Instruction Manual

Digital Surround Processor / Controller

AV1

Nakamichi®

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 a 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, heaters, stoves, or another apparatus (including amplifiers) that produces heat.
9. Do not override the safety features 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 pinched particularly at plugs, convenience receptacles and at the point that they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

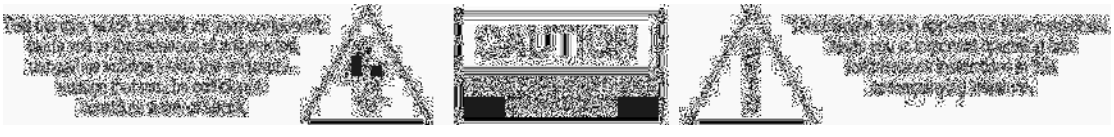
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when a power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
    - Refer to the manufacturer's operating instructions for power requirements. Be advised that different operating voltages may require the use of different line cords and/or attachment plugs.
    - Do not install the unit in an unventilated rack, or directly above heat-producing equipment such as power amplifiers. Observe the maximum ambient operating temperature listed in the product specifications.
    - Never attach audio power amplifier outputs directly to any of the unit's connectors.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and radiates radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio or television reception. This 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:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different to the one that the receiver is connected to.
- Consult the dealer or an experienced radio/television technician for help.

WARNING :

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. Do not place objects containing liquid, such as vases, on this apparatus.



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About the AV1

The Nakamichi AV1 combo is our latest developed home theater AV power and preamp that supports HDMI1.4 standard. The Nakamichi AV1 has 7.1ch output, which supports the most advanced HD audio encoding technology, including Dolby TrueHD™ and DTS Master Audio™. AV1 has multi-zone amplifier output control, which means that aside from the main zone, it can amplify and control 3 additional stereo zones concurrently.

Highlights

Audio

1. Supports the most advanced HD audio decoding technology, including Dolby TrueHD™, Dolby Digital Plus™, DTS Master™ as well as DTS HRA™
2. SD audio decoding compatible with Dolby Digital EX™, DTS™, DTS ES™ (D6.1、M6.1), DTS 96/24 and can output 192K 7.1CH PCM.
3. Perfect matrix decoding function: Dolby PLIIx™, DTS Neo 6™ and Cirrus COMS2™.
4. IRC (intelligent room calibration)
5. Audio management: Front speaker, centre speaker, surround speaker, back surround speaker, front height speaker and subwoofer speaker are grouped to adjust filter inflection point, slope, bass enhancement function and single/dual back speaker settings independently.
6. 11-Band parameter equalizer
7. Independent multi-zone control function
8. Perfect electronic crossover design
9. FM / DAB / DAB+ radio tuner
10. Bluetooth audio streaming (A2DP1.2/AVRCP1.4) with Apt-X support

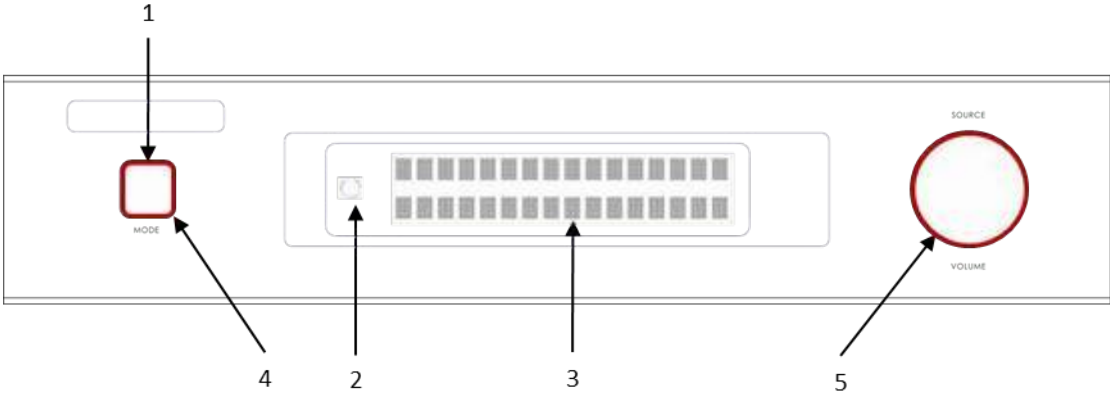
Video

1. HDMI1.4 input and output
2. 4-Way HDMI inputs, 1-way HDMI output and 1 HDMI quick switch.
3. All legacy video inputs can be scaled and output over HDMI at up to 1080p, YUV, RGB, supports DVI mode, supports HD audio, 8CH LPCM.
4. Supports HDMI CEC control
5. Supports HDMI ARC audio backward
6. Supports the following video inputs and outputs: HDMI/DVI 480p, 576p, 720p50, 720p60, 1080i50, 1080i60, 1080p50, 1080p60 and 1080p24.

Product Description

Preamp Unit

Front Panel



1. STANDBY INDICATOR LIGHT

When the machine is in standby or input selection is made, the light willglow red. When the machine is in operating mode it will glow white.

2. IR REMOTE SENSOR

3. DISPLAY

Displays all required information during operation.

4. STANDBY BUTTON

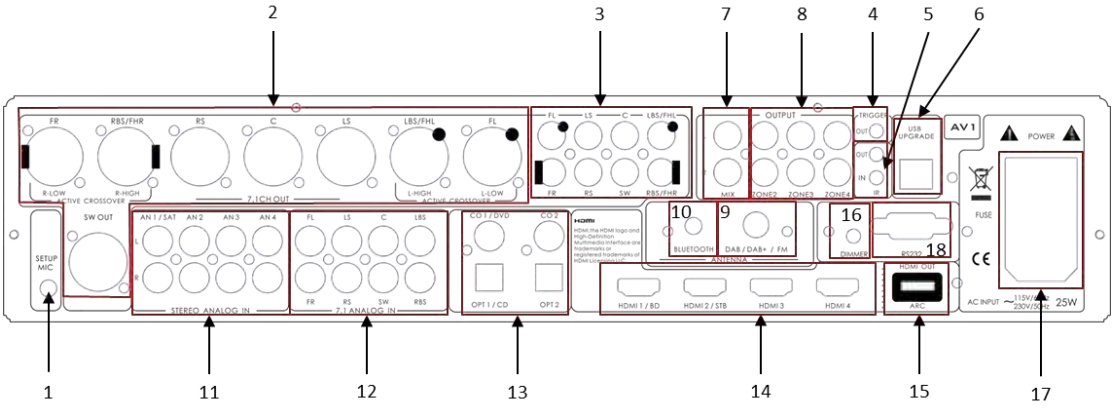
This button is for powering up or putting AVI into standby state.

This button is multi-functional. When powered on, a short press of the standby button will give access to input selection. The input can then be selected using the volume/input selection knob. In this mode,the standby indicator and volume ring will glowred until the user presses the standby button once more to validate the chosen input.

5. VOLUME AND INPUT SELECTION BUTTON

This knob is used to adjust the volume ofthe AV controller. The adjustable range is 0db~80dB, it moves in 0.5dB intervals.

Back Panel



1. SETUP MIC

Use for the audio measurements needed for auto room scan and audio calibration.

2. 7.1CH OUT (multichannel) BALANCED OUTPUT

Front L/R, centre C, surround L/R, back surround L/R. All these multi-channel, balanced, audio output ports can connect to the analogue, balanced, audio input ports of the multi-channel power amplifier AVP1.

3. 7.1CH OUT (multi-channel) UNBALANCED OUTPUT

Front L/R, centre C, surround LS/RS, back surround LNS/RBS. All these multi-channel, audio output ports can connect to the analogue, audio input ports of the multichannel power amplifier AVP1.

4. TRIGGER OUT PORT

This output provides a 12V/120mA signal to turn a connected device ON.

5. INFRA- RED IN/OUT

IR IN jack can connect to a commercial IR receiver. This will enable the user to control the AV controller even when it is out of sight (when AV controller is in a cabinet or an AV rack). A commercial IR transmitter can connect to IR OUT jack so as to control other equipment by transmitting an IR signal.

6. USB PORT

Used for future software upgrades.

7. MIX OUT L/R

This port is a 2 channel output, which can transfer the multi-channel input audio into 2 channel analogue output and connect to other function input ports.

8. ZONE OUTPUT

These outputs provide amplification for three additional zones: zone2 zone3, zone4 (in addition to the main zone). Use these outputs to send independently controlled music to amplifiers in other areas of your home.

9. FM /DAB ANTENNA

Use for FM and DAB/DAB+ antenna connections. Use the one supplied with AV1, an external roof antenna or an electronic antenna.

10. BLUETOOTH ANTENNA

Use to connect the Bluetooth antenna supplied with the AV1. Also connect to an extension cable/base so that the antenna can be located outside the zone where AV1 is installed.

11. STEREO ANALOG L/R INPUT

User can connect to wire/ satellite receiver/ STB, VCR/DVR/DVD and other analog audio output devices.

12. 7.1CH (multichannel) INPUT

Front L/R, Central, Subwoofer, SL/SR, SBL/SBR

13. DIGITAL AUDIO INPUT

2 coaxial inputs (CO1/ DVD, CO2), 2 optical inputs (OPT/CD, OPT2), which can connectto CD, DVD player and to other devices with coaxial audio output. The ports are distributable. The user can distribute them to the input source according to user requirements.

14. HDMI INPUT TERMNAL

HDMI input is used for connecting HDMI output devices, such as DVD player, Blu-ray disc player, DVD recorder and DVR.

15. HDMI OUTPUT \TERMINAL

Use for connecting TV or projector with HDMI input port.

16. DIMMER PORT

Use to connect a jack cable between AV1 and AVP1 ports (or Nakamichi dimmer equipped products) so as to synchronize the lighting of each unit. AV1 is the master. The cable is delivered with AV1.

17. AC INPUT, POWER SWITCH AND FUSE INSTALLING POSITION

Use to connect to AC power, control main power switch and replace the fuse if damaged.

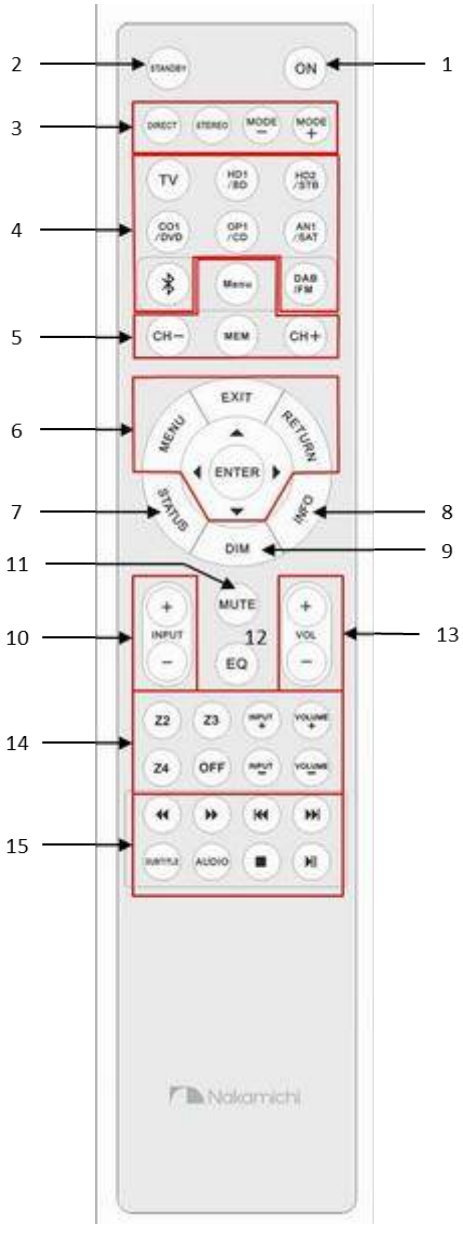
18. RS232 CONTROL PORT

This port is used to connect the AV1 to an external automation controller such as AMX or Crestron. RS232 commands are available at the end of this document.

Remote Control

Usage Instructions

1. When inserting the batteries, push them towards the negative (--) poles.
2. Confirm the pole of each battery before inserting it.
3. Do not mix or use new and old batteries.
4. If the remote control is not to be used for an extended length of time, remove batteries so as to avoid damage to the remote control due to leaking batteries.
5. If the remote control distance becomes shorter or unstable during operation, insert new batteries.
6. Periodically clean the infrared ray transmitter and the remote control signal window with soft fabric.



Descriptions

1. POWER button

Press this button to turn on the AV1.

2. STANDBY button

Press this button when the AV1 is ON to return it to standby mode.

3. AUDIO MODE button +/-

Press DIRECT or STEREO to directly select the 2 CH mode (bypass or downmix signal). Press the MODE + and MODE – buttons to step through the valid surround sound decoding modes available for the input that is currently selected.To select a mode to be a default mode , please refer to [Playback] Mode

4. INPUT OPTION button

Press the input buttonto select an option . The user can define these buttons in the sub-menu: INPUT Config / Remote Hot Key SET under MENU SETUP.

5. RADIO CONTROL buttons

Press the DAB/FM button to select FM or DAB mode. In countries where DAB is not available, FM will be selected by default. For other countries, subsequent presses ofFM/DAB will change modes. In FM mode, manually change the frequency using the < and > buttons of the round

pad and store the new station using MEM button. Use CH+/CH- buttons to step between any station presets created. For ease of use, set up the auto save preset function in the RADIO MENU to access functions by pressing the menu button.

6. NAVIGATION buttons

Press this button to navigate around the on-screen display menu

- MENU: Press this button to access the OSD MENU giving access to the complete unit setup.
- DIRECTION: Press these buttonsto control the navigation ring and to move Up, Down, Left and Right.
- EXIT: Press this button to exit navigation menu.
- RETURN: Press this button to return to a previous menu.
- ENTER: Press this button to confirm.

7. STATUS button

Press this button to view the status of present input source and play mode.

8. INFO button

Press this button to show audio mode of currentsource . If the signal is DTS, the menu of the on-screen display will show. Please refer to the screen menu for more details.

9. DIM button

Press this button to dim the front panel VFD (vacuum fluorescent display) and lights. The display and lights will get gradually darker each time that the button is pressed. There are 5 steps and off.

10. INPUT +/- button

Press input buttons to step through the available inputs. This gives access to ALL inputs including those not accessible directly via the HOT-KEYS.

11. MUTE Button

Press this button to mute the audio output. Press again to return to the previous volume level.

12. EQ select

Use to set the EQ correction curve. EQ are set in the SETUP MENU.

13. VOL+/-

Press these buttons to adjust the output volume of the machine in any mode.

14. M ULTI-ZONE buttons

A: Open the zone

Press Z2, Z3, Z4 to open zone 2, zone 3 and zone 4 directly.

B: Close the zone:

Press the zone button (Z2, Z3 or Z4) to select and then press OFF to close it.

C: Select zone signal source/input:

Press the zone button (Z2, Z3 or Z4) to select and then press input +/- to change the source.

D: Adjust the volume of the zone

Press the zone button (Z2, Z3 or Z4) to select and then press VOL+ and VOL – buttons to control the audio level for that zone.

E: Control playback of the zone

When in Z2, Z3 or Z4 and the selected source is Radio or Bluetooth, it is possible to control the playback of this zone:

- Radio mode: Press the zone button (Z2, Z3 or Z4) to control and then press CH+ or CH- to change the preset.
- Bluetooth mode: Press the zone button (Z2, Z3 or Z4) to control and then the Skip Backward or Forward button.

15. P LAYBACK CONTROL buttons

Press these buttons to control the playback of the selected device:

- Through CEC if the source is connected through HDMi and is CEC compatible
- Through AVRCP when in Bluetooth mode with a compatible device

These buttons can control the main zone as well as the other zones if the desired zone button is pressed prior pressing to the control button.

NOTES about CEC:

Consumer Electronics Control (CEC) is an HDMI feature designed to allow the user to command and control up-to 15 CEC-enabled devices that are connected through HDMI. AV1 supports part of the CEC standard:

- **System Standby** enables users to switch played device to standby mode with the press of one button, being the STANDBY button of AV1
- **Deck Control** allows AV1 to interrogate and control the operation (play, pause, rewind etc.), of the played component (Blu-ray or HD DVD player or a camcorder, etc.)
- **Remote Control Pass Through** allows remote control commands to be passed through to other devices within the system, so that thecommands from the connected source to AV1 will pass to the TV.

Installation

Speaker Connections

1) Connect to multi-channel amplifier

The AV1 provides 2 methods for connecting to AVP1 or other amplifiers. Choose one of the following:

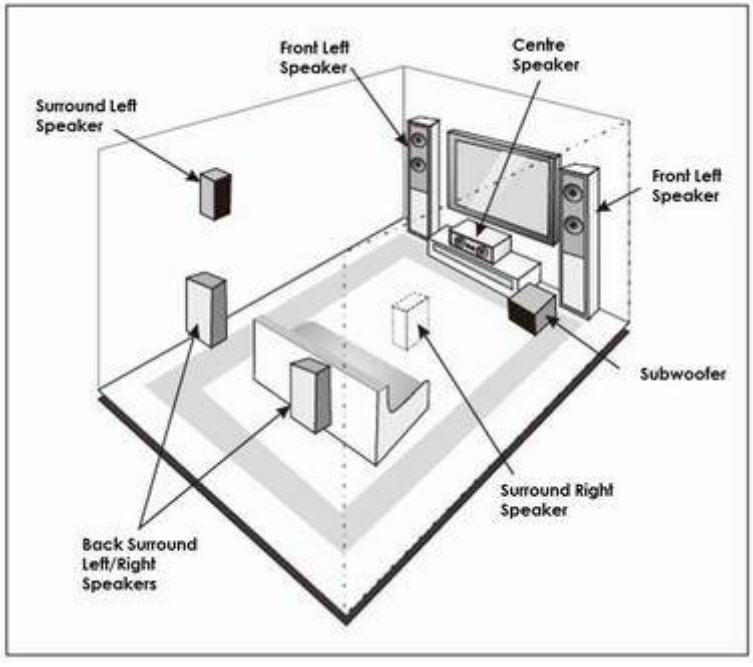
a) Unbalanced connecting (refer to zone 2 of back panel picture)
b) Balanced connecting (refer to zone 12 of back panel picture)

2) Connect the speakers to the amplifier

a) Unplug the power cable before connecting.
b) Follow instructions attached to the speaker.
c) Ensure that the negative pole and positive pole are correctly connected.
d) Do not connect a speaker to multiple connectors.
e) A lengthy power cable or a very narrow speaker cable may affect performance and should be avoided.
f) Incorrectly connected speakers may cause a short circuit, which in turn may damage the amplifier.
g) Metal core wire of the cable touching the rear panel may damage the amplifier.
h) Connecting more than one cable to each speaker connector may damage the amplifier.

Speaker Room-setting Reference

The following picture shows where a 7.1 speakers configuration (7 speakers and one subwoofer) should be placed. User can adjust the position according to the number of speakersowned. If the user only has one speaker to be put in the rear, put it between the two speakers as shown in the picture.



1. Front Left/ Right Speaker.

FL/FR speakers are placed for sound effects. The role these speakers play in home theater is to offer a single position point in the sound field. The speakers should be placed facing the listener, at ear height. The FL and FR should be placed the same distance away from the TV. The direction of the speakers should be toward the inner side so as to form a triangle with the listener in the vertex.

2. Centre Speaker

Centre speaker adds to the sound effect of FL/FR, which provides a complete sound field. In a film, the centre speaker is used to play the dialogue. When installing, it should be placed near the display, facing the listener, at ear height or at the same height as FL/FR.

3. Subwoofer Speaker

Subwoofer speaker processes the bass of the sound field. The output bass volume and tone quality of the subwoofer speaker is related to the shape of the room and position used.

4. Surround Left/ Right Speaker

These speakers are used for precise sound positioning and to addr ealistic ambience. Position them at the sides of the listener or slightly above with a minimal deviation of about 60cm to 100cm from the top of the ear. The ideal scenario is to place them equidistant from the listeners' ear.

5. Back Surround Left/ Right Speaker

These speakers will emit sound when needed, either when decoding Dolby HD, DTS HD or when activating the DPLIIx Processing Mode. They expand the surround sound, providing listeners with

a more realistic scene. They should generally be placed behind the listener at 40 ~ 100cm above the ears.

6. Front Height Left/ Right Speaker

Dolby Laboratories have developed a sound process that enhances the 3D effect by adding a vertical dimension to the front channels. To get the benefit of this feature on Nakamichi AV1 select the appropriate speaker mode in the Setup Menu and connect two speakers to the back surround left and right connectors. They should be positioned about 40- 100 higher than the front left and right speakers.

The following table shows the channels you should use, depending on the number of speakers that you have.

Number of Speakers	2	3	4	5	6	7	7
Front Left Speaker	X	X	X	X	X	X	X
Front Right Speaker	X	X	X	X	X	X	X
Centre Speaker		X		X	X	X	X
Surround Left Speaker			X	X	X	X	X
Surround Right Speaker			X	X	X	X	X
Surround Centre Speaker					X		
Surround Back Left Speaker						X	
Surround Back Right Speaker						X	
Front Height Left Speaker							X
Front Height Right Speaker							X

Radio Antenna Connection

The AV1 has an Automatic Station Scan at first start up(scanning both DAB and FM range). It is therefore important to connect an antenna right after unpacking. Connect either the given wire or a roof antenna via a standard coaxial 75 ohm rated cable. Without an antenna, the machine may not receive any radio signal and the tuner cannot be used.
Please refer to (9) on page7 of this document.

Bluetooth Antenna Connection

The AV1 integrates a high quality Bluetooth receiver that is compatible with the A2DP1.2 and AVRCP1.4 profiles, supporting APT-X™ decoding which gives a "close to CD quality" transmission over Bluetooth from compatible devices.

To enablethe Bluetooth feature, screw the antenna included in the AV1 box on the small connector shown in zone 10 of the back panel.

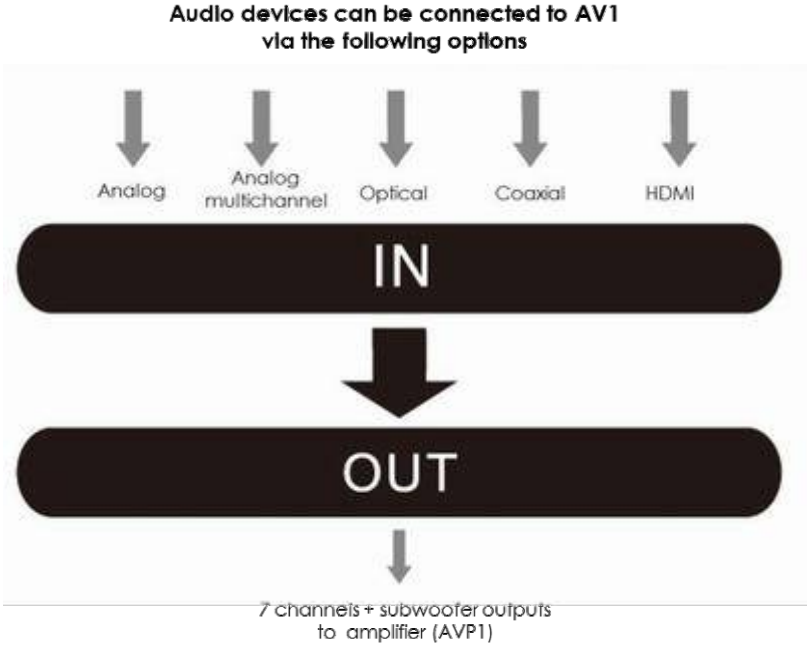
The Bluetooth receiver is always active once the unit is powered. Once a device has been paired, it will automatically reconnect to AV1 when powered on.

Connecting Input/Output Devices

Note :

- Before making any AV connections, readthe other manuals supplied with your AV components
- Do not connect the power before you have double-checked all AV connections

There are several options to interface your AV1 processor with your audio and video source unit:



Audio and Video Combined

About HDMI

Designed to meet the needs of the design of digital TV, HDMI (High Definition Multimedia Interface) is a digital interface standard for connecting TVs, projectors, DVD / BD players, set-top boxes and other video equipment. With HDMI, a single cable can carry control signals, digital video and up to 8 channels of digital audio signals (including dual-channel PCM, multichannel digital audio signals and multi-channel PCM) from a device connected to one of the inputs or from a TV through the ARC (Audio Return Channel) of the output connector.

Compatible Audio Formats

HDMI port supports the following formats:

- Two-channel linear PCM (32-192kHz, 16/20/24 BIT)
- Multichannel linear PCM (reaches up to channel 7.1, 32-192kHz, 16/20/24 BIT)
- Bit Stream (DOLBY DIGITAL™, DOLBY DIGITAL Plus™, DOLBY TrueHD™, DTS™, DTS-HD High Resolution Audio™, DTS-HD Master Audio™). The user's DVD/BD players should support HDMI output with these formats.

User can connect the product to a maximum of five HDMI compatible devices (four for input/one for output).

Note:

- When connecting to other devices by HDMI cable, use a HDMI cable to connect AV1 to the display.
- When connecting to a device which supports Deep Colour Signal Transmission, use a high-speed HDMI cable.
- If the input video signal does not match the resolution of the display, there will be no video signal output. In this case, please switch the resolution of Blue-ray disc player/DVD player to match the resolution of the display.

HDMI			HDMI connection enables transmitting standard or HD digital video and digital audio and provides the best images as well as audio

Connection

You can connect input/output devices like DVD/TV via HDMI1/BD, HDMI2/BOX, HDMI3, HDMI4, ARC (HDMI OUT) connectors. The product supports inputs and outputs compatible with HDMI 1.4 3D video signal.

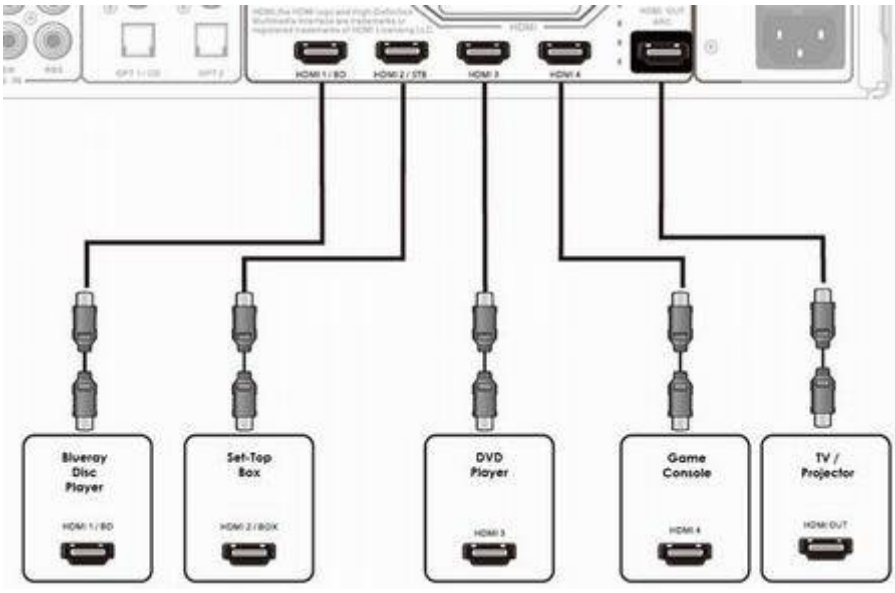
In most cases, the HDMI connection is sufficient to carry the audio channels to the AV1. Nevertheless, the user can define additional or different audio routes, similar to the manner in which we define audio only sources. This is described in the "Audio only" section.

HDMI ARC (Audio Return Channel)

HDMI ARC audio return function allows the TV to use a single HDMI cable to provide audio data to the AV1 without the need to add an extra SPDIF audio connection.
By default, the "TV" input is the one supporting HDMI ARC on AV1. When selecting "TV" input, the audio signal will be transmitted to the AV1 controller through the HDMI cable connecting the AV1 to the TV/projector as shown above.

1. Connect to a TV with ARC HDMI connector
2. Connect to the HDMI connector. (HDMI OUT)
3. Select HDMI ARC input group as audio input as described in "*Input Selection*".

Note : ARC will only work if the TV is capable of the ARC function. Please check with your TV manufacturer if your TV has this functionality.



Playing 3D Video

This product supports 3D video signal input and output compatible with HDMI 1.4. To play 3D video, you need a 3D TV, a 3D compatible player and a pair of 3D glasses.

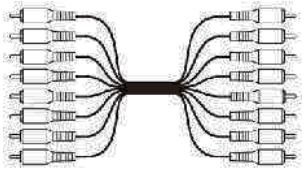
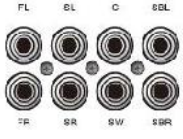
Connect the player to HDMI IN input connector and the TV to HDMI OUT as described above. The Nakamichi AV1 will automatically capture 3D signal and carry it to the TV.

Notes:

When playing 3D video, there are some limitations as described below:

- If you enter the MENU while playing 3D video, the screen will only display the menu, it will not display both.
- The screen will not display status when 3D video is playing.
- If the 3D video playing is converted from 2D video via the TV, the screen will not show the menu and the status.

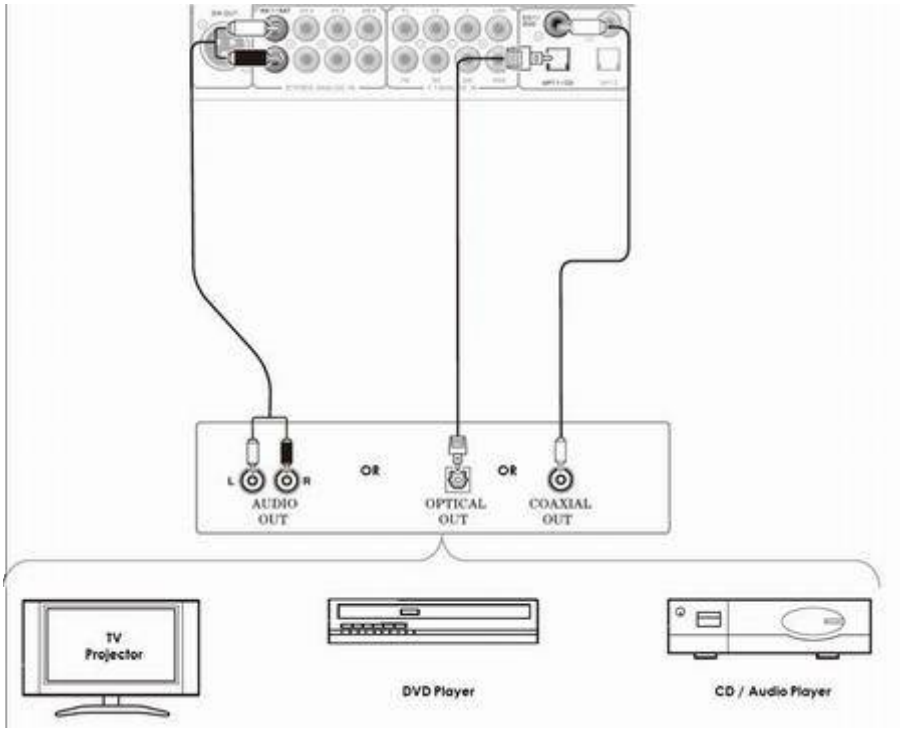
Audio Only (or alternate audio path of HDMI sources)

Optical Digital Jack			Provides best sound quality and surround sound (PCM, Dolby Digital™ and DTS™) The optical digital jack is equipped with an active protected shield which will automatically open and close when the optical jack is plugged and unplugged. Please plug it in fully. Note: To avoid damaging the active protected shield, please keep the optical plug straight when installing or removing the cable.
Coaxial Digital RCA			Provides best sound quality and surround sound (PCM, Dolby Digital™ and DTS™)
Analog Stereo RCA			This cable transmits analog audio signal. It is the most commonly used analog audio connection, available for most AV devices. Use the red plug to connect the AV1 and the right-channel of another audio device (usually marked as [R]). Use the white plug to connect the AV1 and the left-channel of another audio device. (Usually marked as [L]). Plug them in fully to get the best connection
Multi-channel Analog RCA			This cable transmits multiple analog audio signals, mainly used for 7.1 analog audio outputs of BD/DVD players. Several ordinary analog connection lines can be used as multi-signal connection lines.

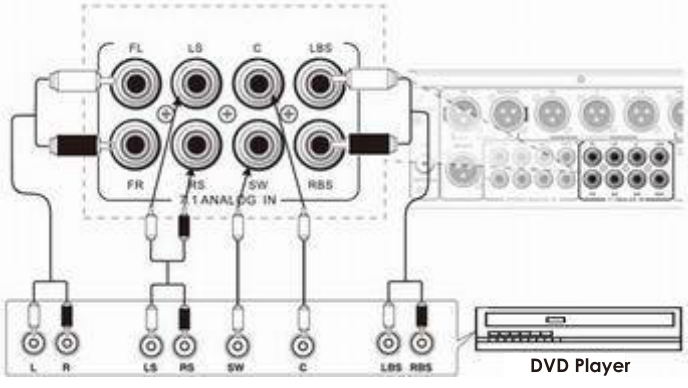
Note: To avoid interference, please place audio/video cables far away from power/speaker cables.

The examples in the above table are illustrated in the figure below. Choose the Analog Audio RCA connector (stereo only) or the Coaxial or Optical cable to Digital Audio signal (which can be stereo or multichannel encoded).

Note: It is recommended that you first connect the HDMI cable for video transmission, if the source supports this connection.



When the source supports multi-channel analog audio output, the user can also decide to use this audio path. When choosing this option, follow the connection method below. Note: If the source only supports 5.1 outputs, the LBS/RBS inputs of the AV1 should be left free.



When you have completed your connections, you must select the corresponding input group in "Input Settings". Refer to [Input Settings] to activate sound.

Amplifier Control: trigger output

The AV1 is provided with a trigger output made of a jack 3.5mm connector (zone 4 on the back panel). This output should be connected via the dedicated cable included in the AV1 box to the partnered AVP1 multi-channel amplifier or to another amplifier trigger input.

Once activated in the "Setup Menu", the AV1 will deliver a 12V/120mA signal which will start up / shut down the connected unit.

Dimmer Link

The AV1 offers an advanced dimmer / brightness control of the display and front panel buttons backlighting. In order to ensure a synchronization of Nakamichi products (AV1 and AVP1 in this case), the AV1 has a dimmer link output. This output is a 3.5mm jack connector (zone 16 on the back panel). Connect this to the dimmer input of the AVP1.

RS232

The AV1 can be used in a very advanced Home Cinema installation where automated control is implemented using the RS232 port (zone 19 on the back panel). This includes installations where AMX and CRESTRON system controllers are used as well as when the Nakamichi RS232 WiFi adaptor and related smartphone app are used (please consult your Nakamichi dealer for more information).

Initial Setup

Once all sources andthe TV/projector are connected to the AV1 , you are ready to start the configuration of your unit to get the best sound and pictures possible.

First connect the power cable to AV1. Please do not use any power cables other than the one supplied. The power cable suppliedis specially design ed for this product and therefore should not be used for other devices.

Turning AV1 On and Initial Setup:

1. Switch on the POWER button on the rear panel, the machine will enterSTANDBY mode and the panel indicator light will turn RED.
2. Press MODE button on the panel and the machine will POWER ONand the indicator light will turn WHITE.

We have specifically designed our user interface to be simple, easy to navigate and designed in such a way that learning to change the important functions is easy. It is in this On Screen Display (OSD) that all major functions and settings are found.

Press the MENU button on the panel or remote and a menu window will pop up in the screen, as shown in this picture.

To access the SETUP menu, first press MENU button on the remote, then move the cursor to the right to access the item to set up.

In this OSD page, user can set all the important settings, including [Input Config], [Playback Mode], [Speaker Setup], [Auto Room/EQ], [Option], [Load Default] and [Version].

Input Configuration

Input Setup

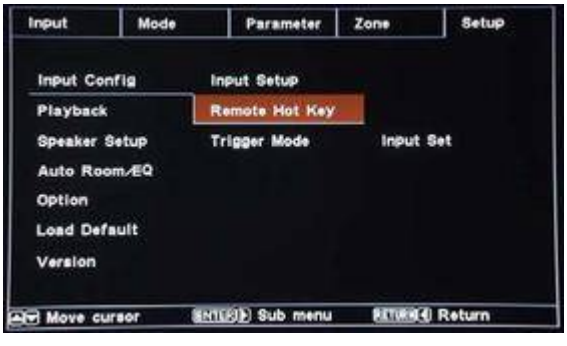
Move the cursor to Input Config item and then move to Input Setup bar. Use the right button to enter.

Each input has a set of parameters that can be adjusted to meet the preference of the user. This includes Audio and Video Input Settings, Rename, Lips Synchronization, Input Level and Trigger Function. Move the cursor to the desired input. An example of HDMI 1 input is illustrated below:

1: Input source 2 (HDMI 1) has been defined in remote hot key 2. (How to define the hot key will be described in next section).
2: The video input port is HDMI 1 and the video input cannot be altered.
3: The video input port is HDMI 1and the audio input can be altered.
4: HD1/BD refers to the name of input source 2 which shows in the selection bar and can be renamed by the user.
5: Lip Synchronization: Adjust AV synchronization, adjustable time: 0~999ms.
6: Input level: Enhance the input audio signal, the max adjustable range is +10dB
7: Trigger: When selecting trigger "ON", the input source is HD1/BD, the trigger on the back panel will start and output a signal of 12V/120mA, which can trigger the startup and shutdown of other devices.

Remote Hot Key

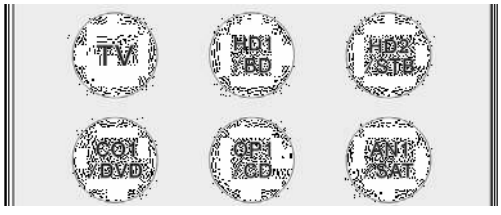
Remote hot key refers to user-defined function selection buttons of input source on the remote.
In the [Input Config] menu, use UP/DOWN button to move to [Remote Hot Key], then



Use Right or ENTER button to enter the Hot Key definition menu.

Select a corresponding remote hot key and use the RIGHT button to scroll through the selections. Define the hot key according to user preference.

The corresponding relationship between Remote Hot Keys and the Remote itself is shown here.



Trigger Mode

The AV1 can control the power status of AVP1 or other connected devices via a Trigger output port. The Trigger port behavior can be adjusted by moving the cursor onto Trigger Mode and then using the right cursor to change the options. Choose between: Always Off, Always On, Input Set, Zone 2 Power, Zone 3 Power, Zone 4 Power, All Zone Power.

Always Off: Trigger will never be activated.
Always On: Trigger will be activated as soon as AV1 is powered on.
Input Set: Trigger will follow what is defined in the Input Setup for each input.
Zone x Power: Trigger will be activated when the zone x has been activated/opened.
All Zone Power: Trigger will be activated whenever one of the zone is activated/opened.

Playback

In the [Setup] menu, use UP/DOWN to move to [Playback] setting, then use ENTER or right button to enter playback mode setting.

Playback mode is used to define your preferred listening mode when powering

up depending on the audio signal type detected at the selected input.

The left side represents the various audio signal types that can occur at the connected sources; the right side represents the available audio listening modes for this signal type.

The listening modes set hereare effective when the machine is restarted.

The AV1 will support the following audio signal format at its inputs, depending on the input setup defined during the various stages of the installation process: Analog 2 channel, PCM, Multi-channel PCM, DOLBY2/0, DOLBY DIGITAL, DOLBY EX, DOLBY HD, DTS, DTS ES, DTS HD.

The available listening modes for the above signal formats are as follows:

Analog 2CH PCM	Direct, Stereo, DSP, PLIIz, NEO:6, All Stereo
Multi PCM	Direct, Stereo, DSP, PLIIz, All Stereo
DOLBY 2/0	Direct, Stereo, PLIIz, NEO:6,DOLBY D, All Stereo
DOLBY D	Direct, Stereo, PLIIz,DOLBY D,DOLBY EX
DOLBY EX	Direct, Stereo, DOLBY D,DOLBY EX
DOLBY HD	Direct, Stereo, PLIIz ,DOLBY HD
DTS 2/0	Direct, Stereo, PLIIz, NEO:6,DTS, All Stereo
DTS	Direct, Stereo, PLIIz ,DTS ,DTS ES, All Stereo
DTS ES	Direct, Stereo, DTS ,DTS ES
DTS HD	Direct, Stereo, PLIIz ,DTS HD

Note :

1. When [Last Used] is selected as the listening mode, then the last listening mode used will be the default listening mode the next time the unit is started.
2. The available sampling frequency of PCM input signal are: 44.1/48/88.2/96/176.4/192Khz.
3. Some of the listening modes are available only in certain conditions.

Speaker Setup

The Nakamichi AV1 has a powerful bass management function: Front, Centre, Surround, Back, and Subwoofer are grouped to adjust filter inflection point and slope rate. The subwoofer can be enhanced.

Note: When adjusting the speaker setup manually, be aware that AV1 integrates an automated speaker setup called Auto Room/EQ. See below for descriptions and for making use of a microphone.

Size/ Crossover

Select Size/Crossover item. In thism enu, the user can manually define the speakers configuration and type.

You can define,

- 7.1 or 5.1 setup,
- 7.1 with back surround channels or front height channels,
- 7.1 or 6.1 when a mono channel only is used for back or height path,
- Crossover frequency with slope type,

Size: Large, Small or None,

Crossover Frequency: 40Hz, 45Hz, 50Hz, 55Hz, 60Hz, 65Hz, 70Hz, 75Hz, 80Hz, 90Hz, 100Hz, 110Hz, 120Hz, 130Hz, 140Hz, 150Hz, 175Hz, 200Hz, 225Hz, and 250Hz.

7.1 Mode: Back Surround, Front Height,

Back/Height Channel: 2CH, 1CH

Note: when 1CH is chosen the output is "SBL" in back panel.

Enhance Bass: To enhance the bass, select ON in this selection. When front L/R speakers are set as small, bass enhance functions are set by default to be OFF.

Slope: Each set of speakers (Front, Center, Surround, Back/Height and Subwoofer) can have a different slope for the crossover. The inflection point can be set to 12dB or 24dB.

Load Default: Select load default to restore the factory settings for [Speaker frequency inflection point]

Speaker Noise Test and Calibration Level

To optimize the level of each speaker of the system, a calibration mode is accessible. Select the Noise Test item of the Speaker Setup menu.

In the Noise Test menu, the first channel (Front Left) will be activated and a special calibration noise will be heard. Select each speaker (using UP/DOWN) in a sequence and adjust each level (using LEFT/RIGHT) so that the same "sound pressure" is perceived from each speaker at the area of listening.

The adjustable range is from- 10dB to +10dB and the adjustable steps are 0.5 db.

Speaker Distance

Select the Speaker Distance item in the Speaker Setup menu. The user is able to independently adjust the distance between his listening position and each speaker used in the installation.

Note: The unit of distance is measured in meters.

LFE Level

Select LFE level setting in the Speaker Setup menu and adjust each possible Codec used at the source level of a LFE level. This is very helpful as the mixing can differa lot between the various Codec available: EXT7.1CH subwoofer, multi -channel PCM, Dolby D, Dolby HD, DTS, DTS HD sources.

Advanced Mode

The AV1 can make use of unused outputs to offer additional sound improvements. These modes are BI-AMP and DUAL-AMP.

Bi-amp Mode

When a 5.1 output mode is sufficient in a system, it is possible to use the Nakamichi AV1 in a special mode called bi-amp mode. In this mode, speakers with bi-amp capability (having high-frequency and low frequency dedicated connectors) can be connected to two identical channels. This is made possible by using the surround back outputs as front outputs which deliver the same signal as front outputs.

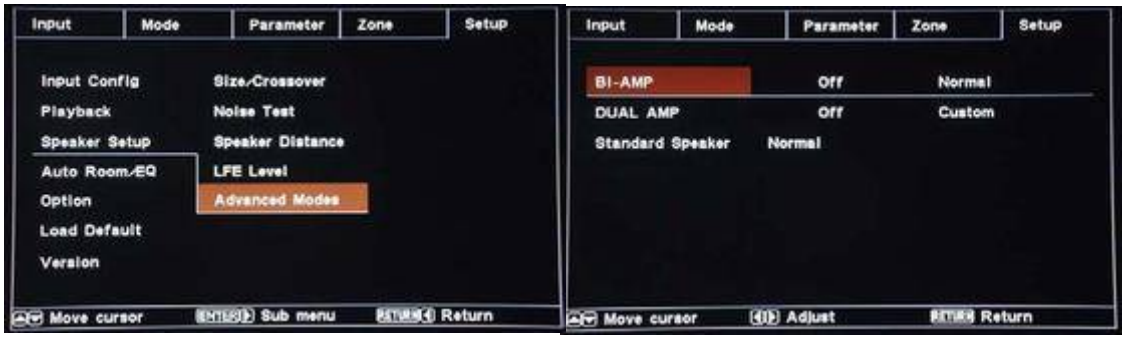
Dual Amp

Specially developed DSP crossover design, gives a precise digital segmentation of treble and bass, optimizing the transition and offering better sound-staging, thanks to better controlled impulse response.

BI-AMP is available at product launch while DUAL-AMP will come as Firmware Upgrade whenever a set of Speakers are tailored to work with AV1 Dual Amp function.

Changing Settings on AV1

Go to [Setup] and select [Speaker Setup] use UP/DOWN keys to go to [Advanced Mode]. Press enter to select [Bi-amp Mode] or [Dual Amp] mode.



Correct way to use bi-amp mode

Step 1: Ensure correct placement of speakers
Step 2: Take the straps off the speaker connectors to separate high and low sides.
Step 3: Connect the amplifier to the speakers, one channel per side (high and low).

When using these 2 methods, signals are available on R-channel, SBR-channel, L-channel and SBL-channel, please connect them according to the following instructions:

- Connect R-channel / SBR-channel with bass /treble of crossover R-channel.
- Connect L-channel / SBL-channel with bass /treble of crossover L-channel.

Auto Room/EQ

Description

The Auto Room/EQ (Intelligent Room Correction IRC)should be operated with the Automatic Room Calibration microphone supplied with the Nakamichi AV1. If the microphone is not connected, the process will not start.

The function of the Automatic Room Calibration (IRC) test is as follows:

1. IRC can automatically measure the distance between speakers and microphone, then calculate it using firmware to make sure the audio from every channel reaches the listeners ear at the same time.
2. Because of the design of the room, the response from each frequency may vary. IRC will scan 11 specially selected frequencies and will compensate for any irregularities identified by the firmware. In this way, it can ensure that the signal that the user hears is consistent with the original recorded signal.

Test Setup

Precautions before using automatic room test

- Please make sure that thespeakers are properly connected before testing. If the user has made modifications to the room after automatic room test, please re-test, as the EQ features may have changed.

- When testing, please make sure that there are no obstacles between the speaker and microphone.
- Please try to keep the room quiet when testing as background noise will affect the result of the test. We recommend closing the windows and powering off other household appliances.
- Please power off mobile phone or put it far away from AV electronic devices when testing.
- Disconnecting any of the speakers and the testing microphone will cancel the setup.

Connect testing microphone.

- Please connect the testing microphone to MIC setup on the back panel before scanning.
- Place the microphone in the main listening position and place it parallel to the ears of the listener when sitting down.
- Place the microphone point straight up and do not hold the microphone with your hands when testing.

Test Procedure

In menu [Setup], please use ▲ and ▼to move to [Auto Room/EQ] menu, then use ENTER to enter the submenu of [Auto Room/EQ].

The TV screen will show: "Please wait, IRC starting...", a moment later, the screen will show "Quiet, please ENTER for next." Press ENTER and "Testing alignment, quiet please" will show on the screen if everything works well and the test signals will output from every channel as illustrated in the last picture below.

Once above actions are completed, the screen will show the phase information (Phase OK , Phase Reverse) of every channel and the measured distance between each speaker and microphone.

Note: The screen will show "Phase N/A or No Speaker" if one or several speakers were not connected when testing.

Press ENTER to enter into the next step, the test signal will output from each channel again and the screen will show the level difference between the measured signals and the standard level. For example: "+4dB" means the signal level that the microphone measured is 4dB higher than the standard level. It will also show the detected size (such as l arge) and the advised crossover frequency (such as 100Hz).

Note: For more information about the setting of crossover frequency, please go to [Speaker Setup].

Now press ENTER to save and the testing data will be saved in the menu "Auto EQ" as shown the picture.

Note: In this screen, user can change frequency value in "Manual EQ 1.2.3" so as to adjust gain and Q value to your own requirements.

Select Auto EQ to select the IRC for output signal. No EQ means the firmware will make no adjustment to the output signal.

Option

In the [Setup] menu, use UP/DOWN button to move to [Option], then use the RIGHT button to access the [Option] submenu, as shown in the picture.

OSD Depth: Use LEFT/RIGHT button to adjust the depth of OSD.

OSD Popup: The information of the signal source will pop up when the signal is changed and this function is ON.

HDMI CEC Control: When this function is set as ON, it will control the startup/shutdown of devices with CEC function, which connect with AV1 through HDMI.

HDMI Auto Out: Set HDMI OUT audio amplifier means that the audio will output from the amplifier. Decode to TV means that the audio will output from the TV.

HDMI OFF Through: When Direct Standby Function is set as ON there are video, audio and TV outputs, even in standby mode.

Load Default

Select this to load default settings. After selection, AV1 will power off and restart automatically with default settings loaded.

Version

Select this to view the version information of the firmware of the machine as well as info on the screen connected, if available.

Basic Operation

Input (Input selection)

Press the MENU button on the remote control to activate the OSD and use left or right cursors to move to the INPUT item. Use DOWN or ENTER button to enter the input selection list.

In this screen, user can select from the following inputs: Tuner, TV, HD1/BD, HD2/BOX, HD3, HD4, CO1/DVD, CO2, OP1/GAME, OP2, AN1/SAT, AN2, AN3, AN4, Ext7.1, and Bluetooth.
Use UP/DOWN keys to move the cursor over the input group list and press ENTER to activate the desired one. AV1 will activate the selection.

Each input group has a corresponding audio input port, which was defined during the Installation process "Input Config". For example, If the cursor is on [TV], HDMI ARC (Audio Return Channel from TV) audio is shown, as in this picture.

The factory settings of the machine are HD1/BD, HD2/SP, HD3 and HD4 corresponding to HDMI1, HDMI2, HDMI3 and HDMI4. Only these four HDMI input ports have video inputs and the other input groups only have audio inputs.

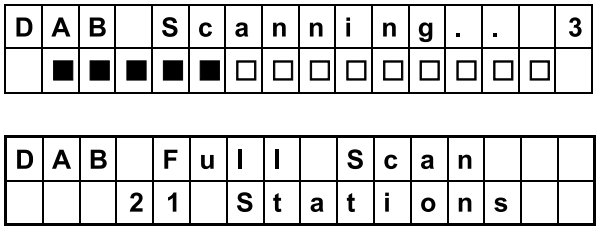
There are three ways to select an Input Group:

- Option 1: Press INPUT +/- button to select suitable input group.
- Option 2: Press the MENU button and select [Input] as described above.
- Option 3: Use the front panel MODE button to enter Input Select Mode and the rotating knob VOLUME/SOURCE to select the source. Press MODE to validate the source selection.

Tuner Mode

The AV1 integrates a DAB/DAB+/FM tuner. It can be selected by pressing DAB/FM button on the remote control or as described in *Input Selection above*.

To provide the best comfort to the user, after the first power up of the unit and selecting the Tuner mode, the AV1 will automatically scan the DAB/DAB+ and FM bands and create the presets lists for each mode.



F	M			S	c	a	n	n	i	n	g	.	.	3
	■	■	■	■	■	□	□	□	□	□	□	□	□	□	

Once this operation is completed, the AV1 will start playing the first DAB station on the list or switch to FM mode if no DAB stations were found in your living area.

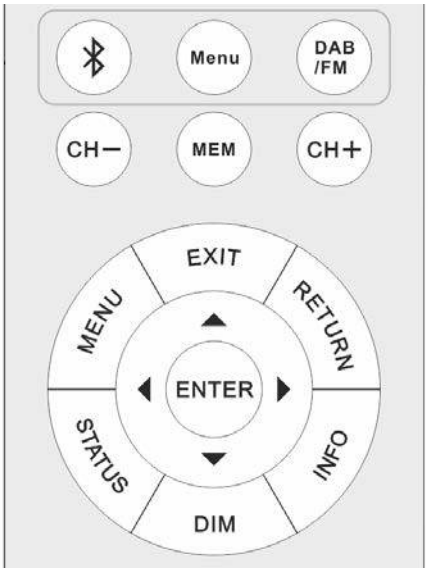
F	M		A	u	t	o		S	t	o	r	e		
			2	1		S	t	a	t	i	o	n	s	

D	A	B		S	e	r	v	i	c	e	1			
				I	n	f	o							

The Tuner mode is controlled using the following buttons on the Remote Control:

DAB/FM:

When playing another input, it will activate the tuner in the last mode, DAB or FM. When already in Tuner playback, press this button to change to the other uner mode (DAB or FM)



CH-/CH+:

Allows changing from FM Preset or DAB Station

◄►:

In FM mode, press briefly to allow a step by step frequency change, or long press to auto scan to the next available station.

MEM:

In FM mode, MEM will have two possible actions:

- long press on a stored station to delete this station from the preset list,
- long press on a newly found station will store the station to the list of presets.

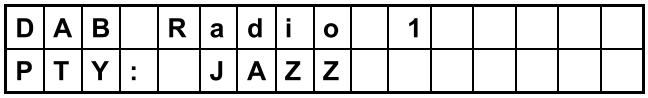
F	M		0	1						P	S				
	D	e	l	e	t	e		?			Y	e	s		>

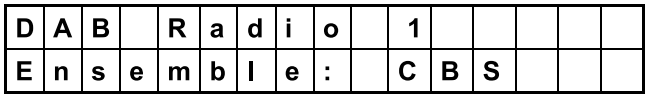
Info:

In DAB mode, INFO will give access to the available DLS information of the played station: strength,

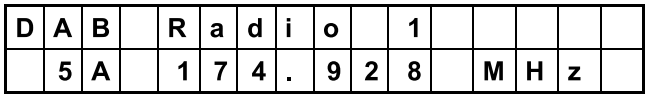
D	A	B		S	e	r	v	i	c	e					
S	t	r	e	n	g	t	h	:		■	■	■	■	□	

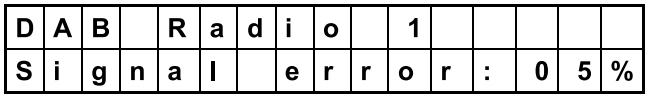
program type, ensemble name, channel frequency, signal error and codec/bitrate.

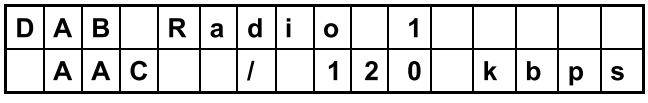




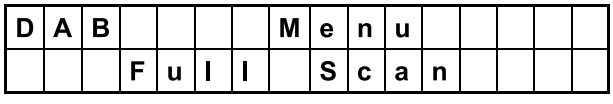
In FM mode, INFO will have no action.



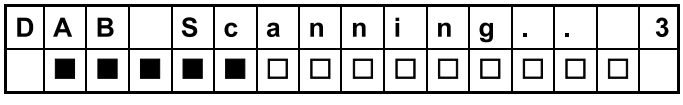


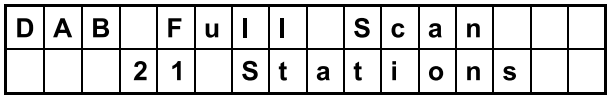


MENU:

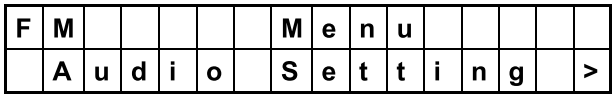


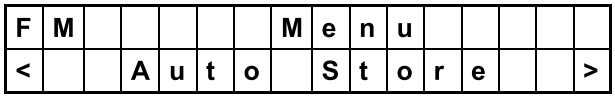
In DAB mode, pressing MENU will give access to the DAB settings menu where user can activate a new Full Scan similar to the one done at first power up. Press ENTER, to initiate.

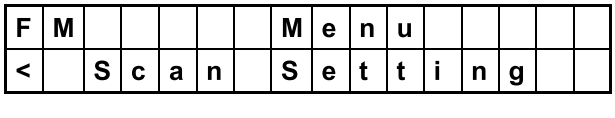




In FM mode, pressing MENU will give access to the FM settings menu that can be browsed using ◄►: Audio Settings, Autostore or Scan setting.







Pressing ENTER on **Audio Settings** to select between Stereo/Mono (auto detected) or forced Mono only.

F	M		A	u	d	i	o		S	e	t	t	i	n	g
		S	t	e	r	e	o	/	M	o	n	o		>	☑

F	M		A	u	d	i	o		S	e	t	t	i	n	g
		S	t	e	r	e	o	/	M	o	n	o		>	☐

Press ENTER on **Auto Store** to rescan the FM frequency range and store stations according to the sensitivity level defined in **Scan Setting.**

F	M		A	u	t	o		S	t	o	r	e		
C	o	n	t	i	n	u	e	?			Y	e	s	>

F	M		S	c	a	n		S	e	t	t	i	n	g	
S	t	r	o	n	g		S	t	a	t	i	o	n	>	☑

F	M		S	c	a	n		S	e	t	t	i	n	g	
<		A	l	l		S	t	a	t	i	o	n	s		☐

EXIT:

Press EXIT at anytime to go back to the playback screen.

Bluetooth Mode

The AV1 integrates a Bluetooth receiver supporting the A2DP1.2 and AVRCP1.4 profiles as well as the APT-X High Quality audio codec offering similar performance to CD over Bluetooth with compatible devices. This will allow you to enjoy playback from any compatible device, to control this device with AV1 remote control and see what is played on the AV1 display and OSD.

Prior to Bluetooth playback, you must create a connection. To do so, power on AVI and select Bluetooth input, access the Bluetooth Pairing menu of your device (PC, Smartphone, Tablet…) and now select "Nakamichi AV1" in the list.

B	L	U	E	T	O	O	T	H							
	C	o	n	n	e	c	t	i	n	g	.	.	.		

Once paired, the AV1 display will indicate that it is now connected. Start the playback on your device or use the AV1 remote control payback buttons.

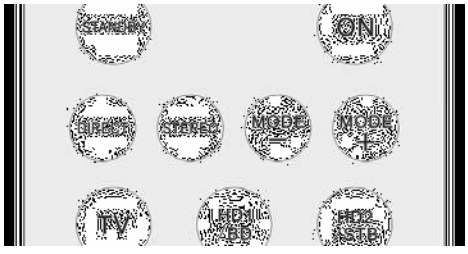
B	L	U	E	T	O	O	T	H							
			C	o	n	n	e	c	t	e	d				

The AV1 will automatically pause the device playback when you change input or power off the AV1. It willalso resume the p layback the next time you power up and Bluetooth mode is selected.

Mode (Listening Mode)

After having selected an input, it is possible to change the listening mode of this input via the MENU OSD. Select [Mode] screen, use ▲▼◀▶ to select a mode and press ENTER to activate it.

Use the remote control to access DIRECT, STEREO, MODE – and MODE + buttons on the top part of the remote control.



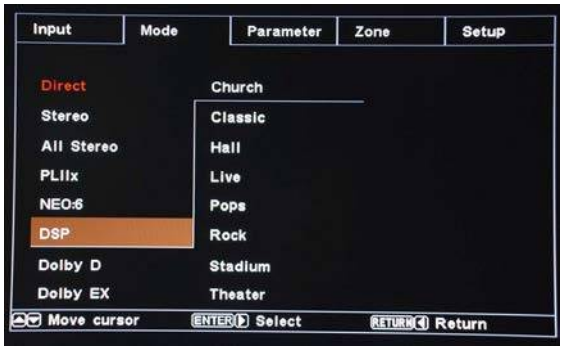
Note: In the *Installation* process, in the [Playback] Menu you are to set the default listening modes that are depicted in red in the following pictures.

To better understand and know how to use the options offered by the AV1 in terms oflistening mode selection, the most commonly used features are described:

DIRECT:
The audio signal from the input source will be directly transmitted with minimum processing, so as to provide hi-fi sound quality.

STEREO:
Sound will be transmitted through left and right speakers.

DSP:
This mode includes special scene modes. Select your preferred scene mode.



Dolby Pro Logic IIx (if 7.1 mode and "Surround Back" channels selected):
This mode can extend anystereo signal source to playin 7.1 channels. It provides very natural and uninterrupted surround sound effects. Besides playing music and movies, video games can also obtain these sound effects with a dedicated mode.
Three modes can be selected depending on the type of content being played: Movie, Music and Game modes.

Dolby Pro Logic IIz (if 7.1 mode and "Front Height" channels selected):
Dolby Pro Logic IIz delivers enhanced effects through the addition of front height channels. These added channels create a soundstage so life-like, that you will think that the rain in a movie is actually falling on your roof. Special effects will hit with an intensity that you have never experienced before and you will feel as if you are front and centre when watching concert videos.

Dolby Digital:
Dolby® Digital (AC-3) is an industry-standard surround sound audio codec designed to deliver 5.1 channels of audio to many popular forms of entertainment including DVDs; Blu-ray Discs; cable, broadcast, and satellite TV programming; PCs; and even video games. An advanced encoding/decoding technology, Dolby Digital reproduces multi-channel audio to deliver a cinematic audio experience.

Dolby Digital EX:
When the signal source is 5.1ch, this mode can extend the 5.1ch source to play 6.1ch. This mode is best for Dolby EX audio tracks with matrix encoding surround sound rear channels. The extra channel adds one dimension and provides all-round surround sound.

Dolby TrueHD:
As part of the Blu-ray Disc™ standard common nowadays, Dolby TrueHD supports up to eight channels of 96 kHz/24-bit audio and six channels of 192 kHz/24-bit audio. It also supports advanced 96k upsampling, providing a new level of fidelity from movies, television programming and concert videos

DTS:
Similar to Dolby Digital, offering up to 5.1 channels and up to 48 kHz / 24-bit in constant bit-rates up to 1.5 Mbps.

DTS Digital Surround 96/24™:
With a sample rate of 96 kHz and bit-depth of 24 bits, DTS Digital Surround 96/24™ delivers greater frequency response, tonal accuracy and dynamic range than DTS.

DTS Digital Surround ES™:
DTS-ES (DTS Extended Surround) includes two variants, DTS-ES Matrix and DTS-ES Discrete 6.1, depending on how the sound was originally mastered and stored.

DTS-ES Matrix provides 5.1 discrete channels, with a matrixed centre-surround audio channel. AV1 will recognize a DTS-ES Matrixed stream and "unfold" the rear-centre sound from data that would otherwise be sent to rear surround speakers.
DTS-ES Discrete provides 6.1 discrete channels, with a discretely recorded (non matrixed) centre-surround channel. In home theater systems with a 7.1 configuration, the two rear-centre speakers play in mono. DTS-ES Discrete is sometimes notated as DTS-ES 6.1. Only a few DVD titles have been released with DTS-ES Discrete.

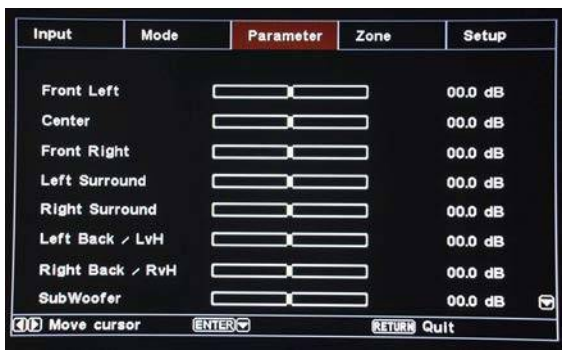
DTS Neo:6:
DTS Neo:6, like Dolby's Pro Logic IIx system, can take stereo content and convert the sound into 5.1 or 6.1 channel format, but in a 7.1 configuration, the two rear-centre speakers play in mono.

DTS-HD High Resolution Audio:
DTS-HD High Resolution Audio, along with DTS-HD Master Audio, comprises of the DTS-HD extension to the original DTS audio format. It delivers up to 7.1 channels of sound at a 96 kHz sampling frequency and 24-bit depth resolution. DTS-HD High Resolution Audio is selected as an optional surround sound format for Blu-ray Disc and HD DVD, with constant bit rates up to 6.0 Mbit/s and 3.0 Mbit/s, respectively. It is intended to be an alternative for DTS HD Master Audio where disc space may not allow it. DTS-HD High Resolution Audio is implemented as a core DTS stream plus an extension containing the two additional channels plus deltas to enable 96/24 sound reproduction.

DTS-HD Master Audio:
DTS-HD Master Audio is a lossless audio codec. It is an extension of DTS which, when played back on devices which do not support the Master Audio or High Resolution extension, degrades to a "core" track which is lossy. DTS-HD Master Audio is an optional audio format for Blu-ray Disc format, but has steadily become the standard for Blu-ray lossless audio format. One goal of the DTS-HD Master Audio format was to allow a bit-to-bit representation of the original movie's studio master soundtrack. To accomplish this, DTS-HD Master Audio supports variable bit rates up to 24.5 Mbit/s on a Blu-ray Disc and up to 18.0 Mbit/s for HD DVD. The format supports a maximum of 192 kHz sampling frequency and 24-bit depth samples from 2 to 5.1 channels and 96 kHz/24bit resolution up to 7.1 channels.

Parameters

Access the Parameter menu when MENU OSD is active. Move the cursor (using Left/Right keys) to [Parameter] item and press down or ENTER
In this menu,manually set the level of each speaker. Independent channel speaker level control can be modified using Up/Down to move and Left/Right to adjust the level.



Note: If you have previously been through the Autoroom/EQ, the [Parameter] screen will be full of the automatic calibration results. They can be manually altered here.

There are additional parameters that can be modified here:

Night Mode
Select this mode by setting it in ON at night. The machine can control the dynamic range of the compressing switch according to the input source.

Centre Width/ Centre Dimension:
Only effect for PLIIX MUSIC

Zone (multi-zone playback)

The AV1 supports 3 additional playback zones. You can install 3 amplifiers or active speakers in other rooms of your house or apartment and connect them to these 3 zones outputs of AV1. Please refer to zone 8 on the back panel.

Adjust the zone by accessing the MENU OSD and selecting Zone screen.

Move the cursor on the desired zone using UP and DOWN arrow, to adjust:

- Input of the zone: analog inputs, tuner and Bluetooth,
- Volume of the zone

The zones can also be controlled directly from the remote control without the need to access the OSD. This operation is described below.

To activate a zone, press the desired zone button.
Change input or volume of a zone by first pressing the zone button followed by the Input+/- or Volume +/- according to your need.
When Tuner or Bluetooth is selected as a zone source, you can additionally control the basic playback: CH+, CH-, Play/Pause and Skip. This is done by pressing the corresponding zone followed by the desired action.
Turn off a zone by pressing the corresponding zone button followed by OFF.

Specifications

Audio

Main zone gain:	>12dB
Multi-zone gain:	>12dB
Rated input sensitivity:	500m Vrms Analog Direct
Rated output sensitivity:	2m Vrms
SNR:	
Unbalance output:	≥102dB (Analog Direct/7.1ch, Rated condition: A weighting)
Balance output:	≥106dB (Analog Direct, Rated condition: A weighting)
Channel separation:	≥85dB
THD+N:	≤0.006% (Analog Direct/7.1ch, Rated condition: A weighting)
Frequency response:	10-150KHz(+1/-3dB Analog Direct/7.1ch)
Digital input sample rate support:	44.1k~192K

Video

Video input support:	HDMI/DVI 480P, 720P 50, 720P 60, 1080i 50, 1080i 60, 1080P 50, 1080P 60 and 1080P 24.
Video output support:	HDMI/DVI 480P, 720P 50, 720P60, 1080i 50, 1080i 60, 1080P 50, 1080P 60 and 1080P 24.

Other

Power:	AC110 to 230V, 50/60HZ
Power consumption:	≤ 25W
Standby:	Yes, <0,5W
Packing size:	535x428x180mm
N.W.:	6.4kg
G.W.:	7.9kg

Troubleshooting

Problem: No power; indicator light on the front panel of the AV1 is not lit.

- Verify that your power source is operating correctly.
- Verify that the power switch on the rear panel of the machine is turned ON.

Problem: No video.

- Verify that the source component and TV or monitor are working (Connect them together directly, bypass AV1 to check this).
- Check the HDMI cables and connectors.
- Verify that you have the correct input selected on AV1

Problem: No audio with a video source.

- Verify that the configured audio source for an input is the same HDMI input as the video source.
- If you are using a different audio source (such as a different output from a Blu-Ray player), verify that the audio source that was configured is (still) active.
- Try re-selecting the input. (If the user was using Last Video Memory when the AV1 was turned off, it will remain in effect when the machine is turned back on. If the previous video source used is still active, but the audio source is not, you may not receive the audio.)
- Ensure that the AV1 is not muted or that the volume is not turned all the way down.
- Check your interconnections, power amplifier and speakers.

Problem: No audio with an audio-only source.

- Ensure that the AV1 is not muted or that the volume is not turned all the way down.
- Check your interconnections, power amplifier and speakers.

Problem: The remote control does not work (but everything else works normally).

- Replace the batteries in the remote control.
- If the machine front panel is in direct sunlight, try moving it (sunlight can jam the signal).
- Look for other sources of IR signal noise that may interfere with the signal (such as plasma TVs, certain CF or halogen lamps and other sources of IR light).

Problem: Video disconnects

- Unplug HDMI cable and reconnect it properly.
- Reset the machine by restoring the factory settings
- If the problem still exists, please check whether the TV is compatible with the machine.

Problem: Cannot decode Dolby/DTS

- Please check whether the audio source iscorrect. Select coaxial fiber-optic or HDMI as the audio source.
- Please check whether the output code stream is correct or not. (Please refer to the DVD manual for more details.)

Appendix: RS232 command set

Commands with "#" character, followed by the command, the command ends with a space, if the command requires parameters, the following character as a parameter, variable length. Finally <CR> to end with a carriage return. Pay attention to distinguish the size of letters column: # VOL +465 <CR> role to set the volume to 46.5					
Functional Description	Instruction	Parameter	Function	Response	Example
Main zone power control	POWER	ON	Turn on the power amplifier		#POWER ON<CR>
		OFF	Turn off the power amplifier		#POWER OFF<CR>
		?	Returns the current power state		#POWER?<CR> ---> @POWER OK ON <CR>
Select the main zone input	SI	UP	Set to the next input		#SI UP <CR>
		DN	Set to the previous input		#SI DN <CR>
		?	Returns the number of valid input source		Sent to the power amplifier: # SI? <CR> Power amplifier Go Back: @SI 2 CABLE HD1 OP1 <CR>, 2 as the input source serial number, CABLE as the input source name, HD1 for the video input port, HD = HDMI, NO = no video input connector, OP1 for audio input port, AU = simulate 2CH, CO = coaxial digital input, OP = fiber-optic digital input, HD = HDMI, EX = simulate 7.1 , FM = FM Radio, DAB= DAB Radio, BT = Bluetooth.

		FM	FM Radio		#SI FM <CR>
		DAB	DAB radio		#SI DAB <CR>
		TV	TV		#SI TV <CR>
		HD* (1digit, 1-4)	HDMi		#SI HD1 <CR>
		CO* (1digit, 1-2)	Coaxial digital, 1-2		#SI CO2 <CR>
		OP*(1digit, 1-2)	Optical digital, 1-2		#SI OP1 <CR>
		AN*(1digit, 1-4)	Analog 2ch, 1-4		#SI AN3 <CR>
		EXT	7.1 analog input		#SI EXT <CR>
		BT	Bluetooth		#SI BT <CR>
		X			Sent to the amplifier: # SI X <CR> amplifier returns: # SI X6 <CR> expressed six valid input
		Digit, the smallest one	Set the input for a specified number input		
Main zone volume control	VOL	UP	Master volume +0.5		#VOL UP<CR>
		DN	Master volume -0.5		#VOL DN<CR>
		4 digits	The master volume is set to the specified value		# VOL +125 <CR> master volume is set to +12.5. Volume, regardless of the positive and negative models ignore + - number.
		?	Returns the current master volume		
Mute Control	MUTE	ON	Mute		#MUTE ON <CR>
		OFF	Unmute		#MUTE OFF <CR>
		?			#MUTE ? <CR> ---> @MUTE OK OFF
Center channel volume	CEN	UP	Center Volume +0.5		#CEN UP <CR>
		DN	Center Volume -0.5		#CEN DN <CR>
		4 digits	The center volume is set to the specified value		#CEN -065 <CR> settings set the volume to -6.5

		?	Returns the current center volume		#CEN ? <CR> ---> @CEN OK +065
Left surround channel volume	LS	UP	Left Surround volume +0.5		#LS DN <CR>
		DN	Left Surround volume -0.5		#LS UP <CR>
		4 digits	Left Surround volume is set to the specified value		# LS +000 <CR> left surround volume set to 0
		?	Returns the current volume of the left surround		#LS ? <CR> ---> @LS OK +000 <CR>
Right surround channel volume	RS	UP	Right Surround volume +0.5		#RS DN <CR>
		DN	Right Surround volume -0.5		#RS UP <CR>
		4 digits	Right Surround volume is set to the specified value		# RS +065 <CR> right surround volume set at +6.5
		?	Returns the current volume Right Surround		#RS ? <CR>
Left Back channel volume	LB	UP	Left Back set volume +0.5		#LB DN <CR>
		DN	Left Back set volume -0.5		#LB UP <CR>
		4 digits	Left Back volume setting is set to the specified value		# LB +100 <CR> set left back and set the volume to +10
		?	Returns the current volume Left Back		#LB ? <CR> ---> @LB OK +100 <CR>
Right Back channel volume	RB	UP	Right Back volume +0.5		#RB DN <CR>
		DN	Right Back volume -0.5		#RB UP <CR>

		4 digits	Right Back volume is set to the specified value		# RB -100 <CR> set the right back volume is -10
		?	Returns the current volume of the Right Back		#RB ? <CR> ---> @RB OK -100 <CR>
Subwoofer volume	SUB	UP	Subwoofer volume +0.5		#SUB UP <CR>
		DN	Subwoofer volume -0.5		#SUB DN <CR>
		4 digits	Subwoofer volume is set to the specified value		# SUB -100 <CR> set the subwoofer volume level is -10
		?	Returns the current volume of the subwoofer		#SUB ? <CR> ---> @SUB OK -100 <CR>
Left channel volume	FL	UP	Left channel volume +0.5		#FL UP <CR>
		DN	Left channel volume -0.5		#FL DN <CR>
		4 digits	Left channel volume set to the specified value		# FL -100 <CR> left channel volume setting of -10
		?	Returns the current volume of the left channel		#FL ? <CR> ---> @FL OK -100 <CR>
Right channel volume	FR	UP	Right channel volume +0.5		#FR UP <CR>
		DN	Right channel volume -0.5		#FR DN <CR>
		4 digits	Right channel volume set to the specified value		# FR -100 <CR> right channel volume setting of -10
		?	Returns the current volume of the right channel		#FR ? <CR> ---> @FR OK -100 <CR>

Get the software version and date	VER	No	Return software version and date		Sent to the amplifier: # VER <CR> amplifier returns: @ VER OK V1.52.02.28 2012-08-22 <CR>
Select the main zone mode	MODE	UP	Mode +1		#MODE UP <CR>
		DN	Mode -1		#MODE DN <CR>
		?	Returns the current operating mode		Sent to the amplifier: # MODE? <CR> Amplifier returns: @MODE PLIIMOVCE <CR>
		DIRECT	Setting the mode to Direct		#MODE DIRECT <CR>
		STEREO	Setting the mode to Stereo		#MODE STEREO <CR>
		ALLSTEREO	Setting the mode to All Stereo		#MODE ALLSTEREO <CR>
		PLIIMOVIE	Setting the mode to Pro Logic lix Movie		#MODE PLIIMOVIE <CR>
		PLIIMUSIC	Setting the mode to Pro Logic lix Music		#MODE PLIIMUSIC <CR>
		PLIIHEIGHT	Setting the mode to Pro Logic liZ Heigh		#MODE PLIIHEIGHT <CR>
		NEO6CINEMA	Set the mode Neo6: Cinema		#MODE NEO6CINEMA <CR>
		NEO6MUSIC	Set the mode Neo6: Music		#MODE NEO6MUSIC <CR>
		DSPCHURCH	Set the mode DSP Church		#MODE DSPCHURCH <CR>
		DSPCLASSIC	Set the mode DSP Classic		#MODE DSPCLASSIC <CR>
		DSPHALL	Set the mode DSP Hall		#MODE DSPHALL <CR>
		DSPLIVE	Set the mode DSP Live		#MODE DSPLIVE <CR>
		DSPPOP DSPROCK	Set the mode DSP Pop Set the mode DSP Rock		#MODE DSPPOP <CR> #MODE DSPROCK <CR>

		DSPSTADIUM	Set the mode DSP Stadium		#MODE DSPSTADIUM <CR>
		DSPTHEATER	Set the mode DSP Theater		#MODE DSPTHEATER <CR>
		AUTO	Mode is automatically selected according to the signal type		#MODE AUTO <CR>
Midnight Mode	NIGHT	ON	Midnight mode On		#NIGHT ON <CR>
		OFF	Midnight mode Off		#NIGHT OFF <CR>
		?			#NIGHT ? <CR>
Menu control	MENU	ON	Enter the menu		#MENU ON <CR>
		L	Menu Left		#MENU L <CR>
		R	Menu Right		#MENU R <CR>
		UP	Menu up		#MENU UP <CR>
		DN	Menu Down		#MENU DN <CR>
		OK	OK		#MENU OK <CR>
		RETURN	Back		#MENU RETURN <CR>
		EXIT	Exit		#MENU EXIT <CR>
RADIO	FM	MENU	Enter the Radio menu		#FM MENU <CR>
		EXIT	Exit the Radio module or item		#FM EXIT <CR>
		OK	OK		#FM OK <CR>
		L	Menu Left		#FM L <CR>
		R	Menu Right		#FM R <CR>
		QLCM	Query 2 X 16 characters display		#FM QLCM <CR> (should provide the 16 bytes data of LCM)
		CH** (*digits)	Call the pre-stored channel		#FM CH05<CR>
		CHUP	Call the next stored channel		#FM CHUP<CR>
		CHDN	Call the previous stored channel		#FM CHDN<CR>

		MEM	Save the current frequency to the preset list		#FM MEM<CR>
		UP	Increase the current frequency by one step		#FM UP<CR>
		SCANUP	Increase the current frequency until next station found		#FM SCANUP<CR>
		DN	Decrease the current frequency by one step		#FM DN<CR>
		SCANDN	Decrease the current frequency until next station is found		#FM SCANDN<CR>
	DAB	MENU	Enter the Radio menu		#DAB MENU <CR>
		EXIT	Exit the menu or the item		#DAB EXIT <CR>
		OK	Ok		#DAB OK <CR>
		L	Menu Left		#DAB L <CR>
		R	Menu Right		#DAB R <CR>
		LCM	Query 2 X 16 characters display		#DAB QLCM <CR> (should provide the 16 bytes data of LCM)
		CH** (*digits)	Call the pre-stored channel		#DAB CH05<CR>
		CHUP	Call the next stored channel		#DAB CHUP<CR>
		CHDN	Call the previous stored channel		#DAB CHDN<CR>
		INFO	Changes the Info mode		#DAB INFO<CR>
ZONE 2 control	Z2POWER	ON	Turn the Zone 2 output to On		#Z2POWER ON<CR>
		OFF	Turn the Zone 2 output to Off		#Z2POWER OFF<CR>

		?	Query the Zone 2 status		Sent to the amplifier: # Z2POWER? <CR> Amplifier returns: @Z2POWER OK OFF <CR>
	Z2VOL	UP	Increase volume of Zone 2, +1		#Z2VOL UP<CR>
		DN	Decrease the volume of Zone 2, -1		#Z2VOL DN<CR>
		** (2 digits, 0-80)	Set the Zone2 volume to specified value		#Z2VOL 48<CR>
		?			Sent to the amplifier: # Z2VOL? <CR> Amplifier returns: @ Z2VOL OK 48 <CR>
	Z2SI	UP	Change Zone2 input Up		#Z2SI UP <CR>
		DN	Change Zone2 input Down		#Z2SI DN <CR>
		AN*(1digit, 1-4)	Analog 2ch, 1-4		#Z2SI AN2<CR>
		CO*(1digit, 1-4)	Coaxial digital, 1-4		#Z2SI CO2<CR>
		OP*(1digit, 1-4)	Optical digital, 1-4		#Z2SI OP2<CR>
		SYNC	Synchronized with the main zone		#Z2SI SYNC<CR>
		FM	FM Radio		#Z2SI FM<CR>
		DAB	DAB radio		#Z2SI DAB<CR>
		BT	Bluetooth		#Z2SI BT <CR>
		?			Sent to the amplifier: # Z2SI? <CR> Amplifier returns: @Z2SI OK SYNC <CR>
ZONE 3 control	Z3POWER	ON	Turn the Zone 3 output to On		#Z3POWER ON<CR>
		OFF	Turn the Zone 3 output to Off		#Z3POWER OFF<CR>

		?	Query the Zone 3 status		Sent to the amplifier: # Z3POWER? <CR> Amplifier returns: @Z3POWER OK OFF <CR>
	Z3VOL	UP	Increase volume of Zone 3, +1		#Z3VOL UP<CR>
		DN	Decrease the volume of Zone 3, -1		#Z3VOL DN<CR>
		** (2 digits, 0-80)	Set the Zone 3 volume to specified value		#Z3VOL 48<CR>
		?			Sent to the amplifier: # Z3VOL? <CR> Amplifier returns: @Z3VOL OK 48 <CR>
	Z3SI	UP	Change Zone 3 input Up		#Z3SI UP <CR>
		DN	Change Zone 3 input Down		#Z3SI DN <CR>
		AN*(1digit, 1-4)	Analog 2ch, 1-4		#Z3SI AN2<CR>
		CO*(1digit, 1-4)	Coaxial digital, 1-4		#Z3SI CO2<CR>
		OP*(1digit, 1-4)	Optical digital, 1-4		#Z3SI OP2<CR>
		SYNC	Synchronized with the main zone		#Z3SI SYNC<CR>
		FM	FM Radio		#Z3SI FM<CR>
		DAB	DAB radio		#Z3SI DAB<CR>
		BT	Bluetooth		#Z3SI BT <CR>
		?			Sent to the amplifier: # Z3SI? <CR> Amplifier returns: @ Z3SI OK SYNC <CR>
ZONE 4 control	Z4POWER	ON	Turn the Zone 4 output to On		#Z4POWER ON<CR>
		OFF	Turn the Zone 4 output to Off		#Z4POWER OFF<CR>

		?	Query the Zone 4 status		Sent to the amplifier: # Z4POWER? <CR> Amplifier returns: # Z4POWER OK OFF <CR>
	Z4VOL	UP	Increase volume of Zone 4, +1		#Z4VOL UP<CR>
		DN	Decrease the volume of Zone 4, -1		#Z4VOL DN<CR>
		** (2 digits, 0-80)	Set the Zone 4 volume to specified value		#Z4VOL 48<CR>
		?			Sent to the amplifier: # Z4VOL? <CR> Amplifier returns: @Z4VOL OK 48 <CR>
	Z4SI	UP	Change Zone 4 input Up		#Z4SI UP <CR>
		DN	Change Zone 4 input Down		#Z4SI DN <CR>
		AN*(1digit, 1-4)	Analog 2ch, 1-4		#Z4SI AN2<CR>
		CO*(1digit, 1-4)	Coaxial digital, 1-4		#Z4SI CO2<CR>
		OP*(1digit, 1-4)	Optical digital, 1-4		#Z4SI OP2<CR>
		SYNC	Synchronized with the main zone		#Z4SI SYNC<CR>
		FM	FM Radio		#Z4SI FM<CR>
		DAB	DAB radio		#Z4SI DAB<CR>
		BT	Bluetooth		#Z4SI BT <CR>
		?			Sent to the amplifier: # Z4SI? <CR> Amplifier returns: @Z4SI OK SYNC <CR>
Dimmer	DIM	FULL	The display and Leds are all ON		#DIM FULL <CR>
		HALF	Brightness of display and Leds is Half		#DIM HALF<CR>
		OFF	The display and Leds are all OFF		#DIM OFF <CR>

Direct Remote control command:

Function	Command	Description	Response	Comment
OFF	POF	Switch the unit to OFF (standby)	@OK OFF	
ON	PON	Swicth the unit to ON	@OK ON	
DIRECT	DIR	Select the audio direct mode	@OK MODE DIRECT	
STEREO	STE	Select the Stereo mode	@OK MODE STEREO	
MODE-	MD-	Change the audio mode in the list by decrementing	@OK MODE xxx	
MODE+	MD+	Change the audio mode in the list by incrementing	@OK MODE xxx	
TV	TV	Select TV input	@OK SI TV	
HD1	HD1	Select HD1 input	@OK SI HD1	
HD2	HD2	Selectt HD2 input	@OK SI HD2	
CO1	CO1	Select the Coaxial 1 input	@OK SI CO1	
OP1	OP1	Select the Optical 1 input	@OK SI OP1	
AN1	AN1	Select the Analog 1 input	@OK SI AN1	
BLUETOOTH	BT	Select the Bluetooth input	@OK SI BT	
MENU (Radio)	RMN	Acticate the Radio menu	@OK	Only when the radio mode is active
DAB/FM	RAD	Activate Radio DAB or FM as the source.	@OK SI DAB @OK SI FM	Will toggle between FM and DAB mode
CH-	CH-	Change to previous channel in list	@OK DAB n or @OK FM n	
MEM	MEM	Memorise the station	@OK FM MEM	FM mode only
CH+	CH+	Chaneg to next channel in list	@OK DAB n or @OK FM n	
EXIT	EXI	Exit the Menu	@OK	

MENU (AV1)	AMN	Activate the AV1 Setup Menu	@OK	
RETURN	RET	Return	@OK	
UP	NUP	Move the cursor up	@OK	
DOWN	NDN	Move the cursor down	@OK	
LEFT	NLT	Move the cursor left	@OK	
RIGHT	NRT	Move the cursor right	@OK	
ENTER	ENT	Select the item	@OK	
STATUS	STA	Show the Status bar	@OK	
INFO	INF	Show the stream info	@OK	
DIM	DIM	Activate the Dimmer modes	@OK DIM n	n = 0, 1 or 2
INPUT UP	IUP	Change main zone input up	@OK SI xxx	
MUTE	MUT	MUTE the main zone	@OK MUT	
VOL +	VUP	Change main zone volume up	@OK VOL +125	
INPUT DOWN	IDN	Change main zone input down	@OK SI xxx	
VOL -	VDN	Change main zone volume down	@OK VOL +120	
Z2	IZ2	Show Zone 2 adjustment page	@OK	
Z3	IZ3	Show Zone 3 adjustment page	@OK	
INPUT +	ZUP	Change the input of the selected Zone up	@OK Z2SI xxx	
VOL +	ZVU	Change the volume of the selected Zone up	@OK ZnVOL +125	n = zone selected
Z4	IZ2	Show Zone 4 adjustment page	@OK	
OFF	ZOF	Turn the Selected Zone Off	@OK ZPOF n	x = zone selected
INPUT -	ZDN	Change the input of the selected Zone down	@OK Z2SI xxx	
VOL -	ZVD	Change the volume of the selected Zone down	@OK ZnVOL +120	
REV	REV	Fast Reverse Play	@OK	
FWD	FWD	Fast Forward Play	@OK	
PREV	PRE	Skip to Previous	@OK	
NEXT	NEX	Skip to Next	@OK	
SUBTITLE	SUB	Change Subtitle language	@OK	
AUDIO	AUD	Change Audio language	@OK	
STOP	STO	Stop playback	@OK	
PLAY/PAUSE	PPA	Toggle between Play or Pause mode	@OK	
PLAY	PLA	Start playback of BDP1	@OK	
PAUSE	PAU	Pause playback of BDP1	@OK	

Nakamichi®

Dear Customer

Should you experience any technical difficulty in setting up or using your new product, please feel free to contact our dedicated customer service help desk.

Tech Support Number: **0860 009 596 (South Africa)**
Tech Support E-mail Address: **help@nakamichi-uk.com**

Wishing you many years of pure audio visual pleasure with your new Nakamichi equipment.