



NDSE500A User Manual



DIGITAL SOUND PROCESSOR

nakamichicaraudio.com [nakamichi.global](https://www.facebook.com/nakamichi.global) [nakamichi.caraudio](https://www.instagram.com/nakamichi.caraudio)

整张纸A3大小，127g铜版纸，双面彩色印刷。先风琴折，再上下对折

黑色边框线为折线，不印刷

PRODUCT FEATURES

- 4-in and 8-out CLASS AB high-power DSP
- Maximum power of the entire machine :1040W
- Supports USB lossless music playback
- Supports Bluetooth music playback
- Supports external LCD controller
- 2 low-level inputs
- 4-channel high-level inputs
- 8-channel high-level output
- 8-channel low-level output
- Rated power: 4x100W

CHARACTERISTICS

General Specifications		Technical Parameter	
Working voltage	DC 9V-16V	Output gain	-60 to 6dB, resolution 0.1dB
Working temperature	-20°C to +60°C	EQ band	31 Band / 8 CH, preset EQ4 groups
Maximum current	60A	EQ gain	-12 to +12dB, resolution 0.1dB
Standby current	<5 milliamperes	Range of Q value	0.3 to 50dB, resolution 0.1dB
Product size	213x219x49mm	Frequency range	20Hz-20KHz,resolution 1Hz
Product weight	About 2.43 kilograms	Channel delay	0-25 ms 0-850 cm 0-334.65 inch
Bluetooth version	V5.3	Delay accuracy	0.01 ms 0.34 cm 0.13 inch
Bluetooth music	Support	Startup delay	0 to 10,000 ms, with a step of 1ms
Bluetooth distance	5M	Input range	Low level: 0-8 Vpp; High level: 0-56Vpp
Input channel	2CH L-Level, 4CH H-Level	High and low pass type	Butterworth Bessel Link
Output channel	8CH L-Level, 8CH H-Level	High and low pass slope	OFF-48dB/Oct,resolution 6dB
Startup control	High level CH1/CH2 Or ACC	Harmonic distortion	≤0.05%
		Signal-to-noise ratio	≥98dB

Power amplifier parameters

CH	Rated power 14.4V 4Ω	MAX power 14.4V 4Ω	Bridge power 14.4V 4Ω	4Ω Speaker	2Ω Speaker
CH1-CH4	4x100W	4x125W	2x230W	Support	Not supported

Supported formats

- 1.Supported audio formats: MP2,MP3,WMA,APE,FLAC,AAC,MP4,M4A,WAV,AIF,AIFC
- 2.Supported audio sampling rate: 8KHz,11.0225KHz,16KHz,22.05KHz,24KHz,32KHz,44.1KHz,48KHz
3. Supported USB flash drive formats :FAT32 | NFFS | eXFAT
4. Maximum supported capacity of USB flash drives: 256GB

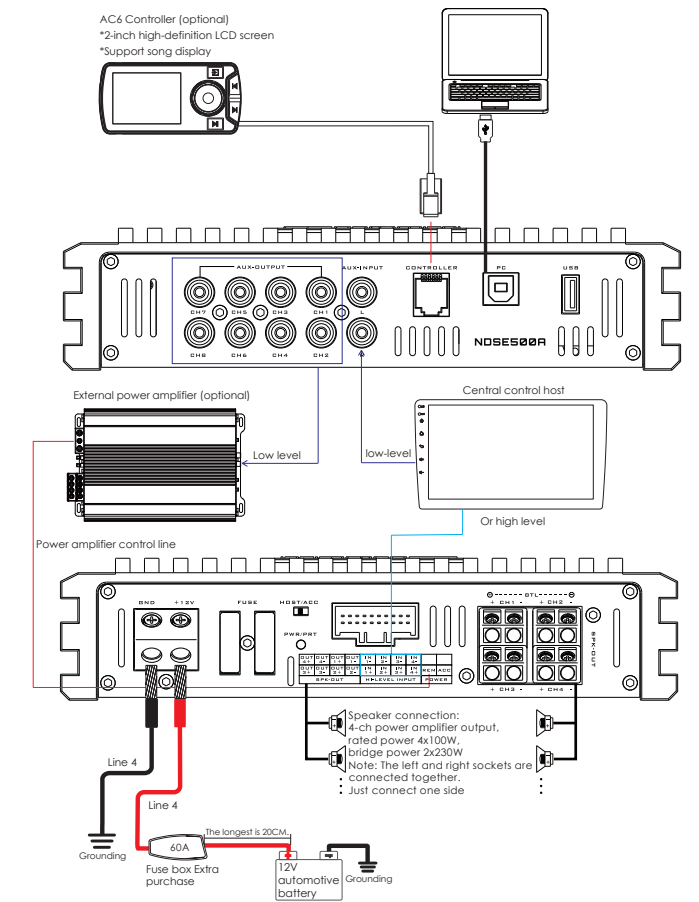
PRODUCT LIST

DSP power amplifier x1	20P DSP cable x1	Computer tuning cable 1m x1
Fuse x2	Installation bracket x2	Instruction Manual x1
screws 4x20mm x4	screws 3x8mm x8	

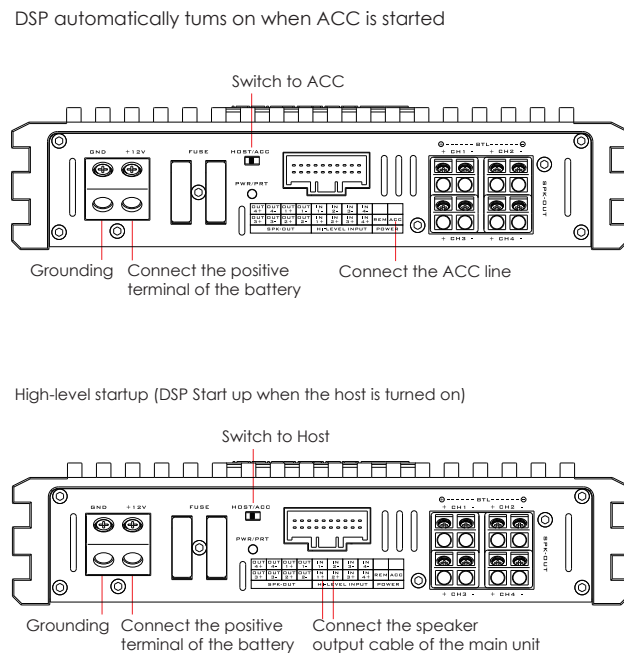
PRECAUTIONS

- Please install it on models with a 12V power supply. If installed in a vehicle with a 24V power supply, it may cause damage to the machine and lead to combustion.
- Please install in a well-ventilated location. If installed in a fully enclosed environment, excessively high temperatures may cause the machine to enter a protective state after working for a period of time. The sound can only return to normal after the temperature drops.
- Please have professionals install it. If it is not done by professionals for tuning and installation, when the wiring or Settings are incorrect, it may cause damage to the speaker or the machine.
- Please ensure that you use wires that match the machine's current. If you use wires that do not match the machine's current or have poor grounding, it may cause the machine to make intermittent sounds. It is silent after being played intermittently or for a period of time.

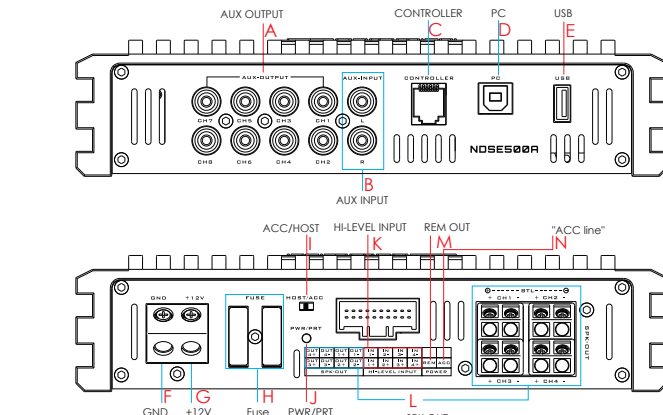
SYSTEM MATCHING DIAGRAM



WIRING DIAGRAM



INTERFACE INTRODUCTION



Interface description:

- B.AUX INPUT:Connect to the L-level output of the host or the RCA output of other playback devices.
- C.CONTROLLER:The line controller AC6 supports volume control and song display.
- D.Computer tuning
- E.USB interface (USB): USB interface.
- F.Negative terminal of power supply (GND): Connect to the negative terminal of the power supply. Please use Line 4 and ensure good grounding.
- G.Positive terminal of power supply (+12V): After passing through the fuse (optional), connect to the positive terminal of the battery. Please use Wire 4.
- H.FUSE: Fuse. When the fuse blows, please be sure to use a fuse of the same specification.
- I.Power on/off selection (ACC/HOST): ACC: Power on when the car starts. HOST: Boot up when the host is turned on.
- J.Status indicator light (PWR/PRT): Blue light: Powered on. Red light: Entered protection (will be activated after cooling down).
- K.High-level INPUT: The high-level output connected to the host.
- L.High-level output (SPK OUT): Connect the speaker.
- M.Power amplifier control line (REM OUT): Connect to the REMO port of the power amplifier. When the DSP is turned on, the power amplifier is also turned on.
- N.ACC line: Connect to the car's ACC fuse box.

PHONE APKINSTALLATION

ANDROID PHONE APK INSTALLATION

- Method 1
1. Open phone browser, scan the QR code to enter the download
 2. Find the Nakamichi-E,select Android for download and installation
- Method 2
1. Enter the PC browser,enter nakamichicaraudio.com
 2. Click ENQUIRIES-Downloads-DSP software Download
 3. Find Nakamichi-E,select Android for download and in

iPhone APK Installation

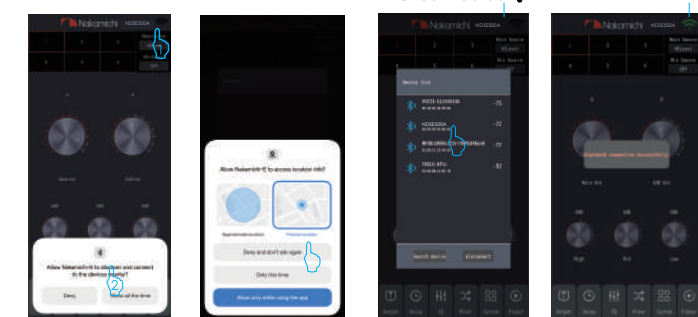
Open the app store, Search Nakamichi-E for download and installation

Installation precautions

1. During the installation process, please turn off the antivirus software
2. Android phone: Download and unzip before installing
3. During the installation process, please click on allow this installation or authorize this installation based on known application risks.
4. Send APK via mobile phone, please send a compressed file, unzip it upon receipt, and then proceed with installation

APP Connection

- Before operating the app, turn on your phone's Bluetooth first
- 1.Open the Nakamichi-E APP
 - 2.Select NDSE500A,Click OK
 3. Click on the top right corner
 4. Turn on Bluetooth on your phone
- When connecting for the first time, a pop-up box will appear. Please select 'Allow'
- If not allowed, Bluetooth cannot be searched.

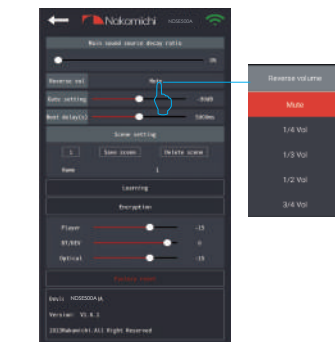


BASIC OPERATIONS

The following operations need to be performed after the App is installed and connected.

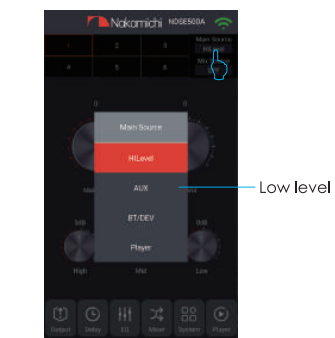
Reversing volume setting

Click [System] and select[Reversing Volume]



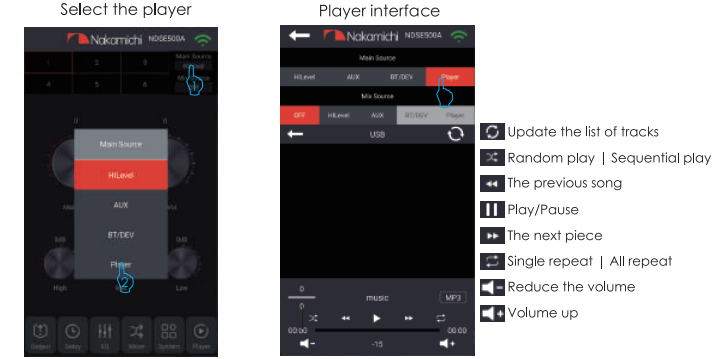
Signal source selection

Click on the main audio source to select the signal source



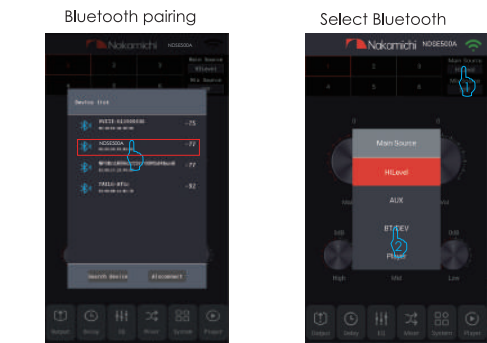
USB PLAYBACK

1. When a USB flash drive is inserted, the DSP will jump to USB playback.
2. Click on [Player] to enter the player interface. Click on [Player] to enter the player control interface. When in other states and you need to switch to USB playback, click on the audio source and select [Player].



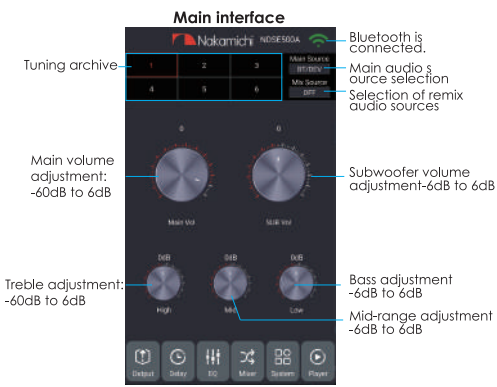
BLUETOOTH MUSIC PLAYBACK

- When playing music via Bluetooth for the first time, pairing is required first
1. Turn on your phone's Bluetooth and search for available devices: NDSE500A. After successful pairing, when playing Bluetooth music, the DSP will automatically switch to Bluetooth mode. When in other states and you need to switch to Bluetooth mode, click on the audio source and select [Bluetooth/Devices].
 2. Click on NDSE500A to pair.

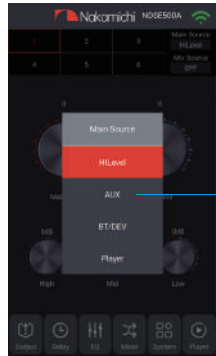


8

OPERATION OF MOBILE PHONE APP

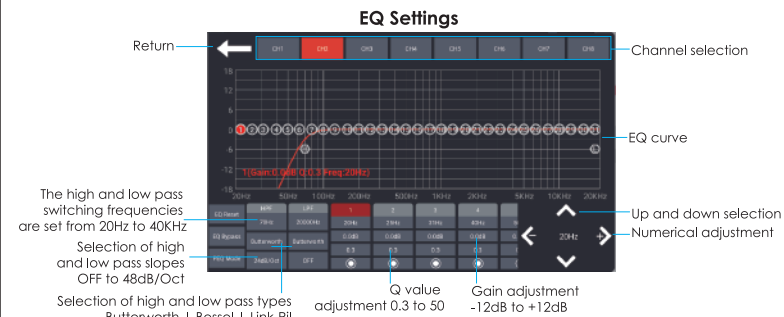
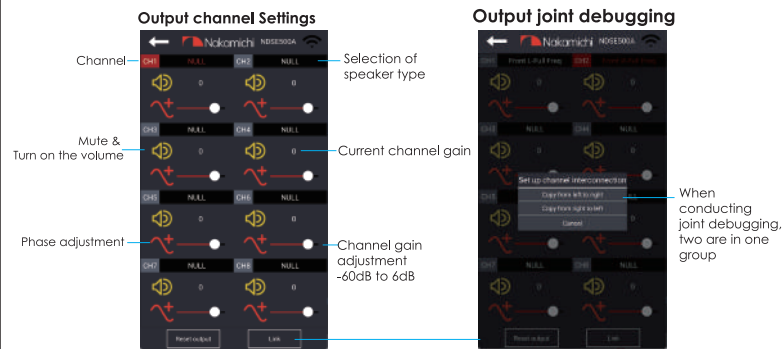


Main audio source selection interface



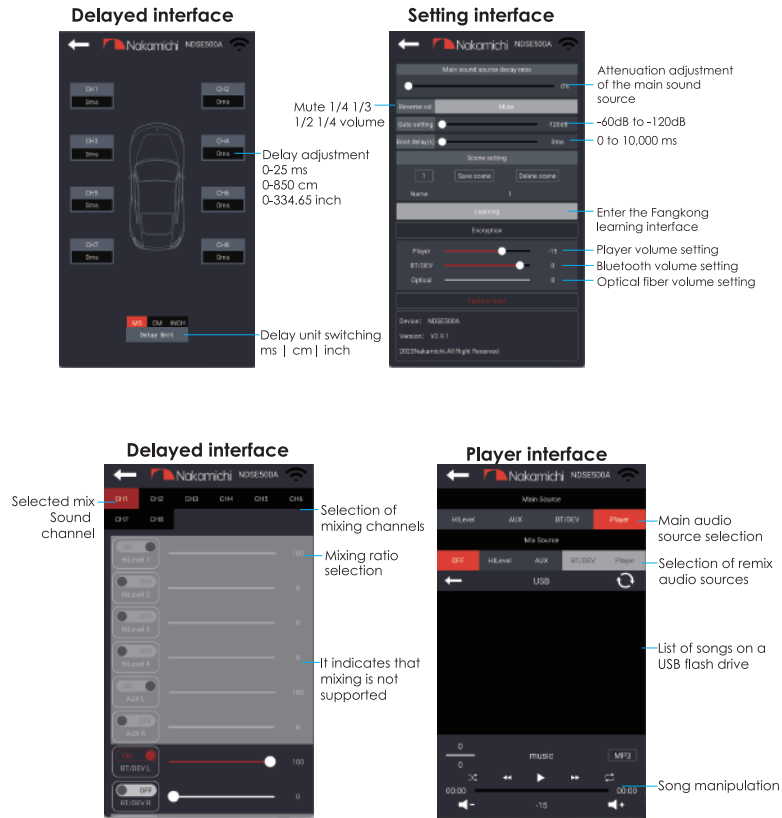
9

OPERATION OF MOBILE PHONE APP



10

OPERATION OF MOBILE PHONE APP



11

PC TUNING SOFTWARE DOWNLOAD

Solution 1: (Mobile Download)

1. Enter the browser and scan the QR code to enter.
2. Click Nakamichi-E series and select PC download.
3. After downloading, send to the computer.

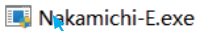


Solution 2: (PC Download)

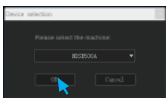
1. Enter the browser and type nakamichicaraudio.com.
2. Click ENQUIRIES--Downloads--DSP Software Download.
3. Click Nakamichi-E series and select PC download.

PC TUNING SOFTWARE INSTALLATION

1. Double-click Nakamichi-E to install it. *Files sent via mobile phone need to be unzipped.
2. Click [Finish], PC tuning software is installed successfully.



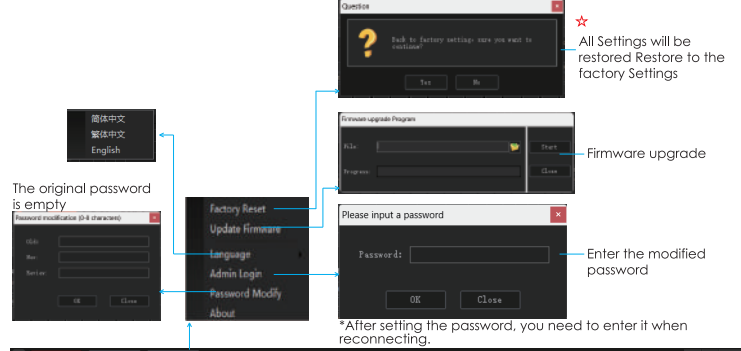
3. Click [NDSE500A], click [OK] to enter the tuning interface



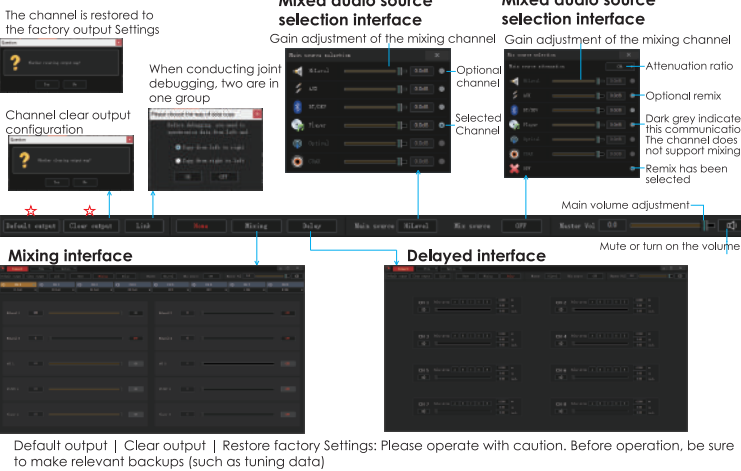
4. Connect the PC and DSP with a tuning data cable.

12

BASIC OPERATIONS OF COMPUTER TUNING

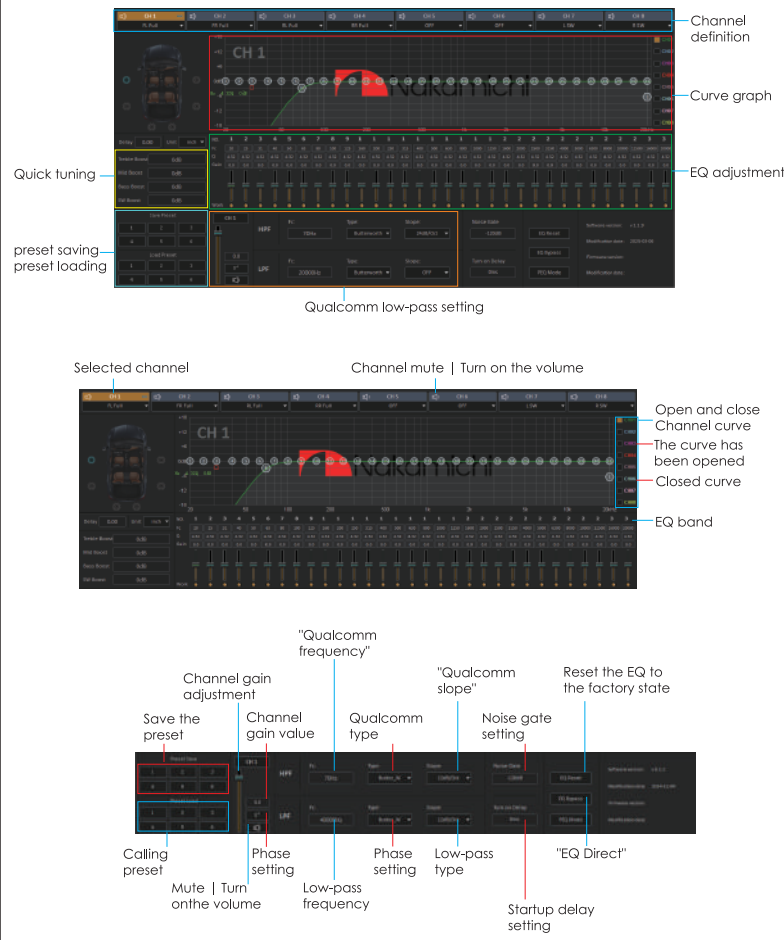


COMPUTER TUNING OPERATION



13

电脑调音操作



14

SIMPLE FAULT HANDLING

When encountering abnormalities, please check if the following phenomena occur and eliminate them. If the abnormality persists, please call for consultation.

No electricity	The fuse has blown	Replace the correct fuse
	Choosing "ACC HOST" for startup and shutdown is incorrect	1. When "ACC" is selected, please connect the ACC cable. 2. When "HOST" is selected, connect the high-level input
The sent APK file or PC tuning file cannot be found	Poor contact of the power card	Reconnect the power card
	Some channels have been deleted or isolated by antivirus or security software without any sound	1. Find the isolated files 2. Turn off the antivirus or security software and resend
The APP cannot be installed.	What the mobile phone sends is not a compressed file. Yes, APK file	1. Use the computer will be .apk, I change .apk compressed and sent to the phone for installation 2. Ask the other party to send a compressed file for installation
	No selection was allowed during the installation process	Reinstall the APK and select Allow
APP was unable to search for D SP's blue teeth	Location and access are not allowed	Set the location information to "Allowed" in the phone Settings Reinstall the APK and select Allow
	Poor USB contact	Please replace it with another USB port
The computer cannot be connected to the Internet or the computer tuning often disconnects	Software problem	Please uninstall and reinstall
	The software has encountered a BUG.	Please close the software and then reopen it to reconnect
The USB playback has sound but becomes silent or intermittent after playing for a period of time	The system is too old.	Please replace your computer with one running Windows 7 or above
	An Apple computer is used	The system compatibility is poor. Please use a WINDOWS computer
The Bluetooth music is intermittent or silent when it's a little farther away	The purchased data cable is of poor quality	Please change the data cable of a good brand and quality
	The machine enters the protection state when the temperature is too high	Please move the machine to a well-ventilated position or install a fan
The Bluetooth music is intermittent or silent when it's a little farther away	The high-level input does not match	Add a detection resistor to the wire
	The Bluetooth is not connected or disconnected	Reconnect Bluetooth
The Bluetooth music is intermittent or silent when it's a little farther away	Bluetooth is isolated by metal	Remove the metal or change the installation position of the machine
	The Bluetooth antenna is not installed or has fallen off	Install the Bluetooth antenna properly
The bottom noise is relatively large	RCA line interference	Please replace the RCA wire with a good quality one
	The noise at the bottom of the main unit is high	Adjust the noise gate value or replace the main unit
The sound of the optical fiber is too soft or intermittent	The output amplitude of the optical fiber is relatively small	Replace it with a high or low level input to the DSP
	Some vehicles come with power amplifiers, and some channels have a large wattage	Set the high-level input gain adjustment

15