



PXE-X120-8

12-Sound Track High-Sound-Quality Audio Processing Amplifier



- For iPhone users, please search "Alpine Music" in APP Store to download and install it; for Android users, please scan the QR code on the right to download and install it directly.
- Or you may use a wired controller sold separately for easy control of the device.



Alpine Music

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Operating Instructions

Type of precautions

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

Warning

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

Otherwise, it may result in personal injury or damaged product. Please return the product to the authorized Alpine dealer or nearby Alpine service center to repair.

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

Otherwise, it may lead to an accident like fire, etc.

Please call the professionals to wire and install.

It needs professional expertise and experiences to wire and install the product. Please contact the dealer from whom you bought the product to install it for safety.

Please do not disassemble or refit.

Otherwise, it may result in an accident, fire or electric shock.

Small items like bolts or screws should be kept out of the reach of child.

If ingested, it may result in severe damage. Once ingested, please seek medical attention immediately.

Please do not use any function that may distract you during driving.

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

During driving, you must maintain the volume at a level such that the noise outside can still be heard.

It is very dangerous not to clearly hear an emergency vehicle alarm and road warning signal (such as a railway crossing) and may result in an accident. Moreover, a too large volume may damage your hearing.

Caution

Product cleaning

Please clean the product regularly with a soft dry cloth. For any dirt difficult to clean, only water can be used to soak the cloth. Any other solvents may lead to dissolution.

Temperature

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

Repair

In case of problems, please do not repair them by yourself. Please return the product to the authorized Alpine dealer or nearby Alpine service center to repair.

System matching

When PXE-X120-8 is used with active division mode to assign signals for speakers, please ensure that the frequency division point of high pitch is above 1500 Hz to avoid damage to high pitch speakers

Installation site

The device cannot be installed at the following locations:

- Under direct sunlight and near a hot source.
- With high humidity and near a water source.
- Dusty sites.
- Environments with violent vibration.

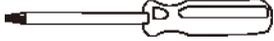
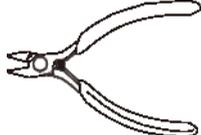
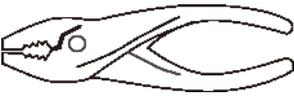
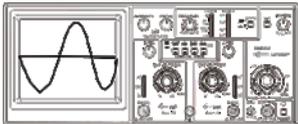
Copyright notice

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Products with a High-Resolution mark conform to the standards defined by the Acoustical Society of Japan. Alpine Electronics has been authorized by the Acoustical Society of Japan to use the High-Resolution mark.

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

Tools that may be required (depending on the vehicle)

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

Accessory list

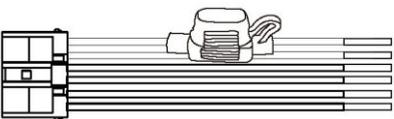
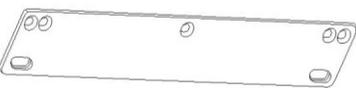
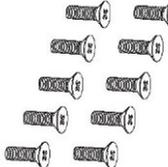
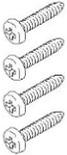
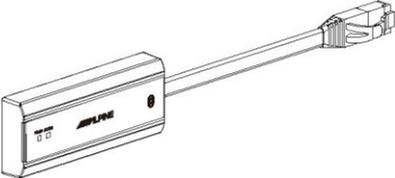
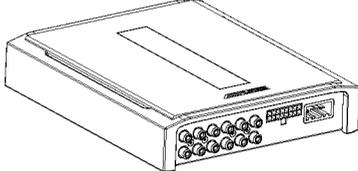
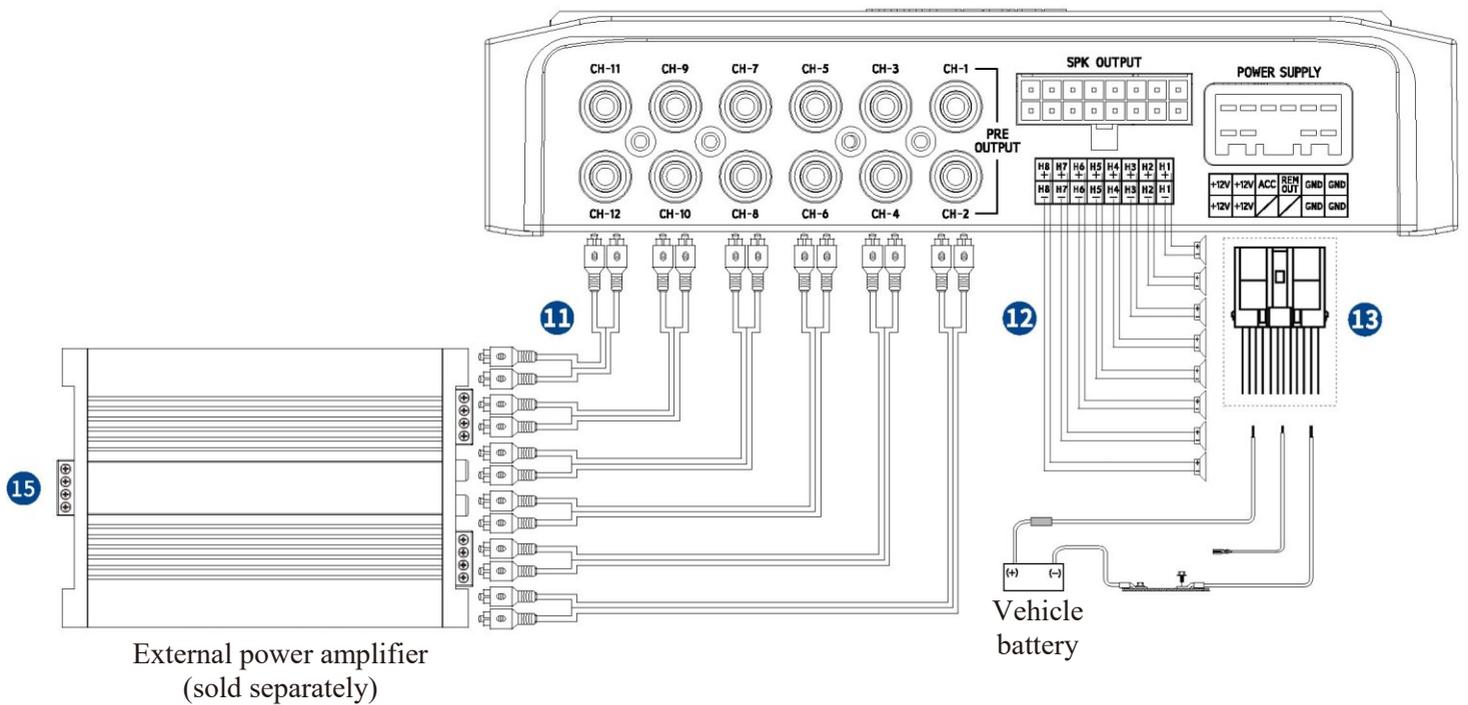
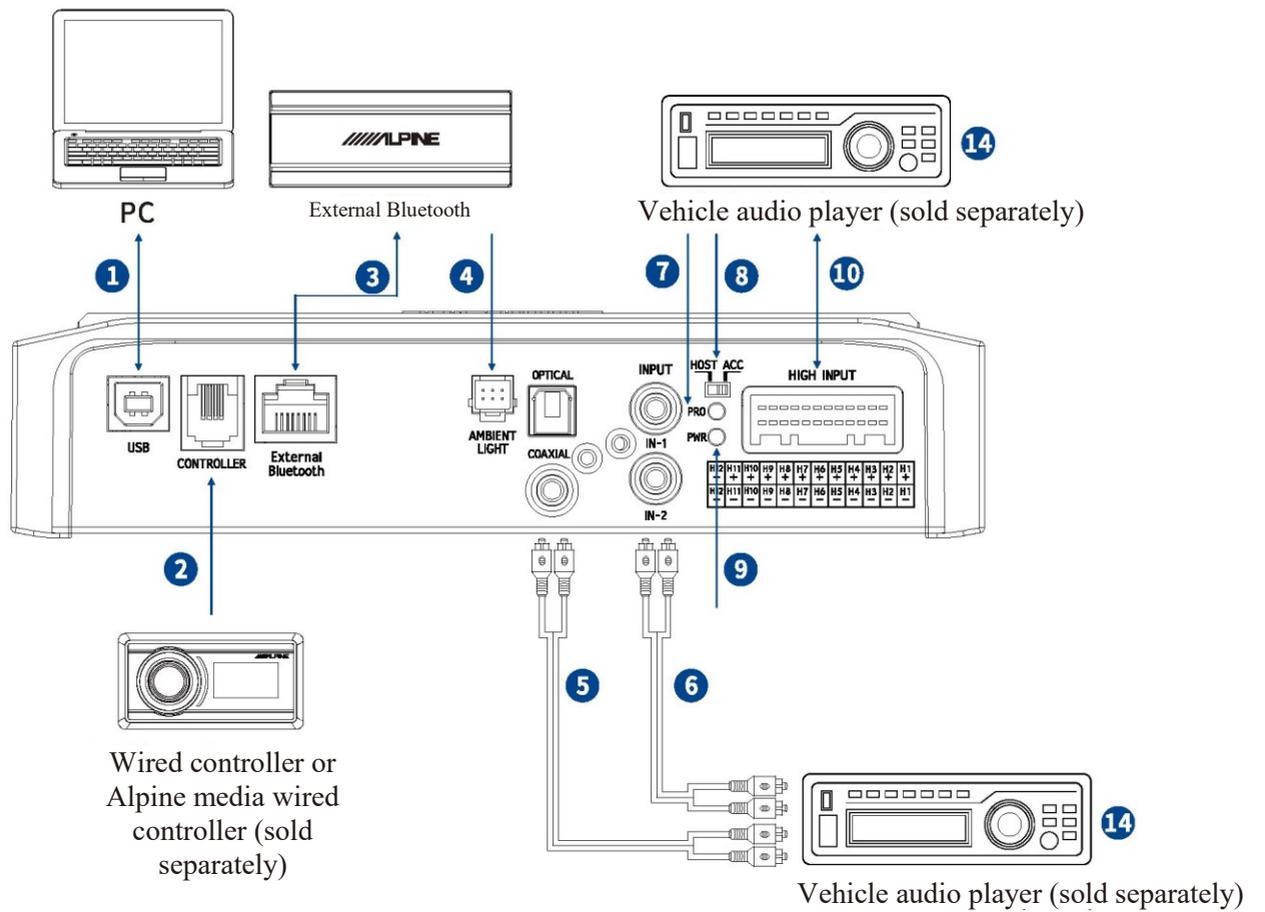
2×8P speaker line 	2×12P Input line 	Power cord 
Mounting bracket 	Machine tooth screw × 10 	Self-tapping screw × 4 
USB 2.0 cable 	Bluetooth 	Host machine 

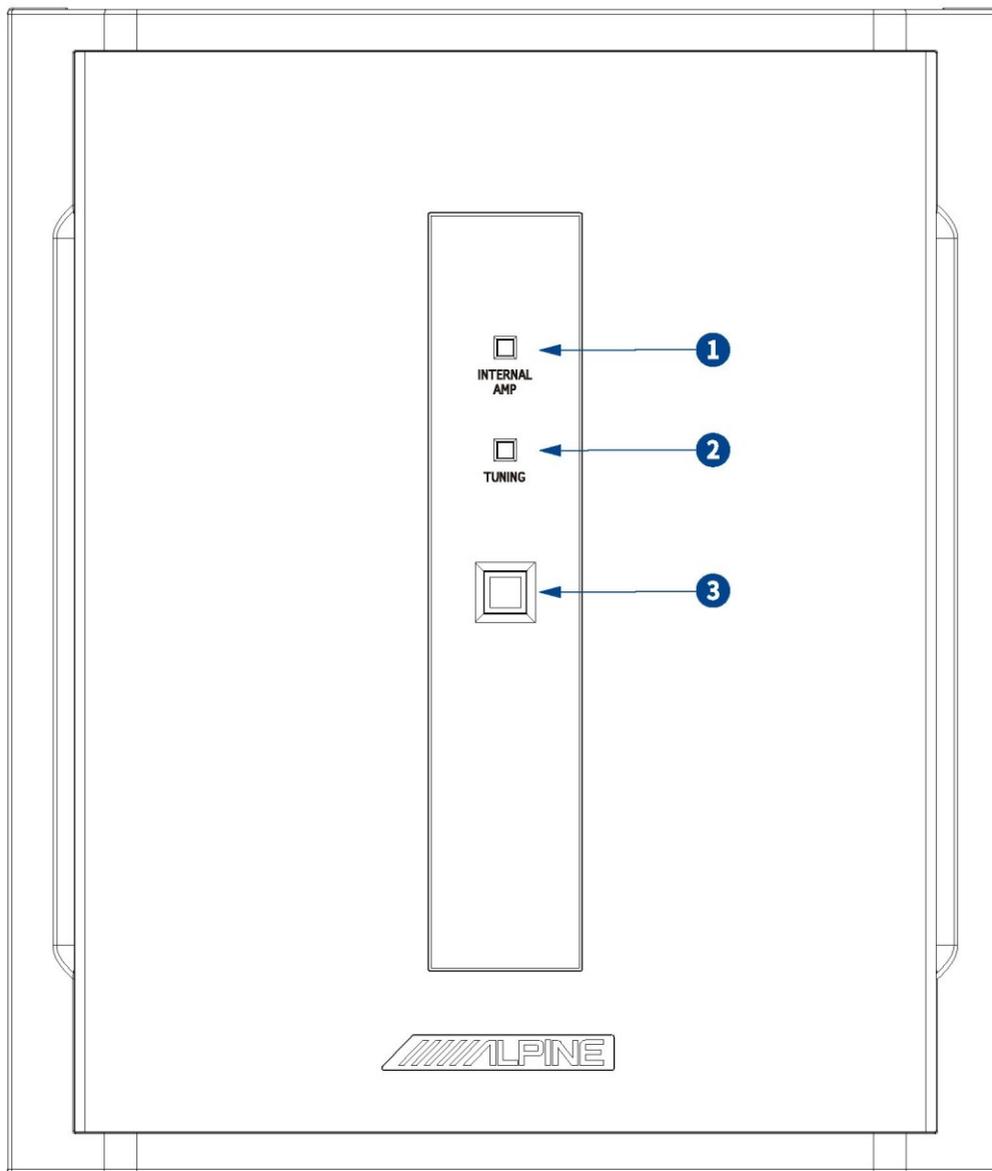
Diagram of device interfaces



Description of device interfaces and their functions

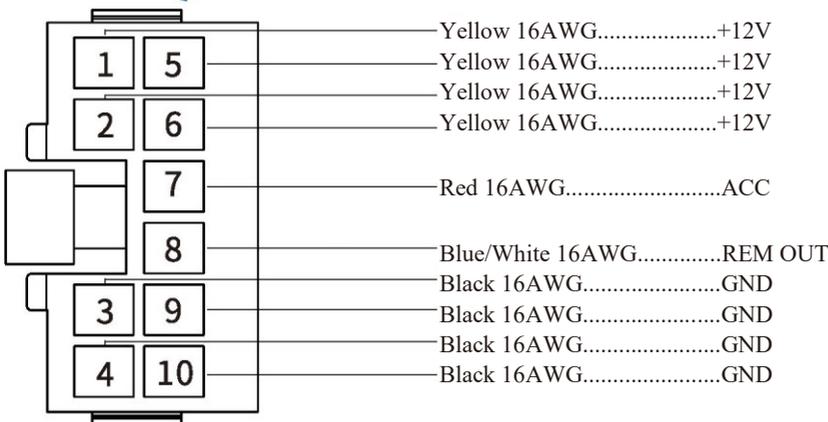
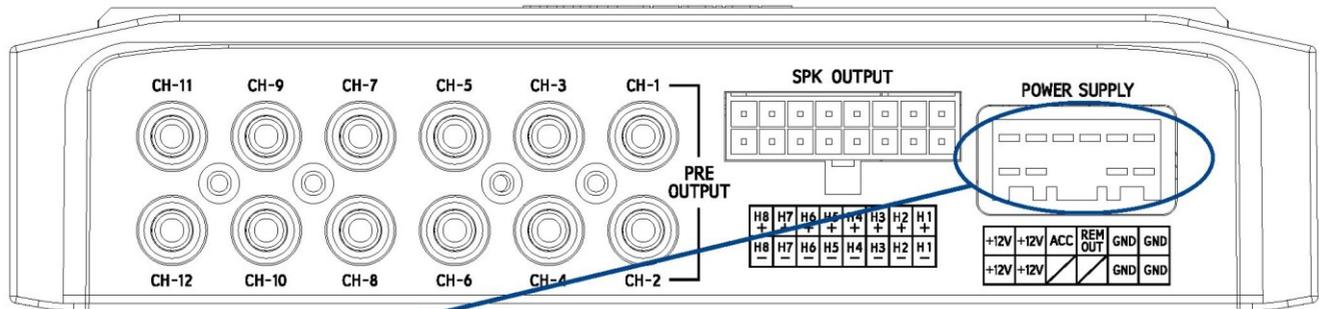
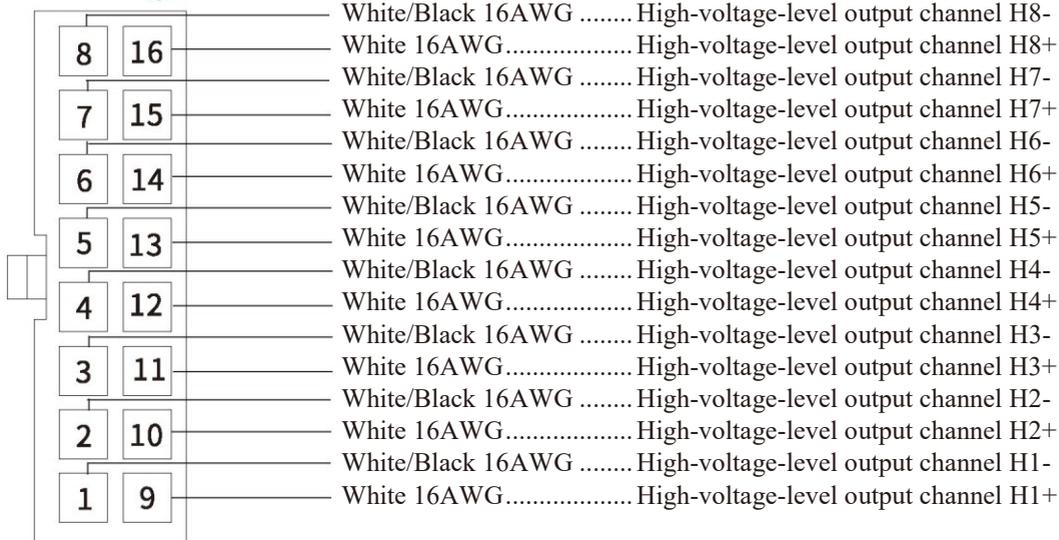
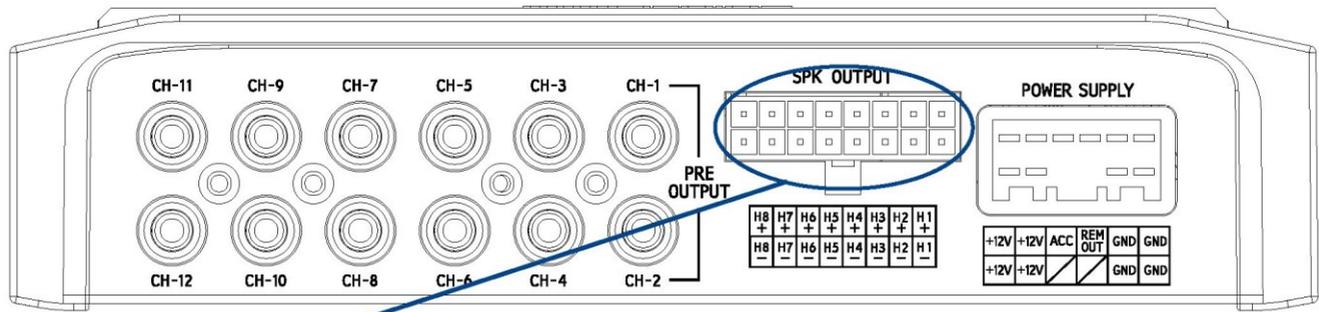
1	USB 2.0 interface	A USB2.0 cable can be used to connect the computer and perform tone tuning and setting in detail.
2	Wired controller interface	Volume adjustment, audio source selection and data recall can be performed by connecting the wired controller.
3	External Bluetooth input interface	Select HD Bluetooth as the input signal, or connect to the PXE-X120-8 mobile tuning APP. After the APP is successfully connected, the Bluetooth icon is constant on.
4	Ambient light interface	Connecting the ambient light interface to control the operation of ambient light.
5	Optical/Coaxial input interface	Connecting the optical fiber cable or coaxial cable of the vehicle audio player and switch the audio source of the device to a digital signal input to play optical or coaxial digital signals.
6	RCA audio input	One set of RCA audio signal input which can connect the RCA audio signal output of the vehicle audio player.
7	Protection display lamp	Protection display lamp.
8	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-level input signal H1-/H1+.
9	Power lamp	Power lamp.
10	High-voltage-level input interface	Connected to the high-voltage-level output of the vehicle audio player.
11	RCA audio out	Six sets of RCA audio signal output which can be connected to the external power amplifier.
12	High-voltage-level output interface	Connect the power amplifier output of the device to speakers.
13	Power interface	Connect the vehicle battery.
14	Vehicle audio player	Connect the vehicle audio player.
15	External power amplifier	Connect the external power amplifier

Device indicator description

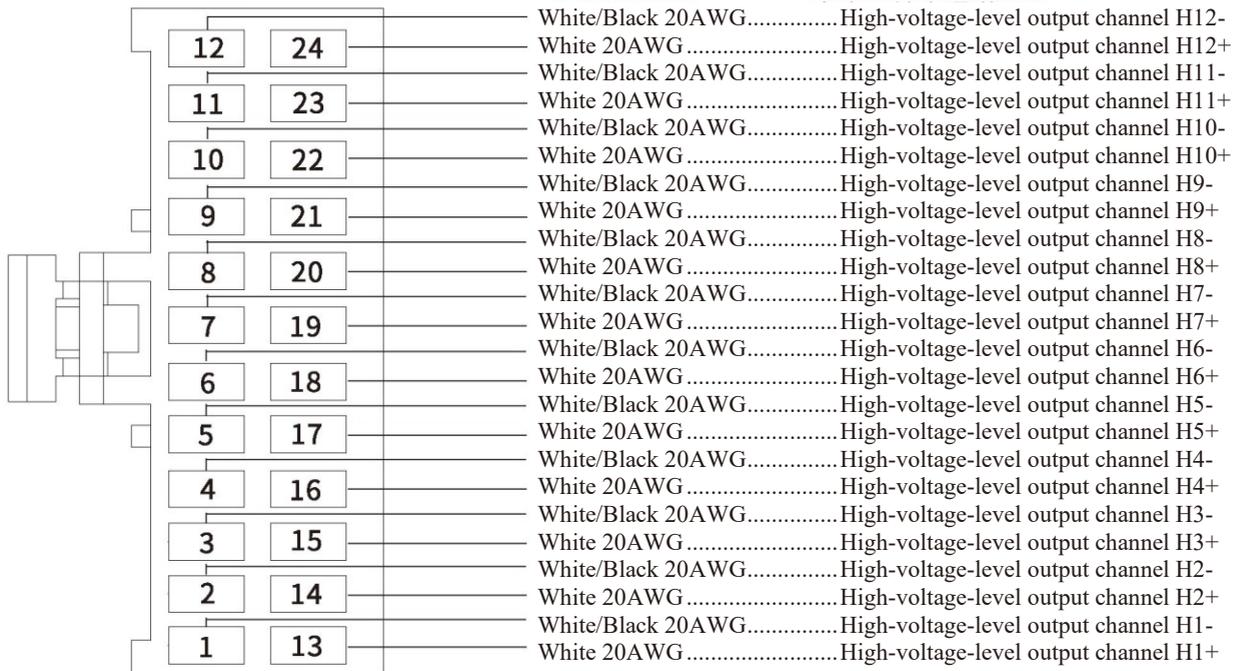
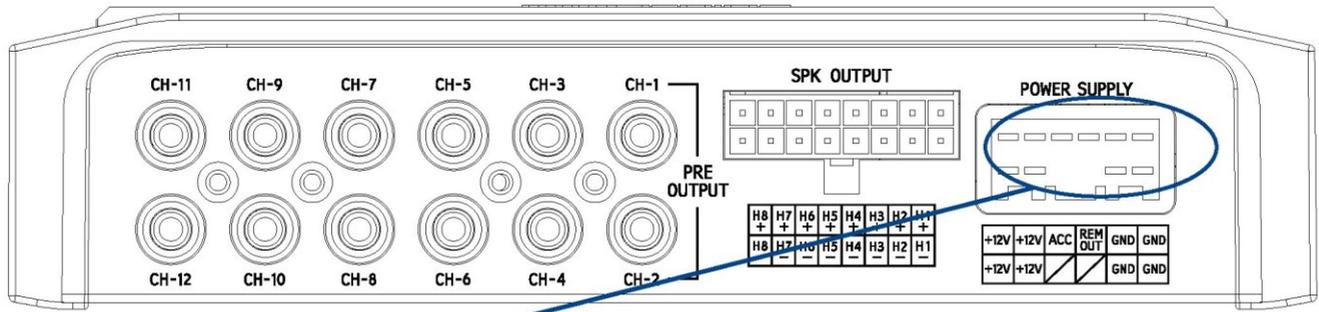


1	Amplifier switch indicator	When the amplifier output is turned off or the device is turned off, the indicator light is off; when the amplifier output is turned on, the indicator light is constant on.
2	Software connection indicator	When the PC software or mobile tuning software is connected, the indicator light flashes; when no PC software or mobile tuning software is connected, the indicator light is constant on; when the device is turned off, the indicator is off.
3	Power indicator	When the device is turned on, the indicator light is constant on; when the device is turned off, the indicator is off.

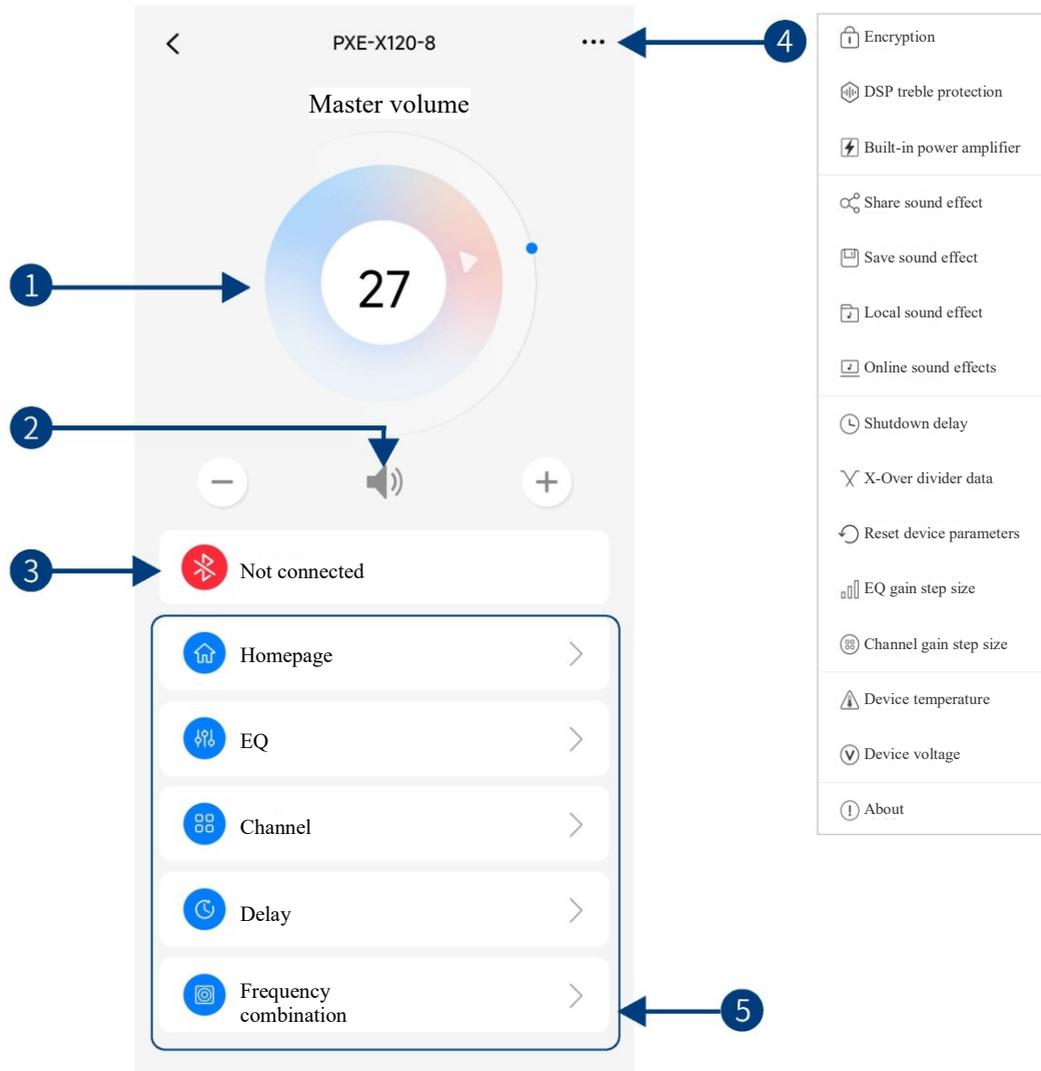
Wire pin arrangement



Wire pin arrangement

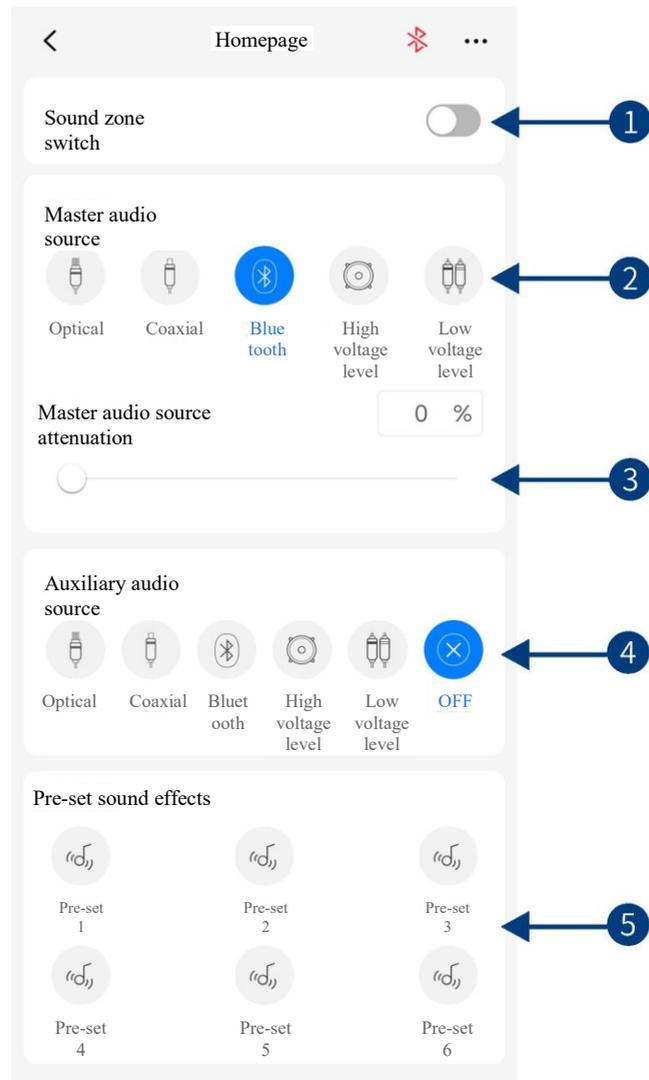


Description of mobile APP - Start page



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	You can encrypt data, protect DSP treble, set built-in power amplifier, share sound effect, save sound effect, select online effect, select local effect, set shutdown delay, check X-Over divider data (with channel setting data available), reset device parameters, set EQ gain step size, set channel gain step size, check device temperature, check device voltage and check version number.
5	Interface selection	Five pages of different functions of tuning, namely Homepage, EQ, Channel, Delay and Frequency combination.

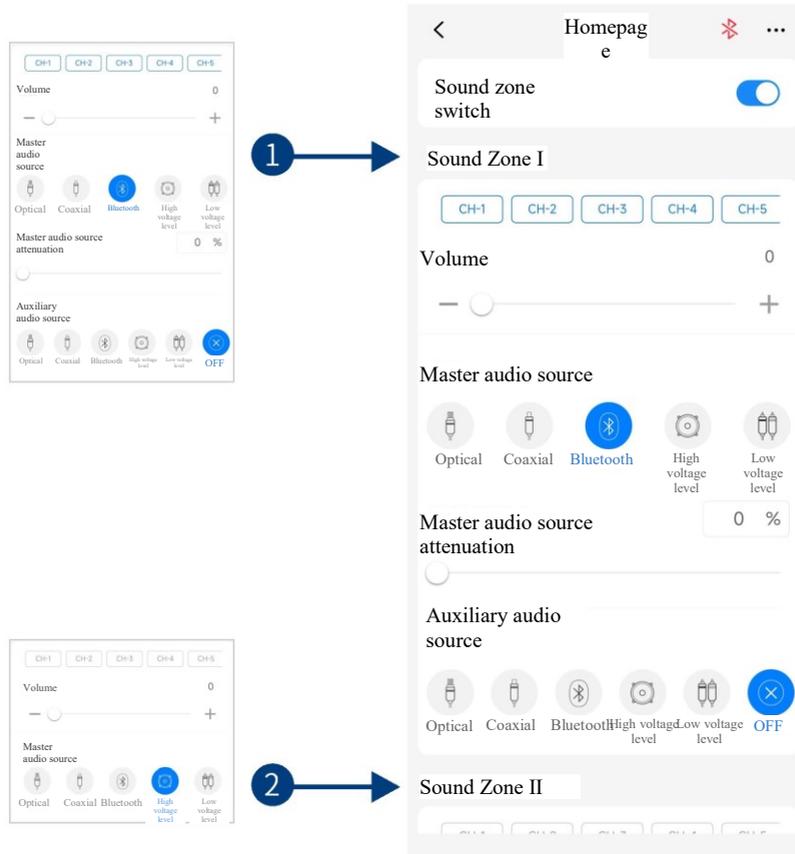
Description of mobile APP - Homepage (full sound field)



1	Sound zone switch	Switch sound zone on or off (off by default).
2	Master audio source	Switch master audio source (optical, coaxial, Bluetooth, high voltage level and low voltage level).
3	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%.
4	Auxiliary audio source	Switch auxiliary audio source (optical, coaxial, Bluetooth, high voltage level, low voltage level and off).
5	Pre-set sound effects	Save or recall multiple pre-set sound effects.

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

Description of mobile APP - Homepage (sound zone)



You can match the audio sources of the front and rear sound fields flexibly (identical channels or sources are mutually exclusive). The front sound field supports both master and auxiliary audio source settings, and the rear sound field supports the master audio source settings, which achieves free combination of different channels and sources in the front and rear sound fields. For example, navigation tones are played on a selective channel in the front sound field, and the rear-view entertainment system is played on a selective channel in the rear sound field.

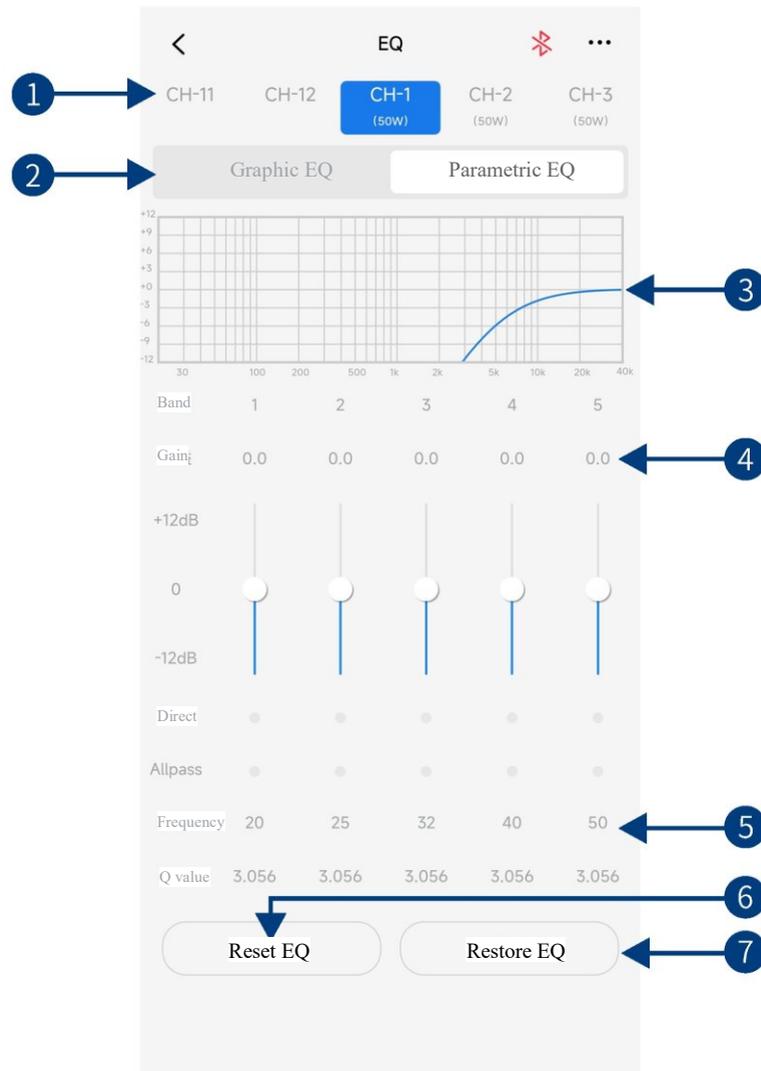
When sound zone switch is turned on, the sound zone interface is shown in the figure above.

1	Sound Zone I	<p>Channel setting: Slide left and right to select the output channel to set. There are 12 channels to choose from. (Channels in different sound fields are mutually exclusive.)</p> <p>Channel volume: The volume adjustment range is 0 ~ 35.</p> <p>Audio source: Switch master audio source (optical, coaxial, Bluetooth, high voltage level, and low voltage level); and switch auxiliary audio source (optical, coaxial, Bluetooth, high voltage level, low voltage level and off).</p> <p>Primary source attenuation: The higher the attenuation of master audio source, the lower the master volume is. The range of attenuation is 0% ~ 100%.</p>
2	Sound Zone II	<p>Channel setting: Slide left and right to select the output channel to set. There are 12 channels to choose from. (Channels in different sound fields are mutually exclusive.)</p> <p>Channel volume: The volume adjustment range is 0 ~ 35.</p> <p>Audio source: Switch master audio source (optical, coaxial, Bluetooth, high voltage level and low voltage level).</p>

Caution:

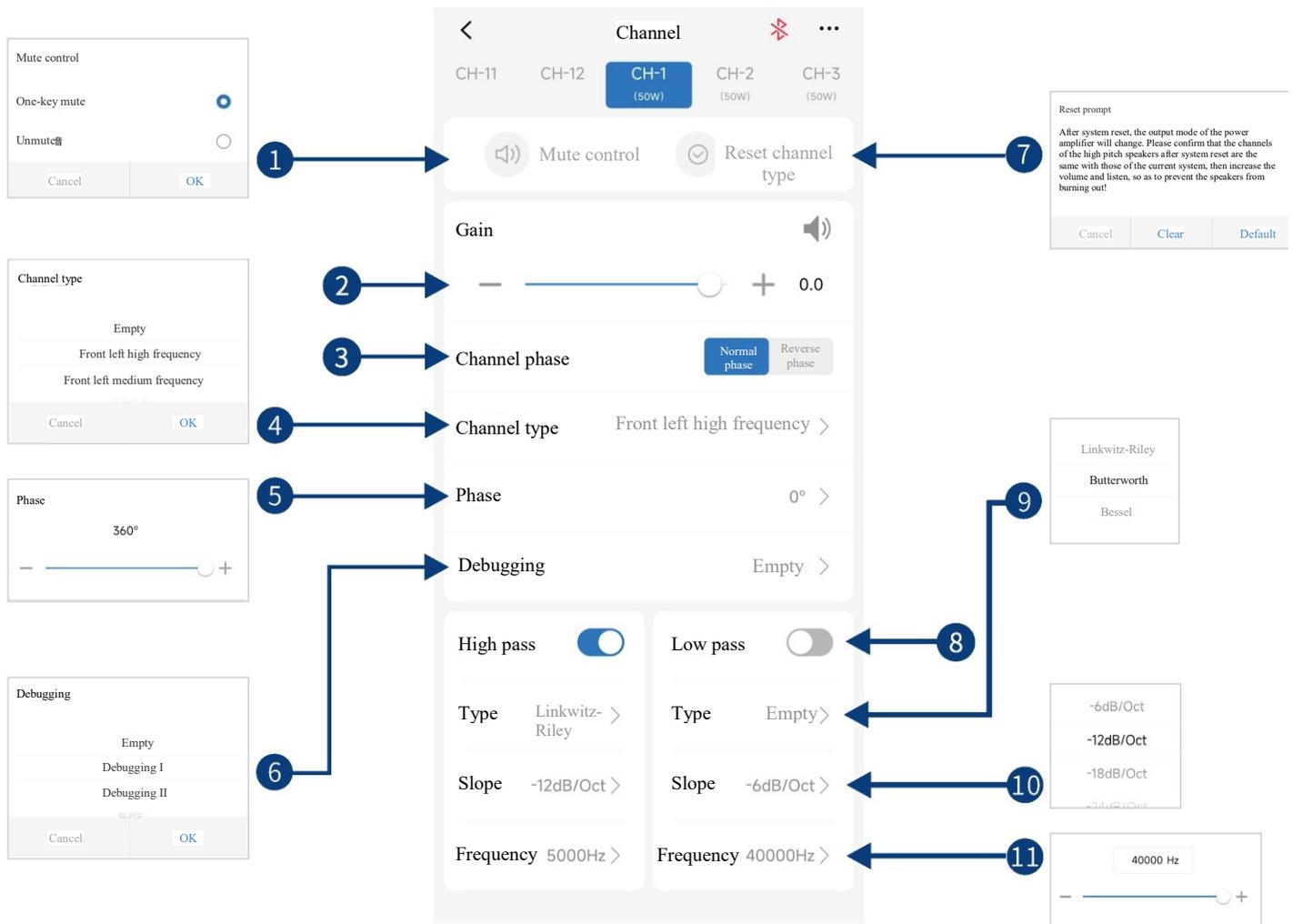
1. The master audio source and auxiliary audio source of Sound Zone I are mutually exclusive and cannot be superimposed; otherwise, the auxiliary audio source will be invalid (optical and coaxial are both digital audio sources and cannot be superimposed);
2. The Sound Zone I and Sound Zone II channels are mutually exclusive and cannot be superimposed.

Description of mobile APP - EQ



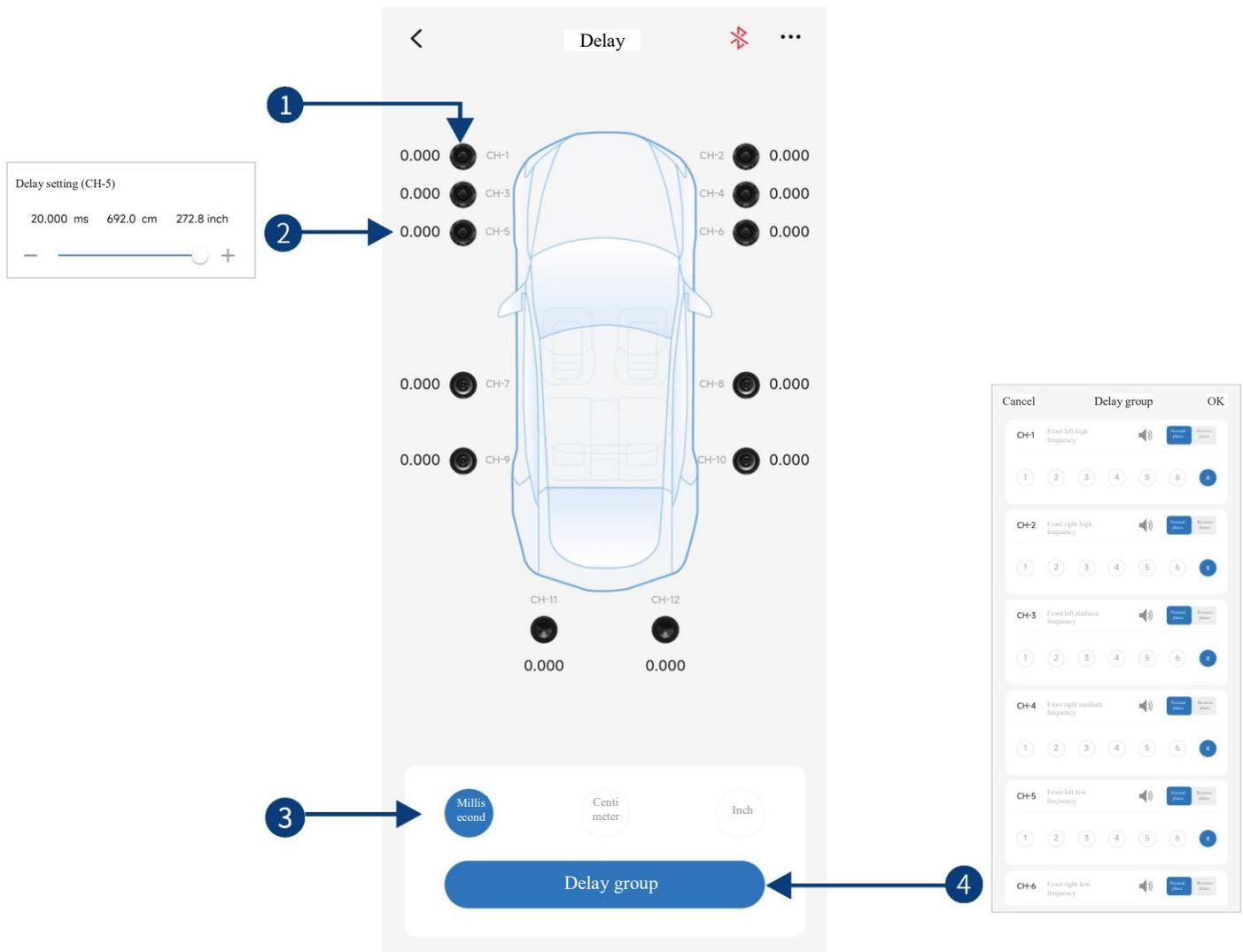
1	Output channel	Slide left and right to select the output channel for EQ adjustment. There are 12 channels to choose from.
2	Parametric EQ, Graphic EQ	Switch between Parametric EQ mode and Graphic EQ mode. Mode switch would lead to loss of all settings.
3	EQ curve	Display the current EQ curve status, set the frequency, Q value and gain.
4	Gain	Pull the fader up and down to adjust the gain. The adjustable range is: -12.0dB ~ +12.0dB.
5	Allpass, Frequency, Q value, Gain	Adjust the frequency, Q value and gain of the output channel. The frequency and Q value are adjustable in the Allpass mode. The gain is adjustable but the frequency and Q value are fixed in the Graphic EQ mode. The frequency, Q value and gain are all adjustable in the Parametric EQ mode.
6	Reset EQ	Reset EQ setting.
7	Restore EQ, Direct EQ	Switch the tuned EQ data to direct state, click it again to restore the EQ data before Direct EQ setting.

Description of mobile APP - Channel



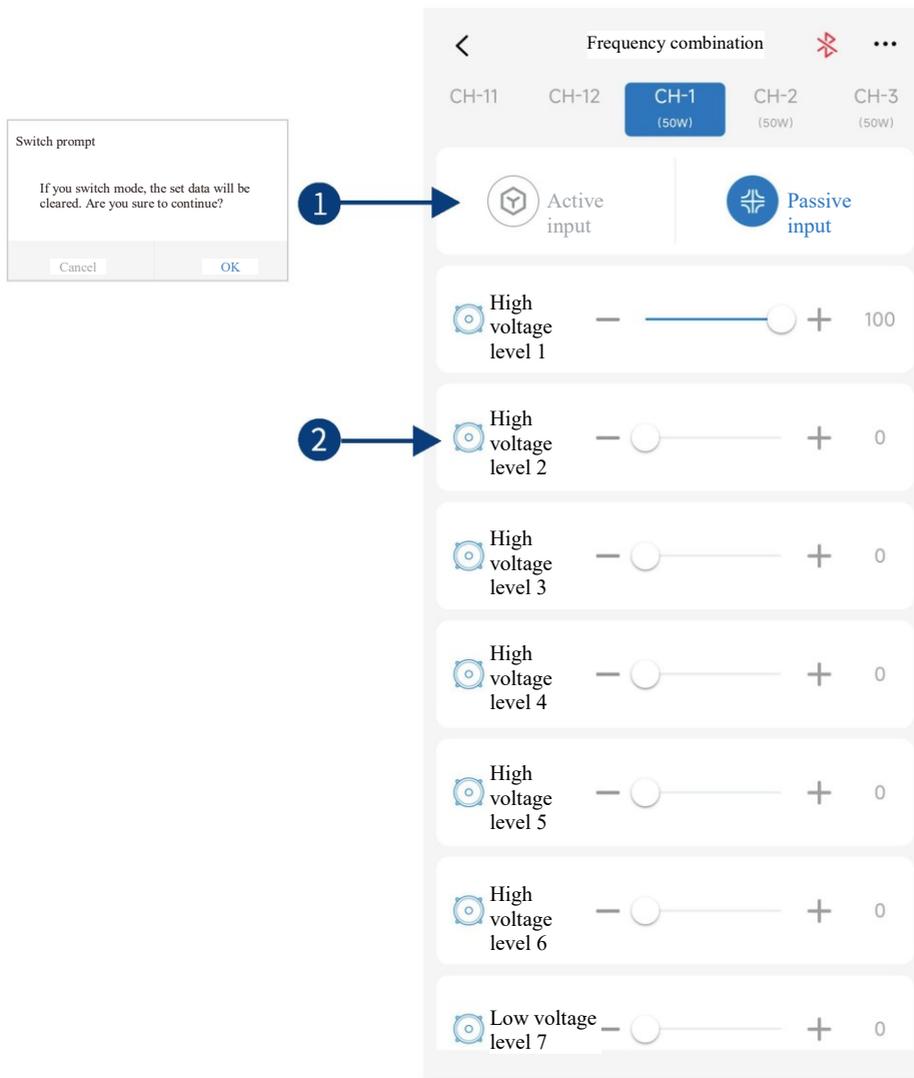
1	Mute control	Select mute or unmute all channels with just one key.
2	Channel volume	Push the fader left and right to adjust the channel volume in the range of -60dB ~ +6dB; click the speaker button to mute.
3	Channel phase	Select the channel phase (normal phase or reverse phase).
4	Channel type	Select the channel type in the pull-down menu.
5	Bass phase	Adjust the low pitch phase of output channel in the range of 0° ~ 360°.
6	Debugging	Select a debugging group in the drop-down menu. The six free debugging groups support dynamic debugging.
7	Reset channel type	You can set the current channel type as Factory setting.
8	Divider	Turn on or off High-pass/Low-pass.
9	Filter type	Select filter type (Linkwitz-Riley, Butterworth or Bessel).
10	Frequency divider slope	Select the divider slope (-6dB/Oct, -12dB/Oct, -18dB/Oct, -24dB/Oct, -30dB/Oct, -36dB/Oct, -42dB/Oct, or -48dB/Oct).
11	Divider frequency	Select the divider frequency (between 20Hz and 40kHz).

Description of mobile APP - Delay



1	Speaker	Select the speaker of the corresponding channel, click the speaker to mute it, click it again to cancel mute.
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 ~ 20.000 milliseconds, 0 ~ 692 centimeters, and 0 ~ 273 inches.
4	Delay group	There are 6 delay groups to choose from for each channel. You can mute the channels and adjust the normal phase and reverse phase.

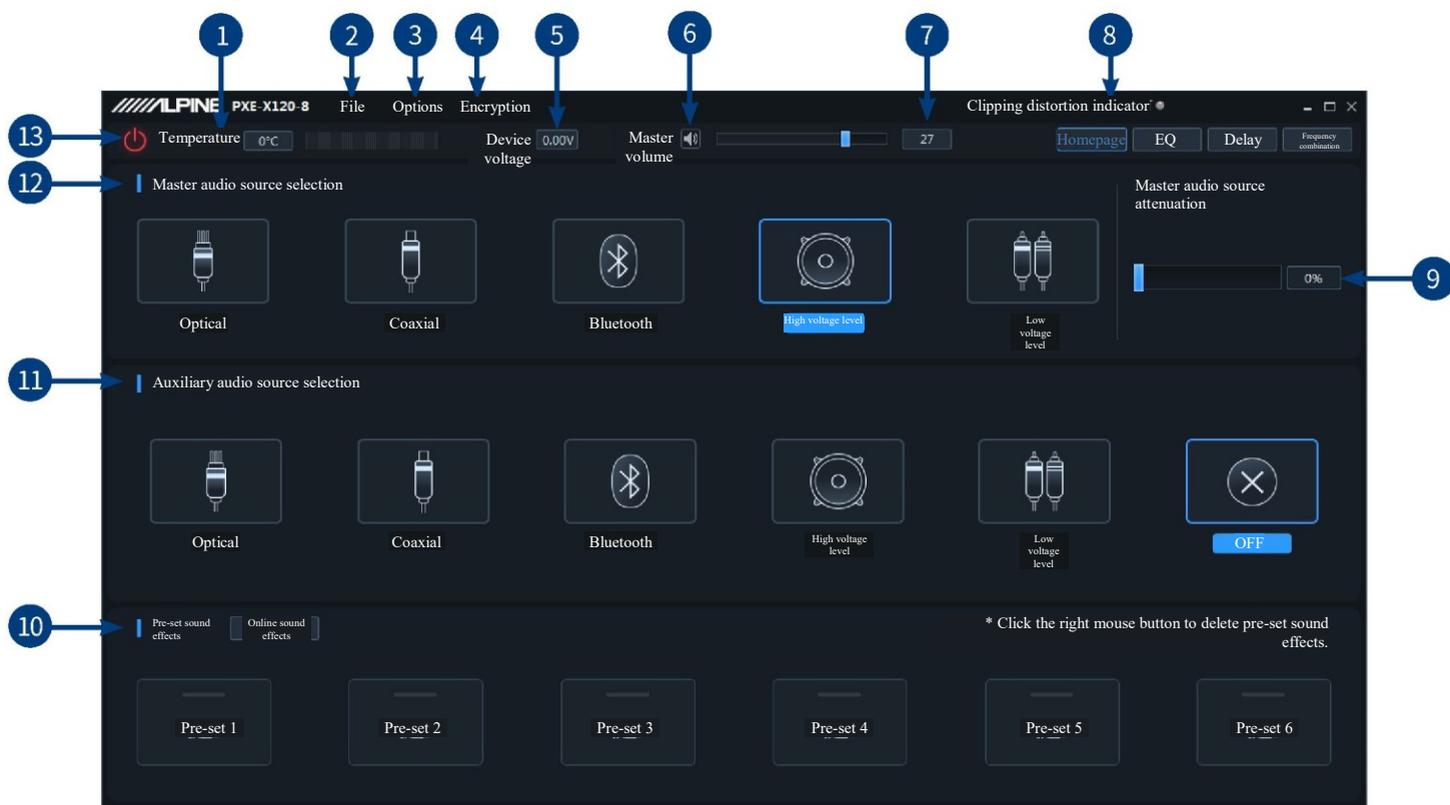
Description of mobile APP - Frequency combination



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 source in the channel to achieve the purpose of sound mixing and frequency mixing.

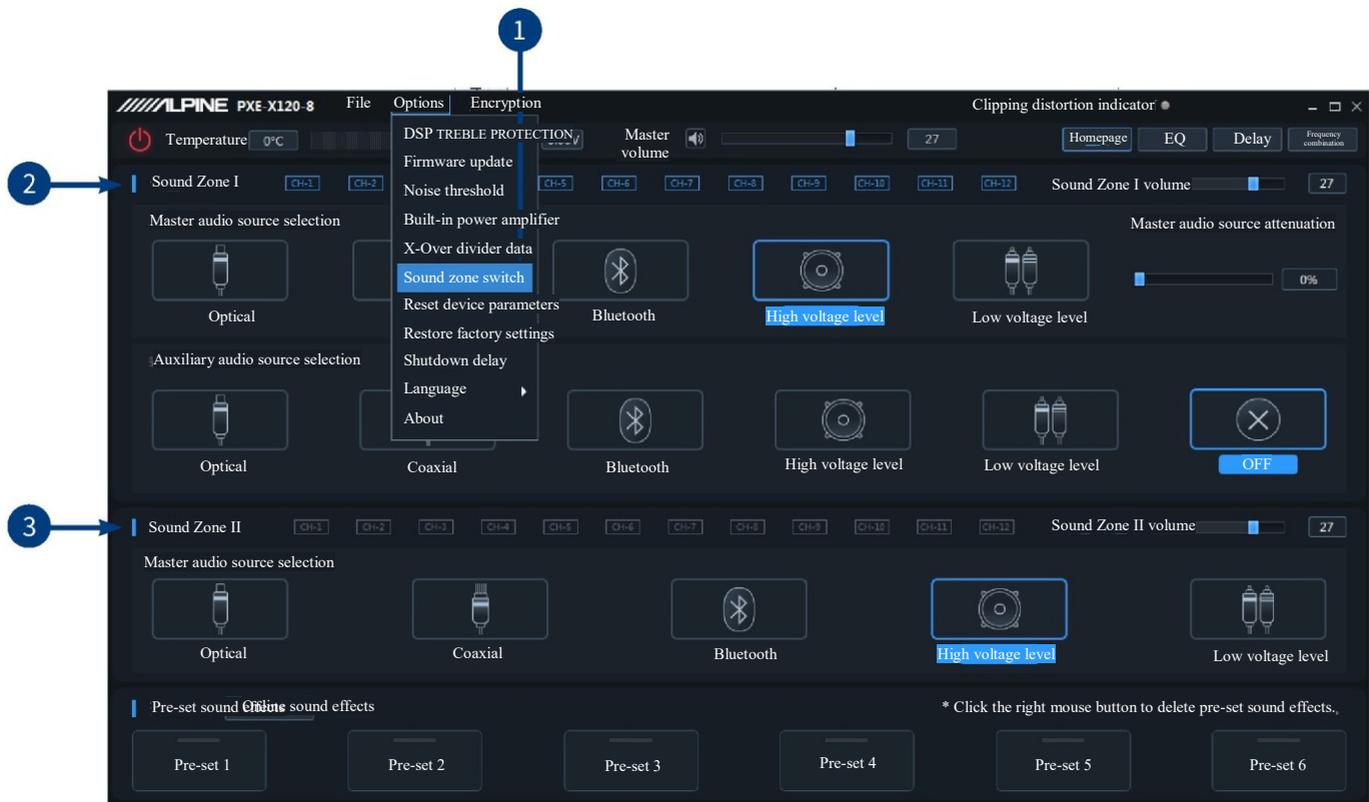
Caution: It is strongly recommended to set the total volume of a channel to 100 to avoid clipping.

Description of PC software - Homepage (full sound field)



1	Temperature display	Detect the temperature on the device surface.
2	File	Load or save scene files on PC, and load or save all scene files.
3	Options	DSP treble protection, firmware update, noise gate, built-in power amplifier, X-Over divider data (with channel setting data available), sound zone switch, restore factory settings, shutdown delay, switch between English and Chinese, check the version number.
4	Encryption	Enter a 6-digit password to encrypt the tuned sound effect data.
5	Device voltage display	Detect the system operation voltage.
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	Clipping distortion indicator	When the clipping distortion indicator shows yellow, it reminds the user to adjust the device to make the signal balanced and in a distortion-free state. When the adjustment is completed, the indicator shows gray (gray by default).
9	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%.
10	Pre-set sound effects	Multiple sets of pre-set sound effects can be saved or recalled, and recall of online sound effects is supported.
11	Auxiliary audio source selection	Switch auxiliary audio source (optical, coaxial, Bluetooth, high voltage level, low voltage level and off).
12	Master audio source selection	Switch master audio source (optical, coaxial, Bluetooth, high voltage level and low voltage level).
13	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.

Description of PC software - Homepage (sound zone)



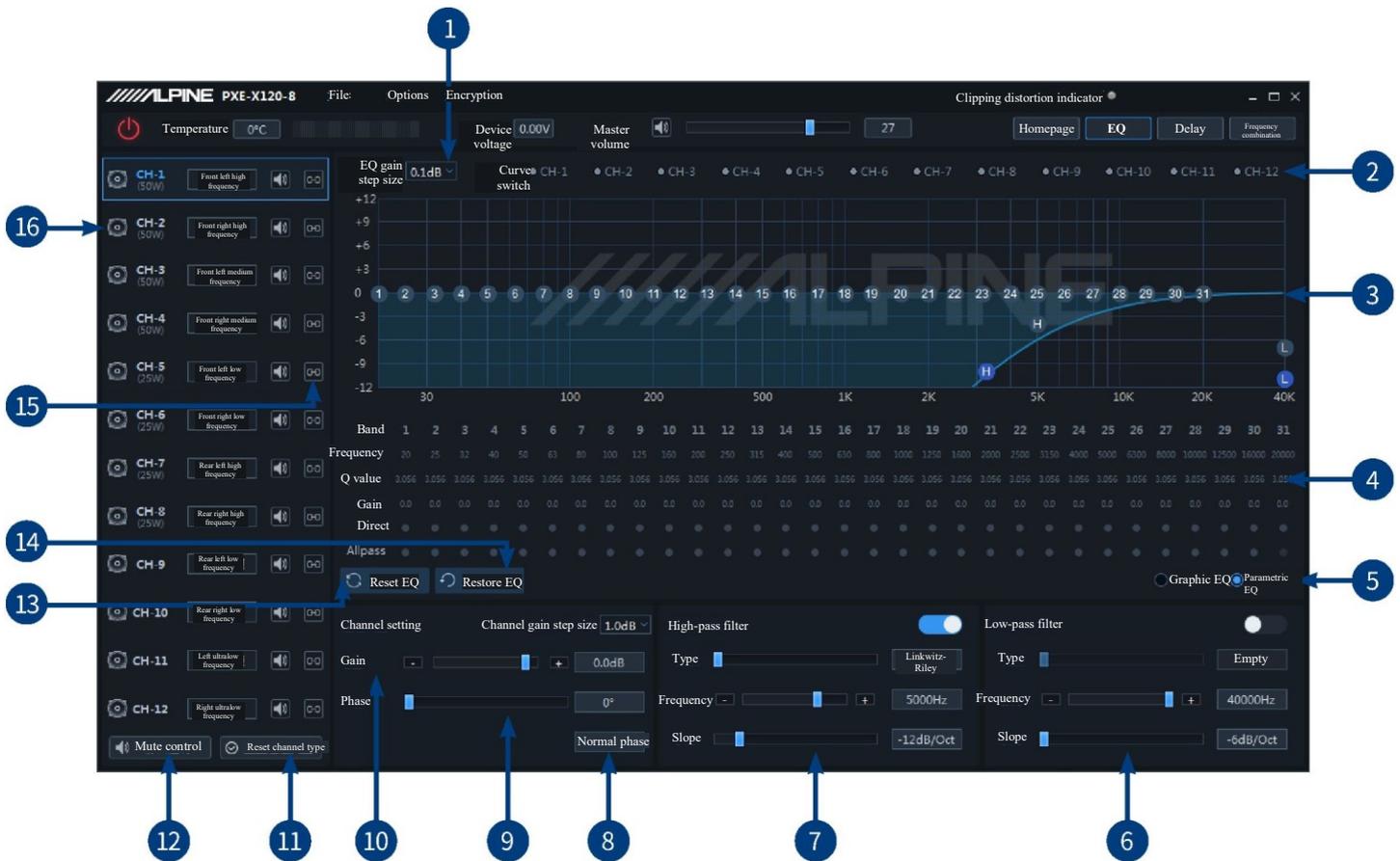
When sound zone switch is turned on, the sound zone interface is shown in the figure above.

1	Sound zone switch	Turn on sound zone switch to make sound zone settings. You can match the audio sources of the front and rear sound fields flexibly (identical channels or sources are mutually exclusive). The front sound field supports both master and auxiliary audio source settings, and the rear sound field supports the master audio source settings, which achieves free combination of different channels and sources in the front and rear sound fields. For example, navigation tones are played on a selective channel in the front sound field, and the rear-view entertainment system is played on a selective channel in the rear sound field.
2	Sound Zone I	Channel setting: Slide left and right to select the output channel to set. There are 12 channels to choose from. (Channels in different sound fields are mutually exclusive.) Channel volume: The volume adjustment range is 0 ~ 35. Audio source: Switch master audio source (optical, coaxial, Bluetooth, high voltage level, and low voltage level); and switch auxiliary audio source (optical, coaxial, Bluetooth, high voltage level, low voltage level and off). Primary source attenuation: The higher the attenuation of master audio source, the lower the master volume is. The range of attenuation is 0% ~ 100%.
3	Sound Zone II	Channel setting: Slide left and right to select the output channel to set. There are 12 channels to choose from. (Channels in different sound fields are mutually exclusive.) Channel volume: The volume adjustment range is 0 ~ 35. Audio source: Switch master audio source (optical, coaxial, Bluetooth, high voltage level and low voltage level).

Caution:

1. The master audio source and auxiliary audio source of Sound Zone I are mutually exclusive and cannot be superimposed; otherwise, the auxiliary audio source will be invalid (optical and coaxial are both digital audio sources and cannot be superimposed);
2. The Sound Zone I and Sound Zone II channels are mutually exclusive and cannot be superimposed.

Description of PC software - EQ

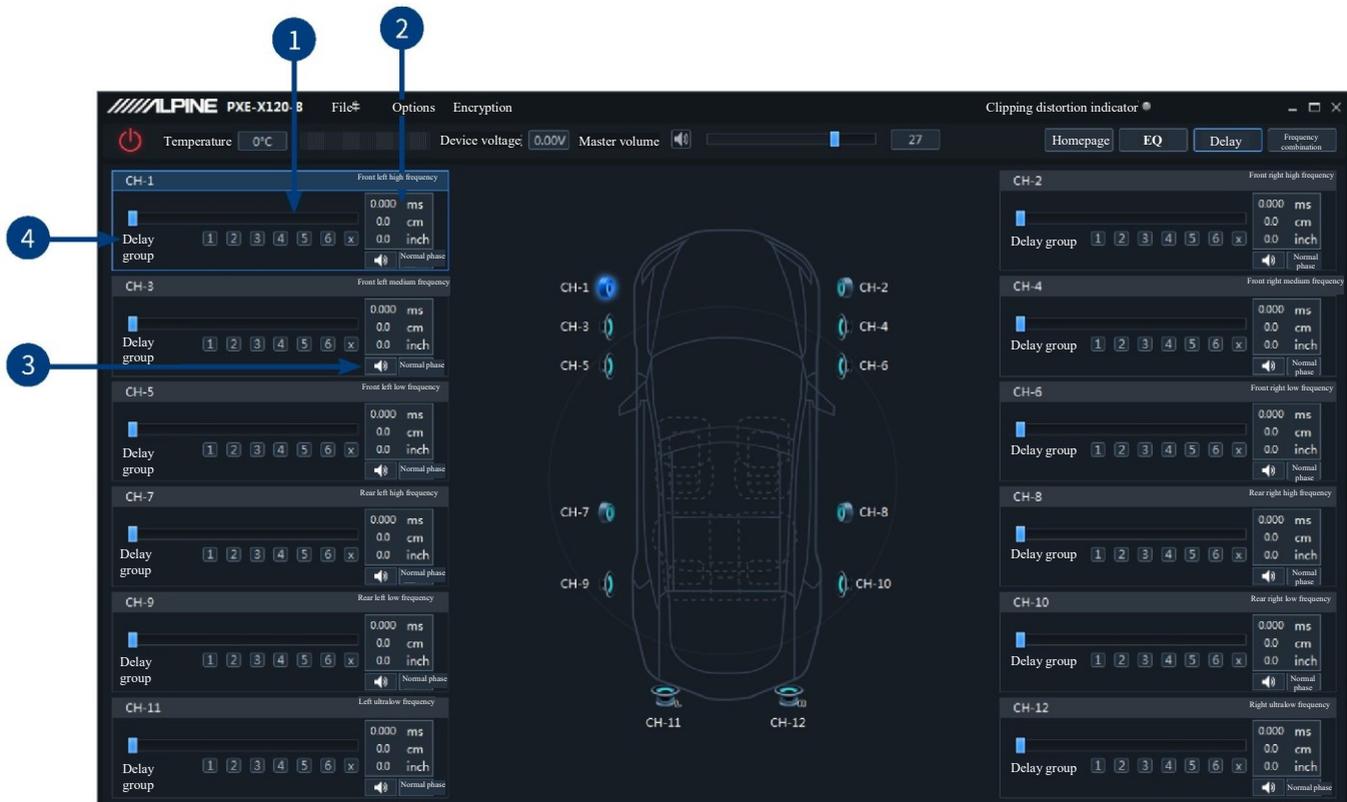


1	EQ gain step size	Step size can be chosen from the range: 0.1dB ~ 0.5dB ~ 1.0dB.
2	Output channel display	Display the output channel curve.
3	EQ curve	Display the current EQ curve status, set the frequency, Q value and gain.
4	Allpass, Frequency, Q value, Gain	Adjust the frequency, Q value and gain of the output channel. The frequency and Q value are adjustable in the Allpass mode. The gain is adjustable but the frequency and Q value are fixed in the Graphic EQ mode. The frequency, Q value and gain are all adjustable in the Parametric EQ mode.
5	Parametric EQ, Graphic EQ	Switch between Parametric EQ mode and Graphic EQ mode. Mode switch would lead to loss of all settings.
6	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 40kHz). Select the divider slope (-6dB/Oct, -12dB/Oct, -18dB/Oct, -24dB/Oct, -30dB/Oct, -36dB/Oct, -42dB/Oct, or -48dB/Oct).
7	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 40kHz). Select the divider slope (-6dB/Oct, -12dB/Oct, -18dB/Oct, -24dB/Oct, -30dB/Oct, -36dB/Oct, -42dB/Oct, or -48dB/Oct).
8	Channel phase	Select the channel phase (normal phase or reverse phase).
9	Bass phase	Adjust the low pitch phase of output channel in the range of 0° ~ 360°.

Description of PC software - EQ

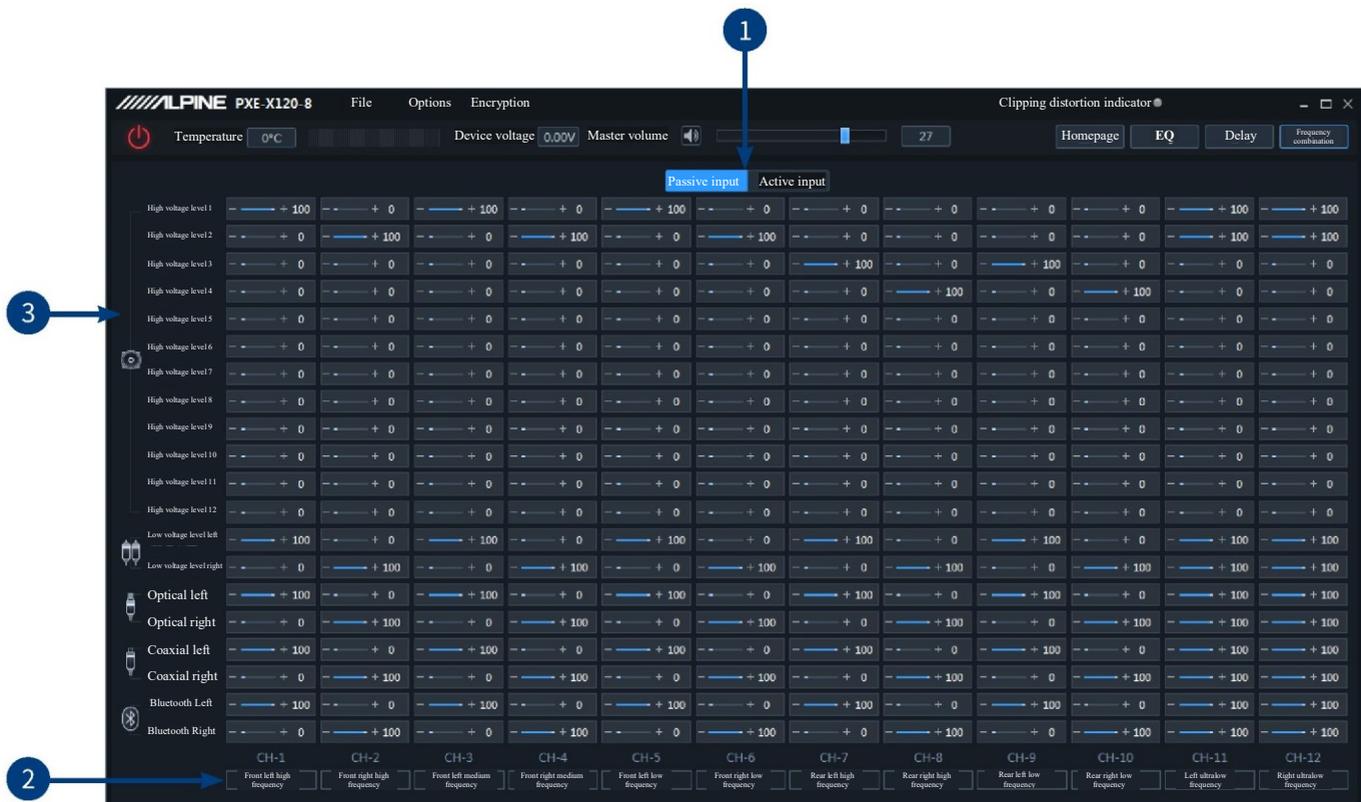
10	Channel gain	Push the fader left and right to adjust the channel gain, that it, to adjust the volume of the output channel; the adjustable range is: -60dB ~ +6dB.
11	Reset channel type	You can set the current channel type as Factory setting.
12	Mute control	Select mute or unmute all channels with just one key.
13	Reset EQ	Reset EQ setting.
14	Restore EQ, Direct EQ	Switch the tuned EQ data to direct state, click it again to restore the EQ data before Direct EQ setting.
15	Debugging	Select a debugging group in the drop-down menu. The six free debugging groups support dynamic debugging.
16	Output channel	There are 12 output channels to choose from. Configure the type of output channel. Click the speaker button to mute.

Description of PC software - Delay



1	Delay setting	Select the corresponding speaker, push the fader left and right to adjust the delay, or just enter the value to adjust the delay.
2	Unit of delay	Units of delay to choose from include ms, cm, and inch. Adjusting range: 0.000 ~ 20.000 milliseconds, 0 ~ 692 centimeters, and 0 ~ 273 inches.
3	Speaker, phase	Select the speaker of the corresponding channel, and click the speaker to mute it; and you can click it again to cancel mute. You can also adjust the normal phase and reverse phase.
4	Delay group	There are 6 delay groups to choose from for each channel.

Description of PC software - Frequency combination

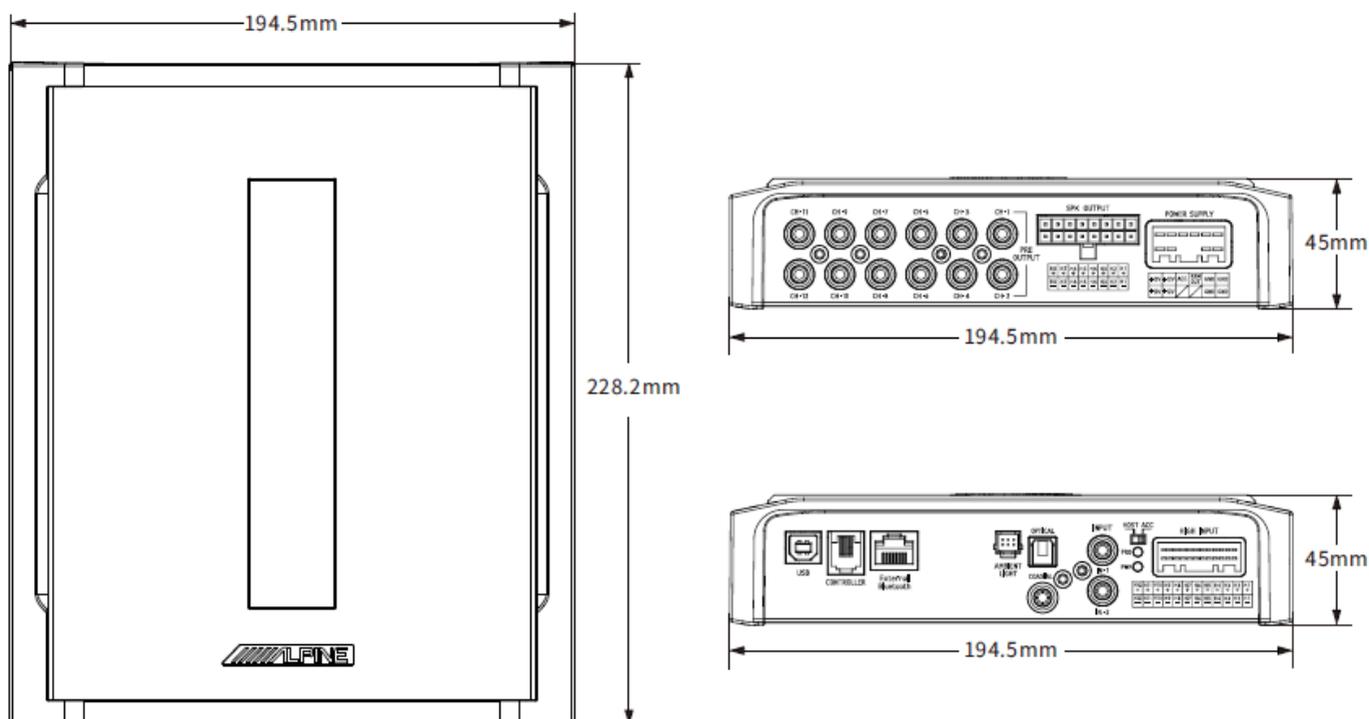


1	Active or passive output	Keep the default setting as "Passive". Warning: if changed, you will lose the sound mixer setting of this channel.
2	Channel type	The settings of channel type selection are supported.
3	Input channel	Push the fader left and right or press "+" and "-" to adjust the volume of each audio source in the channel to achieve the purpose of sound mixing and frequency mixing.

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

Specification parameters

Dynamic range	≥100dB
SNR (RCA)	≥100dB
Background noise	High-voltage-level CH1 ~ CH4: 150uVrms; CH5 ~ CH8: 105.6uVrms; RCA: 15.5uVrms
Channel resolution	≥80dB
THD	≤0.05%
Input voltage	High-voltage-level: 30Vpp; RCA: 6.5Vpp
Output voltage	High-voltage-level CH1 ~ CH4: 40Vpp; CH5 ~ CH8: 28Vpp; RCA: 6.5Vpp
Rated power	CH1 ~ CH4: 50W; CH5 ~ CH8: 25W (4Ω, 14.4V, 1kHz, 10%THD)
Maximum power	CH1 ~ CH4: 100W; CH5 ~ CH8: 50W (4Ω, 14.4V, 1kHz, 10%THD)
Input / output sensitivity (RCA)	1:1 (no power amplification)
Frequency response	20Hz ~ 40kHz
System sampling rate	96kHz/24bit
Input impedance	RCA: 20kΩ; high voltage level: 4.7Ω
Output impedance	51Ω
Operating voltage	9 ~ 16V
Quiescent current	≤3mA (in off state)
Stand-by power consumption	≤0.1W
REM startup input	High voltage level (H1-/H1+), ACC optional
REM startup output	12V (0.2A)
Startup time	10s
Operating ambient temperature	-20 ~ 70°C
Storage temperature	-40 ~ 85°C
Net weight	2.4kg
Dimensions	228.2mm×194.5mm×45mm



Functional parameters

Input signals	12 channels of high voltage level, 2 channels of RCA audio, high resolution Bluetooth, optical/coaxial
Output signals	8 channels of high voltage level, 12 channels of RCA audio
Signal gain of output channel	Range: mute, -60.0dB ~ +6.0dB
Output signal equalizer	Type: parametric EQ, graphic EQ Frequency: 20Hz ~ 40kHz; 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 or Butterworth Filter cross-over frequency: 20Hz ~ 40kHz; resolution: 1Hz Filter slope (gradient): -6dB/Oct ~ -48dB/Oct
Output phase	Normal phase or reverse phase (0° ~ 360°)
Output delay	0.000 ~ 20.000ms, 0 ~ 692cm, 0 ~ 273inch
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