PXE-R160-16EV

16-Sound Track High Sound Quality Audio Processor

- 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

Contents

Operating 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

When a problem occurs, please stop using the device immediately

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

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

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

Please call a professional for wiring and installation

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 injury. 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.

When 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, high 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 for repair.

System matching

When PXE-R160-16EV 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

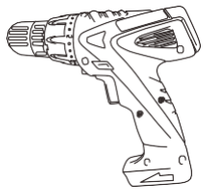
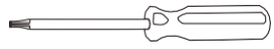
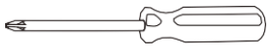
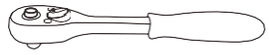
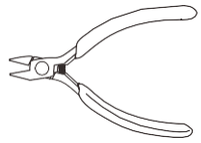
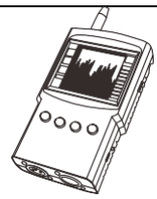
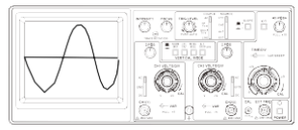
The device cannot be installed at the following locations:

- Under direct sunlight and near a hot source
- Places with very high humidity or near a water source
- Dusty sites
- Environments with violent vibration

Copyright notice

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

Accessory list

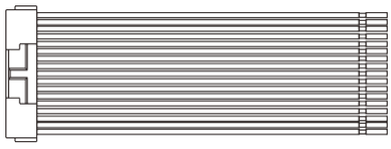
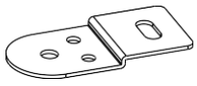
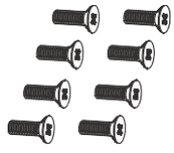
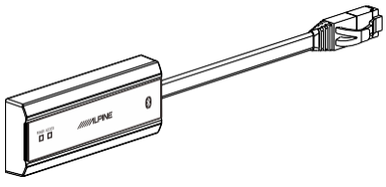
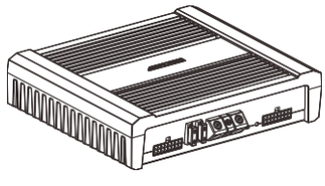
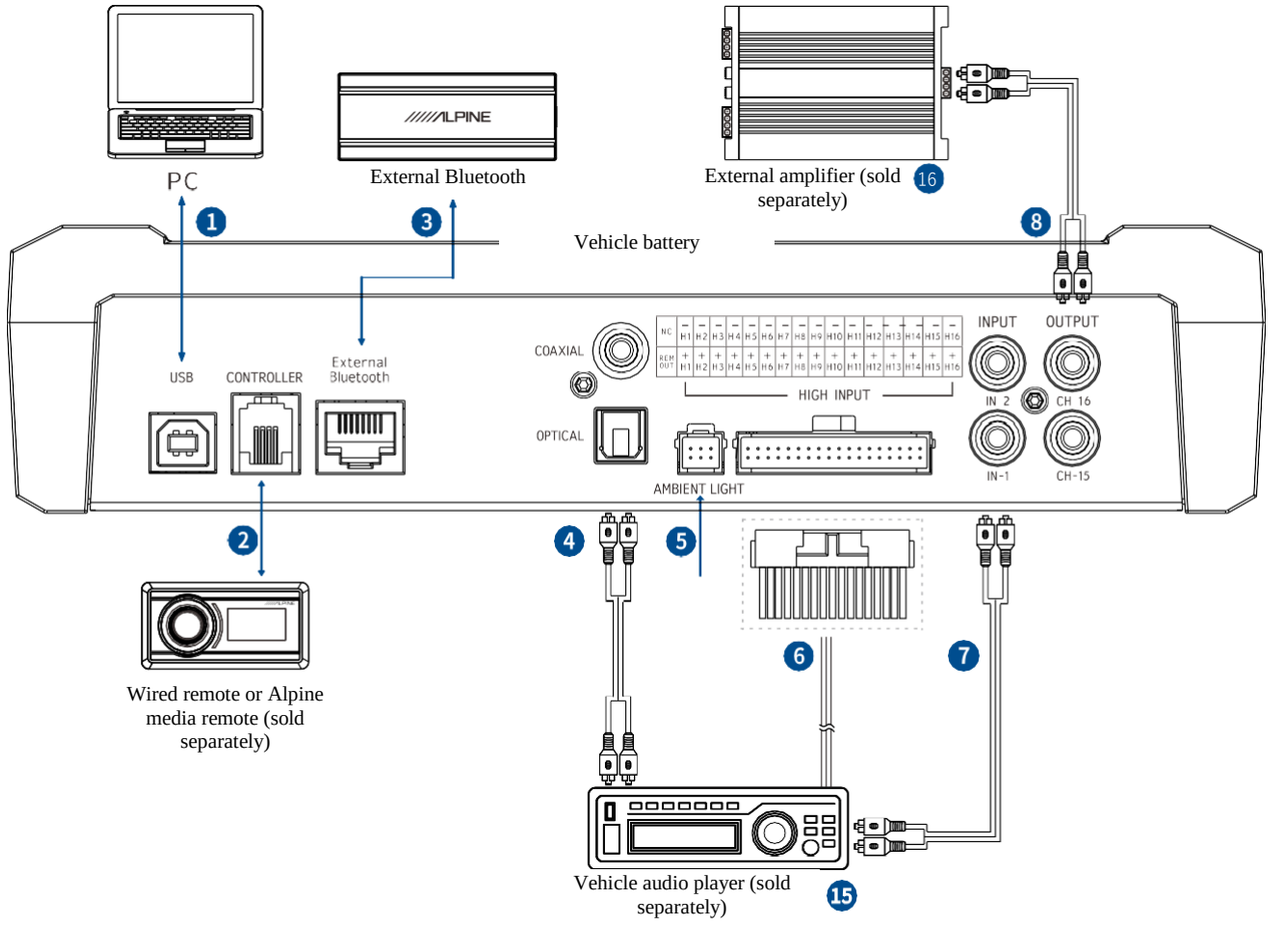
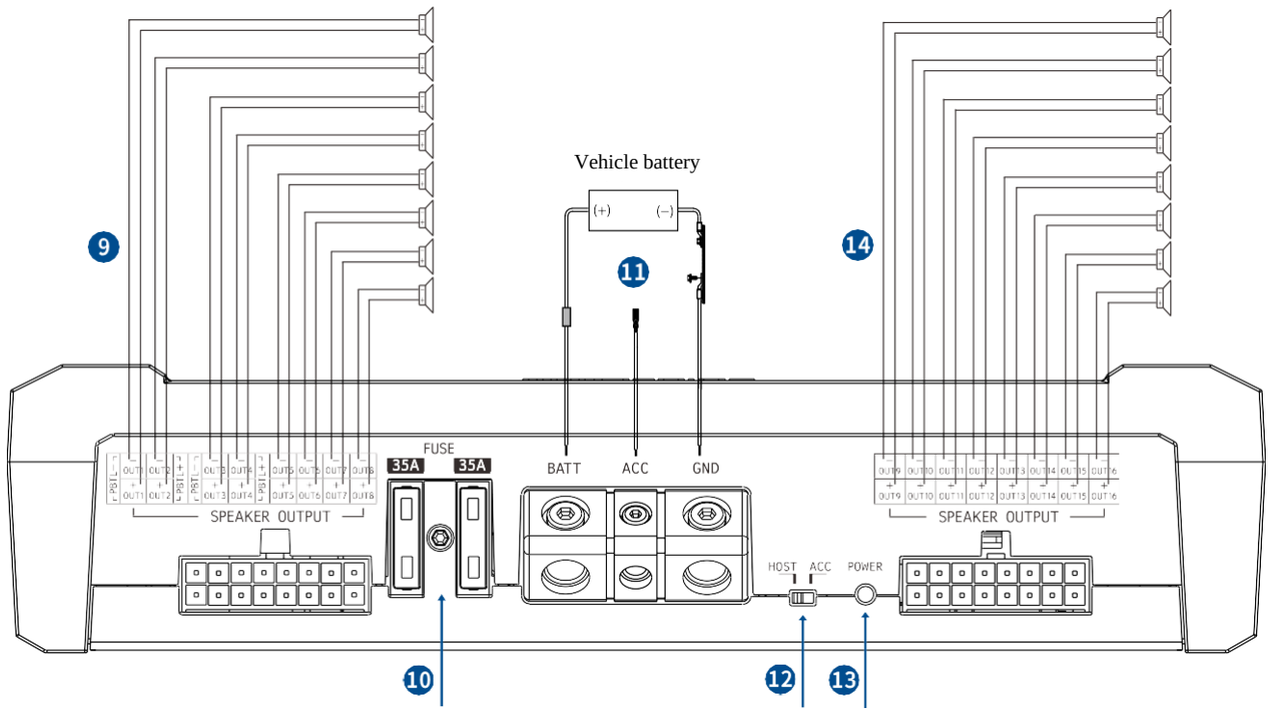
Speaker cable ×2	Input cable	USB 2.0 cable
		
Mounting bracket ×4	**Machine tooth screw ×8**	**Self-tapping screw ×4**
		
Bluetooth	**Host machine**	
		

Diagram of device interfaces

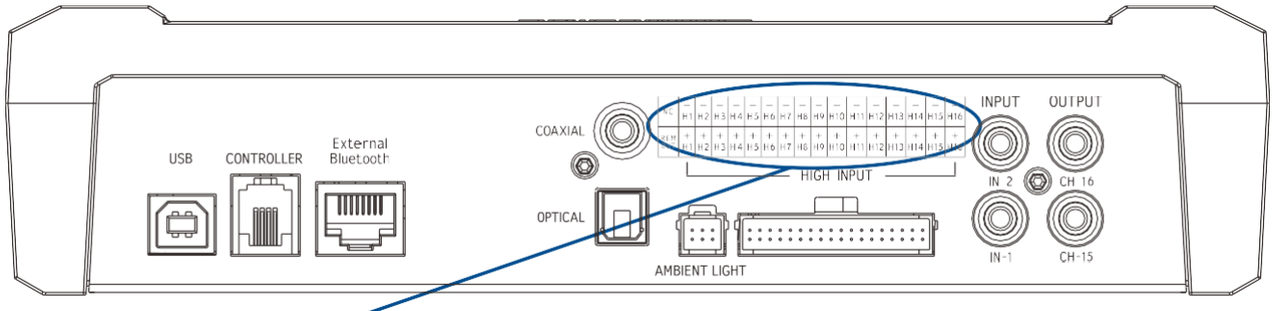


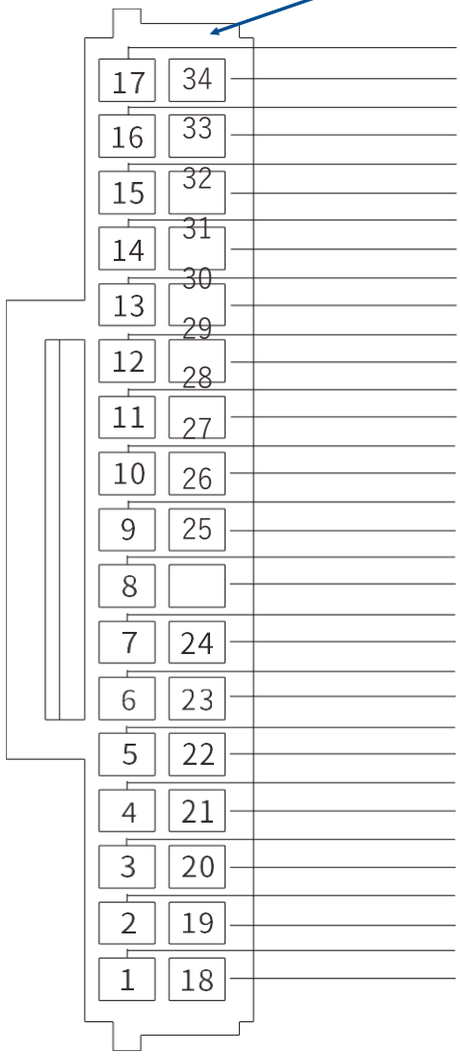


Description of device interfaces and their functions

1	USB 2.0 interface	A USB 2.0 cable can be used to connect the computer and perform tone tuning and setting in detail.
2	Wired controller interface	Connecting the wired remote for volume adjustment, audio sources selection, and data access functions.
3	External Bluetooth input interface	Select high-definition Bluetooth as the input signal or connect via PXE-R160-16EV mobile tuning software. After successful connection, the Bluetooth indicator remains steadily lit.
4	Optical/Coaxial input interface	Connect the car audio player via optical or coaxial cable, switch the audio source to optical/coaxial input to play digital signals.
5	Ambient light interface	Connecting the ambient light interface to control the operation of ambient light.
6	High level input interface	Connected to the high level output of the vehicle audio player.
7	RCA audio input interface	One set of RCA audio signal input which can be connected to the RCA audio signal output of the vehicle audio player.
8	RCA audio output interface	One set of RCA audio signal output which can be connected to the external power amplifier.
9	High level input interface	8-channel amplifier (8×75W) outputs connect to speakers.
10	Fuse socket	Two 35A fuses.
11	Power interface	Connect the vehicle battery.
12	Input switch interface	Set the switch to "ACC" for ACC activation or to "HOST" for activation via high-level input signals H1-/H1+.
13	Power display lamp	Power display lamp.
14	High level input interface	8-channel amplifier (8×25W) outputs connect to speakers.
15	Vehicle audio player	Connect the vehicle audio player.
16	External power amplifier	Connect the external power amplifier

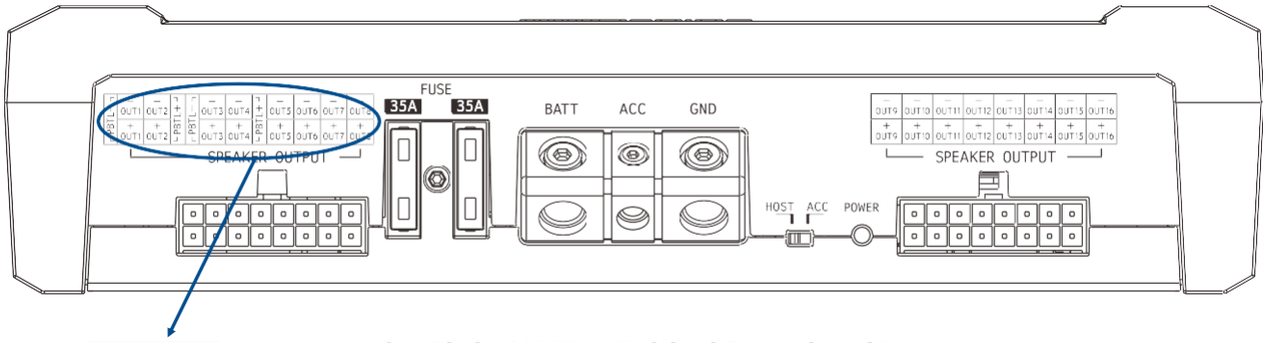
Wire pin arrangement

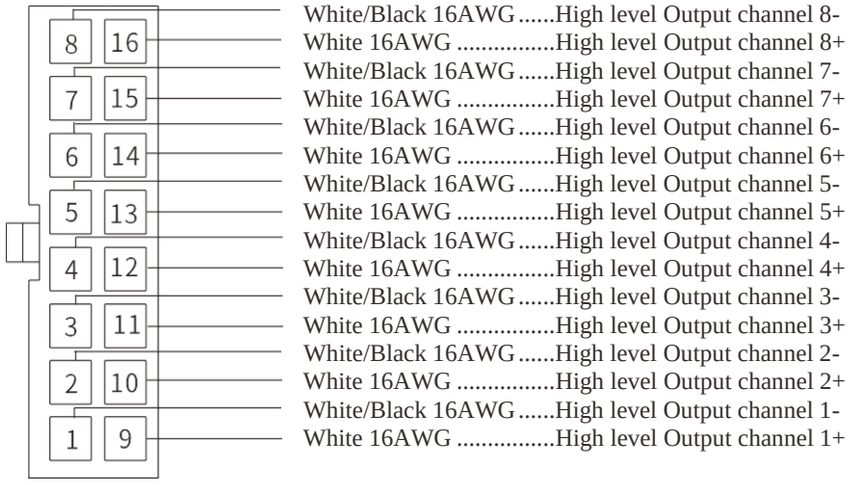




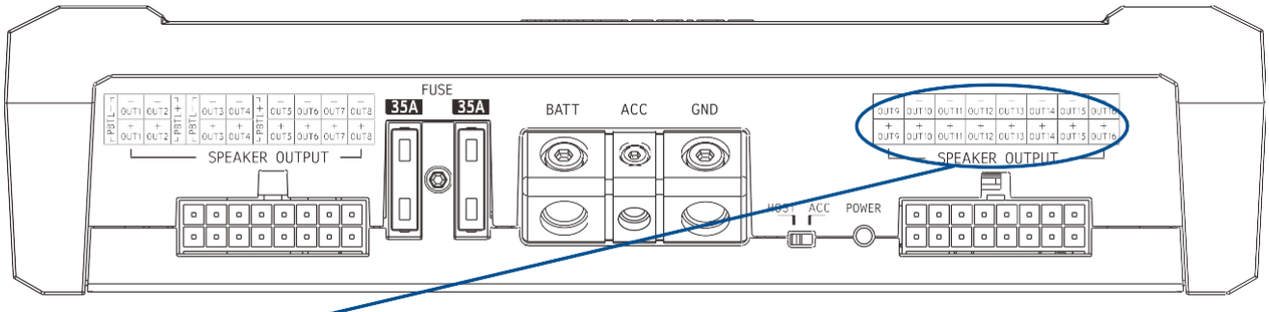
White/Black 22AWG ..... High level input channel H16-
White 22AWG ..... High level input channel H16+
White/Black 22AWG ..... High level input channel H15-
White/Black 22AWG ..... High level input channel H15+
White/Black 22AWG ..... High level input channel H14-
White/Black 22AWG ..... High level input channel H14+
White/Black 22AWG ..... High level input channel H13-
White/Black 22AWG ..... High level input channel H13+
White/Black 22AWG ..... High level input channel H12-
White/Black 22AWG ..... High level input channel H12+
White/Black 22AWG ..... High level input channel H11-
White/Black 22AWG ..... High level input channel H11+
White/Black 22AWG ..... High level input channel H10-
White/Black 22AWG ..... High level input channel H10+
White/Black 22AWG ..... High level input channel H9-
White/Black 22AWG ..... High level input channel H9+
White/Black 22AWG ..... High level input channel H8-
White/Black 22AWG ..... High level input channel H8+
White/Black 22AWG ..... High level input channel H7-
White/Black 22AWG ..... High level input channel H7+
White/Black 22AWG ..... High level input channel H6-
White/Black 22AWG ..... High level input channel H6+
White/Black 22AWG ..... High level input channel H5-
White/Black 22AWG ..... High level input channel H5+
White/Black 22AWG ..... High level input channel H4-
White/Black 22AWG ..... High level input channel H4+
White/Black 22AWG ..... High level input channel H3-
White/Black 22AWG ..... High level input channel H3+
White/Black 22AWG ..... High level input channel H2-
White/Black 22AWG ..... High level input channel H2+
White/Black 22AWG ..... High level input channel H1-
White/Black 22AWG ..... High level input channel H1+
NC
Blue 22AWG .....REM OUT

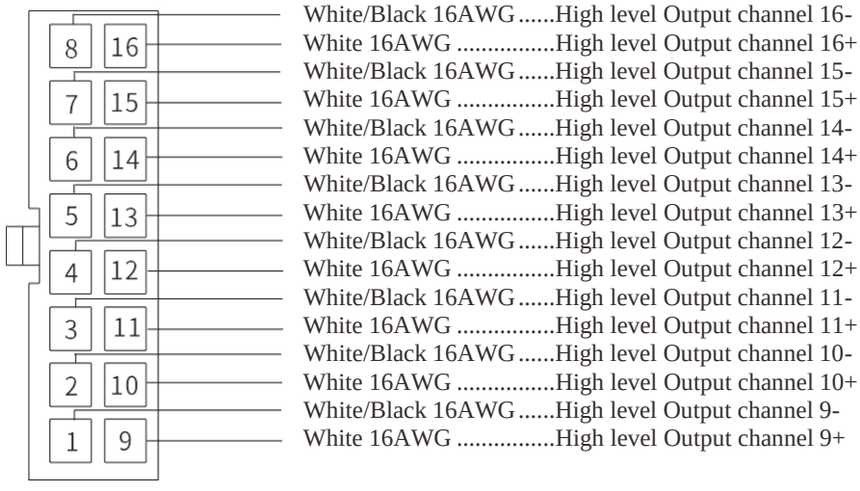
Wire pin arrangement





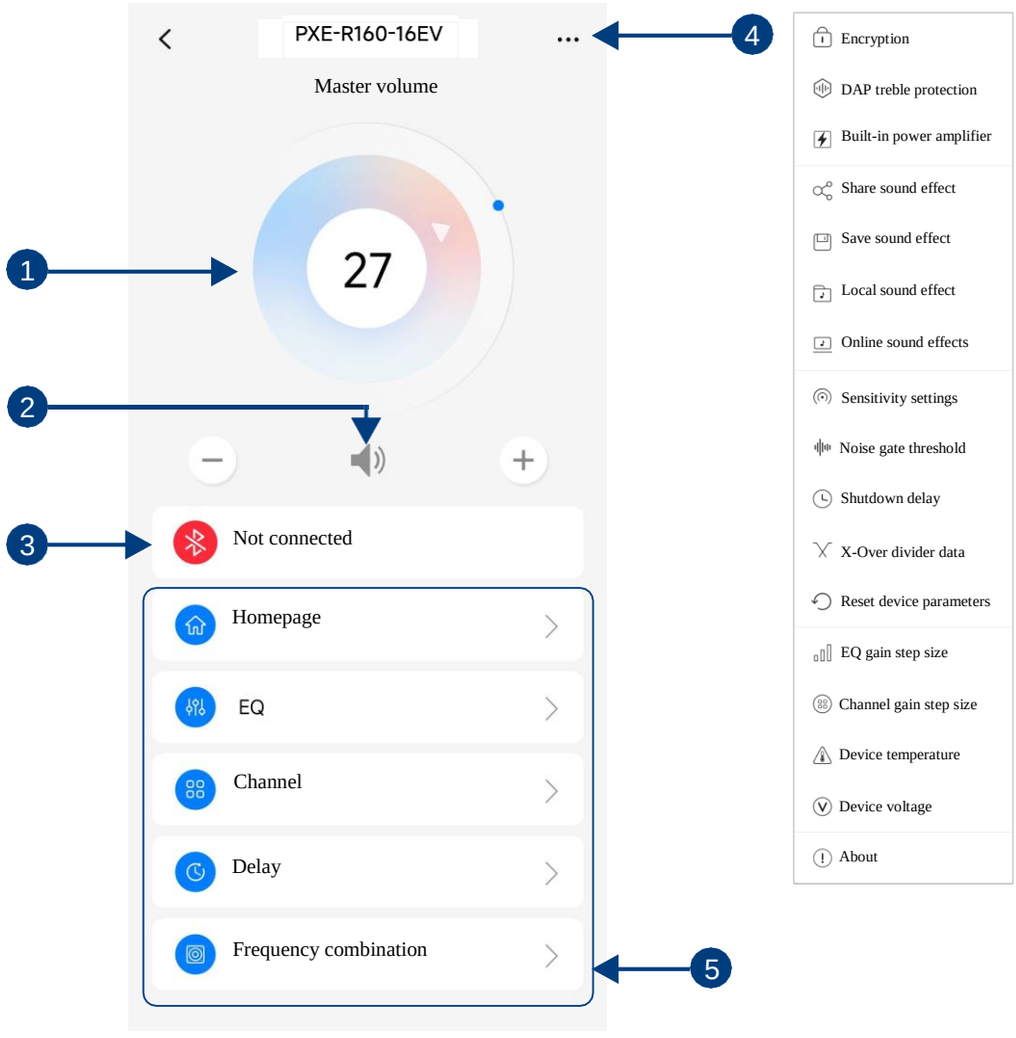
White/Black 16AWG .....High level Output channel 8-
White 16AWG .....High level Output channel 8+
White/Black 16AWG .....High level Output channel 7-
White 16AWG .....High level Output channel 7+
White/Black 16AWG .....High level Output channel 6-
White 16AWG .....High level Output channel 6+
White/Black 16AWG .....High level Output channel 5-
White 16AWG .....High level Output channel 5+
White/Black 16AWG .....High level Output channel 4-
White 16AWG .....High level Output channel 4+
White/Black 16AWG .....High level Output channel 3-
White 16AWG .....High level Output channel 3+
White/Black 16AWG .....High level Output channel 2-
White 16AWG .....High level Output channel 2+
White/Black 16AWG .....High level Output channel 1-
White 16AWG .....High level Output channel 1+





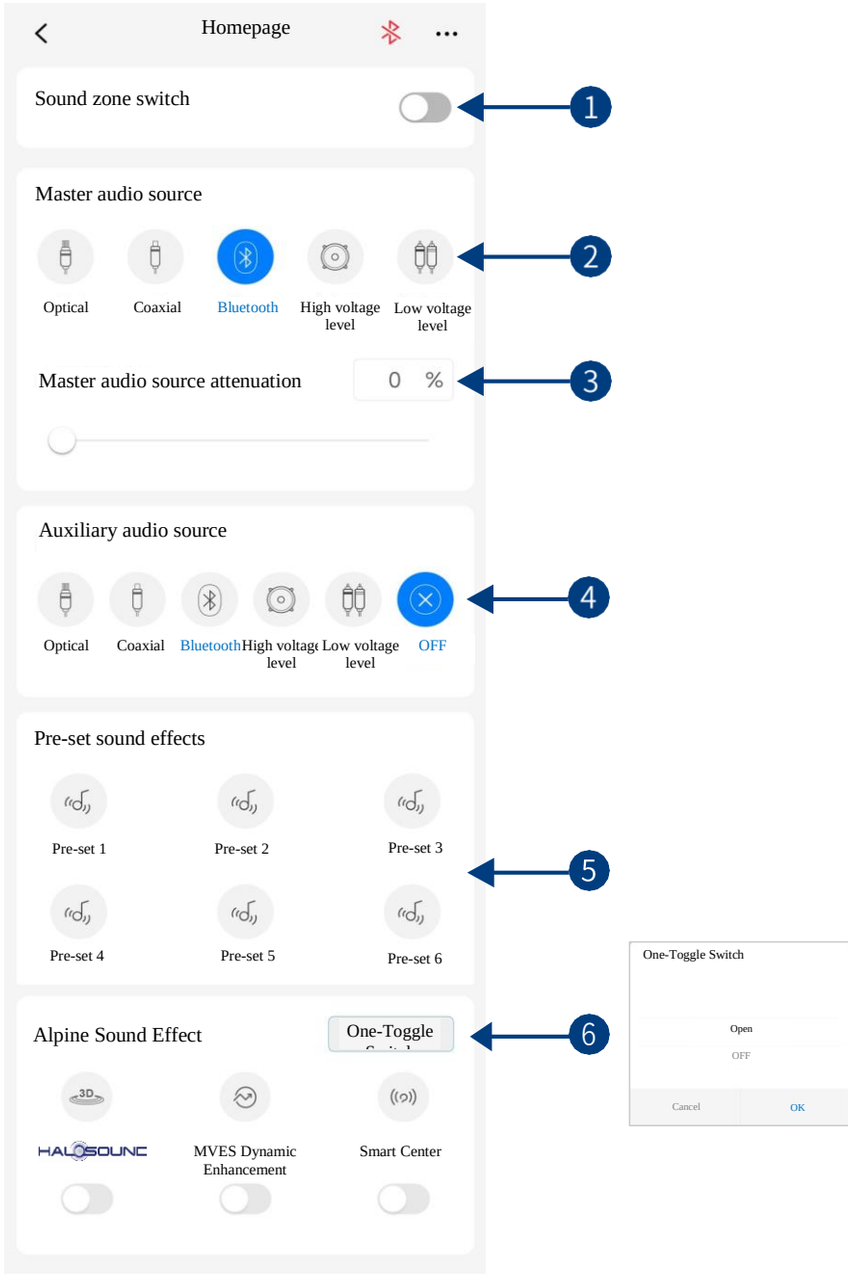
White/Black 16AWG .....High level Output channel 16-
White 16AWG .....High level Output channel 16+
White/Black 16AWG .....High level Output channel 15-
White 16AWG .....High level Output channel 15+
White/Black 16AWG .....High level Output channel 14-
White 16AWG .....High level Output channel 14+
White/Black 16AWG .....High level Output channel 13-
White 16AWG .....High level Output channel 13+
White/Black 16AWG .....High level Output channel 12-
White 16AWG .....High level Output channel 12+
White/Black 16AWG .....High level Output channel 11-
White 16AWG .....High level Output channel 11+
White/Black 16AWG .....High level Output channel 10-
White 16AWG .....High level Output channel 10+
White/Black 16AWG .....High level Output channel 9-
White 16AWG .....High level Output channel 9+

Description of mobile APP - Homepage



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 indication	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	Supported operations: Data encryption, DSP tweeter protection, built-in amplifier, audio effect sharing, audio effect saving, local audio effects, online audio effects, sensitivity settings, noise gate threshold, shutdown delay, X-Over crossover data (view channel-specific settings), device parameter reset, EQ gain step size, channel gain step size, device temperature monitoring, device voltage monitoring, and version check.
5	Page selection	Five pages of different functions of tuning, namely Homepage, EQ, Channel, Delay and Frequency combination.

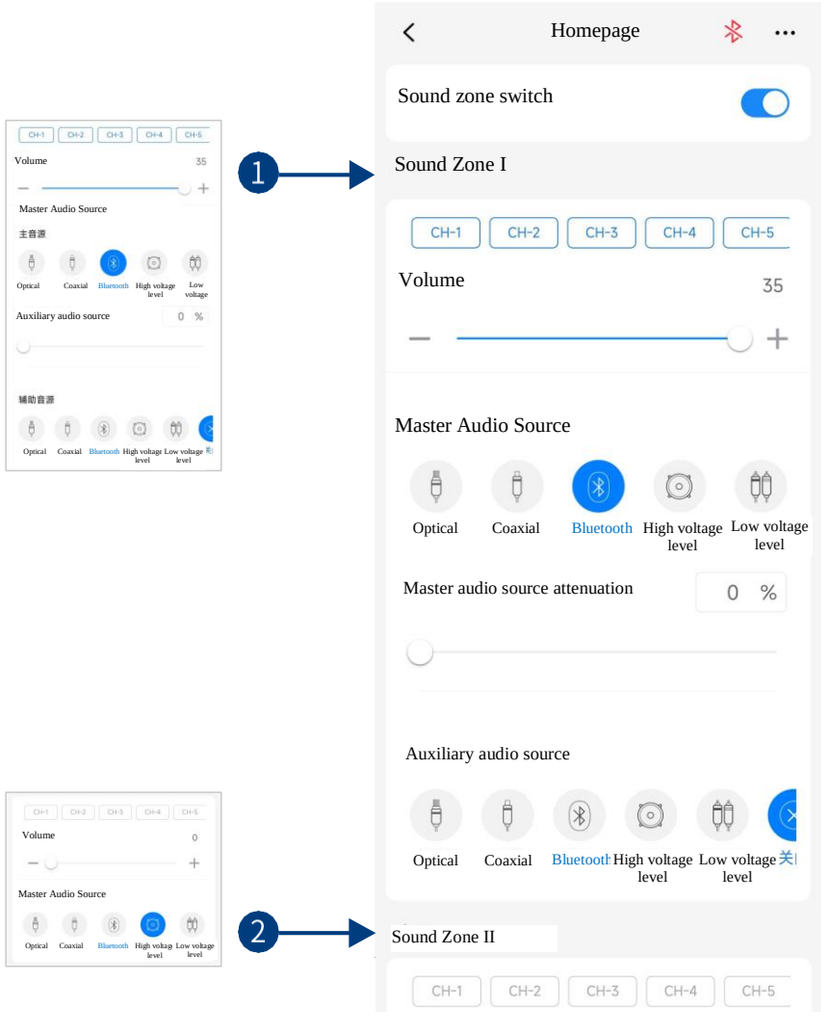
Description of mobile APP - Homepage (full sound field)



1	Sound zone switch	Switch sound zone on or off (off by default).
2	Master audio source	Switch master sources (Optical, Coaxial, Bluetooth, High-level, Low-level).
3	Master audio source attenuation	Increasing the master source attenuation reduces its volume (adjustable from 0% to 100%).
4	Auxiliary audio source	Switch auxiliary sources (Optical, Coaxial, Bluetooth, High-level, Low-level, Off).
5	Pre-set sound effects	Store and recall multiple preset sound profiles.
6	Alpine Sound Effect	Switch between exclusive effects (HALO SOUND, MVES Dynamic Enhancement, Smart Center) or click "One-Toggle" to enable/disable all effects.

Note: Bluetooth/Low-level and Optical/Coaxial sources are mutually exclusive and cannot be combined.

Description of mobile APP - Homepage (sound zone)



Front and rear channels (identical channels or audio sources excluded) can be freely combined. Front channels support master and auxiliary audio source settings, while rear channels support master source settings only, enabling flexible audio zoning (e.g., navigation audio on front channels, rear-seat entertainment on rear channels).

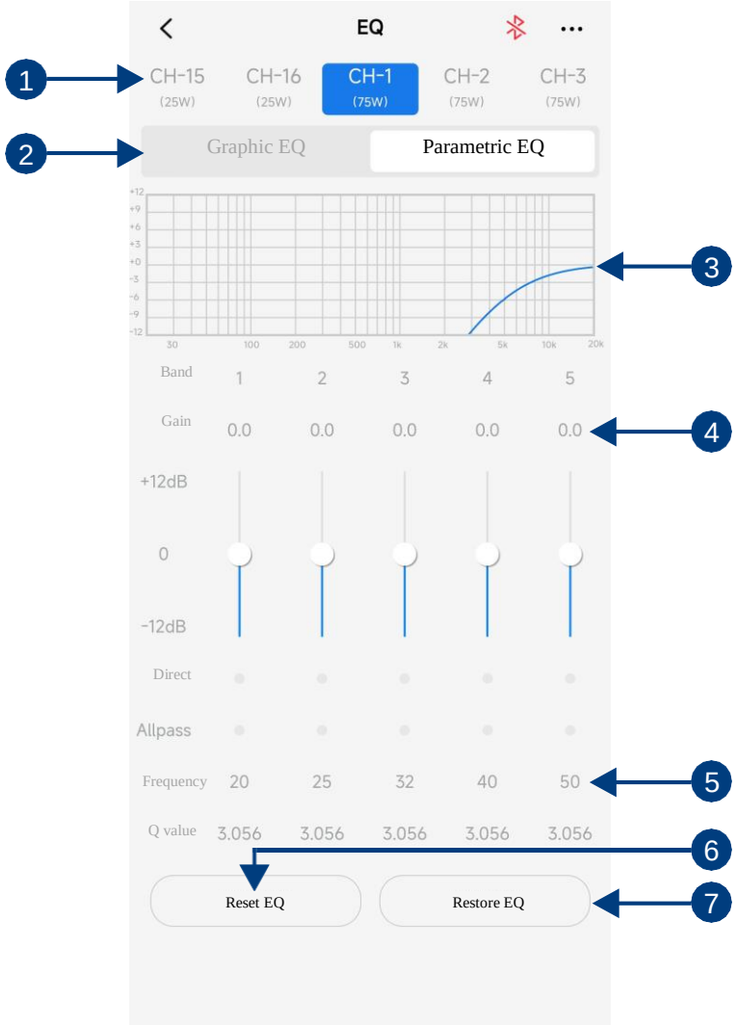
When sound zone switch is turned on, the sound zone interface is shown in the figure above

1	Sound zone I	Channel setup: Swipe left/right to select output channels (16 available; mutually exclusive across zones). Channel volume: Adjustable from 0 to 35. Audio source settings: Switch master sources (Optical, Coaxial, Bluetooth, High-level, Low-level) or auxiliary sources (Optical, Coaxial, Bluetooth, High-level, Low-level, Off). Master source attenuation: Higher attenuation reduces master volume (adjustable from 0% to 100%).
2	Sound zone II	Channel setup: Swipe left/right to select output channels (16 available; mutually exclusive across zones). Channel volume: Adjustable from 0 to 35. Audio source settings: Switch master sources (Optical, Coaxial, Bluetooth, High-level, Low-level).

Caution:

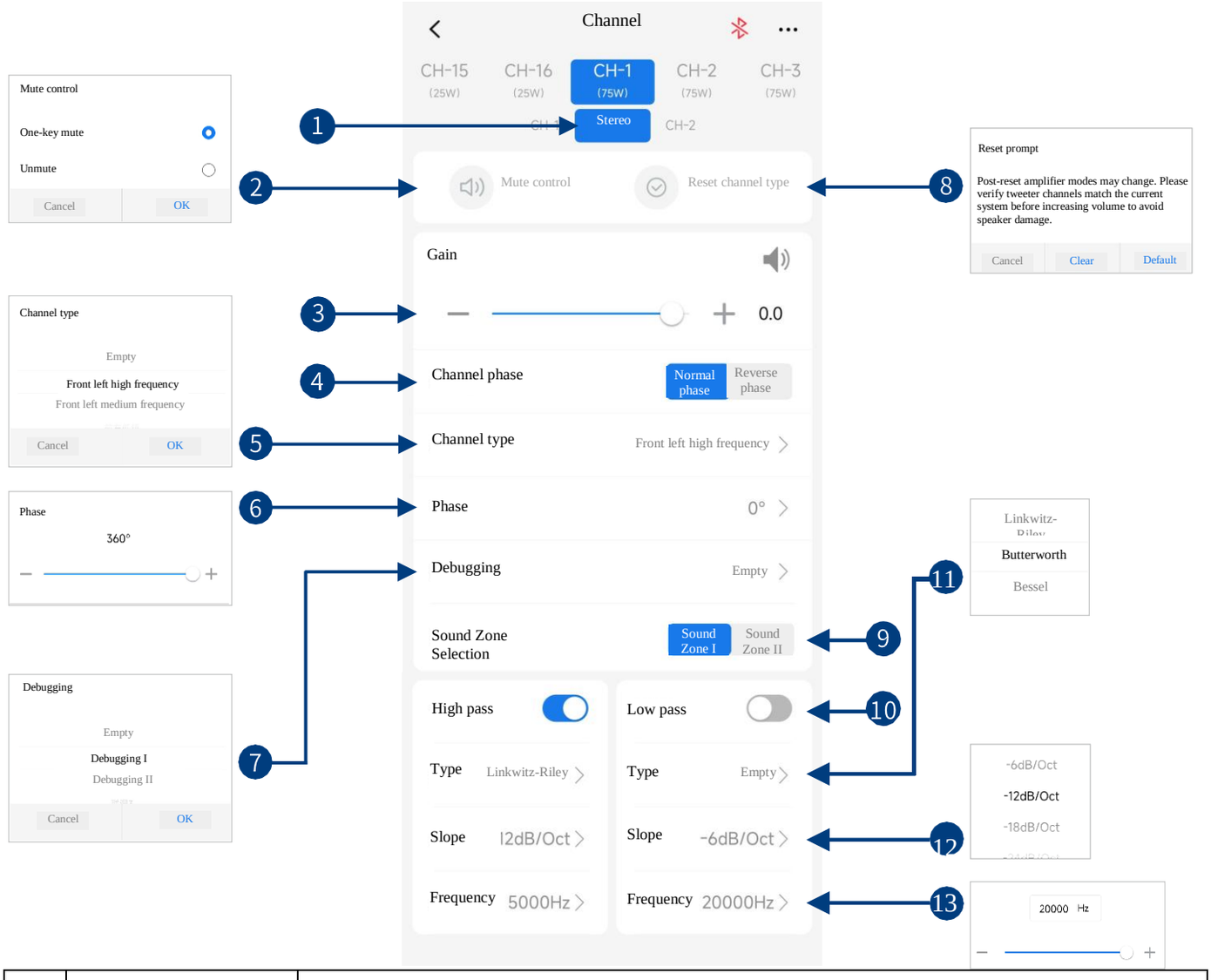
1. Zone I master and auxiliary sources with identical inputs are mutually exclusive and cannot overlap. Overlapping disables the auxiliary source (digital sources such as Optical or Coaxial cannot overlap).
2. Zones I and II channels are mutually exclusive and cannot overlap.

Description of mobile APP - EQ



1	Output channel	Slide left and right to select the output channel for EQ adjustment. There are 16 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. In Allpass mode, frequency and Q value are adjustable, but gain is not. In Graphic EQ mode, gain is adjustable, while frequency and Q value are fixed. In Parametric EQ mode, frequency, Q value, and gain are all adjustable.
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

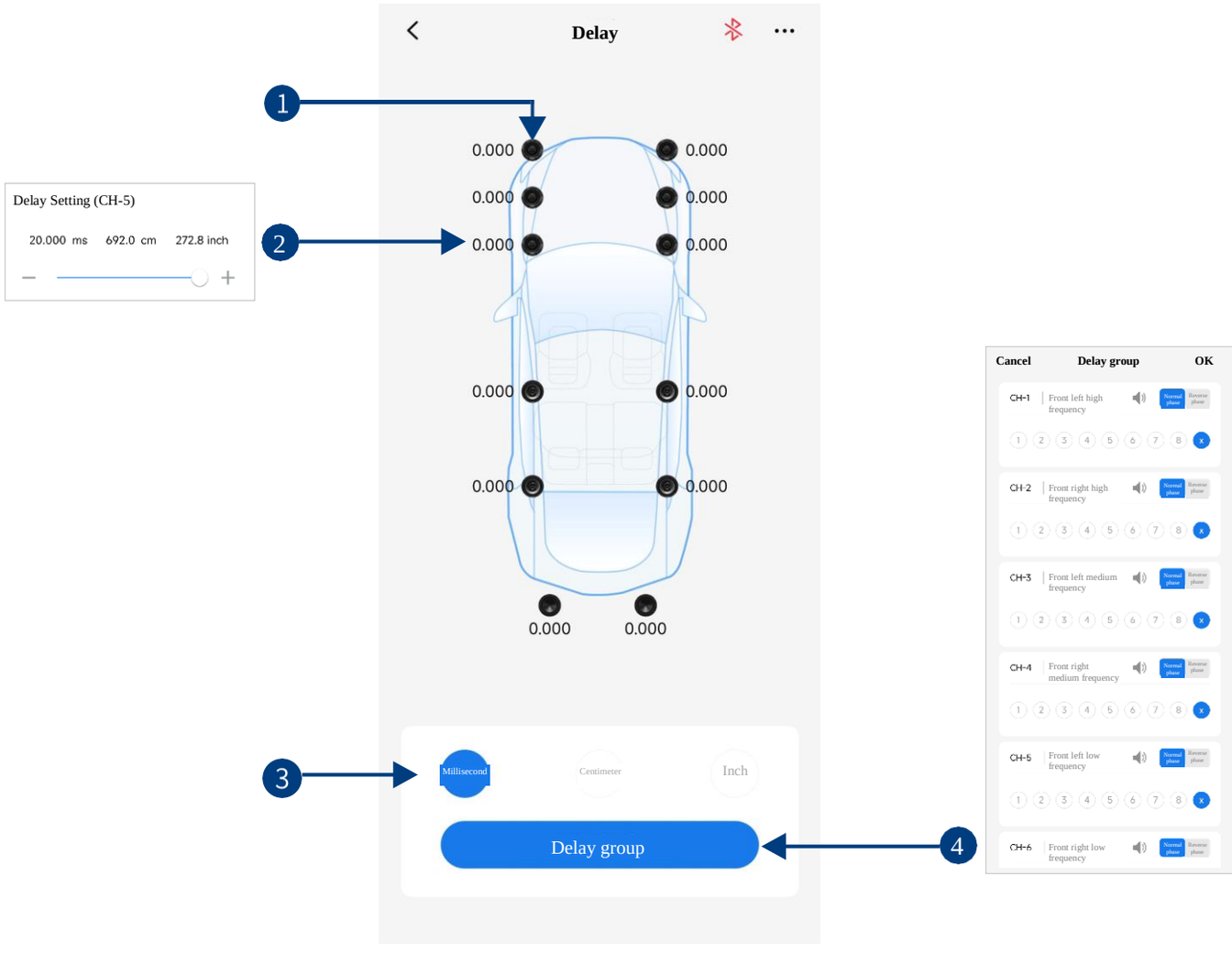


1	Channel Mode	CH1-CH4 can be set to stereo or bridged mode.
2	Mute Control	Toggle "All-Mute" or "Unmute All Channels".
3	Channel volume	Slide the fader left/right to adjust channel volume (-60dB~+6dB). Click the speaker button to mute. "Seat vibration" channel type auto-adjusts volume to vibration intensity.
4	Channel phase	Select the channel phase (normal phase or reverse phase).
5	Output Channel Type	Channel configuration: 16 output channels are available. Click the speaker button to mute. Configure output channel types (Front, Rear, Center, Overhead, Subwoofer, Surround, Vibration, Spare, Custom, etc.). Seat vibration: Connect vibration transducers. Select "Vibration" type to auto-adjust amplitude (Low→Medium→High).
6	Low pitch phase	Adjust the low pitch phase of output channel in the range of 0°~360°.

Description of mobile APP -

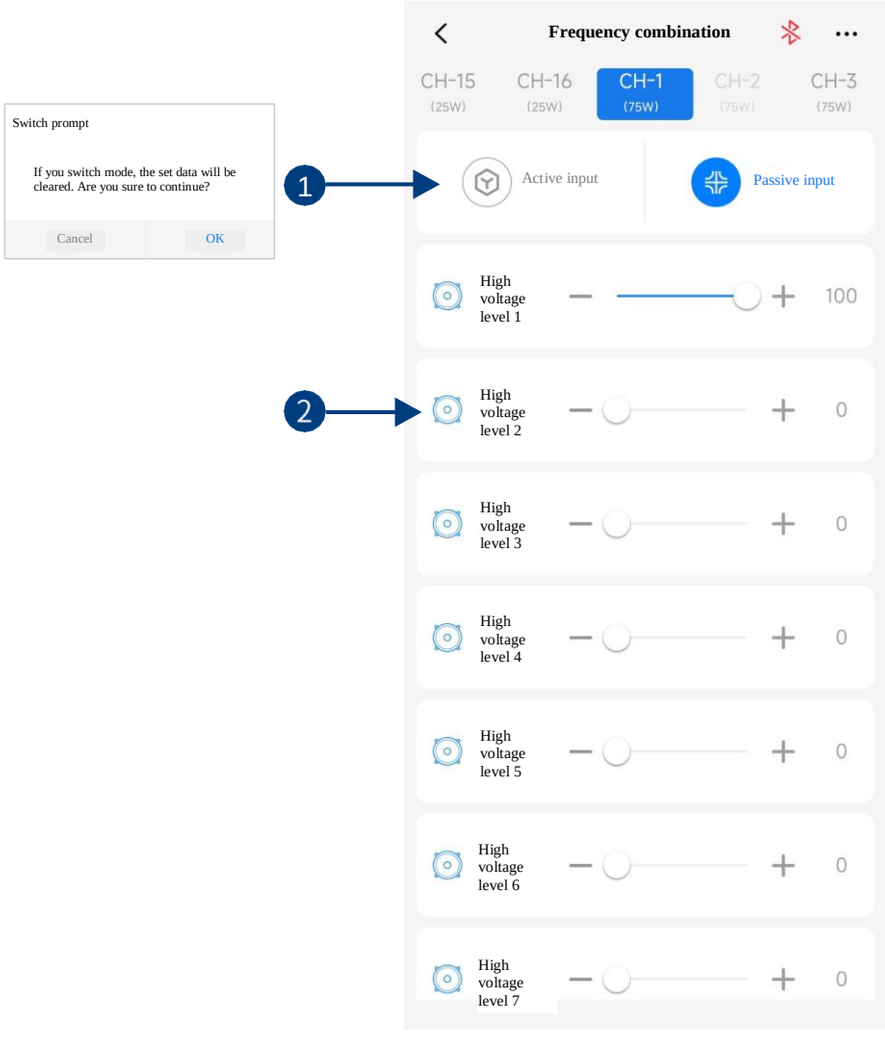
7	Debugging	Select dynamic linkage groups (8 customizable groups) from the dropdown.
8	Reset channel type	Reset channel type to factory default.
9	Sound Zone Selection	Select Zone I or Zone II.
10	Divider	Turn on or off High-pass/Low-pass.
11	Filter type	Select filter type (Linkwitz-Riley, Butterworth or Bessel)
12	Frequency divider slope	Select crossover slope (-6dB/Oct, -12dB/Oct, -18dB/Oct, -24dB/Oct, -30dB/Oct, -36dB/Oct, -42dB/Oct, or -48dB/Oct).
13	Divider frequency	Select the divider frequency (between 20Hz and 20kHz).

Description of mobile APP - Delay



1	Speaker	Select the speaker for the target channel. Click to mute; click again to unmute.
2	Delay setting	Select the target speaker. Slide the fader left or right to adjust delay in the pop-up window, or use +/- buttons.
3	Unit of delay	Units of delay to choose from include ms, cm, and in. Adjustment range: 0.000 - 20.000 ms / 0 - 692 cm / 0 - 273 inches.
4	Delay group	Each channel supports 8 delay groups, with mute control. Phase (normal/reserve) can be adjusted.

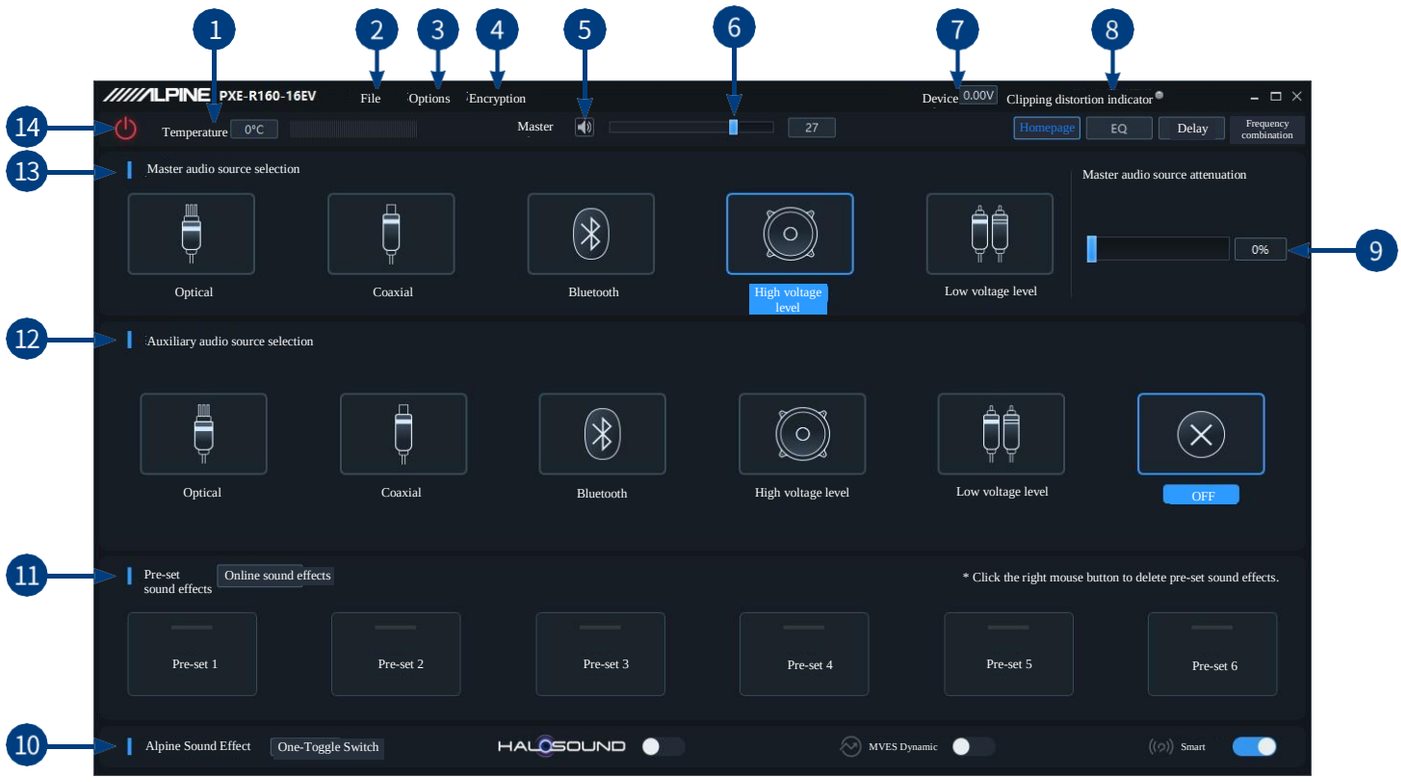
Description of mobile APP - Frequency combination



1	Active or passive input	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.

Note: Keep total channel gain at 100 to prevent clipping.

Description of PC software - Homepage



1	Temperature display	Detect the temperature on the device surface.
2	File	Load or save scene files locally or for the entire system.
3	Options	Sensitivity settings, DSP tweeter protection, firmware updates, noise gate threshold, built-in amplification, X-Over crossover data (per-channel view), zone toggling, device reset, factory restore, shutdown delay, language switch, version check.
4	Encryption	Encrypt tuned sound profiles with a 6-digit password.
5	Mute button	Mute the master volume
6	Master volume	Slide faders left/right to adjust master volume (0-35).
7	Device Voltage Display	Monitor system operating voltage.
8	Clipping Distortion Indicator	Yellow indicator alerts users to rebalance signals for distortion-free output. After adjustment, it turns gray (default).
9	Master audio source attenuation	Increasing the master source attenuation reduces its volume (adjustable from 0% to 100%).
10	Alpine Sound Effect	Switch between exclusive effects (HALO SOUND, MVES Dynamic Enhancement, Smart Center) or click "One-Toggle" to enable/disable all effects.
11	Pre-set sound effects	Save/recall multiple presets; supports online sound profile access.
12	Auxiliary audio source selection	Switch auxiliary sources (Optical, Coaxial, Bluetooth, High-level, Low-level, Off).
13	Master audio source selection	Switch master sources (Optical, Coaxial, Bluetooth, High-level, Low-level).
14	Connection indication	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)

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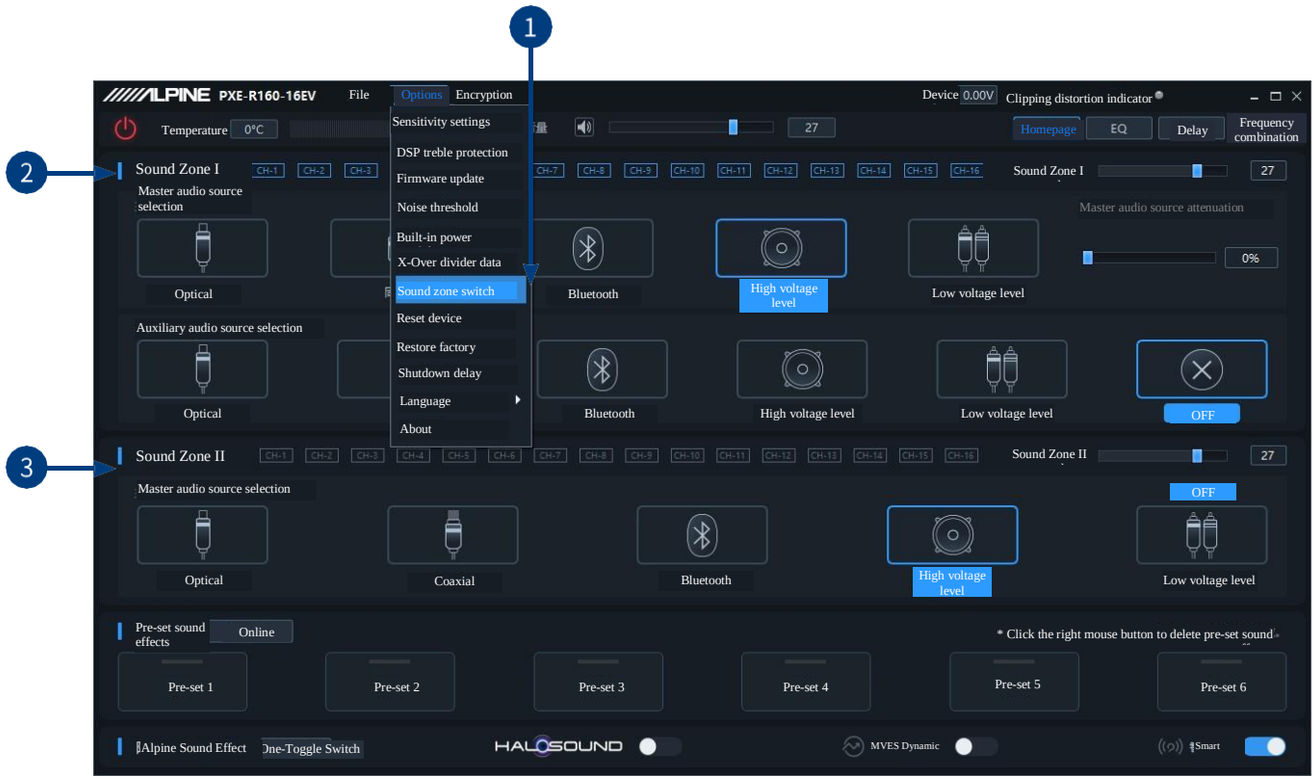


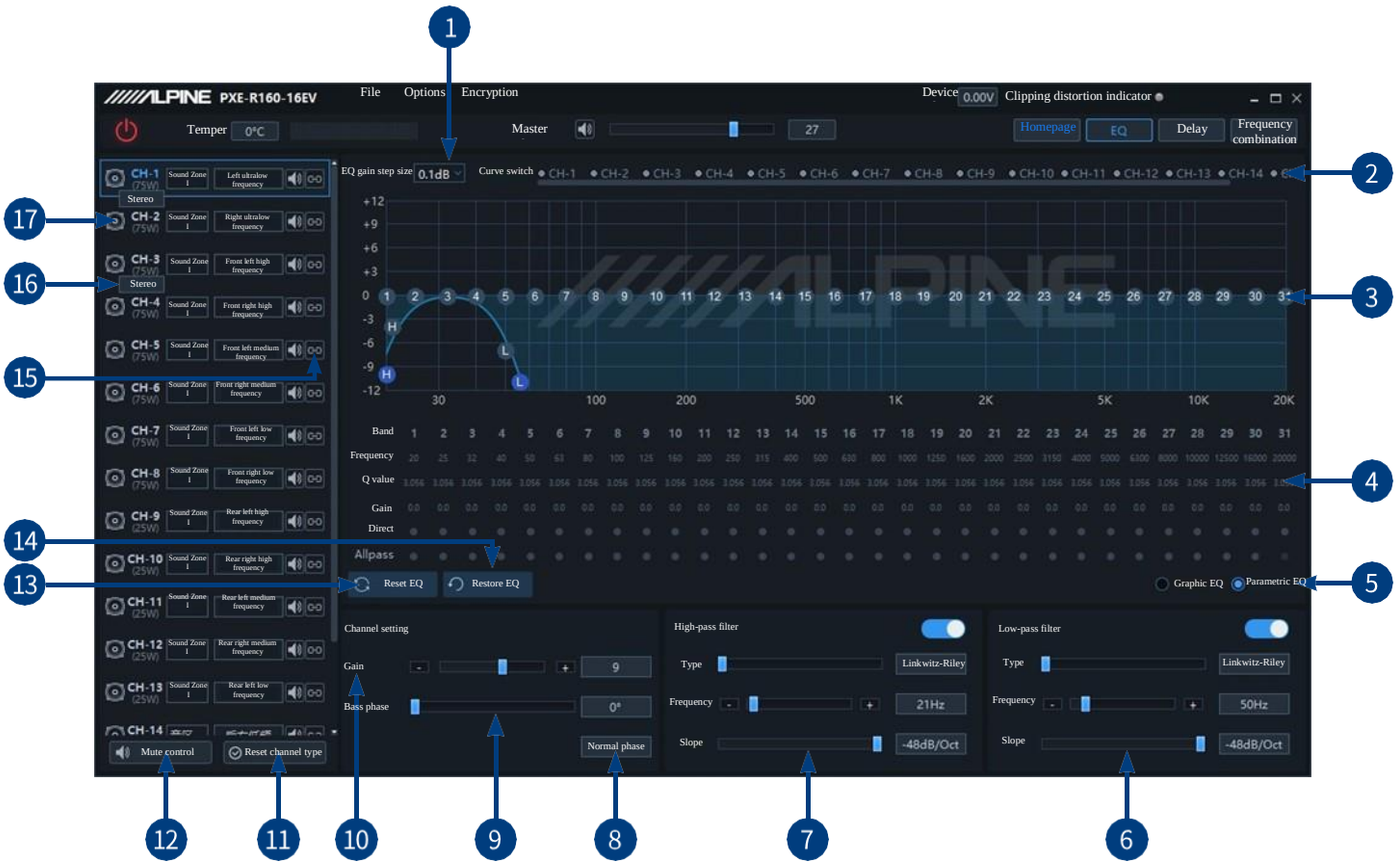
When sound zone switch is turned on, the sound zone interface is shown in the figure above

1	Sound zone switch	Turn on sound zone switch to make sound zone settings. Front and rear channels (identical channels or audio sources excluded) can be freely combined. Front channels support master and auxiliary audio source settings, while rear channels support master source settings only, enabling flexible audio zoning (e.g., navigation audio on front channels, rear-seat entertainment on rear channels).
2	Sound zone I	Channel setup: Swipe left/right to select output channels (16 available; mutually exclusive across zones). Channel volume: Adjustable from 0 to 35. Audio source settings: Switch master sources (Optical, Coaxial, Bluetooth, High-level, Low-level) or auxiliary sources (Optical, Coaxial, Bluetooth, High-level, Low-level, Off). Master source attenuation: Higher attenuation reduces master volume (adjustable from 0% to 100%).
3	Sound zone II	Channel setup: Swipe left/right to select output channels (16 available; mutually exclusive across zones). Channel volume: Adjustable from 0 to 35. Audio source settings: Switch master sources (Optical, Coaxial, Bluetooth, High-level, Low-level).

Caution:

1. Zone I master and auxiliary sources with identical inputs are mutually exclusive and cannot overlap. Overlapping disables the auxiliary source (digital sources such as Optical or Coaxial cannot overlap).
2. Zones I and II channels are mutually exclusive and cannot overlap.

Description of PC software - EQ

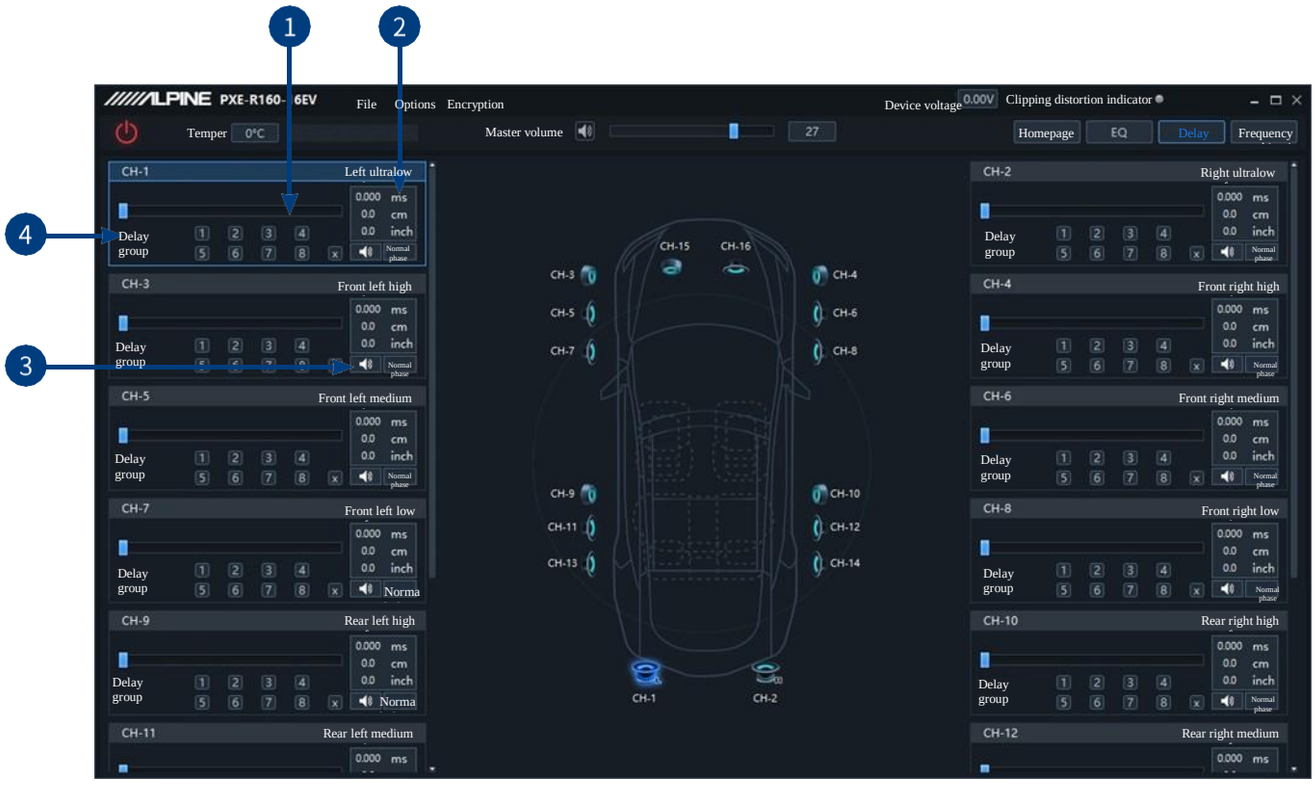


1	EQ gain step size	Step size can be chosen from the range: 0.1dB ~ 0.5dB ~ 1.0dB.
2	Output channel display	Display the output channel curve.
3	EQ curve	Display the current EQ curve status, set the frequency, Q value and gain.
4	Allpass, Frequency, Q value, Gain	Adjust the frequency, Q value and gain of the output channel. In Allpass mode, frequency and Q value are adjustable, but gain is not. In Graphic EQ mode, gain is adjustable, while frequency and Q value are fixed. In Parametric EQ mode, frequency, Q value, and gain are all adjustable.
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 20kHz). Select crossover 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 20kHz). Select crossover 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). Click to display the corresponding phase curve.
9	Low pitch phase	Adjust the low pitch phase of output channel in the range of 0°~360°.

Description of PC software - EQ

10	Channel volume	Slide the fader left/right to adjust channel volume (-60dB~+6dB). Click the speaker button to mute. "Seat vibration" channel type auto-adjusts volume to vibration intensity.
11	Reset channel type	Reset channel type to factory default.
12	Mute Control	Toggle "All-Mute" or "Unmute All Channels".
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 dynamic linkage groups (8 customizable groups) from the dropdown.
16	Channel Mode	CH1-CH4 can be set to stereo or bridged mode.
17	Output Channel Type	Channel configuration: 16 output channels are available. Click the speaker button to mute. Configure output channel types (Front, Rear, Center, Overhead, Subwoofer, Surround, Vibration, Spare, Custom, etc.). Seat vibration: Connect vibration transducers. Select "Vibration" type to auto-adjust amplitude (Low→Medium→High).

Description of PC software - Delay



1	Delay setting	Select the target speaker. Slide the fader left or right to adjust delay, or directly input delay values.
2	Unit of delay	Units of delay to choose from include ms, cm, and in. Adjustment range: 0.000 - 20.000 ms / 0 - 692 cm / 0 - 273 inches.
3	Speaker, phase	Select the speaker for the target channel. Click to mute; click again to unmute. Phase (normal/reverse) can be adjusted.
4	Delay group	There are 8 delay groups to choose from for each channel.

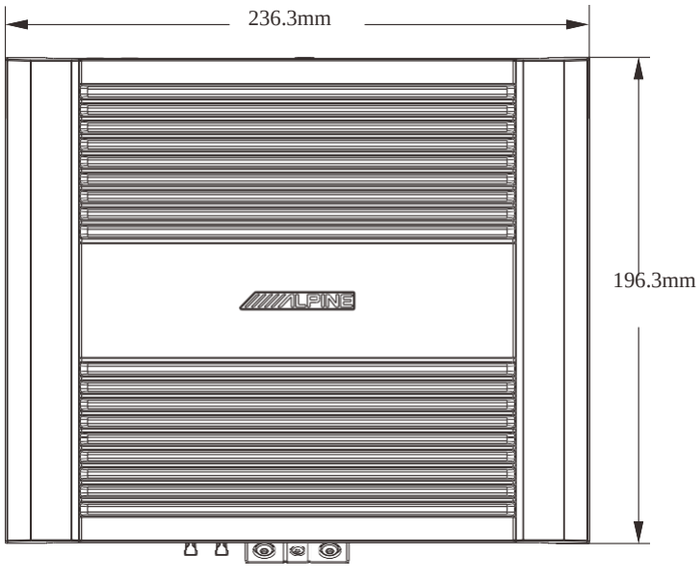
Description of PC software - Frequency combination

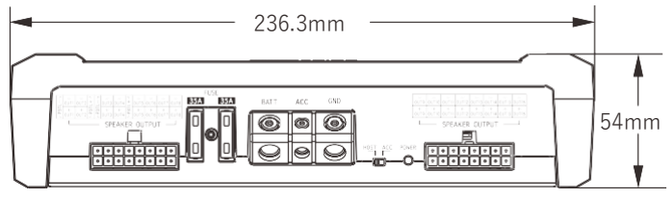
1	Active or passive input	Keep the default setting as "Passive". Warning: if changed, you will lose the sound mixer setting of this channel.
2	Channel type	Supports channel type selection.
3	Input channel	Push the fader left and right or press "+" and "-" to adjust the volume of each audio source in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

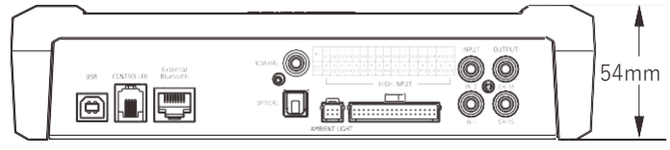
Note: Keep total channel gain at 100 to prevent clipping.

Specification parameters

Dynamic range	≥100dB
Signal to noise ratio (RCA)	≥95dB
Background noise	High-level CH1-CH8: 99 uVrms; CH9-CH16: 95 uVrms. RCA: 14uVrms
Channel resolution	≥75dB
THD	≤0.05%
Input voltage	High-level: Default 50 Vpp (switchable to 28 Vpp); RCA: 6.5 Vpp.
Output voltage	High-level CH1-CH8: 50 Vpp; CH9-CH16: 28 Vpp; RCA: 6.5 Vpp.
Rated power	CH1 ~ CH8: 75W; CH9 ~ CH16: 25W (4Ω, 14.4V, 1kHz, 10%THD) Bridged CH1-CH4: 2CH × 150W (2Ω, 14.4V, 1kHz, 10% THD).
Maximum power	CH1 ~ CH8: 150W; CH5 ~ CH16: 50W (4Ω, 14.4V, 1kHz, 10%THD) Bridged CH1-CH4: 2CH × 300W (2Ω, 14.4V, 1kHz, 10% THD).
Input/output sensitivity (RCA)	1:1 (no power amplification)
Frequency response	20Hz ～ 20kHz
System sampling rate	48kHz/ 24bit
Input impedance	High level: 4.7Ω; RCA: 15kΩ
Output impedance	51Ω
Working voltage	9～17V
Quiescent current	≤3mA (in off state)
Stand-by power consumption	≤0.1W
REM startup input	High 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	3.1kg
Dimensions	236.3mm×196.3mm×54mm







Functional parameters

Input signals	16-Channel high level, 2-channel RCA audio, high-definition Bluetooth, optical/coaxial
Output signals	16-Channel high level, 2-channel RCA audio
Signal gain of output channel	Range: mute, -60.0dB~+6.0dB
Output signal equalizer	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: O.ldB~O.SdB~1.0dB
Output signal frequency divider	Each output channel is equipped with an 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 (oo~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