Auto EQ 2.0 Manual

ΕN

FR

ES

For PXE-C80-88/PXE-C60-60



The screen being used is under development and may differ from the actual product. L'écran utilisé est en cours de développement et pourrait être différent du produit véritable.

La pantalla utilizada está en fase de desarrollo y puede diferir del producto real.

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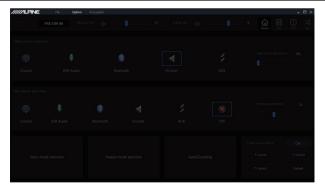
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Firmware Update Software Installation

Precautions installation

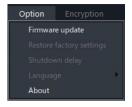
- The software can only be used under the Microsoft® Windows® operating system. Operating system: Windows 10. Windows 11.
- Before connecting the PXE-C80-88 or PXE-C60-60 machine to the computer, please install the ALPINE_OPTIM_for_update computer software correctly.
- After installing the ALPINE_OPTIM_for_update software, you can update the PXE-C80-88 or PXE-C60-60 machine firmware on the computer.
 - * You can download the latest PC software file from the Alpine website.

Firmware Update Introduction



- 1 Turn on the power of the product main unit.
- 2 Connect one end of the USB cable to the main unit's USB port and the other end to your PC.
- 3 Double-click the ALPINE_OPTIM_for_update application icon to open the application.

4 Select [Firmware Update] from [Option] to open the firmware update.





- 5 Click [>] and select the main unit firmware update file first.
- 6 Click [Update] to update the main unit firmware.
 The firmware update successfully ends when the update process reaches 100%.
- 7 Click [OK] to finish updating the main unit firmware.
 After it is updated, the device will restart automatically.
- 8 Click [>] and select the controller firmware update file.
- 9 Click [Update] to make the controller firmware updated. The firmware update successfully ends when the update process reaches 100%.
- 10 Click [OK] to finish updating the controller firmware.
 After it is updated, the device will restart automatically.
 - *The firmware update file for the main unit and controller can be downloaded from the Alpine website.

F View About

Select [About] from the options page to enter the about page.

About page



You can view the version number.

Smartphone App

Connection

- Open your smartphone or tablet's settings.
- 2 Open the Bluetooth settingsand make sure that Bluetooth is enabled.
- 3 Scan your device.
- 4 On your smartphone or tablet, when "DSP-HD-XXXXXX" is detected, select it to make a connection.
 - The indicator on the Bluetooth adapter will flash while the device is pairing. The indicator will light up when the pairing is complete.
 - Only one Bluetooth compatible device can be paired.
 - It is not possible to connect two Bluetooth compatible devices at the same time.
- 5 Scan the QR code of your smartphone or tablet and install the app.

App Store

Play Store





6 Launch the app and connect it to the main unit.



Home settings



Main Source Selection



Setting item:

Main source selection

Setting content:

Coaxial/USB Audio/Bluetooth/

Mix Source Selection



Setting item:

Mix Source Selection

Setting content:

Coaxial/USB Audio/Bluetooth/ Hi.Level/AUX/OFF

Main source attenuation setting

You can set the amount of attenuation at the time of Mix source audio interruption by sliding the slider bar.

Mix sauce is equivalent to mixing.

The greater the attenuation of the main sound source, the lower the main volume at the time of audio interruption.

Adjustable range: 0% to 100%

Setting item:

Main source attenuation

Setting content:

0% to 100% (default 0%)

Interrupt cancel time setting

Setting item:

Interrupt cancel time

Setting content:

1s to 10s (default: 3s)

Master volume setting

Setting item:

Master Volume

Setting content:

0 to 35 (default: 12)

- You can adjust the volumeby sliding the
- 2 Touch the main volume [] button toenable mute []. Touch it again to disable mute. (Mute will be automatically canceled when the volume is adjusted.)

Subwoofer level setting

Setting item:

Subwoofer Level

Setting content:

0 to 15 (default: 9)

AutoEQ setting

Perform AutoEQ measurement and adjustment.

Target Curve Preset setting

Setting item:

Target curve preset setting

Setting content:

Call

Touch the preset button to recall the saved target curve.

Channel settings



Output mode settings

Customize the output type. You can set the output type according to your system.

Output type custom page



- Touch the Output mode custom box.
- 2 Select the output type in the pop-up window. Set the output type in the output type setting dialog box.

[Front] has the [Tweeter], [Midrange], [Woofer], and [Full-range] options.

For [Rear], the [Tweeter], [Midrange], [Woofer], and [Full-range] options are available.

For [Center], [Front Center], [Rear Center], [F/C-Tweeter] (Front/Center tweeter), and [R/C-Tweeter] (Rear/Center tweeter) options are available.

For [Subwoofer], the [L-subwoofer], [R-subwoofer], and [Subfoofer] options are available

Output volume settings



Setting item:

Output volume setting

Setting content: Gain/Phase

1 Gain setting:
Gain can be adjusted by directly
entering the value or by touching [-]
and [+].
Adjustable range: -60 dB to 6 dB

2 Phase setting: This is used to switch between normal phase or reverse phase.

X-Over Setting



Setting item:

X-Over setting

Setting content:

Type/Frequency/Slope

- 1 Type setting: [Link-Ril], [Bessel], and [Butter-W].
- 2 Frequency setting: The frequency can be adjusted by directly entering the value or by touching [-] and [+]. Adjustable range: 20 Hz to 20000 Hz
- 3 Slope setting: Options are -6dB/Oct,
 - -12dB/Oct, -18dB/Oct,
 - -24dB/Oct, -30dB/Oct, -36dB/Oct, -42dB/Oct, and -48dB/Oct.

Sync setting



Click [Sync].

Available sync options are Copy EQ/Vol(dB) from left to right or Copy EQ/Vol(dB) from right to left.

Lock setting



Click [Look].

All output channel types are locked.

Reset setting



Click [Reset].

All output channel types are cleared.

Store setting



Click [....].

The current output channel settings are saved.

MIX setting



When you set the sound source signal on the PXE-C80-88/PXE-C60-60 main unit, it is divided into volumes for each output channel, the volumes of the respective sound sources on the channels are adjusted, and they are mixed.

Option settings

Touch [] to open the Option page.

Load

Use this to load the saved configuration data.

Save

Use this to save the current configuration data. You can recall it later.

Encryption Settings

Touch [Encryption] to enter the encryption page, and touch [Decryption] to enter the decryption page.

Encryption/Decryption page



Setting item:

Encryption/Decryption

1 Encryption:

Enter the password to encrypt the setting data

2 Decryption:

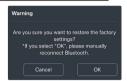
You can enter a password to decrypt or clear data to EO default data.

- Encryption of setting data.
- Encryption only encrypts a single group of audio data currently in use, not all data of the whole machine.

Restore Factory Settings

Select [Restore Factory Settings] from the option page to enter the factory reset page.

Restore factory settings page



Setting item:

Encryption/Decryption

- Touch the "OK" button to restore all the data set in the machine to the factory default state.
- 2 After selecting "OK", manually retry the Bluetooth connection.

Shutdown Delay

Select [Shutdown Delay] from the options page to enter the shutdown delay setting page.

Shutdown delay page



Setting item:

shutdown delay

Setting content:

0 to 255s (initial value: 0s)

About

Select [About] from the options page to enter the about page.

About page



You can view the version number

AutoEQ

*To use this function on a device other than the iPhone, an external microphone (KTXCSP1) is required.

Auto Anti EQ

It is usable when Hi.Level is selected for Main source.

Insert a USB storage into your audio device and play the sweep signal file.

* The sweep signal file can be downloaded from the Alpine website.

Volume Adjustment

Place the microphone in the middle of your car, about 30 cm (1 foot) from the center console. Then, click the button to proceed.

A sweep sound will be played at a low volume. Using the on-screen volume slider, gradually increase the volumeuntil the input level is close to the center of the volume monitor.

Once a good level is detected for a few seconds, the signal playing will automatically stop.

Once the level adjustment is complete, you will be prompted to proceed to the next step (measurement).



Measurement

Microphone movement

Correct microphone movement during sound measurement is critical to etting a good result from AutoEQ. Please read this section carefully.

1 Overview

To make a measurement, you will move the microphone through the space of the cabin while AutoEQ plays a frequency sweep ("whoop-whoop" sound).

The key is to move the microphone constantly and consistently so that all of the space in the cabin is evenly covered during measurement.

This is important, so we will explain it in

2 Measurement points

One AutoEQ measurement consists of at least 200 measurement points. That is, the frequency sweep ("whoop-whoop") will be played 200 times in order to measure the cabin's sound.

The exact point in space where the microphone is when it hears one frequency sweep is a measurement point. The sound was measured at that point.

The goal of microphone movement is to space these measurement points as evenly as possible in the frontal space of the car cabin.

3 Range of movement

Spaces through which you should move the microphone include:

- · The space above the dashboard.
- The space in front of the driver and passenger, as low as the front of their shins (going slightly into the foot wells) and as high as the ceiling.

4 What to avoid

When moving the microphone for a measurement:

- Do not stop moving the microphone at all, including for individual measurement points.
- Do not go deep into the foot well spaces in the measurement.

Perform measurement

When you are ready, touch the button to begin measurement.

A countdown will begin on the screen, and then the measurement process will begin. For the duration of the measurement, move the microphone through the cabin of the car as described in the previous section.

During measurement, the result of each sweep will be displayed on the screen with a faint curve and the average will be shown with a strong curve.



The progress of the entiremeasurement will be shown in a progress bar at the bottom of the screen.

The app will confirm when measurement is completed.



If you see no obvious problems with the measurement, you can accept it. If not, choose "remeasure" to retry measurement.

Tuning

With measurement complete, you are ready to tune the sound in the vehicle.

Tuning screen

This section is an introduction to the tuning screen. Figure 6.

It will cover the controls shown on the screen without discussing procedure.



1 Side Panel Controls

These are the controls available outside of the main graph area:

Center Stage Mode

This is used to recall driver-specific Center Stage Mode settings.

EO Gain Offset

This setting adjusts the boost and cut of the EQ. This will be the first step in your tuning process.

Reset to Default

This button resets everything on this tuning screen to defaults.

Bypass EQ

This toggle allows you to A/B test the sound with the EO on and off.

Lovo

This slider controls the volume of the music source.

Store / Recall

This allows you to save the adjusted target curve or recall the saved target curve.

2 Graph Curves

These are the curves shown in the main graph area. The display of each one can be toggled on and off.



Target (yellow)

This is the curve which you will manipulate to tune the system. AutoEQ will match your system's sound to this curve.

Measurement (dark teal)

This is the measured APVD of your car's system.

EQ (blue)

This is the correction curve AutoEQ will apply in order to achieve your target curve.

Predicted (gray)

This curve shows what the predicted result from your target curve will be. It will vary slightly from the target (yellow) curve, or may be hidden behind it if AutoEQ is going to hit your target exactly.

Distortion & Noise (magenta) – This curve shows the distortion and noise that were present during your measurement.

Tuning Process

This section covers the standard procedure using the tuning screen to create your EQ.

Play reference audio

You can play audio while tuning. You can make tuning in real time while playing audio from the device selected as Main source.

2 Adjust the Target Curve

Enable the display of the Target curve. (Displaying other curves is optional.) This is the yellow curve with control points which you can set to define your desired outcome. Each control point is represented as a node (white dot) on the curve.

Moving the control points

To move a control point, simply drag it to the desired location. You can move it side to side or up and down.

Adding a control point

To add a control point, double-tap on the Target curve where you want to create the new point. Then, drag that point to adjust its position.

Deleting a control point

To delete a control point, double-top on it. You will have an option to delete that control point, or to cancel deletion. As you modify the target curve, AutoEQ will update the EQ curve and send it to the amp so you can hear your result. There is a delay of a few seconds from when you make an adjustment to when you hear it from the system.

3 Storing the EQ Curve

After adjusting the target curve, touch the [Store/Recall] button to call up the preset screen.

Touch the [Store] button and select T-Curve1/2/3 to save the current target curve data

Touch the [Recall] button and select T-Curve1/2/3/Default to call the target curve data stored in it

Center Stage Mode setting

In this mode, adjust the sound stage to the center of the car instead of in front of the driver.



* This setting is dedicated only for the driver seat. Sound balance is lost at non-driver seats.

Center Stage Mode

This toggle allows you to turn Center Stage Mode ON/OFF.

Steering Wheel Position

Select the Steering Wheel position.

Micro adjustment

Adjust the Stage position left or right.



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ALPINE OPTIM

Alpine Electronics Marketing,Inc

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We recently shipped the Alpine OPTIM8 PXE-C80-88 and Alpine OPTIM6 PXE-C60-60 with the new 2.0 software update. These shipments will be indicated by a "OPTIM 2.0 Software" sticker **found on the lower lefthand side of the beauty box.** This software update addressed many field suggestions to including the following:

- Auto AntiEQ that allows easy setup when connected to OEM system (w/factory EQ).
- Center Staging Mode for optimal center stage position.

///////LPINE

• *Smartphone App Control where setup can be completed using just a smartphone



 Compatible with Android and iPhone (available for free on Google Play for Android and the App Store for iPhone under "ALPINE_OPTIM").



ALPINE_OPTIM 4+ Alpine Electronics, Inc. / Alpine Electronics Marketing, Inc. Designed for iPhone

• **3 Target Curve Presets** where users can quickly recall custom tunes based on genre, mood, or passenger presence and absence.



Plan for Existing Inventory:

For any existing inventory that requires an update in order to receive the OPTIM 2.0 software, a software update will be released on the <u>Alpine Knowledgebase</u> server. This will be in addition to a feature and user guide video that will be placed on YouTube. We will notify everyone once this is available.

If you have any questions, please direct them to your Alpine Representative.

*Note: The OPTIM 2.0 software update temporarily locks the PC control function. An additional software update scheduled for August 2024 will implement the above features for PC use. Additional feature set interactions including all pass filter bypass will be confirmed by this release.

Supports AutoEQ function		OPTIM 8/6 (before update)	OPTIM 8/6 (after update)
Ver 1.0	AutoEQ tuning	✓	~
	Auto AntiEQ	× (Manual setting required)	✓
	Center Staging Mode	× (Manual setting required)	(Only for driver)
Ver	Target Curve Preset	× (Only one preset)	(3 presets)
2.0	Smartphone App Control	× (PC required for setup)	<
	Compatible with Android	× (iPhone only)	(Can use Optional or Internal mic)
	Smart Phone Preset Recall	× (N/A)	(3 presets)

Owner's Manual

ΕN

DE

PXE-C80-88

FS

RU

8 CHANNEL AUDIO PROCESSOR AMPLIFIER



ENGLISH

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Instructions

Warning

Points for Safe Use

- Please read this manual carefully before using the machine and system components. This manual contains instructions on how to use this product safely and effectively. If failure to follow the instructions in this manual causes malfunctions, Alpine will not assume any responsibility.
- This manual uses various icons to explain how to use this product safely, and reminds you to pay attention to the dangers that may be caused by improper connection and operation. The meaning of these icons will be explained below. A complete understanding of the meaning of these icons is very important for the correct use of this manual and this system.

! Warning

- It is very dangerous to operate this system while driving. The user should stop before operating the software.
- Road conditions and laws take precedence over the information displayed on the map: When driving, you should abide by actual traffic restrictions and conditions.
- This software is specially designed for this machine and cannot be used in combination with other hardware.



This symbol indicates important instructions. Failure to heed these instructions can result in serious injury or even death.

Do not use any features that will distract you while driving

Any function that affects your concentration should only be used after the car has come to a complete stop. To use these functions, please park your vehicle in a safe place first. Otherwise, an accident may result.

Do not disassemble or modify

Otherwise, it may cause an accident, fire or electric shock.

The volume must be maintained at a level where the noise outside the car can be heard while driving

Inaudible emergency vehicle sirens and road warning signals (train intersections, etc.) are very dangerous and may cause accidents. In addition, excessive volume may cause hearing loss.

This product is only suitable for cars with 12V negative grounding

Otherwise, it may cause a fire and other accidents.

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

Swallowing small objects may cause serious injury.

Once swallowed by mistake, please immediately medical.

When replacing the fuse, you must choose a fuse with the correct ampere value

Otherwise, it may cause a fire or electric shock.

Do not block the ventilation holes or heat sink Otherwise, it may cause internal heat build-up and may cause a fire.

This product can only be used in 12V mobile applications

applications If used in non-designed applications, it may cause

if used in non-designed applications, it may cause fire, electric shock or other injuries.

Make the correct connection

If it is not connected properly, it may cause fire or product damage.

Before wiring, disconnect the cable from the negative terminal of the battery

Otherwise, it may cause electric shock or injury due to electrical short circuit.

Do not let the cable be entangled with surrounding objects

Arrange the wires and cables in accordance with the requirements of the manual to prevent them from becoming obstructive while driving. Cables or wires that obstruct or hang on the steering wheel, shift lever, brake pedal, etc. are extremely dangerous.

Do not splice cables

Do not cut the cable insulation to supply power to other equipment. Otherwise, the current carrying capacity of the wire will be exceeded, resulting in fire or electric shock.

Do not damage the pipe or wiring when drilling

When drilling holes in the chassis for installation, be careful not to touch, damage or obstruct the pipes, fuel lines, fuel tanks or wires. If you don't pay attention, it can cause fire.

Do not use bolts or nuts in brakes or steering systems for grounding connections

Never use bolts or nuts used in brakes or steering systems (or any other safety-related systems) or fuel tanks for installation or grounding connections. The use of such parts will cause the car controller to fail, resulting in fire and so on.

Do not install on the steering wheel or gear lever, etc., which may hinder the operation of the car Otherwise, it will obstruct the front line of sight or obstruct moving parts, etc., causing serious accidents.

Do not touch the product while working

The temperature of the product is high when working, and it may be scalded when touched.



This symbol indicates important instructions. Failure to heed these instructions may result in injury or major property damage.

When there is a problem, please stop using it immediately

Otherwise, it may cause personal injury or damage to the product. Please return this product to an authorized Alpine dealer or the nearest Alpine service center for repair.

Ask professionals for wiring and installation

The wiring and installation of this product require professional skills and experience. For safety reasons, please contact the dealer where you purchased the product for installation.

Use designated accessories and install securely

Make sure to use only designated accessories. The use of non-designated parts may cause internal damage to the device, or it may not be securely installed in place. This can cause parts to loosen and cause danger or product failure. Recommended Screw fixing torque between

Recommended Screw fixing torque between attachments BKT and product: 37±5 N/cm Screw hole may be damaged if using large torque.

Arrange the wires to avoid crimping or being squeezed by sharp metal edges

The arrangement of wires and cables should be far away from moving parts (such as seat tracks) or sharp edges or corners. This will avoid crimping and damage to the wires. If the wiring passes through a metal hole, a rubber gasket should be used to prevent the wire insulation from being cut by the edge of the metal hole.

Do not install in high humidity or dusty locations

Avoid installing the device in a location with high humidity or dust. Moisture or dust invades the device and can cause product failure.

! Precautions

Product cleaning

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

temperature

Before turning on the machine, please make sure that the temperature in the car is between $+60^{\circ}$ C and -20° C.

Maintain

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

Installation 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
- · Locations subject to severe vibration

About the software license of the product

The software installed in the product contains open-source software. See the following Alpine website for details on the open source software.

[CN] https://www.alpine.com.cn/c/aftermarket_oss/download/CSP_Series

[EN] https://www.alpine.com.cn/e/aftermarket_oss/download/CSP_Series

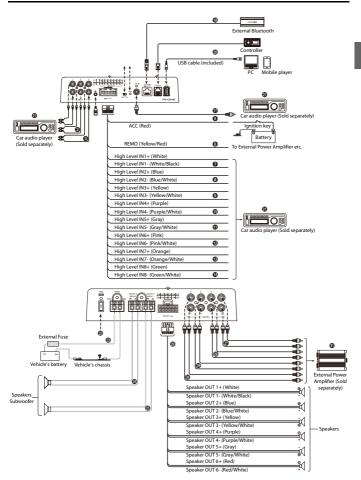
Appropriate recycling channels should be adopted for the disposal of electronic products to reduce electronic waste pollution.

Preparation work

Accessory List

Machine Screw × 10	Self-tapping Screw × 4	Mounting Brackets × 2
		00 0 00
20P Input Cable	12P Output Cable	USB Cable
Main Unit	External Bluetooth Module (KCE-800BT)	Wired controller (RUX-CSP1)
Controller cable		

Connections and Functions



Connections and Functions

128 RCA Audio Input Jacks

3 groups of RCA audio signal input, which can be connected to the RCA audio signal output of car audio player.

External Mic Input Jack

Connect to the external microphone (Sold separately) for Auto EQ on your PC.

Switched Power Lead (Ignition)

Connect this lead to an open terminal on the vehicle's fuse box or another unused power source that provides(+)12V only when the ignition is turned on or in the accessory position.

Remote Turn-On Lead

Connect this lead to the remote turn-on lead of your amplifier etc.

⑦~**⑥** High Level Input Leads

Connect to the high-level output of the car audio player.

(B) Input Select Switch

When the switch is pulled to the "ACC" terminal, ACC starts the machine; when it is pulled to the "HOST" terminal, the machine is started by the high level input signal H1-/H1+.

Power Indicator Light

Toaxial Input Jack

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

External Bluetooth Connector

After the connection is successful, the Bluetooth is always on.

Controller Connector

Connect the controller.

USB Connector Output Description Description

It can be connected to a computer via a USB cable for detailed tuning operations and settings.

And it can be connected with mobile player as USB audio (DAC).

② Car Audio Player (Sold separately)

Connect the car audio player.

Puse

Insert one 40A fuse.

Power Supply Terminal

Connect the car battery.

2 GH7-8 Speaker Output Terminals

The amplifier outputs are connected to the subwoofers.

CH1-6 Speaker Output Leads

The amplifier outputs are connected to the speaker.

② ② ② ○ Pre-Out Jacks

4 groups of RCA audio signal output, which can be connected to external power amplifiers.

External Power Amplifier (Sold separately)

Connect external power amplifiers.

To prevent external noise from entering the audio system.

- The installation position of the machine and the wiring arrangement should be at least 10cm away from the automobile wiring harness.
- · Try to keep the battery power cord away from other wires.
- Securely connect the ground wire to the bare metal contacts of the car chassis (remove any paint, dirt or grease if necessary).
- If you want to attach an optional noise suppressor, please try to keep it away from the machine when
 connecting. Your Alpine dealer has various types of noise suppressors, please contact them for details.
- · Your Alpine dealer is proficient in noise prevention methods, please consult your dealer for details.

Pairing The Device

- 1 Open the settings menu of the smart device.
- 2 Go to the Bluetooth settings and make sure it is turned on.
- 3 Scan for devices.
- The tablet or phone will find DSP-HD-XXXXXX.Click to connect to it.

Note:

- The light on the Bluetooth adapter will flash until a device has been paired. Once a device is paired it will
 remain steady.
- Only one Bluetooth-compatible device can be paired, and two Bluetooth-compatible devices cannot be connected at the same time.

Using the mobile app

- · The following are the mobile phone requirements for using the application: iOS 10 or higher
- On your smartphone, open the Apple App store and download and install the application.

Using the PC application

System requirements

The following are the system requirements for running the PC viewer.

- · Operating system: Windows 10, Windows 11
- · CPU: 2.9GHz or higher
- · Memory card: 1GB or higher
- Hard Disk: 512MB or more free space
- · Computer screen resolution: 2560 × 1440 or higher

Note:

- The PC viewer will not operate properly on PC systems running an operating system other than those listed in the system requirements.
- · You can download the latest PC viewer software from the Alpine website.

Computer Software

Precautions installation

· The software can only be used under the Microsoft® Windows® operating system.

Operating system: Windows 10, Windows 11

CPU: 2.9GHz or higher

Memory card: 1GB or higher

Hard Disk: 512MB or more free space

- Computer screen resolution: 2560 × 1440 or higher
- Before connecting the PXE-C80-88 machine to the computer, please install the PXE-C80_C60 computer software correctly.
- After installing the PXE-C80_C60 software, you can tune and set the PXE-C80-88 machine on the computer.
 - * This function is mainly for manufacturers and distributors.

Computer Software Introduction



- 1 The host is powered on.
- Connect one end of the USB cable to the "USB" port of the host, and connect the other end to the USB port of the computer.
- 3 Double-click the PXE-C80_C60 software icon to open the software.
- 1 Online switch.
- Load or save the tuning file.
- 3 Select the function setting.
- Encryption and decryption of tuning data.
- 5 Adjust the total volume.
- 6 Display the model name.
- 7 Function page selection.
- 8 Editing area of function page.

Connection

Setting items:

Connection

Settina content:

Connection/disconnected

Connection Settings

- 1 Connect the USB cable and open the software, it will automatically go online. After the connection is successful, the connection icon will show green [].
- 2 After online, click the connection icon to disconnect. When not online, the connection icon will display red [] , and click the connection icon again to go online again.

File Settings

Click [File] to enter the loading or saving scene file page.

Load or save presets file page



Setting items:

File

Settina content:

Load PC Preset/Save as PC Preset/Load All Presets/ Save All Presets

Load PC Preset

The scene file previously saved on the computer can be loaded as the current machine working scene.

Save as PC Preset

The current machine work scene file can be saved to the computer for later recall.

Load All Presets

Load the files of the entire machine previously saved on the computer to the machine (including the current working scene, machine preset scene, output channel configuration data, etc.), and copy all the machine data that has been debugged to the currently connected machine.

Save All Presets

Save all data on the current online machine as a computer file (including the current working scene, machine preset scene, output channel configuration data, etc.) for later recall when the whole machine is copied.

Option Setting

Click [Option] to enter the setting page.

Setting page



<Setting item>

Firmware update
Restore factory settings
Shutdown delay
Language
About

Firmware Update Settings

Select [Firmware Update] from the options page to enter the firmware update setting page.

Firmware update page



Setting item:

Firmware update

- Click the ">" button to select the upgrade
- 2 Click the "Update" button to upgrade the firmware. The upgrade progress reaches 100%, indicating that the firmware upgrade is successful.
- Click the "OK" button to exit the firmware update. After the update, the machine will automatically restart to work.

Restore Factory Settings

Select [Restore Factory Settings] from the options page to enter the factory reset page.

Restore factory settings page



Settina item:

Restore factory settings

Click the "OK" button to restore all the data set in the machine to the factory default state.

Shutdown delay setting

Select [Shutdown Delay] from the options page to enter the shutdown delay setting page.

Shutdown delay page



Setting item:

Shutdown delay Setting content:

0~255s (initial value: 0s)

Language Settings

Setting item:

Lanauaae Setting content:

English

View About

Select [About] from the options page to enter the about page.

About page



You can view the version number.

Encryption Settings

Click [Encryption] to enter the encryption page, and click [Decryption] to enter the decryption page.

Encryption/Decryption page





Setting items:

Encryption/Decryption

- Encryption: Enter the password to encrypt the tuning data.
- 2 Decryption: You can enter a password to decrypt or clear data to EQ default data.
- · Encryption of EQ frequency, Q value, gain, delay, channel, phase equalizer and other tuning data.
- · Encryption only encrypts a single group of audio data currently in use, not all data of the whole
- The encrypted sound data can be stored as preset sound effects or computer files, and copying and transmission will not affect the encrypted state.

Master volume setting



Setting item:

Master volume

Setting content:

0~35 (initial value: 12)

- 1 You can adjust the total volume by pressing and holding the left mouse button, dragging the volume fader left or right, or scrolling the mouse wheel.
- 2 Click the main volume [] button to set the total volume mute [], click again to cancel the mute (it will automatically cancel the mute when the main volume is adjusted).

Function Page Selection

The function page can be switched. <Setting item>



Home Page		
	Main source selection	
	Main source attenuation setting	
	Mix source selection	
	Channel settings	
	X-Over settings	
EQ		
	Channel mute	
	Sync settings	
	EQ adjustment	
	Equalizer settings	
	Type selection	
	Channel settings	
	X-Over settings	
	Preset sound settings	

TCR		
Delay adjustment		
Delay group selection		
Delay value display window		
Mix		
Combined frequency volume adjustment		
Input mode selection		
Input mode selection		
Ouput mode selection		
Ouput mode selection		
Anti EQ		
Type selection		
Fixed		
EQ adjustment		
Equalizer settings		
Signal gain		
Sensitivity		
AutoEQ		
Volume Adjustment		
Measurement		
Tuning		
Managing		

Home Page

■ Home Page



Settina items:

Home Page

Settina content:

Main source selection/Main source attenuation/ Mix source selection/Channel settings/ X-Over settings

Main Source Selection



Setting items:

Main source selection

Setting content:

Coaxial/USB Audio/Bluetooth/Hi.Level/AUX

Main Source Attenuation Setting



You can press and hold the left button of the mouse to move the fader left or right or scroll the mouse wheel, or press the up and down keys of the keyboard to set the attenuation. The Mix source is equivalent to mixing. The greater the attenuation of the main sound source, the lower the main volume, adjustable value: 0%–100%.

Setting items:

Main source attenuation

Setting content:

0% to 100% (default 0%)

Note:

When the current audio source mode is selected, the audio source mode can no longer be superimposed, otherwise the Mix source is invalid.

Mix Source Selection



Setting items:

Mix source selection

Setting content:

Coaxial/USB Audio/Bluetooth/Hi.Level/AUX/OFF

Channel Settings

Custom output channel type.
You can configure your favorite channel type according to your hobby.

Output type custom page



- 1 Click the channel type custom box.
- 2 Select the output channel type in the pop-up window. Set the output type in the output type setting dialog box. There are tweeter, midrange, woofer and full-range options in the Front; tweeter, midrange, woofer and full-range options are available in the Rear; Front Center, Rear Center, F/C-Tweeter, R/C-tweeter options are available in the Center; L-subwoofer, R-subwoofer and subwoofer options are available in the Subwoofer.

Sync settings page



Click [______], The optional sync is "Copy EQ/Vol(dB) from left to right" or "Copy EQ/Vol(dB) from right to left"

Lock settings page



Click[], It will lock all the output channel type.

Reset settings page



X-Over Settings



Settina items:

X-Over settings

Setting content:

Type/Frequency/Slope

1 Type settings: Link-Ril, Bessel and Butter-W.

- 2 Frequency setting: The frequency can be adjusted by directly inputting the value, scrolling the mouse wheel, the up and down keys on the keyboard, or clicking "." or "+". Adjustable range: 20Hz-20000Hz.
- 3 Slope setting: -6dB/Oct, -12dB/Oct, -18dB/ Oct, -24dB/Oct, -30dB/Oct, -36dB/Oct, -42dB/ Oct, -48dB/ Oct is optional.

Note:

When the slope is -6 dB/Oct, the type is displayed as "Null".

EQ

EQ page



Setting items:

EQ/Channel Settings/X-Over settings/Preset sound settings

Setting content:

Channel mute/Sync settings/EQ adjustment/ Equalizer settings/Channel display selection button/Channel settings/X-Over settings/Preset sound settings

- Customize the output channel type.
- ② Mute button.
- 3 EQ Gain step selection.
- 4 Channel display selection button.
- 5 EQ editing and display area.
- 6 Equalizer settings.
- 7 Sync settings button.
- 8 Channel settings.
- 9 X-Over settings.
- 10 Preset sound settings.

Customize the output channel type

Refer to "Output type custom page" (page 14).

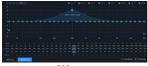
Channel Mute Setting

Setting items:

Channel mute Setting content: Mute/off

EO Adjustment

The output has 31 bands of EO adjustable, and there are two interfaces of graphic equalization and parametric equalization.



P.EG page



G.EQ page

EQ Gain step

Settina items: EQ Gain step

Setting content: 0.1 (initial settina)/0.5/1

EQ curve display



Click the channel display selection button to display the curve of the channel.

EQ settings

- Select the output channel to be adjusted.
- When the mouse moves to the serial number position, hold down, drag up and down to adjust the equalizer gain, drag left and right to adjust the equalizer frequency; when the mouse moves to the left and right blue boxes, hold down and drag to adjust the equalizer O value. You can also set the frequency, Q value and gain by directly inputting the value, scrolling the mouse wheel, and the up and down keys on the keyboard.

Adjustable frequency range: 20Hz~20kHz; Adjustable range of O value: 0.404~28.852; Gain adjustable range: -12.0 dB ~+12.0 dB.

Note:

The gain is adjustable in the graphic equalization interface, and the frequency and Q value are not adjustable. In the parameter equalization interface, the frequency. O value and gain are adjustable.

Equalizer Settings



- When there is EO adjustment, the direct equalization button appears.
- 2 Through Equalization: When the current channel equalizer is turned on, this button will be displayed [bpostq], click [Through Equalization] or the through dot to make all equalizers of the current channel inactive (through).
- 3 After clicking the "Yes" button, the button will be restored to the [Restore Balance] state [| seet | seet |]. Then click [Restore EQ] and all equalizers of the current channel will return to the last activated state.

- 4 Click [Reset EQ], the parameters of all equalizers of the current channel return to the initial state.
- 5 Click [G.EQ Mode] to pop up a warning box "Confirm P.EQ to G.EQ mode?", press OK to switch to [G.EQ Mode], click [P.EQ Mode] to pop up a warning box "Confirm G.EQ to P.EQ mode?", press OK to confirm Switch [P.EQ Mode]. In the parametric equalization mode, the frequency, Q value and gain are adjustable, while in the graphic equalizer mode, the frequency and Q value are fixed, and only the equalizer gain can be adjusted.

Sync Settings

Refer to "Sync settings page" (page 15).

Channel settings



Setting items:

Preset sound settings

Setting content:

Gain/phase

- Gain setting: The gain can be adjusted by directly inputting the value, scrolling the mouse wheel, the up and down keys on the keyboard, or clicking "-" or "+". Adjustable range: -60dB--6dB.
- 2 Phase setting: normal phase or reverse phase switch.

X-Over settings

Refer to "X-Over Settings" (page 15).

Preset sound settings



Setting items:

Preset sound settings

Setting content: Call/Save/Delete

- 1 Click [Call] to recall the pre-stored sound effects.
- 2 Click [Save] to store the adjusted sound effect data.
- 3 Click the right mouse button to delete the preset sound settings.

TCR



- Delay adjustment.
- Delay group selection.
- Delay value display window.

Setting items:

Delay setting

Setting content: Delay/Delay group

kevboard.

- Delay adjustment: The delay can be adjusted by directly inputting the value, scrolling the
- Delay group: select the delay group, and the channels with the same delay group can be adjusted together.

mouse wheel or the up and down keys on the

3 The delay units are ms (milliseconds), inch (inches) and cm (centimeters).

Delay range: 0.000~20.000 milliseconds;

0~692 cm;

0~273 inches.

Mix



After the PXE-C80-88 machine sets the sound source signal into the audio processor, it is divided into the volume of each output channel, and the purpose of mixing and mixing can be achieved by adjusting the volume of each sound source in the channel.

Input mode selection

Input mode selection page



- 1 Select the desired channel type.
- 2 Click the [Enter] button to configure the channel type. At this time, the input channel type is fixed and cannot be configured.
- 3 Select Customized to clear all input channel types. At this time, you can customize the input channel types.

Output mode selection

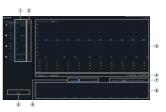
Output mode selection page



Refer to "Input mode selection page" (page 18).

Anti EQ

AntiEQ page



Setting items:

Anti EQ

Setting content:

Fixed/EQ adjustment/Equalizer setting/Save/ Signal gain/Sensitivity

- 1 Hi.Level input channel type.
- 2 Fixed the RTA data.
- 3 EQ editing and display area.
- 4 Equalizer settings.
- Save the AntiEQ data.
- 6 Signal gain.
- (7) Sensitivity.
- RTA data

H.level input channel type

Refer to "Output type custom page" (page 14).

Fixed the RTA data

- 1 Default is Fixed [], There is no RTA data.
- 2 Click one channel Unfixed [a], begin to display RTA data.
- 3 10 bands of EQ adjustable to make the RTA data is flat.

EO Adiustment

Refer to "EQ Adjustment" (page 16).

Equalizer settings

Refer to "Equalizer Settings" (page 16).

Signal gain

Hold down the mouse and push the fader left and right to adjust the signal gain.

Sensitivity

There are high, medium and low options. The higher the sensitivity, the more sensitive the frequency spectrum jumps.

AutoEO

The PC and amp will connect automatically.

Volume Adjustment

Before measurement, the application will help you set an ideal volume.

Neutralize tone controls and processes

↑ Important:

Be sure at this point to neutralize any tone controls and turn off any sound processes which are downstream from the amp.

Volume adjustment process

Upon connecting to a new amp, AutoEQ will prompt you to start adjusting the volume level.



Figure 1

Make sure the microphone is connected to the amp. Hold the microphone in the center of the cabin about one foot from the center console. Click the button to proceed when you are ready. You will hear the frequency sweep ("whoop-whoop") playing at a low volume. Use the volume slider on the screen to gradually

raise the volume until the input level rises to the middle of the volume monitor.

AutoEQ will automatically stop playing the signal after it detects a good level for a few seconds.

AutoEQ will automatically stop playing the signal after it detects a good level for a few seconds. With level adjustment complete, the app will prompt you to proceed to the next step: measurement.



Figure 2 - The volume adjustment screen showing the starting volume for the volume adjustment process.



Figure 3 - The volume adjustment screen showing the end result of volume adjustment. The slider has been raised and the detected volume is optimal.

Measurement

This section explains the measurement portion of AutoEO.

Microphone movement

Correct microphone movement during sound measurement is critical to getting a good result from AutoEO. Please read this section carefully.

1 Overview

To make a measurement, you will move the microphone through the space of the cabin while AutoEQ plays a frequency sweep ("whoop-whoop" sound).

The key is to move the microphone constantly and consistently so that all of the space in the cabin is evenly covered during measurement.

This is important, so we will explain it in detail.

2 Measurement points

One AutoEQ measurement consists of at least 200 measurement points. That is, the frequency sweep ("whoop-whoop") will be played 200 times in order to measure the cabin's sound.

The exact point in space where the microphone is when it hears one frequency sweep is a measurement point. The sound was measured at that point.

The goal of microphone movement is to space these measurement points as evenly as possible in the frontal space of the car cabin.

3 Range of movement

Spaces through which you should move the microphone include:

- · The space above the dashboard.
- · The space in front of the driver and passenger, as low as the front of their shins (going slightly into the foot wells) and as high as the ceiling.

4 What to avoid

When moving the microphone for a measurement:

- · Do not stop moving the microphone at all, including for individual measurement points. Constant movement is best
- · Do not go deep into the foot well spaces in the measurement.

Perform measurement

When you are ready, click the button to begin measurement.

A countdown will begin on the screen, and then the measurement process will begin.

For the duration of the measurement, move the microphone through the cabin of the car as described in the previous section.

During measurement, the result of each sweep will be displayed on the screen with a faint curve and the average will be shown with a strong curve.



Figure 4 - The measurement screen showing a measurement in progress.

The progress of the entire measurement will be shown in a progress bar at the bottom of the screen. The app will confirm when measurement is completed.

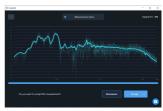


Figure 5 - The measurement screen showing a measurement that has been completed.

If you see no obvious problems with the measurement, you can accept it. If not, choose "remeasure" to retry measurement.

Tuning

With measurement complete, you are ready to tune the sound in the vehicle

Tuning screen

This section is an introduction to the tuning screen. It will cover the controls shown on the screen without discussing procedure.



Figure 6 - The tuning screen with its default options shown.

1 Side Panel Controls

These are the controls available outside of the main graph area:

EQ Gain Offset - This setting adjusts the boost and cut of the EQ. This will be the first step in your tuning process.

Reset to Default - This button resets everything on this tuning screen to defaults.

Bypass EQ - This toggle allows you to A/B test the sound with the EQ on and off.

Level - This slider controls the volume of the music source.

2 Graph Curves

These are the curves shown in the main graph area. The display of each one can be toggled on and off. **Target (yellow)** - This is the curve which you will manipulate to tune the system. AutoEQ will match your system's sound to this curve.

Measurement (dark teal) - This is the measured APVD of your car's system.

EQ (blue) - This is the correction curve AutoEQ will apply in order to achieve your target curve. Predicted (gray) - This curve shows what the predicted result from your target curve will be. It will vary slightly from the target (yellow) curve, or may be hidden behind it if AutoEQ is going to hit your target exactly. **Distortion & Noise (magenta)** - This curve shows the distortion and noise that were present during your measurement.

Tuning Process

This section covers the standard procedure using the tuning screen to create your EQ.

1 Check the Distortion & Noise Level

Before proceeding, we must check the Distortion & Noise curve relative to the Measurement curve. To make this easier, you may turn off display of all other curves.

Where the Distortion & Noise curve comes too close to the Measurement curve, that means there is too much noise to rely on this measurement in that frequency range. The Distortion & Noise curve should be at least 10 dB below the Measurement curve. If it is 6 dB or closer, that frequency range of the measurement is unreliable.



Figure 7 - The tuning screen showing an unacceptable high amount of noise.

It is expected that the Distortion & Noise curve will approach the Measurement curve in the very low frequency ranges. This will be in the frequency range where ambient noise overpowers the system's capabilities. This is not a problem.



Figure 8 - The tuning screen showing a good noise level, well below the measurement curve.

2 Adjust the EQ Gain Offset

This setting will define the amount of boost and cut AutoEQ will use.

When adjusting EQ Gain Offset, it is best to turn on the display of only the Measurement and EQ curves in the graph area. This way, you can clearly see the hoost/cut areas.

- Boosted areas are the frequency ranges where the EQ curve is above the Measurement curve.
- Cut areas are the frequency ranges where the EQ curve is below the Measurement curve.

Use the slider to raise or lower the EQ Gain Offset until there is an equal amount of boost and cut across the graph.

Bad offset sample Figure 9, Figure 10.



Figure 9 - The tuning screen showing an EQ Gain Offset with too much cut. The EQ curve is entirely below the Measurement curve.



Figure 10 - The tuning screen showing an EQ Gain Offset with too much boost. The EQ curve is entirely above the Measurement curve.

Good offset sample Figure 11.



Figure 11 - The tuning screen showing an EQ Gain Offset that is good. It is balanced between cut and boost.

3 Play reference audio

If you want to play reference audio while tuning, you can start now. You can play audio from a music player app on your PC, or you can send audio into the amp from a completely separate input. Both will work for real-time tuning.

4 Adjust the Target Curve

Enable the display of the Target curve. (Displaying other curves is optional.) This is the yellow curve with control points which you can set to define your desired outcome. Each control point is represented as a node (white dot) on the curve.

Moving the control points - To move a control point, simply drag it to the desired location. You can move it side to side or up and down.

Adding a control point - To add a control point, double-tap on the Target curve where you want to create the new point. Then, drag that point to adjust its position.

Deleting a control point - To delete a control point, double-top on it. You will have an option to delete that control point, or to cancel deletion.

As you modify the target curve, AutoEQ will update the EQ curve and send it to the amp so you can hear your result. There is a delay of a few seconds from when you make an adjustment to when you hear it from the system.

5 Storing the EQ Curve

When you are done adjusting your target curve, you can click the Store button to finalize the EQ curve on the amp.

The EQ data is now saved on the amp.

Managing Amps

This section covers how to manage saved amps in AutoEQ and how to reconnect to an amp you have already worked on.

Reconnect to an amp

To reconnect to an amp you have worked on previously, you must have that amp connected to your PC via USB. The amp will appear in the Recently connected list. To work on this amp, simply click on its name.

Rename an amp

It is strongly recommended to give an amp a name that is easy to remember. To rename an amp from the Recently connected amps list, click on the threedot menu icon on the right side of its name. Choose "Edit."

You can now rename the amp by changing the name in the text field. The original name of the amp will always be saved and shown in the amp info.

Remove an amp

To remove an amp from the Recently connected list, tap on the three-dot menu icon on the right side of its name. Choose "Edit."

Click the button at the bottom of the menu to remove the amp from your app.

Mobile Phone App

Overview

This manual explains how to use the Alpine AutoEQ app on an iPhone to perform equalization.

Here is an overview of the process:

1 Setup

A list of required software and hardware.

2 Connect

Connect the iPhone app to the Alpine amp.

3 Volume adjustment

The app will assist you in setting the right volume for measurement.

4 Measurement

You will move the iPhone throughout the cabin in a specific way while the amp plays frequency sweeps. This measures the sound in the cabin.

5 Tuning

Once you have an accurate measurement, you can tune the system using the graphical interface.

Setup

This section covers the required hardware and software for using Alpine AutoEQ.

1 Hardware

Necessary hardware includes:

- · Alpine amp
- · An iPhone with access to the App Store

2 Software

The Alpine AutoEQ app is available from the App Store. Open the App Store and search for "PXE-C80_C60." Be sure to select the app published by Alpine Electronics.

Connect

Follow the instructions below to connect the Alpine AutoEO app to the amp.

1 Turn on the amp

Power on the Alpine amp. Make sure its Bluetooth dongle is plugged in.

2 Bluetooth Settings on iPhone

From the iPhone's home screen, open the Settings app.

Tap on Bluetooth to enter the Bluetooth settings. In the list of available devices, you will see the Alpine amp. It will have a name that starts with "DSP HD-...". Tap on this option to connect your phone to the amp.

3 Open the app and connect

From the iPhone's home screen, open the Alpine AutoEQ app.

When the app opens, it will scan for Alpine amps. In the upper portion of the screen, it will show new amps you have not connected to.

The Recently connected panel in the lower part of the screen shows amps you have connected to previously.

Tap on the amp you want to connect to.



Figure 1

Volume Adjustment

Refer to AutoEQ Volume Adjustment in PC side. (page 19)



Figure 2 - The volume adjustment screen showing the starting volume for the volume adjustment process (horizontal orientation).



Figure 3 - The volume adjustment screen showing the end result of volume adjustment. The slider has been raised and the detected volume is optimal. (Horizontal orientation.)

Measurement

Refer to AutoEQ Measurement in PC side. (page 20)



Figure 4 - The measurement screen showing a measurement in progress.



Figure 5 - The measurement screen showing a measurement that has been completed.

Tuning

Refer to AutoEQ Measurement in PC side. (page 21)



Figure 6 - The tuning screen with its default options shown.



Figure 7 - The tuning screen showing an EQ Gain Offset with too much cut. The EQ curve is entirely below the Measurement curve.



Figure 8 - The tuning screen showing an EQ Gain Offset with too much boost. The EQ curve is entirely above the Measurement curve.



Figure 9 - The tuning screen showing an EQ Gain Offset that is good. It is balanced between cut and boost.



Figure 10 - An example of the tuning screen showing a customized EQ curve with the option shown to delete a control point.

Managing Amps and Reconnecting

Refer to AutoEQ Managing Amps in PC side. (page 23)

Wired Controller

Connect the wired controller (RUX-CSP1) to the DSP correctly, and ensure that it starts normally before use.

Startup Screen

After the wired controller is started, the dynamic startup screen appears, as shown in Figure 1.



Figure 1

Master Volume

After it is started, enter the main interface of the wired controller-Master Volume Interface, as shown in Figure 2-1. Turn the button to adjust the master volume. Turning it clockwise can increase the volume, while turning it counterclockwise will decrease the volume. The adjustment range is from 0 to 35. In addition, pressing the master volume interface of the wired controller briefly can mute the DSP. The mute interface is as shown in Figure 2-2.





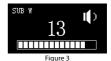
Figure 2-2

Subwoofer Volume (SUB W)

Press and hold the button in the main interface for 1-4 seconds to enter the subwoofer volume (SUB W) interface, as shown in Figure 3. Turn the button of the wired controller to adjust the subwoofer volume. Turning it clockwise can increase the volume, while turning it counterclockwise will decrease the volume (Adjustment range: 0-15). When the volume is turned to the desired volume, press the button briefly to determine the selected volume, and then return to the main volume interface directly.

Note:

If the wired controller is not operated for about 4 seconds, it will exit from the interface to the main interface (Master Volume Interface).



Sound Effect Presets (PRESET)

Press and hold the button in the main interface for over 4 seconds to enter the sound effect presets interface. And then turning the button to move the cursor to the sound array "1~6" or enter the "Skip" page, as shown in Figure 4-1. The number after PRESET refers to the sound effect data currently used by the DSP.





Figure 4-1

When the cursor moves to a number, press the button briefly to load the sound effect presets, as shown in Figure 4-2. After the data is loaded, it will exit from this interface to the main interface (Master Volume Interface).



Figure 4-2

Main Source

Turn the button of the wired controller in the "Skip" interface to enter the main source interface, as shown in Figure 5. Turn the button to select the main sound source: COAX (Digital), USB, BT (Bluetooth), Hi.L (High Level), or AUX (Low Level), and press the button briefly to confirm the main source selection mode. If no operation is performed for about 4 seconds, it will exit from the interface to the main interface (Master Volume Interface).





Main Source Attenuation

Press the button briefly to select the COAX (Digital), USB, BT (Bluetooth), Hi.L (High Level), or AUX (Low Level) mode to enter the interface of adjusting the main source attenuation, as shown in Figure 6. Turn the button to adjust the main source attenuation level, clockwise is to increase the attenuation level, while turning it counterclockwise will decrease the attenuation level. The range of attenuation is 0~100%. If no operation is performed for about 4 seconds, it will exit from the interface to the main interface (Master Volume Interface).



Figure 6

Mix Source

After pressing the button to select the main source attenuation, you can enter the mix sound source interface, as shown in Figure 7-1. Turn the button to select the mix sound source: COAX (Digital), USB, BT (Bluetooth), Hi.L (High Level), AUX (Low Level) or OFF. And press the button briefly to confirm the mix source mode. If no operation is performed for about 4 seconds, it will exit from the interface to the main interface (Master Volume Interface).





Figure 7-1

Note:

When a sound source is selected, it cannot then be selected again as the mix sound source; doing so causes the mix sound source to be invalid, as shown in Figure 7-2. If no operation is performed for about 4 seconds, it will exit from the interface to the main interface (Master Volume Interface).



Figure 7-2

Channel Settings

Press the button briefly to select the COAX (Digital), USB, BT (Bluetooth), Hi. (High Level), AUX (Low Level) or OFF mode to enter the channel settings interface, as shown in Figure 8-1. The output type of channel 1 speaker can be selected by turning the button in the following order: Full-range, Tweeter, Woofer, Subwoofer, and Mid-range. After selection, press the button briefly to confirm the channel type. And if CH-1 is synchronized to the Tweeter type, it will be displayed. Then turn the button to the right to select the speaker type in the order of Woofer → Subwoofer → Mid-rang, and turn the button to the left for Full-rang. At the same time, press the button briefly can also be directly switched to 2~8 channel, and the corresponding channel setting.



When the wire controller is in the channel 8 setting interface, press the button briefly to enter the CAUTION page, as shown in Figure 8-2. Turn the button can choose to save or skip, and press it briefly to determine the selection. After the selection is complete, it will automatically exit from the interface to the main interface.





Figure 8-2





Information on the disposal of waste electrical and electronic equipment and batteries (applicable to countries that adopt a garbage collection system)

If you want to dispose of this product, do not mix it with general household waste. In accordance with regulations that require proper disposal, recycling and recycling, there is a separate collection system for waste electronic products. Please contact your local authorities to find the location of the recycling facility closest to you. Proper recycling and waste disposal help conserve resources while preventing harmful effects on human health and the environment.

Specifications

Performance		
Power Output	Rated: 4Ω, 14.4V, 10%THD	CH1-6: 50W, CH7-8: 150W
RCA Output	Rated: 10kΩ, 14.4V, 0.1%THD	CH1-8: 4Vrms
THD+N	High level: $2Vrms$ into 4Ω	≤0.1%
	RCA: $2Vrms$ into $10k\Omega$	≤0.06%
S/N	High level: 40k-AES17+A-weighted	≥80dB
	RCA: 40k-AES17+A-weighted	≥95dB
Input Voltage	High level	26Vpp
	RCA	11Vpp
Output Voltage	High level	CH1-6: 40Vpp, CH7-8: 70Vpp
	RCA	4Vrms
Frequency Response		20Hz~40kHz
General		
Input Impedance	High level	>50kΩ
	RCA	>50kΩ
System Sampling Rate		192kHz/32bit
Operating Voltage		9~16V
Operating Temperature		-20°C~+60°C
BACK UP CURRENT (12.6V)		≤3mA
REM Start Input		High level (H1-/H1+), ACC optional
REM Start Output		12V (0.2A)
Weight		2.4kg
Dimensions	Length	225mm
	Width	220.5mm
	Height	54mm

Function Parameter

Inputs	8ch High-level 6ch RCA Coaxial Digital Signal Bluetooth Audio USB Audio (DAC)
Outputs	8ch High-level 8ch RCA
Output Channel Signal Gain	Range: -60dB~+6dB
Output Signal Equalizer	Type: Parametric / Graphic Equalizer Frequency: 20HZ~20kHz (1Hz steps) Q value: 0.40~28.852 Gain: -12.0dB~+12.0dB (0.1dB steps)
Anti EQ Signal Equalizer	Type: Parametric / Graphic Equalizer Frequency: 20Hz~20kHz (1Hz steps) Q value: 0.404~28.852 Gain: -12.0dB~+12.0dB (0.1 dB steps)
Output Signal Divider	Each output channel is equipped with multi-order high and low pass independent filters, Filter type: Link-Ril, Bessel, Butter-W Filter crossover point: 20Hz~20kHz (1Hz steps) Filter slope: -6dB/Oct~-48dB/Oct
Output Phase	Normal phase or reverse phase (0° or 180°)
Output Delay	0.000~20.000ms, 0~692cm, 0~273inch
Preset Sound Effects	6 sound data presets

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About the Rules of Bluetooth Electromagnetic Radiation Regulation



Product Type: Bluetooth

USA/

Canada

FCC Statement:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which 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:

- -- Reorient or relocate the receiving antenna.
- -- Increase the separation between the equipment and receiver.
- -- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
 -- Consult the dealer or an experienced radio/TV technician for help.

This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter.Radiation Exposure StatementThe device has been evaluated to meet general RF exposure requirement in portable exposure condition without restriction.

ISED Statement:

-English: This device complies with Industry Canada license - exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

The digital apparatus complies with Canadian CAN ICES - 3 (B)/NMB - 3(B).

- French: Le pr é sentappareilestconforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitationestautoris é e aux deux conditions suivantes: (1) l'appareil ne doit pas produire de

brouillage, et (2) l'utilisateur de l'appareildoit accepter tout brouillageradio é lectriquesubi, m e mesi le brouillageest susceptible d'encompromettre le fonctionnement.

l'appareil num é rique du ciem conforme canadien peut - 3 (b) / nmb - 3 (b).

This device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 and compliance with RSS 102 RF exposure, users can obtain Canadian information on RF exposure and compliance.

cet appareil est conforme à l'exemption des limites d'évaluation courante dans la section 2.5 du cnr - 102 et conformit é avec rss 102 de l'exposition aux rf, les utilisateurs peuvent obtenir des donn é es canadiennes sur l'exposition aux champs rf et la conformit é

This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment.

Cet é quipement est conforme aux limites d'exposition aux rayonnements du Canada é tablies pour un environnement non contrôl é .

The device has been evaluated to meet general RF exposure requirement. This equipment should be installed and operated with minimum distance 0mm between the radiator & your body

L'appareil a é t é é valu é pour r é pondre aux exigences g é n é rales d'exposition aux RF. Cet é quipement doit è tre install é et utilis é avec une distance minimale de 0 mm entrele radiateur et votre corps.

Function	Operation Frequency Range	Max Output Power	Operation temperature
Bluetooth	2.402GHz~2.480GHz	3.80dBm	-20°C~+60°C



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Attestation of Conformity

Registration No. AGC03993220403E0

Applicant ALPINE ELECTRONICS MARKETING, INC.

1-7, Yukigaya-otsukamachi, Ota-ku, Tokyo, 145-8501, Japan

Product Designation External HD digital Bluetooth

Brand Name Alpine

Model / Series Models KCE-800BT

Manufacturer ALPINE ELECTRONICS MARKETING, INC.

1-7, Yukigaya-otsukamachi, Ota-ku, Tokyo, 145-8501, Japan

Requirement	Applied Standards	Document Evidence	Result
Art.3.1(a) Health	EN 62479:2010 EN 50663:2017	Test Report: AGC03993220403EH02	Conform
Art.3.1(a) Safety	EN IEC 62368-1: 2020+A11:2020	Test Report: AGC03993220403ES01	Conform
Art.3.1(b) EMC	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.2.4 (2020-09)	Test Report: AGC03993220403EE01	Conform
Art.3.2 Radio	ETSI EN 300 328 V2.2.2 (2019-07)	Test Report: AGC03993220403EE04	Conform



Signed by General Manager (King Zhang) Issue Date: June 9, 2022



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ALPINE ELECTRONICS MARKETING, INC.

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EN

DE

PXE-C80-88

FR

ES

8 CHANNEL AUDIO PROCESSOR AMPLIFIER

RU

QUICK REFERENCE GUIDE

KURZANLEITUNG

GUIDE DE RÉFÉRENCE RAPIDE

GUÍA DE REFERENCIA RÁPIDA

KPATKOE СПРАВОЧНОЕ РУКОВОДСТВО

Instructions

Warning

Points for Safe Use

- Please read this manual carefully before using the machine and system components. This manual contains instructions on how to use this product safely and effectively. If failure to follow the instructions in this manual causes malfunctions, Alpine will not assume any responsibility.
- This manual uses various icons to explain how to use this product safely, and reminds you to pay attention to the dangers that may be caused by improper connection and operation. The meaning of these icons will be explained below. A complete understanding of the meaning of these icons is very important for the correct use of this manual and this system.

⚠ Warning

- It is very dangerous to operate this system while driving. The user should stop before operating the software.
- Road conditions and laws take precedence over the information displayed on the map: When driving, you should abide by actual traffic restrictions and conditions.
- This software is specially designed for this machine and cannot be used in combination with other hardware.

Warning

This symbol indicates important instructions. Failure to heed these instructions can result in serious injury or even death.

Do not use any features that will distract you while driving

Any function that affects your concentration should only be used after the car has come to a complete stop. To use these functions, please park your vehicle in a safe place first. Otherwise, an accident may result.

Do not disassemble or modify

Otherwise, it may cause an accident, fire or electric shock.

The volume must be maintained at a level where the noise outside the car can be heard while driving

Inaudible emergency vehicle sirens and road warning signals (train intersections, etc.) are very dangerous and may cause accidents. In addition, excessive volume may cause hearing loss.

This product is only suitable for cars with 12V negative grounding

Otherwise, it may cause a fire and other accidents.

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

Swallowing small objects may cause serious injury. Once swallowed by mistake, please immediately medical.

When replacing the fuse, you must choose a fuse with the correct ampere value

Otherwise, it may cause a fire or electric shock.

Do not block the ventilation holes or heat sink Otherwise, it may cause internal heat build-up and

Otherwise, it may cause internal heat build-up and may cause a fire.

This product can only be used in 12V mobile applications

If used in non-designed applications, it may cause fire, electric shock or other injuries.

Make the correct connection

If it is not connected properly, it may cause fire or product damage.

Before wiring, disconnect the cable from the negative terminal of the battery

Otherwise, it may cause electric shock or injury due to electrical short circuit.

Do not let the cable be entangled with surrounding objects

Arrange the wires and cables in accordance with the requirements of the manual to prevent them from becoming obstructive while driving. Cables or wires that obstruct or hang on the steering wheel, shift lever, brake pedal, etc. are extremely dangerous.

Do not splice cables

Do not cut the cable insulation to supply power to other equipment. Otherwise, the current carrying capacity of the wire will be exceeded, resulting in fire or electric shock.

Do not damage the pipe or wiring when drilling When drilling holes in the chassis for installation, be careful not to touch, damage or obstruct the pipes, fuel lines, fuel tanks or wires. If you don't pay attention, it can cause fire.

Do not use bolts or nuts in brakes or steering systems for grounding connections

Never use bolts or nuts used in brakes or steering systems (or any other safety-related systems) or fuel tanks for installation or grounding connections. The use of such parts will cause the car controller to fail, resulting in fire and so on.

Do not install on the steering wheel or gear lever, etc., which may hinder the operation of the car Otherwise, it will obstruct the front line of sight or obstruct moving parts, etc., causing serious accidents.

Do not touch the product while working

The temperature of the product is high when working, and it may be scalded when touched.



This symbol indicates important instructions. Failure to heed these instructions may result in injury or major property damage.

When there is a problem, please stop using it immediately

Otherwise, it may cause personal injury or damage to the product. Please return this product to an authorized Alpine dealer or the nearest Alpine service center for repair.

Ask professionals for wiring and installation

The wiring and installation of this product require professional skills and experience. For safety reasons, please contact the dealer where you purchased the product for installation.

Use designated accessories and install securely

Make sure to use only designated accessories. The use of non-designated parts may cause internal damage to the device, or it may not be securely installed in place. This can cause parts to loosen and cause danger or product failure.

Recommended Screw fixing torque between

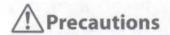
attachments BKT and product: 37±5 N/cm Screw hole may be damaged if using large torque.

Arrange the wires to avoid crimping or being squeezed by sharp metal edges

The arrangement of wires and cables should be far away from moving parts (such as seat tracks) or sharp edges or corners. This will avoid crimping and damage to the wires. If the wiring passes through a metal hole, a rubber gasket should be used to prevent the wire insulation from being cut by the edge of the metal hole.

Do not install in high humidity or dusty locations

Avoid installing the device in a location with high humidity or dust. Moisture or dust invades the device and can cause product failure.



Product cleaning

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

temperature

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

Maintain

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

Installation 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
- · Locations subject to severe vibration

About the software license of the product

The software installed in the product contains open-source software. See the following Alpine website for details on the open source software.

[CN] http://www.alpine.com.cn/c/aftermarket_oss/download/CSP Series

[EN] http://www.alpine.com.cn/e/aftermarket_oss/download/CSP Series

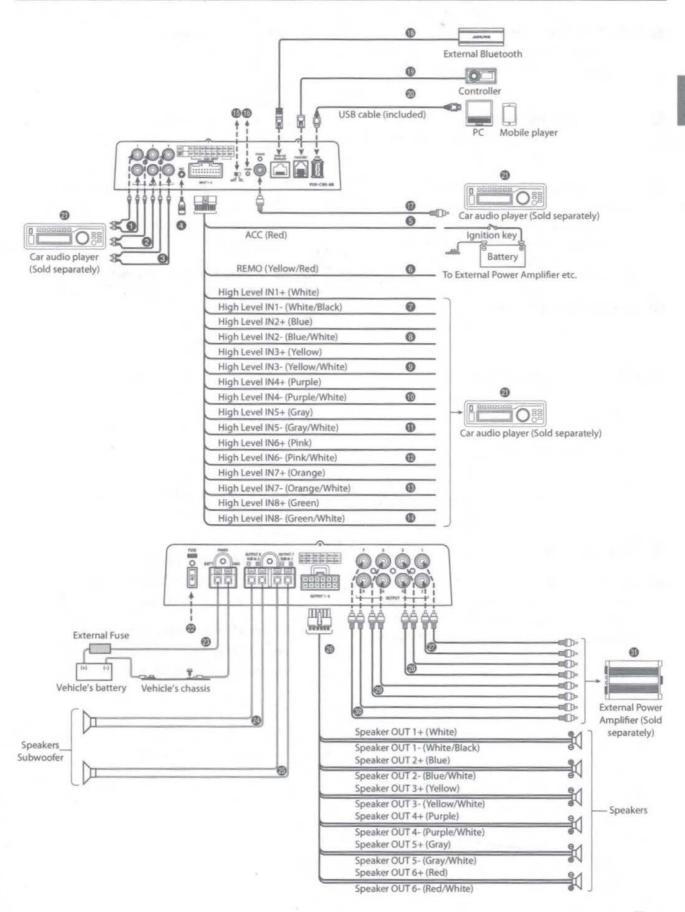
^{*} Appropriate recycling channels should be adopted for the disposal of electronic products to reduce electronic waste pollution.

Preparation work

Accessory List

Machine Screw × 10	Self-tapping Screw × 4	Mounting Brackets × 2
202	Î	0 0 00
20P Input Cable	12P Output Cable	USB Cable
Main Unit	External Bluetooth Module (KCE-800BT)	Wired controller (RUX-CSP1)
13.20		
Controller cable		

Connections and Functions



Connections and Functions

10 8 RCA Audio Input Jacks

3 groups of RCA audio signal input, which can be connected to the RCA audio signal output of car audio player.

External Mic Input Jack

Connect to the external microphone (Sold separately) for Auto EQ on your PC.

6 Switched Power Lead (Ignition)

Connect this lead to an open terminal on the vehicle's fuse box or another unused power source that provides(+)12V only when the ignition is turned on or in the accessory position.

6 Remote Turn-On Lead

Connect this lead to the remote turn-on lead of your amplifier etc.

7~ (B) High Level Input Leads

Connect to the high-level output of the car audio player.

(B) Input Select Switch

When the switch is pulled to the "ACC" terminal, ACC starts the machine; when it is pulled to the "HOST" terminal, the machine is started by the high level input signal H1-/H1+.

Power Indicator Light

(1) Coaxial Input Jack

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

External Bluetooth Connector

After the connection is successful, the Bluetooth is always on.

(B) Controller Connector

Connect the controller.

USB Connector

It can be connected to a computer via a USB cable for detailed tuning operations and settings.

And it can be connected with mobile player as USB audio (DAC).

Car Audio Player (Sold separately)

Connect the car audio player.

Puse

Insert one 40A fuse.

Power Supply Terminal

Connect the car battery.

2 G CH7-8 Speaker Output Terminals

The amplifier outputs are connected to the subwoofers.

© CH1-6 Speaker Output Leads

The amplifier outputs are connected to the speaker.

@@@@Pre-Out Jacks

4 groups of RCA audio signal output, which can be connected to external power amplifiers.

External Power Amplifier (Sold separately)

Connect external power amplifiers.

Pairing The Device

- 1 Open the settings menu of the smart device.
- 2 Go to the Bluetooth settings and make sure it is turned on.
- 3 Scan for devices.
- 4 The tablet or phone will find DSP-HD-XXXXXX.Click to connect to it.

Note:

- The light on the Bluetooth adapter will flash until a device has been paired. Once a device is paired it will remain steady.
- Only one Bluetooth-compatible device can be paired, and two Bluetooth-compatible devices cannot be connected at the same time.

Using the mobile app

- · The following are the mobile phone requirements for using the application: iOS 10 or higher
- On your smartphone, open the Apple App store and download and install the application.

Using the PC application

System requirements

The following are the system requirements for running the PC viewer.

- Operating system: Windows 10, Windows 11
- · CPU: 2.9GHz or higher
- · Memory card: 1GB or higher
- · Hard Disk: 512MB or more free space
- Computer screen resolution: 2560 x 1440 or higher

Note:

- The PC viewer will not operate properly on PC systems running an operating system other than those listed in the system requirements.
- You can download the latest PC viewer software from the Alpine website.

Specifications

Performance		
Power Output	Rated: 4Ω, 14.4V, 10%THD	CH1-6: 50W, CH7-8: 150W
RCA Output	Rated: 10kΩ, 14.4V, 0.1%THD	CH1-8: 4Vrms
THD+N	High level: $2Vrms$ into 4Ω	≤0.1%
	RCA: 2Vrms into 10kΩ	≤0.06%
C/N	High level: 40k-AES17+A-weighted	≥80dB
S/N	RCA: 40k-AES17+A-weighted	≥95dB
Innut Valtage	High level	26Vpp
Input Voltage	RCA	11Vpp
Output Voltage	High level	CH1-6: 40Vpp, CH7-8: 70Vpp
Output Voltage	RCA	4Vrms
Frequency Response		20Hz~40kHz
General		
Innut Impodence	High level	>50kΩ
Input Impedance	RCA	>50kΩ
System Sampling Rate		192kHz/32bit
Operating Voltage		9~16V
Operating Temperature		-20°C~+60°C
BACK UP CURRENT (12.6V)		≤3mA
REM Start Input		High level (H1-/H1+), ACC optional
REM Start Output		12V (0.2A)
Weight		2.4kg
Dimensions	Length	225mm
	Width	220.5mm
	Height	54mm

Function Parameter

Inputs	8ch High-level 6ch RCA Coaxial Digital Signal Bluetooth Audio USB Audio (DAC)	
Outputs	8ch High-level 8ch RCA	
Output Channel Signal Gain	Range: -60dB~+6dB	
Output Signal Equalizer	Type: Parametric / Graphic Equalizer Frequency: 20Hz~20kHz (1Hz steps) Q value: 0.404~28.852 Gain: -12.0dB~+12.0dB (0.1dB steps)	
Anti EQ Signal Equalizer	Type: Parametric / Graphic Equalizer Frequency: 20Hz~20kHz (1Hz steps) Q value: 0.404~28.852 Gain: -12.0dB~+12.0dB (0.1dB steps)	
Output Signal Divider	Each output channel is equipped with multi-order high and low pass independent filters, Filter type: Link-Ril, Bessel, Butter-W Filter crossover point: 20Hz~20kHz (1Hz steps) Filter slope: -6dB/Oct~-48dB/Oct	
Output Phase	Normal phase or reverse phase (0° or 180°)	
Output Delay	0.000~20.000ms, 0~692cm, 0~273inch	
Preset Sound Effects	6 sound data presets	

Wired Controller

Connect the wired controller (RUX-CSP1) to the DSP correctly, and ensure that it starts normally before use.

Startup Screen

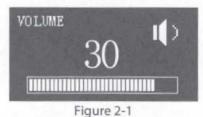
After the wired controller is started, the dynamic startup screen appears, as shown in Figure 1.



Figure 1

Master Volume

After it is started, enter the main interface of the wired controller-Master Volume Interface, as shown in Figure 2-1. Turn the button to adjust the master volume. Turning it clockwise can increase the volume, while turning it counterclockwise will decrease the volume. The adjustment range is from 0 to 35. In addition, pressing the master volume interface of the wired controller briefly can mute the DSP. The mute interface is as shown in Figure 2-2.



VOLUME IX

Figure 2-2

Subwoofer Volume (SUB W)

Press and hold the button in the main interface for 1~4 seconds to enter the subwoofer volume (SUB W) interface, as shown in Figure 3. Turn the button of the wired controller to adjust the subwoofer volume. Turning it clockwise can increase the volume, while turning it counterclockwise will decrease the volume (Adjustment range: 0~15). When the volume is turned to the desired volume, press the button briefly to determine the selected volume, and then return to the main volume interface directly.

Note:

If the wired controller is not operated for about 4 seconds, it will exit from the interface to the main interface (Master Volume Interface).

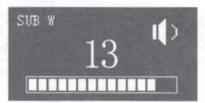


Figure 3

Sound Effect Presets (PRESET)

Press and hold the button in the main interface for over 4 seconds to enter the sound effect presets interface. And then turning the button to move the cursor to the sound array "1~6" or enter the "Skip" page, as shown in Figure 4-1. The number after PRESET refers to the sound effect data currently used by the DSP.



Figure 4-1

When the cursor moves to a number, press the button briefly to load the sound effect presets, as shown in Figure 4-2. After the data is loaded, it will exit from this interface to the main interface (Master Volume Interface).



Figure 4-2

Main Source

Turn the button of the wired controller in the "Skip" interface to enter the main source interface, as shown in Figure 5. Turn the button to select the main sound source: COAX (Digital), USB, BT (Bluetooth), Hi.L (High Level), or AUX (Low Level), and press the button briefly to confirm the main source selection mode. If no operation is performed for about 4 seconds, it will exit from the interface to the main interface (Master Volume Interface).

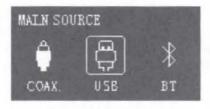




Figure 5

Main Source Attenuation

Press the button briefly to select the COAX (Digital), USB, BT (Bluetooth), Hi.L (High Level), or AUX (Low Level) mode to enter the interface of adjusting the main source attenuation, as shown in Figure 6. Turn the button to adjust the main source attenuation level, clockwise is to increase the attenuation level, while turning it counterclockwise will decrease the attenuation level. The range of attenuation is 0~100%. If no operation is performed for about 4 seconds, it will exit from the interface to the main interface (Master Volume Interface).



Figure 6

Mix Source

After pressing the button to select the main source attenuation, you can enter the mix sound source interface, as shown in Figure 7-1. Turn the button to select the mix sound source: COAX (Digital), USB, BT (Bluetooth), Hi.L (High Level), AUX (Low Level) or OFF. And press the button briefly to confirm the mix source mode. If no operation is performed for about 4 seconds, it will exit from the interface to the main interface (Master Volume Interface).





Figure 7-1

Note:

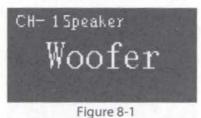
When a sound source is selected, it cannot then be selected again as the mix sound source; doing so causes the mix sound source to be invalid, as shown in Figure 7-2. If no operation is performed for about 4 seconds, it will exit from the interface to the main interface (Master Volume Interface).



Figure 7-2

Channel Settings

Press the button briefly to select the COAX (Digital), USB, BT (Bluetooth), Hi.L (High Level), AUX (Low Level) or OFF mode to enter the channel settings interface, as shown in Figure 8-1. The output type of channel 1 speaker can be selected by turning the button in the following order: Full-range, Tweeter, Woofer, Subwoofer, and Mid-range. After selection, press the button briefly to confirm the channel type. And if CH-1 is synchronized to the Tweeter type, it will be displayed. Then turn the button to the right to select the speaker type in the order of Woofer → Subwoofer → Mid-rang, and turn the button to the left for Full-rang. At the same time, press the button briefly can also be directly switched to 2~8 channel, and the corresponding channel settings.



When the wire controller is in the channel 8 setting interface, press the button briefly to enter the CAUTION page, as shown in Figure 8-2. Turn the button can choose to save or skip, and press it briefly to determine the selection. After the selection is complete, it will automatically exit from the interface to the main interface.





Figure 8-2

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-- Consult the dealer or an experienced radio/TV technician for help.

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The digital apparatus complies with Canadian CAN ICES - 3 (B)/NMB - 3(B).

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l'appareil num é rique du ciem conforme canadien peut - 3 (b) / nmb - 3 (b).

This device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 and compliance with RSS 102 RF exposure, users can obtain Canadian information on RF exposure and compliance.

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Function	Operation Frequency Range	Max Output Power	Operation temperature
Bluetooth	2.402GHz~2.480GHz	3.80dBm	-20°C~+60°C



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Product Designation

External HD digital Bluetooth

Brand Name

Alpine

Model / Series Models

KCE-800BT

Manufacturer

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Requirement	Applied Standards	Document Evidence	Result
Art.3.1(a) Health	EN 62479:2010 EN 50663:2017	Test Report: AGC03993220403EH02	Conform
Art.3.1(a) Safety	EN IEC 62368-1: 2020+A11:2020	Test Report: AGC03993220403ES01	Conform
Art.3.1(b) EMC	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.2.4 (2020-09)	Test Report: AGC03993220403EE01	Conform
Art.3.2 Radio	ETSI EN 300 328 V2.2.2 (2019-07)	Test Report: AGC03993220403EE04	Conform

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Deutsch: Korrekturen und Klarstellungen zur Kurzanleitung.

Français : Corrections et clarifications pour le Guide de référence rapide. Español : Correcciones y Aclaraciones para la Guía de Referencia Rápida.

Русский: Поправки и пояснения к Краткому руководству.

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- 4 You must package the Product securely to avoid damage during shipment. To prevent lost packages, it is recommended to use a carrier that provides a tracking service.

•HOW WE LIMIT IMPLIED WARRANTIES:

ANY IMPLIED WARRANTIES INCLUDING FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY ARE LIMITED IN DURATION TO THE PERIOD OF THE EXPRESS WARRANTY SET FORTH ABOVE AND NO PERSON OR THIRD PARTY IS AUTHORIZED TO ADD TO, MODIFY, OR EXTEND THE TERMS OF THIS LIMITED WARRANTY AND/OR ASSUME FOR ALPINE ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF THE PRODUCT.

•HOW WE EXCLUDE CERTAIN DAMAGES:

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, ALPINE AND ITS PARENT COMPANY, AFFILIATES, AND SUBSIDIARIES EXPRESSLY DISCLAIM LIABILITY TO YOU UNDER ANY THEORY OF LIABILITY FOR ALL INCIDENTAL, INDIRECT DAMAGES, SPECIAL, PUNITIVE, AND CONSEQUENTIAL DAMAGES WHICH MAY BE INCURRED BY YOU IN RELATION TO THE PRODUCT. THE TERM INCIDENTAL DAMAGES INCLUDES, BUT IS NOT LIMITED TO, COSTS AND EXPENSES OF TRANSPORTING THE PRODUCT TO THE ALPINE SERVICE CENTER, LOSS OF THE ORIGINAL PURCHASER'S TIME, LOSS OF THE USE OF THE PRODUCT, BUS FARES, CAR RENTALS OR OTHER COSTS RELATING TO THE CARE AND CUSTODY OF THE PRODUCT. THE TERM CONSEQUENTIAL DAMAGES INCLUDES, BUT IS NOT LIMITED TO, THE COST OF REPAIRING OR REPLACING OTHER PROPERTY WHICH IS DAMAGED WHEN THIS PRODUCT DOES NOT WORK PROPERLY. TO THE EXTENT PERMITTED BY APPLICABLE LAW, THIS LIMITED WARRANTY AND THE REMEDIES PROVIDED HEREUNDER ARE EXCLUSIVE AND IN LIEU OF ALL OTHERS. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, THE TOTAL LIABILITY OF ALPINE, ITS PARENT COMPANY, AFFILIATIES, AND SUBSIDIARIES IN CONNECTION WITH THIS LIMITED WARRANTY AND/OR THE PRODUCT SHALL NOT EXCEED THE AMOUNT YOU ACTUALLY PAID FOR THE PRODUCT.

•HOW STATE/PROVINCIAL LAW RELATES TO THE LIMITEDWARRANTY:

This Limited Warranty gives you specific legal rights, and you may also have other rights which vary from state to state and province to province. In addition, some states/ provinces do not allow limitations on how long an implied warranty lasts, and some do not allow the exclusion or limitation of incidental or consequential damages. Accordingly, limitations as to these matters contained herein may not apply to you.

If any of the terms of this Limited Warranty are held to be null, void, illegal or unenforceable for any reason, the remaining terms of this Limited Warranty will remain in full force and effect.

For warranty service in the Canadian market, contact: Phone: (905) 513-7733 Fax: (905) 513-7740 Email: info@gentec-intl.com
Or visit our website at http://www.alpine-canada.com

•HOW TO CONTACT CUSTOMER SERVICE:

Should the Product require service, please call the following number for your nearest Authorized Alpine Service Center.

CUSTOMER SERVICE 1-800-421-2284, ext. 860304 TECH SUPPORT 1-800-TECH-101 (1-800-832-4101)

Or visit our website at http://www.alpine-usa.com

This Limited Warranty is provided by ALPINE ELECTRONICS OF AMERICA, INC., whose principal office is at 1500 Atlantic Blvd, Auburn Hills, MI 48326, U.S.A.

Do not send Products to this address.

Call the toll-free telephone number or visit the website to locate a service center.



GARANTIE LIMITÉE

OPRODUITS COUVERTS:

La présente Garantie Limitée (la « Garantie Limitée ») couvre les produits audio pour la voiture d'Alpine et les accessoires connexes (le « Produit »). Les produits achetés au Canada sont couverts au Canada seulement. Les produits achetés aux États-Unis sont couverts aux États-Unis seulement.

ODURÉE DE LA GARANTIE :

La présente Garantie d'une durée d'un (1) an entre en vigueur à la date d'achat au détail originale du produit.

QUI EST COUVERT:

La présente Garantie couvre uniquement l'acheteur d'origine du produit, qui doit résider aux États-Unis, à Puerto Rico ou au Canada.

•CE QUI EST COUVERT :

La présente Garantie couvre les vices de matériau ou de fabrication (pièces et main-d'œuvre) du produit, dans le cadre de son utilisation normale.

•CE QUI N'EST PAS COUVERT:

La présente Garantie ne couvre pas ce qui suit :

 Les dommages occasionnés pendant l'expédition du produit à Alpine pour obtenir une réparation (les demandes doivent être présentées à la compagnie de transport).

- ② Les dommages causés par l'usure normale, les incidents ou l'abus, incluant le bris des bobines acoustiques causé par l'usage abusif du haut-parleur (niveau de l'amplificateur trop haut, causant de la distorsion ou de l'écrêtage). La défaillance mécanique du haut-parleur (p. ex. trous, déchirures ou accrocs). Les panneaux ACL craqués ou endommagés. Les disques durs échappés ou endommagés.
- ③ Les dommages causés par la négligence, le mauvais usage, l'utilisation abusive ou le non-respect des instructions présentées dans le Guide d'utilisation.
- ④ Les dommages causés par les catastrophes naturelles, y compris mais sans s'y limiter, les séismes, les incendies, les inondations, les tempêtes ou d'autres calamités naturelles. Les coûts ou les frais reliés au retrait ou à la réinstallation du produit.
- ⑤ Une réparation effectuée par une personne, une entreprise ou une association non autorisée.
- ® Tout produit dont le numéro de série est abimé, altéré ou effacé.
- Tout produit ajusté, démonté, altéré ou modifié sans l'approbation d'Alpine.
- ® Tout produit qui n'est pas distribué par Alpine aux États-Unis, à Puerto Rico ou au Canada.
- Tout produit qui n'a pas été acheté chez un distributeur Alpine agréé.

COMMENT SE PRÉVALOIR DE LA GARANTIE :

- ① Vous êtes responsable de la livraison du produit à un centre de réparation Alpine agréé pour obtenir une réparation, ainsi que des frais d'expédition initiaux. Alpine choisira, à sa discrétion, de réparer ou de remplacer le produit par un nouveau produit ou un produit remis à neuf sans frais. Si les réparations sont couvertes par la présente Garantie, et si le produit a été expédié à un centre de réparation Alpine agréé ou directement à Alpine, Alpine payera les frais d'expédition du retour. Le produit réparé ou remplacé continuera à être couvert par la période initiale de la Garantie.
- ② Vous devez fournir une description détaillée du ou des problèmes qui nécessitent une réparation.
- ③ Vous devez fournir une preuve d'achat du produit.
 ④ Vous devez emballer le produit de façon sécuritaire, pour éviter tout dommage durant l'expédition. Pour prévenir la perte du colis, nous recommandons l'utilisation d'une

compagnie de transport qui offre un service de suivi.

•QUELLES SONT LES LIMITES DES GARANTIES IMPLICITES :

TOUTE GARANTIE IMPLICITE, Y COMPRIS L'APTITUDE À UN USAGE PARTICULIER ET LA QUALITÉ MARCHANDE, EST LIMITÉE DANS LE TEMPS À LA PÉRIODE DE LA GARANTIE EXPRESSE ÉNONCÉE CI-DESSUS ET AUCUNE PERSONNE OU TIERCE PARTIE N'EST AUTORISÉE À AJOUTER, MODIFIER OU ÉTENDRE LES TERMES DE CETTE GARANTIE LIMITÉE ET/OU À ASSUMER AU NOM D'ALPINE TOUTE AUTRE RESPONSABILITÉ EN RAPPORT AVEC LA VENTE DU PRODUIT.

QUELS SONT LES DOMMAGES NON COUVERTS:

DANS LA MESURE MAXIMALE PERMISE PAR LA LOI APPLICABLE, ALPINE ET SA SOCIÉTÉ MÈRE, SES FILIALES ET SES SOCIÉTÉS AFFILIÉES DÉCLINENT EXPRESSÉMENT TOUTE RESPONSABILITÉ ENVERS VOUS EN VERTU DE TOUTE THÉORIE DE RESPONSABILITÉ POUR TOUS LES DOMMAGES ACCESSOIRES, INDIRECTS, SPÉCIAUX, PUNITIFS ET CONSÉCUTIFS QUI POURRAIENT ÊTRE ENCOURUS PAR VOUS EN RELATION AVEC LE PRODUIT. LE TERME DOMMAGES ACCESSOIRES COMPREND, MAIS SANS S'Y LIMITER, LES COÛTS ET LES FRAIS DE TRANSPORT DU PRODUIT AU CENTRE DE RÉPARATION ALPINE, LA PERTE DE TEMPS DE L'ACHETEUR INITIAL, LA PERTE D'UTILISATION DU PRODUIT, LES FRAIS D'AUTOBUS, DE LOCATION DE VÉHICULE OU D'AUTRES FRAIS LIÉS AU SOIN ET À LA GARDE DU PRODUIT. LE TERME DOMMAGES CONSÉCUTIFS COMPREND, MAIS SANS S'Y LIMITER, LE COÛT DE LA RÉPARATION OU DU REMPLACEMENT D'AUTRES BIENS QUI SONT ENDOMMAGÉS LORSQUE CE PRODUIT NE FONCTIONNE PAS CORRECTEMENT. DANS LA MESURE OÙ LA LOI APPLICABLE LE PERMET, LA PRÉSENTE GARANTIE ET LES RECOURS PRÉVUS PAR LA PRÉSENTE SONT EXCLUSIFS ET REMPLACENT TOUS LES AUTRES. DANS LA MESURE MAXIMALE PERMISE PAR LA LOI APPLICABLE, LA RESPONSABILITÉ TOTALE D'ALPINE, DE SA SOCIÉTÉ MÈRE, DE SES SOCIÉTÉS AFFILIÉES ET DE SES FILIALES EN RAPPORT AVEC LA PRÉSENTE GARANTIE ET/OU LE PRODUIT NE DOIT PAS DÉPASSER LE MONTANT QUE VOUS AVEZ EFFECTIVEMENT PAYÉ POUR LE PRODUIT.

●COMMENT LA LOI DE L'ÉTAT/LA PROVINCE AFFECTE LA GARANTIE :

La présente Garantie vous confère des droits légaux spécifiques, et vous pourriez bénéficier d'autres droits qui varient d'un État ou d'une province à l'autre. De plus, certains États/certaines provinces ne permettent pas les limites de durée pour les garanties implicites, et d'autres ne permettent pas l'exclusion ou la limitation des dommages indirects. Les limitations susmentionnées pourraient donc ne pas s'appliquer dans votre cas.

Si l'une des conditions de la présente Garantie est considérée comme nulle, invalide, illégale ou inapplicable pour quelque raison que ce soit, les autres conditions de la présente Garantie resteront pleinement en vigueur.

Pour se prévaloir de la garantie sur le marché canadien, contactez : Téléphone : 905-513-7733 Télécopieur : 905-513-7740 Courriel : info@gentec-intl.com
Ou visitez notre site Web au http://www.alpine-canada.com

•COMMENT PRENDRE CONTACT AVEC LE SERVICE À LA CLIENTÈLE :

Si le produit doit être réparé, veuillez téléphoner au numéro suivant afin de connaître le centre de réparation Alpine agréé le plus près de chez vous.

SERVICE À LA CLIENTÈLE 1-800-421-2284, poste 860304 ASSISTANCE TECHNIQUE 1-800-TECH-101 (1-800-832-4101)

Ou visitez notre site Web au http://www.alpine-usa.com

La présente Garantie est fournie par ALPINE ELECTRONICS OF AMERICA, INC., dont le siège social se trouve au 1500 Atlantic Blvd, Auburn Hills, MI 48326, États-Unis.

N'envoyez pas de produits à cette adresse.

Téléphonez au numéro sans frais ou visitez le site Web pour trouver un centre de réparation.



REGISTER YOUR PRODUCT

Register your Alpine product(s) to help us track your warranty and get access to exclusive content, giveaways and special offers.



REGISTER ONLINE

Visit alpineusa.link/register



TEXT TO REGISTER

Text "ALPINE" to 71739 (US Only)

One message per opt-in. Text "HELP" for help. Text "STOP" to cancel. Message and data rates may apply. See full privacy policy and SMS terms at www.alpine-usa.com/terms-of-use



SCAN TO REGISTER

Scan the QR Code below using your phone or device



