUP" appears in the display.

3 Use digital processing control buttons (∧ / ∨) to select the parameter you want.

Front speaker

Initial setting is : FRONT SP. [LARGE]

- If you connect large speakers that will effectively reproduce bass frequencies, select "LARGE".
- If you cannot obtain sufficient surround effects when playing a Dolby Digital (AC-3) source (a source for which the DISCRETE indicator lights), select "SMALL". The bass frequencies for the front speakers will be output from the sub woofer or other "LARGE" speakers.

Center speaker

Initial setting is : CENTER SP. [LARGE]

- If you connect large speakers that will effectively reproduce bass frequencies, select "LARGE".
- If you cannot obtain sufficient surround effects when playing a Dolby Digital (AC-3) source (a source for which the DISCRETE indicator lights), select "SMALL". The bass frequencies for the center speaker will be output from the sub woofer or other "LARGE" speakers.
- If you do not connect the center speaker, select "NO".

Rear speaker

Initial setting is : REAR SP. [LARGE]

- If you connect large speakers that will effectively reproduce bass frequencies, select "LARGE".
- If you cannot obtain sufficient surround effects when playing a Dolby Digital (AC-3) source (a source for which the DISCRETE indicator lights), select "SMALL". The bass frequencies for the rear speakers will be output from the sub woofer or other "LARGE" speakers.
- If you do not connect rear speakers, select "NO".

Rear speaker place

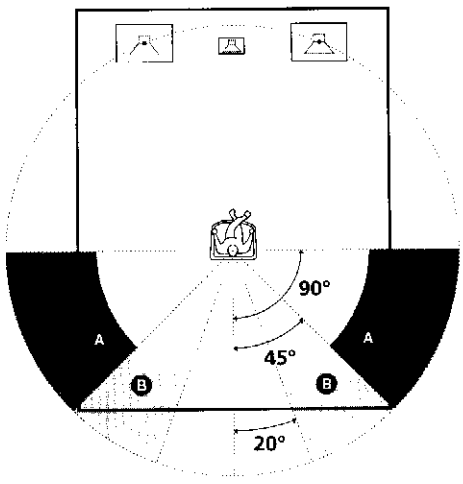
Initial setting is : REAR SP. [SIDE]

This parameter lets you specify the location of your rear speakers for proper implementation of the Digital Cinema Sound VIRTUAL REAR SHIFT and VIRTUAL MULTI REAR modes. Refer to the illustration below.

- Set to SIDE if the location of your rear speakers corresponds to section Ⓐ.
- Set to BEHIND if the location of your rear speakers corresponds to section Ⓑ.

This setting effects only the VIRTUAL REAR SHIFT and VIRTUAL MULTI REAR modes.

This parameter does not appear when the rear speaker parameter is set to "NO".



Sub woofer

Initial setting is : SUB WOOFER [YES]

- If you connect a sub woofer, select "YES" to output the LFE (low frequency extension) channel from the sub woofer.
- If you do not connect a sub woofer, select "NO". This activates the Dolby Digital (AC-3) bass redirection circuitry and outputs the LFE signals from other speakers.
- In order to take full advantage of the Dolby Digital (AC-3) bass redirection circuitry, we recommend setting the sub woofer's cut off frequency as high as possible. (However, when using an amplifier with 5.1 ch inputs, set the sub woofer's cut off frequency to match the characteristics of the amplifier.)

4 Use digital processing control buttons (< / >) to adjust the level of the parameter.

Adjusting the delay time

The delay time allows you create a more effective surround effect by adding a sense of depth to the center or rear channels. Longer delay times create a greater sense of depth.

1 Press POWER on the front panel to turn on the processor.

2 Press DPC MODE repeatedly until "OTHER SETUP" appears in the display

3 Use digital processing control buttons (∧ / ∨) to select the parameter you want.

Center speaker delay

Initial setting is : CENTER DELAY 0ms

Use this parameter to add a sense of depth to the center channel.

- Center speaker delay time can be set in 1 ms steps from 0 to 5 ms.

Rear speaker delay

Initial setting is : REAR DELAY 5ms

Use this parameter to add a sense of depth to the rear channels.

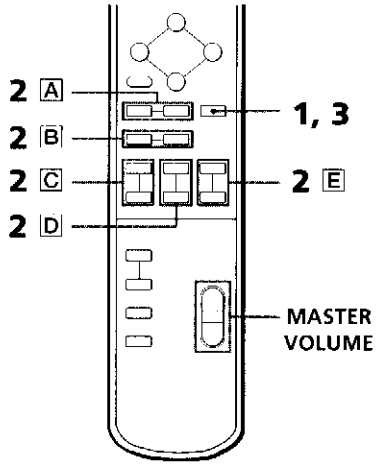
When "PRO LOGIC" is displayed, the actual delay time is 15ms longer than the time shown in the display.

- Rear speaker delay time can be set in 5 ms steps from 0 to 15 ms.

4 Use digital processing control buttons (< / >) to adjust the level of the parameter.

Adjusting the speaker volume

Use the remote while seated in your listening position to adjust the volume of each speaker.



Note

This unit incorporates a new test tone with a frequency centered at 800 Hz for easier speaker volume adjustment.

1 Press TEST.
You will hear the test tone from each speaker in sequence.

2 From your listening position, use the remote to adjust the volume of each speaker so that the test tone can be heard at the same level from all speakers.

A Press FRONT BAL L or R to adjust the balance between the front left and right speakers (±8 dB, 0.5 dB/steps).
During this adjustment, the test tone is emitted from both speakers simultaneously.

B Press REAR BAL L or R to adjust the balance between the rear left and right speakers (±8 dB, 0.5 dB/steps).
During this adjustment, the test tone is emitted from both speakers simultaneously.

C Press CENTER + or – to adjust the level of center speaker (+10 to –20 dB, 0.5 dB/steps).
During this adjustment, the test tone is emitted from the center speaker.

D Press REAR + or – to adjust the level of rear speakers (+10 to –20 dB, 0.5 dB/steps).
During this adjustment, the test tone is emitted from both speakers simultaneously.

E Press SUB WOOFER + or – to adjust the level of the sub woofer (+10 to –20 dB, 0.5 dB/steps).
During this adjustment, the test tone is emitted from the sub woofer.

3 Press TEST to turn off the test tone.

(continued)

To adjust the volume of all the speakers at one time

Use MASTER VOLUME on the processor, remote, or your multichannel processor.

When using an amplifier with 5.1 ch inputs, set this unit's MASTER VOLUME to near the center position and adjust the amplifier's volume control.

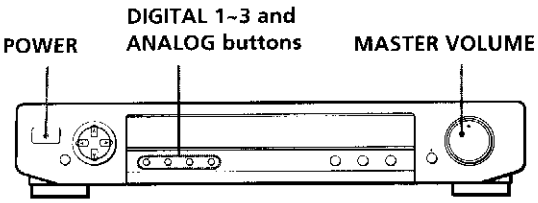
Notes

- The test tone will not be emitted if the sound field is set to VIRTUAL ENHANCED A/B, ACOUSTIC or KARAOKE.
- The front balance, rear balance, center level, rear level, and sub woofer level are shown in the display during adjustment.
- Although these adjustments can also be made with the LEVEL ADJUST menu using the digital processing control buttons on the front panel, we recommend you follow the procedure described above and adjust the speaker levels from your listening position using the remote control.

Selecting a Component

To listen to or watch a connected component, first select the function on the processor or with the remote. Before you begin, make sure you have:

- Connected all components securely and correctly as indicated on pages 4 to 7.
- Turned MASTER VOLUME to near the center position (when using an amplifier with 5.1 ch inputs).
- Turned MASTER VOLUME to the leftmost position (when using separate amplifiers for each speaker).



1 Press POWER to turn on the processor.

2 Select the component you want to use:

To listen or watch	Press
An LD or DVD player connected to the DIGITAL 1 input jacks.*1	DIGITAL 1 repeatedly*2
Digital components connected to the DIGITAL 2 or 3 input jacks.	DIGITAL 2 or 3
An analog component connected to the ANALOG input jacks.	ANALOG

*1 This unit's digital inputs detect Dolby Digital (AC-3) or PCM signals automatically. (The AC-3 RF input terminal for use with LD players is for Dolby Digital (AC-3) signals only.)

*2 **Press repeatedly to choose the appropriate input jack for the DIGITAL 1 audio signals (AC-3 RF), (OPTICAL) or (COAXIAL).**

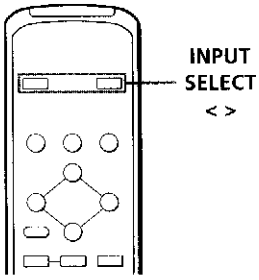
3 Select the 5.1 ch input on your multi-channel amplifier and make sure the amplifier's video selector is set appropriately (see page 6).
EXAMPLE: Turn FUNCTION to select "LD", then press 5.1 INPUT (for Sony TA-VA8ES). At this time, set the MASTER VOLUME control on your amplifier to "0".

4 Turn on the source component, the LD player for example, and start playback.

5 Use the MASTER VOLUME on your multi-channel amplifier to adjust the volume.

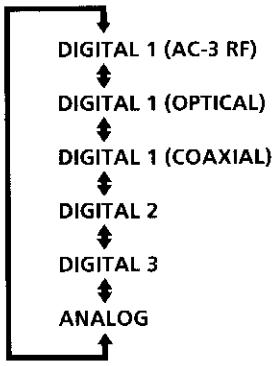
To	Do This
Mute the sound	Press MUTING on the remote. Press again to restore the sound.
Reinforce the bass	Press BASS BOOST to turn on the BASS BOOST indicator.
Turn off the display	Press DISPLAY on the remote.
Adjust the level of the sub woofer	Press SUB WOOFER +/– on the remote.

Using the remote



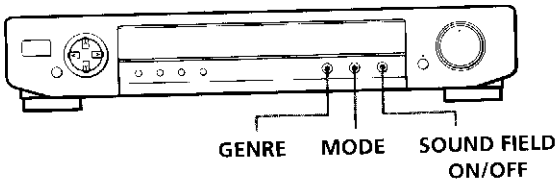
1 Press POWER on the front panel to turn on the processor.

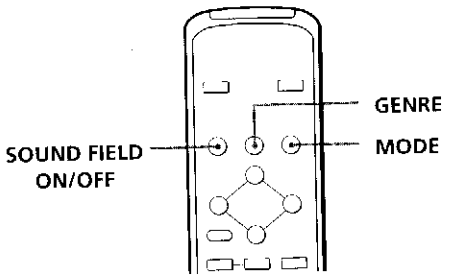
2 Press INPUT SELECT < or > repeatedly to display the input for the component you want to use. The inputs change as folllows each time you press INPUT SELECT.



Selecting a Sound Field

You can select a sound field according to the type of source you are playing.
When playing program sources recorded in the Dolby Digital (AC-3) format, you can enjoy surround sound simply by selecting "DOLBY".
This unit also incorporates several pre-programmed "Digital Cinema Sound" modes. Select from these surround modes according to your preference to enjoy powerful sound effects from a wide variety of program sources.





1 Press GENRE repeatedly to display the sound field genre (The previously selected mode also appears).

2 Press MODE repeatedly to display the sound field mode.

For the list of sound fields, see page 13.

To turn off the sound fields (2 channel stereo playback)
Press SOUND FIELD ON/OFF. At this time, the input signals are automatically downmixed to 2 ch (L, R) stereo signals.

You can find Dolby Surround-encoded software by looking at the packaging
Use discs with the DOLBY DIGITAL logo. In order to enjoy Dolby Digital (AC-3) playback you must use discs bearing this logo.

Notes on the output of Dolby Digital (AC-3) source signals
When Dolby Digital (AC-3) encoded sources are played back through this unit, the output method changes automatically according to the information recorded on the source and the settings of this unit.

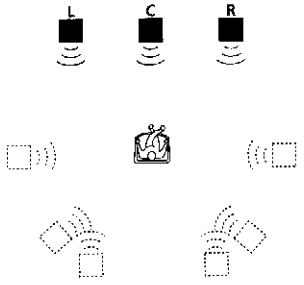
- **When playing a source encoded with discrete information**
  If the "DOLBY" sound field is set to ON: The DISCRETE indicator lights up and the number of channels recorded in the source are decoded and output directly.
  If a sound field (other than "ACOUSTIC" or "KARAOKE") is set to ON: The DISCRETE indicator lights up and the number of channels recorded in the source are decoded. The effects provided by each sound field are then added to each channel before the sound is output.
  If the "ACOUSTIC" soundfield is selected or the sound field is set to OFF: The source signal is downmixed to 2 ch (Left and Right) stereo before output. When "ACOUSTIC" is selected equalizer (EQ) adjustments can be performed.
- **When playing a source encoded with Dolby Pro Logic information**
  If the "DOLBY" sound field is set to ON: "PRO LOGIC" appears in the display, the sound is decoded using Pro Logic formula and output.
  If a sound field (other than "ACOUSTIC") is set to ON: The effects provided by each sound field are added to each channel before the sound is output.
  When the sound field genre is MOVIE (except for MONO MOVIE) or 3D the sound is decoded using the Pro Logic formula and "PRO LOGIC" appears in the display.
  If the "ACOUSTIC" sound field is selected or the sound field is set to OFF: The source signal is downmixed to 2 ch (Left and Right) stereo before output. When "ACOUSTIC" is selected equalizer (EQ) adjustments can be performed.

Note on the "KARAOKE" mode
The KARAOKE mode is designed to reduce vocal tracks positioned in the center of 2 channel sources. Therefore, 5.1 channel Dolby Digital (AC-3) sources must be downmixed to 2 channels before the KARAOKE effect can be applied. Consequently, the "DISCRETE" indicator does not light when you select KARAOKE while inputting 5.1 channel Dolby Digital (AC-3) sources.

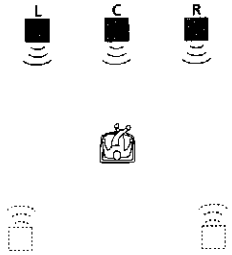
Sound fields

Genre	Mode	Surround effect
DOLBY	NORMAL	Decodes programs processed with Dolby Surround.
	ENHANCED	Additional output from rear speakers when decoding Dolby Surround programs.
MOVIE	CINEMA STUDIO A	Reproduces the sound characteristics of the Sony Pictures Entertainment "Cary Grant Theater" cinema production studio.
	CINEMA STUDIO B	Reproduces the sound characteristics of the Sony Pictures Entertainment "Kim Novak Theater" cinema production studio.
	CINEMA STUDIO C	Reproduces the sound characteristics of the Sony Pictures Entertainment scoring stage.
	SMALL THEATER	Adds acoustic reflections of a theaters to decoded Dolby Surround signals.
	MEDIUM THEATER	
	LARGE THEATER	
	NIGHT THEATER	Provides surround effects for listening at low volume levels.
	MONO MOVIE	Creates a theater-like environment from movies with 2-channel monaural soundtracks.
3D	VIRTUAL ENHANCED A	Uses 3D sound imaging to create virtual rear speakers from the sound of the front speakers without using actual rear speakers. The virtual speakers are reproduced as shown in Ill. Ⓐ.
	VIRTUAL ENHANCED B	Uses 3D sound imaging to create virtual rear speakers from the sound of the front speakers without using actual rear speakers. The virtual speakers are reproduced as shown in Ill. Ⓑ.
	VIRTUAL REAR SHIFT	Uses 3D sound imaging to shift the sound of the rear speakers away from the actual speaker position (Ill. Ⓒ). The shift position differs according to the setting of the rear speaker position (see page 8).
	VIRTUAL MULTI REAR	Uses 3D sound imaging to create an array of virtual rear speakers from a single pair of actual rear speakers (Ill. Ⓓ). The position of the virtual rear speakers differs according to the setting of the rear speaker position (see page 8).
MUSIC	SMALL HALL	Reproduces the acoustics of a rectangular concert hall. Ideal for soft acoustic sounds.
	LARGE HALL	
	SMALL OPERA HOUSE	Reproduces the acoustics of an opera house. Ideal for musicals and operas.
	LARGE OPERA HOUSE	
	SMALL JAZZ CLUB	Reproduces the acoustics of a jazz club.
	LARGE JAZZ CLUB	
	CHURCH	Reproduces the acoustics of a church.
	LIVE HOUSE	Reproduces the acoustics of a rock and roll club.
	ACOUSTIC	Reproduces normal 2-channel stereo with equalization (EQ).
	KARAOKE	Reduces the vocal tracks of normal 2-channel stereo music sources.
SPORTS	ARENA	Reproduces the feeling of a large concert arena. Great for rock and roll.
	STADIUM	Reproduces the feeling of a large open-air stadium. Great for electric sounds.
GAME	GAME	Obtains maximum audio impact from video game software.

III.Ⓐ VIRTUAL ENHANCED (SURROUND) A

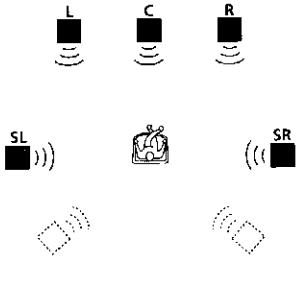


III.Ⓑ VIRTUAL ENHANCED (SURROUND) B

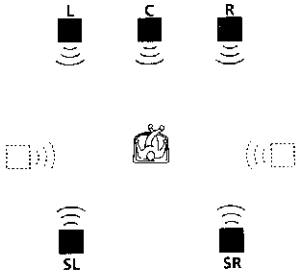


III.Ⓒ VIRTUAL REAR SHIFT

For REAR SP [SIDE]*

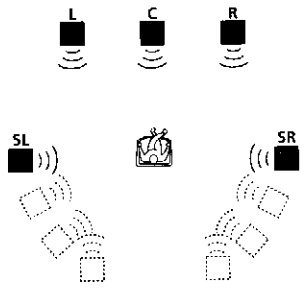


For REAR SP [BEHIND]*

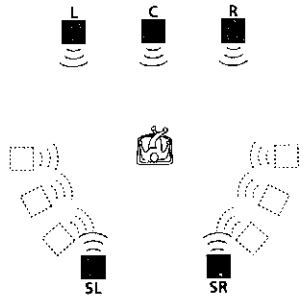


III.Ⓓ VIRTUAL MULTI REAR

For REAR SP [SIDE]*



For REAR SP [BEHIND]*



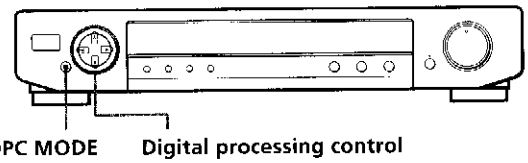
L : Front speaker (left)
R : Front speaker (right)
C : Center speaker
SL : Rear speaker (left)
SR : Rear speaker (right)
⬚ : Virtual speaker

* See page 8 for details on how to set the rear speaker position.

Customizing the Sound Fields

Each sound field is composed of equalizer parameters (bass/treble) and surround sound parameters — variables of sound that create the sound image. You can customize the sound fields by adjusting some of the sound parameters (equalizer and/or surround sound parameters) to suit your listening situation.

Once you customize the sound fields, they are stored in memory unless the processor is unplugged for about 1 week. To change a customized sound field, make new adjustments to the respective sound field.



1 Start playing a component, then select the sound field you want to adjust.

2 Press DPC MODE repeatedly to display on of the following menus:

SP. SETUP
LEVEL ADJUST
SURROUND
EQUALIZER
OTHER SETUP

3 Use digital processing control buttons (∧ / ∨) to select the parameter you want.

4 Use digital processing control buttons (< / >) to adjust the parameter.

Compressing the dynamic range (except for ACOUSTIC)

When inputting a Dolby Digital (AC-3) signal you can compress the dynamic range of the sound track by using the dynamic range compression ratio (D. RANGE COMP) parameter in the surround menu. This may be useful when you want to watch movies at low volumes late at night. See page 16 for details on the dynamic range compression parameter.

Note

Certain parameters may not be available for adjustment depending on the current settings and menu modes.

Adjustable sound parameters

		Equalizer parameter	Surround sound parameters							
Genre	Mode	EQ	C.LEV.*	R.LEV.* (R.BAL.*)	W.LEV.*	LFE MIX (D.COMP)	WALL	SEAT (F-R/L-R)	REVERB	EFFECT
DOLBY	NORMAL	●	●	●	●	●				
	ENHANCED	●	●	●	●	●				
MOVIE	CINEMA STUDIO A	●	●	●	●	●				●
	CINEMA STUDIO B	●	●	●	●	●				●
	CINEMA STUDIO C	●	●	●	●	●				●
	SMALL THEATER	●	●	●	●	●	●	●	●	●
	MEDIUM THEATER	●	●	●	●	●	●	●	●	●
	LARGE THEATER	●	●	●	●	●	●	●	●	●
	NIGHT THEATER	●	●	●	●	●	●	●	●	●
	MONO MOVIE	●	●	●	●	●	●	●	●	●
3D	VIRTUAL ENHANCED A	●	●	●	●	●				●
	VIRTUAL ENHANCED B	●	●	●	●	●				●
	VIRTUAL REAR SHIFT	●	●	●	●	●				●
	VIRTUAL MULTI REAR	●	●	●	●	●				●
MUSIC	SMALL HALL	●	●	●	●	●	●	●	●	●
	LARGE HALL	●	●	●	●	●	●	●	●	●
	SMALL OPERA HOUSE	●	●	●	●	●	●	●	●	●
	LARGE OPERA HOUSE	●	●	●	●	●	●	●	●	●
	SMALL JAZZ CLUB	●	●	●	●	●	●	●	●	●
	LARGE JAZZ CLUB	●	●	●	●	●	●	●	●	●
	CHURCH	●	●	●	●	●	●	●	●	●
	LIVE HOUSE	●	●	●	●	●	●	●	●	●
	ACOUSTIC	●								
	KARAOKE	●		●	●	●				●
SPORTS	ARENA	●	●	●	●	●	●	●	●	●
	STADIUM	●	●	●	●	●	●	●	●	●
GAME	GAME	●	●	●	●	●	●	●	●	●

* These settings are not stored separately for each sound mode. They effects all of the sound modes simultaneously.

Notes

- All of the previous surround modes can be used with Dolby Digital (AC-3) sound sources (except for ACOUSTIC).
- C.LEV. = Center Level, R.LEV. (R.BAL) = Rear Level (Rear Balance), W.LEV. = Woofer Level, LFE MIX (D.COMP) = Low Frequency Effect Mix (Dynamic Compression), WALL = Wall type, SEAT (F-R/L-R) = Seat (Front-Rear/Left-Right), REVERB = Reverberation, EFFECT = Effect level

SURROUND menu

Surround effect level

Initial setting is : EFFECT [_____]

This parameter can be adjusted directly using EFFECT +/– on the remote. It lets you adjust the "presence" of the current digital cinema sound surround effect.

- The effect level can be adjusted from 0% to 100%.
- In the KARAOKE mode, use the effect level to adjust the amount of vocal cancellation. Greater effect levels produce greater reduction of the vocals.

Wall Type

Initial setting is : WALL S___I___H

It lets you adjust the "brightness" of the current digital cinema sound surround effect.

When sound is reflected off soft material, such as a curtain, the high frequency elements are reduced. A hard wall is highly reflective and does not significantly affect the frequency response of the reflected sound.

The WALL parameter lets you control the level of the high frequencies to alter the sonic character of your listening environment by simulating a softer (S), or harder (H) wall. The midpoint designates a neutral wall (made of wood).

Front to rear seat position

Initial setting is : SEAT F___I___R

It lets you control the balance of direct and reflected sound to simulate your listening position. "F" signifies the front of the room and "R" signifies the rear. The midpoint designates the center.

Left to right seat position

Initial setting is : SEAT L___I___R

It lets you control the balance of direct and reflected sound to simulate your listening position. "L" signifies the left side of the room and "R" signifies the right side. The midpoint designates the center.

Reverberation time

Initial setting is : REVERB S___I___L

It lets you adjust the amount of reverberation present in the current digital cinema sound surround effect.

This parameter adjusts the length of time required for the reverberation (echoes) generated from a given sound to attenuate –60 dB.

You can choose shorter (S) or longer (L) reverberation times.

Low Frequency Extension (LFE) mix level (DISCRETE only)

Initial setting is : LFE MIX 0dB

This parameter lets you attenuate the level of the LFE (Low Frequency Extension) channel output from the sub woofer without effecting the level of the bass frequencies sent to the sub woofer from the front, center or rear channels via the bass redirection circuitry.

- The level can be adjusted in 0.5 dB steps from –20.0 dB to 0 dB (line level). 0 dB outputs the full LFE signal at the mix level determined by the recording engineer.
- Selecting MUTE mutes the sound of the LFE channel from the sub woofer. However, the low frequency sounds of the front, center, or rear speakers are output from the sub woofer according to the settings made for each speaker in the speaker setup (page 8).

Dynamic range compression ratio

Initial setting is : D.RANGE COMP OFF

Lets you compress the dynamic range of the sound track. This may be useful when you want to watch movies at low volumes late at night.

- OFF reproduces the sound track with no compression.
- STD reproduces the sound track with the full dynamic range as intended by the recording engineer.
- 0.1 ~ 0.9 allow you to compress the dynamic range in small steps to achieve the sound you desire.
- MAX provides a dramatic compression of the dynamic range.

EQUALIZER menu

The initial settings are different for each mode.

Front speaker bass adjustment

Level : F:BASS 0 dB

Frequency : F:BASS 250Hz

Use digital processing control buttons (< / >) to adjust the level, then use (∧ / ∨) to select the frequency (Hz) and use (< / >) to adjust the frequency. Repeat until you achieve the sound you desire.

- The level can be adjusted ±10 dB in 0.5 dB steps.

Front speaker treble adjustment

Level : F:TREBLE 0 dB

Frequency : F:TREBLE 2.5kHz

Adjust as described in "Front speaker bass adjustment".

- The level can be adjusted ±10 dB in 0.5 dB steps.

Center speaker bass adjustment

Level : C:BASS 0 dB

Frequency : C:BASS 250Hz

Adjust as described in "Front speaker bass adjustment".

- The level can be adjusted ±10 dB in 0.5 dB steps.

Center speaker treble adjustment

Level : C:TREBLE 0 dB

Frequency : C:TREBLE 2.5kHz

Adjust as described in "Front speaker bass adjustment".

- The level can be adjusted ±10 dB in 0.5 dB steps.

Rear speaker bass adjustment
Level : R:BASS 0 dB
Frequency : R:BASS 250Hz
Adjust as described in "Front speaker bass adjustment".
- The level can be adjusted ±10 dB in 0.5 dB steps.

Rear speaker treble adjustment
Level : R:TREBLE 0 dB
Frequency : R:TREBLE 2.5kHz
Adjust as described in "Front speaker bass adjustment".
- The level can be adjusted ±10 dB in 0.5 dB steps.

OTHER SETUP menu

Center speaker delay
Initial setting is : CENTER 0ms
See "Adjusting the delay time" on page 9 for details.

Rear speaker delay
Initial setting is : REAR 5ms
See "Adjusting the delay time" on page 9 for details.

Dimmer level
This setting lets you select the the brightness of the display on the front panel.
- You can select between four different settings.

SP. SETUP menu

The speaker setup menu contains parameters that allow you to set the type and size of the speakers in your system. This information is essential for production of realistic surround sound. For details about the settings available in this menu see "Speaker Set Up" on page 8.

Front speaker
Initial setting is : FRONT SP. [LARGE]

Center speaker
Initial setting is : CENTER SP. [LARGE]

Rear speaker
Initial setting is : REAR SP. [LARGE]

Rear speaker place
Initial setting is : REAR SP. [SIDE]

Sub woofer
Initial setting is : SUB WOOFER [YES]

LEVEL ADJUST menu

The LEVEL ADJUST menu contains speaker level adjustment parameters that allow you to balance output level to each speaker.

These settings can also be adjusted directly using remote. See "Adjusting the speaker volume" (page 9).

Front speaker balance
Initial setting is : FRONT L ___I___ R
Lets you adjust the balance between the front left and right speakers.

Rear speaker balance
Initial setting is : REAR L ___I___ R
Lets you adjust the balance between the rear left and right speakers.

Rear speaker level
Initial setting is : REAR 0 dB
Lets you adjust level of the rear (left and right) speakers.

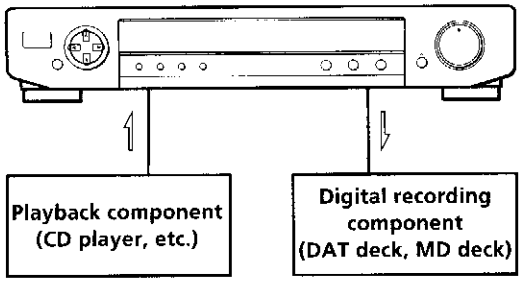
Center speaker level
Initial setting is : CENTER 0 dB
Lets you adjust the level of the center speaker.

Sub woofer level
Initial setting is : SUB WOOFER 0 dB
Lets you adjust the level of the sub woofer.

Digital Recording

This processor makes it easy to make digital recordings from the components connected to the processor. You don't have to connect playback and recording components directly.

Before you begin, make sure you've connected all components properly.



⟹: **Signal flow**

EXAMPLE: Recording a CD using a DAT deck.
See your DAT or CD player's instruction manual if you need help.

1 Press DIGITAL 2 (if a CD player is connected to the DIGITAL 2 INPUT) to select the CD player.

2 Insert a blank digital audio tape into the DAT for recording.

3 Start recording on the DAT and then start playing the CD you want to record.

Notes

- You cannot record the digital signal from a Dolby Digital (AC-3) program source.
- You cannot record the video signal from a connected source component.

Troubleshooting

If you experience any of the following difficulties while using the processor, use this troubleshooting guide to help you remedy the problem. Should any problem persist, consult your nearest Sony dealer.

There's no sound or only a very low-level sound is heard.

- ➡ Check that the speakers and components are connected securely.
- ➡ Press MUTING if "MUTING" appears in the display.
- ➡ Make sure you select the correct component on the processor.
- ➡ Make sure you select the correct input on your multichannel amplifier.

The left and right sounds are unbalanced or reversed.

- ➡ Check that the speakers and components are connected correctly and securely.

Severe hum or noise is heard.

- ➡ Check that the speakers and components are connected securely.
- ➡ Check that the connecting cords are away from a transformer or motor, and at least 10 feet (3 meters) away from a TV set or fluorescent light.
- ➡ Place your TV away from the audio components.
- ➡ The plugs and jacks are dirty. Wipe them with a cloth slightly moistened with alcohol.

No sound or only a very low-level sound is heard from the rear speakers.

- ➡ Make sure the rear speaker size parameter in the SP. SETUP menu is set to either small or large (see page 8).
- ➡ Adjust the speaker volume appropriately (see page 9).
- ➡ Make sure you turned on the surround mode (see page 12).

No sound is heard from the center speaker.

- ➡ Make sure the center speaker size parameter in the SP. SETUP menu is set to either small or large (see page 8).
- ➡ Adjust the speaker volume appropriately (see page 9).

Surround effect cannot be obtained.

- ➡ Make sure you turn on the surround mode (see page 12).
- ➡ Press EFFECT + on the remote when using a digital cinema sound mode to increase the presence of the surround effect (see page 16).

No picture or an unclear picture is seen on the TV screen.

- ➡ Select the appropriate function on your multichannel amplifier.
- ➡ Place your TV away from the audio components.

Digital recording is not possible.

- ➡ Check that the components are connected correctly.
- ➡ Dolby Digital (AC-3) sources cannot be recorded digitally onto DAT or MD.

The remote does not function.

- ➡ Point the remote at the remote sensor ■ on the processor.
- ➡ Remove the obstacles in the path of the remote and the processor.
- ➡ Replace both batteries in the remote with new ones if they are weak.

The KARAOKE sound field does not produce a reduction in the level of the vocals.

- ➡ Increase the level of the EFFECT parameter. However, with certain sources it may be difficult to reduce the level of the vocals.

Specifications

Digital inputs	Optical: 3 Coaxial: 1 AC-3 RF: 1
Digital outputs	Optical: 1
Analog outputs	FRONT (L R), REAR (L R), CENTER, WOOFER: Output level: 1V Output impedance: 1 kilohms
BASS BOOST	+5 dB at 60 Hz
Video inputs	3 (ANALOG VIDEO IN, DIGITAL 1 VIDEO IN, DIGITAL 2 VIDEO IN)
Video output	1 (MONITOR OUT)
Power requirements	U.S.A. and Canada 120 V AC, 60 Hz Singapore 230 V AC, 50/60 Hz China 220 - 230 V AC, 50/60 Hz Australia 240 V AC, 50 Hz
Power consumption	35 W
Dimensions	430 x 98 x 355.5 mm ($17 \times 3\ ^7/_8 \times 14$ in)
Mass (Approx.)	3.5 kg (7 lb 11 oz)
Supplied accessories	See page 4.

Design and specifications are subject to change without notice.

Values for the Chinese model measured at 230 V AC, 50/60 Hz.

Glossary

Center mode

A setting used by the Dolby Pro Logic Surround mode to determine the kind of signal processing required to produce the surround effect with the speakers you have connected. The center mode is determined automatically according to the setting of the speaker size parameters in the SP. SETUP menu.
This processor's Dolby Digital (AC-3) circuitry provides a more versatile range of speaker settings than the standard Dolby Pro Logic center mode setting. For your reference, the following chart shows the relationship between the Dolby Digital (AC-3) speaker size parameters and the Dolby Pro Logic center mode.

FS – Front speaker size
CS - Center speaker size
RS – Rear speaker size
C.Mode = Dolby Pro Logic center mode

FS	CS	RS	C.Mode
SMALL	SMALL	SMALL	
LARGE	SMALL	SMALL	NORMAL
SMALL	SMALL	LARGE	—
LARGE	SMALL	LARGE	NORMAL
LARGE	LARGE	SMALL	WIDE
LARGE	LARGE	LARGE	WIDE
SMALL	LARGE	SMALL	
SMALL	LARGE	LARGE	
SMALL	NO	SMALL	—
LARGE	NO	SMALL	PHANTOM
LARGE	NO	LARGE	PHANTOM
SMALL	NO	LARGE	—
LARGE	SMALL	NO	—
LARGE	LARGE	NO	3CH
SMALL	SMALL	NO	
SMALL	LARGE	NO	—

Dolby Digital (AC-3)

This is a new digital surround system proposed to reproduce Dolby SR-D (the 3 dimensional sound system developed for use in movie theaters) in the home. This technology allows you to enjoy the full 5.1 ch soundtrack intended by the filmmaker, in the comfort of your own home.

Digital Cinema Sound

The application of Sony digital signal processing technology to shift sound away from the actual speaker position and simulate the sound direction information produced by several speakers positioned in places around or behind the listening position.
The number and angle of the simulated (virtual) speakers were developed to simulate the sound of the actual speaker arrangement in the editing rooms of Sony Pictures Entertainment, Hollywood.
These sound modes allow you to enjoy a truthful reproduction of the sound environment intended by the filmmaker, in the comfort of your own home.

Dolby Pro Logic Surround

Decoding system of Dolby Surround sound standardized in TV programs and movies. Compared with the former Dolby Surround system, Dolby Pro Logic Surround improves sound image by using four separate channels: off-screen audio effects, on-screen dialog, left-to-right panning, and music. These channels manipulate the sound to be heard and enhance the action as it happens on the screen. To take advantage of Dolby Pro Logic, you should have at least one pair of rear speakers and/or one center speaker.
You also need to select the appropriate center mode to enjoy a full effect.

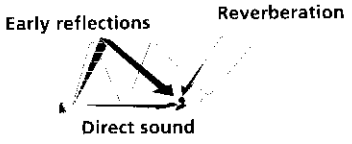
Dolby Surround

Encoding and decoding system of Dolby Surround sound for consumer use. Dolby Surround decodes the extra channels on the Dolby Surround-encoded sound tracks of movie videos and TV programmed and produces sound effects and echoes that make the action seem to envelop you.

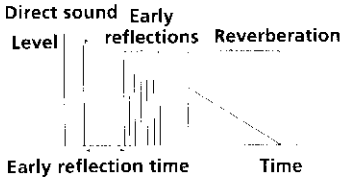
Surround sound

Sound that consists of three elements: direct sound, early reflected sound (early reflections) and reverberative sound (reverberation). The acoustics where you hear the sound affect the way these three sound elements are heard. These sound elements are combined in such a way that you can actually feel the size and the type of a concert hall.

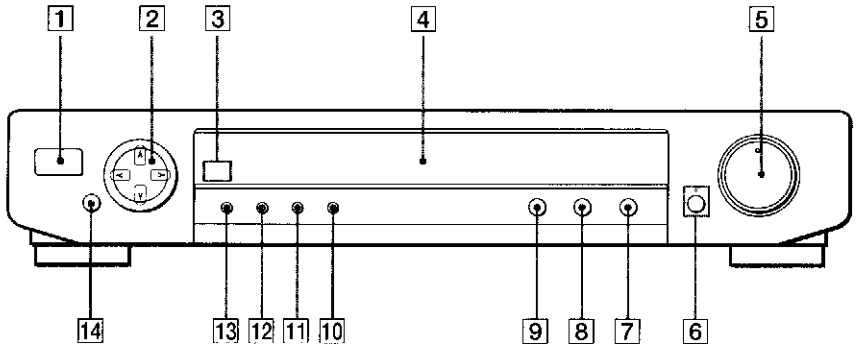
- **Types of sound**



- **Transition of sound from rear speakers**

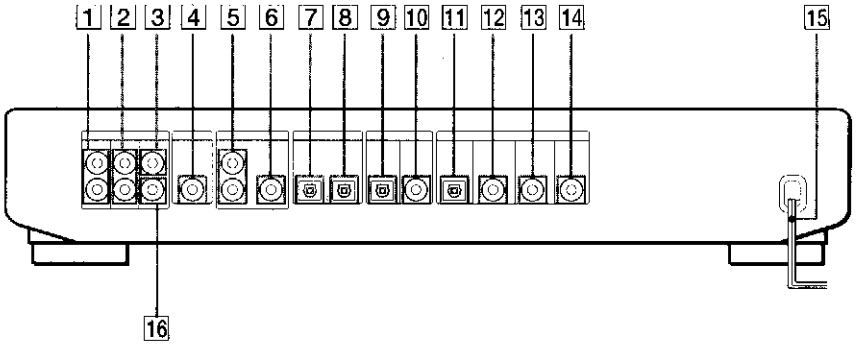


Front Panel Descriptions



1 POWER
2 Digital processing control
3 Remote sensor
4 Display
5 MASTER VOLUME
6 BASS BOOST
7 SOUND FIELD ON/OFF
8 MODE
9 GENRE
10 ANALOG
11 DIGITAL 3
12 DIGITAL 2
13 DIGITAL 1
14 DPC MODE

Rear Panel Descriptions



1 FRONT L (left) and R (right) OUTPUT
2 REAR L (left) and R (right) OUTPUT
3 CENTER OUTPUT
4 MONITOR OUT
5 ANALOG: audio IN L (left) and R (right)
6 ANALOG: VIDEO IN
7 DIGITAL 3: OPTICAL OUT
8 DIGITAL 3: OPTICAL IN
9 DIGITAL 2: OPTICAL IN
10 DIGITAL 2: VIDEO IN
11 DIGITAL 1: OPTICAL IN
12 DIGITAL 1: COAX IN
13 DIGITAL 1: AC-3 RF
14 DIGITAL 1: VIDEO IN
15 AC power cord
16 WOOFER OUTPUT

Index