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## **NDS4631A**

DSP Amplifier

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User Manual

[www.nakamichicaraudio.com](http://www.nakamichicaraudio.com)



# Catalogue

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## Notes

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### Warning:

1. To prevent short circuit, please keep the device away from water or wet places.
2. If water or any other liquid soak into the device, cut off the power immediately, and call our service engineer of inspection, in case of emergency.
3. Users are not allowed to dismount the device, please contact our service engineers when it's necessary.
4. Surface temperature of the device could above 80 degree Celsius, please choose a safe installation spot.



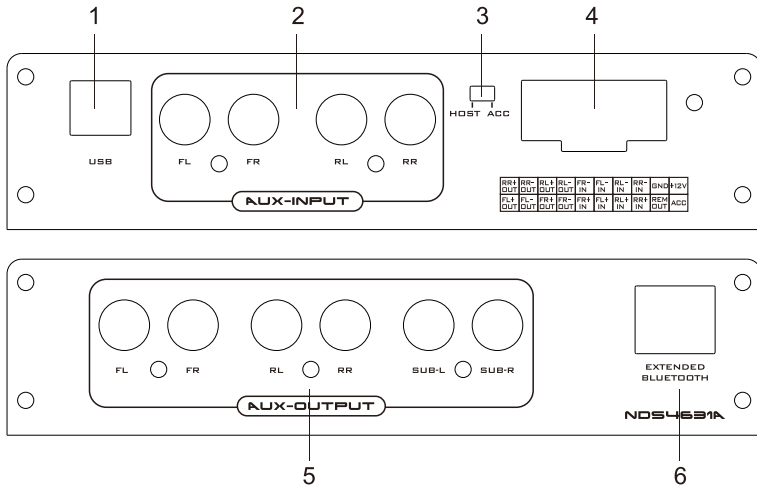
## What's in the Box

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NDS4631A	1Piece
User Manual	2Pieces (1 Chinese, 1 English)
USB2.0 Cable(1.5m)	1Piece
Self-Tapping Oval Head Screws (4x20mm)	4Pieces
Cross Head Mechanical Screws (3*6mm)	8Pieces
Installation Bracket	4Pieces
Velcro	2Pieces

## Part One: UI Introduction

The machine interface diagram is as follows:



- 1、USB Port
- 2、AUX Low Level Input Port
- 3、REM Input Selection Switch: Put the switch on "ACC" mode to start the device by ACC, put the switch on "HOST" mode to start the device by high level input signal.
- 4、High Level Input & Output Port

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

Instruction: Only for OEM fit cables, or any after-market cables follow the OEM requirements.

5、Low Level RCA Output, connect up to 6 channels speaker output.

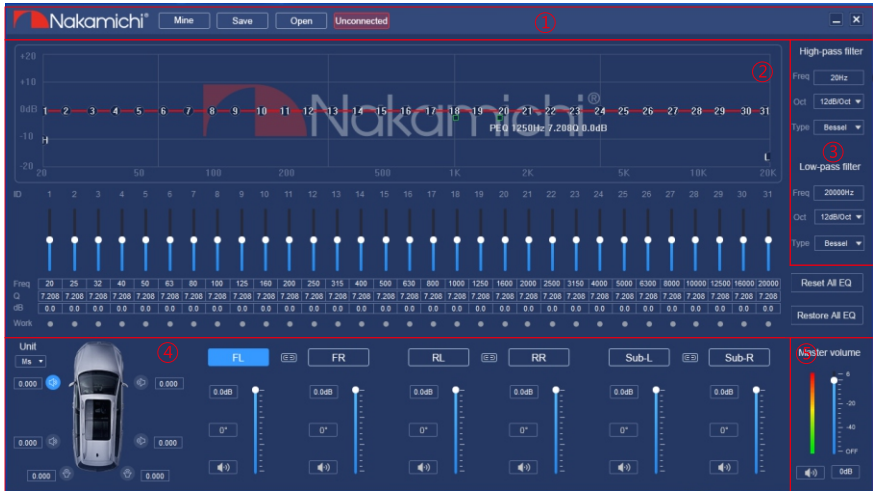
6、External Digital Bluetooth Input: Connect the external Bluetooth, the LED indicator will flash, the indicator will stop flash and will be always on once you have connected your Mobile phone to the device, then you can play music in your phone, and the device will change the high level input to Bluetooth Input.

Notes: Android Phone, APP function only can be used when on Bluetooth Mode.

## Part Two: Software Introduction

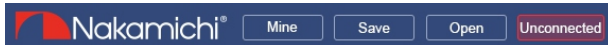
### (1) . PC Software Operation Introduction

Computer Configuration Requirements: Screen resolution higher than 1280 x 768, otherwise the software UI is incomplete, only suitable for windows operation system laptop, desktop and pads.



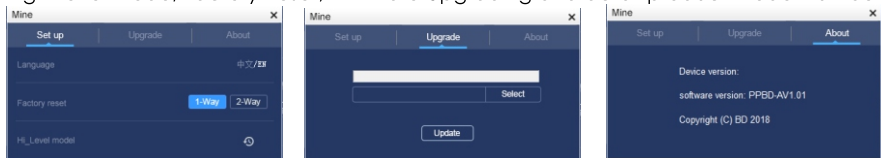
DSP Amplifier NDS4631A

### 1.1 Main Menu Edit Section

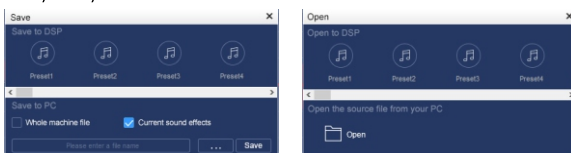


Main Function: Mine, Save, Open Presets

① Click "Mine" will pop up a window, here you can see the Chinese-English language switch, High Level Mode, Factory Reset, Firmware Upgrading and detail product model number.



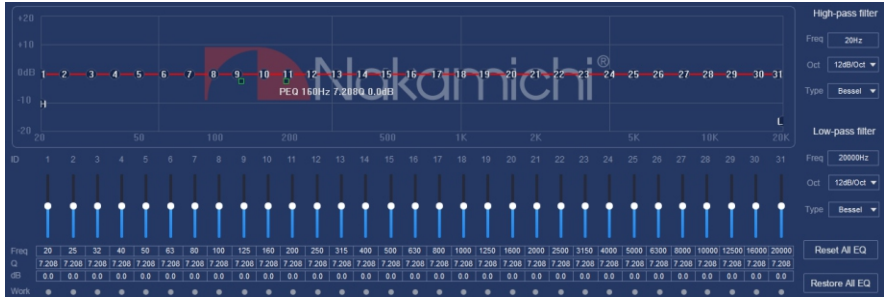
② Click "Save" or "Open" will pop up a window, there are 15 preset slots available, it's easy for you to save the data to device or PC.



③ Click “Unconnected” button to connect your PC with the device.



## 1.2 Channel EQ Edit Zone



Main function Setup: Current output channel EQ setup, 31 bands EQ: Frequency, Q Value (Bandwidth) and gain (increase or decrease the frequency amplitude near the frequency point).

- ① Reset All EQ: Reset the 31 bands EQ to factory bypass mode (all the frequency point, Q Value and Gain will be restored to its initial value).
- ② Restore All EQ: Choose between the current EQ setup and bypass mode (all the gain restored to 0 dB, the frequency point stay the same).

## 1.3 Channel Crossover Edit Zone

Main Function Setup: Channel High & Low Pass Filter Setup  
Adjustable: Filter Type, Frequency point and Q Value (Gradient or Slope)  
Technical Instruction: The crossover point of Bessel and Butterworth Filter is at -3dB, the crossover point of Linkwitz-Riley Filter is at -6dB.



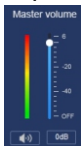
## 1.4 Sound Stage Location and Time Alignment Adjustment



Locate sound stage and adjust delay, phase adjust for every channel, volume, mute etc. Output L + R: Tuning for both left and right channel.

## 1.5 Main Volume Adjustment Zone

Adjustment Range: On/off, -59dB ~ 6dB. Click the speaker button to mute the main volume.



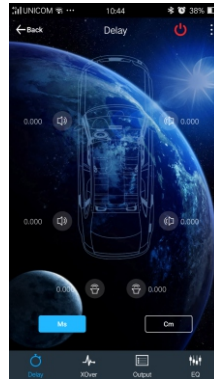
## (2).Smart-phone Software Operation Instruction



Startup Interface



Main Interface



Time Alignment Interface



Crossover Interface



Channel Interface



EQ Interface

2.1 Startup Interface: The startup interface for NDS4631A APP.

2.2 Main Interface: Access to the NDS4631A App, Here you can share and save the preset files to your phone, check the device model number and firmware version, adjust or mute the main volume, choose the type of input audio source and mixed audio source, proceed encrypt operation to preset files, store and use 15 presets etc.

2.3 Time Alignment Interface: Sound Stage Location Output and Time Alignment Adjustment.

2.4 Crossover Interface: High and Low Pass Channel Setup, Independent High and Low Pass Filter, Adjustable, Filter Type, Frequency point and Q Value (Gradient or Slope).

2.5 Channel Interface: Setup output channel volume, Phase and High & Low Pass Filter.

2.6 EQ Interface: Display output channel EQ curve (Gain, Q Value and Frequency); and reset All bypass EQ or restore EQ operation.



## Part Three: Product Technology Data

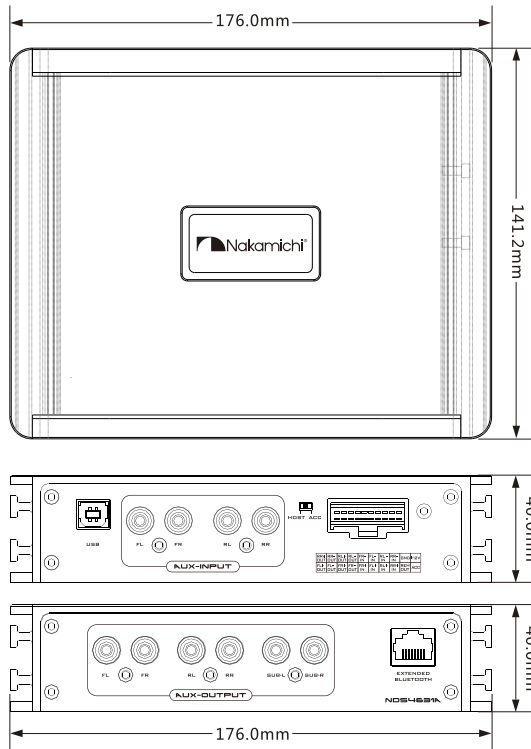
### Product Data

Dynamic Range(RCA Input)	≥100dB
S/N (RCA Input)	≥90dB
THD	≤0.05%
Frequency Response	20Hz ~20KHz
Input Impedance	High Level Input: 240Ω Low Level Input: 12KΩ
Low Level Output Impedance	100Ω
N-Power	4x25W(±1W 10%THD)
Output Power	4x50W
Signal Input & Output Range	RCA Input:5.5Vpp ; High Level:26Vpp; RCA Output: 5.5Vpp
Working Temperature	-20 ~ 70°C
Power	DC9V~16V
REM Input	High Level Input Signal: FL+/FL- or ACC control cable
REM Output	+12V Startup Voltage Output
Standby Power	≤0.1W
Gross Weight	Approx 1.2kg
Product Dimension	176 (L) * 141.2(W)*40(H) mm

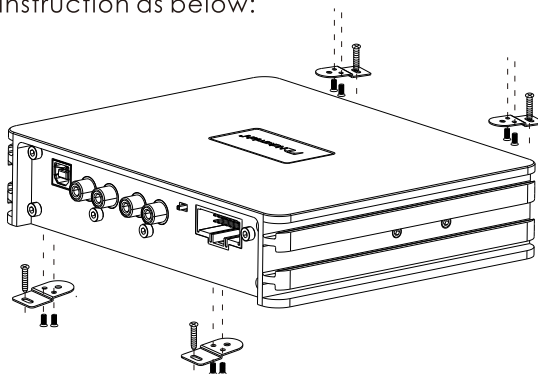
### Technical Sheet

Input Signal Type	4 Channel high level Input, 4 Channel Low Level Input, external digital Bluetooth
Output Signal Type	4 Channel high level Output, 6 Channel low level output
Output Signal Gain	Gain Range: Mute, -59dB ~ 6dB
Output Signal EQ	31 Bands EQ for every channel 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	Equipped with 2 <sup>nd</sup> order high and low pass filter 1. Professional filter type: Butterworth, Linkwitz-Riley, Bessel 2. Filter Crossover Point: 20Hz ~ 20KHz. Resolution 1Hz 3. Filter Slope Setup: 6dB/Oct ~ 30dB/Oct
Output Phase and Time Alignment	Adjust phase and time alignment for every output channel. Phase: In Phase or Out Phase (0 °/180 °) Time Alignment: 0.00 to 20.00ms, 0.00 to 692.00inch
Presets	Save 15 presets into the device

Product Dimension as below:



Installation Instruction as below:

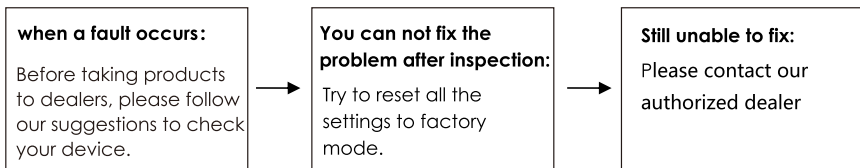


## Part Four: Troubleshooting

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### Troubleshooting

Check all the cables and ports all perfectly safe before you switch on the power.  
Common troubleshooting procedure:



Regulare failure and failure elimination:

No	Malfunction	Reason and Solution
1	No Power	① Check the power connection? ② Check the ACC connection?
2	No Sound	① Is it in mute mode ? ② Have you choose the right input signal channel?
3	Unable to connect USB	① Check the USB connection? ② Check if the driver "HID-compliant device" has been installed in your PC?



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