ALPINE PXE-C60-60 six channel digital signal processor User Manual

ALPINE PXE-C60-60 six-channel digital signal processor

Specifications

- **Inputs:**
    - Coaxial Digital Signal
    - Bluetooth Audio
    - USB Audio (DACC)
- **Outputs:**

- 6ch RCA
- **Output Channel Signal Gain Range:** -60dB~+6dB
- **Output Signal Equalizer:**
  - Anti-EQ Signal Equalizer
  - **Type:** Parametric/Graphic Equalizer
  - **Frequency:** 20Hz~20kHz (11 Hz steps)
  - **Q value**: 0.404~28.852
  - **Gain:** -112.0dB~+112.0dB (0.1 dB steps)
- **Output Signal Divider**
- **Output Phase Range**: 0.000~-2200.000ms, 0~692cm, 0~22733inch

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's 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.
   The firmware update successfully ends when the update process reaches 100%.
6. Click [OK] to finish updating the main unit firmware.
7. 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. You can view the version number.

Smartphone App

Connection

1. Open your smartphone or tablet's settings.
2. Open the Bluetooth settings and 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.
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/Hi.Level/AUX

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% Mix Source Selection
- **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 volume by sliding the slider bar.
Touch the main volume [ ] button to enable 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

1. 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.
    1. [Front] has the [Tweeter], [Midrange],
    2. [Woofer], and [Full-range] options.

3. For [Rear], the [Tweeter], [Midrange],

4. [Woofer], and [Full-range] options are available.

5. For [Center], [Front Center],

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

7. For [Subwoofer], the [L -subwoofer],

8. [R-subwoofer], and [Subfoofer] options are available.

Output volume settings

- **Setting item:** Output volume setting
- **Setting content:** Gain/Phase

Gain setting:

1. 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 the normal phase or reverse phase.

X-Over Setting

- **Setting item:** X-Over setting
- **Setting content:** Type/Frequency/Slope

1. **Typesetting:**

   [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,

   1. -12dB/Oct, -18dB/Oct,

   2. -24dB/Oct, -30dB/Oct,

   3. -36dB/Oct, -42dB/Oct, and -48dB/Oct.

Sync setting

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

Lock setting

Click [ ].
All output channel types are locked.

Reset setting

Click [ ].
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 Options 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 EQ default data.

   1. Encryption of setting data.

   2. 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 options page to enter the factory reset page.

Restore the factory settings page.

Setting item:
Encryption/Decryption

1. 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. 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. The level is selected for the 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 volume until 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 getting a good result from AutoEQ. Please read this section carefully.

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.

Measurement points

- One AutoEQ measurement consists of at least 200 measurement points. That is, the frequency sweep whoop-whoop") will be played 200 times 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.

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 is as low as the front of their shins (going slightly into the foot wells) and as high as the ceiling.

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

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

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.

EQ Gain Offset
This setting adjusts the boost andcutst off 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.

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

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 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 for 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 the Main source.

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 adjust when you hear it from the system.

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- 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 to thedriver'sr seat. Sound balance is lost in 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.

Hello, 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 an "OPTIM 2.0 Software" sticker found on the lower left-hand side of the beauty box. This software update addressed many field suggestions 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.
- 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").

- 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 to receive the OPTIM 2.0 software, a software update will be released on the Alpine Knowledgebase 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.

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

Iinjuryor 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 lo.

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
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 an electrical short circuit.

Do not let the cable be entangled with surrounding objects
Arrange the wires and ancables accordingng toy the requirements of the manual to prevent them from becoming obstructive while driving. Cables or wires that obstruct or hang on the steering wheel, and shift lever. Brake pedals, 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, or fuel lines. Fuel tanks or wires. If you don't pay attention, it can cause a fire.

Do not use bolts or nuts in brakes or steering systems for grounding connection…
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.

Notice: 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 them 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: 33±5 N/cm
The screw holes 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 deaning
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°(and -20c.

Maintain
If you encounter a problem, do not repair it yourself. Please return this product to an authori2ed 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.eom.cn/daftermarket_oss/download/CSPSerles**
- [EN] **https://www.alpine.eom.cn/e/aftermarket_oss/download/CSP_Series**

Preparation work

Accessory List

Connections and Functions

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.

Battery Lead
Connect this lead to the positive(+) post of the vehicle's battery.

Q Ground Lead
Connect this lead to a good chassis ground on the vehicle. Make sure the connection is made to bare metal and Is securely fastened using the sheet metal screw provided.

8 Remote Turn-On Lead
Connect this lead to the remote turn-on lead of your amplifier etc

00000G) High-Level Input Leads
Connect to the high-level output of the car audio player.

G) Power Indicator Ught

0 Input Select Switch
When the switch is pulled to the •Ace terminal, ACC starts the machine; when it is pulled to the NHOST" terminal, the machine is started by the high-level input signal H1-/H1+ G) G, (D

RCA Audio Input Jacks
3 groups of RCA audio signal input, can be connected to the RCA audio signal output ofthe the car audio player.

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

- 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.

Specifications

Function Parameter

Wired Controller

Connect the wired controller (RUX-CSPI) 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.

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 \IO! Ume, while turning it counterclockwise will decrease the volume. The adjustment range Is from 0 to 35. In addltlon, pressing the master volume Interface of the wired controller briefly can mute the DSP. The mute interface Is shown in 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 turn the button to move the cursor to the sound array "1 ~6n 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.

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).

Main Source

Turn the button of the wired controller in the ·skipH interface to enter the main source interface, as shown in Figure 5. Turn the button to select the main sound source: COAX (Digital), USB, or 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), and 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 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)

Mix Source

After pressing the button to select the main source attenuation, you can enter the mixed sound source interface, as shown in Figure 7-1. Turn the button to select the m,x 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).

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).

Channel Settings

Press the button briefly to select the COAX (Digital), USB, BT (Bluetooth), and Hi. L (High Level), Asynchsynchw 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, Woofe,r, Subwoofer, and Mid-range. After selection, press the button briefly to confirm the channel type. And if CH-1 is syn ch ran lzed 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, pressing the button briefly can also directly switch to 2~6 channels, and the corresponding channel settings.

When the wire controller is in the channel 6 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.

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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.

This equipment has been tested and found to comply with the limits for a Class B digital device, under 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 by 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 the receiver.
- Connect the equipment to 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.

Caution: Any changes or modifications to this device not explicitly approved by the manufacturer could void your authority to operate this equipment.

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.

RF Exposure Information

The device has been evaluated to meet general RF exposure requirements. The device can be used in portable exposure conditions without restriction.

- **Function:** Bluetooth
- **Operation frequency Range:**2.402GHz-2.480GHz
- **Max Output Power:**3.B0dBm
- **Operation temperature:** ·20.,C-+60°C

Attestation of Conformity

ALPINE ELECTRONICS OF AMERICA, INC.

- 1500 Atlantic Blvd,
- Auburn Hills, Michigan 48326, U.S.A.
- **Phone 1**-800-ALPINE-1 (1-**800-257-4631**)

ALPS AL PINE EUROPE GmbH

- Ohmstrasse 4.85716 Unterschleissheim, Germany
- **Phone:** +49 (0) 89-32 42 640

    For contact information on your respective country, please visit **www.alpine-europe.co**m.

LIMITED WARRANTY

PRODUCTS COVERED:
This Limited Warranty ("Limited Warranty") covers Alpine Car Audio Products and· Related Accessories (the "Product"). Products purchased in Canada are covered only in Canada. Products purchased in the U.S.A. are covered only in the U.S.A. eLENGTH OF WARRANTY: This Warranty is in effect for one year (1) from the date of the original retail purchase of the Product.

WHO IS COVERED:
This Warranty only covers the original purchaser of the Product, who must reside in the United States, Puerto Rico, or Canada.

WHAT IS COVERED:
This Warranty covers defects in materials or workmanship (parts and labor), under normal use, in the Product.

WHAT IS NOT COVERED:
This Limited Warranty does not cover the following: (D Damage occurring during shipment of the Product to Alpine for repair (claims must be presented to the carrier).
Damage caused by normal wear and tear, accidents, or abuse, including burned voice coils caused by overdriving the speaker (amplifier level is turned up and driven into distortion or clipping). Speaker mechanical failure {e.g. punctures, tears, or rips). Cracked or damaged LCD panels. Dropped or damaged hard drives.

- Damage caused by negligence, misuse, improper operation, or failure to follow instructions contained in the Owner's manual.

- Damage caused by an act of God, including without limitation, earthquake, fire, flood, storms, or other acts of nature. Any cost or expense related to the removal or reinstallation of the Product.

- Service performed by an unauthorized person, company, or association.
- Any Product that has the serial number defaced, altered, or removed.
- Any Product that has been adjusted, disassembled, altered, or modified without Alpine's consent.
- Any Product not distributed by Alpine within the United
- States, Puerto Rico or Canada. Any Product not purchased from an Authorized Alplne Dealer.

HOW TO OBTAIN WARRANTY SERVICE:

(D You are responsible for delivery of the Product to an Authorized Alpine Service Center or Alpine for repair and payment of any initial shipping charges. Alpine will, at its option, repair or replace the Product with a new or reconditioned product without charge. If the repairs are covered by this Limited Warranty, and if the Product was shipped to an Authorized Alpine Service Center or Alpine, Alpine will pay the return shipping charges. The repaired or replaced Product will continue to be covered under the original Limited Warranty period. You should provide a detailed description of the problem{s) for which service is required.

- You must supply proof of your purchase of the Product.
- 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 THAT MAY BE INCURRED BY YOU ABOUT 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 THAT 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 INSTEAD OF ALL OTHERS.

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, THE TOTAL LIABILITY OF ALPINE, ITS PARENT COMPANY, AFFILIATES, AND SUBSIDIARIES IN CONNECTION WITH THIS LIMITED WARRANTY AND/OR THE PRODUCT SHALL NOT EXCEED THE AMOUNT YOU PAID FOR THE PRODUCT.

HOW STATE/PROVINCIAL LAW RELATES TO THE

LIMITED WARRANTY:
This Limited Warranty gives you specific legal rights, and you may also have other rights that 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**

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 alpine use.**link/register**

TEXT TO REGISTER
Text "ALPI NE" to 7 1739 (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

FAQ

- **Q: Where can I download the firmware update files?**
  - A: The firmware update files for the main unit and controller can be downloaded from the Alpine website.

Documents / Resources

ALPINE PXE-C60-60 six channel digital signal processor [pdf] User Manual
PXE-C80-88, PXE-C60-60, PXE-C60-60 six channel digital signal processor, PXE-C60-60, six channel digital signal processor, channel digital signal processor, digital signal processor, signal processor, processor

References

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