



NDS4610AS

User Manual



DIGITAL SOUND AMPLIFIER

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INTRODUCTION AND TROUBLESHOOTING

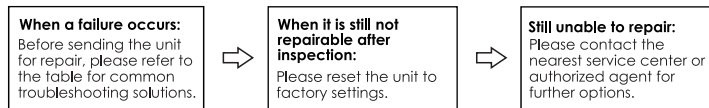
Thank you for your purchase and welcome to the world of Nakamichi! Please keep your original proof of purchase or invoice in a safe place in case of any warranty claims. Do also mail or register your warranty with the official Nakamichi service centers and/or agents to ensure that you are provided with the relevant technical support if required.

Notice

1. To prevent risk of short circuit, please keep the device away from water or damp places.
2. If water or any other liquid enters the device, cut off power to the device immediately, and inform the nearest Nakamichi Service Center or Agent to inspect the product.
3. Users are not recommended to disassemble the device as there are no user serviceable parts inside, please contact the nearest Nakamichi Service Center if necessary.

Troubleshooting

Ensure all cables and parts are securely connected before turning on the power. Shown below is the basic troubleshooting procedure that you should follow.



Troubleshooting method:

No.	Malfunction	Reason and Solution
1	No Power	<ul style="list-style-type: none">• Check the power connection and make sure it's secure.• Check the ACC connection and make sure it's secure.
2	No Sound	<ul style="list-style-type: none">• Double check if the unit is in MUTE mode.• Check if you have chosen the correct input channel.
3	Unable to connect through USB	<ul style="list-style-type: none">• Check the USB connection and make sure it's secure.• Check if the driver "HID-compliant device" has been properly installed in your PC.

What's in the Box

NDS4610AS	1 pc
User Manual	2 pcs(1 Chinese, 1 English)
USB2.0 Cable (1.5m)	1 pc
Installation Bracket	4 pcs
Self-Tapping Oval Head Screws (4x20mm)	4 pcs
Cross Head Mechanical Screws (3x6mm)	8 pcs
Velcro Attachment Strips	2 prs

PRODUCT TECHNICAL DATA

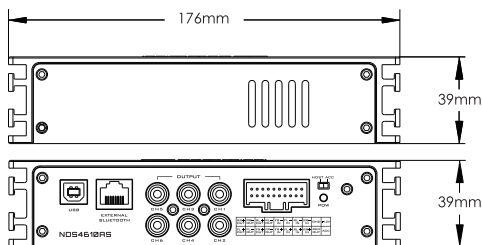
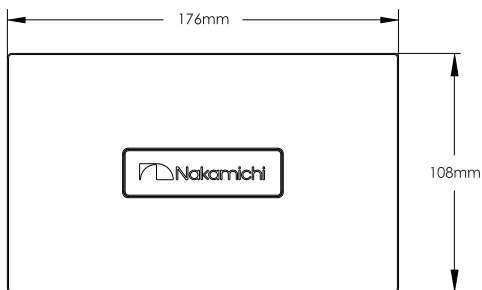
Product Data

Dynamic Range(RCA Input)	≥ 95dB
S/N (RCA Input)	≥ 90dB
THD	≤ 0.05%
Frequency Response	20Hz ~ 20KHz
Input Impedance	High level: 240Ω
Low Level Output Impedance	51Ω
Signal Input Range	High level: 26Vpp
Signal Output Range	RCA: 5.5Vpp; Amplifier Maximum Power: 4x50W@4Ω
Working Temperature	-20°C to 70°C
Signal Output	DC 9V ~ 16V
REM Input	High level input signal: FL+ / FL- or ACC control cable
REM Output	+12V Start up voltage output
Standby Power	≤ 0.1W
Net Weight	Approx. 0.66kg / 1.455lbs
Product Dimensions	176(L)×108(W)×39(H)mm / 6.93(L)×4.25(W)×1.54(H)inch

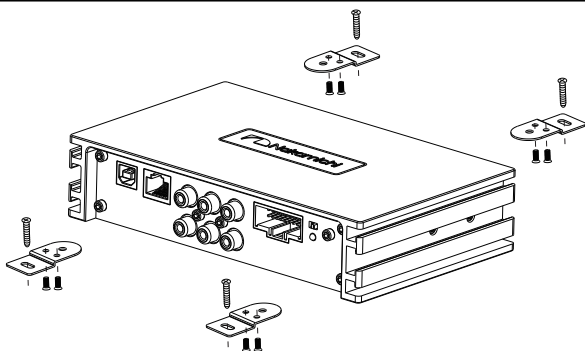
Technical Sheet

Input Type	4 Channels High Level, supports internal Nakamichi Bluetooth and external Bluetooth module
Output Type	6 Channels Low Level, 4 Amplified Channels 25W power @ 4Ω each
Output Gain	Gain Range: Mute, -59.9dB ~ 0dB
Output Signal EQ	10 Band Equalizer Engine 1. Frequency range: 20Hz ~ 20KHz, 1Hz Accuracy 2. Q value (slope): 0.404 ~ 28.85 3. Gain: -20.0dB ~ + 20.0dB, 0.1dB Accuracy
Output Signal Crossover	Each output is equipped with multi-order high and low pass independent filters. 1. Filter types: Linkwitz-Riley, Butterworth, Bessel 2. Filtering frequency division point: 20Hz ~ 20KHz, Resolution 1Hz 3. Filter slope (slope) setting: 6dB/Oct to 12dB/Oct
Output Phase and Time Alignment	Each output channel can be adjusted for phase and delay Phase: in-phase or reverse-phase (0° / 180°) Delay: 0.000 to 10.000 ms, 0 to 346 cm
Presets	6 Presets can be saved in the device's memory

PRODUCT DIMENSIONS

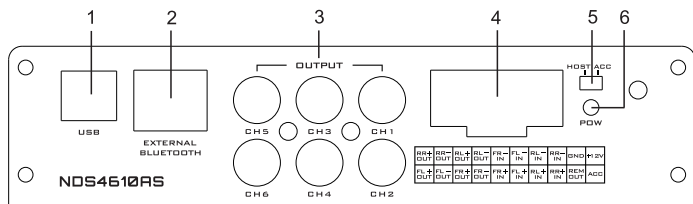


INSTALLATION INSTRUCTIONS



INSTALLATION INSTRUCTIONS

The interface diagram is as follows :



1. USB2.0 Port, Connect to the computer tuning software

The device driver will be automatically installed once the unit is connected to your PC. It is not required to download an external driver for installation.

2. External Digital Bluetooth Input

If you connect a compatible Bluetooth Module, the LED Indicator will start flashing to indicate that the Bluetooth Pairing mode is now enabled. Once you have paired your phone, the LED indicator will stop flashing, the unit will switch from High Level input to Bluetooth Input, and you will now be able to play music from your phone.

Note: For Android Phones, APP function can only be used in Bluetooth Mode.

3. Low Level Outputs

Connect up to 6 channels of low level outputs to a compatible amplifier. We recommend using high quality RCA cables to ensure the best transmission quality.

4. High Level Inputs and Output Port

RR+ OUT	RR- OUT	RL+ OUT	RL- OUT	FR- IN	FL- IN	RL- IN	RR- IN	GND	+12V
FL+ OUT	FL- OUT	FR+ OUT	FR- OUT	FR+ IN	FL+ IN	RL+ IN	RR+ IN	REM OUT	ACC

- "+" is positive and "-" is negative or inverted (ground).
- You can connect the original harness from the vehicle, or if you are using an aftermarket source unit, you can splice the wires accordingly.
- Before connecting the power supply, please make sure that the power supply meets the designed power requirements, and ensure that you install it in accordance with the instruction. Failure to do so might cause damage to your unit equipment and/or cause accidents such as fire, electric shocks, etc.

5. Machine start mode switch

When the switch is turned to "ACC", the unit will auto start according to ACC input signal, and when it is turned to "HOST", the will auto start according to the high level FL+/FL- input signal.

6. Power indicator light

The light indicates when the unit is turned on.

SOFTWARE INTRODUCTION

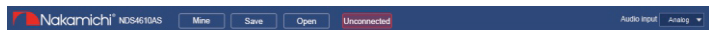
PC Software Operation Introduction

(PC can be downloaded from the official website (<http://www.nakamichicaraudio.com>, CONTACT, Downloads))

Software Requirements: Screen Resolution of 1280 x768 or higher, any lower will result in the UI not being displayed correctly. Software is only supported on Windows Operating Systems.

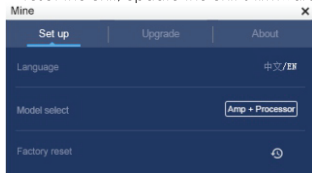


1. Menu Introduction

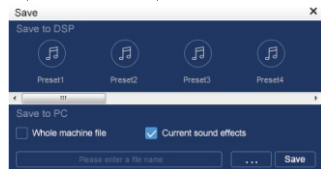


Main functions: Mine, Save, Open, Connection and Input Source Selection Operation.

- a. On the "Mine" window, you can adjust the program language, select the modes, factory reset the unit, update the unit's firmware and view details on the unit on the about page.

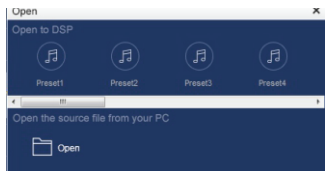


- b. Click the "Save" pop-up window to save the preset sound effects to the unit or to save the preset to the computer.



SOFTWARE INTRODUCTION

c. On the "Open" window, you will be able to restore previously saved presets from your unit or from the connected computer.

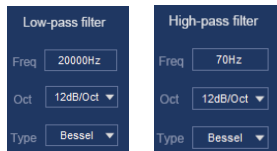


d. Click the "Unconnected" button to connect the unit with a PC.



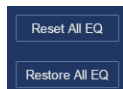
e. The audio input selection allows you to select analog and Phone options.

2. Channel Filter Adjustment



Main Function Setup: Channel High & Low Pass Filter Adjustment and Setup.
Adjustable: Filter Type, Frequency Point and Q Value (Gradient or Slope).

3. Equalizer Adjustment



a. Reset EQ: This will restore the parameters of the equalizer to the original pass-through mode (the frequency of the equalizer, the Q value and the gain will be restored to the initial value).
b. Restore EQ: This will switch between the currently designed equalizer state parameters and the pass-through mode (the gain of all equalization points will be restored to 0 dB, the frequency and value are unchanged).

4. Main Volume Adjustments



Main volume adjustment range: OFF, -59dB ~ 6dB. Click the on speaker button to mute the main volume.

SOFTWARE INTRODUCTION

5. Output Channel Adjustments



Main Function: Output channel type selection and locking function, volume adjustment.

- Channel Type: Click the output channel type box to select the channel type.
- Reset Channel Type: Click the "Reset Output" button then click "Clear" in the pop-up dialog to make clear the channel type, then click "Default" to restore the output channel to the factory setting.
- Channel Lock: Click the "Lock output" button to lock the currently selected channel. Click "Locked Output" to unlock the channel.
- Link: Click the Link to set the Link synchronization mode: Copy settings from left to right or copy settings from right to left.
- Volume Adjustment: Push the fader up or down to adjust the sound, directly enter a value or scroll the mouse wheel in the volume input box to adjust the volume. Click the horn button to mute the channel.
- Positive Phase Adjustment: Click [0°] or [180°] to switch between positive and reverse phase.

6. Channel Delay Adjustments

Main Function: Delay value adjustments of each output channel, delay unit selection.

- Delay: Set the required delay value by entering the value you require, or by scrolling the mouse wheel in the delay input box.
- Delay Range: 0.000 ~ 10.000ms, 0 ~ 346 cm.
Delay Unit: Select from milliseconds and centimeters- from the drop down menu.



7. Channel EQ Adjustments



Main Function: Adjust the current output channel's equalization setting. CH1 to CH4 has 10 bands of EQ adjustments, while CH5 to CH6 has 5 bands of EQ adjustments. Adjust the frequency, Q Value (response bandwidth) and gain.

SOFTWARE INTRODUCTION (SMARTPHONE)

Smart-Phone Software Operation Instruction

(APP can be downloaded from the official website (<http://www.nakamichicaudio.com>, CONTACT, Downloads))



Home



Delay



XOver

1. Home Interface

Restore factory settings, share, save and select sound presets, view model and version number of the connected unit and exit the software. Select amplifier and processor modes.

A. Connection Status:

Red means the unit is not connected, while green means that the unit is successfully connected

B. Menu:

Restore factory settings, share, save and select sound presets, view model and version number of the connected unit and exit the software. Select amplifier and processor modes.

C. Sound Source:

Choose from line in or Bluetooth inputs.

D. Mode Switching:

Switch between processor only mode and amplifier & processor mode.

E. Volume Adjustment:

Press and hold the volume scale clockwise or counterclockwise to adjust the volume. The range for the main and subwoofer volume is 0 ~ 66. The range for the low, medium and high volume is -20dB ~ +20dB. Mute the volume by clicking the speaker icon.

F. Advanced Settings:

Click [Advanced Settings] to enter the settings of delay interface, crossover, channel and EQ interface.

G. Scene Preset:

There are 1~6 presets to choose from.

2. Delay Interface

Sound field positioning output delay adjustment.

H. Delay Setting:

Click the speaker of the corresponding channel to enter the delay setting window. Slide the dots left and right to set the delay value. Delay settings can be made for 6 channels. Delay range can be set as follows: millisecond range: 0.000 ~ 10.000; cm range: 0 ~ 346.

I. Unit Switching:

Switch between milliseconds and centimeters.

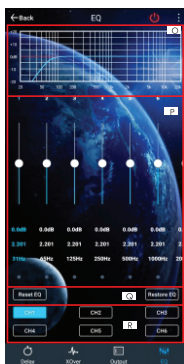
3. Crossover Interface

Channel high-low-pass crossover setting with high-low-pass independent filter setting. You can adjust the filter type, frequency and Q value here.

SOFTWARE INTRODUCTION (SMARTPHONE)



Channel



EQ

J. Channel Type:

Choose from Linkwitz-Riley, Butterworth, Bessel

L. Slope Selection:

Choose from 6dB/Oct or 12dB/Oct

K. Frequency Range: 20Hz~20KHz.

4. Channel Interface

Channel selection, volume adjustment, mute and multiple channel adjustments.

M. Channel Volume, Phase:

The volume can be adjusted by sliding left and right, the volume range: 0 ~ 60, click the speaker button to mute. Forward and reverse switching. Type selection for each output channel.

N. Channel Joint Adjustment Settings:

Click the joint debugging button to bring up the joint debugging window and select the required method. Click the reset button to reset the output channel type. Click the lock button to lock the current channel.

5. EQ Interface

Adjust all equalizer settings on this interface, including the curve, gain, Q value and frequency as well as pass through.

O. EQ display:

Edit the display area.

P. Output EQ Gain, Q Value and Frequency Settings:

Output EQ gain settings: CH1~CH4 has adjustable 10 band EQ, while CH5~CH6 has adjustable 5 band EQ. Select the first line value, and drag the slider bar left and right in the pop-up dialog box to adjust the adjustment range: -20dB~+20dB.

Q value: Click the second line value, and drag the slider bar left and right in the pop-up dialog box to adjust, the adjustment range is 0.404~28.852.
Frequency setting: Click the third line value, and drag the slider bar left and right in the pop-up dialog box to adjust it. The adjustment range is 20Hz~20KHz.

Q. Reset Equalization, Restore Equalization, Pass-Through Equalization Settings:

Click [Reset EQ] to restore the parameters of the equalizer to the original pass-through mode (the equalizer frequency, Q value and gain will be restored to their initial values).

When there is channel adjustment, click [straight-through equalization], click [OK], all values (frequency, Q value and gain) will return to the initial value.

At this time, the [straight-through equalization] button will become [recovery equalization]. Press the button and click [resume equilibrium], all values (frequency, Q value and gain) will be restored to the value before the pass-through.

R. CH1 ~CH6 channel selection.



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