NAKAMICHI FDSD370 USER MANUAL

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Nakamichi

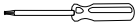
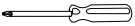
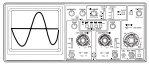
FDSD370

User Manual

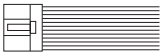
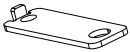
DSD PLAYER AND DSP AMPLIFIER

nakamichicaraudio.com nakamichi.global nakamichi.caraudio

TOOLS THAT MAY BE NEEDED(DEPENDING ON THE VEHICLE)

Panel Removal Tool	Socket	Electric drill	Torx screwdriver
			
Phillips screwdriver	socket wrench	Wrench	Cord cutters
			
Crimping Tool	Wire strippers	Spectrum analyzer	Oscilloscope
			

PARTS LIST

DSP Cable x1	Power Cable x1	SWC Cable x1
		
1.5m USB 2.0 Cable x1	Mounting bracker x4	User manual x1
		
Install screws 3x6mm x4	Install screws 4x20mm x4	
		

PRECAUTIONS

PROHIBITED	Indicates a prohibited action (not allowed)
PROHIBITED	Indicates that disassembly is prohibited
MANDATORY	Indicates a mandatory action (must be performed)
	Indicates that your attention should be paid.

WARN

When a problem occurs, please stop using it immediately

Failure to do so may result in personal injury or damage to the product. Please return this product to an authorized Nakamichi dealer or the nearest Nakamichi service center for repair

This product is only suitable for vehicles with 12V negative grounded

Failure to do so may cause accidents such as fire.

Ask professionals for wiring and installation

Wiring and installation of this product require specialized skills and experience. For the sake of safety, please contact the dealer of the product you purchased for installation

Do not disassemble or modify

Failure to do so may result in an accident, fire or electric shock

Small objects such as bolts or screws should be kept out of the reach of children

Swallowing small objects may cause serious injury.If swallowed, seek medical attention immediately.

Do not use any features that distract you while driving

Any operation of machine functions that interfere with attention must be done only after the vehicle has come to a complete stop. Before using these functions, be sure to park the vehicle in a safe area first. Otherwise, accidents may result.

THE VOLUME MUST BE KEPT AT A LEVEL WHERE YOU CAN STILL HEAR OUTSIDE NOISE WHILE DRIVING

Failure to hear emergency vehicle sirens and road warning signals (train crossings, etc.) is verydangerous and may lead to accidents. In addition, excessive volume may cause hearing damage.

PROHIBITED

Product cleaning

Please clean this product regularly with a dry soft cloth. If the dirt is difficult to remove, just dampen a soft cloth with water. Any other solvent may dissolve.

Temperature

Before turning on the unit, please make sure that the temperature in the car is between +60°C and -20°C.

Maintenance

If you encounter a problem do not repair it yourself, please return this product to an authorized Nakamichi dealer or the nearest Nakamichi service center for repair.

System matching

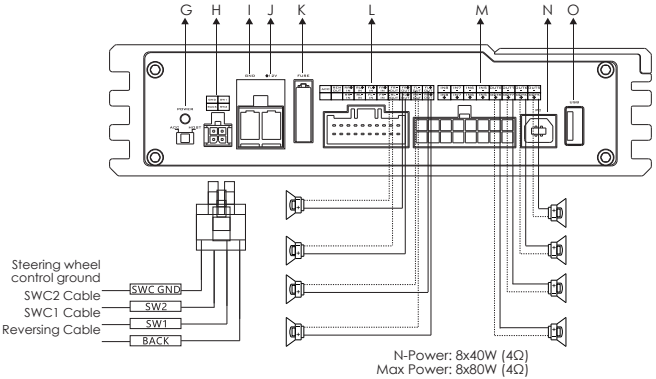
IWhen using FDSD370 to distribute signals to speakers by active frequency division, please ensure that the treble frequency division point is above 1500Hz, so as not to damage the tweeter.

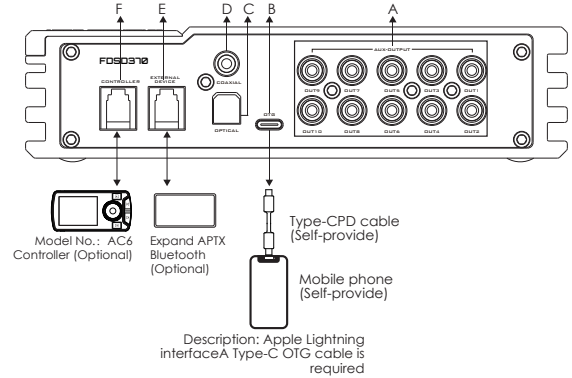
Sinstallation location

This machine cannot be installed in any of the following places:

- Near direct sunlight and heat sources
- Places with high humidity and near water sources
- Dusty places
- places with severe vibration

MACHINE INTERFACE DIAGRAM





MACHINE INTERFACE AND FUNCTION DESCRIPTION

A. AUX low level output port

Low-level RCA output, link up to 10-channel low-level signal output.

MACHINE INTERFACE AND FUNCTION DESCRIPTION

B. OTG port

Plug in the OTG adapter and the phone's Type-C cable (Apple's Lightning port requires a Type-C OTG cableConnect your phone. Select mobile OTG audio source on the machine to play mobile digital audio. The phone charges simultaneously. (Support format attachment form)

C.Optical fiber input port

Connect the car CD or DVD fiber optic cable, switch the audio source of the machine to digital input, and play the fiber optic digital signal.

D. Coaxial input port

Connect the car CD or DVD coaxial cable, switch the machine audio source to digital input, and play coaxial digital signal.

E. Expand device interface , connect extended Bluetooth devices, connect APTX mobile phones to play high-quality music.

F. Controller port

Data call and total volume can be adjusted through the wire controller.

G. Power switch and power status indicator

Select ACC:ACC switches the machine.Select HOST: FL+,FL- to switch the machine on and off.

H. Steering wheel and reverse detection port , the reverse control volume, through the steering wheel button learning to control the machine operation.

I. GND(-)=Ground

When using HI-INPUT, the amplifier can detect the DC offset of the high-level input signal, so it will automatically turn on or turn off the amplifier. When the amplifier is turned on, the REM terminal will output +12V DC to control the opening of other devices on or off. When using a low level input, the amplifier REM-IN should be connected to the REN-OUT of the signal source unit.The source unit will control the amplifier to turn on or off automatically.

J. +12V=power supply

Link this terminal to the positive terminal of the vehicle battery or isolate the positive terminal of the audio system battery through a fuse or circuit breaker.

K. Fuse

Do not use fuses of other values, and do not use wires or coins to replace fuses.

L. Car audio playback port

M .High level input and output ports

* "+" is positive pole or positive phase; "-" is negative pole or reverse phase (ground).

* Only the link is limited to the special line selected by the original car, or the user can define the external wiring material by himself,

* Before connecting the power supply, you must know the power supply requirements of the power supply composite design, and connect in strict accordance with the instructions of the equipment.Otherwise, the equipment may be damaged and accidents such as fire, electric shock, etc. may occur.

N. PC port, link to computer debugging software.

O. USB port

Insert the USB flash drive. Select USB audio source on the machine, play USB flash drive multi-format and lossless songs. (Support format attachment form)

SOFTWARE INTRODUCTION

PC Software Operation Introduction
(PC can be downloaded from the official website (http://www.nakamichicaraudio.com, Downloads))
Computer Configuration Requirements: Scren resoluion higer than 1280 x 768, otherwise the software UI is incomplete, only suitable for windows operation system laptop, desktop and pades

TUNING SOFTWARE DOWNLOAD METHOD
Method 1: Wed page address: http://nakamichicaraudio.com/ pages/ downloads FDSD Series
Method 2: Scan the QR code on the left to get the download address of the tunong software. FDSD Series

A. MENU EDITING AREA

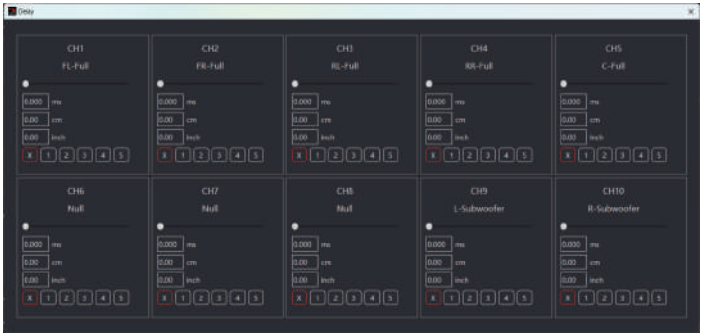
Main functions: scene, option, time-lapse, Mixing,Master source switch.

* Click the "Memory" pop-up window and choose to Load Preset from Device,Save Preset to Device, Load Preset from PC, Save Preset to PC, Load All Presets from PC or Save All Presets to PC.

* Click the "Option" pop-up window to select Language, Reversing Volume, Vocal Enhancement, Noise Gate, Reset Factory,Input Vol, Boot Default Source, Master SRC Attenuation Ratio,On-Off Delay, Power Saving Mode, Encryption, Firmware Upgrade and About.

SOFTWARE INTRODUCTION

* Click "Delay", pop-up window, you can set the CH1-CH10 channel delay
Delay range: ms range: 0.000-20.000; Cm range: 0.00-692.00; Inch range: 0.00-273.00.



* Click "Mixer", the pop-up window can set the mixing effect of the left and right channels of the CH1-CH10 channel Range: 0 to 100.

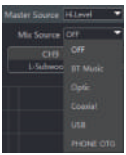
* Click "Master Source", pop up the drop-down list, you can select BT Music,Hi.Level,Optic, Coaxial,USB,Device,PHONE OTG

SOFTWARE INTRODUCTION

B. FUNCTION EDITING AREA

Main functions: Reset output, output joint adjustment, overall volume, mixing source and link status settings.

* Click "Reset Output": Clear the channel type of CH1-10 or restore the channel type of CH1-CH10 to the default state.
* Click "Total Sound Source": the adjustable range is -60dB to 6dB, the volume of 6 is the highest, and the speaker can be clicked to mute.



* Click "Mix Source": you can choose OFF, BT Music,Hi.Level,Optic,Coaxial, USB,Device,PHONE OTG
Note: The Mix Source cannot be the same as the Master Source. When the Mix Source is X (X can be any audio source), X is also selected for the Master Source.The audio source will automatically turn OFF; when the main audio source is switched to X, the mixing audio source will automatically switch to the previous one.

Click "Not connected": You can use the PC to link to the host, and the connection status is divided into not connected, connecting and connected,There will be different colors to distinguish.

C. CHANNEL SELECTION AREA

MAIN FUNCTION: CONFIGURE THE TYPE OF OUTPUT CHANNEL

* If there is a conflict in the output channel, it will be grayed out. If the channel is empty, it will be muted.

D. CHANNEL DELAY, VOLUME, PHASE EDITING AREA

* Volume adjustment: Push the fader left and right to adjust the volume of the sound, or input a value or scroll the mouse wheel in the volume input box to adjust the volume. Click the horn button to switch to mute.
* Positive and negative phase adjustment: Click [Normal phase] or [Reverse phase] to switch between normal phase and reverse phase.
* Phase angle: It needs to be turned on according to the channel type, and it can only be adjusted when the channel type is high frequency and ultra low.

SOFTWARE INTRODUCTION

E. CHANNEL DIVIDER EDITING AREA

Main function: channel high and low pass frequency division setting

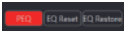
Adjustable: filter type, frequency Slope (slope or Q value).

* Frequency adjustable range: 20--20000, high pass frequency ≤ low pass frequency

* Type: Butterworth, Bessel.Slope: 6, 12, 18, 24, 30, 36, 42, 48 and OFF, the unit is dB/Oct.

* Type: Nink-Ril.Slope: 12, 24, 36, 48 and OFF, the unit is dB/Oct.

F. EQUALIZER EDITING AREA

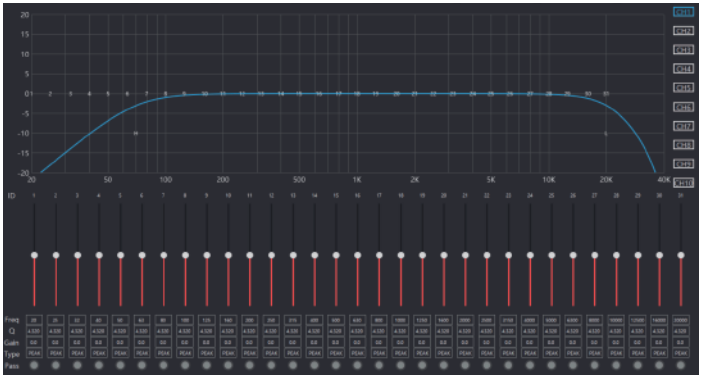


* "Reset EQ" button: It is used to restore the parameters of the 31-band equalizer to the original direct mode (the frequency, Q value and gain of the equalizer are restored to the initial values).

* "Parametric EQ" button: used to adjust the frequency and Q value;the corresponding graphic equalizer means that the frequency and Q value cannot be adjusted.

* "Straight through equalization" button: restore the equalization at 0.0 position of the gain of the 31 off EQ points; the corresponding straight through equalization is a straight through equalization as long as there is a position other than 0.0.

G. CHANNEL EQ EDITING AREA



Main function configuration: balanced design of current output channel, 31 frequency bands can be adjusted: frequency, Q value (response bandwidth) and gain (increase or decrease the frequency response range near the frequency point).

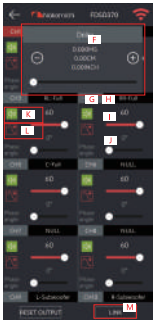
SOFTWARE INTRODUCTION

HOW TO DOWNLOAD THE APP:

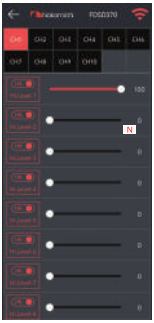
1. Apple mobile phone users need to search for the name "FDSD Series" in the Applemarket.
2.Android mobile phone users
Method 1: Log in to the web page http://www.nakamichicaraudio.com,Downloads and download FDSD Series
Method 2: Search the name "FDSD Series" on Google Play and download

Turn on the bluetooth function of the mobile phone to connect the bluetooth of the mobile phone with the bluetooth of the DSP; open the positioning function of the mobile phone, enter the APP, click the gray "link status" in the upper right corner of the APP to automatically search for the device and pop up the device list, select the DSP device, automatically load the data, and log in success.

HOME



AISLE



REMIX

1. Main interface

You can share sound effects, save audio sound effects, play local sound effects, check the model and version number of the machine and exit the software operation; encrypt data; store and recall 6 groups of preset scenes.

A. Master Source selection: BT Music,Hi.Level, Optic,Coaxial,USB,Device,PHONE OTG

B. Scene preset:There are 1~6 presets to output delay adjustment.

C. Audio source selection: AUX, Bluetooth music, high input, fiber, coaxial, USB, external Device.

D. Volume adjustment:
press and hold the volume scale clockwise or counterclockwise to adjust the volume.The main volume range is 0~66,The subwoofer range:0~60,The medium,high and low volume range-12dB~+12dB.Tap the speaker button to mute the master volume.

Menu:
You can perform operations such as output channel adjustment,Equalizer adjustment,mixing mode adjustment, system settings and muxic playback.

2.Channel Interface

Channel selection,volume mute, forward and reverse,high and low pass frequency setting and joint tuning operation.

F.Delay unit switching:Switch between milliseconds,centimeters,and inches.

G.Output channel selection:10 channels are available.

H. Channel type selection:front audio, rear audio,center audio,subwoofer audio,surround.

I. Channel volume:The volume can be adjusted by sliding left and right,the volume range:0~60.

J. Phase Angle: It needs to be opened according to the type of channel, and can be adjusted when the channel type is high frequency and ultra-low frequency.

K. Mute:Click the speaker button to mute.

L. Channel phase:Forward and reverse switching.

M. Channel joint debugging settings: Click the joint debugging button and the joint debugging window will pop up to select the joint debugging method.

3. Mixer Interface

N. 2 CH BT Music,8 CH Hi.Level,2 CH Optic, 2 CH Coaxial,2 CH USB,2 CH Device,2 CH PHONE OTG adjustment, range: 0-100, according to the master source, the corresponding page is not the same.

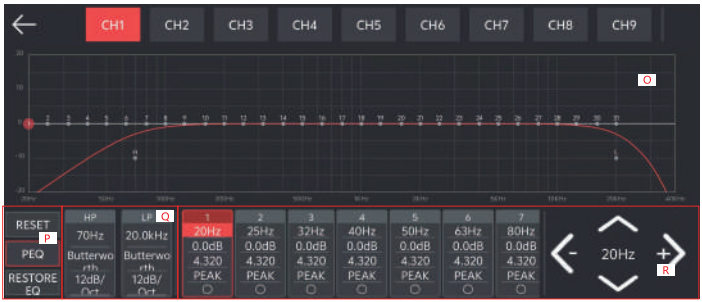
4. EQ Interface

Corresponding to the adjustment of the output channel EQ curve (gain,Q value and frequency);reset equalization, pass-through equalization or parametric equalization operation settings

O. EQ display:Edit the display area.

P. Reset equalization,parametirc equalization,and pass-through equalization setting:Click[Reset]to restore the parameters of the 31-short equalizer to the original factory pass-through mode (equalizer frequency,Q value and gain return to their initial values).
When there is channel adjustment click [PEQ] to switch between [PEQ] and [GEQ] modes.

Q. HPF and LPF adjustment:
Frequency range:20Hz~40kHz.
Channel type:Choose from Butter-W, Bessel.Slop selection:6dB/Oct,12dB/Oct, 18dB/Oct,24dB/Oct,30dB/Oct,36dB/Oct, 42dB/Oct,48dB/Oct,and OFF can be selected.Channel type:Choose from Link-Rill.Slop selection:12dB/Oct, 24dB/Oct,36dB/Oct,48dB/Oct,and OFF can be selected.



EQ

R. Output EQ frequency,gain and Q value setting:The frequency setting of the output EQ:a total of 31EQ,slide the screen left and right to select the EQ,you can drag the slide bar up and down to adjust the frequency,The rightmost direction button,press up and down to select the desired frequency,gain and Q value;press left and right to adjust the corresponding adjustment range, frequency range:20Hz~40kHz,gain range:-20dB~+20dB,Q value range: 0.404~28.852.

5. System Interface

Can be restored to factory settings, noise gate settings,mode settings, check the machine model and version for easy operation.

S. Noise gate setting:0-20

T. Mode setting:preset PR1~PR6 mode change and save.

U. Turn on local sound effects.

V. Restore factory settings:Click [Restore] factory settings,click [OK],all values will be restored to the initial values.

6. Music Interface

When connected to USB,Bluetooth or Level-H,you can select the music inside to play,pause,previous,next, loop,random or single play.

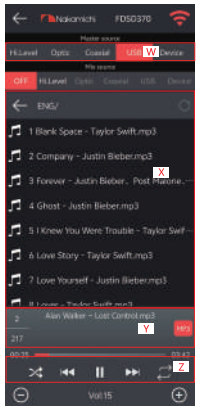
W. Select playback source: BT Music,Hi.Level, Optic, Coaxial,USB, Device,PhoneOTG.

X. Playlist (sorted alphabetically)

Y. Song name and folder name of your choice.

Z. Music adjustmen:click [▶] [⏸] to play or pause;click [⏮] to select the previous song;click [⏭] to select the next song;click [🔁] [🔂] list loop or single loop mode;click [🔀] random loop mode.

SYSTEM



PLAYER

STEERING WHEEL CONTROL LEARNING

STEERING WHEEL CONTROL LEARNING: Connect the Android APK to the AMP, press "System" - "STEERING WHEEL CONTROL LEARNING" button, select the corresponding function to enter the button learning state, long press the key on the steering wheel to learnfor 5 seconds, and a hint saying"Key is Learning..." will appear. When the"Learning Success" appears , release the button and click"OK". Finally, click the " " button.

PRODUCT TECHNICAL DATA

PRODUCT PARAMETERS	
Harmonic distortion	≤1%
Input resistance	High level:50Ω
Signal input range	High level:23Vpp
Signal output range	RCA OUT: 6Vpp;High level:36Vpp
Use environment humidity	-20~+60°C
Power supply	DC6V~18V
Startup mode	High level signal input:FL+/FL- OR ACC Control cable
REM Output	+12V/0.5A
Standby power consumption	≤0.01W
Net weight	Approx1.25kg
Product Size(L×W×H)	190×150×46mm

All specifications are subject to change without notice.

FUNCTION PARAMETERS	
Input signal type	8-Channel Hi.Level,Support BT Music,Optic, Coaxial,USB, Device and PhoneOTG.
Output signal type	10-Channel Low-Level Out,8-Channel Hi-Level Out.
Output gain	Gain range: -60dB~+6dB
Output signal equalizer	31-band EQ for every channel: 1. Frequency range: 20Hz~40KHz; resolution: 1Hz 2. Q value (slope and slope): 0.404~28.852 3. Gain: -18.0dB+18.0dB, resolution: 0.1dB
Output Signal Divider	Equipped with high and low pass filters. 1.Professional filter type: Butter-w, Bessel, Filter Slope Setup: 6dB/Oct~48dB/Oct 2.Professional filter type: Link-Ril, Filter Slope Setup: 12dB/Oct~48dB/Oct 3.Filter Crossover Point: 70Hz~20kHz, Resolution 1HZ
Output Phase and Latency	Adjust phase and time alignment for every outpuf channel: In Phase or Out Phase(0-180); Time Alignment: .000 to 20.000 milliseconds, 0 to 692 cm, 0 to 273 inches
Scene operation	Save 6 presets into the device

MOBILE OTG PLAYS SUPPORTED AUDIO FORMATS		
Format	Sampling Rate	recharge
UAC1.0	less than 48KHz	5V,less than 2A

PRODUCT FEATURES

- Support DSD Playback
- Support OTG music playback
- Support Hi-Res
- Support stepless phase adjustment
- Support reverse volume control
- Support all pass
- Support HS,LS
- Built-in V5.3 Bluetooth
- Support USB playback
- Support power on/off delay
- Support fiber coaxial input
- Wide power supply circuit

PRODUCT SPECIFICATIONS

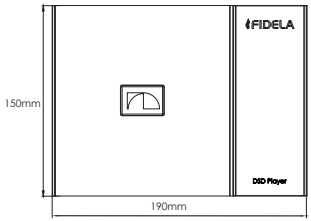
- Hi-Level in: 8 Ch, Low-Level out: 10 Ch
- Frequency range: 20Hz~30KHz, SNC ≥95dB
- Delay: 0-20ms
- EQ: 31 band
- N-power: 40W x 8 channel
- Max power: 80W x 8 channel
- Working voltage: DC 6V-18V
- Maximum current consumption: 30A
- Standby power: ≤0.01W
- Working temperature: -20°C ~ +60°C
- Product size: 190x150x46mm
- Product weight: 1.25kg

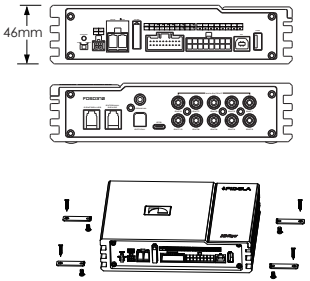
SUPPORTED FORMATS

FORMAT	EXT.	AUDIO CODEC	SAMPLE RATE(KHZ)
AAC	.aac	8/11.025/12/16/22.05/24/32/ 44.1/48/64/88.2/96 kHz	8, 11.025, 12, 16, 22.05, 24, 32, 44.1, 48, 64, 88.2, 96
APE	.ape	Supports "Fast" "Normal" "High"	44100x64, 44100x128, 48, 96, 88.2, 176.4, 192
DSD	.dsf .dff	DSD64/DSD128	44100x256, 44100x512
FLAC	.flac	FLAC	8, 16, 22.05, 24, 32, 44.1, 48, 88.2, 96, 176.4, 192
MPEG	.mp3	MPEG 2.5(8/11.025/12 kHz),MPEG 2(16/ 22.05/24 kHz),MPEG 1(32/44.1/48 kHz)	32, 64, 96, 128, 160, 192, 224, 256, 288, 320, 352, 384, 416, 448
WAVE	.wav	8/11.025/12/16/22.025/24/32/ 44.1/48/64/88.2/96/192 kHz	8, 12, 16, 24, 32, 44.1, 48 88.2, 96, 176.4, 192

1.Maximum capacity of USB flash drive: 512GB, maximum capacity of hard drive: 2TB.
2.The supported formats are FAT32 and NTFS, and exFAT is not supported.

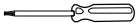
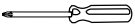
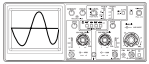
Dimensions(Unit: mm):



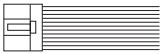
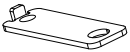


Installation Instructions:

可能需要的工具(视车辆而定)

面板拆卸工具	插座	電鑽	梅花螺絲刀
			
十字螺丝刀	套筒扳手	扳手	剪線鉗
			
壓線鉗	保險鉗	频谱分析器	示波器
			

配件清單

DSP線×1	電源線×1	SWC線×1
		
1.5m USB 2.0 線×1	安裝支架×4	說明書×1
		
安裝螺絲3x6mm×4	安裝螺絲4x20mm×4	
		

註意事項

禁止	表示禁止的動作（不得進行）。
禁止	表示禁止拆卸。
強制	表示具有強制性的操作（必須執行）。
	表示應引起您高度注意。

⚠ 警告

出現問題時,請立即停止使用

否則可能會導致人身傷害或本產品損壞。請將本產品送回到授權的Nakamichi經銷商或附近的Nakamichi服務中心修理。

本產品只適用於12V負極接地的汽車

否則可能會引起火災等事故。

請專業人員進行配線和安裝

本產品的配線和安裝需要專業技術和經驗。為了安全起見,請聯繫您所購買產品的經銷商進行安裝。

請勿拆卸或改裝

否則可能會導致意外事故、火災或觸電。

螺栓或螺絲等小物體應放在兒童不易觸及的地方

吞下小物體可能會導致嚴重傷害。一旦誤吞，請立即就醫。

請勿使用會使您在駕車時分心的任何功能

任何影響注意力的機器功能的操作都要等完全停住汽車之後才做。要使用這些功能時，一定先把車輛停放在安全地帶。否則，將可能導致意外事故。

駕駛中必須將音量保持在還能聽到車外雜訊的水準

聽不清緊急車輛警報聲和道路警告信號（火車交叉口等）是非常危險的，並可能會導致事故發生。另外，音量過大還可能會導致聽力損傷。

⚠ 注意

產品清潔

請使用幹的軟布定期清潔本產品。若汙物較難清除，請僅用水將軟布浸濕。其它任何溶劑都可能溶解。

温度

開啟本機之前，請確保汽車中温度在+60°C和-20°C之間。

維修

如果您遇到問題請勿自行修理,請將本產品送回到Nakamichi授權經銷商或附近的Nakamichi服務中心修理。

系統匹配

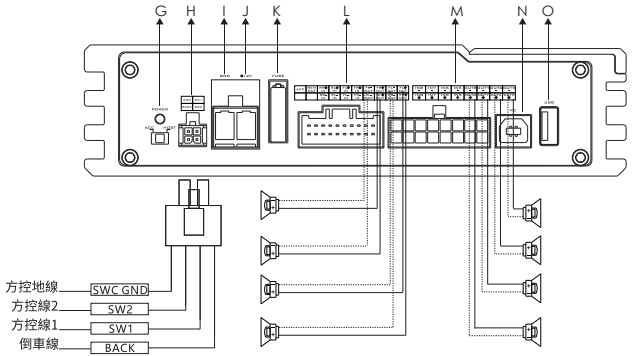
當使用FDSD370採用主動分頻方式為揚聲器分配信號時，請保證高音的分頻點在1500Hz以上，以免損壞高音揚聲器。

安裝位置

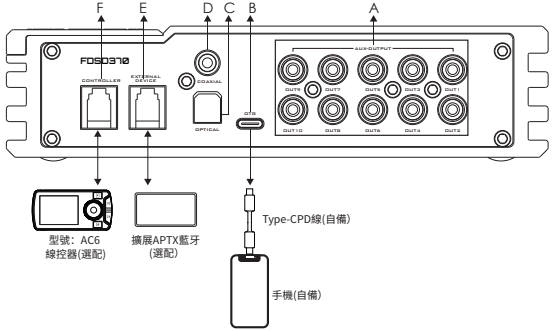
本機不可安裝於下列任何場所：

- 陽光直射和熱源附近
- 濕度很高的地方和水源附近
- 多塵場所
- 劇烈振動的場所

機器接口示圖



額定功率:8x40 (4Ω)
最大功率:8x80W (4Ω)



說明:蘋果Lightning接口需要
使用Type-C OTG線(自備)

機器接口及功能介紹

A.AUX低電平輸出端口
低電平RCA輸出，最多連接10聲道低電平信號輸出。
B.插入OTG轉接頭和手機Type-C線（蘋果Lightning界面需要Type-C OTG線）連接手機。在機器選擇手機OTG音源，播放手機數位音頻。手機同時充電。（支持格式附件表格
C.光纖輸入端口
連接車載CD或者DVD光纖線，將機器音源切換至數位輸入，可播放光纖數位信號。
D.同軸輸入端口
連接車載CD或者DVD同軸線，將機器音源切換至數位輸入，可播放同軸數位信號。
E.擴展設備接口，連接擴展藍牙設備，連接APTX手機播放高品質音樂
F.線控器端口
可以通過線控器進行資料調用、總音量大小調節。
G.電源開關和電源狀态指示燈
選擇ACC:ACC開關機器。選擇HOST：FL+,FL-開關機器。
H. 方向盤和倒車檢測端口，將倒車控制音量，通過方向盤按鍵學習後控制機器操作
I.GND(-) = 接地
使用HI-INOUT時，放大器可以檢測到高電平輸入信號的直流偏移，從而自動打開或關閉放大器。放大器打開時，REM端子將輸出+12V DC ，以控制其他設備的開啟或關閉。使用低電平輸入時，放大器REM-IN 應該連接到信號源單元的REN-OUT。源單元將控制放大器自動打開或關閉。
J. +12V = 電源
通過保險絲或電路斷路器將該端子連接到車輛電池的正極或隔離音訊系統電池的正極。
K. 保險絲
請勿使用其他值的保險絲，切勿使用電線或者硬幣更換保險絲。
L.汽車音響播放機端口
M.高電平輸入和輸出端口。
* “+”為正極或正相， “-”為負極或反相(地)。
* 只連接僅限於原車選配的專車專用線，或者用戶可以自己定義外部連接材料，
* 電源連接前必須認識電源複合設計的電源要求，嚴格依照設備指示進行連接，否則，可能損壞設備並可能引發意外，如火災、觸電等。
N. PC端口，連接到電腦調試軟體
O.USB端口
插入U盤。在機器選擇USB音源，播放U盤多格式和無損歌曲。（支援格式附件表格）

軟件介紹

PC軟件使用介紹

(PC可在官網(https://nakamichicaraudio.com/ CONTACT -- Downloads) 下載)
電腦配置要求：顯示器解析度大於1280*768，否則不能完全顯示介面，只適應於Windows作業系統手提電腦、桌上型電腦和平板電腦.

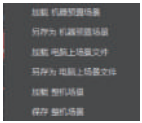
調音軟體下載方式

方法1: 網頁地址:http://nakamichicaraudio.com/软件下载,下载FDSD Series
方法2: 掃有左邊二維碼獲取調音軟體下載位址，下載FDSD Series

A、菜單編輯區

主要功能：場景、選項、延時、混音、主音源切換

*點擊“場景”，彈出下拉清單，選擇載入機器預置場景、另存為機器預置場景、載入電腦上場景檔、另存為電腦上場景檔、載入整機場景、保存整機場景



*點擊“選項”，彈出下拉清單，選擇語言、倒車音量、人声增強、噪声門、恢復出廠設置、輸入音量、開機預設音源、主音源衰減比例、開關機延時、省電模式、加密、固件升級、關於

軟件介紹

*點擊“延時”，快顯視窗，可以設置CH1-CH10通道的延時延時範圍：
毫秒範圍：0.000-20.000；釐米範圍：0.00-692.00；英寸範圍：0.00-273.00。

*點擊“混音”，快顯視窗，可以設置CH1-CH10通道的左右聲道混音效果范围：0-100。

**點擊“主音源”，彈出下拉清單，可選擇藍牙音樂、高電平、光纖、同軸、USB、設備、手機OTG

軟件介紹

B、功能編輯區

主要功能：重置輸出、輸出聯調、總音量、混音音源和連接狀態。

*點擊“重置輸出”：可清空CH1-CH10的通道類型或恢復CH1-CH10通道類型至預設狀態。

*點擊“輸出聯調”：可設置聯調同步方式：從左複製到右或從右複製到左。

*點擊“總音量”：可調節的範圍是-60dB到6dB；6dB時音量最大，點擊喇叭可以靜音。

*點擊“混音音源”，彈出下拉清單，可選擇OFF、藍牙音樂、高電平、光纖、同軸、USB、設備、手機OTG
注意：混音音源不可和主音源一致。當混音音源為X時(X可以為任意一個音源)，主音源也選擇為X，這時混音音源會自動變為OFF。如主音源是高電平，混音音源的高電平會自動變為OFF。當主音源切走不為X的音源時，混音音源仍為X。

*點擊“未連接”，即可用PC連接主機。連接狀態分為未連接、正在連接、已連接，會有不同的顏色進行區分。

C.通道選擇區

主要功能：配置輸出通道的類型。

* 輸出通道如果有衝突，會置灰不可選通道為空是靜音狀態。

D、通道延時、音量、相位編輯區

* 音量調節：左右推動推子可調整聲音大小，亦可輸入數值或者在音量輸入框中滾動鼠標混輪調整聲音大小。點擊喇叭按鈕可進行靜音切換。
* 正相反相調節：點擊【正相】或【反相】可進行正相與反相切換。
* 相位角度：需要根據通道類型來開啟，當通道類型是高頻和超低時才可調節，范围：0.000°-354.375°。

E、通道分頻器編輯區

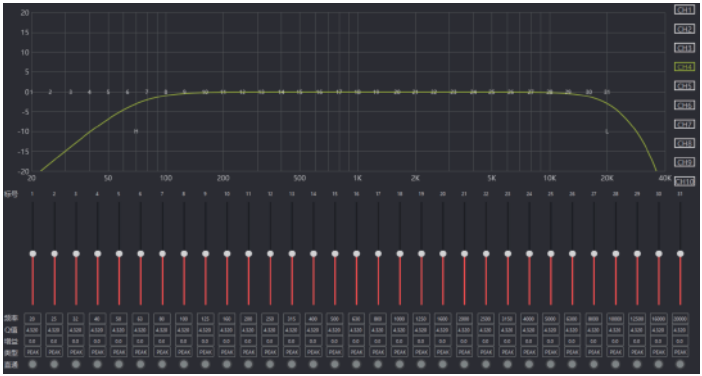
主要功能:通道高低通分頻設置

可調：濾波器類型、頻率、斜率 (坡度或者Q值)。
* 頻率可調範围20--20000，高通頻率≤低通頻率。
* 类型:巴特沃斯、贝塞尔。斜率分为6、12、18、24、30、36、42、48和OFF，单位是dB/Oct。
* 类型:宁克-锐。 斜率分为12、24、36、48和OFF，单位是dB/Oct。

F、均衡器編輯區

*“重置均衡”按钮：用於將31頻段均衡器的參數恢復到原始直通模式(均衡器的頻率，Q值和增益恢復為初始值）。
*“參量均衡”按钮：用於頻率和Q值調節；對應的圖示均衡即頻率和Q值不可調節。
*“直通均衡”按钮：點擊“恢復均衡”按鈕，恢復31段EQ點的增益在0.0的位置上，對應直通均衡只要有一個不為0.0位置上時，就為“直通均衡”。

G、通道EQ編輯區



主要功能配置：電流輸出通道的均衡設計，31頻段均衡可調：頻率，Q值（響應帶寬）和增益（增加或減小頻率點附近的頻率響應幅度）。

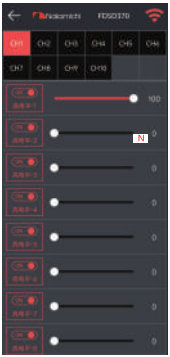
軟件介紹

下載APP方法:
-.蘋果手機用戶需在蘋果市場搜尋名稱“FDSD Series”
二.安卓手機用戶
方法1:登入網頁http://www.nakamichicaraudio.com,下載,下載FDSD Series
方法2:在Google Play搜尋名稱“FDSD Series”，並下載

開啟手機藍牙功能,讓手機藍牙与DSP藍牙連接;開啟手機的定位功能,進入APP,點擊右上角灰色的“鏈接狀態”APP自動搜索設備並彈出設備列表,選擇DSP設備,自動加載數據完成,登陸成功。

主界面

通道



混音

1. 主界面

可以共享声音效果，保存音频声音效果，打开本地声音效果，查看机器的型号和版本号并退出软件操作；加密数据；存储和调用6组预设场景。

A. 連接狀態：黑色表示未連接，紅色表示已連接。

B. 場景預設：有1~6個預設可輸出延遲調整。

C.音訊源選擇：藍牙音樂、高電平、光纖、同軸、USB、設備、手機OTG

D. 音量调整：顺时针或逆时针按住音量尺调节音量。主音量范围为0~66，低音炮范围为0~60，中，高、低音量为-12dB~+12dB。点击扬声器按钮以使主音量静音。

E. 菜單：您可以執行如輸出通道調整，等化器調整，混合模式調整，系統設置和音樂播放之類的操作。

2. 通道視窗

通道選擇，音量靜音，正相和反相，高和低通頻率設置以及聯合調諧操作。

F. 延遲單位切換：在毫秒，釐米和英寸之間切換。左右滑動以設置延遲值。延遲範圍：毫秒範圍：0.000~20.000；釐米範圍：0~692；英寸範圍：0~273。

G. 輸出聲道選擇：10個聲道可用。

H. 通道類型選擇：前置音訊、後置音訊、中央音訊、低音炮音訊、環繞。

軟件介紹

I. 通道音量：左右滑動可調節音量，音量範圍：0~60。

J. 相位角度：需要根据通道的类型来开启，当通道类型为高频和超低频时才可调节。角度范围：0°~354.375°。

K. 靜音：單機揚聲器按鈕將其靜音。

L. 通道相位：正相和反相切換。

M. 通道聯合調試設置：按一下聯合調試按鈕，將彈出聯合調試視窗以選擇聯合調試方法。

3. 混音介面

N.可進行2路藍牙音樂，8路高電平，2路光纖，2路同軸，2路USB，2路設備，2路手機OTG進行調節，範圍是0-100，根據主音源的不同，對應的頁面也不相同。

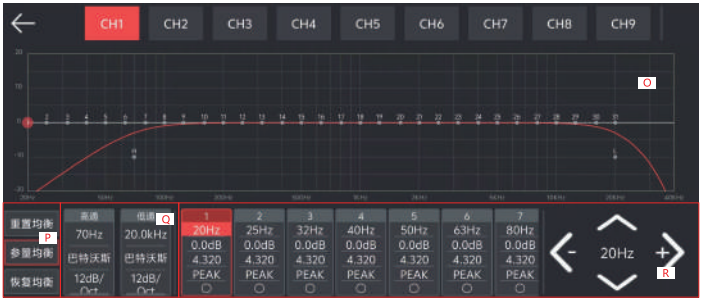
4. EQ窗口

調整輸出通道的EQ曲線(增益，Q值和頻率)；重置均衡，直通均衡和均衡操作設置。

O. EQ顯示：編輯顯示區域。

P. 重置均衡，參量均衡和直通均衡設置：按一下[Reset]將31段等化器的參數恢復為原始出廠直通模式(等化器頻率，Q值和增益恢復為其初始值)。進行通道調整時，按一下[PEQ]在[PEQ]和[GEQ]模式之間切換。

Q. HPF和LPF調整：
頻率範圍：20Hz~40.0kHz
頻道類型：從巴特沃斯(Butter-w)，貝塞爾(Bessel)中選擇。斜率:可以選擇6dB/Oct，12dB/Oct，18dB/Oct，24dB/Oct，30dB/Oct，36dB/Oct，42dB/Oct，48dB/Oct和OFF。
頻道類型：寧克-銳(Link-Ril)。斜率：可以選擇12dB/Oct，24dB/Oct，36dB/Oct，48dB/Oct，和OFF。



EQ

軟件介紹

R. 输出均衡器频率，增益和Q值设置：输出均衡器的频率设置：总共31个均衡器，左右滑动屏幕以选择均衡器，您可以上下拖动滑动条来调整频率。在最右边的方向按钮上，按下和向下选择所需的频率，增益和Q值；按左右调整相应的调整范围，频率范围：20Hz~40kHz，增益范围：-20dB~+20dB，Q值范围：0.404~28.852。

5. 系統視窗

可以恢復出廠設置，噪聲門設置，模式設置，檢查機器型號和版本以方便操作。

S. 噪聲門設置:0-20。

T.模式設置：預設PR1~PR6模式更改並保存。

U. 打開本地聲音效果。

V. 恢復出廠設置：單擊[恢復出廠設置]，單擊[確定]，所有值將恢復為初始值。

6. 播放窗口

連接到USB，藍牙或模擬時，您可以選擇其中的音樂來播放，暫停，上壹個，下壹個，循環，隨機或單次播放。

W. 選擇播放源：藍牙音樂、高電平、光纖、同軸、USB、設備、手機OTG。

X. 播放清單(按字母順序排列)。

Y. 您選擇的歌曲名稱和文件夾名稱。

Z. 音樂調整：單擊[▶][⏸]播放或暫停；單擊[⏭]選擇上一首歌曲；單擊[⏮]選擇下一首歌曲；單击[🔁][🔂]列表迴圈或單曲迴圈；單擊[🔀]隨機迴圈模式。

系統　　播放器

方控學習

方控學習：安卓APK連接主機，點擊“系統“--“方控學習”按鈕，選擇對應功能進入按鍵學習狀態，長按方控方向盤要學習的方控按鍵5秒，出現“方控學習中”提示。當出現“學習成功”後鬆開按鍵，點擊“確定”。最後點擊“ ”按鈕即可。

產品技術數據

產品參數	
諧波失真	≤1%
輸入阻抗	高電平:50Ω
信號輸入範圍	高電平:23Vpp
信號輸出範圍	RCA輸出：6Vpp,高電平:36Vpp
使用環境濕度	-20~+60°C
電源	DC6V~18V
啟動方式	高電平信號輸入：FL+/FL或者ACC 控制線
REM輸出	+12V /0.5A
待機功耗	≤0.01W
淨重	约1.25kg
產品尺寸(L×W×H)	190×150×46mm

所有規格如有更改恕不另行通知。

功能參數	
輸入信號類型	8通道高電平，支持內部藍牙、光纖、同軸、USB、設備和手機OTG
輸出信號類型	10聲道低電平，8聲道高電平
輸出增益	增益範圍：-60dB~+6dB
輸出信號均衡器	31斷均衡器引擎: 1.頻率範圍：20Hz~40KHz;解析度：1Hz 2.Q值（斜坡和坡度）：0.404~28.852 3.增益：-18.0dB+18.0dB,解析度：0.1dB
輸出信號分頻器	配有高通和低通濾波器。 1.專業過濾器類型：巴特沃斯(Butter-w),貝塞爾(Bessel). 濾波器斜率設置：6dB/Oct~48dB/Oct 2.專業過濾器類型：寧克-銳(Link-Ril). 濾波器斜率設置：12dB/Oct~48dB/Oct 3.濾波器分頻點：70HZ~20kHz,分辨1Hz
輸出相位和延遲	調整每個輸出通道的相位和時間對齊方式：正相或反相(0°-180°)； 延時範圍：0.000到20.000毫秒，0到692厘米，0至273英寸。
場景操作	機器可保存6種預設音效

手機OTG播放支援的音頻格式		
格式	采樣率	充電
UAC1.0	小於48KHz	5V，小於2A

產品特點

- 支持DSD無損音樂播放
- 支持手機OTG音樂播放
- 支持Hi-Res
- 支持無級相位調整
- 支持倒車音量控制
- 支持全通濾波
- 支持高低棚架濾波
- 內置V5.3藍牙，支持藍牙音樂播放
- 支持U盤播放
- 支持開關機延時
- 支持光纖同軸輸入
- 專為新能源設計的寬電源低功耗電路

產品參數規格

- 高電平輸入：8通道，低電平輸出：10通道
- 頻率範圍：20Hz~30KHz, 信噪比 ⩾95dB
- 延時：0-20ms
- EQ：31段
- 額定功率：40W x 8通道
- 最大功率：80W x 8通道
- 工作電壓：DC 6V-18V
- 最大電流消耗：30A
- 待機功耗：⩽0.01W
- 工作溫度：-20°C ~ +60°C
- 產品尺寸：190x150x46mm
- 產品重量：約1.25kg

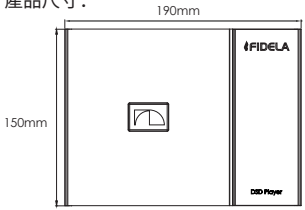
支持的格式

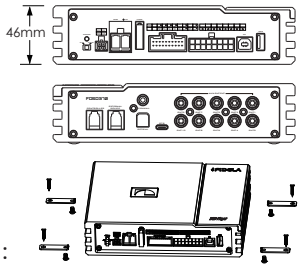
格式	擴展名	音頻解碼	采樣率(KHz)
AAC	.aac	8/11.025/12/16/22.05/24/32/ 44.1/48/64/88.2/96 kHz	8, 11.025, 12, 16, 22.05, 24, 32, 44.1, 48, 64, 88.2, 96
APE	.ape	Supports "Fast" "Normal" "High"	44100x64, 44100x128, 48, 96, 88.2, 176.4, 192
DSD	.dsf .dff	DSD64/DSD128	44100x256, 44100x512
FLAC	.flac	FLAC	8, 16, 22.05, 24, 32, 44.1, 48, 88.2, 96, 176.4, 192
MPEG	.mp3	MPEG 2.5(8/11.025/12 kHz),MPEG 2(16/ 22.05/24 kHz),MPEG 1(32/44.1/48 kHz)	32, 64, 96, 128, 160, 192, 224, 256, 288, 320, 352, 384, 416, 448
WAVE	.wav	8/11.025/12/16/22.025/24/32/ 44.1/48/64/88.2/96/192 kHz	8, 12, 16, 24, 32, 44.1, 48 88.2, 96, 176.4, 192

1.U盤支持的最大容量是512GB，硬盤支持的最大容量是2TB。

2.U盤及硬盤支持的格式是FAT32及NTFS，不支持exFAT

產品尺寸：





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