

ALPINE

PXE-M60-4

6-Channel Audio Processor
4-Channel Amplifier



- For iPhone users, please search "Alpine Music" in APP Store to download and install the tuning software; for Android users, please scan the QR code on the right to download and install the software directly.







Alpine Music

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Operation Instructions

Type of Precautions

 Prohibited	Indicates a prohibited action (must not be performed).
 Prohibited	Indicates that disassembly is prohibited.
 Mandatory	Indicates a mandatory operation (must be performed).
	Indicates that it should draw your close attention.

 **Warning**

In case of problems, please stop using the device immediately.

Continued use may result in personal injury or damage to the product. Please return the product to the authorised Alpine dealer or nearby Alpine service center for repair.

The product is only suitable for 12V negative-grounded vehicles.

Use within other types of vehicles may create a fire or electrical hazard.

Please contact a professional for wiring and installation

This product requires professional expertise to wire and install. Please contact the dealer from whom you bought the product to install it safely.

Please do not disassemble or refit.

Doing so may result in product damage, fire or electrical hazard.

Small items like bolts or screws must be kept out of the reach of children.

If ingested, please seek Immediate medical attention to avoid serious injury.

Please do NOT use functions that may distract you while driving.

Any device function that may influence your attention must be used only when the vehicle is stopped completely. To use these functions, make sure to stop your vehicle in a safe area first. Otherwise, it may result in an accident.

While driving, you must maintain the volume at a level that allows outside noise to remain audible.

It is very dangerous not to hear an emergency vehicle alarm or road warning signal (such as a railway crossing) and may result in an accident. Moreover, excessively loud volume may create permanent hearing damage or hearing loss.

 **Caution**

Product maintenance

Please regularly clean the item with a soft, dry cloth. For tough stains, use only water to dampen the cloth as other solvents may result in dissolution.

Temperature

Before starting the device, please ensure that the temperature inside the vehicle is between +60°C and -20°C.

Repair

In the case of a problem, please do not attempt to repair the product yourself. Please return the product to the authorised Alpine dealer or Alpine service center.

System matching

When PXE-M60-4 is used with active division mode to assign signals for speakers, please ensure that the crossover frequency is above 1500 Hz to avoid damage to tweeters.

Installation environment

The device cannot be installed at the following locations:



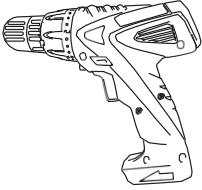
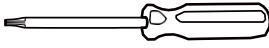
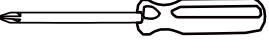
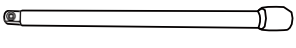
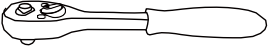
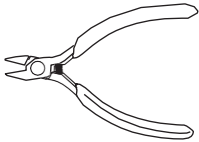



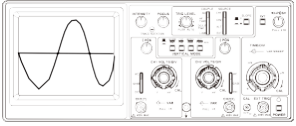
- Under direct sunlight or near a source of heat.
- With high humidity or near a source of water.
- Dusty environments.
- Environments with violent vibration.

Copyright Notice

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* Electronic products should be discarded via an appropriate recycling channel to reduce electronic waste pollution.

Required Tools (Vehicle Installation Specific)

Panel removal tool	Socket	Electric drill	Torx screwdriver
			
Phillips screwdriver	Sleeve wrench	Wrench	Wire cutter
			
Wire crimper	Wire stripper	Spectrum analyzer	Oscilloscope
			

Accessories


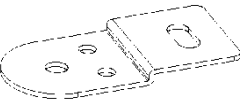


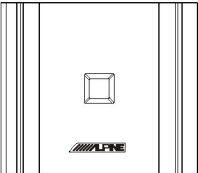
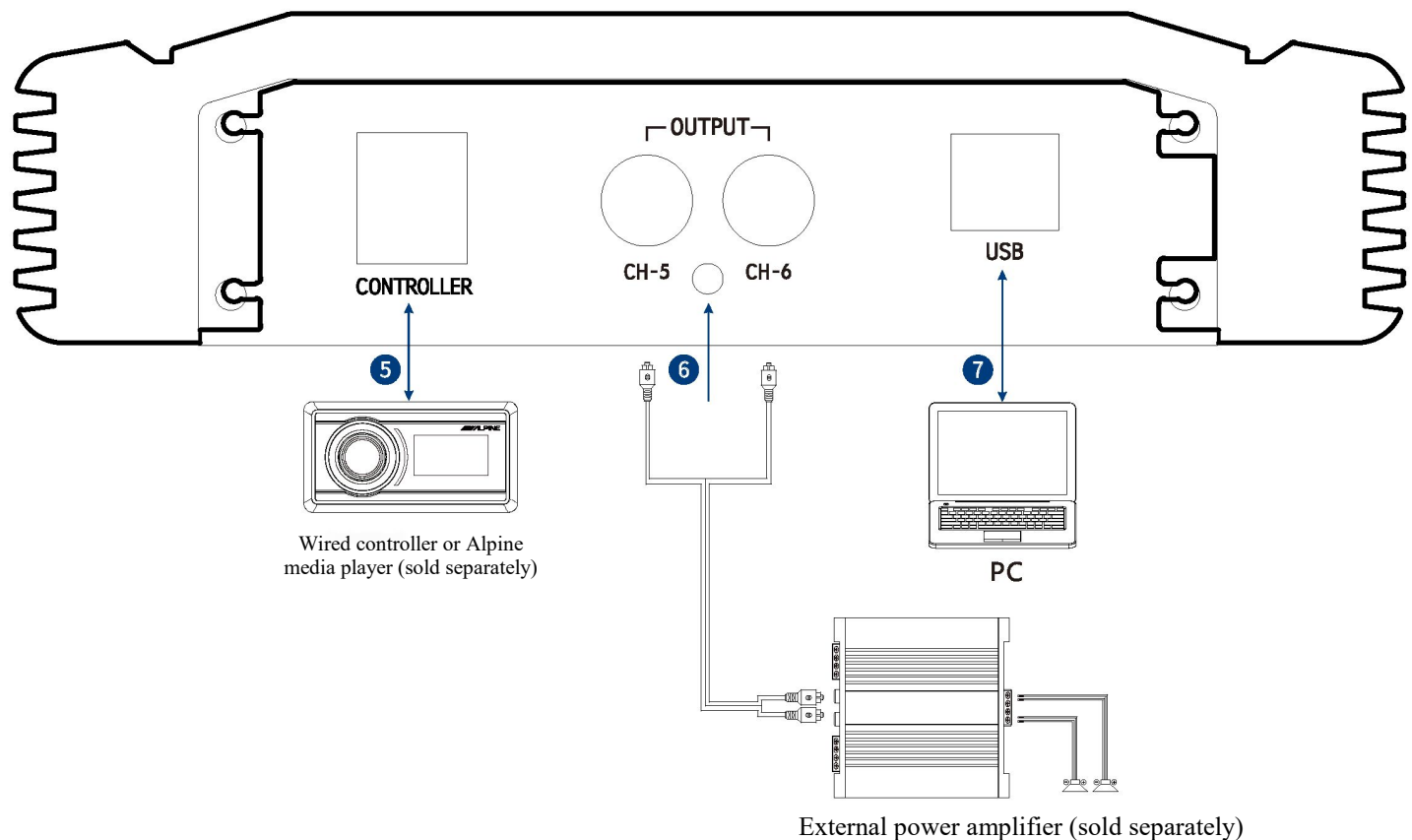
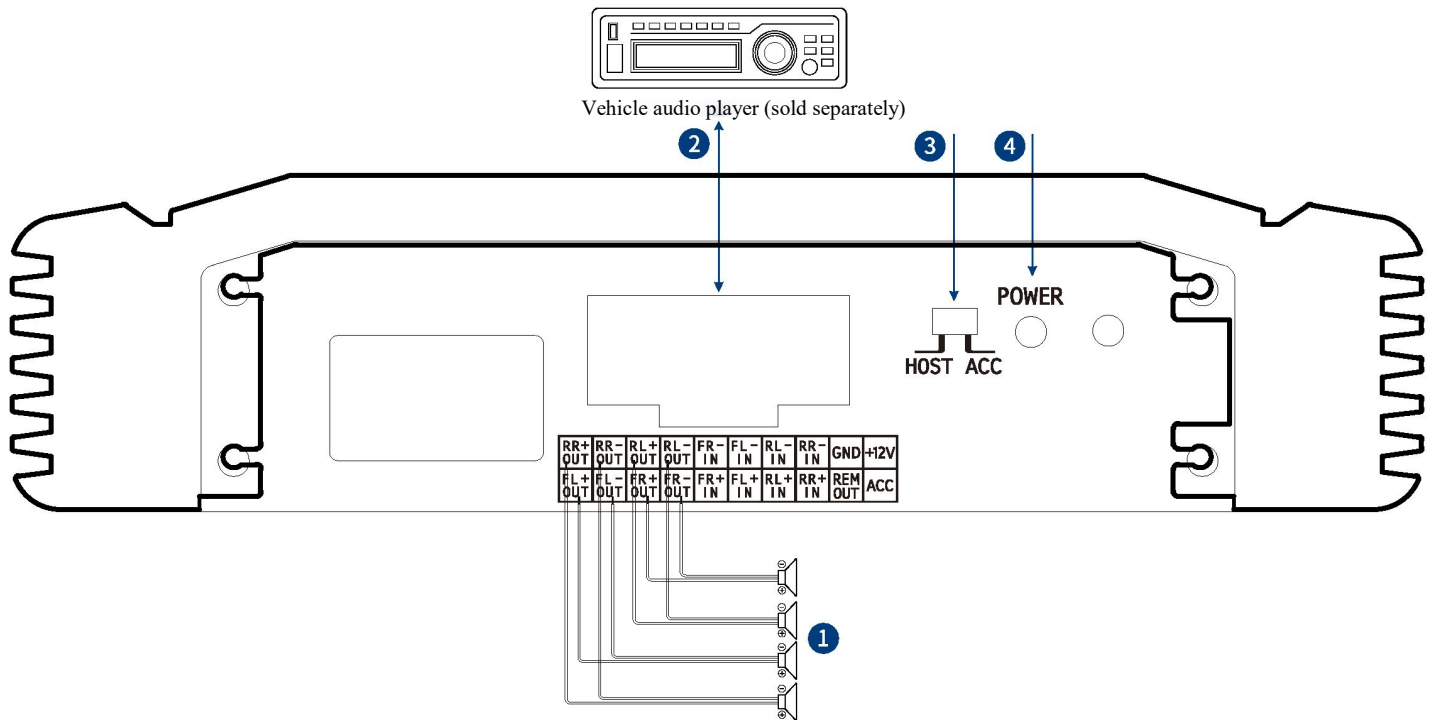
USB 2.0 cable	Mounting bracket × 2	Machine tooth screw × 4
		
Self-tapping screw × 2	Host machine	
		

Diagram of Device Interfaces

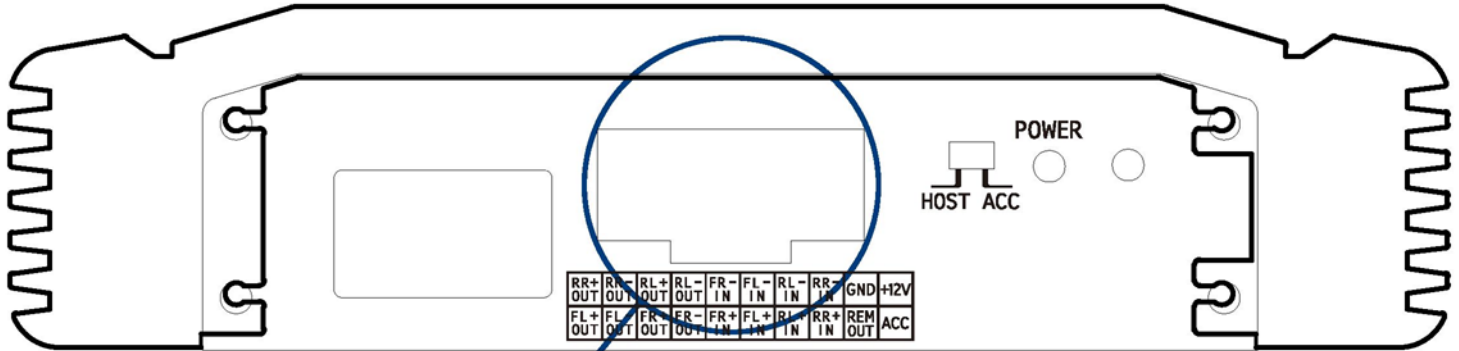


* The device is embedded with Bluetooth.

Device Interfaces Functions

1, 2	High voltage level input / output and power interface	The high voltage level input is connected to the power output of the vehicle audio player and the high voltage level output is connected to the loudspeaker.
3	Input select switch interface	If the switch is put to “ACC,” the device will be started by ACC. If put to “HOST,” the device will be started by the high voltage input signal FL-/FL+.
4	Power indicator	Power Indicator.
5	Wired controller interface	System extension interface.
6	RCA audio out	One set of RCA audio signal output which can be connected to the external power amplifier.
7	USB 2.0 interface	A USB2.0 cable can be used to connect a computer and perform sound tuning and settings in detail.

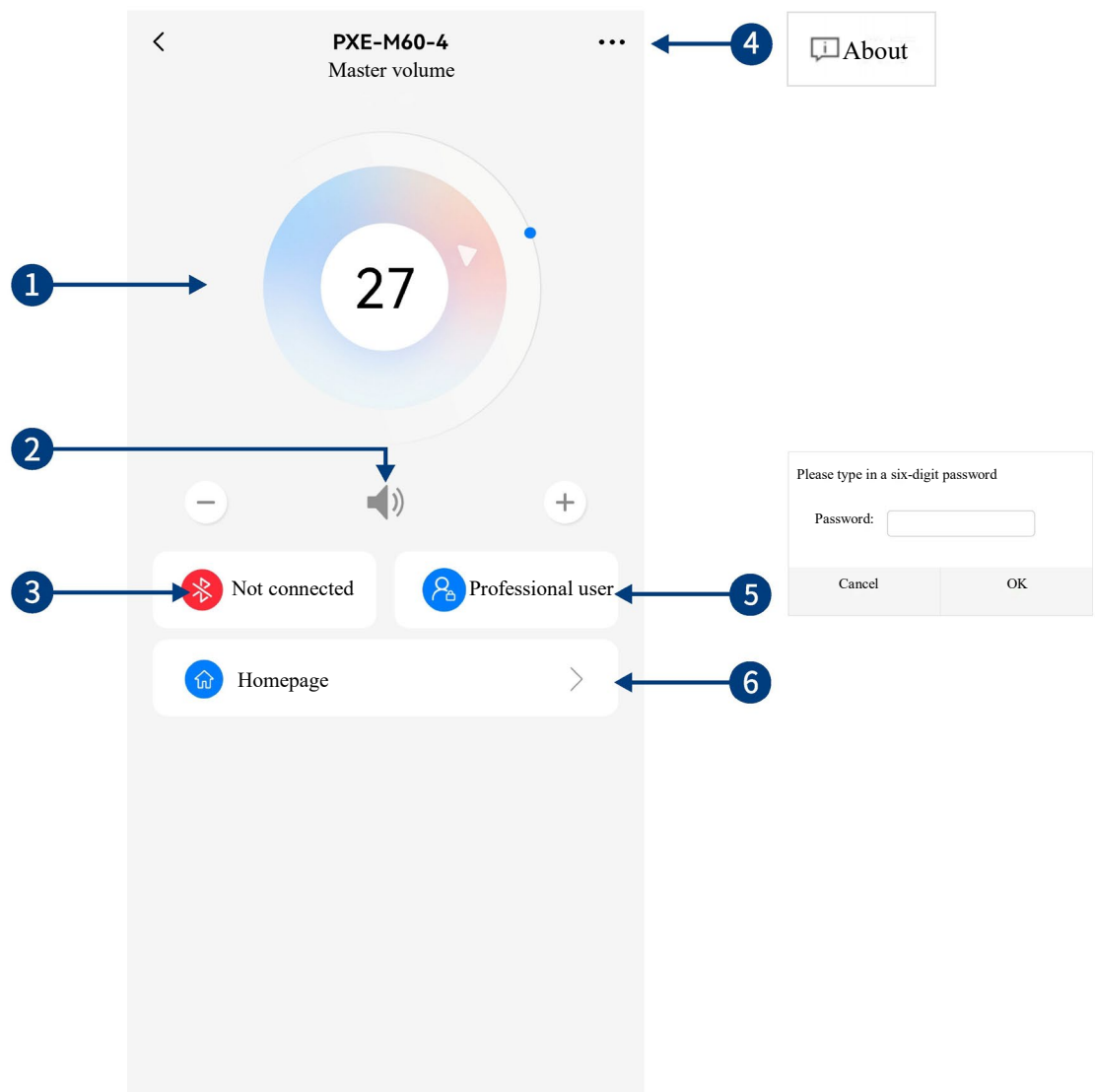
Arrangement of Wire Pins



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

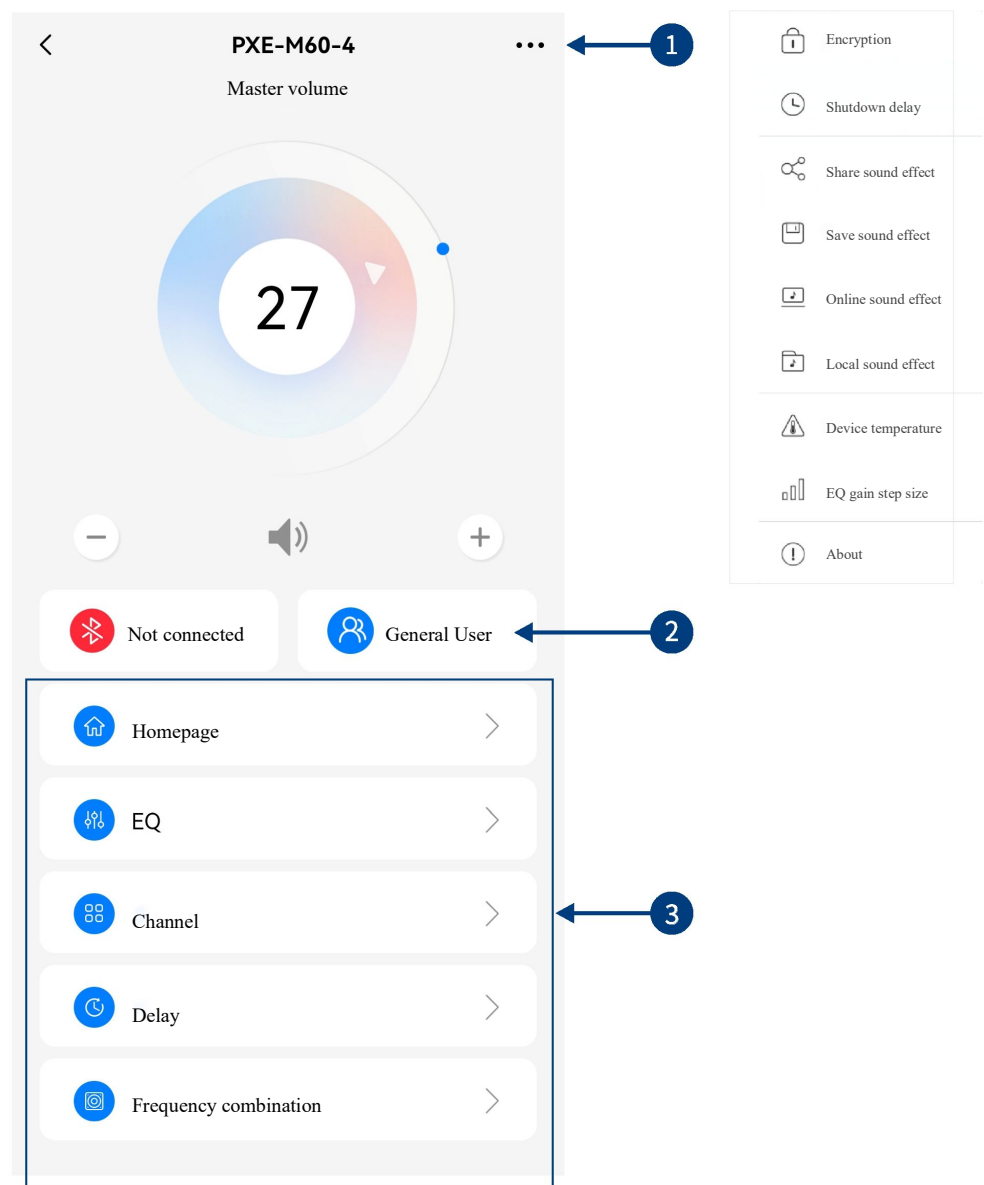
10	20	White 20AWG	Front left channel output +
9	19	Purple 20AWG.....	Rear right channel output +
8	18	White / Black 20AWG	Front left channel output -
7	17	Purple / Black 20AWG ...	Rear right channel output -
6	16	Grey 20AWG	Front right channel output +
5	15	Green 20AWG	Rear left channel output +
4	14	Grey / Black 20AWG....	Front right channel output -
3	13	Green / Black 20AWG	Rear left channel output -
2	12	Grey 20AWG	Front right channel input +
1	11	Grey / Black 20AWG.....	Front right channel input -
		White 20AWG	Front left channel input +
		White / Black 20AWG	Front left channel input -
		Green 20AWG	Rear left channel input +
		Green / Black 20AWG	Rear left channel input -
		Purple 20AWG.....	Rear right channel input +
		Purple / Black 20AWG	Rear right channel input -
		Blue / White 20AWG.....	REM OUT
		Black 18AWG.....	GND
		Red 20AWG.....	ACC
		Yellow 18AWG	+12V

Diagram of Mobile App (General User)



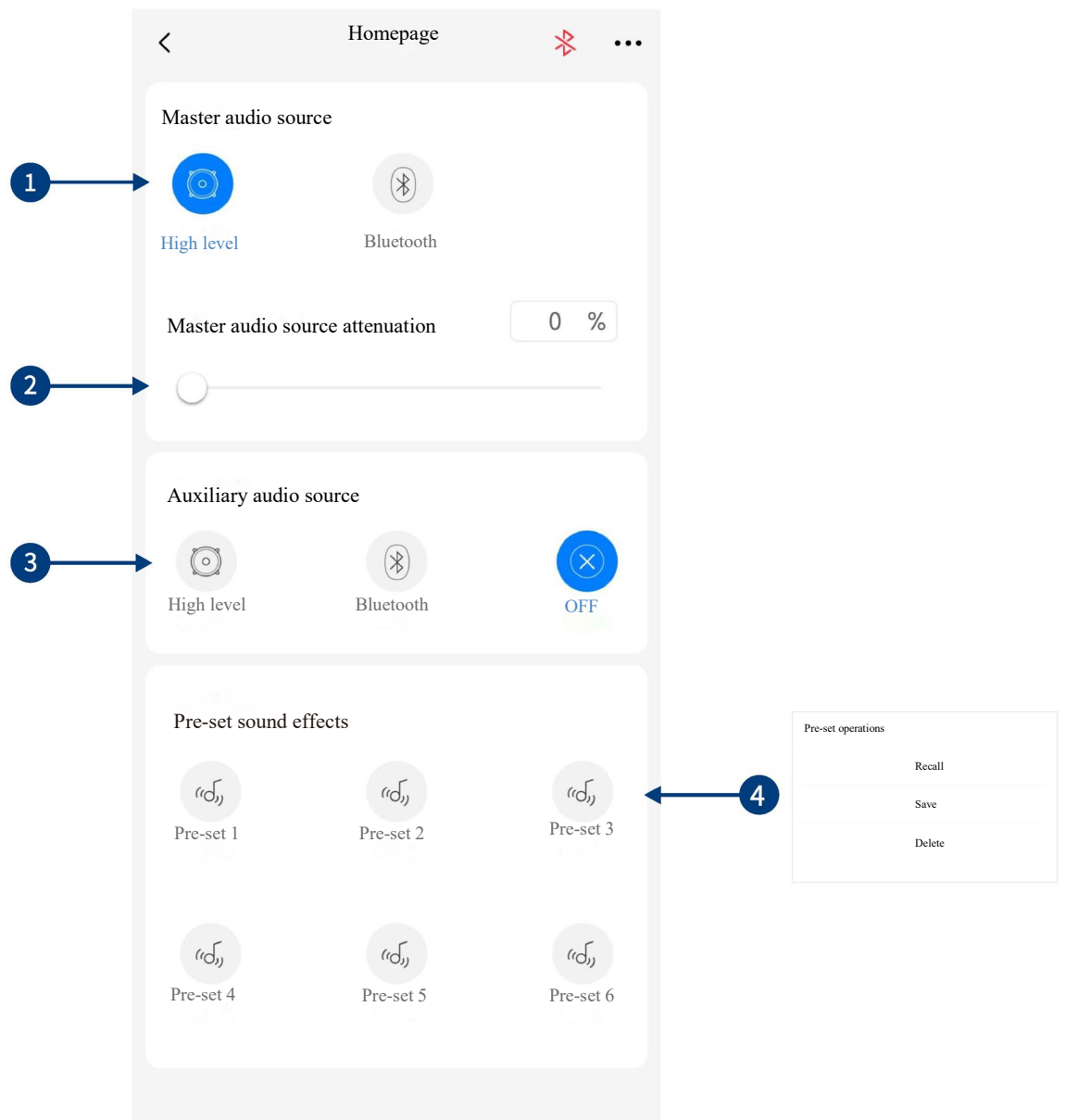
1	Master volume	Drag and rotate the volume adjustment fader or click "+" and "-" to adjust the master volume. The volume adjusting range is 0~35.
2	Mute button	Mute the master volume.
3	Connection indicator	When the Bluetooth icon is red, the mobile phone Bluetooth is not connected; when it is green, the mobile phone Bluetooth is connected.
4	Menu bar	Check device version.
5	Mode switch	Switch between General User mode and Professional User mode (General User is selected by default).
6	Homepage	General User mode only supports quick operations including audio source switch, pre-set sound effects recall and saving, and device version check.

Diagram of Mobile App (Professional User)



1	Menu bar	You can encrypt data, set shutdown delay, share sound effect, save sound effect, select online effect, select local effect, check device temperature, set EQ gain step, and check version number.
2	Mode switch	Switch between General User mode and Professional User mode. Type in 6-digit password "888888" to enter Professional User mode, which supports professional tuning operation.
3	Interface selection	Profession User mode has 5 pages of different functions of tuning; Homepage, EQ, Channel, Delay and Frequency combination.

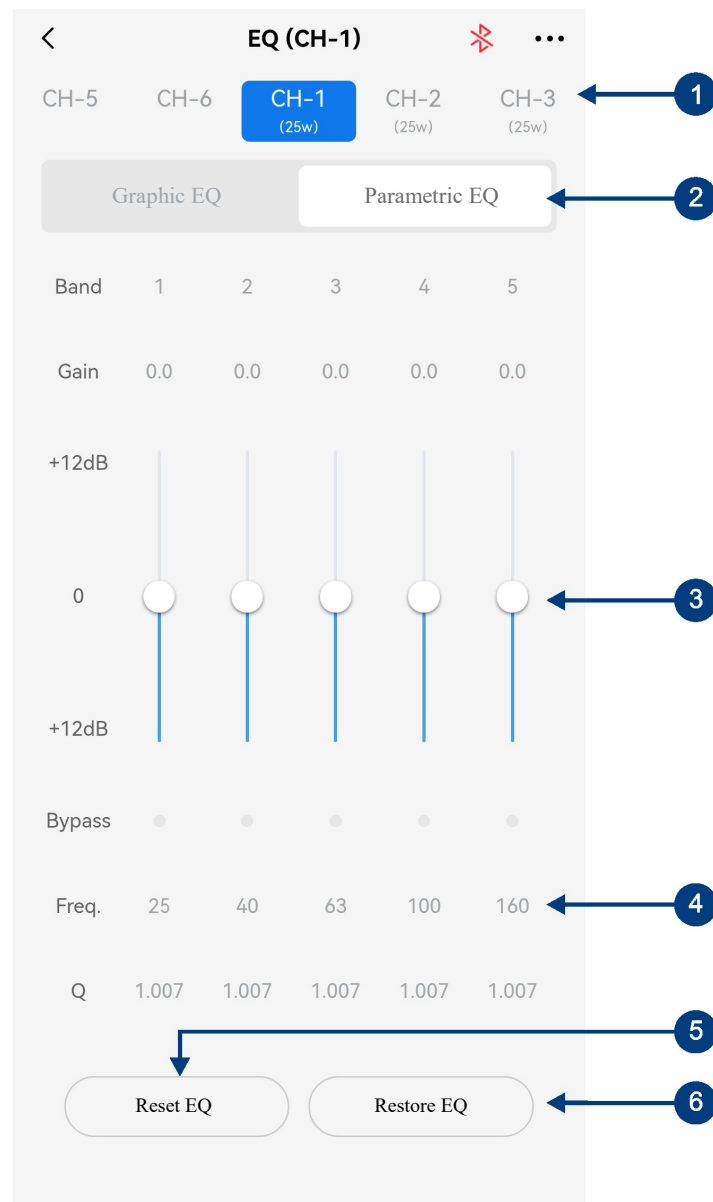
Diagram of Mobile App (Home Page)



1	Master audio source	Select master audio source (High Level or Bluetooth).
2	Master audio source attenuation	The higher the attenuation of master audio source, the lower the master volume is. The range of attenuation is 0% ~ 100%.
3	Auxiliary audio source	Select auxiliary audio source (High Level, Bluetooth or OFF).
4	Pre-set sound effects	Save or recall multiple pre-set sound effects.

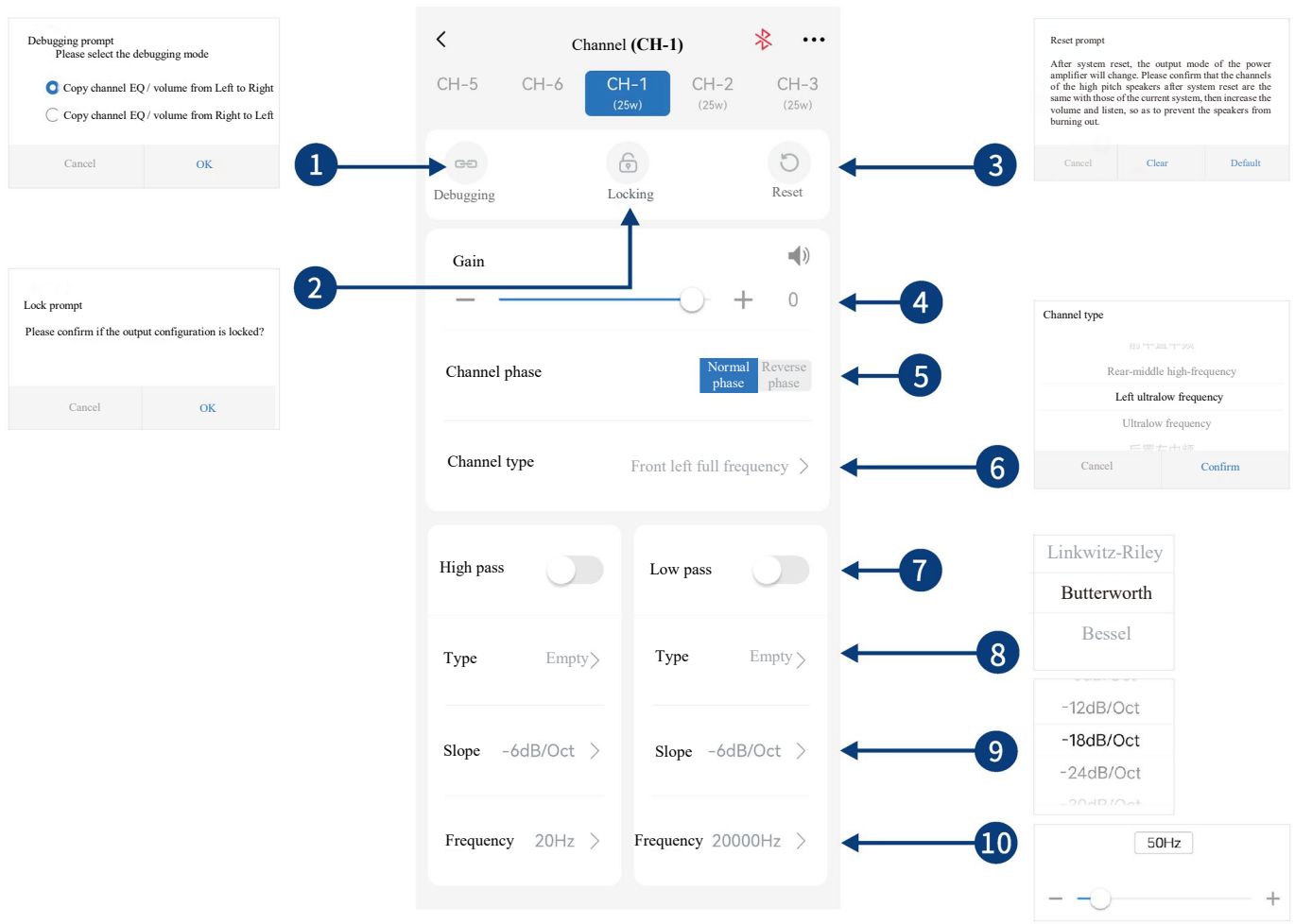
Caution: If the current audio source mode is selected, this mode cannot be superimposed any more. Otherwise, the auxiliary audio source will be invalid.

Diagram of Mobile App (EQ)



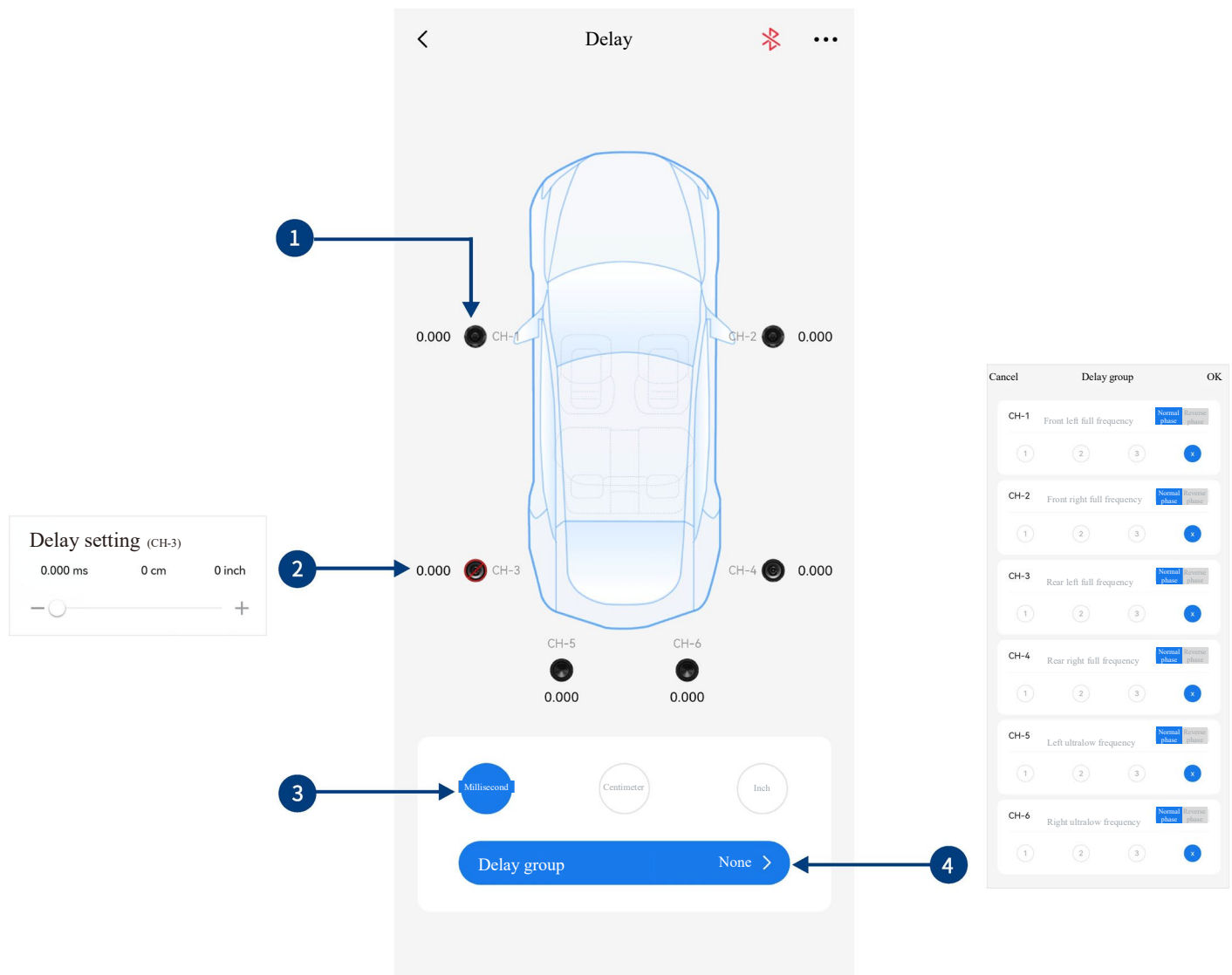
1	Output channel	Slide left and right to select the output channel for EQ adjustment. There are 6 channels to choose from.
2	Parametric EQ, Graphic EQ	Switch between Parametric EQ mode and Graphic EQ mode. Mode switch will lead to loss of previous settings.
3	Gain	Pull the fader up and down to adjust the gain. The adjustable range is: -12.0dB ~ +12.0dB.
4	Frequency, Q value, Gain	Adjust the frequency, Q value and gain of the output channel. The gain is adjustable but the frequency and Q value are fixed in the Graphic EQ interface. The frequency, Q value and gain are all adjustable in the Parametric EQ interface.
5	Reset EQ	Reset EQ setting.
6	Restore EQ, Direct EQ	Switch the tuned EQ data to direct state, click it again to restore the EQ data before Direct EQ setting.

Diagram of Mobile App (Channel)



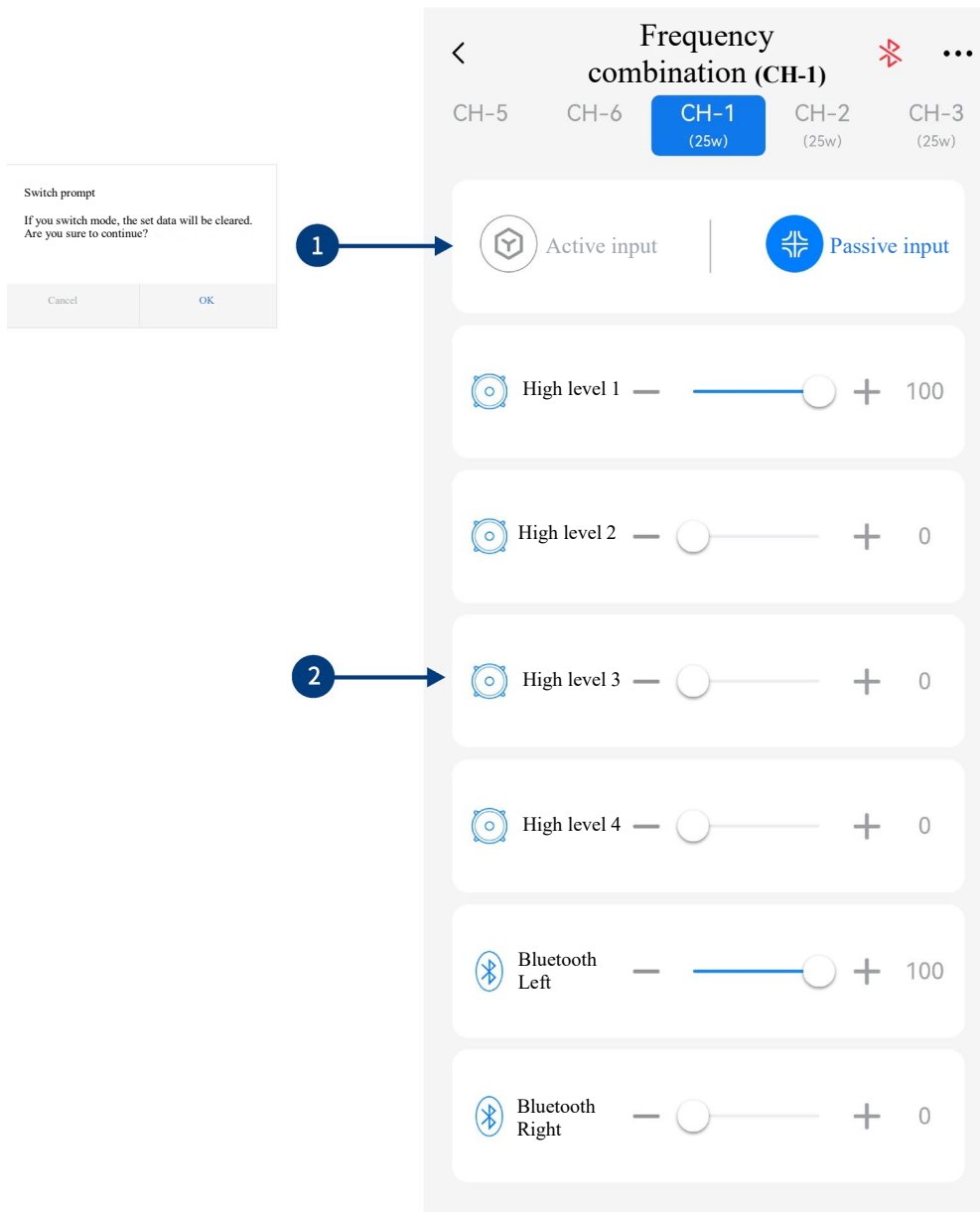
1	Debugging	The debugging modes to choose from include “Copy channel EQ / volume from left to right” or “Copy channel EQ / volume from right to left”.
2	Locking	You can lock the current channel type.
3	Reset channel type	Select "Clear" to set the current channel type as Empty; select "Default" to set the current channel type as Factory setting.
4	Channel gain	Push the fader left and right to adjust the channel volume in the range of -60dB ~ +6dB; click the speaker button to mute.
5	Channel phase	Select the channel phase (normal phase or reverse phase).
6	Channel type	Select the output channel type in the pop-up window.
7	Divider	Turn the low-pass filter on or off .
8	Filter type	Select filter type (Linkwitz-Riley, Butterworth or Bessel). Caution: If the slope is -6dB/Oct, the type is not settable.
9	Frequency divider slope	Select the divider slope (-6dB/Oct, -12dB/Oct, -18dB/Oct, -24dB/Oct, -30dB/Oct, -36dB/Oct, -42dB/Oct, or -48dB/Oct).
10	Divider frequency	Select the divider frequency (between 20Hz and 20kHz).

Diagram of Mobile App (Delay)



1	Speaker	Select the speaker of the corresponding channel, click the speaker to mute it, click it again to unmute.
2	Delay setting	Select the corresponding speaker, push the fader left and right on the pop-up window to adjust the delay, or click "+" and "-" to adjust the delay.
3	Unit of delay	Units of delay to choose from include ms, cm, and inch. Adjusting range: 0.000 ~ 7.354 milliseconds, 0 ~ 254 centimeters, and 0 ~ 100 inches.
4	Delay group	There are 3 delay groups to choose from for each channel.

Diagram of Mobile App (Frequency Combination)



1	Active or passive output	Keep the default setting as "Passive". Warning: if changed, you will lose the sound mixer setting of this channel.
2	Input channel	Push the fader left and right or press "+" and "-" to adjust the volume of each audio channel.

Caution: It is strongly recommended to set the total volume of a channel to 100 to avoid clipping.

Interface of PC Software

This screenshot shows the main interface of the ALPINE PXE-M60-4 software. It features a dark theme with a central frequency response graph. The interface is annotated with 26 numbered callouts:

- 1: File menu
- 2: Option menu
- 3: Encryption menu
- 4: EQ Gain step dropdown
- 5: EQ Gain step dropdown (repeated)
- 6: Master Volume slider
- 7: Master Volume slider (repeated)
- 8: Home button
- 9: EQ button
- 10: TCR button
- 11: Mix button
- 12: Channel selection tabs (CH-1 to CH-6)
- 13: Frequency response graph
- 14: Frequency response graph (repeated)
- 15: G.EQ Mode / P.EQ Mode toggle
- 16: H.P.F. Type dropdown
- 17: H.P.F. Freq. slider
- 18: H.P.F. Slope dropdown
- 19: L.P.F. Type dropdown
- 20: L.P.F. Freq. slider
- 21: L.P.F. Slope dropdown
- 22: Sync button
- 23: Lock button
- 24: Reset button
- 25: Channel settings panel (CH-1 to CH-6)

Two screenshots of the software interface are shown:

- 8:** Shows the 'Main source selection' and 'Mix source selection' panels. It includes options for 'HiLevel', 'Bluetooth', and 'Main source attenuation'.
- 10:** Shows the 'Channel settings' for each channel (CH-1 to CH-6). It includes a car diagram with speaker locations and settings for 'F/R-Full-range', 'L-Subwoofer', and 'R-Subwoofer'.

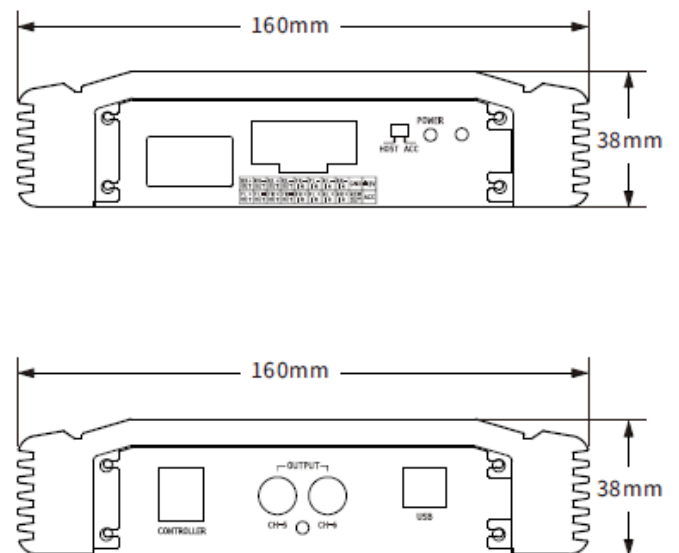
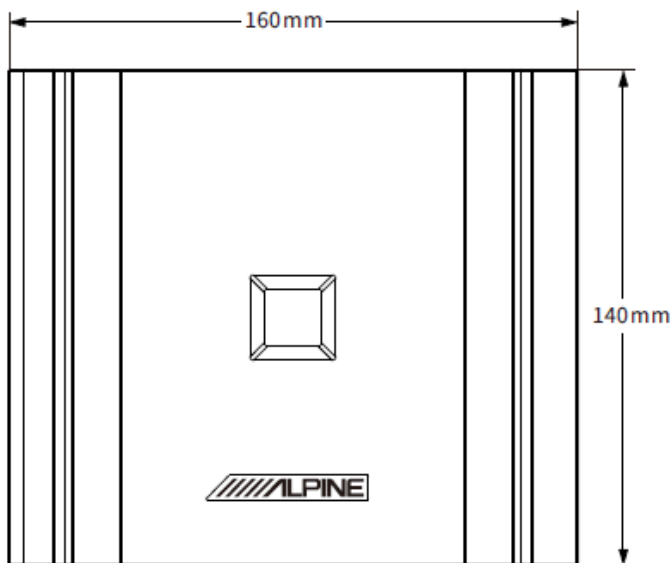
This screenshot shows the 'Stereo input' settings for the software. It features a grid of sliders for each channel (CH-1 to CH-6) across different levels (HLLevel 1-4, BT-L, BT-R).

Description of PC Software

1	Temperature display	Detect the temperature on the device surface.
2	File	Load or save scene files on PC, load or save all scene files.
3	Options	Firmware update, noise gate, restore factory settings, shutdown delay, switch between English and Chinese, check the version number.
4	Encryption	Enter a 6-digit encryption password to encrypt the tuned sound effect data.
5	EQ gain step size	Step size can be chosen from the range: 0.1dB ~ 0.5dB ~ 1.0dB.
6	Mute button	Mute the master volume
7	Master volume	Push the fader left and right to adjust the master volume in the range of 0 ~ 35.
8	Homepage	Master audio source selection (High Level and Bluetooth), Mix audio source selection (High Level, Bluetooth and OFF), master audio source attenuation adjustment, pre-set sound effects recall and saving, and recall of multiple sets of online sound effects are supported.
9	EQ	Enter the EQ interface to go to the professional tuning interface.
10	TCR	Enter the Time Correction interface, set the delay value, unit of delay and delay group.
11	Mix	Enter the Mix interface, Sound mixing and Frequency mixing setting.
12	Output channel display	Display the output channel curve.
13	EQ curve	Display the current EQ curve status, set the frequency, Q value and gain.
14	Frequency, Q value, Gain	Adjust the frequency, Q value and gain of the output channel. The gain is adjustable but the frequency and Q value are fixed in the Graphic EQ interface. The frequency, Q value and gain are all adjustable in the Parametric EQ interface.
15	Parametric EQ, Graphic EQ	Switch between Parametric EQ mode and Graphic EQ mode. Mode switch would lead to loss of all settings.
16	Low-pass filter	Turn on or off the low-pass filter to cut off high frequency. Select filter type (Linkwitz-Riley, Butterworth or Bessel). Select the divider frequency (between 20Hz and 20kHz). Select the divider slope (-6dB/Oct, -12dB/Oct, -18dB/Oct, -24dB/Oct, -30dB/Oct, -36dB/Oct, -42dB/Oct, or -48dB/Oct).
17	High-pass filter	Turn on or off the high-pass filter to cut off low frequency. Select filter type (Linkwitz-Riley, Butterworth or Bessel). Select the divider frequency (between 20Hz and 20kHz). Select the divider slope (-6dB/Oct, -12dB/Oct, -18dB/Oct, -24dB/Oct, -30dB/Oct, -36dB/Oct, -42dB/Oct, or -48dB/Oct).
18	Channel phase	Select the channel phase (normal phase or reverse phase).
19	Channel gain	Push the fader left and right to adjust the channel gain, that it, to adjust the volume of the output channel; the adjustable range is: -60dB ~ +6dB.
20	Reset channel type	Select "Clear" to set the current channel type as Empty; select "Default" to set the current channel type as Factory setting.
21	Locking	You can lock the current channel type.
22	Sync	The syncing modes to choose from include "Copy channel EQ / volume from left to right" or "Copy channel EQ / volume from right to left".
23	Direct EQ, Restore EQ	Switch the tuned EQ data to direct state, click it again to restore the EQ data before Direct EQ setting.
24	Reset EQ	Reset EQ setting.
25	Output channel	There are 6 output channels to choose from. Configure the type of output channel. Click the speaker button to mute.
26	Connection indicator	Connect the PC and the host machine with a USB cable. Open the software to connect the device. Click it again to turn off the connection.

Specifications

Dynamic range	≥98dB
SNR (RCA)	≥95dB
Background noise	High level: 75uVrms; RCA: 12uVrms
Channel resolution	≥75dB
THD	≤0.01%
Input voltage	High level: 28Vpp
Output voltage	High level: 28Vpp; RCA: 6.5Vpp
Rated power	4CHX25W (4Ω, 14.4V, 1kHz, 10%THD)
Maximum power	4CHX50W (4Ω, 14.4V, 1kHz, 10%THD)
Input / output sensitivity	1:1.25 (no power amplification)
Frequency response	20Hz ~ 20kHz
System sampling rate	48kHz/24bit
Input impedance	High level: 20Ω
Output impedance	51Ω
Operating voltage	9 ~ 16V
Quiescent current	≤2.3mA (in off state)
Stand-by power consumption	≤0.1W
REM startup input	High level (FL-/FL+) or AAC optional
REM startup output	12V (0.2A)
Startup time	10s
Operating ambient temperature	-20~60°C
Storage temperature	-40~85°C
Net weight	1.2kg
Dimensions	160mmX140mmX38mm



Functional Parameters

Input signals	4 channels of high level, high resolution Bluetooth
Output signals	4 channels of high level, 2 channels of RCA audio
Signal gain of output channel	Range: mute, -60dB ~ +6dB
Output signal equaliser	Type: parametric EQ, graphic EQ Frequency: 20Hz ~ 20kHz, resolution: 1Hz Q value (slope or gradient): 0.404~28.852 Gain: -12.0dB ~ +12.0dB, resolution: 0.1dB ~ 0.5dB ~ 1.0dB
Output signal frequency divider	Each output channel is equipped with independent multi-order high-pass filter, Filter type: Linkwitz-Riley, Bessel, Butterworth Filter cross-over frequency: 20Hz ~ 20kHz, resolution: 1Hz Filter slope (gradient): -6dB/Oct~-48dB/Oct
Output phase	Normal phase or reverse phase (0°/180°)
Output delay	0.000~7.354ms, 0~254cm, 0~100inch
Pre-set sound effects	Multiple sets of pre-set sound effects data can be saved in the device, call of online sound effects is supported