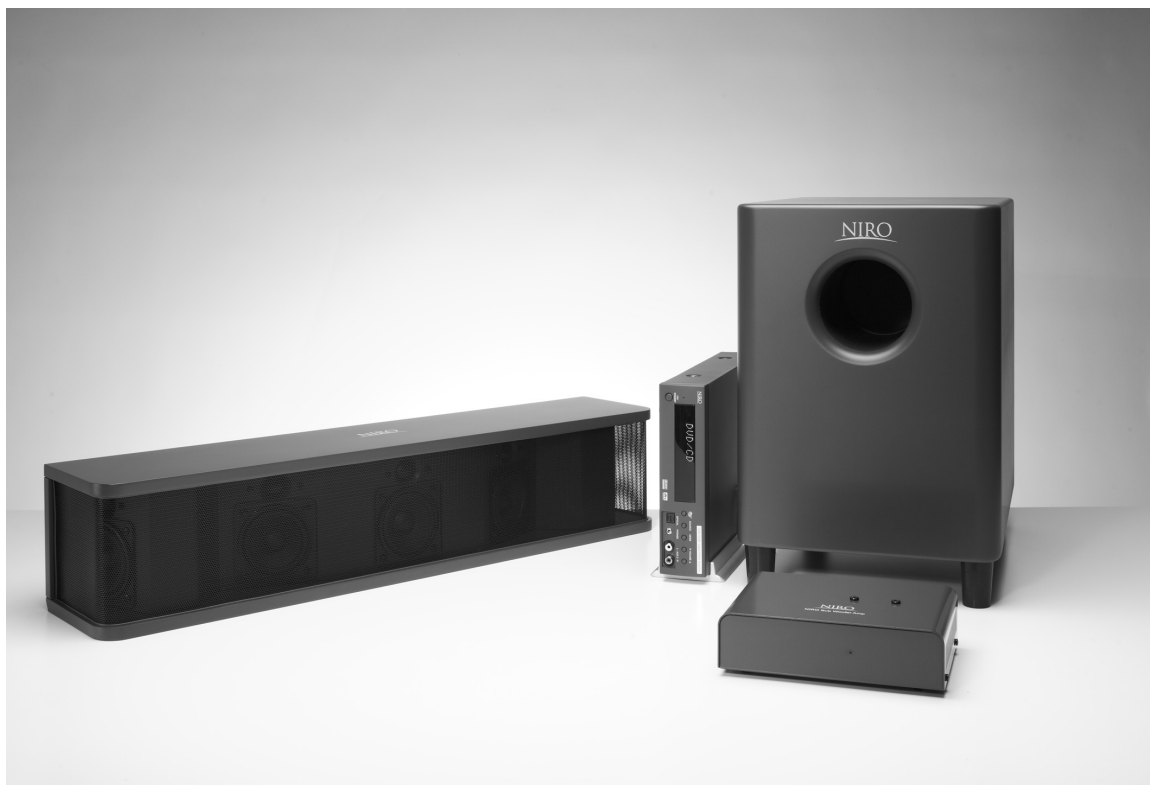


NIRO

NIRO 1000/800/620/420 OWNER'S MANUAL



WARNING

- TO PREVENT FIRE OR SHOCK HAZARD, DO NOT USE THIS PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.
- TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.



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 products enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

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 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.

IMPORTANT SAFETY INSTRUCTIONS

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources, such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinch particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 13) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

This appliance shall not be exposed to dripping or splashing water and that no object filled with liquid such as vases shall be placed on the apparatus.

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■ Memory Cards

By employing a dedicated memory card to install new programs to the amplifier, its functions can be expanded and upgraded and a new speaker to be released in the future can be used. For this reason, the rear panel of the amplifier is provided with a memory card slot for inserting a memory card that contains those programs.

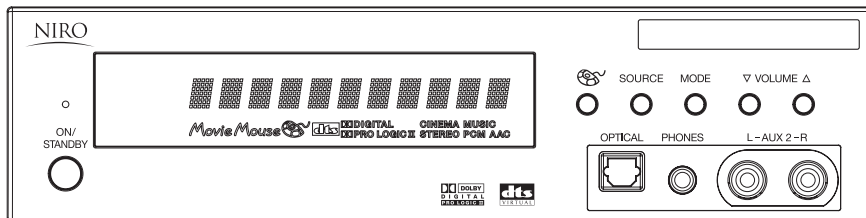
Before Using

Check the Enclosed Contents

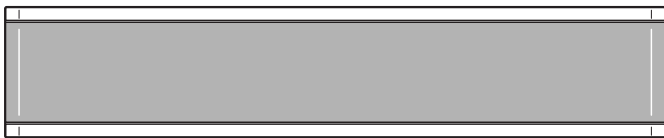
Note:

- An **optical digital cable (toslink), coaxial cable and audio cable are not included with this system** in anticipation of use with a diverse range of connection environments. Purchase the cable corresponding to the equipment to be used and location where it is to be used at an electronics shop or similar establishment after referring to the separate "Easy Connection Guide".

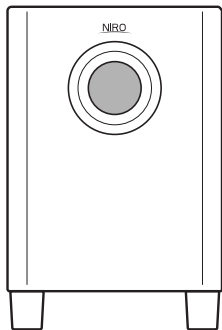
● Amplifier



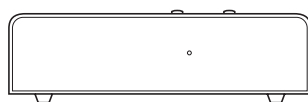
● Satellite speaker (with speaker cable)



● Subwoofer (with speaker cable)



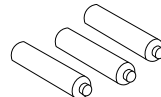
● Subwoofer Amp (Applies to NIRO 1000 only)



● Remote controller




● Size AAA batteries (3)

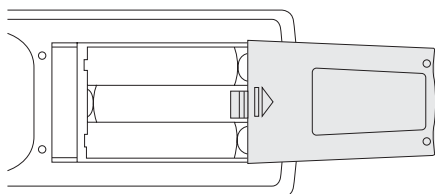
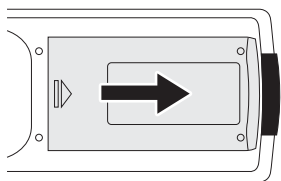


- Instruction manual
- Easy connection guide
- Warranty

If the attached speaker cable (6.5 ft.) is not long enough for your setup, use the extension cable (16.5 ft.) available separately.

■ Preparing the Remote Controller

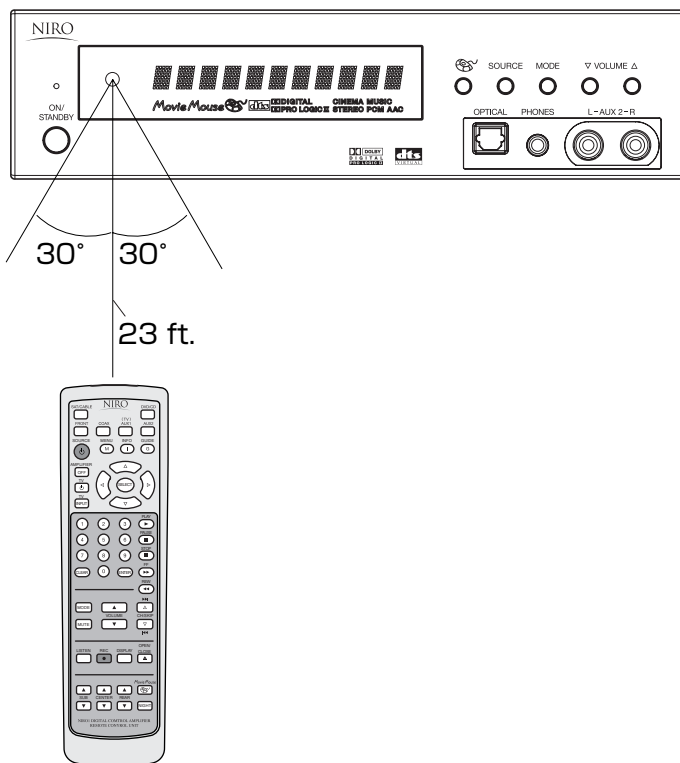
- 1** Slide the battery cover in the direction of the arrow while pressing on the arrow .
- 2** Install 3 AAA batteries. Insert the batteries while properly aligning the battery terminals with the polarity marks indicated on the battery case.
- 3** Close the battery cover.



- Replace all batteries at the same time when replacing the batteries.
- Do not mix old batteries with new batteries.
- Do not mix different types of batteries such as alkaline batteries with manganese batteries.

■ Using the Remote Controller

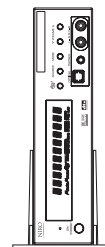
When using the remote controller, point the remote controller at the IR receiving window of the amplifier within an angle of 30° to the left and right and within a distance of 23 feet.



Installation Procedure

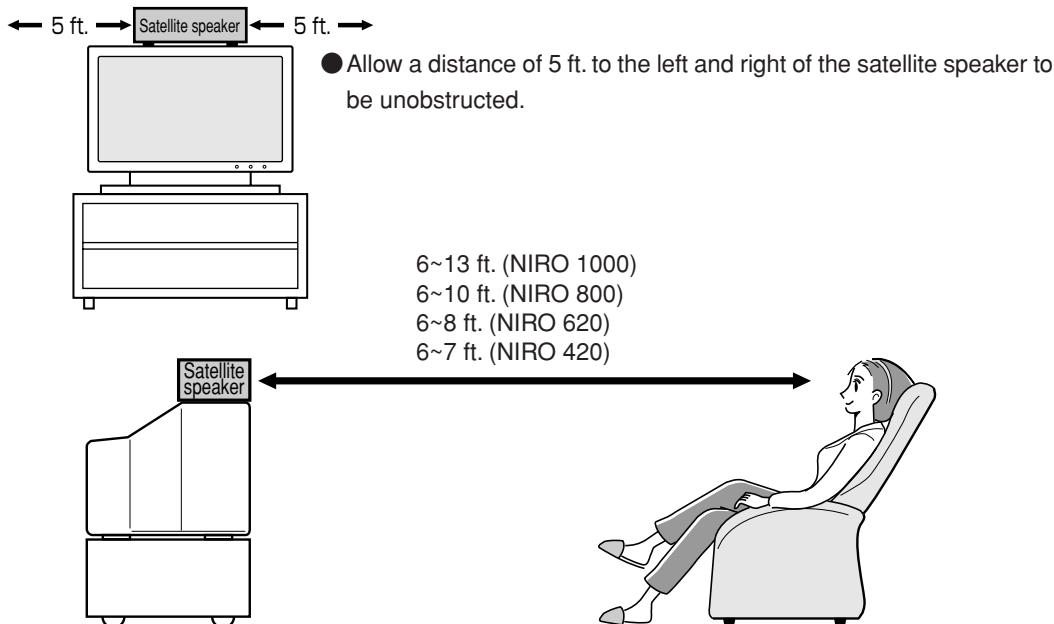
■ Installing the Amplifier

Although the amplifier is normally installed horizontally, a separately sold stand (NIRO SPA VERTICAL STAND) can be used to install the amplifier upright.

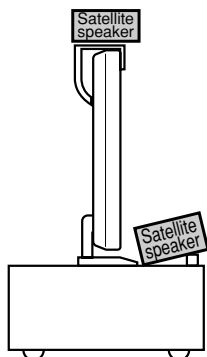


■ Installing the Satellite Speaker

Optimum Surround effects are obtained when the satellite speaker is installed in a suitable location. Install the satellite speaker by referring to the illustration below.

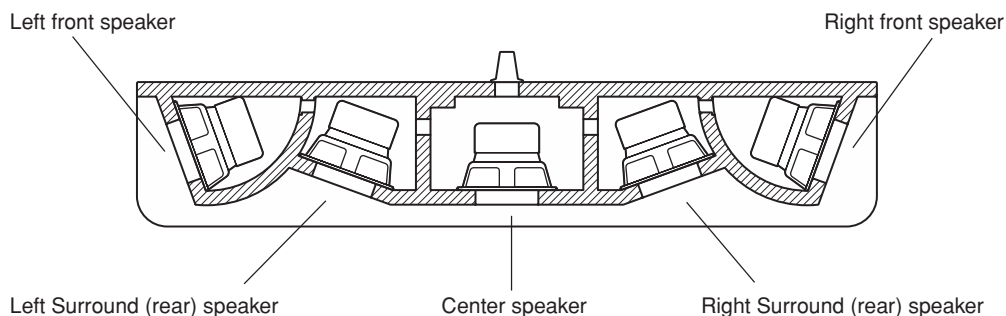


- Installing the satellite speaker at the same height as your head lets you enjoy optimum Surround effects.



- If the satellite speaker is installed at a lower location, tilt the speaker upward so that it faces towards your head.
- The satellite speaker is shielded from magnetism, and will not distort your TV image.
- When placing on top of a flat screen TV, use speaker mounting accessories (sold separately). When using the accessories, make sure to attach it securely after carefully reading the instruction manual provided.

● Satellite Speaker (The illustration shows the speaker when viewed from above.)

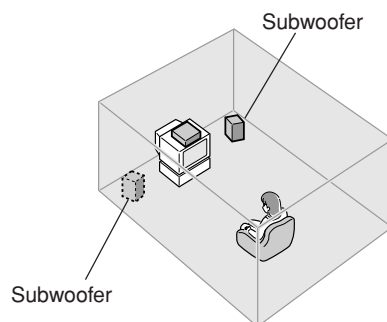


The satellite speaker incorporates five speaker units to reproduce 5-channel sound.

- Center speaker Reproduces vocal sounds such as movie dialogue
- Surround (rear) speakers Reproduce rear left and right sound effects
- Front speakers Reproduce front left and right sounds

■ Installing the Subwoofer

- Install on a sturdy, stable floor surface.
- It is recommended the subwoofer be installed either on the right or on the left side of the television.
- The subwoofer is not shielded from magnetism. Do not place it too close to the television. (There is no effect on plasma televisions and LCD televisions).



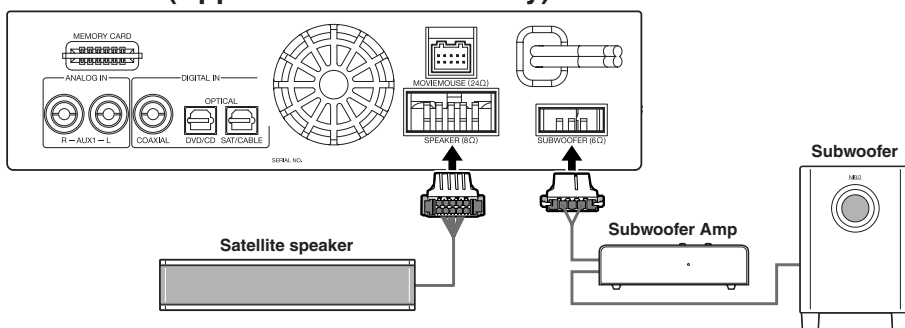
Connecting the Speakers

■ Connecting the Satellite Speaker and Subwoofer

Connect the satellite speaker and subwoofer to the amplifier. Connect the connector attached to the satellite speaker to the “SPEAKER” connector on the amplifier, and connect the connector attached to the subwoofer to the “SUBWOOFER” connector on the amplifier. Always make sure to turn the amplifier’s power off before making connections.

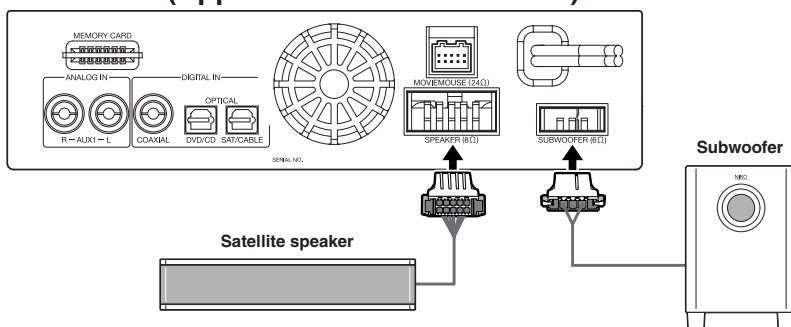
For the NIRO 1000, connect the NIRO Sub Woofer Amp between the digital power amplifier and the Subwoofer. See the instruction enclosed with the NIRO Sub Woofer Amp for more details.

Rear Panel (Applies to NIRO 1000 only)



Note: Insert the connectors until they lock in place.

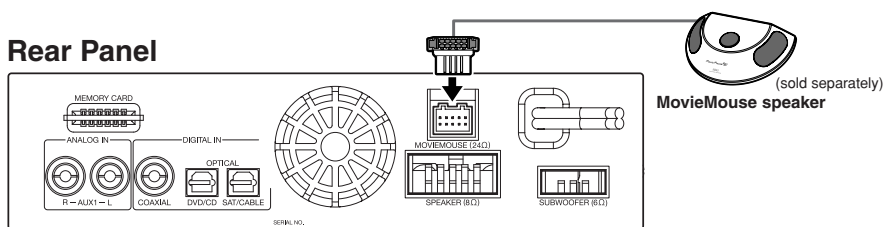
Rear Panel (Applies to NIRO 800/620/420)



Note: Insert the connectors until they lock in place.

■ Connecting the MovieMouse Speaker (Sold Separately)

Connect the connector of the MovieMouse speaker (sold separately) to the “MOVEIMOUSE” connector on the amplifier. Refer to page 18 for information on switching the speaker that is being used.

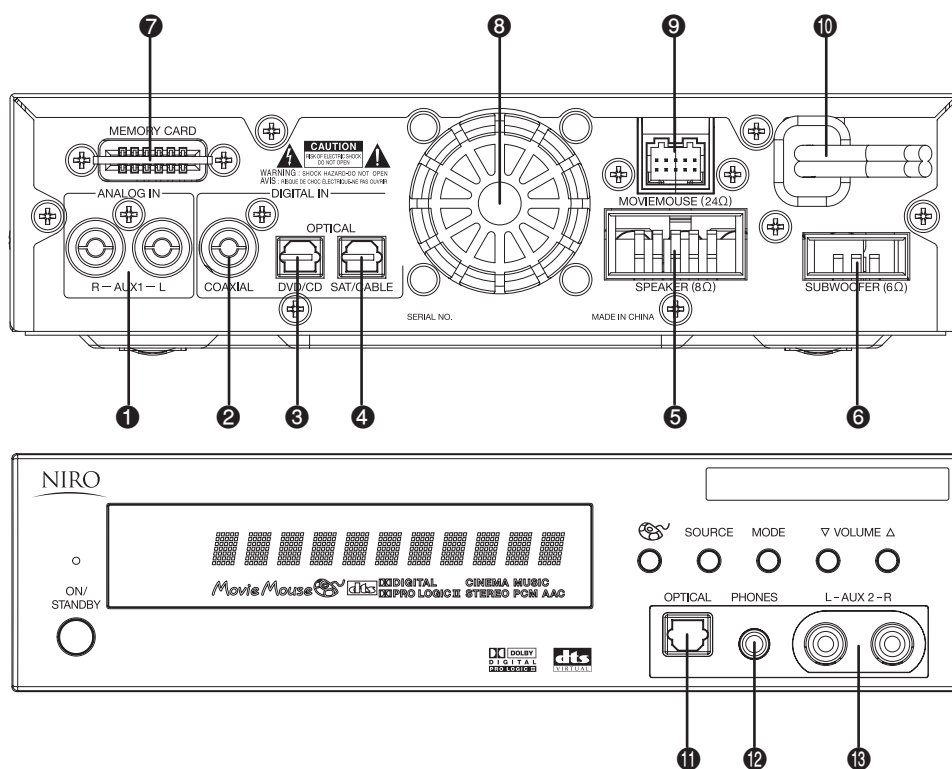


Note: Insert the connectors until they lock in place.

Connecting Other Equipment and Connection Procedures

Notes:

- Turn off the power of the amplifier and the equipment to be connected before making connections.
- The amplifier is not provided with a video input (VIDEO IN) terminal for displaying video images. Connect the video output of a DVD player or other video equipment directly to the video input (VIDEO IN) terminal of your television.
- An **optical digital cable (toslink), coaxial cable and audio cable are not included with this system** in anticipation of use with a diverse range of connection environments. Purchase the cable corresponding to the equipment to be used and location where it is to be used at an electronics shop or similar establishment after referring to the separate "Easy Connection Guide".



The amplifier is equipped with digital input terminals that allow direct input of digital audio signals using an optical digital cable (toslink) or coaxial cable.

- Digital Input (Optical): 3 inputs (2 inputs on rear panel, 1 input on front panel)
 - Digital Input (Coaxial): 1 input (rear panel)
 - Analog Input Terminals: 2 inputs (1 input on rear panel, 1 input on front panel)
- Refer to the connection procedures starting on the following page for information on reproducing sound by connecting the audio output signal from your digital audio equipment or analog audio equipment to this amplifier.

● Enjoying 5.1-Channel Surround Sound by Connecting a DVD Player

To enjoy 5.1-channel Surround sound, connect a DVD player to the digital input terminal.

- Connect the optical digital audio output of your DVD player to the DVD/CD terminal ③ of the OPTICAL digital input terminals on the amplifier.
- If your DVD player has a coaxial audio output terminal, connect it to the COAXIAL digital input terminal ② on the amplifier.

Note: Confirm that Dolby Digital and DTS output are set to bitstream on the menu of the DVD player.

● Enjoying Music by Connecting a CD Player or MD Player

- When your CD player or MD player is provided with a digital sound output, connect it to the [COAXIAL] ② or [DVD/CD] OPTICAL ③ digital input terminal of the amplifier.
- When using the analog stereo output of a CD player, MD player, video camera or cassette deck, connect it to the AUX2 analog input terminal ⑬ on the front panel.

● Enjoying Digital 5.1 Surround Sound of Digital Broadcasts

- Connect the optical digital audio output of a television with a built-in digital tuner or a digital cable television tuner to the ④ SAT/CABLE terminal of the OPTICAL digital input terminals on the amplifier.
- If your digital tuner or cable television tuner has a coaxial digital audio output, connect it to the COAXIAL digital input terminal ② on the amplifier.

● Enjoying Audio Sound from your Television

If you have a cable TV tuner, connect the audio analog output of your tuner to the AUX1 analog input terminals ① on the rear panel of the amplifier.

Connect the audio output of your television to the AUX1 ANALOG input terminals ① on the rear panel of the amplifier. In this case, television speaker must be turned off by set up menu.

● Reproducing Sound from a Video Deck

Connect the audio output terminals of your video deck to the AUX2 ANALOG input terminals ⑬ on the front panel of the amplifier.

● Reproducing Sound from a Video Game Machine

- If your video game machine has an optical digital audio output, connect it to the OPTICAL digital input terminal ① on the front panel of the amplifier.
- If your video game machine does not have an optical digital output terminal, connect the audio output to the AUX2 analog input terminals ⑬ on the front panel of the amplifier.

● Listening with Headphones

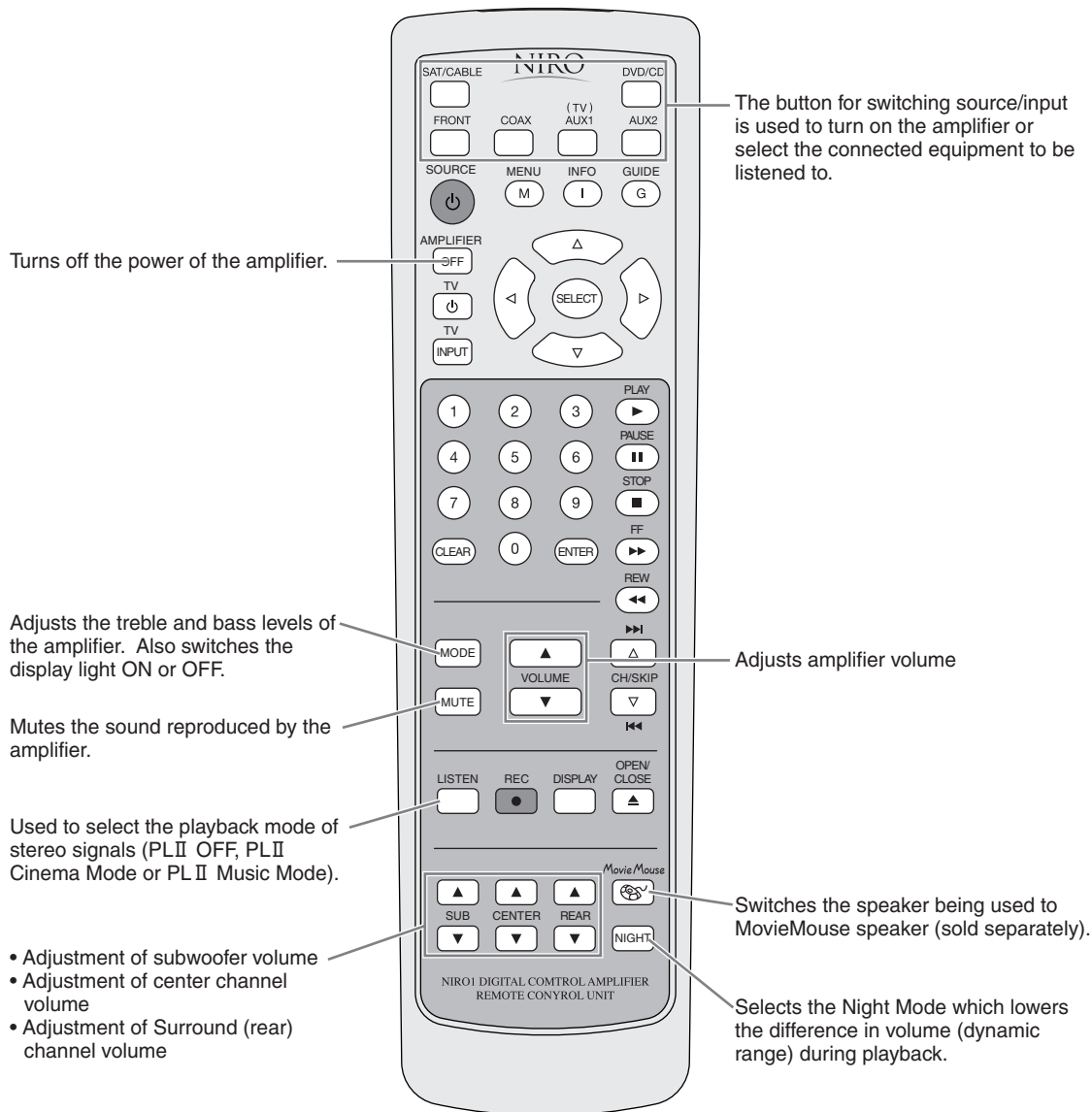
When using headphones, plug the headphones into the PHONES terminal ⑫ on the front panel of the amplifier. The sound from the speakers will be turned off automatically when the headphones are plugged in.

Ⓢ Switch on the power only after completing all connections.

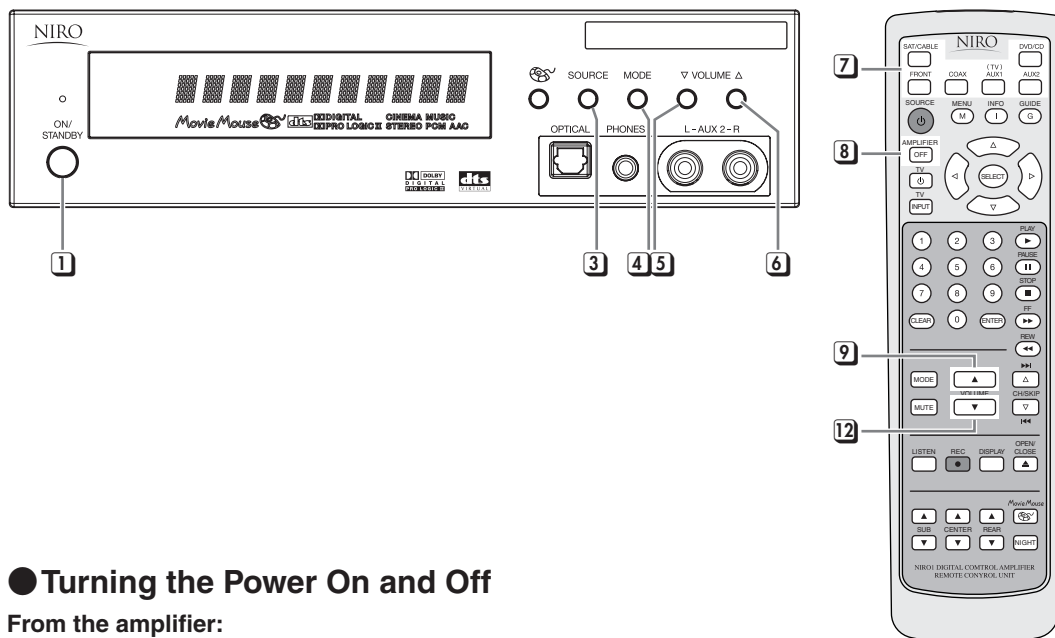
* Dolby is the registered trademark of Dolby Laboratories.

* DTS is the registered trademark of Digital Theater Systems, Inc.

Basic Remote Controller Operating Procedure



Basic Digital Amplifier Operating Procedure —



● Turning the Power On and Off

From the amplifier:

Press the ON/STANDBY button **1** on the front panel of the amplifier. When the power is turned ON, the on/standby indicator LED (red) goes off. Press the ON/STANDBY button **1** again to turn the power off. The on/standby indicator LED (red) lights.

From the remote controller:

Pressing any of the Six source/Input selector buttons **7** on the remote controller turns on the power of the amplifier. The amplifier power is turned off by pressing the AMP OFF button **8**.

● Selecting Connected Equipment

From the amplifier:

The input source changes in the order shown below each time the SOURCE button **3** is pressed on the front panel of the amplifier.

The display changes as follows:

→「DVD/CD」→「SAT/CABLE」→「COAXIAL」→「FRONT OPT」→「AUX 1」→「AUX 2」→

From the remote controller:

Pressing any of the Six source/Input selector buttons **7** on the remote controller turns on the power of the amplifier and switches the amplifier input to the selected equipment.

● Adjusting Volume

From the amplifier:

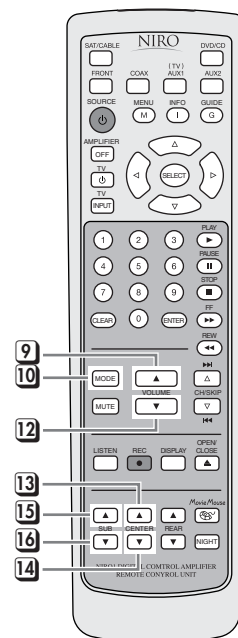
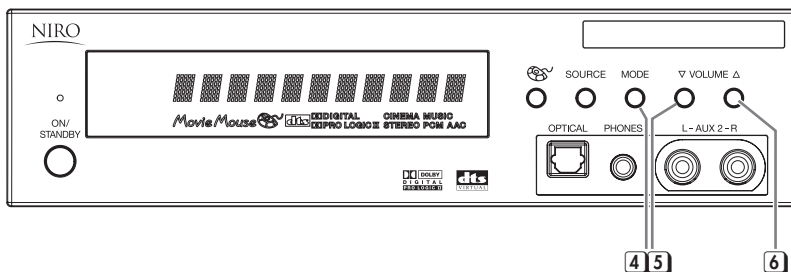
To raise the volume of the entire system, press the VOLUME▲ button **6**.

To lower the volume of the entire system, press the ▼VOLUME button **5**.

From the remote controller:

To raise the volume of the entire system, press the VOLUME▲ button **9**.

To lower the volume of the entire system, press the VOLUME▼ button **12**.



● Reducing Bass Reverberation at Night

You can control the bass sound (SUB: subwoofer) output.

- You adjust the bass sound either by lowering the subwoofer level or turning off the output. Another way to control the bass sound is to use the separately sold MovieMouse speaker (page 18).
- The subwoofer level can be adjusted over a range of -10 dB to +10 dB in 1 dB increments. The factory setting is 0 dB. In addition, you can also switch the output off completely.

Note: Lower the subwoofer level if the sound from the subwoofer becomes distorted.

From the amplifier:

1. Press the MODE button **4** on the front panel and then select "SUB".
2. Press a VOLUME button within three seconds to adjust the audio level. The audio level can be raised by pressing the VOLUME Δ button **6** and lowered by pressing the ∇ VOLUME **5** button.
 - When you want to turn off the output, press the ∇ VOLUME button **5** in step 2 until "OFF" is displayed after "-10 dB" is displayed.

From the remote controller:

1. Press the SUBWOOFER UP or DOWN button on the remote controller to adjust the level. Press the SUBWOOFER Δ button **15** to raise the level or press the SUBWOOFER ∇ button **16** to lower the level.
 - When you want to turn off the output, press the SUBWOOFER ∇ button **16** until "OFF" is displayed after "-10 dB" is displayed.

● Enhancing Bass Sound

You can also control the bass output.

- The bass level can be adjusted over a range of -6 dB to +6 dB in 2 dB increments. The factory setting is 0 dB.

From the amplifier:

1. Press the MODE button **4** on the front panel and then select "Bass".
2. Press a VOLUME button within three seconds to adjust the audio bass level. The bass sound is enhanced by pressing the VOLUME Δ button **6** and attenuated by pressing the ∇ VOLUME **5** button.

From the remote controller:

1. Press the TONE button **10** on the remote controller and then select "Bass".
2. Press a VOLUME button within three seconds to adjust the audio bass level. The bass sound is enhanced by pressing the VOLUME Δ button **9** and attenuated by pressing the VOLUME ∇ **12** button.

● Enhancing Treble Sound

You can also control the treble output.

- The treble level can be adjusted over a range of -6 dB to +6 dB in 2 dB increments. The factory setting is 0 dB.

From the amplifier:

1. Press the MODE button **4** on the front panel and then select "Treble".
2. Press a VOLUME button within three seconds to adjust the audio treble level. The treble sound is enhanced by pressing the VOLUME▲ button **6** and attenuated by pressing the ▼VOLUME **5** button.

From the remote controller:

1. Press the TONE button **10** on the remote controller and then select "Treble".
2. Press a VOLUME button within three seconds to adjust the audio treble level. The treble sound is enhanced by pressing the VOLUME▲ button **9** and attenuated by pressing the VOLUME▼ **12** button.

● Switching the Amplifier Display Light On and Off

The display light can be switched on and off.

From the amplifier:

1. Press the MODE button **4** on the front panel and then select "DISP ON(OFF)".
2. Press **VOLUME** buttons **5** or **6** within three seconds to switch the display ON or OFF. When set to ON, the display remains illuminated at all times. When set to OFF, the display goes out after lighting up for several seconds after the amplifier is operated. (However, the display lights up whenever a button is operated on the amplifier. The display then goes out several seconds after lighting up).

From the remote controller:

1. Press the TONE button **10** on the remote controller and then select "DISP ON(OFF)".
2. Press **VOLUME** buttons **9** or **12** within three seconds to switch the display ON or OFF. When set to ON, the display remains illuminated at all times. When set to OFF, the display goes out after lighting up for several seconds after the amplifier is operated. (However, the display lights up whenever a button is operated on the amplifier. The display then goes out several seconds after lighting up).

● Increasing the Volume for Movie Dialogue

You can control the volume of the center channel.

Nearly all movie dialogue is reproduced from the center channel. When it is difficult to hear movie dialogue, adjust the volume of the center channel.

- The center channel level can be adjusted over a range of -6 dB to +6 dB in 1 dB increments. The factory setting is 0 dB.

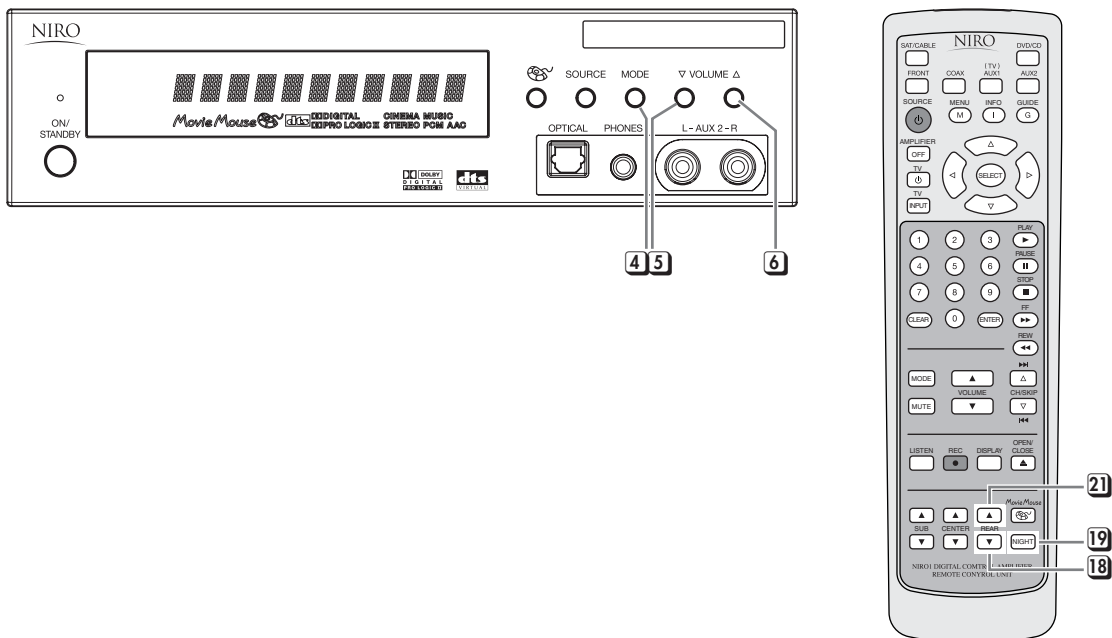
From the amplifier:

1. Press the MODE button **4** on the front panel and then select "CENTER".
2. Press a VOLUME button within three seconds to adjust the center channel volume. The center channel volume is raised by pressing the VOLUME▲ button **6** and lowered by pressing the ▼VOLUME **5** button.

From the remote controller:

1. Press the CENTER UP button or DOWN button on the remote controller to adjust the level.
Press the CENTER▲ button **13** to raise the level. Press the CENTER▼ button **14** to lower the level.

Note: This adjustment can only be made when a signal is being generated from the center channel.



● Enhancing Left and Right Surround (Rear) Sound Effects

You can control the volume of the Surround (rear) channel.

You can adjust the volume of the Surround (rear) channel to match the conditions of the room or the music or movie you are enjoying.

- The Surround (rear) channel level can be adjusted over a range of -6 dB to $+6\text{ dB}$ in 1 dB increments. The factory setting is 0 dB .

From the amplifier:

1. Press the MODE button **4** on the front panel and then select "SURROUND".
2. Press a VOLUME button within three seconds to adjust the Surround (rear) channel volume. The level is raised by pressing the VOLUME Δ button **6** and lowered by pressing the ∇ VOLUME **5** button.

From the remote controller:

1. Press the REAR UP button or DOWN button on the remote controller to adjust the level.
Press the REAR \blacktriangle button **21** to raise the level. Press the REAR \blacktriangledown button **18** to lower the level.

Note: This adjustment can only be made when a signal is being generated from the Surround (rear) channel.

● Lowering the Volume at Night

You can use the Night Mode to lower the volume at night.

When using the Night mode, the dynamic range is compressed resulting in the louder sounds being lowered and the softer sounds being emphasized. This allows you to not miss the subtler sounds while listening at a lower volume so as not to inconvenience your neighbors.

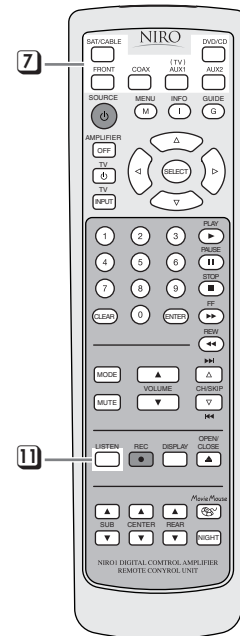
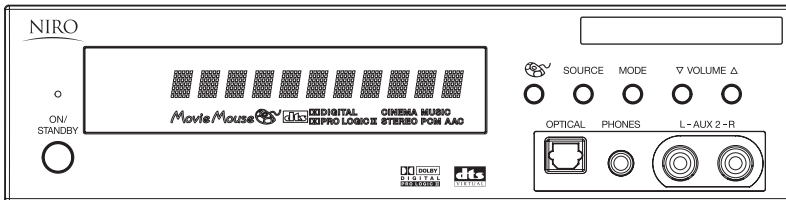
From the remote controller:

Press the NIGHT button **19** on the remote controller and then select "Night ON". To return to the normal mode, press the NIGHT button **19** again and then select "Night OFF".

You can also use the Loudness mode

With the lower volume settings, you may notice insufficient bass response resulting in a “thin” sound. When using the Loudness mode, the bass will be reinforced at lower volume levels so you will hear the balanced bass response as with higher volume settings.

■ Surround Mode



● Dolby Digital, DTS and PCM

This amplifier contains a built-in Dolby Digital decoder and DTS decoder and is capable of playback of 5.1-channel digital signals.

DIGITAL : The “DIGITAL” indicator lights during playback of Dolby Digital signals.

DTS : The “DTS” indicator lights during playback of DTS signals.

● Dolby Digital Pro Logic II

Dolby Digital Pro Logic II consists of the Dolby Pro Logic II Cinema Mode (PL II Cinema) and the Dolby Pro Logic II Music Mode (PL II Music).

Dolby Digital Pro Logic II

By selecting Dolby Digital Pro Logic II, you can enjoy 2-channel sources through multi-channels. In the case of a source containing primarily stereo music components, the Music mode may be desirable. Select the mode based on which sounds better.

PL II Music


This mode is suitable for surround sound playback of stereo music signals. Expansion of the sound field generated by music signals varies according to the type of signal source such as music genre and recording condition (e.g. live recording). This mode plays back music in more natural manner with greater presence.

Dolby Pro Logic II Auto (PL II Auto)

When Dolby Pro Logic II Auto has been selected, the Cinema Mode setting of Dolby Pro Logic II is selected automatically, if the Dolby Digital signal contains an encoded Dolby Surround Sound.

- Dolby Pro Logic II is available during 2-ch and 2.1-ch playback in Dolby Digital, DTS, and during PCM or analog input.

From the remote controller:

The mode changes in the order shown below each time the AUDIO button  is pressed when playing back stereo signals.


- Dolby Surround Pro Logic II cannot be used when using headphones. Pro Logic II is turned off automatically when headphones are connected to the amplifier while Pro Logic II is set to on.

● PCM

This signal format records and transfers by converting analog audio signals to digital signals directly without compressing them. This format is used for CD and DVD audio recordings. In the PCM system, sounds are recorded by sampling at predetermined intervals. PCM is an abbreviation for pulse code modulation and involves recording analog signals by modulating them into pulse codes.

- The input sampling frequencies compatible with PCM are 32 kHz, 44.1 kHz and 48 kHz. PCM is not compatible with sampling frequencies of 88.2 kHz and 96 kHz.

● Audio Coding Display

For about 5 seconds after the playback of the digital signal has started, the coding mode is displayed on the amplifier display to inform you of the display of the audio coding mode and the composition of playback channels. During playback, the audio coding mode can be redisplayed by pressing the **SOURCE/INPUT** Selector button  on the remote controller.


Example: When "3/2,1" is displayed, this means "Front 3 channel/Sub (Rear) channel 2, LFE". A "0" is displayed in the absence of LFE.

● Expanded Listening Mode

This listening mode delivers a vivid and clear center image in the 5.1-channel mode while it creates a natural sound expansion in 2-channel stereo mode.

● How to change the listening mode


When the amplifier detects a stereo signal:

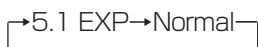
Press the LISTEN button  on the remote control to change the stereo listening mode. The default will be the [Stereo EXP] mode. Each press of the LISTEN button will switch to the next listening mode in the sequence as shown below.



Note: PL II Auto can only be selected during digital input.

When the amplifier detects a 5.1-Channel signal:

Press the LISTEN button  on the remote control to change the 5.1-Channel listening mode. The default will be the [5.1 EXP] mode and each press of the LISTEN button will switch to the next listening mode in the sequence as shown below.



● Surround Channel Listening Mode (Applies to NIRO1000, 800 and 620)

You can select one of the 2 surround sound channel listening modes.

- Natural : Uses a filter which creates a more natural sounding surround image.
- Enhanced : Uses a filter which moves the surround image further behind the listener.

From the amplifier and remote controller:

1. Press the MODE button repeatedly until the display indicates [Natural].
2. Press Volume up ▲ button and select [Enhanced].

● Listening Environment Mode (Applies to NIRO420 only)

You can choose one of the 2 listening modes, customized to your environment.

- Living Room Mode : For set ups where listening distance is 6~7 ft.
- PC Mode : For set ups where listening distance is 3~5 ft.

From the amplifier and remote controller:

1. Press the MODE button repeatedly until the display indicates [Living Mode].
 2. Press the Volume down ▼ button and select [PC Mode].
- The default setting is Living Mode. Change to PC Mode if you are using the system with your PC.

● Signal Detect Mode

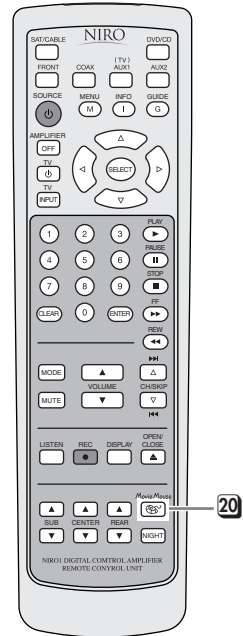
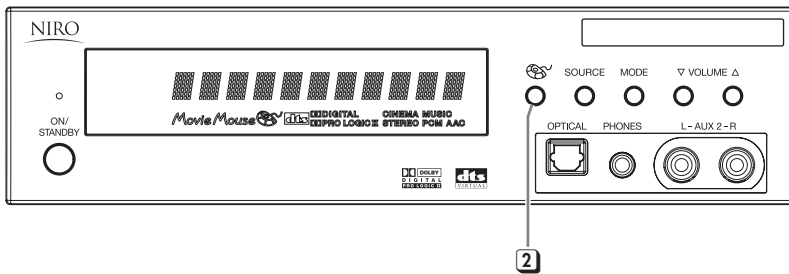
Depending upon the input source (DVD player, cable box, etc.), you might hear a clicking noise when the audio input signal is automatically switched from PCM to Dolby digital or dts. If you experience this noise, select [SG DET Vr01] by pressing the MODE button on the front panel.

From the amplifier:

1. Press the MODE button on the front panel and choose [SG DET Vr03].
 2. Press the VOLUME down ▼ button. The display shows [SG DET Vr01].
 3. Turn the power off and on once. The setting will be changed.
- This feature can be accessed via the front panel only.

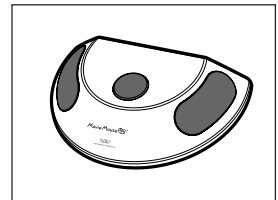
Switching the Speaker

The included satellite speaker and the separately sold MovieMouse speaker can be connected to the amplifier. When using the MovieMouse speaker, press the MovieMouse button on the amplifier **2** or remote controller **20**. The speaker output will then be switched to the MovieMouse speaker.



● MovieMouse Speaker (Sold Separately)

The MovieMouse speaker sold separately is designed to reproduce sufficient Surround Sound effects even when enjoying movies at lower volume levels so as not to inconvenience others at night. By placing the MovieMouse speaker on your lap or on a nearby table, you can enjoy movies in environments that do not involve others even at lower volume levels.

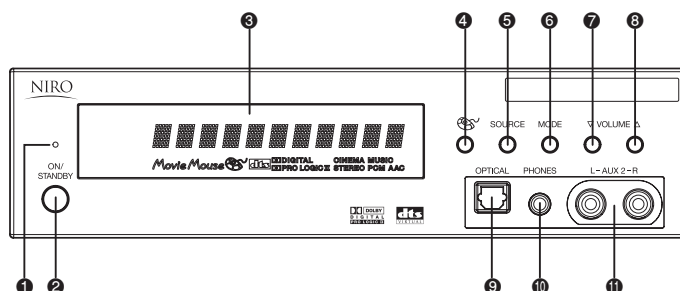


Settings Memory

Even when the power cord is unplugged, all settings such as volume level, selected input, listening modes, etc. will be retained in memory. To restore the default settings, turn the power on and immediately press the volume up ▲ and down ▼ buttons simultaneously until the display shows the input source.

Names and Functions of Components –

■ Amplifier (Front Panel)



❶ Power Standby Indicator

The red LED lights during standby.

❷ ON/STANDBY Button

This is used to switch the amplifier power between on and standby.

❸ Display

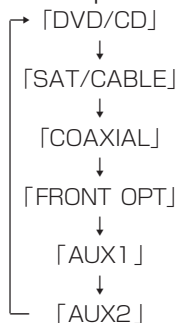
This displays the name of the mode, settings and other information.

❹ MovieMouse Speaker Selector Button

This is used to switch between the separately sold MovieMouse speaker and satellite speaker.

❺ SOURCE Selector Button

This is pressed to select the equipment to be listened to when multiple equipment are connected to the amplifier. The source changes in the order shown below each time the SOURCE button is pressed.



❻ MODE Button

This is used when adjusting the subwoofer, treble and bass levels and when switching the illumination of the display. The mode changes in the order shown below each time the MODE button is pressed.

● Applies to NIRO 1000, 800 and 620

[SUB]→[Bass]→[Treble]→[Bass]→[Natural]→
[LOUD.OFF]→[Night OFF]→[SG DET Vr03]→
[Display ON]

● Applies to NIRO 420 only

[SUB]→[Bass]→[Treble]→[Bass]→[Living Mode]
→[LOUD.OFF]→[Night OFF]→[SG DET Vr03]→
[Display ON]

❼ Volume Down Button

This is used to lower the volume

❽ Volume Up Button

This is used to raise the volume.

❾ Optical Digital Audio Input Terminal

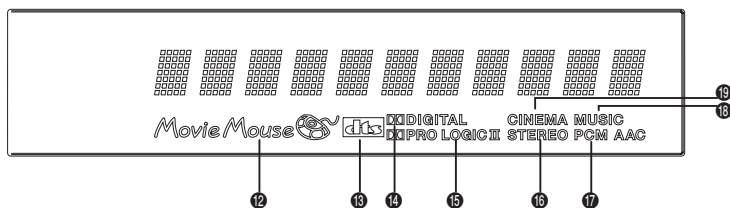
Connect an optical digital audio cable to this terminal. Video game machines and similar devices are connected to this terminal.

❿ Headphone Connection Terminal

⓫ Analog Audio Input Terminals (AUX2)

Connect an analog audio cable to these terminals. Devices having an analog output terminal such as a video camera, cassette deck or CD/MD player can be connected to these terminals.

■ Amplifier (Display)



12 MovieMouse Mark

When using the separately sold MovieMouse speaker, press the MovieMouse button on the amplifier or remote controller after connecting the MovieMouse speaker. The speaker output is switched to the MovieMouse speaker and the *MovieMouse* mark is illuminated.

13 dts Mark

The **dts** mark is illuminated when dts audio signals are being played back.

14 Dolby Digital Mark

The **DIGITAL** mark is illuminated when Dolby Digital audio signals are being played back.

15 Dolby Pro Logic II Mark

The **PRO LOGIC II** mark is illuminated when a 2-channel audio signal has been converted to a 5-channel audio signal.

16 Stereo Mark

The **STEREO** mark is illuminated when 2-channel audio signals are being played back.

17 PCM (Pulse Code Modulation) Mark

The **PCM** mark is illuminated during playback of PCM signals.

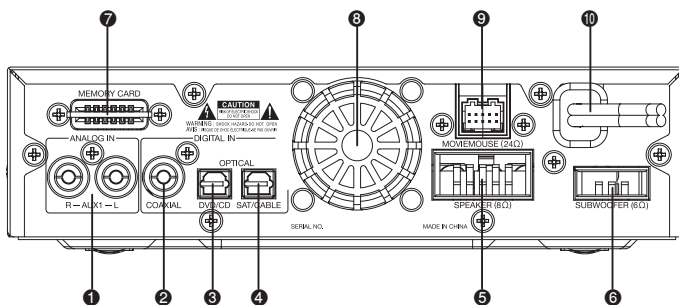
18 Music Mark

The **MUSIC** mark is illuminated when a 2-channel audio signal is being played back in the Dolby Pro Logic II Music mode.

19 Cinema Mark

The **CINEMA** mark is illuminated when a 2-channel audio signal is being played back in the Dolby Pro Logic II Cinema mode.

■ Amplifier (Rear Panel)



1 Analog Audio Input Terminals (AUX1)

Connect the audio output of the television you are using to the ANALOG IN terminal on the amplifier.

2 Coaxial Digital Audio Input Terminal (DVD/CD or SAT/CABLE)

Connect the coaxial digital audio output of your DVD player or digital/cable television tuner to the COAXIAL input terminal on the amplifier.

3 Optical Digital Audio Input Terminal (DVD/CD)

Connect the optical digital audio output of your DVD player to the DVD/CD input terminal of the OPTICAL digital input terminal on the amplifier.

4 Optical Digital Audio Input Terminal (SAT/CABLE)

Connect the optical digital audio output of your digital/cable television tuner to the SAT/CABLE terminal of the OPTICAL digital input terminal on the amplifier.

5 Surround Speaker Connection Terminal

6 Subwoofer Connection Terminal

7 Memory Card Insertion Connector (refer to page 2)

8 Cooling Fan

Notes:

- The amplifier becomes hot during the course of use. When using for a long period of time, be careful not to touch the amplifier since it may be hot.

9 MovieMouse Speaker Connection Terminal (refer to page 18)

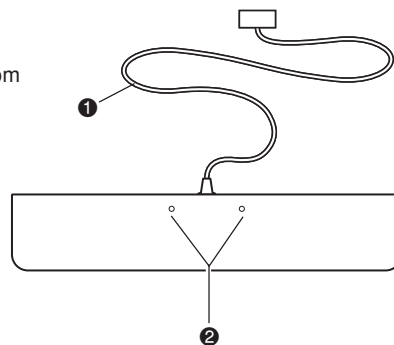
10 Power Cord

■ Satellite Speaker

Front



Bottom



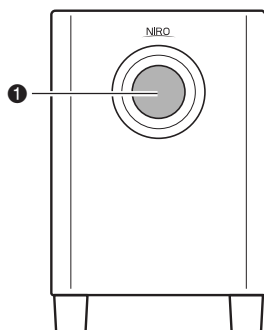
- ① Speaker cable (16.5 ft.) ② Mount adapter mounting holes

Notes:

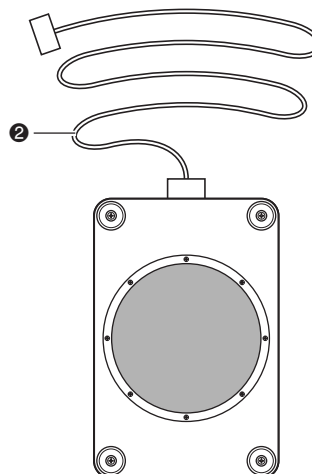
- The speaker mounting accessories are available separately. For information, please refer to the instruction manuals that come with the accessories.
- The satellite speaker is shielded from magnetism.
- Make sure that the satellite speaker is fastened securely when attaching to the mount adapter for thin-screen televisions.

■ Subwoofer

Front



Bottom



- ① Bass reflection duct ② Speaker cable (14 ft.)

Notes:

- Do not put any object in the bass reflex duct.

Remote Controller

Equipment connected to the amplifier can be controlled with the remote controller when program codes are set for the six SOURCE/INPUT selector buttons (refer to page 23).

This can be used as the power button of a DVD/CD player, digital/cable television tuner or video deck when a program code is used.

This turns off the power of the amplifier.

These turn the television on or off and switch the screen input when a program code is used.

When a program code is used, the number keys, ENTER button and CLEAR button can be used to enter television channels, DVD player chapter numbers, CD player track numbers and other parameters.

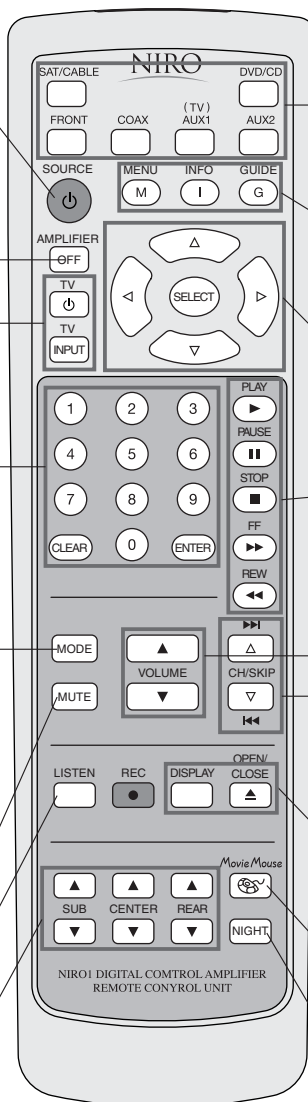
This is used to adjust the treble and bass levels of the amplifier. In addition, it is also used to switch the amplifier surround channel mode (applies to NIRO1000, 800 and 620), listening environment mode (applies to NIRO420 only), loudness mode and signal detect mode.

This button mutes the playback volume of the amplifier.

This is used to select the playback mode for stereo signals (PL II OFF, PL II Cinema Mode or PL II Music Mode), and expanded listening mode.

These are used to adjust subwoofer.

- Volume
- Center channel volume
- Surround (rear) channel volume



The SOURCE/INPUT Selector buttons are used to turn on the amplifier power and select the connected equipment you wish to use.

These are used as menu information guide buttons of a DVD player or digital/cable television tuner when a program code is used.

These can be used as navigation buttons for a DVD player, digital/cable television tuner or DVR when a program code is used.

These can be used to control the operation of a DVD player or video deck when a program code is used.

These adjust the amplifier volume.

These can be used to select the channel of a television or digital/cable television tuner, the chapter of a DVD player or the track of a CD player when a program code is used.

These can be used as the "Display" and "Open/Close" keys of a DVD player or video deck when a program code is used.

This is used to switch the speaker currently being used to the separately sold MovieMouse speaker.

This is used to select the Night Mode when desiring to reduce the difference in volume (dynamic range) during playback.

Operating Other Equipment with the Remote Controller –

Entering a three-digit code number corresponding to the A/V equipment being used lets you control the operation of equipment other than the amplifier with the remote controller provided with the system. Refer to the tables starting on page 28 for a list of code numbers.

Setting Procedure

Step 1: Turn on the power of the A/V equipment you want to use.

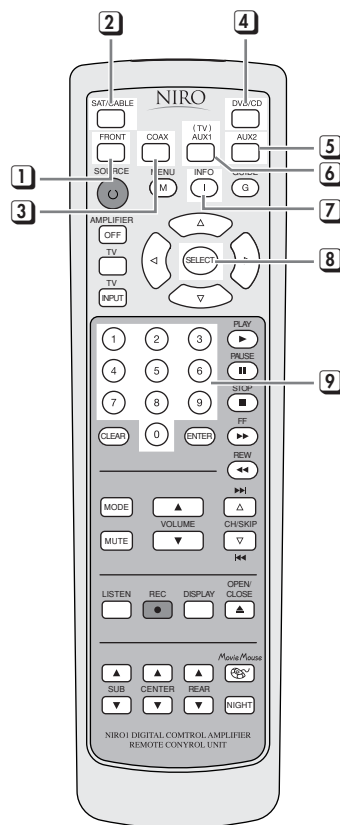
Step 2: Simultaneously press one of the SOURCE/INPUT Selector buttons **2** through **6** and the SELECT button **8** until the pressed SOURCE/INPUT Selector button **2** through **6** lights red. Since the corresponding button will light for about 20 seconds, complete the next step during that time.

Step 3: Point the remote controller towards the desired equipment and enter the three-digit code number assigned to the applicable manufacturer or brand using the NUMBER buttons **9**. The power of the desired equipment will turn off if the correct code number has been entered.

※ In the case multiple numbers are assigned to the brand of the desired equipment, enter the code numbers in order until the power of the desired equipment turns off. The code number that causes the power to turn off is the correct code number.

Step 4: Press the corresponding SOURCE/INPUT Selector button **2** through **6** to save the code number. The corresponding button will flash twice and then go out.

Step 5: Try using all of the remote controller functions. If there are some keys that do not operate properly, repeat the procedure from step 2 using another code number assigned to the corresponding brand.



Example: Setting the Code for a DVD Player

Step 1: Turn on the power of the DVD player you want to operate using the remote controller.

Step 2: Simultaneously press the DVD/CD button **4** and the SELECT button **8** until the DVD/CD button **4** lights red. Since the DVD/CD button **4** will remain lit for about 20 seconds, complete the next step during that time.

Step 3: Point the remote controller towards the DVD player and enter the three-digit code number assigned to the applicable manufacturer or brand. The power of the DVD player will turn off if the correct code number has been entered.

※ In the case multiple numbers are assigned to the brand of the DVD player, enter the code numbers in order until the power of the DVD player turns off. The code number that causes the power to turn off is the correct code number.

Step 4: Press the DVD/CD button **4** to save the code number. The button will flash twice and then go out.

Step 5: Try using all of the remote controller functions. If there are some keys that do not operate properly, repeat the procedure from step 2 using another code number assigned to the corresponding brand.

- A single code number can be assigned of a DVD/CD player or digital/cable television tuner can be assigned to COAX. Use the following setting procedure when assigning the code number of a DVD player to COAX.

Step 1: Turn on the power of the A/V equipment you want to operate with the remote controller.

Step 2: Simultaneously press the COAX button **3** and the SELECT button **8** until the COAX button **3** lights red.

Step 3: Press the DVD/CD button **4**. The COAX button **3** will go out momentarily. (Press the SAT/CABLE button **1** instead of the DVD/CD button **4** if a digital/cable television tuner is to be assigned to COAX.)

Step 4: Point the remote controller towards the desired equipment and enter the three-digit code number assigned to the applicable brand. The power of the desired equipment will turn off if the correct code number has been entered.

Step 5: Press the corresponding COAX button **3** to save the code number. The COAX button will flash twice and then go out.

Step 6: Try using all of the remote controller functions. If there are some keys that do not operate properly, repeat the procedure from step 4 using another code number assigned to the corresponding brand.

● When There is No Code Corresponding to the A/V Equipment to be Used

An effort has been made to provide the remote controller with as many code numbers as possible of popular manufacturers and brands. However, it is extremely difficult to provide the remote controller with the codes for all possible brands of equipment. Due to restrictions on memory capacity, the codes for older models and relatively uncommon brands have been forced to be omitted. If you want to operate such equipment with the remote controller, consider using a remote controller equipped with a learning function.

■ Confirmation of Set Code Numbers

You can check the code numbers set in the remote controller by following the procedure described below.

Step 1: Simultaneously press one of the SOURCE/INPUT Selector buttons **1** through **6** and the SELECT button **8** until the pressed SOURCE/INPUT Selector button **1** through **6** lights red.

Step 2: Press the INFO button **7**. Each of the SOURCE/INPUT Selector buttons **1** through **6** will flash for the same number of times as the programmed code number while going out for 1 second between each series of flashes.

Example: If one of the buttons flashes 1 time, 3 times and then 8 times while going out for 1 second between each series of flashes, this indicates that the code number is 138.

■ Resetting the Remote Controller

By following the method below, the remote controller can be reset to the default code set at the time of shipping.

Step 1: Simultaneously keep the Power button **10** and the Record button **11** depressed for 5 seconds.

Step 2: The six Source/Input selector buttons **1** - **6** light up three times in a circular order.

■ Remote Controller Functions when a Program Code has been Set

This can be used as a power button of a DVD/CD player, digital/cable television tuner or video deck.

When a code number of a television is set for AUX1, ON/OFF of the television or selection of the display input can be performed.

The number keys, ENTER button and CLEAR button can be used to enter television channels, DVD player chapter numbers, CD player track numbers and other parameters.

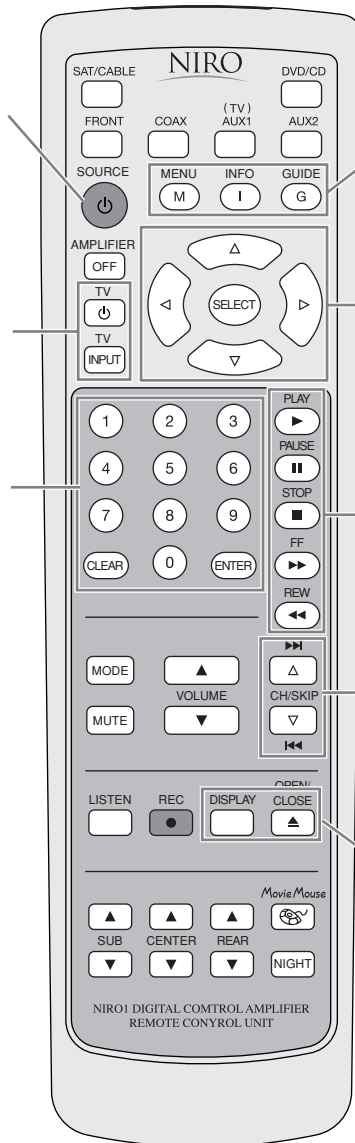
These can be used as menu information guide buttons of a DVD player or digital/cable television tuner.

These can be used as navigation buttons for a DVD player, digital/cable television tuner or DVR.

These can be used to control playback of a DVD player or video deck.

These can be used to select the channel of a television or digital/cable television tuner, chapter of a DVD player, or the track of a CD player.

These can be used as the "Display" and "OPEN/CLOSE" keys of a DVD player or video deck.



List of Functions of Remote Controller Buttons

The following lists functions of the remote controller after equipment has been selected by pressing the SOURCE/INPUT Selector button.

| Selected Source Button | DVD/CD | SAT/CABLE | FRONT |
|---|---|--|---|
| SAT/CABLE, FRONT, COAX, AUX1(TV), AUX2, DVD/CD | Turn on the amplifier and switch the input to DVD/CD optical input. | Turn on the amplifier and switch the input to SAT/CABLE optical input. | Turn on the amplifier and switch the input to the optical input on the front panel. |
| Menu | Menu | Menu | — |
| Info | Info | Info | — |
| Guide | — | Guide display | — |
| Power of connected equipment | Turns power of the DVD/CD player on or off | Turns power of digital/cable television tuner on or off | — |
| Amp Off | Turns off amplifier | Turns off amplifier | Turns off amplifier |
| TV Power | Turns television on or off | Turns television on or off | Turns television on or off |
| TV Input | Selects television input | Selects television input | Selects television input |
| Navi ◀ | Left | Left | — |
| Navi ▶ | Right | Right | — |
| Navi ▲ | Up | Up | — |
| Navi ▼ | Down | Down | — |
| Select | Select/Enter | Select/Enter | — |
| Number keys (1-0) | 1-0 | 1-0 | — |
| Clear | Clear | Clear | — |
| Enter | Enter | Enter | — |
| Play | Play | — | — |
| Pause | Pause | — | — |
| Stop | Stop | — | — |
| Fast Forward | Fast Forward | — | — |
| Rewind | Rewind | — | — |
| Skip ▲ | Skip ▲ | Changes channel upward | Changes channel upward |
| Skip ▼ | Skip ▼ | Changes channel downward | Changes channel downward |
| Tone | Tone | Tone | Tone |
| Mute | Mute | Mute | Mute |
| Volume ▲ | Raises volume | Raises volume | Raises volume |
| Volume ▼ | Lowers volume | Lowers volume | Lowers volume |
| Audio | Audio | Audio | Audio |
| Record | — | — | — |
| Display | — | — | — |
| Open/Close | Open/Close | — | — |
| Subwoofer ▲ | Raises subwoofer volume | Raises subwoofer volume | Raises subwoofer volume |
| Subwoofer ▼ | Lowers subwoofer volume | Lowers subwoofer volume | Lowers subwoofer volume |
| Center ▲ | Raises center channel volume | Raises center channel volume | Raises center channel volume |
| Center ▼ | Lowers center channel volume | Lowers center channel volume | Lowers center channel volume |
| Rear ▲ | Raises rear channel volume | Raises rear channel volume | Raises rear channel volume |
| Rear ▼ | Lowers rear channel volume | Lowers rear channel volume | Lowers rear channel volume |
| MovieMouse | Switches to MovieMouse speaker | Switches to MovieMouse speaker | Switches to MovieMouse speaker |
| Night | Night mode | Night mode | Night mode |

※Buttons in those portions of the table that are not shaded indicate functions that are available when a program code has been set.

| Selected Source Button | COAX | AUX1 (TV) | AUX2 (Video Deck/DVR) |
|---|--|---|---|
| SAT/CABLE, FRONT, COAX, AUX1(TV), AUX2, DVD/CD | Turn on the amplifier and switch the input to the COAX input. | Turn on the amplifier and switch the input to the AUX1 input. | Turn on the amplifier and switch the input to the AUX2 input. |
| Menu | Menu | Menu | Menu |
| Info | Info | DVD display | Info |
| Guide | — | Title display | Guide display |
| Power of connected equipment | Turns power of DVD/CD player or digital/cable television tuner on or off | Turns TV on or off | Turns power of equipment connected to AUX2 on or off |
| Amp Off | Turns off amplifier | Turns off amplifier | Turns off amplifier |
| TV Power | Turns television on or off | Turns television on or off | Turns television on or off |
| TV Input | Selects television input | Selects television input | Selects television input |
| Navi ◀ | Left | Left | Left |
| Navi ▶ | Right | Right | Right |
| Navi ▲ | Up | Up | Up |
| Navi ▼ | Down | Down | Down |
| Select | Select/Enter | Select/Enter | Select/Enter |
| Number keys (1-0) | 1-0 | 1-0 | 1-0 |
| Clear | Clear | Clear | Clear |
| Enter | Enter | Enter | Enter |
| Play | Play | — | Play |
| Pause | Pause | — | Pause |
| Stop | Stop | — | Stop |
| Fast Forward | Fast Forward | — | Fast Forward |
| Rewind | Rewind | — | Rewind |
| Skip ▲ | Changes channel upward | Changes channel upward | Changes channel upward |
| Skip ▼ | Changes channel downward | Changes channel downward | Changes channel downward |
| Tone | Tone | Tone | Tone |
| Mute | Mute | Mute | Mute |
| Volume ▲ | Raises volume | Raises volume | Raises volume |
| Volume ▼ | Lowers volume | Lowers volume | Lowers volume |
| Audio | Audio | Audio | Audio |
| Record | — | — | — |
| Display | — | — | — |
| Open/Close | Open/Close | — | — |
| Subwoofer ▲ | Raises subwoofer volume | Raises subwoofer volume | Raises subwoofer volume |
| Subwoofer ▼ | Lowers subwoofer volume | Lowers subwoofer volume | Lowers subwoofer volume |
| Center ▲ | Raises center channel volume | Raises center channel volume | Raises center channel volume |
| Center ▼ | Lowers center channel volume | Lowers center channel volume | Lowers center channel volume |
| Rear ▲ | Raises rear channel volume | Raises rear channel volume | Raises rear channel volume |
| Rear ▼ | Lowers rear channel volume | Lowers rear channel volume | Lowers rear channel volume |
| MovieMouse | Switches to MovieMouse speaker | Switches to MovieMouse speaker | Switches to MovieMouse speaker |
| Night | Night mode | Night mode | Night mode |

※Buttons in those portions of the table that are not shaded indicate functions that are available when a program code has been set.

List of Setting Codes

※ Some of the products from the manufacturers shown below may not be able to be used depending on the model or year manufactured. In the case of using the manufacturer's code of another manufacturer, the equipment may not be able to be operated or only limited functions may be available depending on the specific model. In such cases, it is recommended to use the remote controller provided with the equipment being used.

■ BS Digital Tuner (Set to SAT/CABLE)

| Manufacturer (Brand) | Code Number |
|----------------------|-------------|
| ECHOSTAR | 006 |
| HITACHI | 003 022 |
| HUGHES | 003 022 |
| MITSUBISHI | 003 022 |
| PANASONIC | 013 |
| RCA | 001 014 015 |
| SONY | 004 |
| TOSHIBA | 003 008 |

■ Cable Television Tuners (Set to SAT/CABLE)

| Manufacturer (Brand) | Code Number |
|----------------------|-------------|
| GENERAL INSTRUMENT | 201 202 |
| JERROLD | 201 202 |
| MOTOROLA | 201 202 |
| OAK | 208 |
| PIONEER | 205 209 213 |
| SCIENTIFIC ATLANTA | 203 204 213 |
| TOCOM | 207 |
| ZENITH | 206 |

■ DVD/CD Player (Set to DVD/CD)

| Manufacturer (Brand) | Code Number |
|----------------------|-----------------|
| ALPINE | 221 |
| APEX DIGITAL | 111 251 246 |
| ARCAM | 215 |
| CYBERHOME | 220 |
| DAEWOO | 220 |
| DENON | 226 241 |
| GE | 230 231 |
| GOLDSTAR / LG | 235 250 |
| GOVIDEO | 137 |
| HARMAN KARDON | 243 |
| HITACHI | 223 |
| JVC | 238 |
| KENWOOD | 216 |
| MAGNAVOX | 254 237 |
| MARANTZ | 253 242 |
| MCINTOSH | 217 |
| MEMOREX | 163 |
| MINTEK | 111 |
| mitsubishi | 227 |
| MYRYAD | 224 |
| NAD | 247 |
| NAKAMICHI | 225 |
| ONKYO | 240 |
| PANASONIC | 228 |
| PHILIPS | 253 237 214 |
| PIONEER | 255 222 229 |
| PROCEED | 245 |
| PROSCAN | 230 231 |
| RCA | 230 231 |
| SAMSUNG | 137 236 248 |
| SHARP | 252 |
| SONY | 145 232 218 |
| TATUNG | 224 |
| TOSHIBA | 130 233 244 219 |
| YAMAHA | 249 234 |
| ZENITH | 250 234 235 |

■ Television (Set to AUX1)

| Manufacturer (Brand) | Code Number |
|----------------------|---|
| ADMIRAL | 072 081 160 161 |
| ADVENT | 247 |
| AKAI | 006 146 248 |
| AMARK | 112 143 |
| AMPRO | 073 |
| ANAM | 043 054 055 056 080 112 |
| AOC | 058 006 004 112 |
| APEX DIGITAL | 026 |
| AUDIOVOX | 076 103 |
| CANDLE | 006 002 003 004 |
| CAPEHART | 058 |
| CETRONIC | 043 |
| CITIZEN | 006 002 003 004 101 103 143 |
| CLASSIC | 043 |
| CONCERTO | 004 |
| CONTEC | 043 051 |
| CORONADO | 143 |
| CRAIG | 043 054 028 |
| CROWN | 043 143 |
| CURTIS MATHES | 006 004 101 143 |
| CXC | 043 |
| DAEWOO | 076 103 055 004 127 143 016 043 044 125 120 |
| DAYTRON | 004 143 |
| DWIN | 161 |
| DYNASTY | 043 |
| DYNATECH | 062 |
| ELECTROHOME | 024 076 143 |
| EMERSON | 005 028 043 048 076 096 155 004 051 143 151 153 154 |
| EPSON | 253 |
| FISHER | 007 057 |
| FUJITSU | 219 246 |
| FUNAI | 028 043 |
| FUTURETECH | 043 |
| GATEWAY | 242 250 |
| GE | 006 073 144 160 161 004 008 009 034 056 074 091 155 |
| GOLDSTAR / LG | 004 106 119 110 112 113 127 143 |
| HALL MARK | 004 |
| HITACHI | 163 004 007 009 011 072 010 012 023 075 143 158 |
| INFINITY | 164 |
| INKEL | 129 |
| JBL | 164 |

■ Televisions (continued)

| Manufacturer (Brand) | Code Number |
|----------------------|--|
| JCPENNEY | 004 006 008 024 030 065 101 143 156 160 |
| JENSEN | 013 |
| JVC | 038 001 034 083 206 |
| KENWOOD | 006 001 |
| KLOSS | 002 059 |
| KTV | 006 043 143 154 |
| LODGENET | 072 |
| LOEWE | 207 |
| LOGIK | 072 |
| LUXMAN | 004 |
| LXI | 007 015 052 081 160 164 |
| MAGNAVOX | 006 003 004 022 059 060 061 063 064 127 164 094 160 226 |
| MARANTZ | 164 006 |
| MATSUI | 164 |
| MEMOREX | 004 007 072 |
| METZ | 088 |
| MGA | 024 006 004 042 |
| MINERVA | 088 |
| MITSUBISHI | 109 024 042 004 040 146 028 |
| MTC | 006 004 062 101 |
| NAD | 015 025 |
| NEC | 006 134 040 056 007 019 024 237 244 |
| NIKEI | 043 |
| ONKING | 043 |
| ONWA | 043 |
| OPTONICA | 019 081 |
| ORION | 096 201 202 203 204 205 |
| PANASONIC | 034 056 080 164 |
| PHILCO | 006 003 004 024 056 059 060 063 064 127 143 164 |
| PHILIPS | 164 005 038 093 127 006 003 004 059 |
| PIONEER | 023 025 135 176 004 018 006 |
| PORTLAND | 004 143 |
| PROSCAN | 144 160 161 |
| PROTON | 004 058 143 171 173 112 |
| QUASAR | 034 056 |
| RADIO SHACK | 004 019 127 143 043 |
| RCA | 160 161 144 156 065 006 004 023 024 056 074 152 |
| REALISTIC | 007 019 |
| RUNCO | 072 073 |
| SAMPO | 006 004 058 |

■ Televisions (continued)

| Manufacturer (Brand) | Code Number |
|----------------------|--|
| SAMSUNG | 004 101 127 133 143 160 089 105 |
| SANYO | 007 053 057 082 020 |
| SCOTT | 004 005 028 043 048 143 |
| SEARS | 004 007 015 028 030 057 082 094 143 160 |
| SHARP | 081 019 028 004 022 081 143 175 |
| SIGNATURE | 072 |
| SONY | 001 126 139 |
| SOUNDESIGN | 003 004 028 043 |
| SPECTRICON | 112 |
| SSS | 004 043 |
| SUPRE MACY | 002 |
| SYLVANIA | 006 003 059 060 063 064 127 160 164 044 |
| SYMPHONICS | 052 |
| TANDY | 081 |
| TATUNG | 056 062 |
| TECHNICS | 034 080 |
| TECHWOOD | 004 |
| TEKNIKA | 002 003 004 024 028 043 072 101 143 |
| TELERENT | 072 |
| TERA | 172 |
| TMK | 004 |
| TOSHIBA | 015 030 007 040 062 101 |
| TOTEVISION | 143 |
| UNIVERSAL | 008 009 |
| VIDEO CONCEPTS | 146 |
| VIDIKRON | 174 188 |
| VIDTECH | 004 |
| VIEWSONIC | 252 |
| WESTING HOUSE | 076 |
| WARDS | 004 064 164 008 009 019 028 060 061 063 072 074 143 |
| YAMAHA | 004 006 |
| YORK | 004 |
| YUPITERU | 043 |
| ZENITH | 011 072 073 095 103 |
| ZONDA | 112 |

■ Video Decks (Set to AUX2)

| Manufacturer (Brand) | Code Number |
|----------------------|--|
| AIWA | 034 161 |
| AKAI | 043 046 124 146 |
| AMPRO | 072 |
| ANAM | 031 103 |
| AUDIO DYNAMICS | 012 023 043 |
| BROKSONIC | 035 037 129 |
| CANON | 028 031 |
| CAPEHART | 108 |
| CRAIG | 003 135 |
| CUIRTIS MATHES | 031 041 |
| DAEWOO | 005 108 111 117 017 065 007 010 |
| DAYTRON | 108 |
| DBX | 012 023 043 |
| DYNATECH | 034 053 |
| ELECTROHOME | 059 |
| EMERSON | 006 029 035 037 129 153 017 025 027 031 034 036 046 101 131 138 |
| FISHER | 003 010 008 009 |
| FUNAI | 034 |
| GE | 031 072 144 147 063 107 109 |
| GO VIDEO | 132 155 136 |
| GOLDSTAR / LG | 101 004 012 020 |
| HARMAN KARDON | 012 045 |
| HITACHI | 004 026 034 043 063 137 150 |
| HUGHES | 004 |
| INSTANTREPLAY | 031 |
| JCL | 031 |
| JCPENNEY | 004 012 031 101 |
| JENSEN | 043 |
| JVC | 048 043 055 060 130 150 152 012 031 |
| KENWOOD | 034 150 014 048 |
| LLOYD | 034 |
| LXI | 003 009 017 034 101 004 106 |
| MAGNAVOX | 067 031 034 068 041 170 |
| MARANTZ | 067 069 012 031 |
| MARTA | 101 |
| MATSUI | 027 030 |
| MEI | 031 |
| MEMOREX | 101 003 014 031 034 053 072 134 139 |
| MGA | 045 046 059 |
| MINOLTA | 004 020 |
| MITSUBISHI | 059 061 051 004 046 020 045 |
| MTC | 034 |
| MULTITECH | 024 034 |
| NEC | 012 023 043 048 |

■ Video Decks (continued)

| Manufacturer (Brand) | Code Number |
|----------------------|---|
| NORDMENDE | 043 |
| OPTONICA | 053 054 |
| PANASONIC | 031 070 133 140 163 |
| PENTAX | 004 031 063 020 |
| PHILCO | 031 034 067 |
| PHILIPS | 031 034 054 067 101 150 |
| PILOT | 101 |
| PIONEER | 021 004 048 |
| PORTLAND | 108 |
| PULSAR | 072 |
| QUARTZ | 014 |
| QUASAR | 031 070 133 140 163 014 |
| RADIO SHACK | 123 |
| RCA | 107 109 144 041 031 004 020 034 140 147 158 |
| REALISTIC | 003 008 014 031 034 053 054 101 010 |
| RICO | 058 |
| RUNCO | 072 |
| SALORA | 014 |
| SAMSUNG | 017 107 109 113 115 124 122 |
| SANSUI | 043 135 048 |
| SANYO | 003 014 134 |
| SCOTT | 017 037 129 131 |
| SEARS | 003 004 008 014 017 081 101 010 |
| SHARP | 053 031 054 159 |
| SHINTOM | 024 |
| SONY | 001 057 058 003 052 053 031 154 171 009 |
| SOUNDESIGN | 034 |
| STS | 004 |
| SYLVANIA | 031 034 059 067 |
| SYMPHONIC | 034 |
| TANDY | 034 010 |
| TATUNG | 043 |
| TEAC | 034 043 |
| TECHNICS | 031 070 |
| TEKNIKA | 031 034 101 |
| THOMAS | 034 |
| TMK | 006 |
| TOSHIBA | 017 131 004 008 059 082 150 |
| TOTEVISION | 101 |
| VECTOR | 012 |
| RESEARCH | 012 034 046 |
| VIDEO CONCEPTS | 003 004 017 024 031 034 053 054 131 |
| WARDS | 012 034 043 |
| YAMAHA | 072 034 001 058 080 101 153 048 |

■ Digital Video Decks (Set to AUX2)

| Manufacturer (Brand) | Code Number |
|----------------------|-------------|
| PHILIPS | 201 203 |
| SONY | 202 204 |
| REPLAY | 209 |
| ECHOSTAR | 206 |
| MAGNAVOX | 203 |
| MICROSOFT | 207 |
| MITSUBISHI | 205 |

Troubleshooting

There are times when a problem may appear to be a malfunction even though it actually is not. Please check the possible causes listed in the table below before requesting repairs or servicing.

| Problem | Possible Cause | Reference Page |
|--|--|----------------|
| No sound | • Check all connections and operations by following the Easy Connection Guide and SPA amplifier operating procedure. | 8 |
| | • Is the volume turned all the way down? | 11 |
| | • Is MUTE ON displayed on the amplifier? | — |
| | • Has the external equipment been correctly selected with the SOURCE/INPUT Selector for the desired audio source? | 19 22 |
| | • Are headphones connected? | 9 |
| | • Are digital signals being input having a sampling frequency of 88.2 kHz or 96 kHz? | 16 |
| No sound from Surround (rear) channel | • Check that the digital output setting of the DVD player is set to playback Dolby Digital 5.1 ch and DTS playback. | — |
| Remote controller does not operate properly | • Is the polarity of the batteries aligned properly? | 4 |
| | • Are the batteries worn down? | — |
| | • Are the distance and angle with the amplifier appropriate? | 4 |
| | • Is there an obstruction between the remote controller and amplifier? | 4 |
| | • Is intense light (such as from an inverter fluorescent lamp or direct sunlight) shining on the light receiving window of the amplifier? | — |
| | • Is the power cord still plugged into the receptacle? | — |
| Power does not come on | • A protective circuit may have been activated. Unplug the power cord and then plug it back in again after waiting for at least about 5 minutes. | — |
| Poor balance of sound from satellite speaker | • Is the satellite speaker placed at a location at an equal distance from the walls on the left and right sides? | 5 |
| | • Check for any obstructions placed close to the speaker. | 5 |
| No display is indicated | • Is the display mode switched off? | 13 |

Note: When an error is displayed, this might indicate this amplifier is defective. Please request servicing.

Specifications

Amplifier

Speaker output/impedance: 30W × 5 (RMS)/8Ω (NIRO 1000/800) 27W × 5 (RMS)/8Ω (NIRO 620)
 24W × 5 (RMS)/8Ω (NIRO 420)
 Subwoofer output/impedance: 150W (RMS)/6Ω (NIRO 1000) 50W (RMS)/6Ω (NIRO 800)
 45W (RMS)/6Ω (NIRO 620) 40W (RMS)/6Ω (NIRO 420)
 Channel separation: 1 kHz: AUX1-IN, AUX2-IN: Min. 50 dB
 S/N (A-weighted): AUX1-IN, AUX2-IN: Min. 70 dB
 Residual noise (A-weighted): Max. 0.9 mV
 Input gain: AUX1-IN, AUX2-IN: 350 mV
 Tone control:
 Bass: -6 dB to +6 dB/100 Hz (2 dB steps)
 Treble: -6 dB to +6 dB/1 kHz (2 dB steps)
 SUB: -10 dB to +10 dB (1 dB steps)

Overall

Audio input terminals: Digital input (optical): 3 inputs
 Digital input (coaxial): 1 input
 Analog input: 2 channels
 Audio output terminals: Satellite speaker: 8Ω
 MovieMouse speaker: 24Ω
 Subwoofer: 6Ω
 Headphones: 16 to 50Ω (recommended: 32Ω)
 Compatible audio formats: Dolby Digital, DTS, Dolby Pro Logic II
 Power supply: AC 120 V, 50/60 Hz
 Power consumption: 250 W (during operation), 1.8 W (during standby)
 External dimensions: 7.9" (W) × 2.2" (H) × 11.6" (D) (excluding projections)
 Weight: 4.8 lbs.

Remote Controller

Type: Infrared, compatible with preset codes for other A/V equipment
 External dimensions: 2.3" (W) × 8.1" (H) × 0.9" (D) (excluding projections)

Satellite Speaker

| | NIRO 1000 | NIRO 800 | NIRO 620 | NIRO 420 |
|---|--|--|--|--|
| Type | 2 way sealed type | | Full-range sealed type | |
| Speaker units | 3.5-inch (9cm) cone type x5 1-inch (2cm) soft dome type x3 Magnetic shielding design | 3-inch (8cm) cone type x5 Magnetic shielding design | 2.5-inch (6cm) cone type x5 Magnetic shielding design | 2-inch (5cm) cone type x5 Magnetic shielding design |
| Impedance | 8Ω | | | |
| External dimensions (excluding projections) | 27.9"(W) × 6.2"(H) × 5.6"(D) | 24.4"(W) × 4.8"(H) × 4.8"(D) | 23.6"(W) × 4.2"(H) × 4.3"(D) | 21.4"(W) × 3.4"(H) × 3.8"(D) |
| Weight (excluding cable) | 14.7 lbs. | 9.0 lbs. | 7.7 lbs. | 5.5 lbs. |

Subwoofer

| | NIRO 1000/800 | NIRO 620 | NIRO 420 |
|---|------------------------------|--------------------------------|------------------------------|
| Type | Bass-reflecting type | | |
| Speaker units | 8-inch (20cm) cone type | | 6.5-inch (16cm) cone type |
| Impedance | 6Ω | | |
| External dimensions (excluding projections) | 10.6"(W) × 15.9"(H) × 16"(D) | 10.6"(W) × 13.9"(H) × 13.6"(D) | 10.6"(W) × 11.1"(H) × 12"(D) |
| Weight (excluding cable) | 23.3 lbs. | 19.6 lbs. | 16.3 lbs. |

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Product design and specifications are subject to change without notice.

NIRO



niro1.com USA, INC.

370 Amapola Ave., #207

Torrance, CA 90501

Tel: 800 533 5617 Fax: 310 533 6005

E-mail: ussales@niro1.com

Website: <http://www.niro1.com>

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